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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG BSI27

Marine Corps Ballistics Base Barstow
Barstow, California

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

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DoD Type I Data Package

Prepared for:

Gutierrez Canales Engineering
2655 Camino del Rio North
Suite 100
San Diego CA 92108

Project: Barstow Site Inspection
Groundwater and Water Samples
Collected on 12/05/18-12/07/18

SDG# BSI27

GROUP	SAMPLE NUMBERS
2017387	9934777-9934788

A2LA (DoD) Cert. # 0001.01
PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-18-27
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **01/07/2019**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Lyssa Longenecker at (717) 556-7321.

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Sample Reference List for SDG Number BSI27
with a Data Package Type of I-DOD

43806 - Gutierrez Canales Engineering

Project: Barstow Site Inspection

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9934777	OU1-Y15-5-01	12/05/2018 13:50	12/11/2018 10:05
9934778	OU1-Y9-5-01	12/05/2018 17:16	12/11/2018 10:05
9934779	OU1-YS16-6-01	12/06/2018 16:57	12/11/2018 10:05
9934780	OU1-YCW16-1-01	12/07/2018 09:03	12/11/2018 10:05
9934781	OU1-YS16-6-W-01	12/07/2018 08:00	12/11/2018 10:05
9934782	OU1-YS16-6-W-02	12/07/2018 08:05	12/11/2018 10:05
9934783	OU1-YCW16-1-W-01	12/07/2018 09:30	12/11/2018 10:05
9934784	OU1-YCW16-1-W-02	12/07/2018 09:35	12/11/2018 10:05
9934785	OU1-YCW16-3-01	12/07/2018 10:29	12/11/2018 10:05
9934786	OU1-YIMW-4-01	12/07/2018 12:44	12/11/2018 10:05
9934787	OU1-PMW-2-01	12/07/2018 14:31	12/11/2018 10:05
9934788	OU1-Y9-4-01	12/07/2018 15:57	12/11/2018 10:05

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14434 PFAS in Water by LC/MS/MS-DoD
14465 PFAS Water Prep - DoD

A 250 ml sample of water is extracted using a solid phase extraction (SPE) cartridge followed by dispersive cleanup of the extract using graphitized carbon. The resulting extract is analyzed by LC/MS/MS in negative electrospray ionization (ESI) mode.

Reference: Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LCMSMS), EPA 537 Version 1.1, September 2009, Modified. Department of Defense Quality System Manual Version 5.1, Table B-15.

Analysis Reports / Field Chain of Custody

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Gutierrez Canales Engineering
2655 Camino del Rio North
Suite 100
San Diego CA 92108

Report Date: December 31, 2018 16:40

Project: Barstow Site Inspection

Account #: 43806
Group Number: 2017387
SDG: BSI27
State of Sample Origin: CA

Electronic Copy To Gutierrez Canales Engineering Attn: Jesse MacNeill

Respectfully Submitted,

Lyssa M. Longenecker
Specialist

(717) 556-7321

To view our laboratory's current scopes of accreditation please go to https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/ . Historical copies may be requested through your project manager.



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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
OU1-Y15-5-01 Grab Groundwater	12/05/2018 13:50	9934777
OU1-Y9-5-01 Grab Groundwater	12/05/2018 17:16	9934778
OU1-YS16-6-01 Grab Groundwater	12/06/2018 16:57	9934779
OU1-YCW16-1-01 Grab Groundwater	12/07/2018 09:03	9934780
OU1-YS16-6-W-01 Grab Water	12/07/2018 08:00	9934781
OU1-YS16-6-W-02 Grab Water	12/07/2018 08:05	9934782
OU1-YCW16-1-W-01 Grab Water	12/07/2018 09:30	9934783
OU1-YCW16-1-W-02 Grab Water	12/07/2018 09:35	9934784
OU1-YCW16-3-01 Grab Groundwater	12/07/2018 10:29	9934785
OU1-YIMW-4-01 Grab Groundwater	12/07/2018 12:44	9934786
OU1-PMW-2-01 Grab Groundwater	12/07/2018 14:31	9934787
OU1-Y9-4-01 Grab Groundwater	12/07/2018 15:57	9934788

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Barstow Site Inspection
ELLE Group #: 2017387

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.
Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous

Sample #s: 9934779

The following analytes were manually integrated due to incorrect integrations:
Perfluorohexanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9934783

The following analytes were manually integrated due to incorrect integrations:
Perfluoro-octanesulfonate

Sample #s: 9934777, 9934780, 9934785, 9934787, 9934788

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9934786

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Sample #s: 9934778

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The

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following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

The following analytes were manually integrated due to incorrect integrations: Perfluorooctanoic acid, Perfluorohexanoic acid, Perfluorohexanesulfonate, Perfluoro-octanesulfonate

Batch #: 18348012 (Sample number(s): 9934777-9934788)

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9934778, 9934786

Sample Description: **OU1-Y15-5-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 13:50
SDG#: BSI27-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9934777
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.2	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	11	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.0	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	2.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:02	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-Y9-5-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 17:16
SDG#: BSI27-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9934778
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	14	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	3.4	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.42 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	13	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	14	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:11	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YS16-6-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/06/2018 16:57
SDG#: BSI27-03

Gutierrez Canales Engineering
ELLE Sample #: GW 9934779
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.9	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.94 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.58 J	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	15	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:29	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YCW16-1-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:03
SDG#: BSI27-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9934780
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.8	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.64 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	2.0	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.70 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:38	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YS16-6-W-01 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:00
SDG#: BSI27-05RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934781
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:47	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YS16-6-W-02 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:05
SDG#: BSI27-06BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934782
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:56	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YCW16-1-W-01 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:30
SDG#: BSI27-07RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934783
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.41 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:05	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YCW16-1-W-02 Grab Water**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:35
SDG#: BSI27-08BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934784
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:14	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YCW16-3-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 10:29
SDG#: BSI27-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9934785
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.1	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.48	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.38	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	1.3 J	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	19	0.48	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	0.55 J	0.48	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	1.1 J	0.48	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.57	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.57	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:23	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-YIMW-4-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 12:44
SDG#: BSI27-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9934786
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.7 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.46 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	9.3	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	10	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	7.1	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:32	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-PMW-2-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 14:31
SDG#: BSI27-11

Gutierrez Canales Engineering
ELLE Sample #: GW 9934787
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.6	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.69 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.2	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	2.2	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	9.5	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:41	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-Y9-4-01 Grab Groundwater**
Barstow PFAS Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 15:57
SDG#: BSI27-12

Gutierrez Canales Engineering
ELLE Sample #: GW 9934788
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.7	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	9.7	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	50	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	20	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.3	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	26	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	29	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:50	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Group Number: 2017387
Reported: 12/31/2018 16:40

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	ng/l	ng/l	ng/l	ng/l
Batch number: 18348012	Sample number(s): 9934777-9934788			
NEtFOSAA	N.D.	1.0	2.4	3.0
NMeFOSAA	N.D.	1.0	2.4	3.0
Perfluorobutanesulfonate	N.D.	0.30	1.1	2.0
Perfluorodecanoic acid	N.D.	0.50	1.2	2.0
Perfluorododecanoic acid	N.D.	0.50	1.2	2.0
Perfluoroheptanoic acid	N.D.	0.40	1.2	2.0
Perfluorohexanesulfonate	N.D.	0.40	1.1	2.0
Perfluorohexanoic acid	N.D.	0.50	1.2	2.0
Perfluorononanoic acid	N.D.	0.40	1.2	2.0
Perfluoro-octanesulfonate	N.D.	0.50	1.2	2.0
Perfluorooctanoic acid	N.D.	0.50	1.2	2.0
Perfluorotetradecanoic acid	N.D.	0.60	1.2	2.0
Perfluorotridecanoic acid	N.D.	0.60	1.2	2.0
Perfluoroundecanoic acid	N.D.	0.50	1.2	2.0

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18348012	Sample number(s): 9934777-9934788								
NEtFOSAA	5.44	6.66	5.44	7.03	122	129	60-131	5	30
NMeFOSAA	5.44	6.58	5.44	5.66	121	104	67-124	15	30
Perfluorobutanesulfonate	4.81	5.39	4.81	5.38	112	112	72-127	0	30
Perfluorodecanoic acid	5.44	5.35	5.44	5.66	98	104	67-141	6	30
Perfluorododecanoic acid	5.44	5.84	5.44	5.39	107	99	72-137	8	30
Perfluoroheptanoic acid	5.44	6.33	5.44	6.25	116	115	75-139	1	30
Perfluorohexanesulfonate	5.14	4.43	5.14	5.60	86	109	71-130	23	30
Perfluorohexanoic acid	5.44	6.02	5.44	5.88	111	108	77-132	2	30
Perfluorononanoic acid	5.44	5.71	5.44	5.89	105	108	73-144	3	30
Perfluoro-octanesulfonate	5.20	4.62	5.20	4.94	89	95	67-134	7	30
Perfluorooctanoic acid	5.44	5.85	5.44	6.04	108	111	76-136	3	30
Perfluorotetradecanoic acid	5.44	5.73	5.44	5.39	105	99	70-142	6	30
Perfluorotridecanoic acid	5.44	5.84	5.44	5.69	107	105	57-137	3	30
Perfluoroundecanoic acid	5.44	5.74	5.44	5.63	106	103	83-132	2	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 12/31/2018 16:40

Group Number: 2017387

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18348012

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9934777	88	8.7	91	1.7	98	8.7	86	1.7	95	1.7	89	8.7
9934778	77	9.0	76	1.8	80	9.0	79	1.8	82	1.8	74	9.0
9934779	92	8.8	78	1.8	85	8.8	73	1.8	80	1.8	89	8.8
9934780	81	9.0	83	1.8	87	9.0	77	1.8	87	1.8	79	9.0
9934781	80	9.2	73	1.8	90	9.2	74	1.8	84	1.8	88	9.2
9934782	84	8.8	96	1.8	94	8.8	89	1.8	98	1.8	92	8.8
9934783	76	9.0	76	1.8	87	9.0	75	1.8	88	1.8	82	9.0
9934784	81	8.9	85	1.8	93	8.9	84	1.8	96	1.8	93	8.9
9934785	83	9.6	85	1.9	88	9.6	78	1.9	89	1.9	90	9.6
9934786	87	8.9	88	1.8	90	8.9	88	1.8	92	1.8	82	8.9
9934787	88	8.8	94	1.8	99	8.8	93	1.8	102	1.8	89	8.8
9934788	81	8.8	81	1.8	87	8.8	82	1.8	86	1.8	82	8.8
Blank	89	10	96	2.0	102	10	92	2.0	105	2.0	91	10
LCS	83	10	88	2.0	97	10	87	2.0	94	2.0	87	10
LCSD	85	10	90	2.0	97	10	90	2.0	94	2.0	89	10
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDoDA	
	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)	%Rec	LOD (ng/l)
9934777	81	1.7	88	1.7	91	6.9	88	3.5	89	6.9	88	4.3
9934778	80	1.8	76	1.8	67	7.2	70	3.6	52	7.2	61	4.5
9934779	77	1.8	84	1.8	83	7.0	81	3.5	78	7.0	85	4.4
9934780	85	1.8	89	1.8	88	7.2	84	3.6	75	7.2	84	4.5
9934781	84	1.8	87	1.8	85	7.3	91	3.7	92	7.3	93	4.6
9934782	92	1.8	97	1.8	94	7.0	91	3.5	88	7.0	92	4.4
9934783	86	1.8	84	1.8	89	7.2	84	3.6	92	7.2	75	4.5
9934784	92	1.8	93	1.8	89	7.1	96	3.5	93	7.1	92	4.4
9934785	90	1.9	85	1.9	85	7.7	81	3.8	83	7.7	82	4.8
9934786	85	1.8	89	1.8	76	7.2	83	3.6	66	7.2	77	4.5
9934787	90	1.8	96	1.8	84	7.0	86	3.5	81	7.0	82	4.4
9934788	80	1.8	85	1.8	76	7.1	79	3.5	72	7.1	79	4.4
Blank	93	2.0	98	2.0	89	8.0	99	4.0	92	8.0	96	5.0
LCS	89	2.0	96	2.0	86	8.0	90	4.0	88	8.0	86	5.0
LCSD	86	2.0	91	2.0	96	8.0	86	4.0	86	8.0	90	5.0

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Group Number: 2017387
Reported: 12/31/2018 16:40

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18348012

Limits:	50-150	50-150	50-150	50-150	50-150	50-150

	13C2-PFTeDA %Rec	LOD (ng/l)
9934777	89	4.3
9934778	36*	4.5
9934779	83	4.4
9934780	67	4.5
9934781	87	4.6
9934782	93	4.4
9934783	84	4.5
9934784	90	4.4
9934785	80	4.8
9934786	43*	4.5
9934787	58	4.4
9934788	63	4.4
Blank	86	5.0
LCS	84	5.0
LCSD	91	5.0
Limits:	50-150	

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
(3) The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody

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Acct. # 43806 Group # 2017387 Sample # 9934777-88

COC # 571784

Client Information

Client: GCE	Acct. #: 43806
Project Name/#: BARSTOW SITE INSPECTION PFAS	PWSID #:
Project Manager: ERIC RIDER	P.O. #:
Sampler: J. SANTINI	Quote #:
State where samples were collected: CA	For Compliance: Yes ☐ No ☑

Sample Identification	Collected Date	Collected Time	Grab	Composite	Matrix: Soil ☐ Sediment ☐ Tissue ☐	Water: Potable ☐ Ground ☐ Surface ☐ NPDES ☐	Other: Source/Rinsate Water	Total # of Containers	Analysis Requested: PFAS EPA 537m	Remarks
OU1-415-5-01	12/5/18	1350	✓			✓		2	✓	
OU1-49-5-01	12/5/18	1716	✓			✓		2	✓	
OU1-4S16-6-01	12/6/18	1657	✓			✓		2	✓	
OU1-4CW16-1-01	12/7/18	0903	✓			✓		2	✓	
OU1-4S16-6-W-01	12/7/18	0800	✓				✓	2	✓	RINSATE BLANK
OU1-4S16-6-W-02	12/7/18	0805	✓				✓	2	✓	SOURCE BLANK
OU1-4CW16-1-W-01	12/7/18	0930	✓				✓	2	✓	RINSATE BLANK
OU1-4CW16-1-W-02	12/7/18	0935	✓				✓	2	✓	SOURCE BLANK
OU1-4CW16-3-01	12/7/18	1029	✓			✓		2	✓	
OU1-4IMW-4-01	12/7/18	1244	✓			✓		2	✓	

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl	T=Thiosulfate
N=HNO_3	B=NaOH
S=H_2SO_4	P=H_3PO_4
F=Field Filtered	O=Other

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days:

E-mail address: JMACNEIL@NCIAN.COM

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
J. MacNeil	12/10/18	1400			
			Chris	12-11-18	1005

EDD Required? (Yes) No

If yes, format: NEDD, EDF

Site-Specific QC (MS/MSD/Dup)? Yes (No)

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt 4.5 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 43806 Group # 2017387 Sample # 9934777-88

COC # 571786

Client Information

Client: GCE	Acct. #: 43806
Project Name/#: 146-C919-006 BARSTOW PFAS SITE INSPECTION	PWSID #:
Project Manager: FRED RYDER	P.O. #:
Sampler: J. SANTINI	Quote #:
State where samples were collected: CA	For Compliance: Yes ☐ No ☑

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water ☑ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ___

Analysis Requested

Preservation and Filtration Codes

PFAS EPA 537M

For Lab Use Only

FSC: ___

SCR#: ___

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	Remarks
OU1-PMW-2-01	12/7/18	1431	✓		2	OU1-PMW-2-01
OU1-PMW-4-01	12/7/18	1557	✓		2	

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: ___

E-mail address: JMACNEILL@ENSR.COM

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
	12/10/18	1400			
				12-11-18	1005

EDD Required? (Yes) No

If yes, format: NEDD, EDF

Site-Specific QC (MS/MSD/Dup)? Yes (No)

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS ___ FedEx ___ Other ___

Temperature upon receipt 4.5 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 235739

Group Number(s): 2017387

Client: GCE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	12/11/2018 10:05
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	CA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Christopher Stief (12429) at 15:39 on 12/11/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	4.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-5994
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

PFAS by LC/MS/MS Data

Case Narrative/Conformance Summary

PFAS by LC/MS/MS

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Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI27

PFAS Group

Fraction: PFAS by LC/MS/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9934777	OU1-Y15-5-01	X		1	
9934778	OU1-Y9-5-01	X		1	
9934779	OU1-YS16-6-01	X		1	
9934780	OU1-YCW16-1-01	X		1	
9934781	OU1-YS16-6-W-01	X		1	Material Rinse Blank
9934782	OU1-YS16-6-W-02	X		1	Blank
9934783	OU1-YCW16-1-W-01	X		1	Material Rinse Blank
9934784	OU1-YCW16-1-W-02	X		1	Blank
9934785	OU1-YCW16-3-01	X		1	
9934786	OU1-YIMW-4-01	X		1	
9934787	OU1-PMW-2-01	X		1	
9934788	OU1-Y9-4-01	X		1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

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Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI27

PFAS Group

Fraction: PFAS by LC/MS/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

LCS/LCSD

Batch#: 18360005
The recovery(ies) for the following analyte(s) in the LCSD exceeded the acceptance window indicating a positive bias: NEtFOSAA
The recovery(ies) for the following analyte(s) in the LCS and LCSD exceeded the acceptance window indicating a positive bias. Perfluorobutanesulfonate
Refer to the QC Summary forms for more information.

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Batch#: 18348012 (Sample number(s): 9934777-9934788)
The recovery(ies) for the following surrogate(s) were below the acceptance window: 13C2-PFTeDA (9934778, 9934786)

(Sample number(s): 9934778, 9934786: Analysis: 14434)
The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

PFAS by LC/MS/MS

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Quality Control Reference List
PFAS Group

CLIENT: Gutierrez Canales Engineering
SDG: BSI27

Fraction: PFAS by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
PFAS in Water by LC/MS/MS-DoD	18348012	BLK348012B	12/19/2018 13:26
		LCS348012Q	12/19/2018 13:35
		LCSDAY	12/19/2018 13:44
		9934777	12/19/2018 14:02
		9934778	12/19/2018 14:11
		9934779	12/19/2018 14:29
		9934780	12/19/2018 14:38
		9934781	12/19/2018 14:47
		9934782 BL	12/19/2018 14:56
		9934783	12/19/2018 15:05
		9934784 BL	12/19/2018 15:14
		9934785	12/19/2018 15:23
		9934786	12/19/2018 15:32
		9934787	12/19/2018 15:41
		9934788	12/19/2018 15:50
PFAS in Water by LC/MS/MS-DoD	18360005	BLK360005B	12/27/2018 00:04
		LCS360005Q	12/27/2018 00:13
		LCSDAY	12/27/2018 00:22
		9934778	12/27/2018 00:31
		9934786	12/27/2018 00:40

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Quality Control Summary
Method Blank
PFAS Group
SDG: BSI27
Matrix: LIQUID

Fraction: PFAS by LC/MS/MS

18348012 / BLK348012B Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	12/19/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorononanoic acid	12/19/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorodecanoic acid	12/19/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroundecanoic acid	12/19/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorododecanoic acid	12/19/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorotridecanoic acid	12/19/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorotetradecanoic acid	12/19/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorohexanoic acid	12/19/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroheptanoic acid	12/19/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorobutanesulfonate	12/19/18	N.D.	ng/l	0.30	1.1	2.0
Perfluorohexanesulfonate	12/19/18	N.D.	ng/l	0.40	1.1	2.0
Perfluoro-octanesulfonate	12/19/18	N.D.	ng/l	0.50	1.2	2.0
NEtFOSAA	12/19/18	N.D.	ng/l	1.0	2.4	3.0
NMeFOSAA	12/19/18	N.D.	ng/l	1.0	2.4	3.0

18360005 / BLK360005B Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	12/27/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorononanoic acid	12/27/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorodecanoic acid	12/27/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroundecanoic acid	12/27/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorododecanoic acid	12/27/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorotridecanoic acid	12/27/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorotetradecanoic acid	12/27/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorohexanoic acid	12/27/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroheptanoic acid	12/27/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorobutanesulfonate	12/27/18	N.D.	ng/l	0.30	1.1	2.0
Perfluorohexanesulfonate	12/27/18	N.D.	ng/l	0.40	1.1	2.0
Perfluoro-octanesulfonate	12/27/18	N.D.	ng/l	0.50	1.2	2.0
NEtFOSAA	12/27/18	N.D.	ng/l	1.0	2.4	3.0
NMeFOSAA	12/27/18	N.D.	ng/l	1.0	2.4	3.0

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18348012		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK348012	12/19/18 13:26	96	86	89	102	92
LCS348012	12/19/18 13:35	86	84	83	97	87
LCSDA	12/19/18 13:44	90	91	85	97	90
9934777	12/19/18 14:02	88	89	88	98	86
9934778	12/19/18 14:11	61	36 *	77	80	79
9934779	12/19/18 14:29	85	83	92	85	73
9934780	12/19/18 14:38	84	67	81	87	77
9934781	12/19/18 14:47	93	87	80	90	74
9934782	12/19/18 14:56	92	93	84	94	89
9934783	12/19/18 15:05	75	84	76	87	75
9934784	12/19/18 15:14	92	90	81	93	84
9934785	12/19/18 15:23	82	80	83	88	78
9934786	12/19/18 15:32	77	43 *	87	90	88
9934787	12/19/18 15:41	82	58	88	99	93
9934788	12/19/18 15:50	79	63	81	87	82

* Outside QC Limits

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FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18348012		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK348012	12/19/18 13:26	96	98	99	105	91
LCS348012	12/19/18 13:35	88	96	90	94	87
LCSDA	12/19/18 13:44	90	91	86	94	89
9934777	12/19/18 14:02	91	88	88	95	89
9934778	12/19/18 14:11	76	76	70	82	74
9934779	12/19/18 14:29	78	84	81	80	89
9934780	12/19/18 14:38	83	89	84	87	79
9934781	12/19/18 14:47	73	87	91	84	88
9934782	12/19/18 14:56	96	97	91	98	92
9934783	12/19/18 15:05	76	84	84	88	82
9934784	12/19/18 15:14	85	93	96	96	93
9934785	12/19/18 15:23	85	85	81	89	90
9934786	12/19/18 15:32	88	89	83	92	82
9934787	12/19/18 15:41	94	96	86	102	89
9934788	12/19/18 15:50	81	85	79	86	82

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18348012		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery
BLK348012	12/19/18 13:26	93	89	92
LCS348012	12/19/18 13:35	89	86	88
LCSDA	12/19/18 13:44	86	96	86
9934777	12/19/18 14:02	81	91	89
9934778	12/19/18 14:11	80	67	52
9934779	12/19/18 14:29	77	83	78
9934780	12/19/18 14:38	85	88	75
9934781	12/19/18 14:47	84	85	92
9934782	12/19/18 14:56	92	94	88
9934783	12/19/18 15:05	86	89	92
9934784	12/19/18 15:14	92	89	93
9934785	12/19/18 15:23	90	85	83
9934786	12/19/18 15:32	85	76	66
9934787	12/19/18 15:41	90	84	81
9934788	12/19/18 15:50	80	76	72

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18360005		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK360005	12/27/18 00:04	93	76	102	115	102
LCS360005	12/27/18 00:13	99	80	101	114	108
LCSDA	12/27/18 00:22	97	86	98	111	112
9934778RE	12/27/18 00:31	104	83	104	113	109
9934786RE	12/27/18 00:40	95	66	110	112	105

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18360005		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK360005	12/27/18 00:04	106	107	105	116	100
LCS360005	12/27/18 00:13	110	103	104	115	99
LCSDA	12/27/18 00:22	108	109	108	108	107
9934778RE	12/27/18 00:31	108	103	109	112	106
9934786RE	12/27/18 00:40	110	108	108	115	106

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

18360005		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery
BLK360005	12/27/18 00:04	101	100	87
LCS360005	12/27/18 00:13	100	101	91
LCSDA	12/27/18 00:22	110	105	91
9934778RE	12/27/18 00:31	104	108	95
9934786RE	12/27/18 00:40	105	102	89

* Outside QC Limits

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: BSI27
Matrix: LIQUID

PFAS Group
Fraction: PFAS by LC/MS/MS

LCS: LCS348012Q LCSD: LCSDAY **Analyte**	Batch: **18348012** (Sample number(s): 9934777-9934788) **Spike Added ng/l**	**LCS Conc ng/l**	**LCSD Conc ng/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	5.44	5.85	6.04	108	111	76-136	3	30
Perfluorononanoic acid	5.44	5.71	5.89	105	108	73-144	3	30
Perfluorodecanoic acid	5.44	5.35	5.66	98	104	67-141	6	30
Perfluoroundecanoic acid	5.44	5.74	5.63	106	103	83-132	2	30
Perfluorododecanoic acid	5.44	5.84	5.39	107	99	72-137	8	30
Perfluorotridecanoic acid	5.44	5.84	5.69	107	105	57-137	3	30
Perfluorotetradecanoic acid	5.44	5.73	5.39	105	99	70-142	6	30
Perfluorohexanoic acid	5.44	6.02	5.88	111	108	77-132	2	30
Perfluoroheptanoic acid	5.44	6.33	6.25	116	115	75-139	1	30
Perfluorobutanesulfonate	4.81	5.39	5.38	112	112	72-127	0	30
Perfluorohexanesulfonate	5.14	4.43	5.60	86	109	71-130	23	30
Perfluoro-octanesulfonate	5.20	4.62	4.94	89	95	67-134	7	30
NEtFOSAA	5.44	6.66	7.03	122	129	60-131	5	30
NMeFOSAA	5.44	6.58	5.66	121	104	67-124	15	30

LCS: LCS360005Q LCSD: LCSDAY **Analyte**	Batch: **18360005** (Sample number(s): 9934778, 9934786) **Spike Added ng/l**	**LCS Conc ng/l**	**LCSD Conc ng/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	5.44	7.07	6.74	130	124	76-136	5	30
Perfluorononanoic acid	5.44	6.62	6.96	122	128	73-144	5	30
Perfluorodecanoic acid	5.44	7.07	6.83	130	126	67-141	3	30
Perfluoroundecanoic acid	5.44	7.10	6.92	130	127	83-132	2	30
Perfluorododecanoic acid	5.44	6.30	6.33	116	116	72-137	1	30
Perfluorotridecanoic acid	5.44	6.39	6.22	118	114	57-137	3	30
Perfluorotetradecanoic acid	5.44	6.89	6.63	127	122	70-142	4	30
Perfluorohexanoic acid	5.44	6.79	6.56	125	121	77-132	3	30
Perfluoroheptanoic acid	5.44	6.91	6.22	127	114	75-139	10	30
Perfluorobutanesulfonate	4.81	6.27	6.14	130 *	128 *	72-127	2	30
Perfluorohexanesulfonate	5.14	5.92	5.84	115	114	71-130	1	30
Perfluoro-octanesulfonate	5.20	5.35	5.41	103	104	67-134	1	30
NEtFOSAA	5.44	6.96	7.66	128	141 *	60-131	10	30
NMeFOSAA	5.44	5.96	5.92	110	109	67-124	1	30

Fraction: PFAS by LC/MS/MS

14434: PFAS in Water by LC/MS/MS-DoD Analyte Name	Default DL	Default LOD	Default LOQ	Units
Perfluorooctanoic acid	.5	1.2	2.0	ng/l
Perfluorononanoic acid	.4	1.2	2.0	ng/l
Perfluorodecanoic acid	.5	1.2	2.0	ng/l
Perfluoroundecanoic acid	.5	1.2	2.0	ng/l
Perfluorododecanoic acid	.5	1.2	2.0	ng/l
Perfluorotridecanoic acid	.6	1.2	2.0	ng/l
Perfluorotetradecanoic acid	.6	1.2	2.0	ng/l
Perfluorohexanoic acid	.5	1.2	2.0	ng/l
Perfluoroheptanoic acid	.4	1.2	2.0	ng/l
Perfluorobutanesulfonate	.3	1.1	2.0	ng/l
Perfluorohexanesulfonate	.4	1.1	2.0	ng/l
Perfluoro-octanesulfonate	.5	1.2	2.0	ng/l
NEtFOSAA	1	2.4	3.0	ng/l
NMeFOSAA	1	2.4	3.0	ng/l

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.220	9.9	±30
CAL2	0.104	0.50	0.552	10.4	±30
CAL3	0.407	2.00	2.164	8.2	±30
CAL4	1.459	8.00	7.748	-3.2	±30
CAL5	3.770	20.00	20.017	0.1	±30
CAL6	8.555	50.00	45.420	-9.2	±30
CAL7	14.212	100.00	75.458	-24.5	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.222	10.8	±30
CAL2	0.105	0.50	0.541	8.2	±30
CAL3	0.435	2.00	2.247	12.3	±30
CAL4	1.509	8.00	7.791	-2.6	±30
CAL5	3.855	20.00	19.899	-0.5	±30
CAL6	8.734	50.00	45.083	-9.8	±30
CAL7	15.123	100.00	78.065	-21.9	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.18	0.197	11.5	±30
CAL2	0.097	0.44	0.478	7.9	±30
CAL3	0.397	1.77	1.959	10.7	±30
CAL4	1.481	7.08	7.312	3.3	±30
CAL5	3.582	17.70	17.683	-0.1	±30
CAL6	8.863	44.20	43.750	-1.0	±30
CAL7	17.905	88.40	88.391	0.0	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.074	0.19	0.195	4.5	±30
CAL2	0.199	0.47	0.523	12.0	±30
CAL3	0.732	1.87	1.921	2.7	±30
CAL4	2.858	7.47	7.497	0.4	±30
CAL5	7.591	18.70	19.917	6.5	±30
CAL6	17.282	46.70	45.341	-2.9	±30
CAL7	32.786	93.40	86.019	-7.9	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.053	0.20	0.220	9.8	±30
CAL2	0.136	0.50	0.558	11.7	±30
CAL3	0.495	2.00	2.039	1.9	±30
CAL4	1.954	8.00	8.050	0.6	±30
CAL5	4.814	20.00	19.833	-0.8	±30
CAL6	10.431	50.00	42.970	-14.1	±30
CAL7	18.976	100.00	78.171	-21.8	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.021	0.19	0.211	12.0	±30
CAL2	0.050	0.47	0.514	9.6	±30
CAL3	0.205	1.88	2.092	11.3	±30
CAL4	0.771	7.50	7.851	4.7	±30
CAL5	1.924	18.80	19.589	4.2	±30
CAL6	4.645	46.90	47.288	0.8	±30
CAL7	9.036	93.80	91.992	-1.9	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.075	0.20	0.248	24.1	±30
CAL2	0.177	0.50	0.585	17.1	±30
CAL3	0.675	2.00	2.237	11.8	±30
CAL4	2.405	8.00	7.974	-0.3	±30
CAL5	5.928	20.00	19.655	-1.7	±30
CAL6	12.855	50.00	42.626	-14.7	±30
CAL7	23.089	100.00	76.560	-23.4	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.037	0.18	0.180	-1.0	±30
CAL2	0.108	0.47	0.524	10.5	±30
CAL3	0.407	1.82	1.981	8.8	±30
CAL4	1.454	7.30	7.070	-3.2	±30
CAL5	3.840	18.20	18.679	2.6	±30
CAL6	9.281	45.60	45.142	-1.0	±30
CAL7	20.045	91.20	97.498	6.9	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.098	0.19	0.243	28.1	±30
CAL2	0.228	0.47	0.568	19.9	±30
CAL3	0.869	1.90	2.164	13.9	±30
CAL4	3.369	7.58	8.386	10.6	±30
CAL5	7.423	19.00	18.478	-2.7	±30
CAL6	18.761	47.40	46.705	-1.5	±30
CAL7	35.195	94.80	87.615	-7.6	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.034	0.19	0.180	-5.5	±30
CAL2	0.102	0.48	0.540	13.5	±30
CAL3	0.417	1.90	2.208	16.2	±30
CAL4	1.452	7.61	7.680	0.9	±30
CAL5	3.683	19.00	19.481	2.5	±30
CAL6	8.968	47.60	47.444	-0.3	±30
CAL7	17.853	95.20	94.443	-0.8	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.225	12.6	±30
CAL2	0.109	0.50	0.577	15.4	±30
CAL3	0.446	2.00	2.362	18.1	±30
CAL4	1.476	8.00	7.820	-2.3	±30
CAL5	3.960	20.00	20.977	4.9	±30
CAL6	9.200	50.00	48.740	-2.5	±30
CAL7	16.701	100.00	88.477	-11.5	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.19	0.191	3.4	±30
CAL2	0.108	0.46	0.471	1.8	±30
CAL3	0.480	1.85	2.101	13.6	±30
CAL4	1.587	7.40	6.950	-6.1	±30
CAL5	4.098	18.50	17.940	-3.0	±30
CAL6	10.760	46.30	47.111	1.8	±30
CAL7	21.135	92.60	92.533	-0.1	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
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CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.061	0.20	0.244	21.9	±30
CAL2	0.139	0.50	0.553	10.6	±30
CAL3	0.563	2.00	2.239	12.0	±30
CAL4	2.064	8.00	8.203	2.5	±30
CAL5	5.396	20.00	21.446	7.2	±30
CAL6	12.081	50.00	48.015	-4.0	±30
CAL7	21.159	100.00	84.094	-15.9	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.031	0.19	0.194	1.0	±30
CAL2	0.081	0.48	0.517	7.8	±30
CAL3	0.344	1.92	2.190	14.1	±30
CAL4	1.161	7.68	7.383	-3.9	±30
CAL5	2.912	19.20	18.519	-3.5	±30
CAL6	7.654	48.00	48.669	1.4	±30
CAL7	13.907	96.00	88.431	-7.9	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.235	17.3	±30
CAL2	0.106	0.50	0.546	9.1	±30
CAL3	0.389	2.00	2.011	0.6	±30
CAL4	1.513	8.00	7.816	-2.3	±30
CAL5	3.890	20.00	20.092	0.5	±30
CAL6	8.560	50.00	44.210	-11.6	±30
CAL7	15.748	100.00	81.331	-18.7	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.107	0.19	0.216	12.5	±30
CAL2	0.265	0.48	0.533	11.4	±30
CAL3	1.039	1.92	2.092	8.9	±30
CAL4	3.901	7.66	7.853	2.5	±30
CAL5	9.319	19.20	18.757	-2.3	±30
CAL6	20.932	47.90	42.130	-12.0	±30
CAL7	39.369	95.80	79.240	-17.3	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.213	6.6	±30
CAL2	0.112	0.50	0.563	12.5	±30
CAL3	0.420	2.00	2.102	5.1	±30
CAL4	1.547	8.00	7.738	-3.3	±30
CAL5	4.215	20.00	21.082	5.4	±30
CAL6	9.798	50.00	49.002	-2.0	±30
CAL7	18.434	100.00	92.193	-7.8	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.030	0.20	0.187	-6.5	±30
CAL2	0.090	0.50	0.558	11.6	±30
CAL3	0.352	2.00	2.186	9.3	±30
CAL4	1.281	8.00	7.961	-0.5	±30
CAL5	3.412	20.00	21.205	6.0	±30
CAL6	7.820	50.00	48.603	-2.8	±30
CAL7	14.926	100.00	92.762	-7.2	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.023	0.19	0.187	-2.9	±30
CAL2	0.062	0.48	0.509	5.6	±30
CAL3	0.260	1.93	2.136	10.7	±30
CAL4	0.979	7.70	8.036	4.4	±30
CAL5	2.286	19.30	18.770	-2.7	±30
CAL6	5.845	48.20	47.982	-0.5	±30
CAL7	11.753	96.30	96.485	0.2	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.066	0.20	0.219	9.5	±30
CAL2	0.160	0.50	0.529	5.7	±30
CAL3	0.644	2.00	2.131	6.6	±30
CAL4	2.424	8.00	8.028	0.4	±30
CAL5	5.976	20.00	19.793	-1.0	±30
CAL6	12.525	50.00	41.480	-17.0	±30
CAL7	23.358	100.00	77.359	-22.6	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

NEtFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.038	0.20	0.196	-2.2	±30
CAL2	0.087	0.50	0.444	-11.1	±30
CAL3	0.414	2.00	2.109	5.5	±30
CAL4	1.444	8.00	7.359	-8.0	±30
CAL5	4.220	20.00	21.510	7.5	±30
CAL6	10.081	50.00	51.380	2.8	±30
CAL7	19.170	100.00	97.702	-2.3	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.048	0.20	0.243	21.6	±30
CAL2	0.106	0.50	0.534	6.9	±30
CAL3	0.428	2.00	2.154	7.7	±30
CAL4	1.491	8.00	7.509	-6.1	±30
CAL5	4.022	20.00	20.259	1.3	±30
CAL6	8.676	50.00	43.704	-12.6	±30
CAL7	15.326	100.00	77.202	-22.8	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.114	0.19	0.233	20.6	±30
CAL2	0.266	0.48	0.542	12.4	±30
CAL3	1.051	1.93	2.141	10.9	±30
CAL4	3.668	7.71	7.471	-3.1	±30
CAL5	9.441	19.30	19.229	-0.4	±30
CAL6	21.158	48.20	43.093	-10.6	±30
CAL7	44.110	96.40	89.839	-6.8	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.047	0.20	0.209	4.4	±30
CAL2	0.133	0.50	0.588	17.7	±30
CAL3	0.503	2.00	2.221	11.1	±30
CAL4	1.932	8.00	8.522	6.5	±30
CAL5	4.727	20.00	20.857	4.3	±30
CAL6	11.649	50.00	51.399	2.8	±30
CAL7	21.962	100.00	96.903	-3.1	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.198	-0.9	±30
CAL2	0.115	0.50	0.582	16.5	±30
CAL3	0.430	2.00	2.170	8.5	±30
CAL4	1.537	8.00	7.758	-3.0	±30
CAL5	3.924	20.00	19.812	-0.9	±30
CAL6	9.940	50.00	50.180	0.4	±30
CAL7	18.357	100.00	92.669	-7.3	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.012	0.19	0.184	-5.2	±30
CAL2	0.031	0.48	0.466	-3.2	±30
CAL3	0.129	1.94	1.949	0.5	±30
CAL4	0.475	7.74	7.201	-7.0	±30
CAL5	1.271	19.40	19.257	-0.7	±30
CAL6	3.318	48.40	50.267	3.9	±30
CAL7	6.312	96.80	95.631	-1.2	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.069	0.20	0.226	12.8	±30
CAL2	0.174	0.50	0.567	13.4	±30
CAL3	0.644	2.00	2.105	5.2	±30
CAL4	2.274	8.00	7.430	-7.1	±30
CAL5	6.236	20.00	20.372	1.9	±30
CAL6	14.620	50.00	47.763	-4.5	±30
CAL7	24.864	100.00	81.230	-18.8	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.193	-3.6	±30
CAL2	0.110	0.50	0.514	2.8	±30
CAL3	0.474	2.00	2.217	10.9	±30
CAL4	1.819	8.00	8.510	6.4	±30
CAL5	4.244	20.00	19.852	-0.7	±30
CAL6	10.497	50.00	49.101	-1.8	±30
CAL7	21.446	100.00	100.313	0.3	±30

FORM 06
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Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28
Lab File Names: CAL1= 18DEC18DCAL-68.WIFF; CAL2= 18DEC18DCAL-69.WIFF; CAL3= 18DEC18DCAL-70.WIFF;
CAL4= 18DEC18DCAL-71.WIFF; CAL5= 18DEC18DCAL-72.WIFF; CAL6= 18DEC18DCAL-73.WIFF;
CAL7= 18DEC18DCAL-74.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.213	6.3	±30
CAL2	0.106	0.50	0.542	8.4	±30
CAL3	0.398	2.00	2.042	2.1	±30
CAL4	1.476	8.00	7.573	-5.3	±30
CAL5	3.963	20.00	20.331	1.7	±30
CAL6	8.319	50.00	42.680	-14.6	±30
CAL7	13.839	100.00	70.998	-29.0	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.219	9.3	±30
CAL2	0.095	0.50	0.514	2.8	±30
CAL3	0.397	2.00	2.137	6.9	±30
CAL4	1.389	8.00	7.478	-6.5	±30
CAL5	3.780	20.00	20.352	1.8	±30
CAL6	8.375	50.00	45.100	-9.8	±30
CAL7	14.323	100.00	77.125	-22.9	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.022	0.20	0.237	18.6	±30
CAL2	0.048	0.50	0.525	5.0	±30
CAL3	0.208	2.00	2.289	14.4	±30
CAL4	0.766	8.00	8.406	5.1	±30
CAL5	1.926	20.00	21.151	5.8	±30
CAL6	4.379	50.00	48.092	-3.8	±30
CAL7	8.250	100.00	90.592	-9.4	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.014	0.20	0.206	3.0	±30
CAL2	0.035	0.50	0.508	1.6	±30
CAL3	0.154	2.00	2.220	11.0	±30
CAL4	0.566	8.00	8.139	1.7	±30
CAL5	1.447	20.00	20.791	4.0	±30
CAL6	3.399	50.00	48.836	-2.3	±30
CAL7	6.470	100.00	92.966	-7.0	±30

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FORM 06
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SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31
Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.20	0.222	10.9	±30
CAL2	0.101	0.50	0.532	6.3	±30
CAL3	0.411	2.00	2.173	8.6	±30
CAL4	1.483	8.00	7.836	-2.1	±30
CAL5	3.775	20.00	19.938	-0.3	±30
CAL6	8.697	50.00	45.939	-8.1	±30
CAL7	14.503	100.00	76.610	-23.4	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.046	0.20	0.230	15.1	±30
CAL2	0.113	0.50	0.563	12.6	±30
CAL3	0.478	2.00	2.372	18.6	±30
CAL4	1.433	8.00	7.111	-11.1	±30
CAL5	4.115	20.00	20.424	2.1	±30
CAL6	8.813	50.00	43.742	-12.5	±30
CAL7	15.667	100.00	77.766	-22.2	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.18	0.206	16.5	±30
CAL2	0.098	0.44	0.486	9.8	±30
CAL3	0.399	1.77	1.978	11.8	±30
CAL4	1.420	7.08	7.047	-0.5	±30
CAL5	3.707	17.70	18.397	3.9	±30
CAL6	9.094	44.20	45.128	2.1	±30
CAL7	17.436	88.40	86.527	-2.1	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.074	0.19	0.181	-3.4	±30
CAL2	0.209	0.47	0.512	9.5	±30
CAL3	0.758	1.87	1.858	-0.7	±30
CAL4	2.913	7.47	7.142	-4.4	±30
CAL5	7.750	18.70	19.002	1.6	±30
CAL6	16.277	46.70	39.910	-14.5	±30
CAL7	35.418	93.40	86.840	-7.0	±30

FORM 06
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Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.055	0.20	0.225	12.7	±30
CAL2	0.135	0.50	0.554	10.7	±30
CAL3	0.546	2.00	2.243	12.1	±30
CAL4	1.914	8.00	7.855	-1.8	±30
CAL5	4.830	20.00	19.823	-0.9	±30
CAL6	10.649	50.00	43.710	-12.6	±30
CAL7	19.217	100.00	78.876	-21.1	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.021	0.19	0.207	10.1	±30
CAL2	0.050	0.47	0.499	6.5	±30
CAL3	0.213	1.88	2.143	14.0	±30
CAL4	0.748	7.50	7.530	0.4	±30
CAL5	1.998	18.80	20.115	7.0	±30
CAL6	4.665	46.90	46.956	0.1	±30
CAL7	9.148	93.80	92.087	-1.8	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.075	0.20	0.238	18.9	±30
CAL2	0.184	0.50	0.582	16.3	±30
CAL3	0.760	2.00	2.403	20.1	±30
CAL4	2.479	8.00	7.833	-2.1	±30
CAL5	6.217	20.00	19.644	-1.8	±30
CAL6	13.499	50.00	42.656	-14.7	±30
CAL7	22.935	100.00	72.475	-27.5	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.038	0.18	0.179	-1.8	±30
CAL2	0.105	0.47	0.491	3.6	±30
CAL3	0.395	1.82	1.849	1.6	±30
CAL4	1.478	7.30	6.913	-5.3	±30
CAL5	3.791	18.20	17.728	-2.6	±30
CAL6	9.175	45.60	42.909	-5.9	±30
CAL7	20.252	91.20	94.708	3.8	±30

FORM 06
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Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.080	0.19	0.193	1.5	±30
CAL2	0.232	0.47	0.555	17.1	±30
CAL3	0.875	1.90	2.098	10.4	±30
CAL4	3.265	7.58	7.829	3.3	±30
CAL5	7.703	19.00	18.469	-2.8	±30
CAL6	18.143	47.40	43.498	-8.2	±30
CAL7	34.575	94.80	82.892	-12.6	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.19	0.203	7.1	±30
CAL2	0.104	0.48	0.547	14.9	±30
CAL3	0.393	1.90	2.056	8.2	±30
CAL4	1.393	7.61	7.292	-4.2	±30
CAL5	3.805	19.00	19.916	4.8	±30
CAL6	8.594	47.60	44.986	-5.5	±30
CAL7	18.525	95.20	96.976	1.9	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.20	0.234	17.1	±30
CAL2	0.106	0.50	0.559	11.7	±30
CAL3	0.436	2.00	2.308	15.4	±30
CAL4	1.558	8.00	8.241	3.0	±30
CAL5	4.001	20.00	21.170	5.8	±30
CAL6	9.108	50.00	48.188	-3.6	±30
CAL7	16.782	100.00	88.790	-11.2	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.049	0.19	0.214	15.5	±30
CAL2	0.115	0.46	0.501	8.2	±30
CAL3	0.437	1.85	1.903	2.9	±30
CAL4	1.625	7.40	7.075	-4.4	±30
CAL5	4.195	18.50	18.265	-1.3	±30
CAL6	10.321	46.30	44.933	-3.0	±30
CAL7	21.685	92.60	94.407	2.0	±30

FORM 06
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Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.060	0.20	0.240	19.8	±30
CAL2	0.145	0.50	0.584	16.8	±30
CAL3	0.619	2.00	2.486	24.3	±30
CAL4	2.090	8.00	8.397	5.0	±30
CAL5	5.266	20.00	21.162	5.8	±30
CAL6	11.902	50.00	47.831	-4.3	±30
CAL7	21.704	100.00	87.219	-12.8	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.036	0.19	0.243	26.6	±30
CAL2	0.074	0.48	0.507	5.6	±30
CAL3	0.317	1.92	2.164	12.7	±30
CAL4	1.099	7.68	7.510	-2.2	±30
CAL5	2.845	19.20	19.446	1.3	±30
CAL6	6.916	48.00	47.271	-1.5	±30
CAL7	14.094	96.00	96.332	0.3	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.246	22.8	±30
CAL2	0.106	0.50	0.612	22.3	±30
CAL3	0.429	2.00	2.474	23.7	±30
CAL4	1.460	8.00	8.420	5.2	±30
CAL5	3.647	20.00	21.027	5.1	±30
CAL6	8.818	50.00	50.841	1.7	±30
CAL7	16.839	100.00	97.081	-2.9	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.098	0.19	0.193	0.8	±30
CAL2	0.314	0.48	0.620	29.3	±30
CAL3	1.105	1.92	2.183	13.7	±30
CAL4	3.905	7.66	7.715	0.7	±30
CAL5	9.485	19.20	18.740	-2.4	±30
CAL6	21.253	47.90	41.991	-12.3	±30
CAL7	37.231	95.80	73.559	-23.2	±30

FORM 06
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CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.047	0.20	0.245	22.6	±30
CAL2	0.107	0.50	0.562	12.3	±30
CAL3	0.442	2.00	2.326	16.3	±30
CAL4	1.560	8.00	8.205	2.6	±30
CAL5	4.172	20.00	21.947	9.7	±30
CAL6	9.680	50.00	50.925	1.8	±30
CAL7	18.342	100.00	96.491	-3.5	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.032	0.20	0.187	-6.3	±30
CAL2	0.095	0.50	0.555	11.0	±30
CAL3	0.361	2.00	2.107	5.3	±30
CAL4	1.264	8.00	7.371	-7.9	±30
CAL5	3.449	20.00	20.113	0.6	±30
CAL6	8.637	50.00	50.367	0.7	±30
CAL7	14.076	100.00	82.079	-17.9	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.026	0.19	0.218	13.0	±30
CAL2	0.057	0.48	0.474	-1.7	±30
CAL3	0.254	1.93	2.097	8.7	±30
CAL4	0.922	7.70	7.604	-1.2	±30
CAL5	2.345	19.30	19.333	0.2	±30
CAL6	5.582	48.20	46.014	-4.5	±30
CAL7	11.933	96.30	98.365	2.1	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.063	0.20	0.242	21.1	±30
CAL2	0.168	0.50	0.643	28.6	±30
CAL3	0.641	2.00	2.453	22.7	±30
CAL4	2.325	8.00	8.892	11.2	±30
CAL5	5.877	20.00	22.474	12.4	±30
CAL6	13.269	50.00	50.747	1.5	±30
CAL7	24.906	100.00	95.248	-4.8	±30

FORM 06
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CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

NEtFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.206	3.0	±30
CAL2	0.099	0.50	0.507	1.4	±30
CAL3	0.450	2.00	2.315	15.8	±30
CAL4	1.449	8.00	7.448	-6.9	±30
CAL5	4.180	20.00	21.493	7.5	±30
CAL6	9.946	50.00	51.135	2.3	±30
CAL7	18.982	100.00	97.596	-2.4	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.229	14.6	±30
CAL2	0.112	0.50	0.569	13.9	±30
CAL3	0.446	2.00	2.277	13.8	±30
CAL4	1.570	8.00	8.008	0.1	±30
CAL5	3.845	20.00	19.617	-1.9	±30
CAL6	8.787	50.00	44.831	-10.3	±30
CAL7	14.444	100.00	73.689	-26.3	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.098	0.19	0.201	4.1	±30
CAL2	0.299	0.48	0.611	26.7	±30
CAL3	0.980	1.93	2.000	3.6	±30
CAL4	3.693	7.71	7.539	-2.2	±30
CAL5	9.436	19.30	19.264	-0.2	±30
CAL6	20.032	48.20	40.894	-15.2	±30
CAL7	42.696	96.40	87.164	-9.6	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.054	0.20	0.229	14.3	±30
CAL2	0.139	0.50	0.586	17.2	±30
CAL3	0.520	2.00	2.199	9.9	±30
CAL4	1.896	8.00	8.014	0.2	±30
CAL5	4.740	20.00	20.037	0.2	±30
CAL6	11.741	50.00	49.635	-0.7	±30
CAL7	21.343	100.00	90.229	-9.8	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31
Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.20	0.218	8.8	±30
CAL2	0.106	0.50	0.529	5.7	±30
CAL3	0.399	2.00	1.991	-0.5	±30
CAL4	1.688	8.00	8.421	5.3	±30
CAL5	4.127	20.00	20.593	3.0	±30
CAL6	9.810	50.00	48.949	-2.1	±30
CAL7	18.272	100.00	91.171	-8.8	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.013	0.19	0.191	-1.5	±30
CAL2	0.033	0.48	0.487	1.1	±30
CAL3	0.127	1.94	1.900	-2.0	±30
CAL4	0.483	7.74	7.214	-6.8	±30
CAL5	1.299	19.40	19.418	0.1	±30
CAL6	3.118	48.40	46.597	-3.7	±30
CAL7	6.634	96.80	99.149	2.4	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.069	0.20	0.227	13.5	±30
CAL2	0.170	0.50	0.561	12.2	±30
CAL3	0.635	2.00	2.100	5.0	±30
CAL4	2.542	8.00	8.410	5.1	±30
CAL5	6.374	20.00	21.090	5.5	±30
CAL6	14.601	50.00	48.312	-3.4	±30
CAL7	25.477	100.00	84.299	-15.7	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.20	0.198	-0.8	±30
CAL2	0.103	0.50	0.486	-2.8	±30
CAL3	0.458	2.00	2.152	7.6	±30
CAL4	1.610	8.00	7.570	-5.4	±30
CAL5	4.088	20.00	19.222	-3.9	±30
CAL6	11.333	50.00	53.285	6.6	±30
CAL7	20.799	100.00	97.786	-2.2	±30

FORM 06
INITIAL CALIBRATION AREA RATIO SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631
Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31
Lab File Names: CAL1= 18DEC26DCAL-06.WIFF; CAL2= 18DEC26DCAL-07.WIFF; CAL3= 18DEC26DCAL-08.WIFF;
CAL4= 18DEC26DCAL-09.WIFF; CAL5= 18DEC26DCAL-10.WIFF; CAL6= 18DEC26DCAL-11.WIFF;
CAL7= 18DEC26DCAL-12.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.20	0.236	18.1	±30
CAL2	0.105	0.50	0.560	12.0	±30
CAL3	0.408	2.00	2.174	8.7	±30
CAL4	1.585	8.00	8.440	5.5	±30
CAL5	3.623	20.00	19.290	-3.5	±30
CAL6	7.850	50.00	41.792	-16.4	±30
CAL7	12.706	100.00	67.643	-32.4*	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.044	0.20	0.249	24.3	±30
CAL2	0.098	0.50	0.556	11.1	±30
CAL3	0.404	2.00	2.297	14.9	±30
CAL4	1.464	8.00	8.323	4.0	±30
CAL5	3.625	20.00	20.615	3.1	±30
CAL6	8.556	50.00	48.660	-2.7	±30
CAL7	15.157	100.00	86.201	-13.8	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.022	0.20	0.256	27.8	±30
CAL2	0.053	0.50	0.610	22.0	±30
CAL3	0.208	2.00	2.398	19.9	±30
CAL4	0.760	8.00	8.765	9.6	±30
CAL5	1.819	20.00	20.974	4.9	±30
CAL6	4.360	50.00	50.269	0.5	±30
CAL7	8.450	100.00	97.429	-2.6	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.016	0.20	0.235	17.4	±30
CAL2	0.039	0.50	0.575	15.0	±30
CAL3	0.145	2.00	2.144	7.2	±30
CAL4	0.556	8.00	8.215	2.7	±30
CAL5	1.401	20.00	20.717	3.6	±30
CAL6	3.367	50.00	49.789	-0.4	±30
CAL7	6.697	100.00	99.024	-1.0	±30

* Outside QC Limits

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FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15
INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Lab File Names: CAL1=18DEC18DCAL-68.WIFF; CAL2=18DEC18DCAL-69.WIFF; CAL3=18DEC18DCAL-70.WIFF;
CAL4=18DEC18DCAL-71.WIFF; CAL5=18DEC18DCAL-72.WIFF; CAL6=18DEC18DCAL-73.WIFF;
CAL7=18DEC18DCAL-74.WIFF;

Analyte	RF							RF %RSD
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	
Perfluorobutanoic acid	1.035	1.039	1.019	0.912	0.943	---	---	5
Perfluoropentanoic acid	1.073	1.048	1.088	0.943	0.964	---	---	6
Perfluorobutanesulfonate	1.050	1.017	1.043	0.973	0.941	0.932	0.942	5
4:2 fluorotelomersulfonate	1.860	1.994	1.828	1.786	1.896	1.728	---	5
Perfluorohexanoic acid	1.333	1.356	1.237	1.221	1.204	---	---	5
Perfluoropentanesulfonate	0.512	0.501	0.508	0.478	0.476	0.461	0.448	5
Perfluoroheptanoic acid	1.871	1.766	1.686	1.503	1.482	---	---	9
Perfluorohexanesulfonate	0.963	1.075	1.058	0.942	0.998	0.963	---	5
6:2 fluorotelomersulfonate	2.445	2.288	2.173	2.111	1.856	1.880	---	10
Perfluoroheptanesulfonate	0.845	1.015	1.039	0.902	0.917	0.891	0.887	7
Perfluorooctanoic acid	1.063	1.089	1.115	0.923	0.990	0.920	---	8
Perfluoro-octanesulfonate	1.129	1.112	1.240	1.025	1.059	1.111	1.091	6
Perfluorononanoic acid	1.534	1.391	1.409	1.290	1.349	1.208	---	7
Perfluorononanesulfonate	0.760	0.810	0.858	0.723	0.725	0.762	---	6
Perfluorodecanoic acid	1.136	1.056	0.974	0.946	0.973	---	---	7
8:2 fluorotelomersulfonate	2.678	2.650	2.593	2.440	2.325	---	---	5
Perfluorooctanesulfonamide	1.066	1.125	1.051	0.967	1.054	0.980	---	5
NMeFOSAA	0.752	0.898	0.879	0.801	0.853	0.782	---	6
Perfluorodecanesulfonate	0.565	0.615	0.644	0.608	0.566	0.580	0.583	5
Perfluoroundecanoic acid	1.652	1.596	1.609	1.515	1.494	---	---	4
NEtFOSAA	0.959	0.872	1.035	0.902	1.055	1.008	0.958	6
Perfluorododecanoic acid	1.207	1.061	1.069	0.932	1.005	---	---	9
10:2-fluorotelomersulfonate	2.837	2.644	2.609	2.279	2.343	---	---	8
NMePFOSAE	1.183	1.333	1.259	1.207	1.182	1.165	1.098	6
NMePFOSA	0.981	1.153	1.075	0.960	0.981	0.994	---	7
Perfluorododecanesulfonate	0.299	0.305	0.317	0.294	0.313	0.328	0.312	3
NEtPFOSAE	1.727	1.736	1.611	1.421	1.559	---	---	7
NEtPFOSA	1.031	1.099	1.185	1.137	1.061	1.050	1.072	5
Perfluorotridecanoic acid	1.036	1.057	0.995	0.923	0.991	---	---	5
Perfluorotetradecanoic acid	1.015	0.955	0.992	0.868	0.945	---	---	5
Perfluorohexadecanoic acid	0.540	0.478	0.521	0.478	0.482	0.438	---	7
Perfluorooctadecanoic acid	0.358	0.354	0.386	0.354	0.362	0.340	---	4

--- Calibration point does not apply

* = % RSD > 20

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FORM 06A DOD - EPA 537 mod QSM 5.1 table B-15
INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631

Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31

Lab File Names: CAL1=18DEC26DCAL-06.WIFF; CAL2=18DEC26DCAL-07.WIFF; CAL3=18DEC26DCAL-08.WIFF;
CAL4=18DEC26DCAL-09.WIFF; CAL5=18DEC26DCAL-10.WIFF; CAL6=18DEC26DCAL-11.WIFF;
CAL7=18DEC26DCAL-12.WIFF;

Analyte	RF							RF
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	%RSD
Perfluorobutanoic acid	1.050	1.006	1.028	0.927	0.944	---	---	5
Perfluoropentanoic acid	1.160	1.134	1.195	0.895	1.029	---	---	10
Perfluorobutanesulfonate	1.092	1.028	1.047	0.933	0.974	0.957	0.917	6
4:2 fluorotelomersulfonate	1.839	2.086	1.892	1.821	1.935	---	---	5
Perfluorohexanoic acid	1.373	1.349	1.366	1.196	1.207	---	---	6
Perfluoropentanesulfonate	0.508	0.492	0.526	0.464	0.494	0.462	0.453	5
Perfluoroheptanoic acid	1.881	1.840	1.901	1.549	1.554	---	---	9
Perfluorohexanesulfonate	0.993	1.048	1.027	0.958	0.985	0.952	1.050	4
6:2 fluorotelomersulfonate	2.011	2.320	2.188	2.046	1.926	---	---	7
Perfluoroheptanesulfonate	0.968	1.038	0.978	0.866	0.947	0.854	0.920	6
Perfluorooctanoic acid	1.107	1.056	1.090	0.974	1.000	0.911	---	7
Perfluoro-octanesulfonate	1.269	1.188	1.130	1.050	1.084	1.066	1.119	6
Perfluorononanoic acid	1.491	1.453	1.546	1.306	1.317	1.190	---	9
Perfluorononanesulfonate	0.885	0.739	0.788	0.684	0.708	0.689	0.702	9
Perfluorodecanoic acid	1.065	1.061	1.073	0.913	0.912	0.882	0.842	9
8:2 fluorotelomersulfonate	2.443	3.136	2.756	2.442	2.366	---	---	11
Perfluorooctanesulfonamide	1.165	1.068	1.105	0.975	1.043	0.968	0.917	8
NMeFOSAA	0.803	0.952	0.903	0.790	0.862	0.864	---	6
Perfluorodecanesulfonate	0.655	0.570	0.630	0.573	0.581	0.554	0.592	6
Perfluoroundecanoic acid	1.584	1.682	1.604	1.453	1.469	1.327	1.245	10
NEtFOSAA	1.002	0.986	1.126	0.905	1.045	0.995	0.949	7
Perfluorododecanoic acid	1.123	1.116	1.116	0.981	0.961	---	---	7
10:2-fluorotelomersulfonate	2.442	2.972	2.432	2.294	2.342	---	---	10
NMePFOSAE	1.352	1.386	1.300	1.185	1.185	1.174	---	7
NMePFOSA	1.090	1.059	0.997	1.055	1.032	0.981	---	4
Perfluorododecanesulfonate	0.315	0.323	0.313	0.298	0.320	0.308	0.328	3
NEtPFOSAE	1.716	1.696	1.587	1.589	1.593	1.460	---	5
NEtPFOSA	1.055	1.034	1.144	1.006	1.022	1.133	1.040	5
Perfluorotridecanoic acid	1.109	1.052	1.021	0.991	0.906	---	---	7
Perfluorotetradecanoic acid	1.093	0.977	1.010	0.915	0.906	0.856	---	8
Perfluorohexadecanoic acid	0.554	0.529	0.520	0.475	0.455	0.436	0.423	10
Perfluorooctadecanoic acid	0.397	0.389	0.363	0.347	0.350	0.337	0.335	6

--- Calibration point does not apply

* = % RSD > 20

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC18DCAL-78.WIFF

Date/Time Analyzed: 12/19/2018 01:05 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.19	9.38	±30
Perfluoropentanoic acid	2.00	2.17	8.68	±30
Perfluorobutanesulfonate	1.77	2.00	12.99	±30
4:2 fluorotelomersulfonate	1.87	2.15	14.96	±30
Perfluorohexanoic acid	2.00	2.27	13.66	±30
Perfluoropentanesulfonate	1.88	2.10	11.47	±30
Perfluoroheptanoic acid	2.00	2.30	15.10	±30
Perfluorohexanesulfonate	1.82	1.92	5.45	±30
6:2 fluorotelomersulfonate	1.90	2.20	15.95	±30
Perfluoroheptanesulfonate	1.90	2.05	8.03	±30
Perfluorooctanoic acid	2.00	2.22	11.16	±30
Perfluoro-octanesulfonate	1.85	1.98	6.85	±30
Perfluorononanoic acid	2.00	2.55	27.45	±30
Perfluorononanesulfonate	1.92	2.02	4.96	±30
Perfluorodecanoic acid	2.00	2.16	8.09	±30
8:2 fluorotelomersulfonate	1.92	2.18	13.60	±30
Perfluorooctanesulfonamide	2.00	1.97	-1.29	±30
NMeFOSAA	2.00	2.23	11.47	±30
Perfluorodecanesulfonate	1.93	2.08	7.52	±30
Perfluoroundecanoic acid	2.00	2.19	9.51	±30
NEtFOSAA	2.00	2.13	6.52	±30
Perfluorododecanoic acid	2.00	2.35	17.48	±30
10:2-fluorotelomersulfonate	1.93	2.23	15.48	±30
NMePFOSAE	2.00	2.19	9.71	±30
NMePFOSA	2.00	2.25	12.54	±30
Perfluorododecanesulfonate	1.94	2.10	8.27	±30
NEtPFOSAE	2.00	2.12	5.79	±30
NEtPFOSA	2.00	2.21	10.47	±30
Perfluorotridecanoic acid	2.00	2.21	10.52	±30
Perfluorotetradecanoic acid	2.00	2.16	7.76	±30
Perfluorohexadecanoic acid	2.00	2.25	12.66	±30
Perfluorooctadecanoic acid	2.00	2.22	10.89	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC19D-05.WIFF

Date/Time Analyzed: 12/19/2018 10:43 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	10.64	±30
Perfluoropentanoic acid	0.50	0.59	17.42	±30
Perfluorobutanesulfonate	0.44	0.48	9.09	±30
4:2 fluorotelomersulfonate	0.47	0.50	7.19	±30
Perfluorohexanoic acid	0.50	0.58	16.10	±30
Perfluoropentanesulfonate	0.47	0.49	5.23	±30
Perfluoroheptanoic acid	0.50	0.57	13.84	±30
Perfluorohexanesulfonate	0.46	0.49	7.15	±30
6:2 fluorotelomersulfonate	0.47	0.60	26.57	±30
Perfluoroheptanesulfonate	0.48	0.52	8.98	±30
Perfluorooctanoic acid	0.50	0.57	14.87	±30
Perfluoro-octanesulfonate	0.46	0.52	12.22	±30
Perfluorononanoic acid	0.50	0.57	13.21	±30
Perfluorononanesulfonate	0.48	0.50	4.09	±30
Perfluorodecanoic acid	0.50	0.53	5.82	±30
8:2 fluorotelomersulfonate	0.48	0.56	16.52	±30
Perfluorooctanesulfonamide	0.50	0.54	8.45	±30
NMeFOSAA	0.50	0.53	5.90	±30
Perfluorodecanesulfonate	0.48	0.52	8.18	±30
Perfluoroundecanoic acid	0.50	0.53	6.67	±30
NEtFOSAA	0.50	0.50	0.08	±30
Perfluorododecanoic acid	0.50	0.50	0.44	±30
10:2-fluorotelomersulfonate	0.48	0.49	1.48	±30
NMePFOSAE	0.50	0.55	10.26	±30
NMePFOSA	0.50	0.57	14.83	±30
Perfluorododecanesulfonate	0.48	0.44	-9.27	±30
NEtPFOSAE	0.50	0.51	1.63	±30
NEtPFOSA	0.50	0.57	13.73	±30
Perfluorotridecanoic acid	0.50	0.54	7.01	±30
Perfluorotetradecanoic acid	0.50	0.54	7.23	±30
Perfluorohexadecanoic acid	0.50	0.57	14.19	±30
Perfluorooctadecanoic acid	0.50	0.56	11.66	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC19D-17.WIFF

Date/Time Analyzed: 12/19/2018 12:32 Lab Sample ID: CCV2_CAL3

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.16	7.82	±30
Perfluoropentanoic acid	2.00	2.16	8.25	±30
Perfluorobutanesulfonate	1.77	1.98	11.86	±30
4:2 fluorotelomersulfonate	1.87	2.03	8.36	±30
Perfluorohexanoic acid	2.00	2.29	14.44	±30
Perfluoropentanesulfonate	1.88	2.03	8.07	±30
Perfluoroheptanoic acid	2.00	2.42	21.13	±30
Perfluorohexanesulfonate	1.82	1.86	2.35	±30
6:2 fluorotelomersulfonate	1.90	2.33	22.68	±30
Perfluoroheptanesulfonate	1.90	2.03	6.60	±30
Perfluorooctanoic acid	2.00	2.23	11.41	±30
Perfluoro-octanesulfonate	1.85	1.87	1.02	±30
Perfluorononanoic acid	2.00	2.40	19.85	±30
Perfluorononanesulfonate	1.92	1.92	-0.12	±30
Perfluorodecanoic acid	2.00	2.19	9.68	±30
8:2 fluorotelomersulfonate	1.92	1.90	-0.93	±30
Perfluorooctanesulfonamide	2.00	2.09	4.26	±30
NMeFOSAA	2.00	2.19	9.42	±30
Perfluorodecanesulfonate	1.93	2.04	5.58	±30
Perfluoroundecanoic acid	2.00	2.17	8.75	±30
NEtFOSAA	2.00	2.14	7.03	±30
Perfluorododecanoic acid	2.00	2.32	15.95	±30
10:2-fluorotelomersulfonate	1.93	1.81	-6.28	±30
NMePFOSAE	2.00	2.61	30.56 *	±30
NMePFOSA	2.00	2.16	7.82	±30
Perfluorododecanesulfonate	1.94	1.93	-0.41	±30
NEtPFOSAE	2.00	2.08	3.86	±30
NEtPFOSA	2.00	2.39	19.31	±30
Perfluorotridecanoic acid	2.00	2.11	5.58	±30
Perfluorotetradecanoic acid	2.00	2.15	7.66	±30
Perfluorohexadecanoic acid	2.00	2.14	7.02	±30
Perfluorooctadecanoic acid	2.00	2.17	8.27	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC19D-29.WIFF

Date/Time Analyzed: 12/19/2018 14:20 Lab Sample ID: CCV3_CAL4

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	7.82	-2.29	±30
Perfluoropentanoic acid	8.00	7.83	-2.13	±30
Perfluorobutanesulfonate	7.08	7.08	-0.05	±30
4:2 fluorotelomersulfonate	7.47	7.30	-2.33	±30
Perfluorohexanoic acid	8.00	7.51	-6.08	±30
Perfluoropentanesulfonate	7.50	7.43	-0.99	±30
Perfluoroheptanoic acid	8.00	8.13	1.58	±30
Perfluorohexanesulfonate	7.30	6.77	-7.25	±30
6:2 fluorotelomersulfonate	7.58	7.18	-5.26	±30
Perfluoroheptanesulfonate	7.61	7.28	-4.29	±30
Perfluorooctanoic acid	8.00	7.90	-1.19	±30
Perfluoro-octanesulfonate	7.40	6.98	-5.62	±30
Perfluorononanoic acid	8.00	8.82	10.30	±30
Perfluorononanesulfonate	7.68	7.35	-4.25	±30
Perfluorodecanoic acid	8.00	7.59	-5.08	±30
8:2 fluorotelomersulfonate	7.66	7.92	3.34	±30
Perfluorooctanesulfonamide	8.00	7.51	-6.17	±30
NMeFOSAA	8.00	8.50	6.24	±30
Perfluorodecanesulfonate	7.70	8.04	4.37	±30
Perfluoroundecanoic acid	8.00	8.06	0.69	±30
NEtFOSAA	8.00	7.37	-7.93	±30
Perfluorododecanoic acid	8.00	8.10	1.29	±30
10:2-fluorotelomersulfonate	7.71	7.78	0.95	±30
NMePFOSAE	8.00	8.58	7.30	±30
NMePFOSA	8.00	7.88	-1.49	±30
Perfluorododecanesulfonate	7.74	7.37	-4.75	±30
NEtPFOSAE	8.00	7.47	-6.58	±30
NEtPFOSA	8.00	7.50	-6.19	±30
Perfluorotridecanoic acid	8.00	7.25	-9.33	±30
Perfluorotetradecanoic acid	8.00	7.66	-4.28	±30
Perfluorohexadecanoic acid	8.00	7.91	-1.06	±30
Perfluorooctadecanoic acid	8.00	7.88	-1.56	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC19D-40.WIFF

Date/Time Analyzed: 12/19/2018 15:59 Lab Sample ID: CCV4_ISC_CAL2

Init. Calib. Date/Times: 12/18/2018 23:34 12/19/2018 00:28

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.56	12.04	±30
Perfluoropentanoic acid	0.50	0.56	12.10	±30
Perfluorobutanesulfonate	0.44	0.48	8.09	±30
4:2 fluorotelomersulfonate	0.47	0.51	9.49	±30
Perfluorohexanoic acid	0.50	0.59	17.04	±30
Perfluoropentanesulfonate	0.47	0.59	26.01	±30
Perfluoroheptanoic acid	0.50	0.60	20.51	±30
Perfluorohexanesulfonate	0.47	0.49	4.00	±30
6:2 fluorotelomersulfonate	0.47	0.54	14.91	±30
Perfluoroheptanesulfonate	0.48	0.51	7.13	±30
Perfluorooctanoic acid	0.50	0.56	12.84	±30
Perfluoro-octanesulfonate	0.46	0.49	5.73	±30
Perfluorononanoic acid	0.50	0.58	16.09	±30
Perfluorononanesulfonate	0.48	0.46	-4.04	±30
Perfluorodecanoic acid	0.50	0.55	10.86	±30
8:2 fluorotelomersulfonate	0.48	0.49	2.91	±30
Perfluorooctanesulfonamide	0.50	0.50	-0.61	±30
NMeFOSAA	0.50	0.65	29.22	±30
Perfluorodecanesulfonate	0.48	0.44	-7.83	±30
Perfluoroundecanoic acid	0.50	0.55	9.53	±30
NEtFOSAA	0.50	0.54	8.91	±30
Perfluorododecanoic acid	0.50	0.56	11.81	±30
10:2-fluorotelomersulfonate	0.48	0.43	-10.37	±30
NMePFOSAE	0.50	0.67	33.78 *	±30
NMePFOSA	0.50	0.49	-1.33	±30
Perfluorododecanesulfonate	0.48	0.48	-1.38	±30
NEtPFOSAE	0.50	0.52	3.16	±30
NEtPFOSA	0.50	0.46	-8.30	±30
Perfluorotridecanoic acid	0.50	0.56	11.82	±30
Perfluorotetradecanoic acid	0.50	0.54	7.55	±30
Perfluorohexadecanoic acid	0.50	0.59	17.03	±30
Perfluorooctadecanoic acid	0.50	0.55	9.56	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC26D-05.WIFF

Date/Time Analyzed: 12/26/2018 15:56 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	9.28	±30
Perfluoropentanoic acid	0.50	0.53	6.01	±30
Perfluorobutanesulfonate	0.44	0.49	10.11	±30
4:2 fluorotelomersulfonate	0.47	0.47	0.04	±30
Perfluorohexanoic acid	0.50	0.56	12.79	±30
Perfluoropentanesulfonate	0.47	0.50	6.95	±30
Perfluoroheptanoic acid	0.50	0.60	19.16	±30
Perfluorohexanesulfonate	0.47	0.45	-5.92	±30
6:2 fluorotelomersulfonate	0.47	0.52	9.43	±30
Perfluoroheptanesulfonate	0.48	0.53	11.67	±30
Perfluorooctanoic acid	0.50	0.58	15.32	±30
Perfluoro-octanesulfonate	0.46	0.49	5.15	±30
Perfluorononanoic acid	0.50	0.61	21.49	±30
Perfluorononanesulfonate	0.48	0.56	16.51	±30
Perfluorodecanoic acid	0.50	0.56	11.59	±30
8:2 fluorotelomersulfonate	0.48	0.49	1.41	±30
Perfluorooctanesulfonamide	0.50	0.53	6.46	±30
NMeFOSAA	0.50	0.57	14.81	±30
Perfluorodecanesulfonate	0.48	0.58	20.93	±30
Perfluoroundecanoic acid	0.50	0.59	17.63	±30
NEtFOSAA	0.50	0.56	11.74	±30
Perfluorododecanoic acid	0.50	0.53	5.83	±30
10:2-fluorotelomersulfonate	0.48	0.55	14.48	±30
NMePFOSAE	0.50	0.60	20.82	±30
NMePFOSA	0.50	0.56	11.91	±30
Perfluorododecanesulfonate	0.48	0.44	-8.18	±30
NEtPFOSAE	0.50	0.49	-2.24	±30
NEtPFOSA	0.50	0.59	17.75	±30
Perfluorotridecanoic acid	0.50	0.53	6.29	±30
Perfluorotetradecanoic acid	0.50	0.55	10.22	±30
Perfluorohexadecanoic acid	0.50	0.59	18.96	±30
Perfluorooctadecanoic acid	0.50	0.55	9.46	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC26D-58.WIFF

Date/Time Analyzed: 12/26/2018 23:55 Lab Sample ID: CCV6_CAL4

Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	7.73	-3.39	±30
Perfluoropentanoic acid	8.00	7.64	-4.49	±30
Perfluorobutanesulfonate	7.08	7.12	0.50	±30
4:2 fluorotelomersulfonate	7.47	6.77	-9.40	±30
Perfluorohexanoic acid	8.00	7.78	-2.76	±30
Perfluoropentanesulfonate	7.50	7.34	-2.09	±30
Perfluoroheptanoic acid	8.00	8.14	1.70	±30
Perfluorohexanesulfonate	7.30	6.53	-10.50	±30
6:2 fluorotelomersulfonate	7.58	7.12	-6.02	±30
Perfluoroheptanesulfonate	7.61	7.05	-7.37	±30
Perfluorooctanoic acid	8.00	8.19	2.31	±30
Perfluoro-octanesulfonate	7.40	7.07	-4.40	±30
Perfluorononanoic acid	8.00	8.44	5.52	±30
Perfluorononanesulfonate	7.68	7.42	-3.32	±30
Perfluorodecanoic acid	8.00	8.15	1.89	±30
8:2 fluorotelomersulfonate	7.66	6.66	-13.07	±30
Perfluorooctanesulfonamide	8.00	8.66	8.29	±30
NMeFOSAA	8.00	7.54	-5.76	±30
Perfluorodecanesulfonate	7.70	7.42	-3.66	±30
Perfluoroundecanoic acid	8.00	8.76	9.54	±30
NEtFOSAA	8.00	7.93	-0.93	±30
Perfluorododecanoic acid	8.00	7.90	-1.22	±30
10:2-fluorotelomersulfonate	7.71	6.40	-17.03	±30
NMePFOSAE	8.00	8.24	2.95	±30
NMePFOSA	8.00	7.99	-0.12	±30
Perfluorododecanesulfonate	7.74	6.67	-13.80	±30
NEtPFOSAE	8.00	7.91	-1.12	±30
NEtPFOSA	8.00	7.87	-1.65	±30
Perfluorotridecanoic acid	8.00	8.01	0.17	±30
Perfluorotetradecanoic acid	8.00	8.37	4.57	±30
Perfluorohexadecanoic acid	8.00	8.33	4.15	±30
Perfluorooctadecanoic acid	8.00	7.91	-1.15	±30

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC26D-70.WIFF

Date/Time Analyzed: 12/27/2018 01:43 Lab Sample ID: CCV7_ISC_CAL2

Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.56	11.53	±30
Perfluoropentanoic acid	0.50	0.52	4.37	±30
Perfluorobutanesulfonate	0.44	0.52	17.68	±30
4:2 fluorotelomersulfonate	0.47	0.51	8.41	±30
Perfluorohexanoic acid	0.50	0.57	13.54	±30
Perfluoropentanesulfonate	0.47	0.53	13.93	±30
Perfluoroheptanoic acid	0.50	0.58	16.79	±30
Perfluorohexanesulfonate	0.47	0.50	4.74	±30
6:2 fluorotelomersulfonate	0.47	0.61	28.93	±30
Perfluoroheptanesulfonate	0.48	0.53	10.68	±30
Perfluorooctanoic acid	0.50	0.55	10.85	±30
Perfluoro-octanesulfonate	0.46	0.49	6.40	±30
Perfluorononanoic acid	0.50	0.58	15.20	±30
Perfluorononanesulfonate	0.48	0.47	-2.74	±30
Perfluorodecanoic acid	0.50	0.61	22.10	±30
8:2 fluorotelomersulfonate	0.48	0.56	17.17	±30
Perfluorooctanesulfonamide	0.50	0.60	19.85	±30
NMeFOSAA	0.50	0.54	8.39	±30
Perfluorodecanesulfonate	0.48	0.50	3.05	±30
Perfluoroundecanoic acid	0.50	0.63	25.38	±30
NEtFOSAA	0.50	0.49	-1.43	±30
Perfluorododecanoic acid	0.50	0.54	8.82	±30
10:2-fluorotelomersulfonate	0.48	0.57	17.28	±30
NMePFOSAE	0.50	0.59	18.32	±30
NMePFOSA	0.50	0.52	3.78	±30
Perfluorododecanesulfonate	0.48	0.44	-8.55	±30
NEtPFOSAE	0.50	0.53	5.55	±30
NEtPFOSA	0.50	0.43	-14.12	±30
Perfluorotridecanoic acid	0.50	0.55	10.02	±30
Perfluorotetradecanoic acid	0.50	0.59	17.23	±30
Perfluorohexadecanoic acid	0.50	0.65	30.71 *	±30
Perfluorooctadecanoic acid	0.50	0.57	14.81	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI27

Instrument ID: 27631 Lab File ID: 18DEC26DCAL-16.WIFF

Date/Time Analyzed: 12/26/2018 15:07 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 12/26/2018 13:37 12/26/2018 14:31

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.18	8.85	±30
Perfluoropentanoic acid	2.00	2.20	9.83	±30
Perfluorobutanesulfonate	1.77	1.96	10.49	±30
4:2 fluorotelomersulfonate	1.87	1.94	3.88	±30
Perfluorohexanoic acid	2.00	2.29	14.72	±30
Perfluoropentanesulfonate	1.88	2.10	11.55	±30
Perfluoroheptanoic acid	2.00	2.30	15.11	±30
Perfluorohexanesulfonate	1.82	1.86	2.15	±30
6:2 fluorotelomersulfonate	1.90	2.29	20.73	±30
Perfluoroheptanesulfonate	1.90	2.18	14.74	±30
Perfluorooctanoic acid	2.00	2.39	19.35	±30
Perfluoro-octanesulfonate	1.85	2.01	8.63	±30
Perfluorononanoic acid	2.00	2.26	13.06	±30
Perfluorononanesulfonate	1.92	2.23	16.36	±30
Perfluorodecanoic acid	2.00	2.42	20.82	±30
8:2 fluorotelomersulfonate	1.92	2.01	4.51	±30
Perfluorooctanesulfonamide	2.00	2.29	14.70	±30
NMeFOSAA	2.00	2.03	1.42	±30
Perfluorodecanesulfonate	1.93	2.13	10.16	±30
Perfluoroundecanoic acid	2.00	2.48	23.83	±30
NEtFOSAA	2.00	2.21	10.35	±30
Perfluorododecanoic acid	2.00	2.43	21.54	±30
10:2-fluorotelomersulfonate	1.93	1.95	1.21	±30
NMePFOSAE	2.00	2.16	8.20	±30
NMePFOSA	2.00	2.03	1.39	±30
Perfluorododecanesulfonate	1.94	2.10	8.42	±30
NEtPFOSAE	2.00	1.88	-5.79	±30
NEtPFOSA	2.00	2.13	6.57	±30
Perfluorotridecanoic acid	2.00	2.45	22.40	±30
Perfluorotetradecanoic acid	2.00	2.25	12.74	±30
Perfluorohexadecanoic acid	2.00	2.40	19.92	±30
Perfluorooctadecanoic acid	2.00	2.20	9.92	±30

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

Batch: 18348012 File Name:18DEC19D-05.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		487375	520268	942676	307969
LOWER LIMIT		243688	260134	471338	153985
UPPER LIMIT		731063	780402	1414014	461954
LAB SAMPLE ID	**DATE ANALYZED**				
BLK348012	12/19/18 13:26	485985	493650	941733	300947
LCS348012	12/19/18 13:35	502428	525286	974508	316213
LCSDA	12/19/18 13:44	487604	505247	960260	303367
9934777	12/19/18 14:02	507679	536125	979964	327963
9934778	12/19/18 14:11	503804	543118	972663	314080
9934779	12/19/18 14:29	461023	542474	926499	300854
9934780	12/19/18 14:38	493405	557141	998404	318314
9934781	12/19/18 14:47	517367	540527	996794	304922
9934782	12/19/18 14:56	504699	538727	1013444	322793
9934783	12/19/18 15:05	529916	550871	1013285	310736
9934784	12/19/18 15:14	485197	540565	1009660	303691
9934785	12/19/18 15:23	492264	525674	948425	293643
9934786	12/19/18 15:32	466600	531221	939785	306812
9934787	12/19/18 15:41	485150	513077	956513	301248
9934788	12/19/18 15:50	484304	540446	951096	305419

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI27
Matrix: WATER

Batch: 18360005 File Name:18DEC26DCAL-08.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		493259	527066	965438	307231
LOWER LIMIT		246630	263533	482719	153616
UPPER LIMIT		739889	790599	1448157	460847
LAB SAMPLE ID	**DATE ANALYZED**				
BLK360005	12/27/18 00:04	461809	514070	934022	307848
LCS360005	12/27/18 00:13	486210	517242	943696	308613
LCSDA	12/27/18 00:22	515095	549142	989497	307155
9934778RE	12/27/18 00:31	508210	538703	945510	305167
9934786RE	12/27/18 00:40	467986	539717	916829	297076

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

Sample Data

PFAS by LC/MS/MS

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934777			**Data File:**		18DEC19D-27.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-Y15-5-01 Grab Groundwater			**Acquis Date:**		2018-12-19T14:02:11
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	54			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28813			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	979963.7	942675.8	4	50	
13C2-PFOA	5.0	536124.5	520268.5	3	50	
13C4-PFOS	4.8	327962.7	307968.9	6	50	
13C2-PFDA	5.0	507679.1	487375.3	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	412820.5	13C3-PFBA	979963.7	0.421	16.139	14.236	88	50-150	
E13C5-PFHxA	685323.9	13C2-PFOA	536124.5	1.278	17.353	15.869	91	50-150	
E13C3-PFHxS	328970.4	13C2-PFOA	536124.5	0.614	16.416	16.115	98	50-150	
E13C4-PFHpA	532590.7	13C2-PFOA	536124.5	0.993	17.353	14.893	86	50-150	
E13C8-PFOA	922279.7	13C2-PFOA	536124.5	1.720	17.353	16.417	95	50-150	
E13C8-PFOS	311729.4	13C4-PFOS	327962.7	0.951	16.590	14.752	89	50-150	
E13C9-PFNA	581406.5	13C4-PFOS	327962.7	1.773	17.353	13.997	81	50-150	
E13C6-PFDA	781560.2	13C2-PFDA	507679.1	1.539	17.353	15.220	88	50-150	
Ed3-NMeFOSAA	209194.8	13C2-PFDA	507679.1	0.412	17.353	15.734	91	50-150	
E13C7-PFUnDA	536030.2	13C2-PFDA	507679.1	1.056	17.353	15.339	88	50-150	
Ed5-NEtFOSAA	153110.0	13C2-PFDA	507679.1	0.302	17.353	15.421	89	50-150	
E13C2-PFDoDA	1060820.0	13C2-PFDA	507679.1	2.090	17.353	15.257	88	50-150	
E13C2-PFTeDA	806050.8	13C2-PFDA	507679.1	1.588	17.353	15.528	89	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

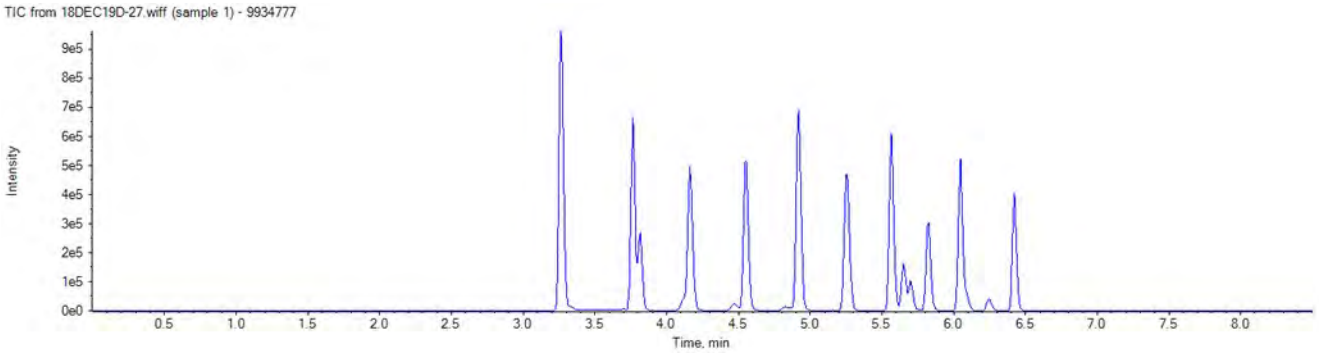
Analyte Quantitation Peak Table

Sample Name: 9934777 **Instrument Name:** LM27631 **File Name:** 18DEC19D-27.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28813	1.000	1.00	1.000

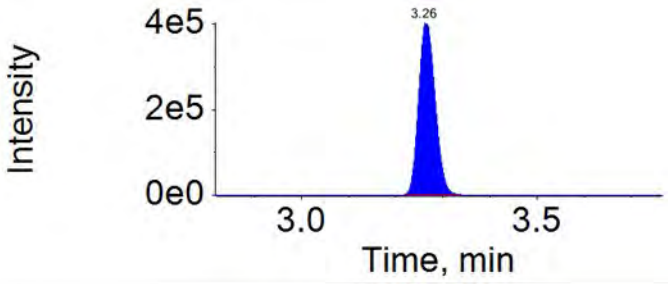
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.82	1.000	100000.1		A	13C3-PFBS	3.82	412820.5	0.242	4.150
PFHxA	4.16	1.000	382720.4		M	13C5-PFHxA	4.16	685323.9	0.558	7.984
PFHpA	4.55	1.000	123841.3		A	13C4-PFHpA	4.55	532590.7	0.233	2.676
PFHxS	4.55	1.000	216449.8		M	13C3-PFHxS	4.55	328970.4	0.658	11.107
PFOA	4.92	1.000	126790.0		M	13C8-PFOA	4.92	922279.7	0.137	2.528
PFOS	5.25	1.000	5608.6		M	13C8-PFOS	5.25	311729.4	0.018	0.273
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	581406.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	781560.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	209194.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	536030.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	153110.0	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1060820.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1060820.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	806050.8	N/A	

Total Ion Chromatogram

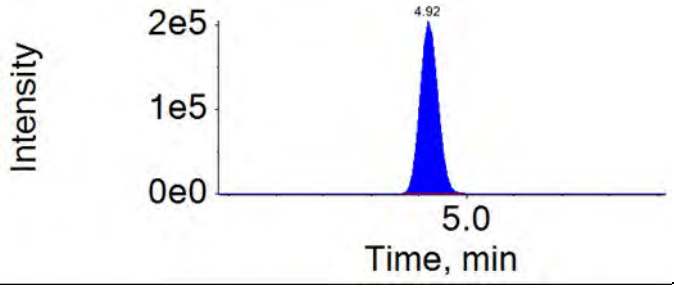


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

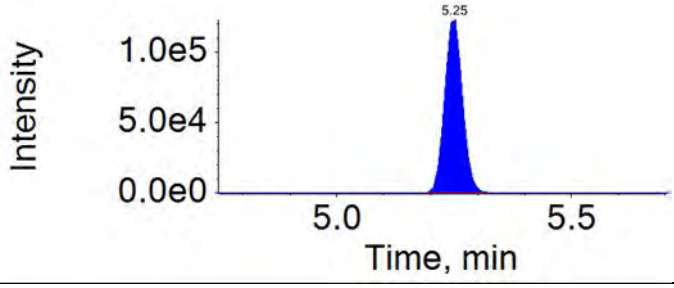
Injection Standard: 13C3-PFBA
216.0 / 172.0



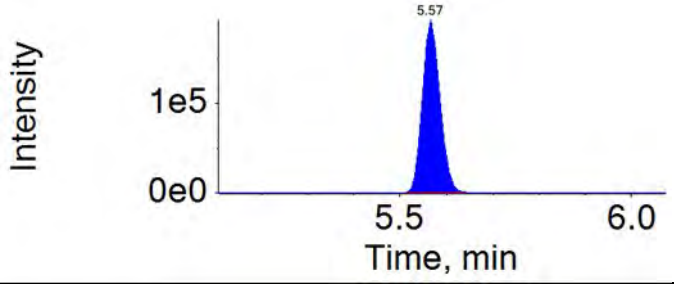
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

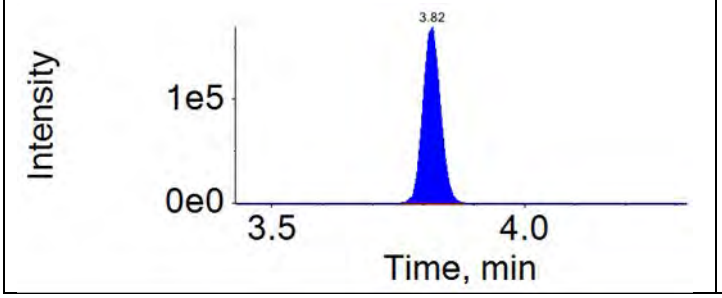


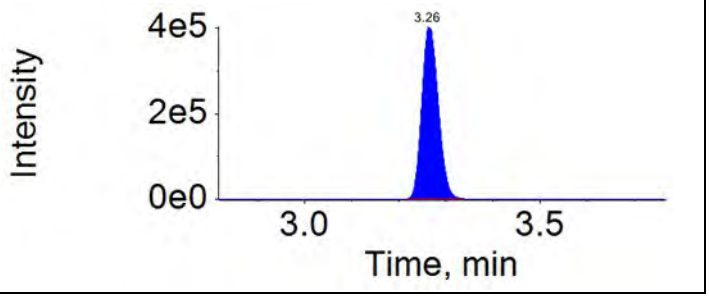
Injection Standard: 13C2-PFDA
515.0 / 470.0



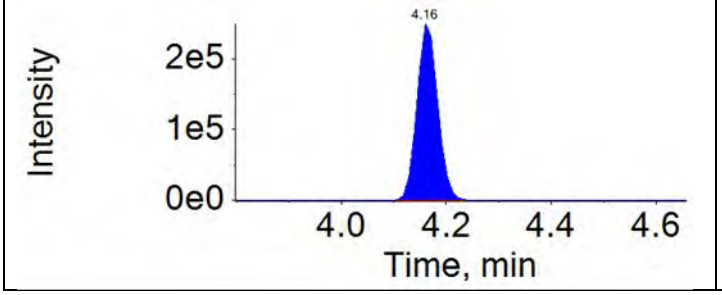
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

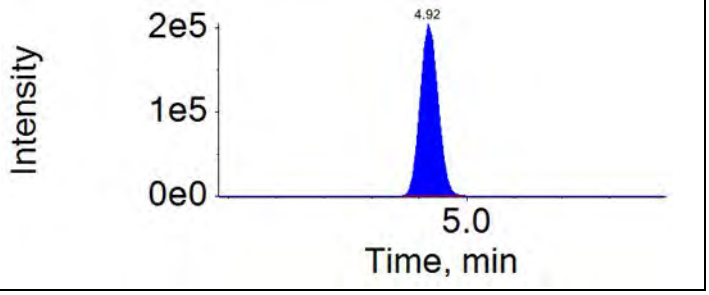
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



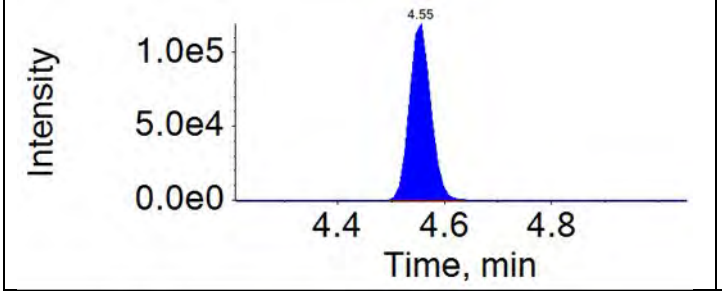


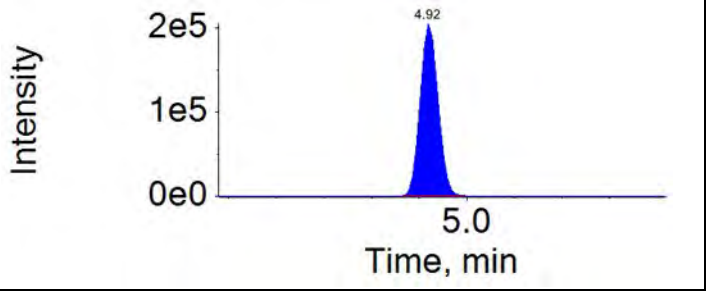
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



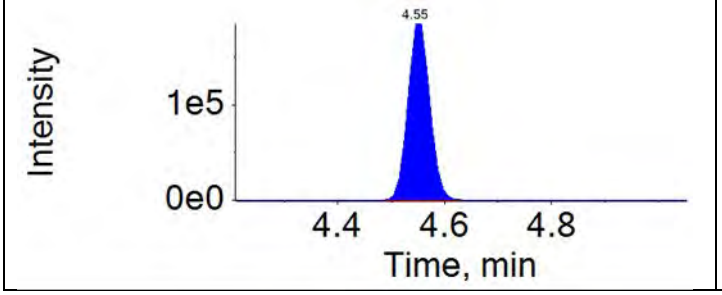


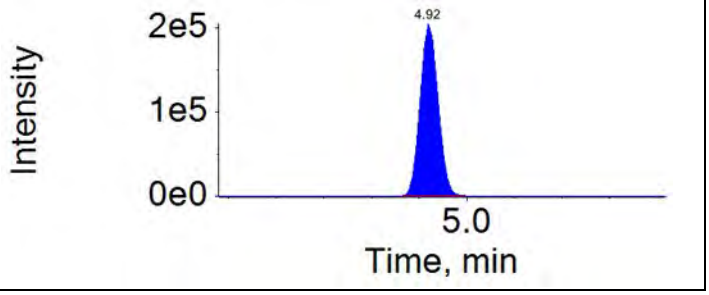
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



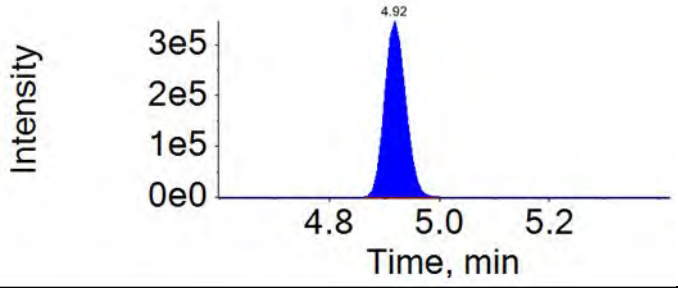
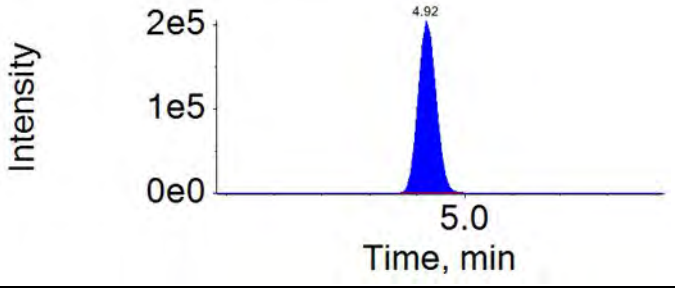


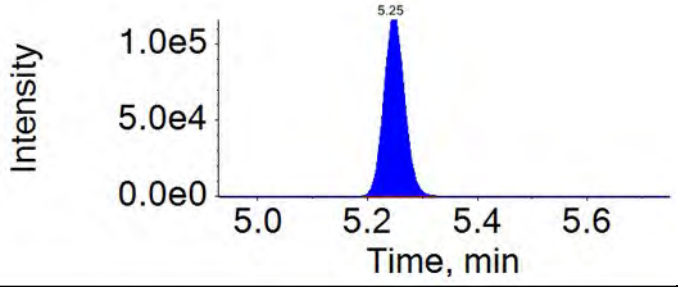
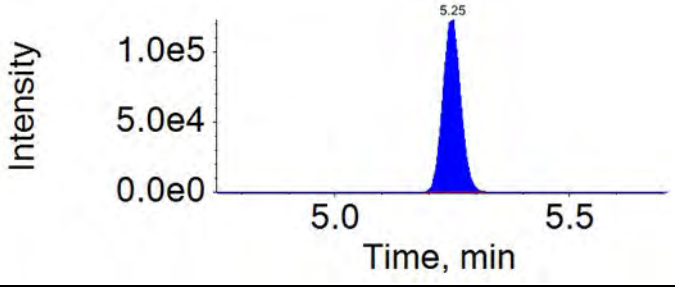
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

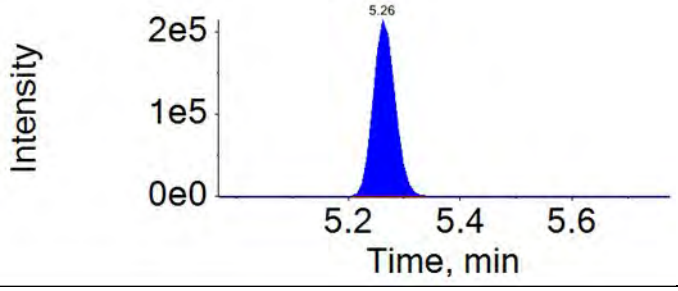
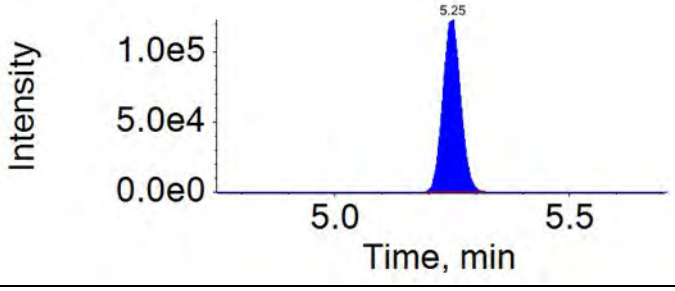


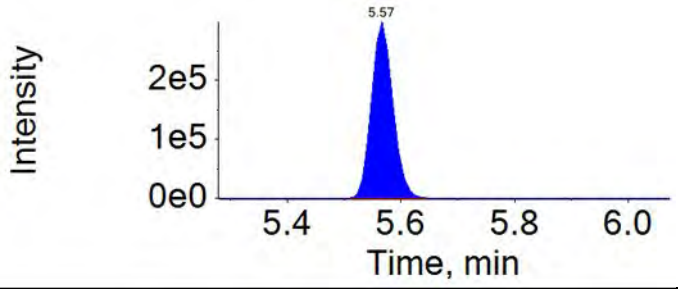
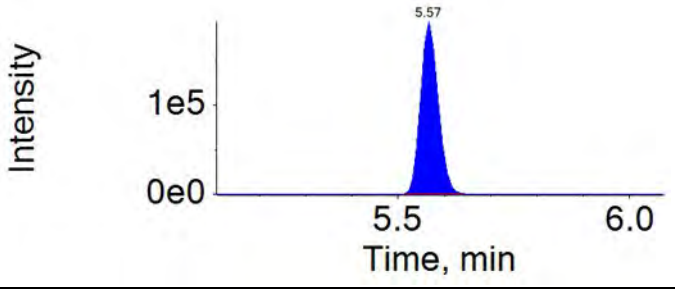


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

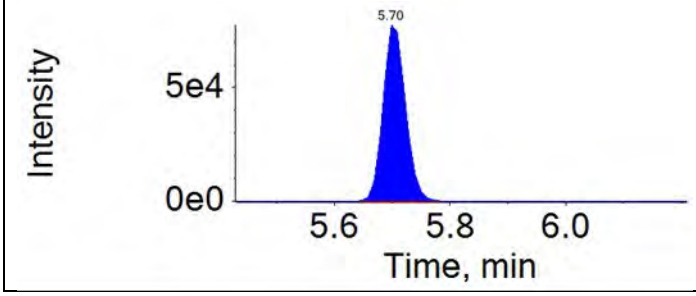
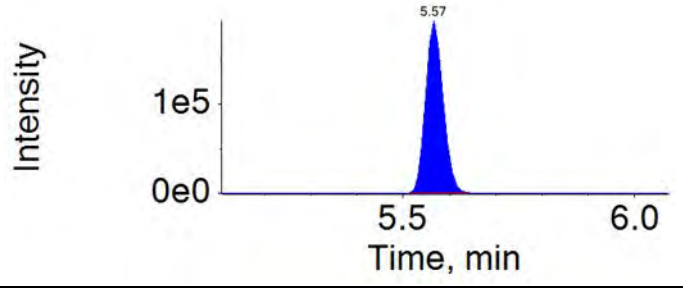
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

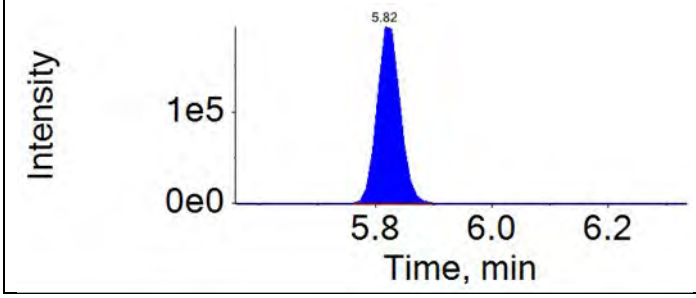
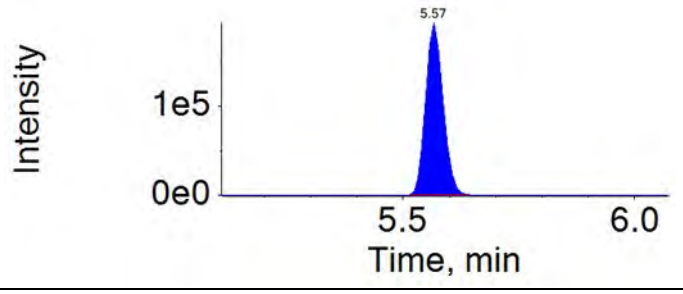
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

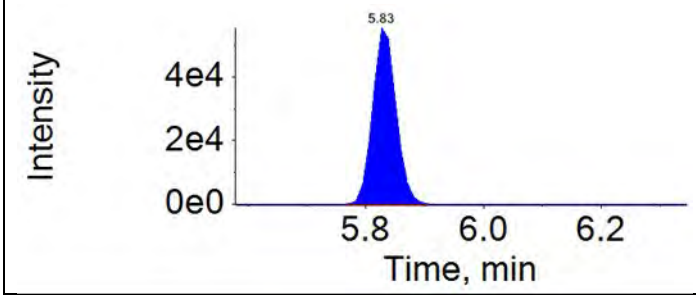
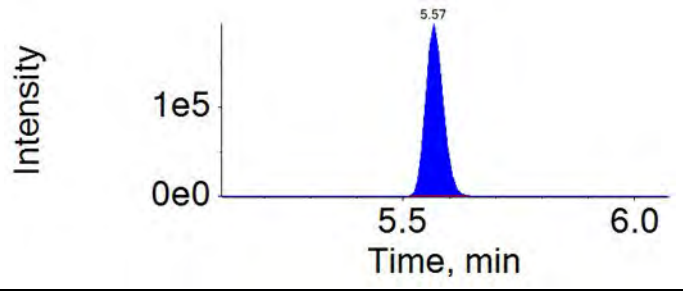
APPROVED
By MSM at 10:14 am, 12/20/18

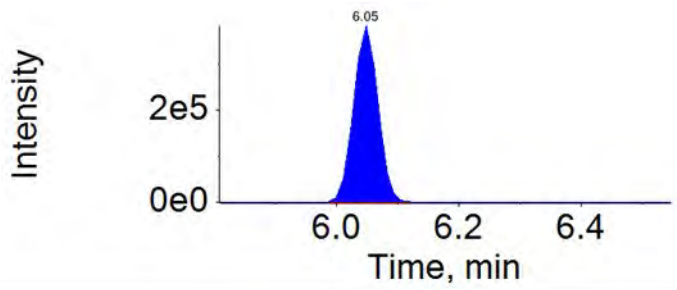
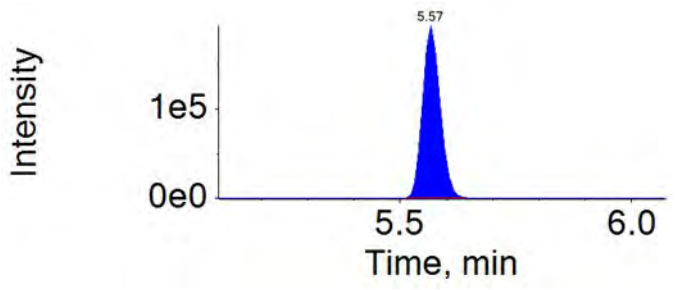
REVIEWED
By umar at 4:40 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

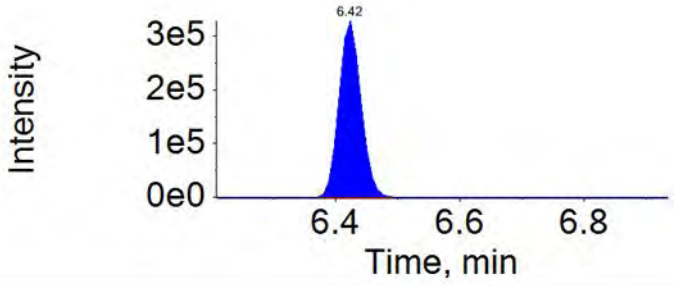
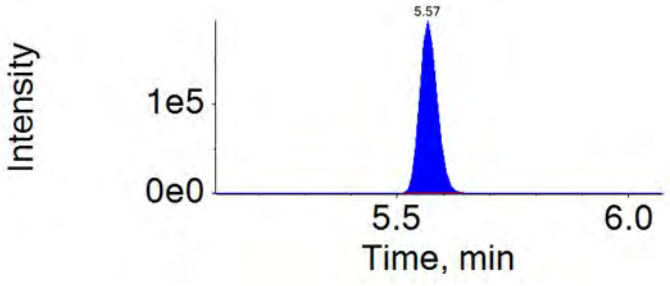
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

APPROVED
By MSM at 10:14 am, 12/20/18

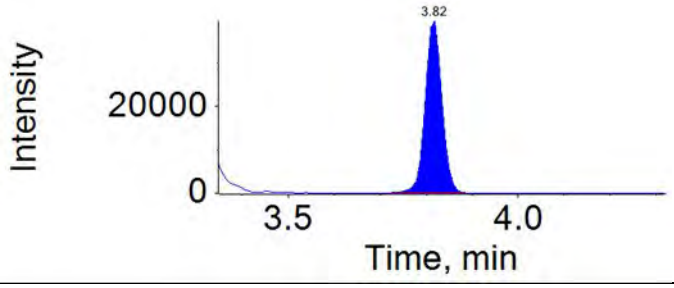
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By umar at 4:40 pm, 12/28/18

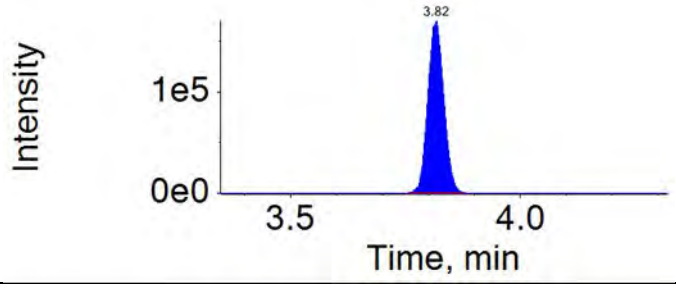
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

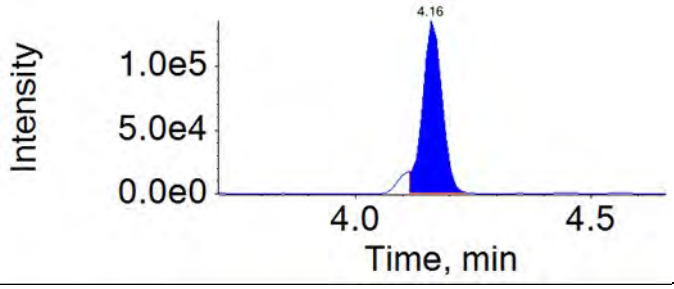
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

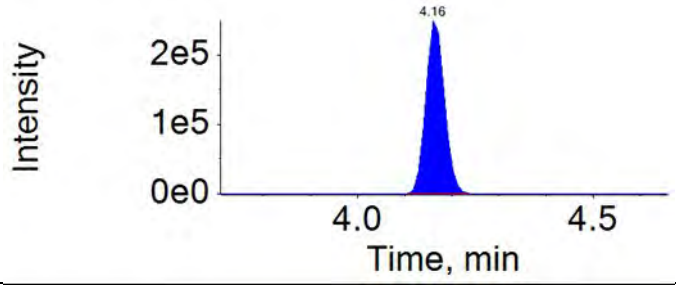
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



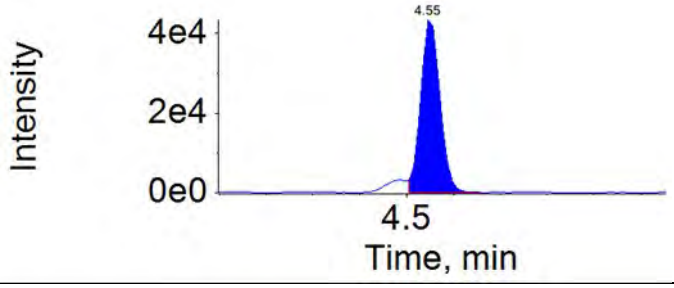


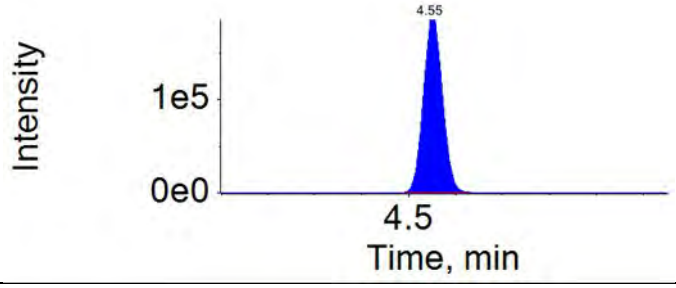
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



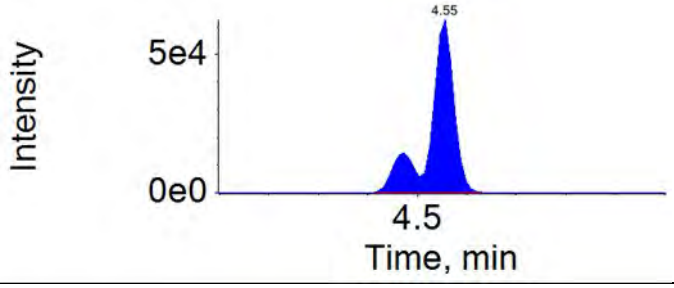


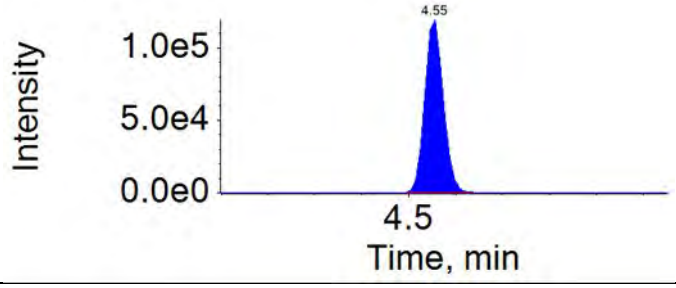
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





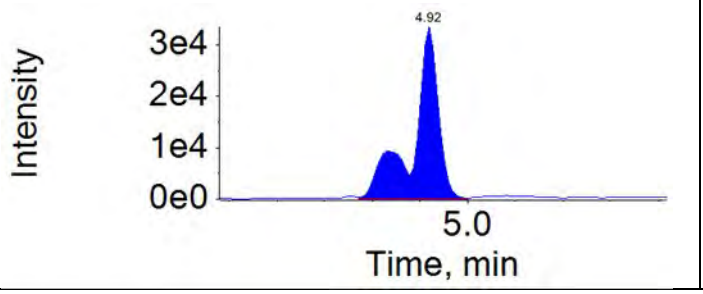
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

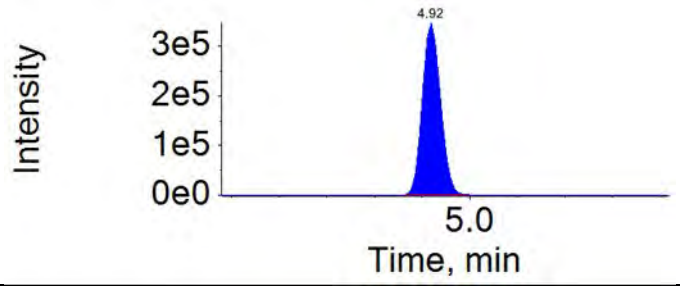




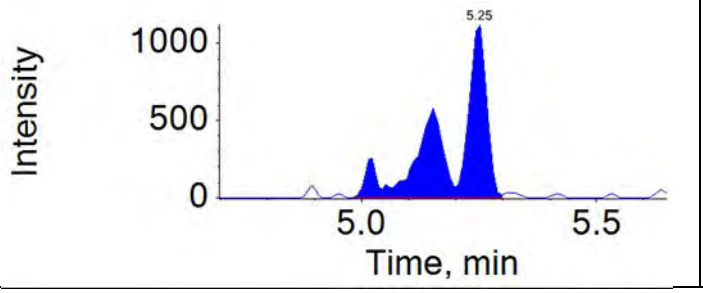
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

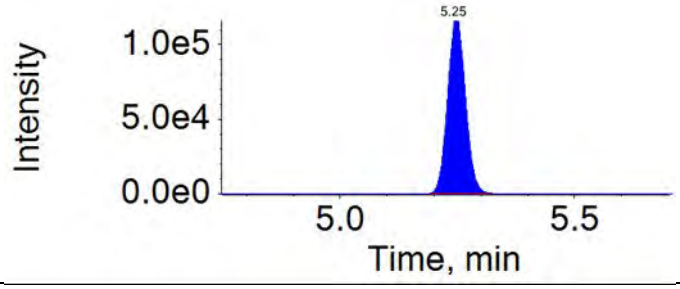
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



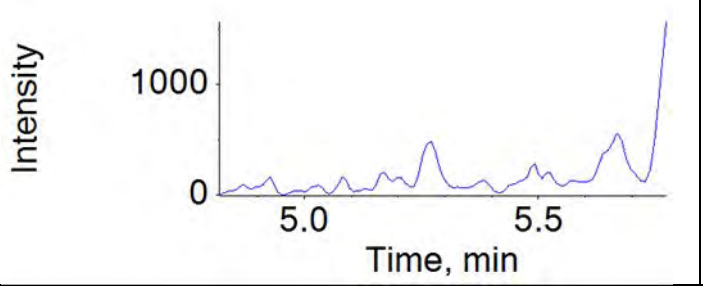


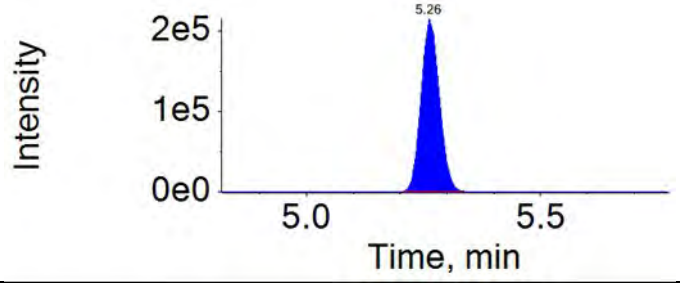
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



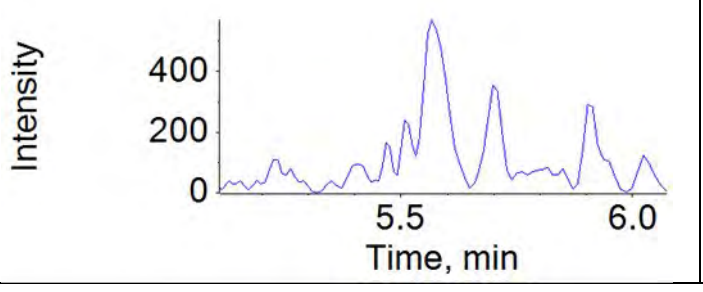


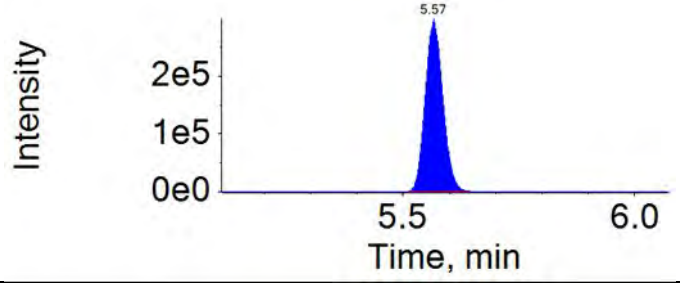
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



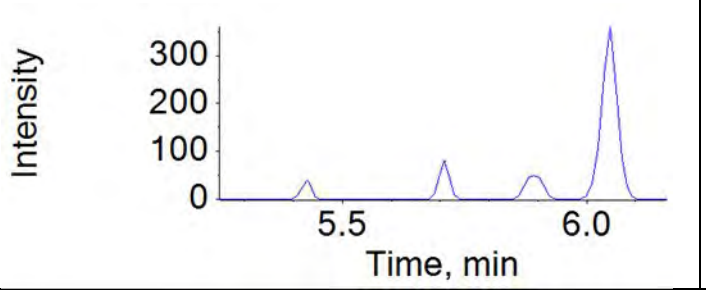


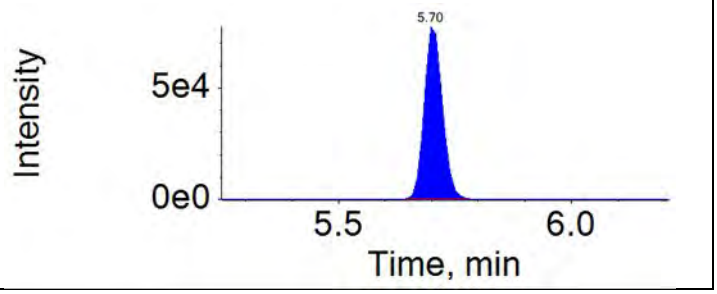
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

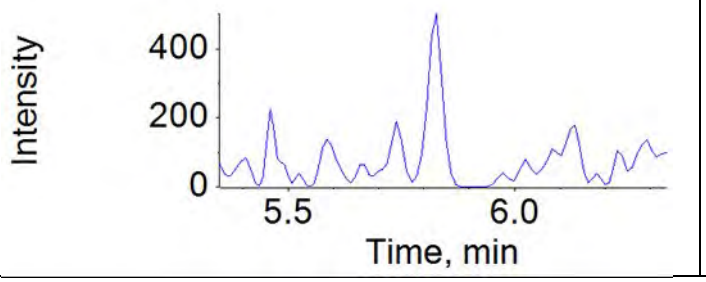
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

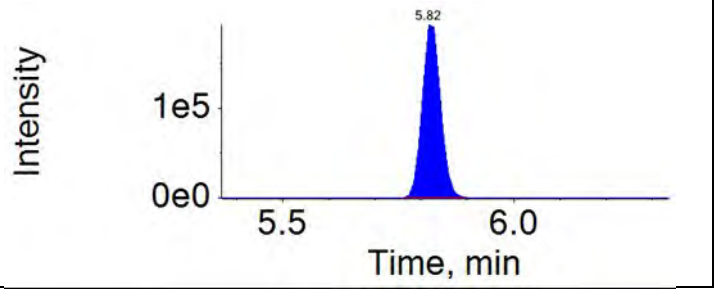
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



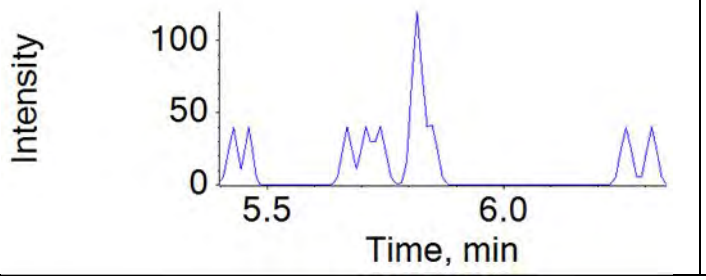


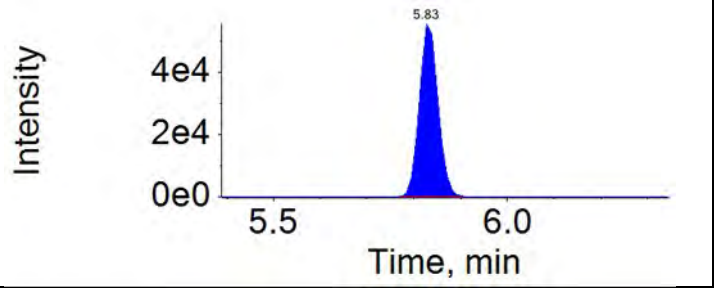
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



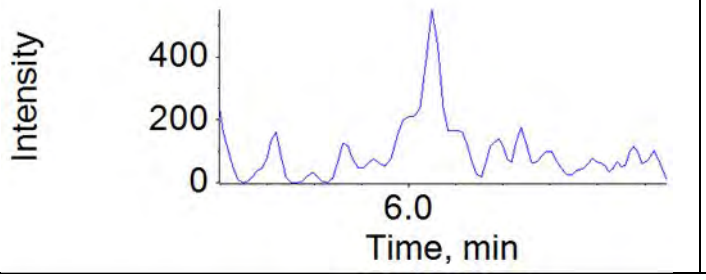


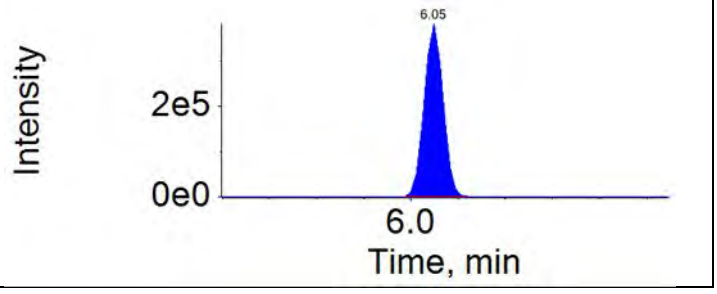
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





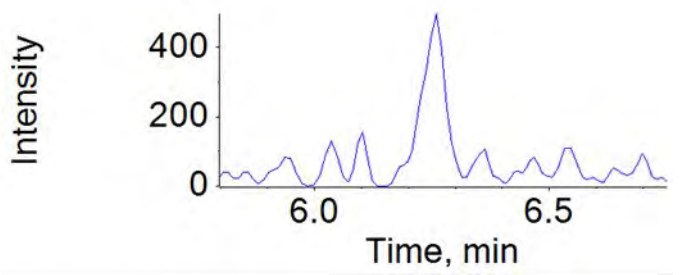
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

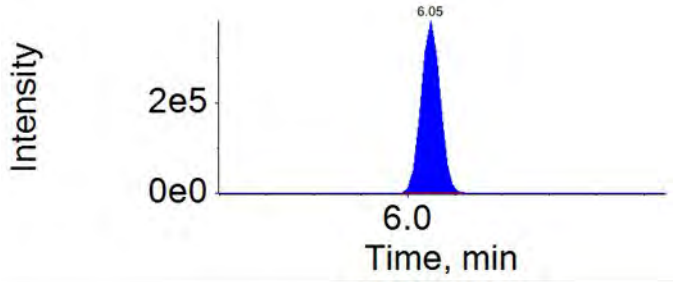




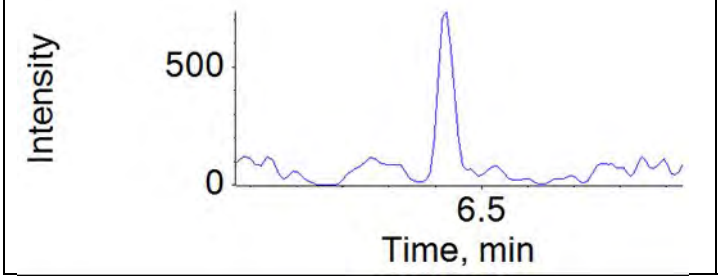
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

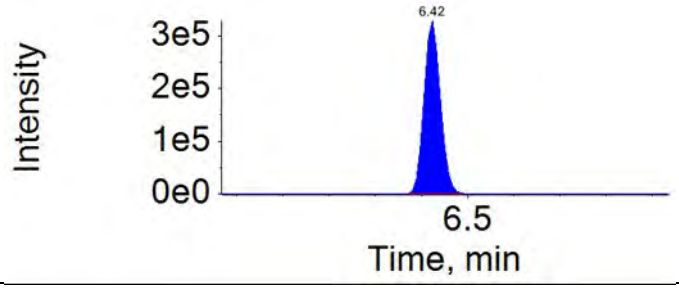
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



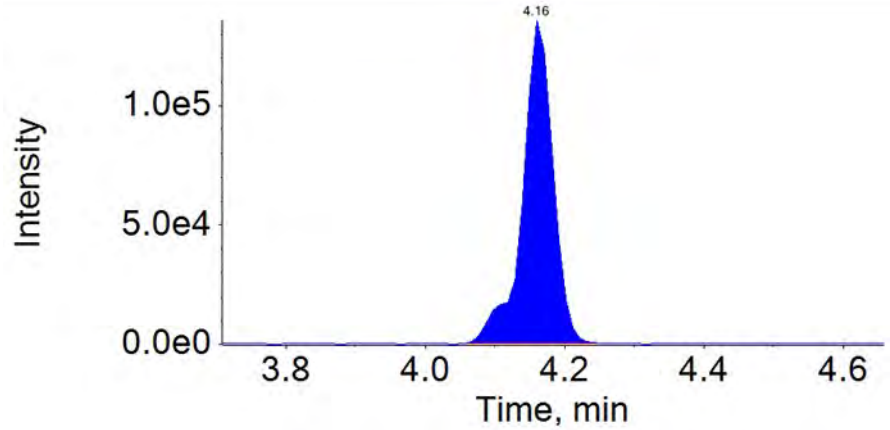


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By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

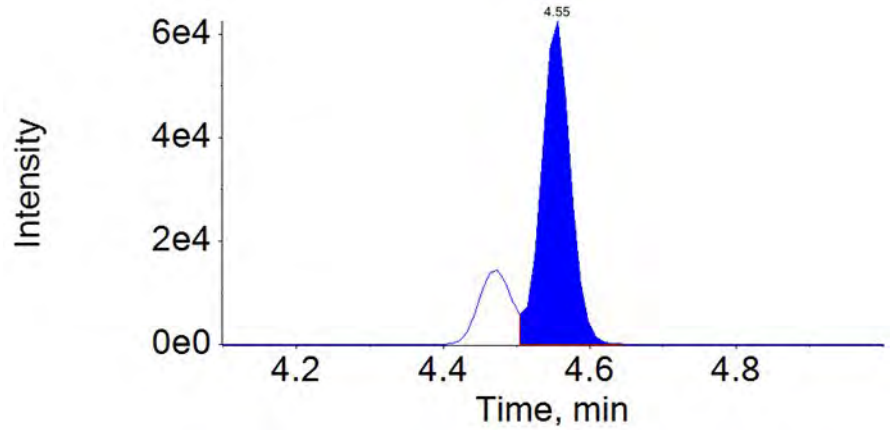
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
416848.9
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



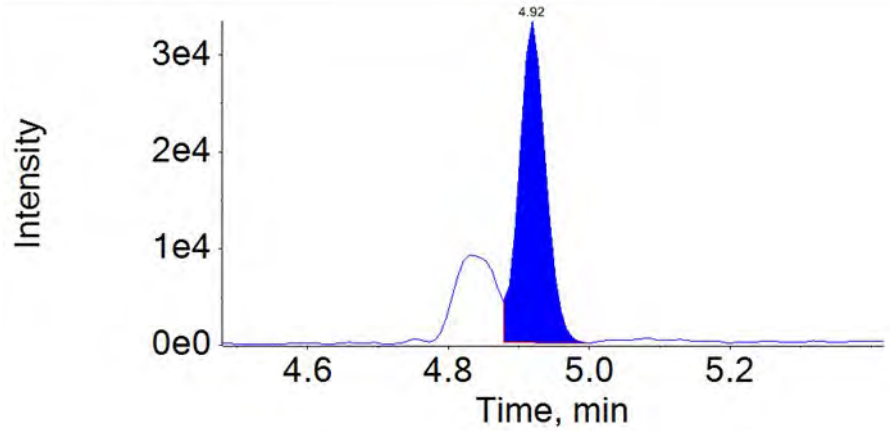
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
172035.1
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



Integration Comment: incorrect integration

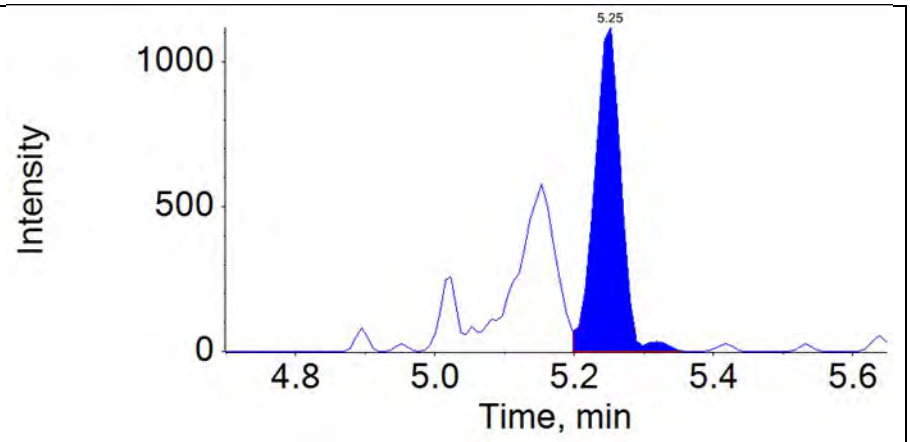
Component Name:
PFOA
RT (min.):
4.92
Peak Area:
86978.9
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



Integration Comment: incorrect integration

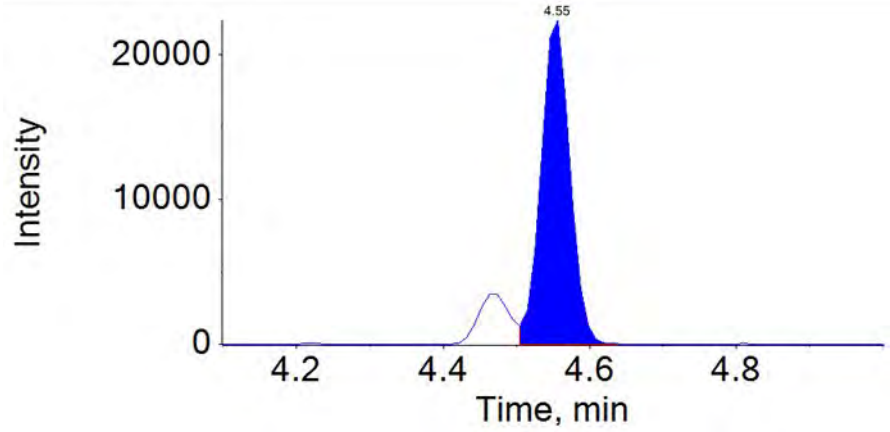
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
2972.9
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



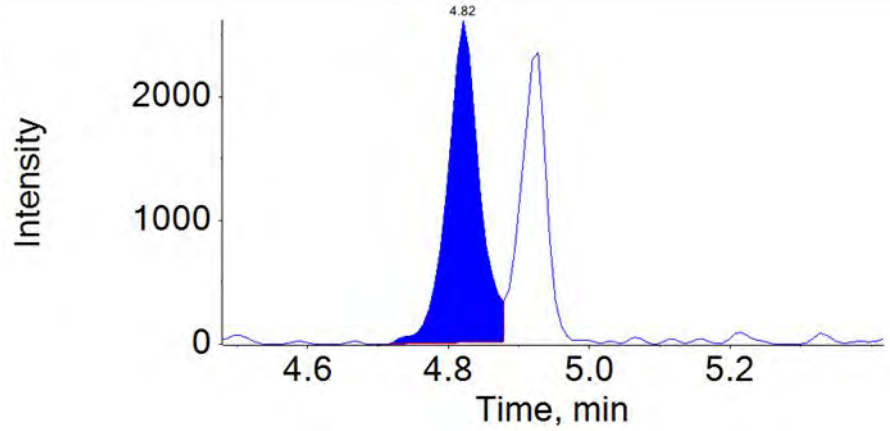
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
61639.3
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.82
Peak Area:
8273.0
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



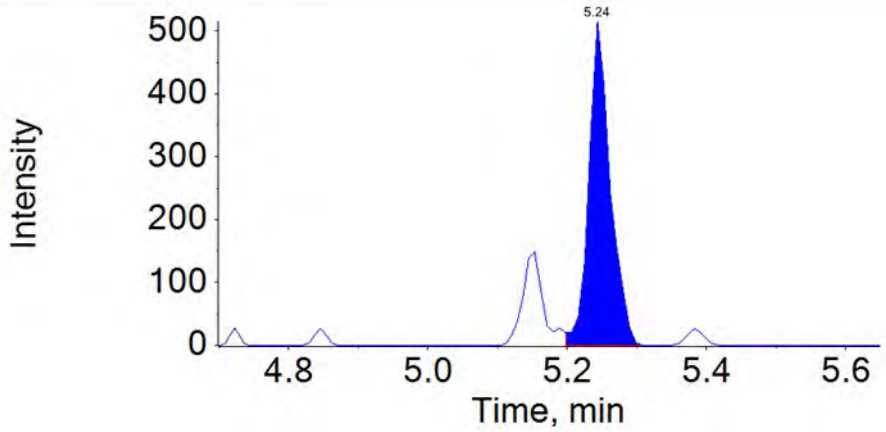
Integration Comment: incorrect integration

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REVIEWED
By umar at 4:40 pm, 12/28/18

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
1106.3
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-27.wiff
Sample Name:
9934777



Integration Comment: incorrect integration

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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REVIEWED
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Ion Ratio Report

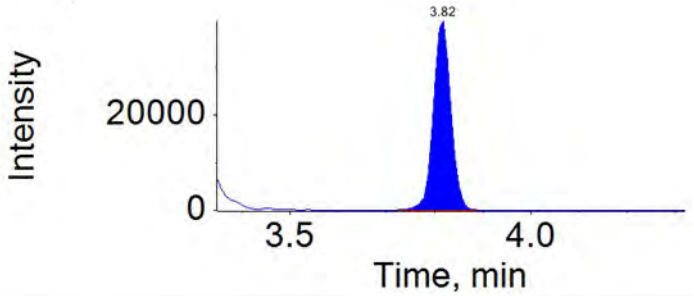
Sample Name: 9934777 **Instrument Name:** LM27631 **File Name:** 18DEC19D-27.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	100000.1	A	N/A	1.0000			
PFBS_2	3.81	1.00	36397.4	A	N/A	0.3640	-1	50	
PFHxA	4.16	1.00	382720.4	M	N/A	1.0000			
PFHxA_2	4.16	1.00	3881.4	A	N/A	0.0101	-12	50	
PFHpA	4.55	1.00	123841.3	A	N/A	1.0000			
PFHpA_2	4.55	1.00	6722.2	A	N/A	0.0543	-1	50	
PFHxS	4.55	1.00	216449.8	M	N/A	1.0000			
PFHxS_2	4.55	1.00	71984.8	M	N/A	0.3326	-1	50	
PFOA	4.92	1.00	126790.0	M	N/A	1.0000			
PFOA_2	4.86	0.99	14250.5	M	N/A	0.1124	91	50	OOS
PFOS	5.25	1.00	5608.6	M	N/A	1.0000			
PFOS_2	5.24	1.00	1415.0	M	N/A	0.2523	-15	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

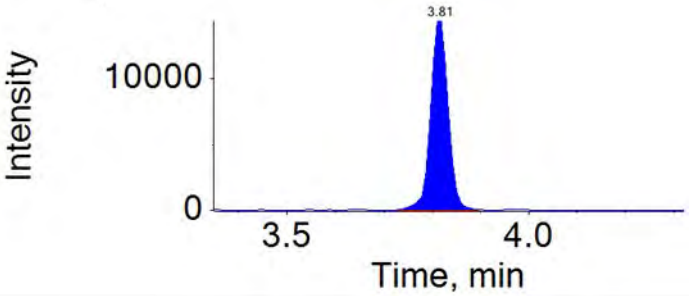
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By umar at 4:40 pm, 12/28/18

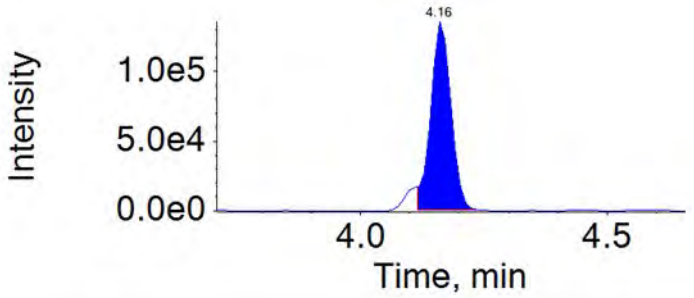
Component: PFBS
Primary Mass: 299.0 / 80.0



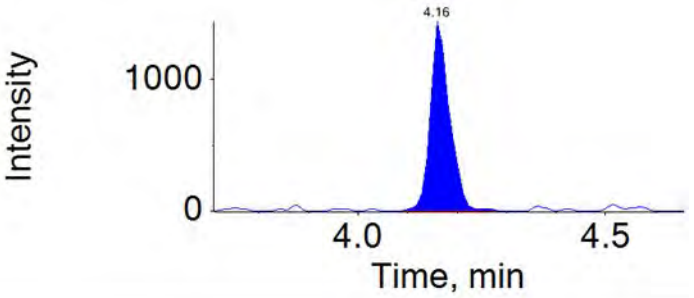
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



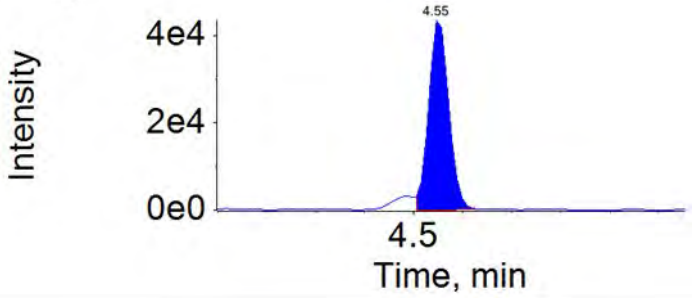
Component: PFHxA
Primary Mass: 313.0 / 269.0



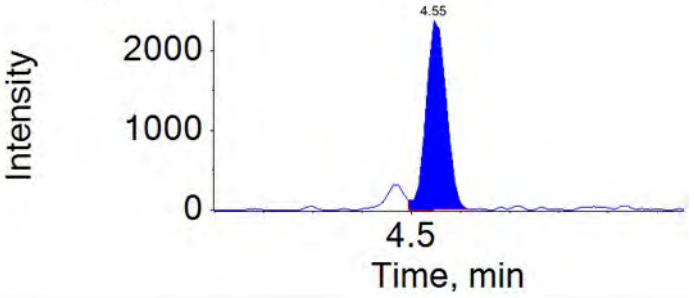
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



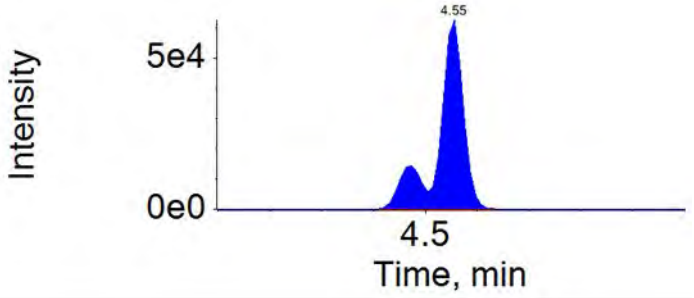
Component: PFHpA
Primary Mass: 363.0 / 319.0



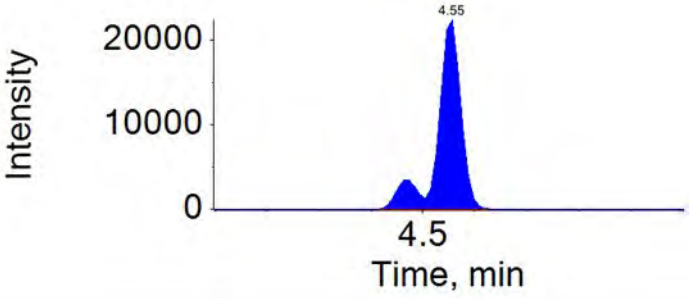
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



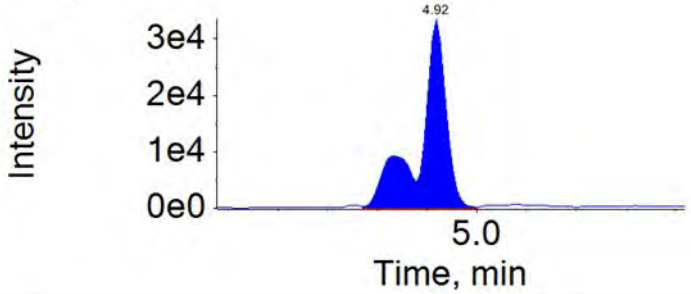
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Secondary Mass: 399.0 / 99.0



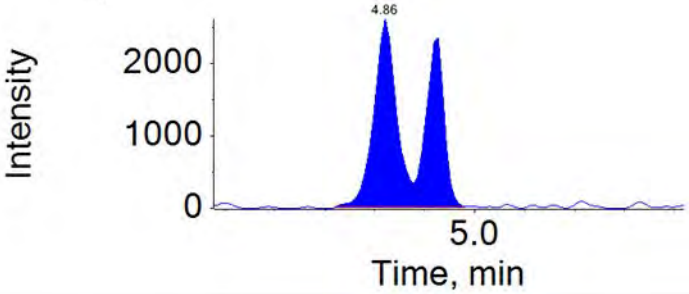
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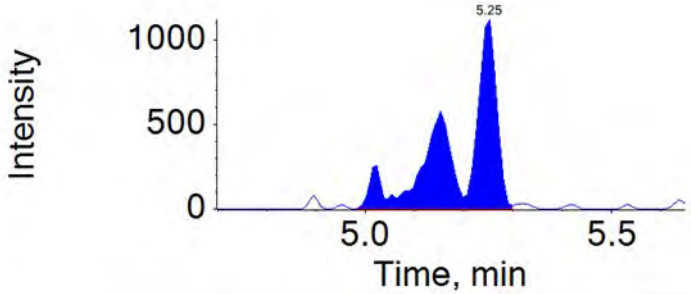
Component: PFOA
Primary Mass: 413.0 / 369.0



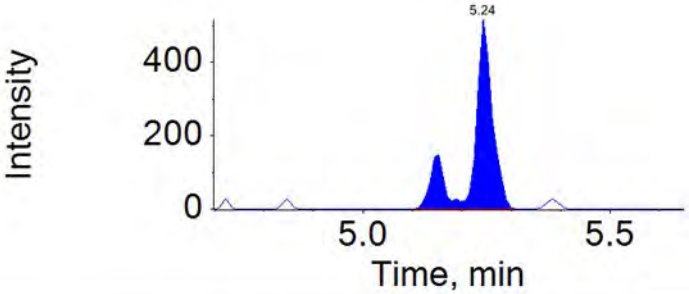
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



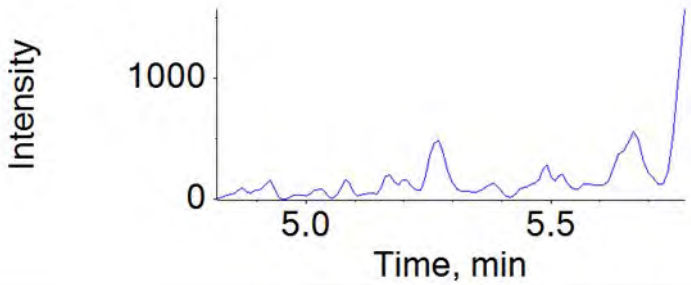
Component: PFOS
Primary Mass: 499.0 / 80.0



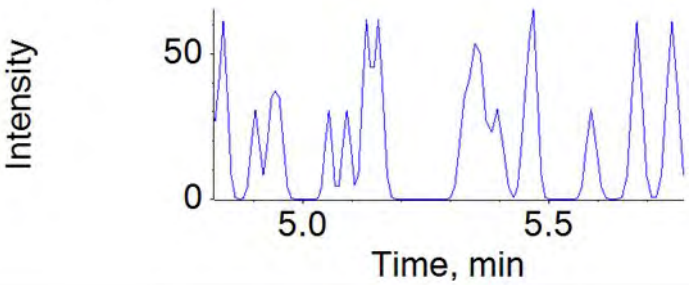
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



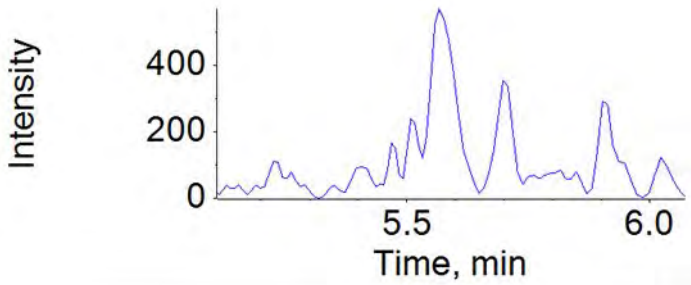
Component: PFNA
Primary Mass: 463.0 / 419.0



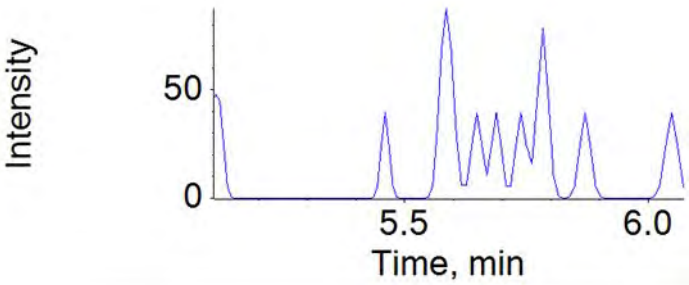
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



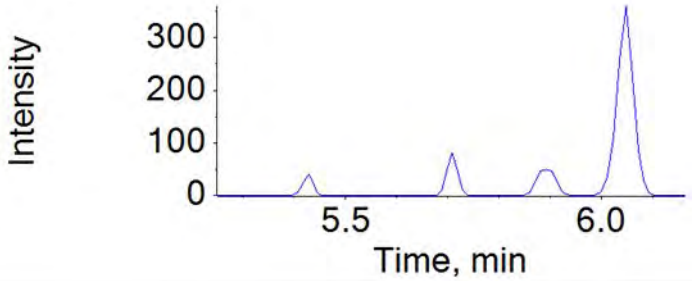
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



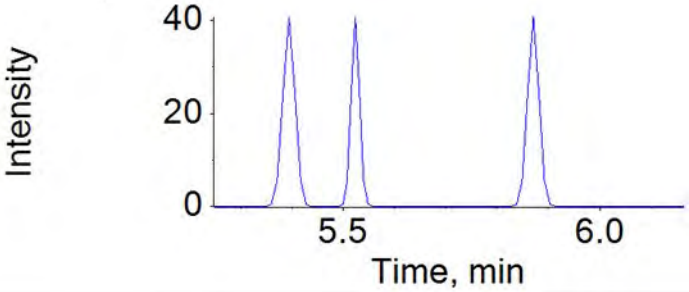
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By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

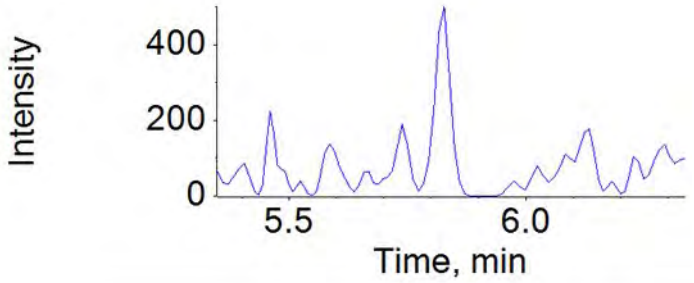
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



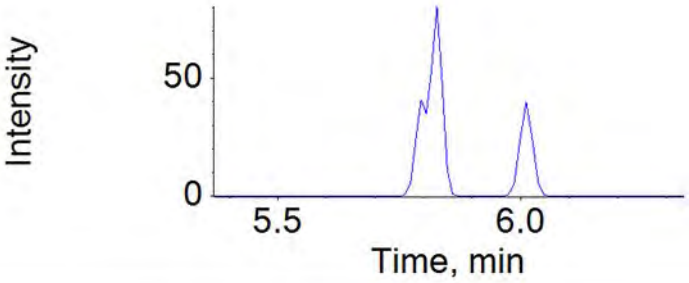
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



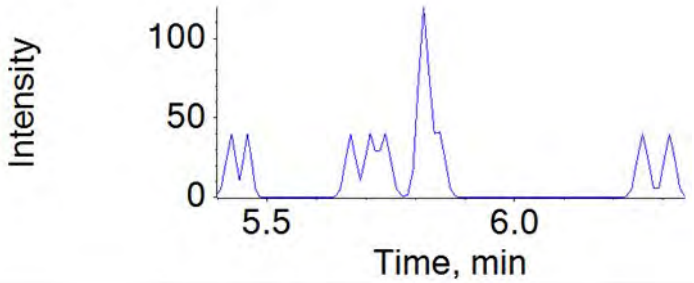
Component: PFUnDA
Primary Mass: 563.0 / 519.0



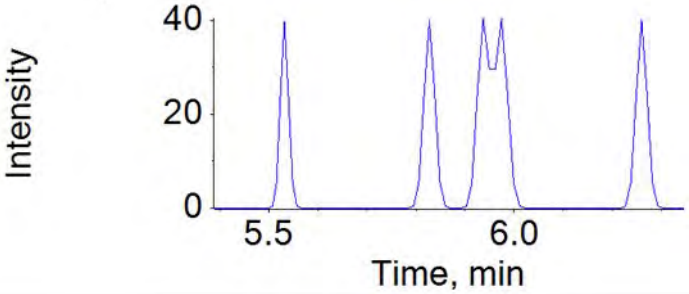
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



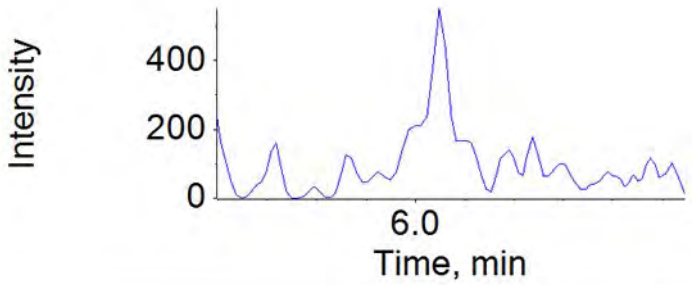
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



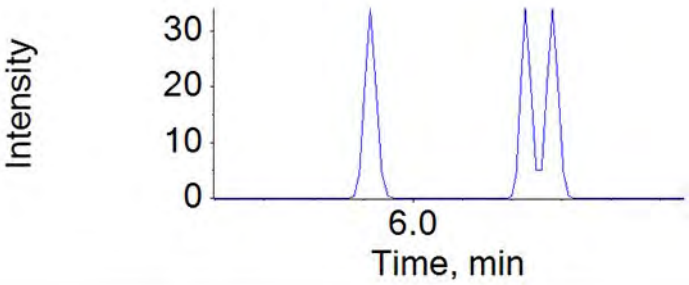
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



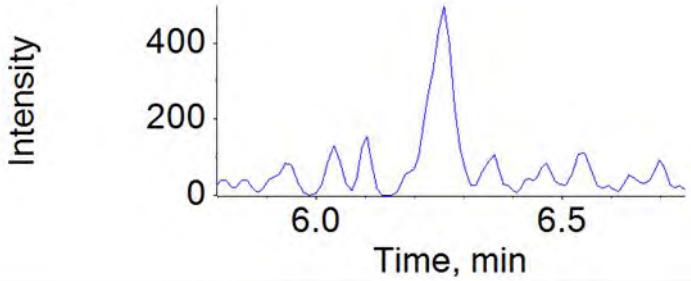
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



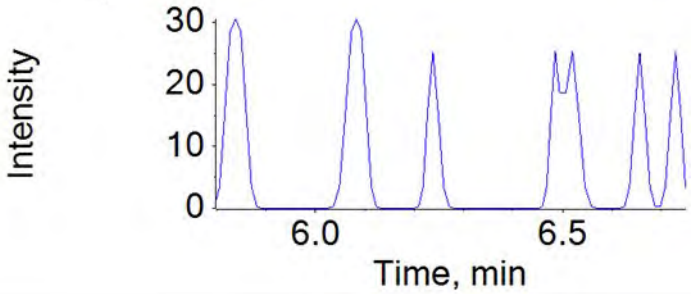
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

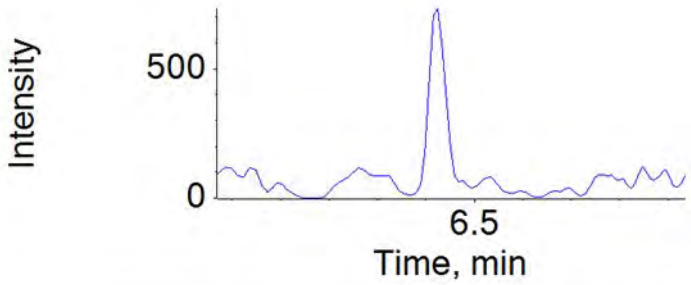
Component: PFTrDA
Primary Mass: 663.0 / 619.0



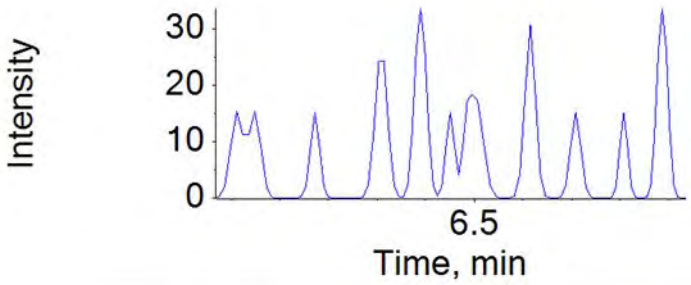
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:40 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934778			**Data File:**		18DEC19D-28.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-Y9-5-01 Grab Groundwater			**Acquis Date:**		2018-12-19T14:11:11
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	55			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.27915			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	972662.6	942675.8	3	50	
13C2-PFOA	5.0	543117.6	520268.5	4	50	
13C4-PFOS	4.8	314080.1	307968.9	2	50	
13C2-PFDA	5.0	503804.4	487375.3	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	356124.7	13C3-PFBA	972662.6	0.366	16.658	12.771	77	50-150	
E13C5-PFHxA	580243.1	13C2-PFOA	543117.6	1.068	17.912	13.690	76	50-150	
E13C3-PFHxS	271874.9	13C2-PFOA	543117.6	0.501	16.944	13.569	80	50-150	
E13C4-PFHpA	494767.1	13C2-PFOA	543117.6	0.911	17.912	14.096	79	50-150	
E13C8-PFOA	811371.5	13C2-PFOA	543117.6	1.494	17.912	14.716	82	50-150	
E13C8-PFOS	248882.8	13C4-PFOS	314080.1	0.792	17.123	12.694	74	50-150	
E13C9-PFNA	552693.8	13C4-PFOS	314080.1	1.760	17.912	14.341	80	50-150	
E13C6-PFDA	671162.2	13C2-PFDA	503804.4	1.332	17.912	13.594	76	50-150	
Ed3-NMeFOSAA	152372.5	13C2-PFDA	503804.4	0.302	17.912	11.920	67	50-150	
E13C7-PFUnDA	421247.2	13C2-PFDA	503804.4	0.836	17.912	12.538	70	50-150	
Ed5-NEtFOSAA	88945.3	13C2-PFDA	503804.4	0.177	17.912	9.317	52	50-150	
E13C2-PFDoDA	734269.0	13C2-PFDA	503804.4	1.457	17.912	10.984	61	50-150	
E13C2-PFTeDA	324694.8	13C2-PFDA	503804.4	0.644	17.912	6.506	36	50-150	OOS

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

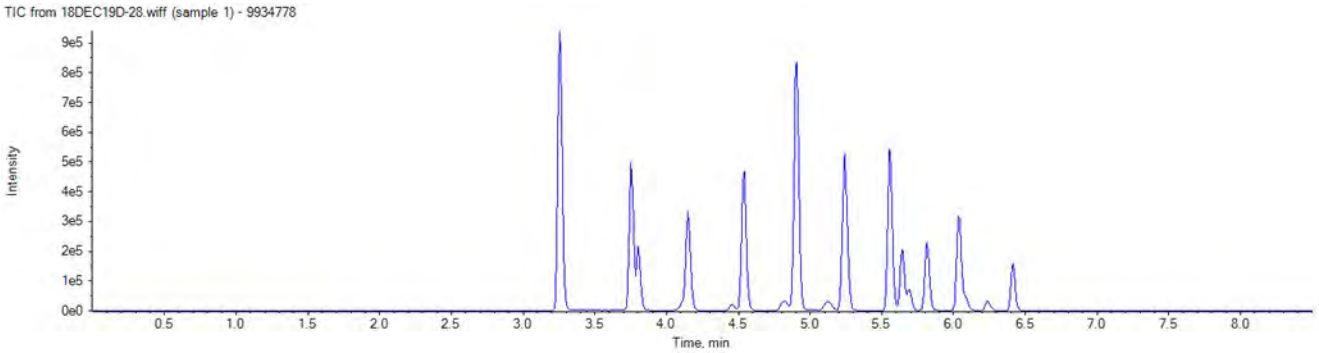
Analyte Quantitation Peak Table

Sample Name: 9934778 **Instrument Name:** LM27631 **File Name:** 18DEC19D-28.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27915	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.80	1.000	52504.5		A	13C3-PFBS	3.80	356124.7	0.147	2.607
PFHxA	4.15	1.000	134811.7		M	13C5-PFHxA	4.15	580243.1	0.232	3.429
PFHpA	4.54	1.000	55363.5		A	13C4-PFHpA	4.54	494767.1	0.112	1.329
PFHxS	4.54	1.000	215857.1		M	13C3-PFHxS	4.54	271874.9	0.794	13.834
PFOA	4.91	1.000	599991.9		M	13C8-PFOA	4.90	811371.5	0.739	14.034
PFOS	5.21	0.990	207353.7		M	13C8-PFOS	5.24	248882.8	0.833	13.067
PFNA	5.25	1.000	16320.9		A	13C9-PFNA	5.25	552693.8	0.030	0.420
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	671162.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	152372.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	421247.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	88945.3	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	734269.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	734269.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	324694.8	N/A	

Total Ion Chromatogram

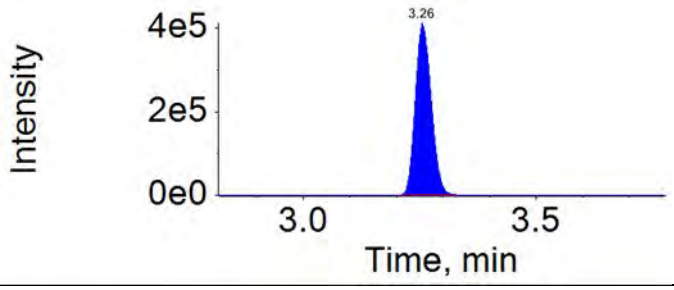


APPROVED
By MSM at 1:03 pm, 12/20/18

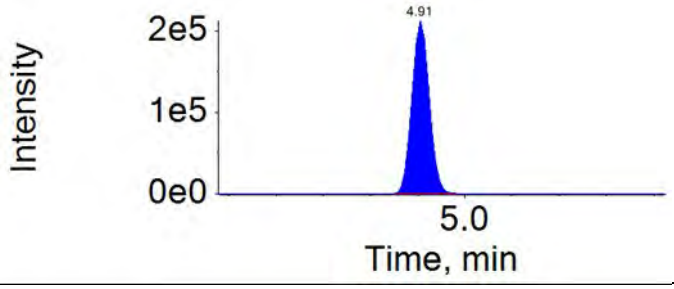
REVIEWED
By umar at 3:49 pm, 12/31/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

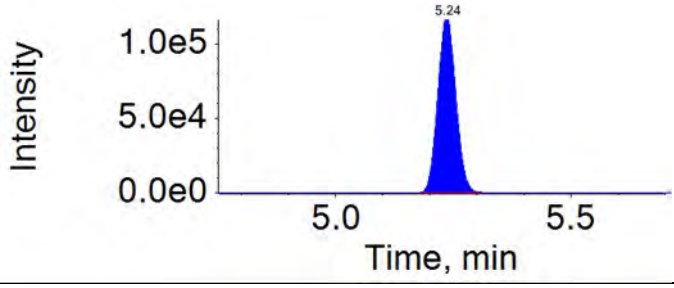
Injection Standard: 13C3-PFBA
216.0 / 172.0



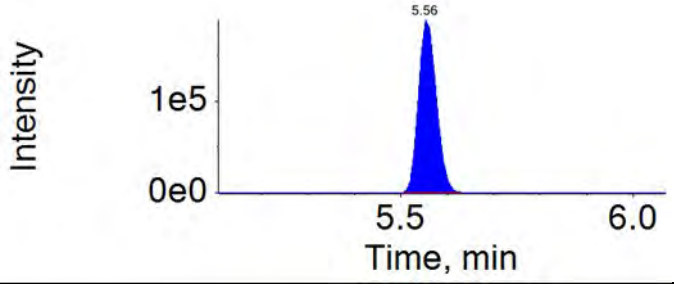
Injection Standard: 13C2-PFOA
415.0 / 370.0



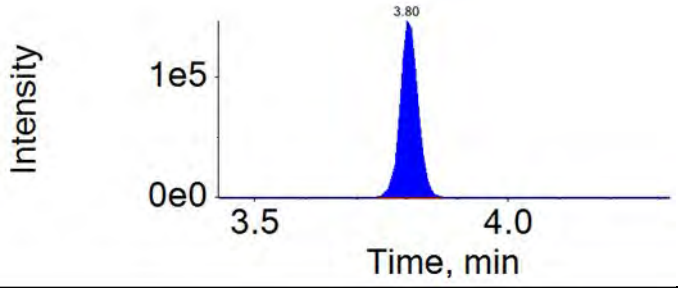
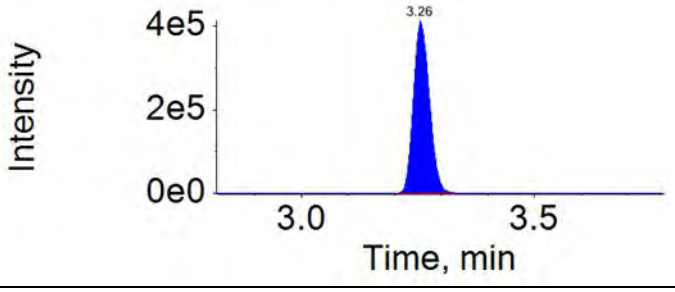
Injection Standard: 13C4-PFOS
503.0 / 80.0

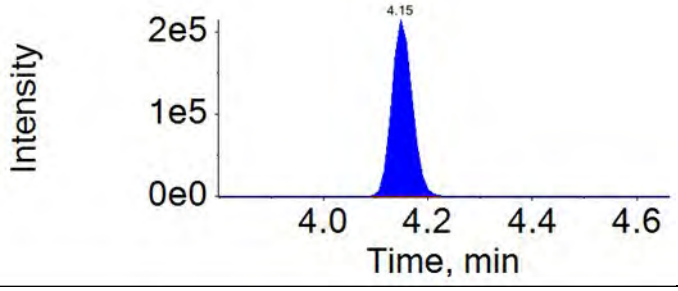
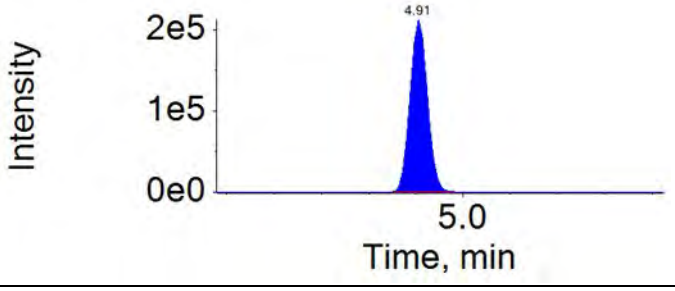


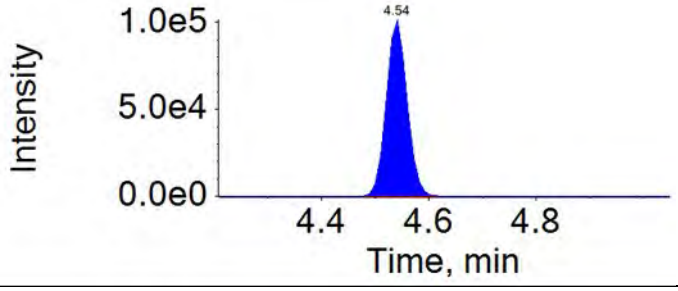
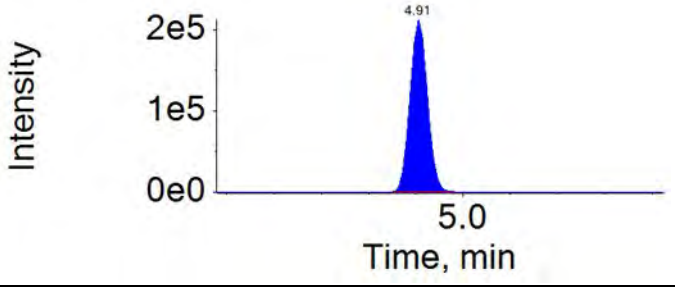
Injection Standard: 13C2-PFDA
515.0 / 470.0

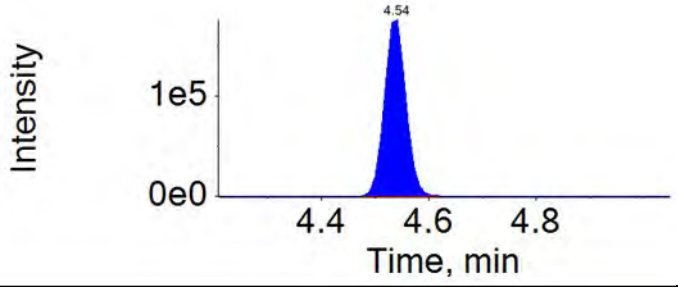
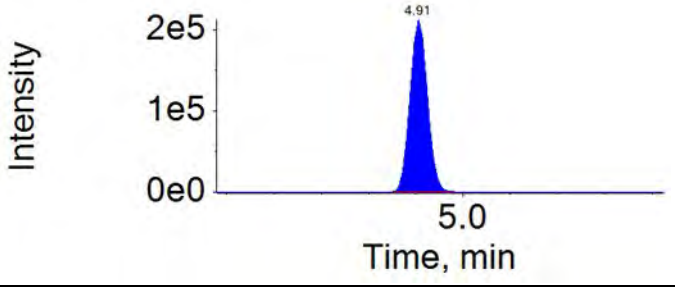


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

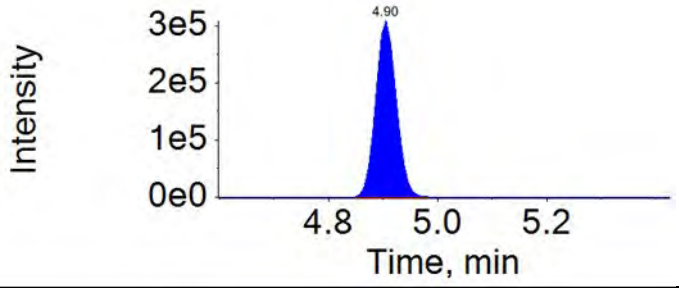
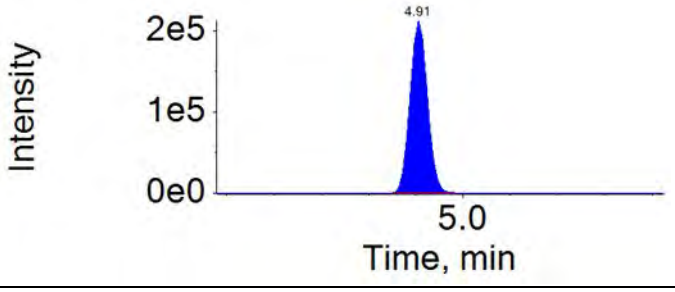
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

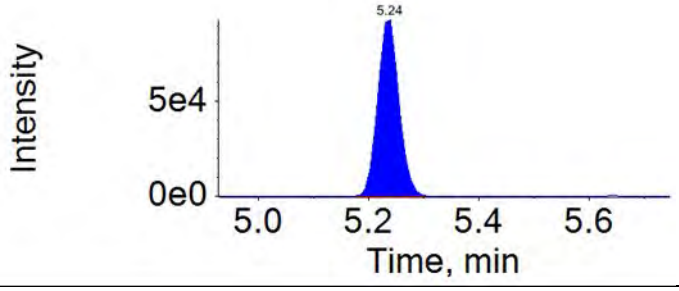
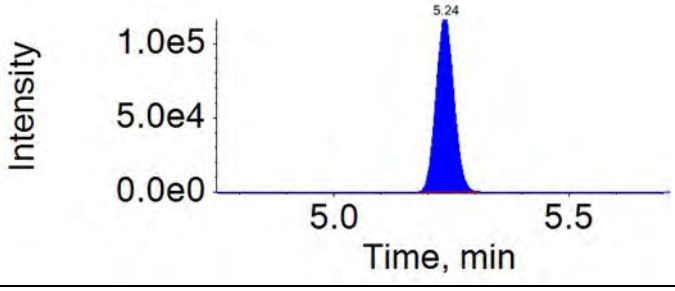
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

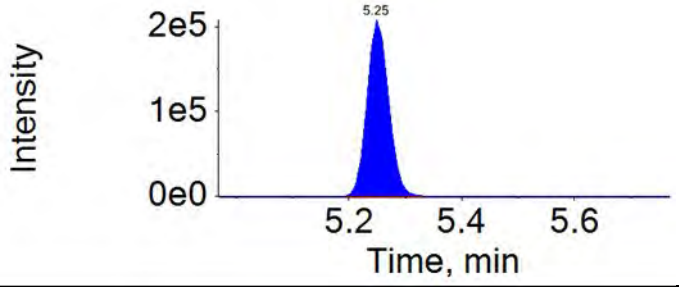
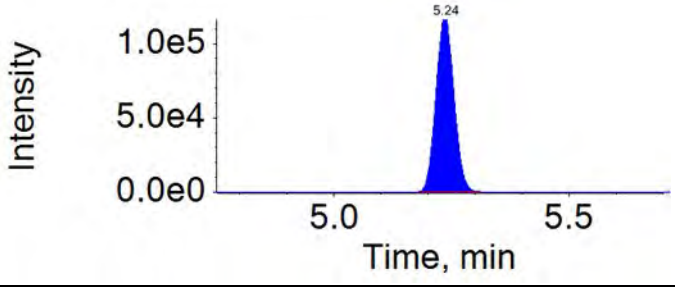
APPROVED
By MSM at 1:03 pm, 12/20/18

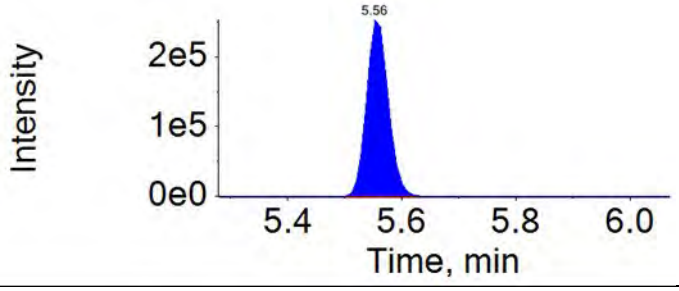
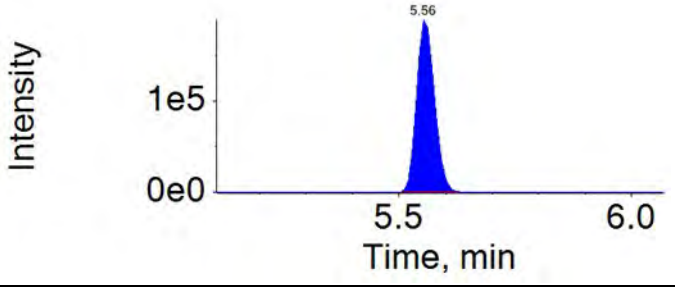
REVIEWED
By umar at 3:49 pm, 12/31/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

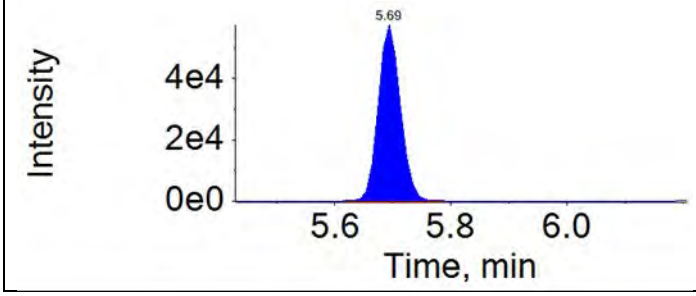
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

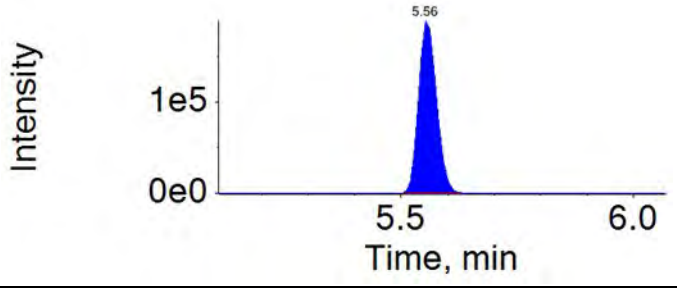
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

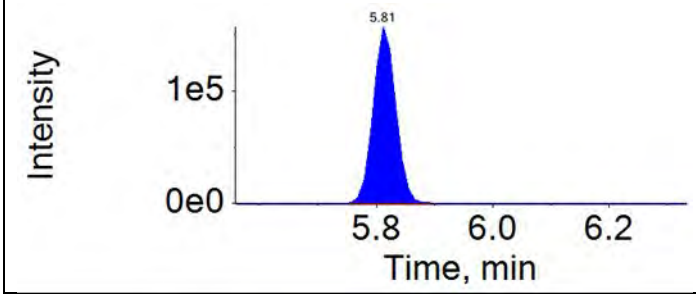
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

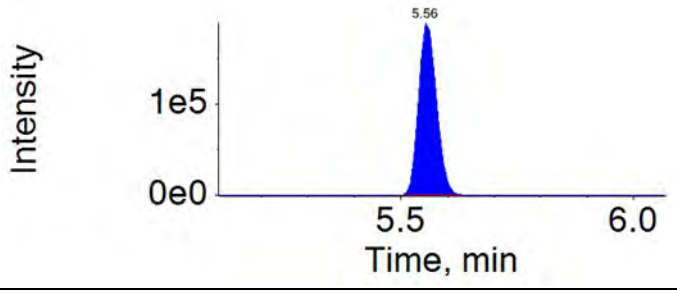
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



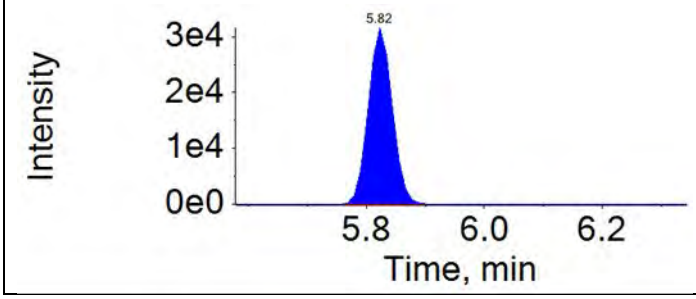


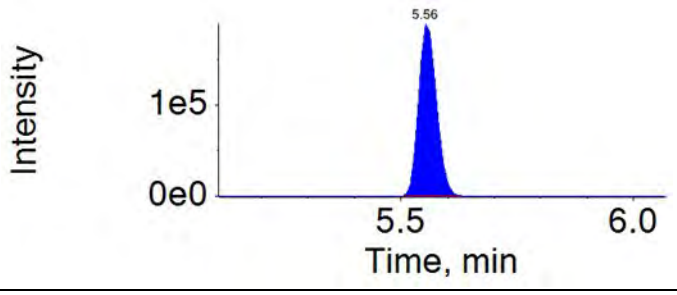
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



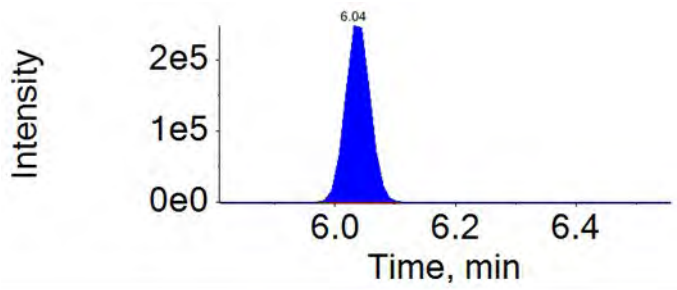


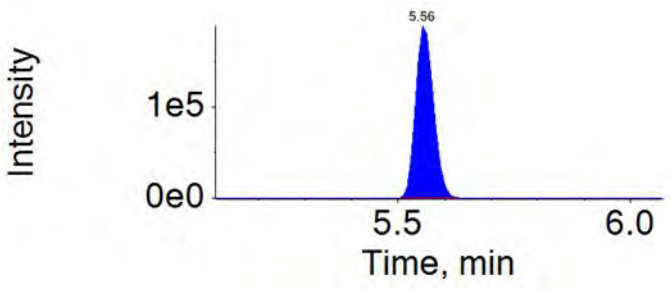
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



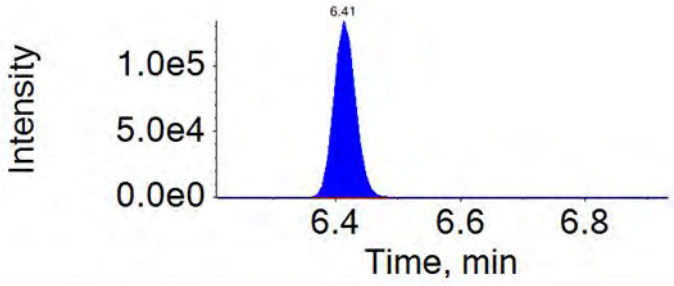
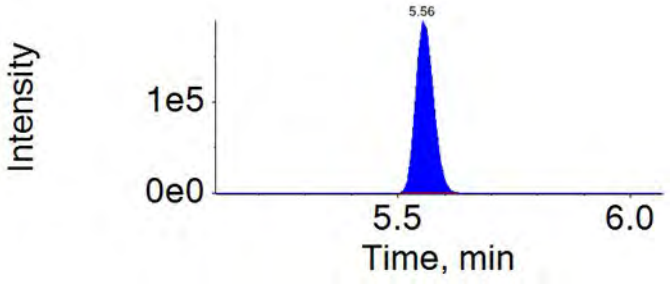


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

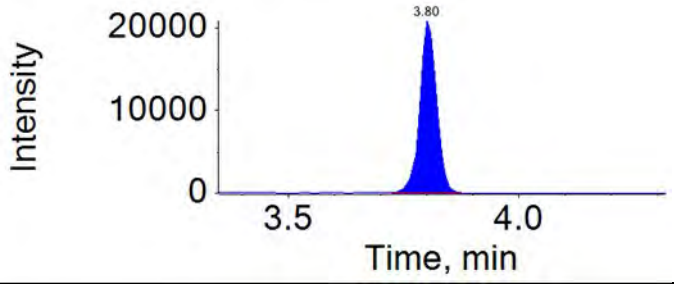
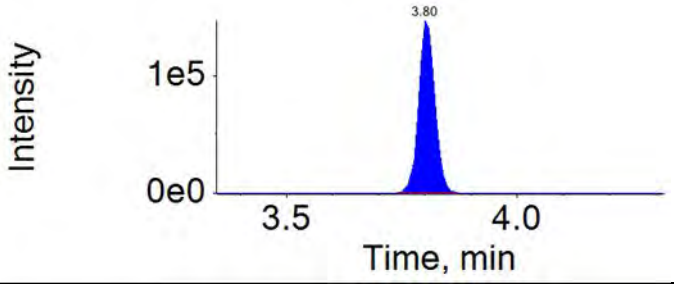


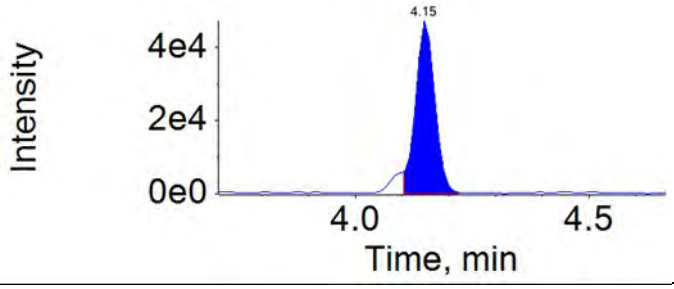
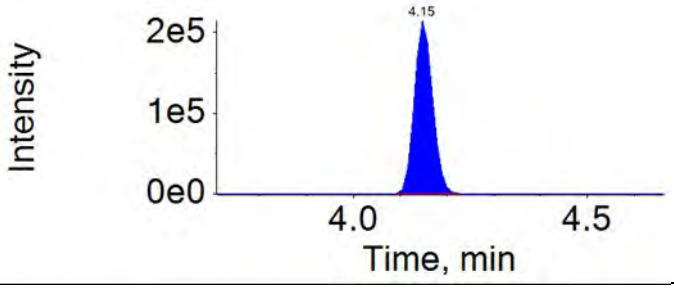


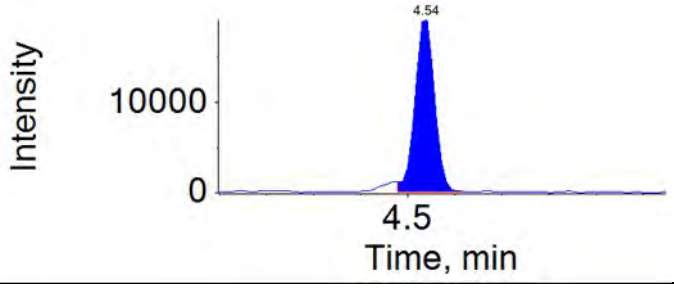
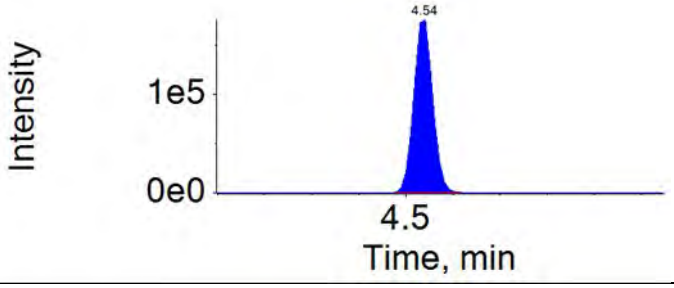
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

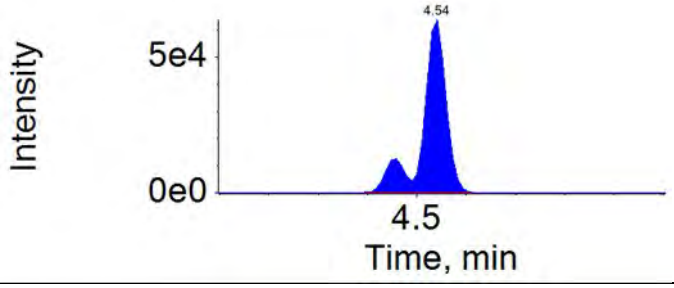
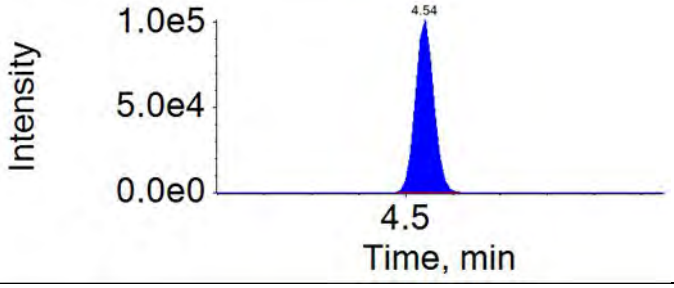
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

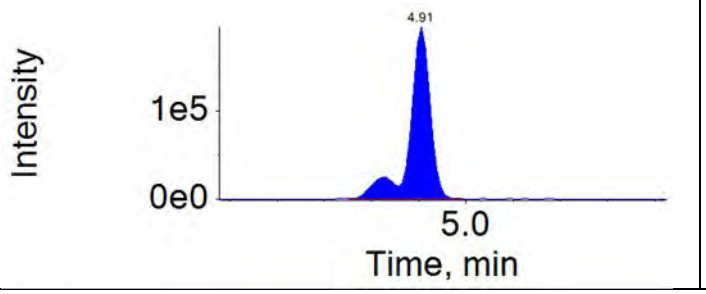
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

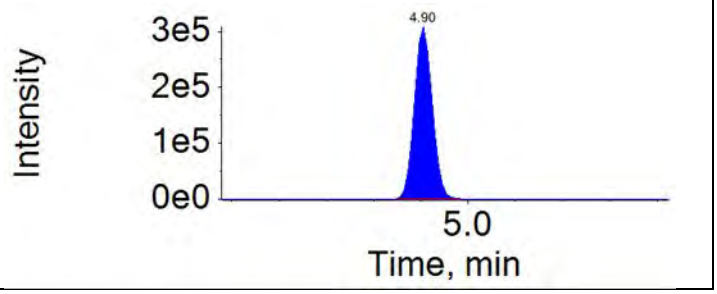
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

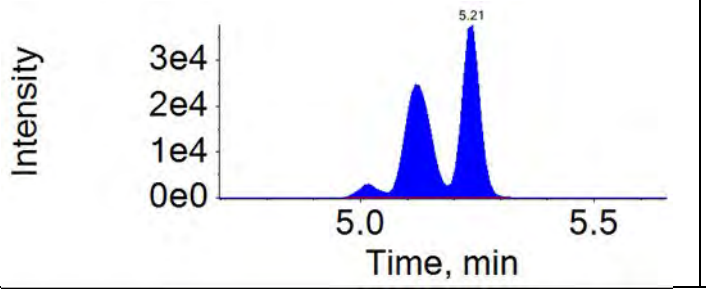
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

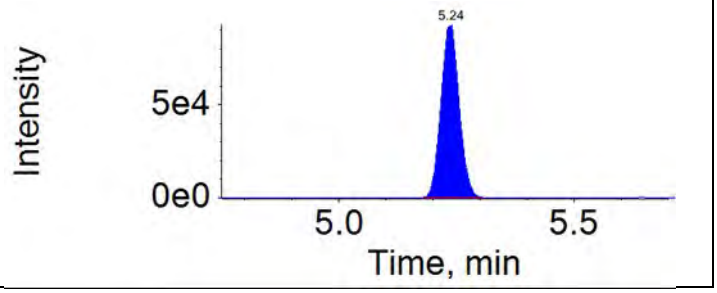
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



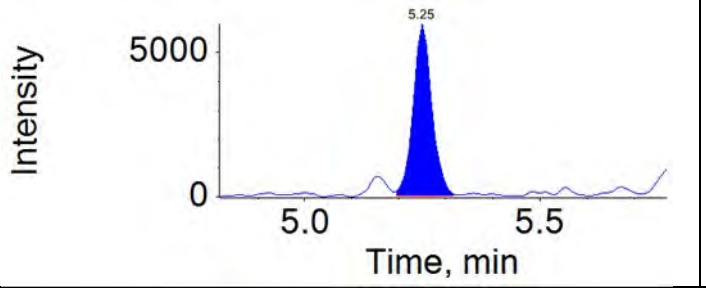


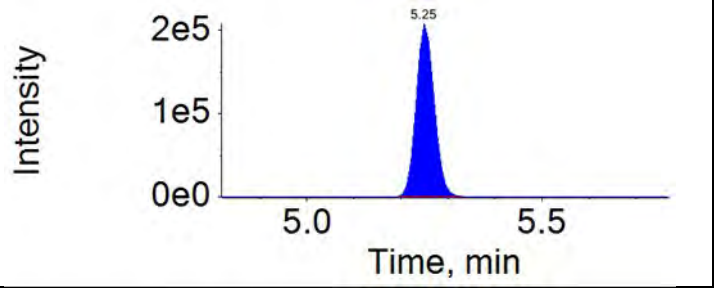
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



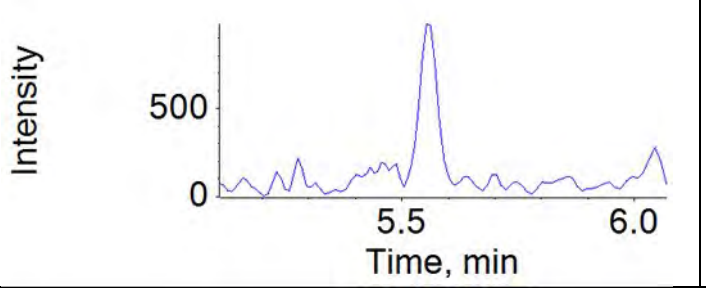


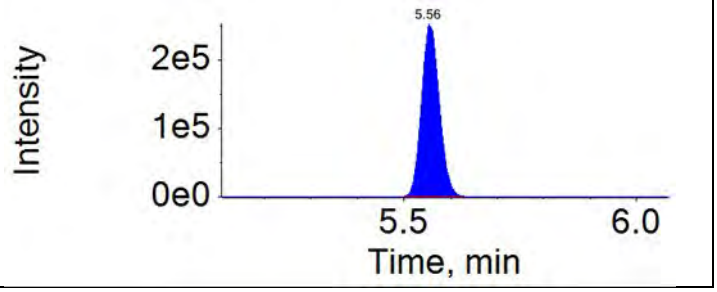
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





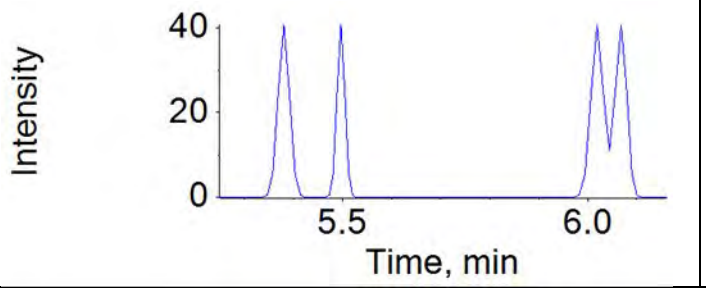
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

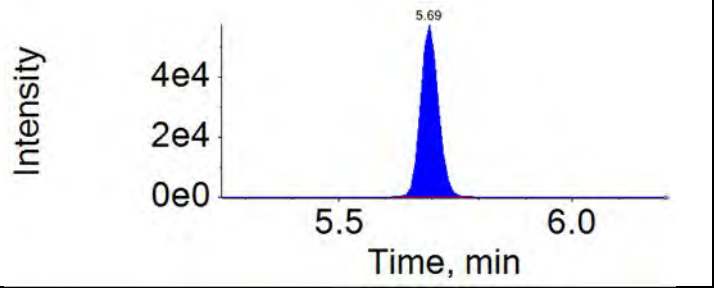




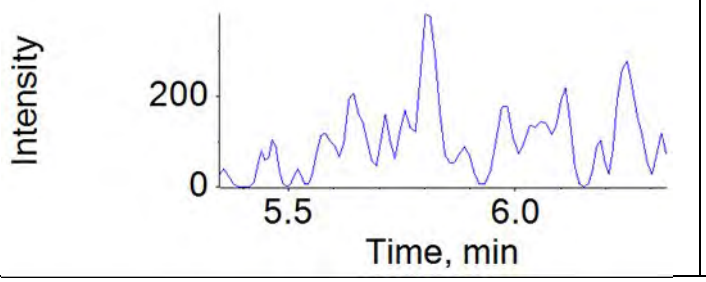
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

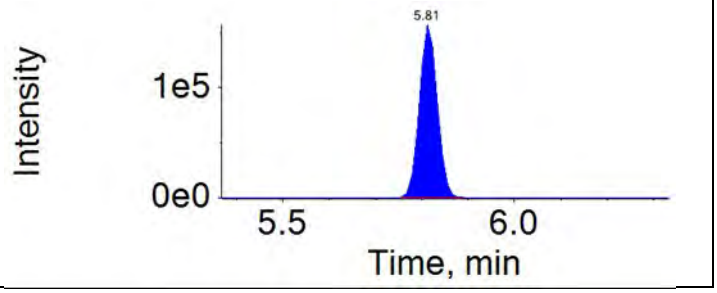
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



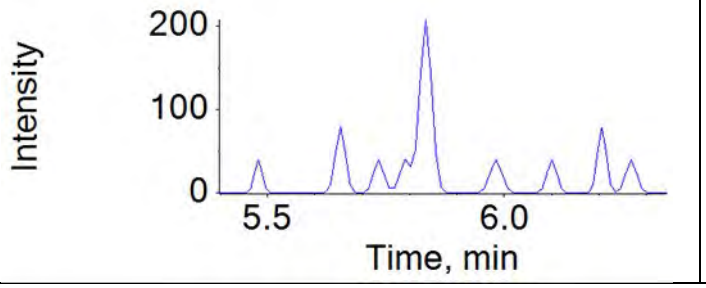


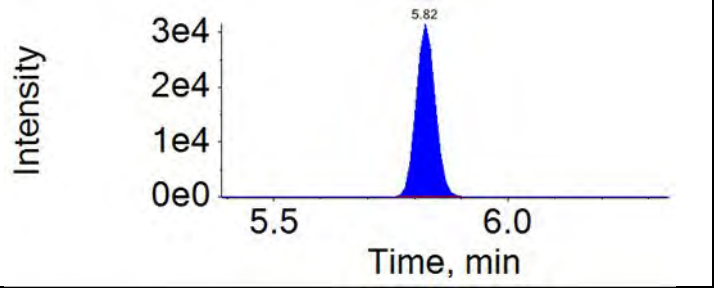
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



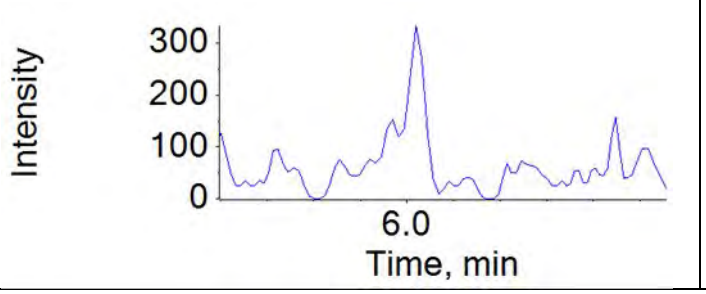


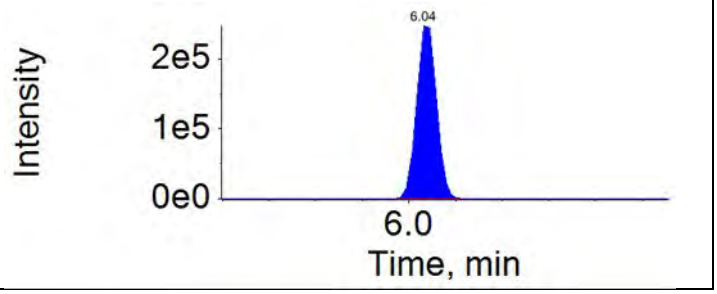
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





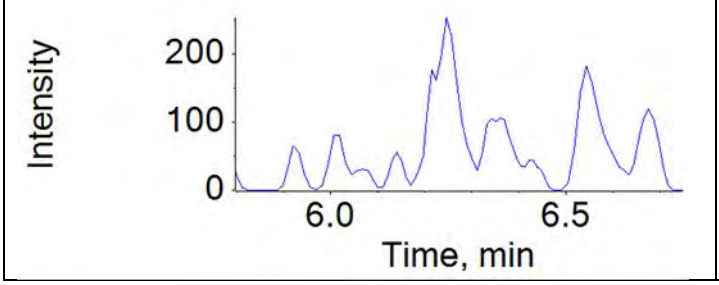
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

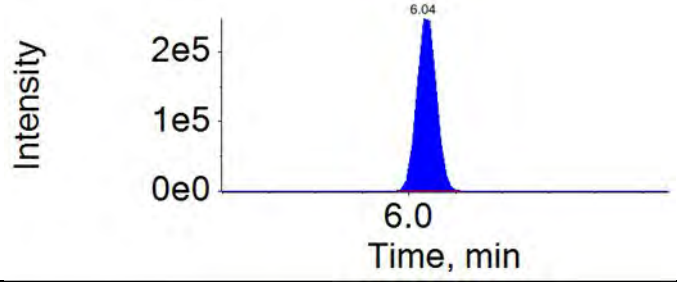




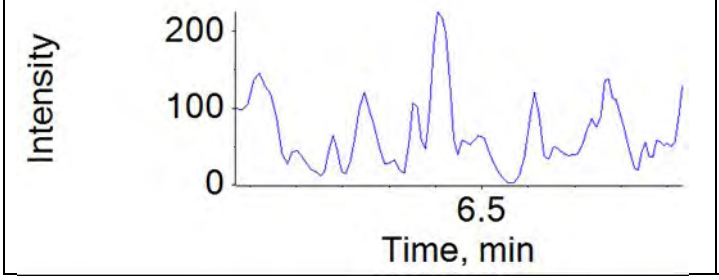
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

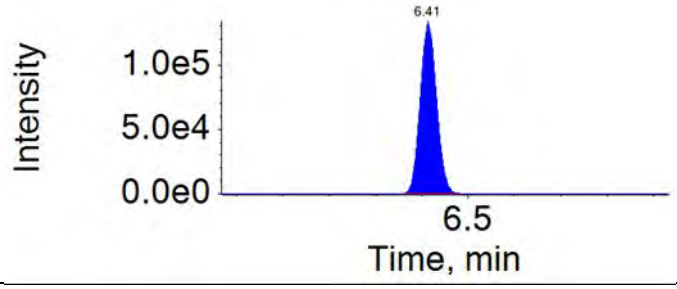
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





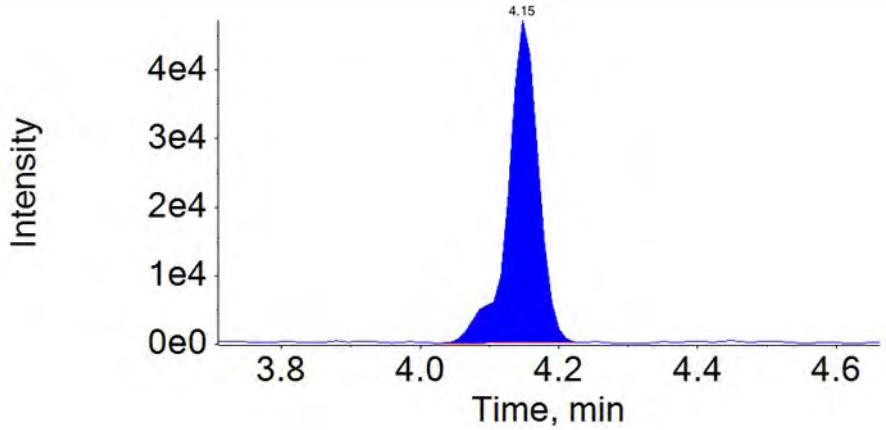
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





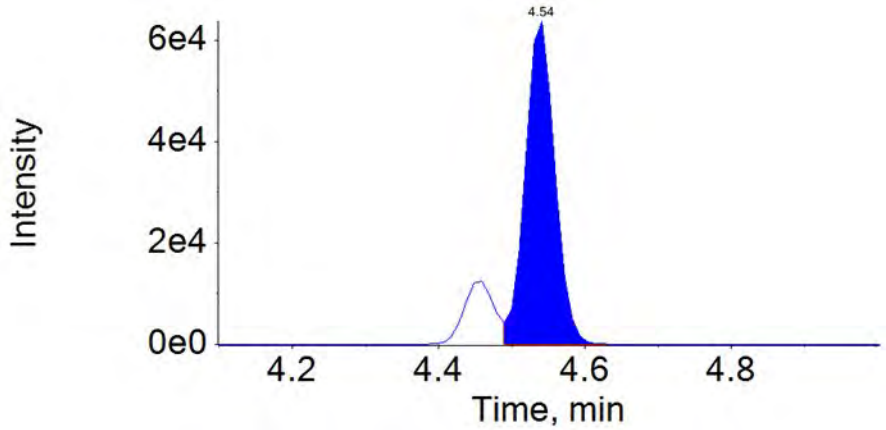
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
144161.2
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



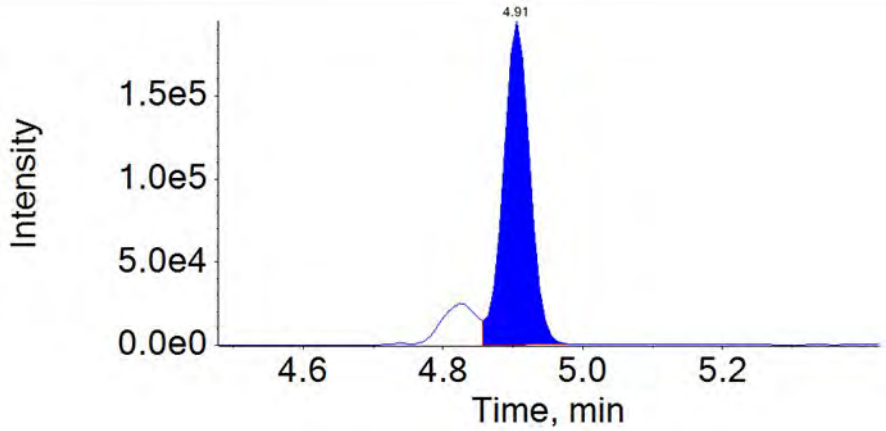
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
179836.3
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



Integration Comment: incorrect integration

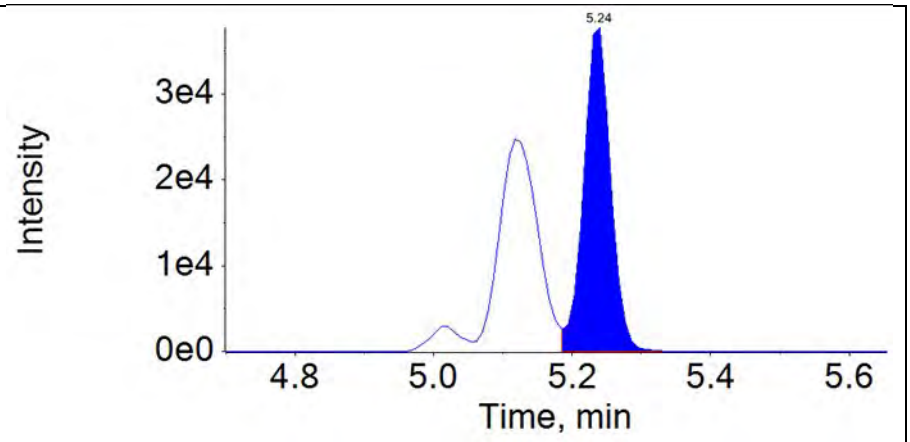
Component Name:
PFOA
RT (min.):
4.91
Peak Area:
511940.2
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



Integration Comment: incorrect integration

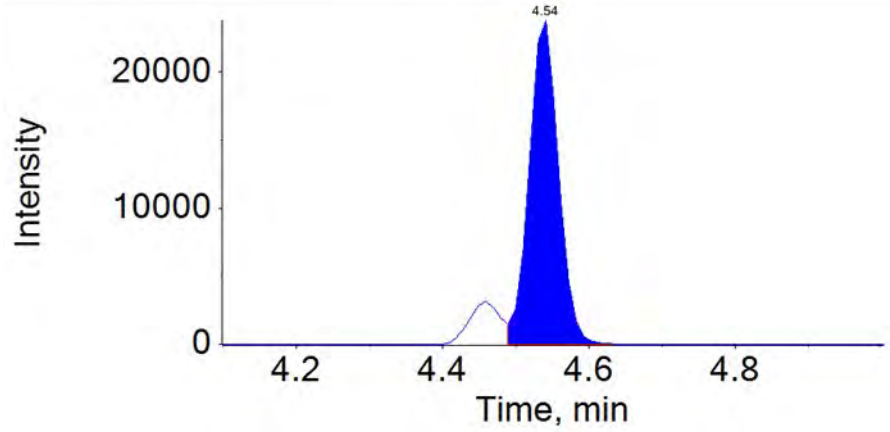
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
102387.0
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



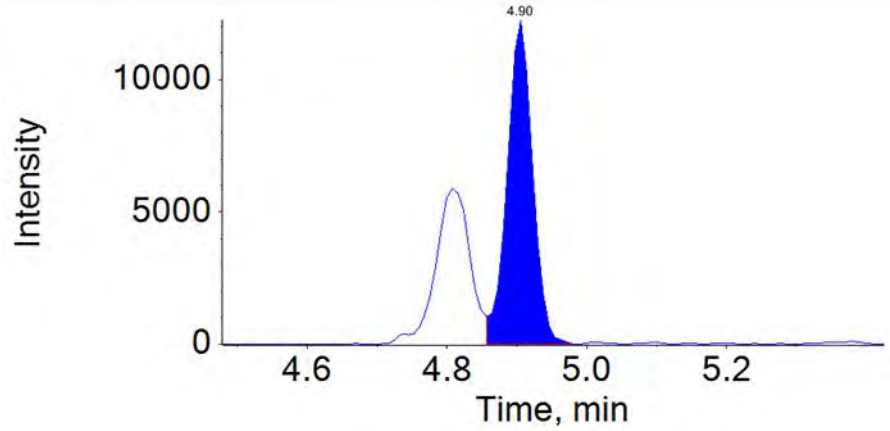
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
66466.9
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.90
Peak Area:
30936.1
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778

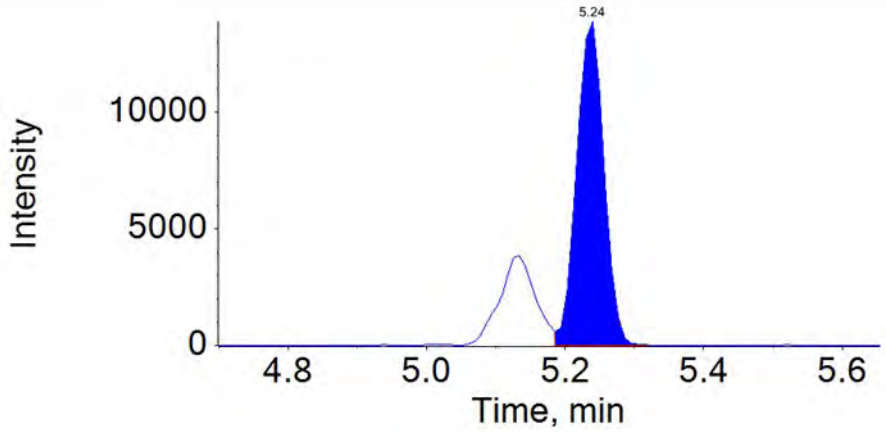


Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
38191.0
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-28.wiff
Sample Name:
9934778



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

Ion Ratio Report

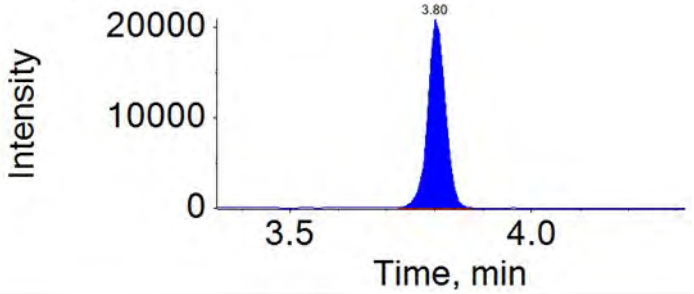
Sample Name: 9934778 **Instrument Name:** LM27631 **File Name:** 18DEC19D-28.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	52504.5	A	N/A	1.0000			
PFBS_2	3.80	1.00	19861.0	A	N/A	0.3783	3	50	
PFHxA	4.15	1.00	134811.7	M	N/A	1.0000			
PFHxA_2	4.15	1.00	1031.3	A	N/A	0.0076	-33	50	
PFHpA	4.54	1.00	55363.5	A	N/A	1.0000			
PFHpA_2	4.54	1.00	2463.1	A	N/A	0.0445	-19	50	
PFHxS	4.54	1.00	215857.1	M	N/A	1.0000			
PFHxS_2	4.54	1.00	75709.8	M	N/A	0.3507	4	50	
PFOA	4.91	1.00	599991.9	M	N/A	1.0000			
PFOA_2	4.90	1.00	50578.5	M	N/A	0.0843	43	50	
PFOS	5.21	0.99	207353.7	M	N/A	1.0000			
PFOS_2	5.24	1.00	52150.0	M	N/A	0.2515	-16	50	
PFNA	5.25	1.00	16320.9	A	N/A	1.0000			
PFNA_2	5.24	1.00	462.6	A	N/A	0.0283	32	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

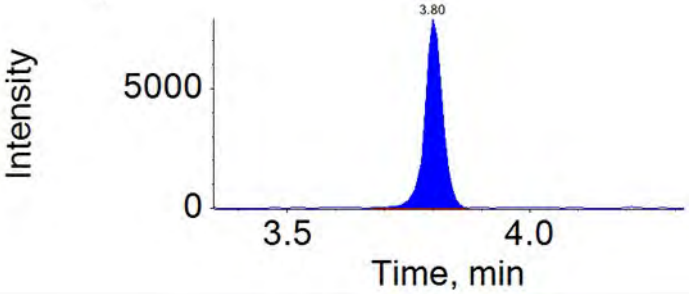
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

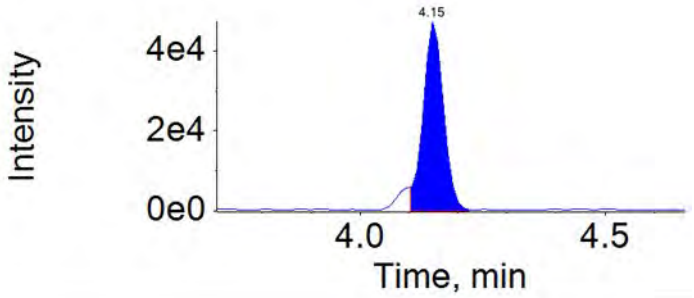
Component: PFBS
Primary Mass: 299.0 / 80.0



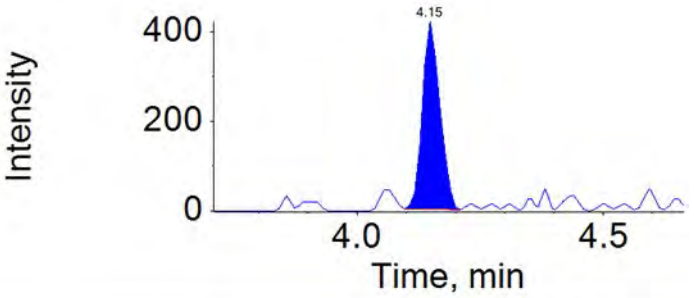
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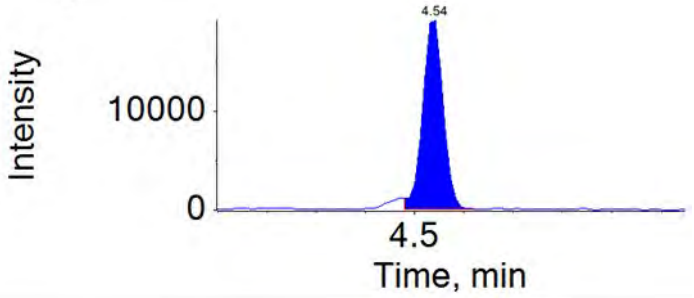
Component: PFHxA
Primary Mass: 313.0 / 269.0



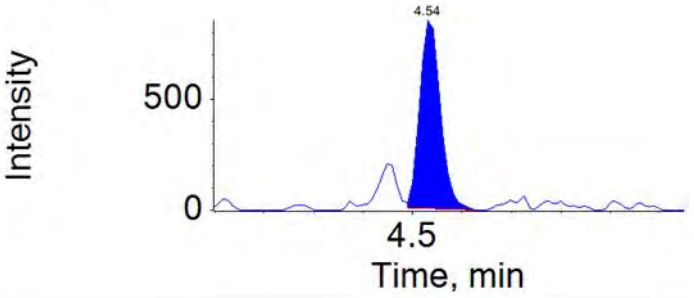
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



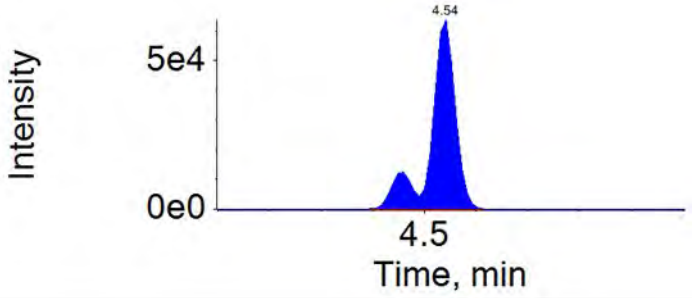
Component: PFHpA
Primary Mass: 363.0 / 319.0



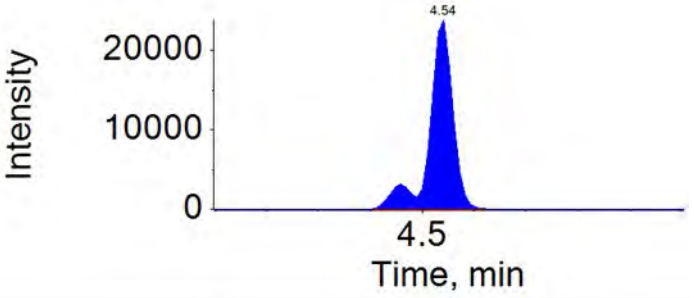
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



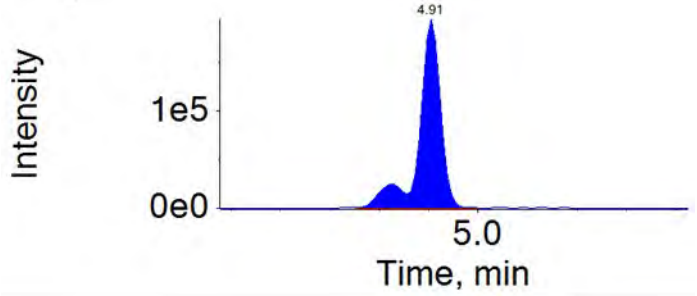
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



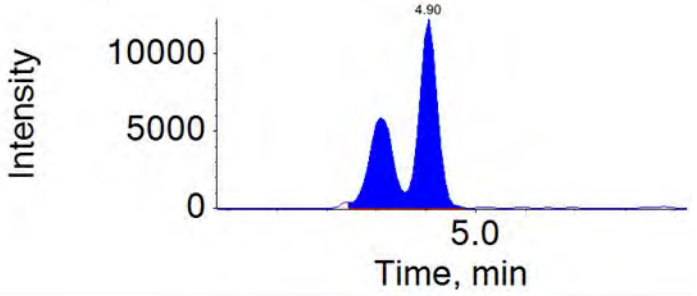
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

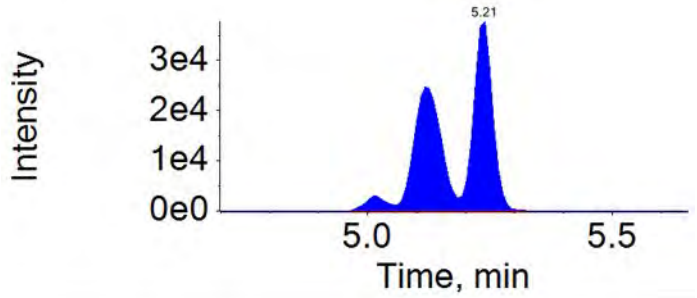
Component: PFOA
Primary Mass: 413.0 / 369.0



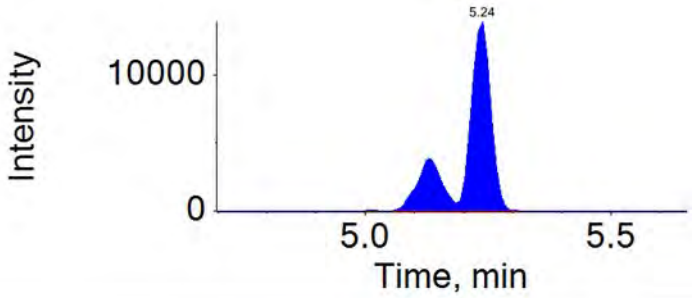
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



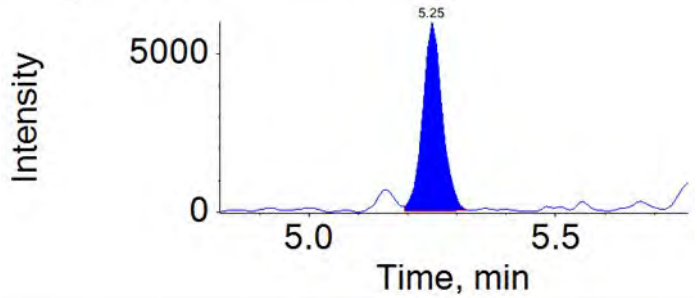
Component: PFOS
Primary Mass: 499.0 / 80.0



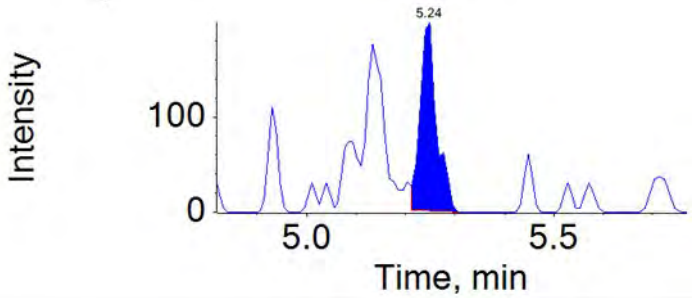
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



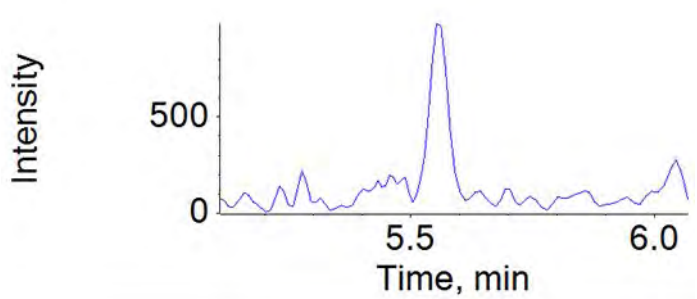
Component: PFNA
Primary Mass: 463.0 / 419.0



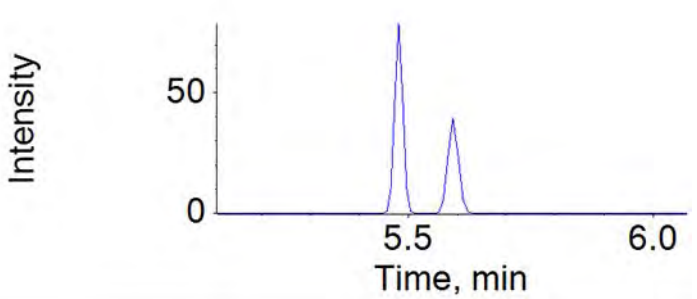
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



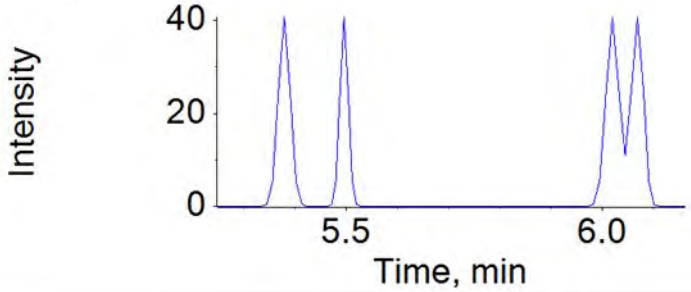
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



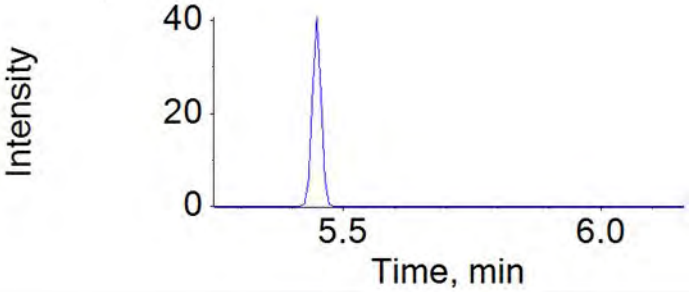
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

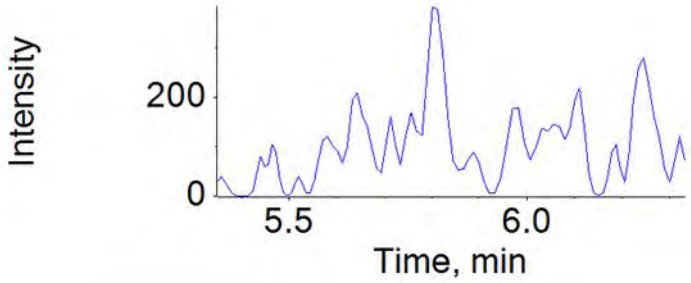
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



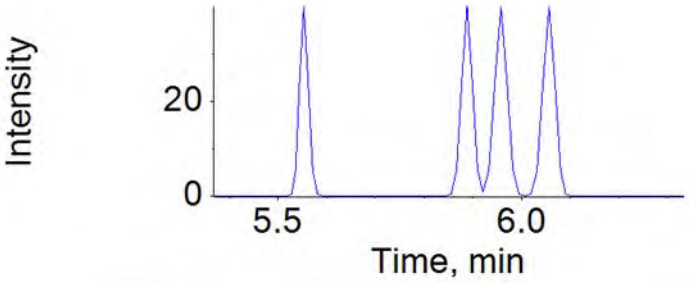
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



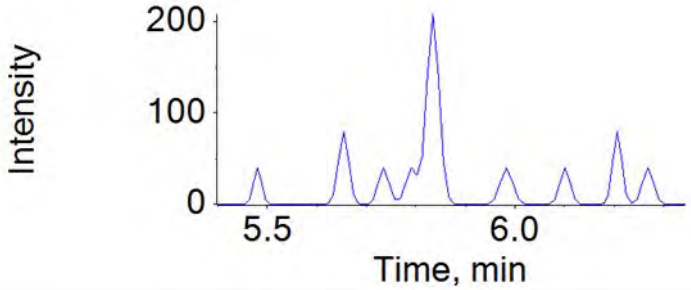
Component: PFUnDA
Primary Mass: 563.0 / 519.0



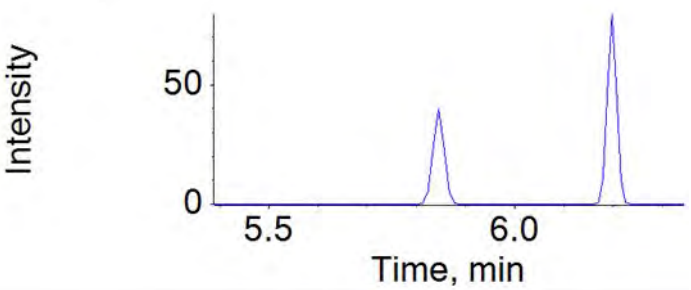
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



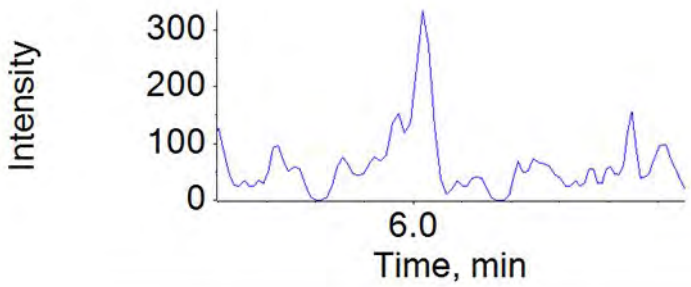
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



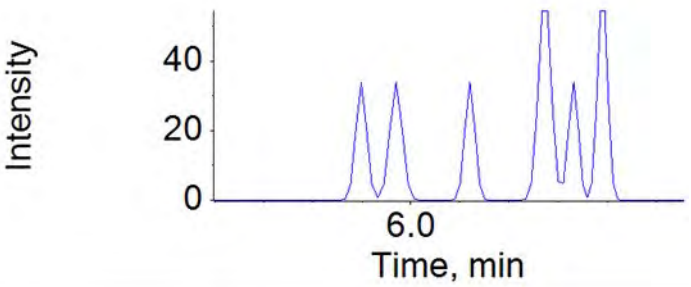
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



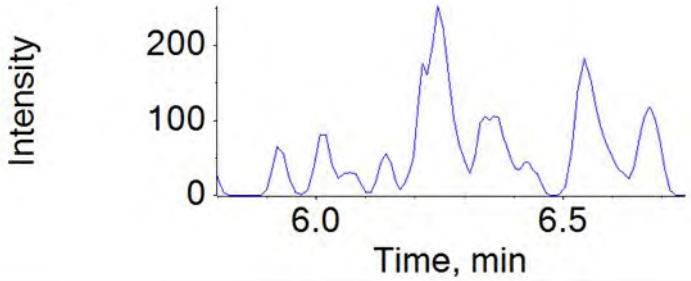
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



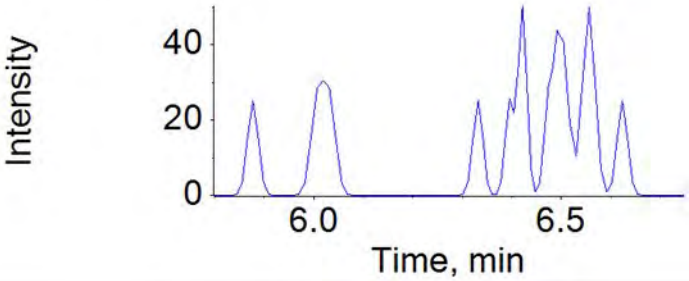
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

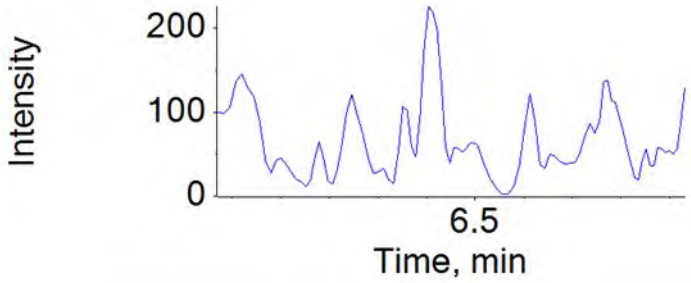
Component: PFTrDA
Primary Mass: 663.0 / 619.0



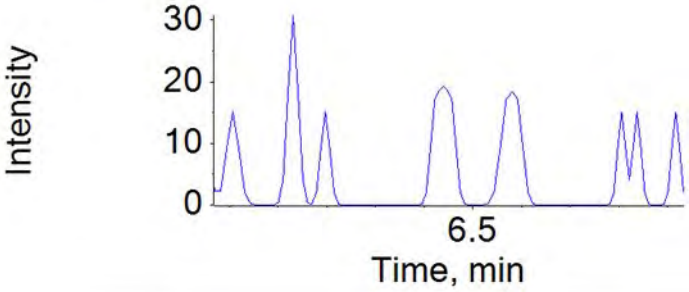
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934778RE			**Data File:**		18DEC26D-62.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18360005 OU1-Y9-5-01 Grab Groundwater			**Acquis Date:**		2018-12-27T00:31:32
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	15			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18360005
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	18360005			**Operator:**		MCD7824
Sample Wt.:	0.20067			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	945509.6	965438.2	-2	50	
13C2-PFOA	5.0	538702.8	527066.0	2	50	
13C4-PFOS	4.8	305167.2	307230.6	-1	50	
13C2-PFDA	5.0	508210.1	493258.9	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	472465.7	13C3-PFBA	945509.6	0.500	23.172	24.193	104	50-150	
E13C5-PFHxA	795857.1	13C2-PFOA	538702.8	1.477	24.917	26.933	108	50-150	
E13C3-PFHxS	375021.1	13C2-PFOA	538702.8	0.696	23.571	26.658	113	50-150	
E13C4-PFHpA	654368.8	13C2-PFOA	538702.8	1.215	24.917	27.271	109	50-150	
E13C8-PFOA	1071983.5	13C2-PFOA	538702.8	1.990	24.917	27.784	112	50-150	
E13C8-PFOS	355291.7	13C4-PFOS	305167.2	1.164	23.820	25.292	106	50-150	
E13C9-PFNA	721154.0	13C4-PFOS	305167.2	2.363	24.917	25.943	104	50-150	
E13C6-PFDA	914007.9	13C2-PFDA	508210.1	1.798	24.917	25.733	103	50-150	
Ed3-NMeFOSAA	215555.8	13C2-PFDA	508210.1	0.424	24.917	26.971	108	50-150	
E13C7-PFUnDA	641221.9	13C2-PFDA	508210.1	1.262	24.917	27.168	109	50-150	
Ed5-NEtFOSAA	139737.9	13C2-PFDA	508210.1	0.275	24.917	23.742	95	50-150	
E13C2-PFDoDA	1217092.8	13C2-PFDA	508210.1	2.395	24.917	25.885	104	50-150	
E13C2-PFTeDA	714681.6	13C2-PFDA	508210.1	1.406	24.917	20.668	83	50-150	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

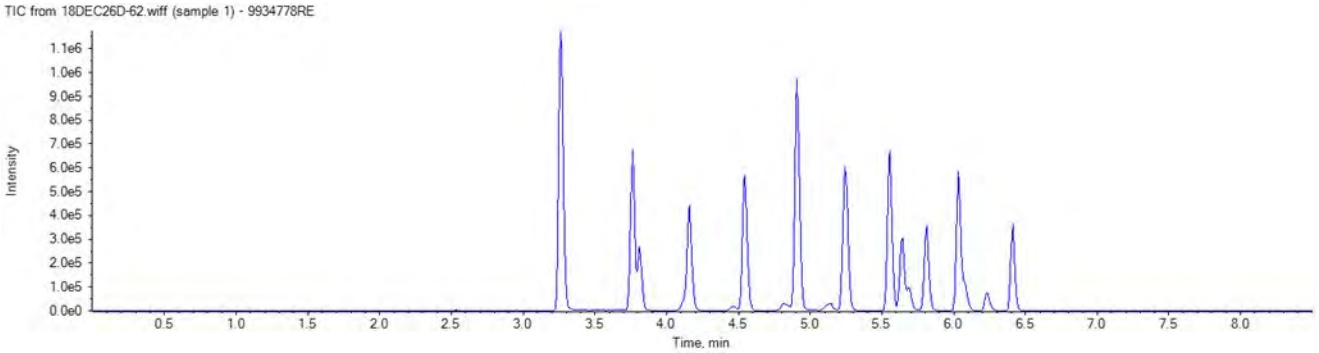
Analyte Quantitation Peak Table

Sample Name: 9934778RE **Instrument Name:** LM27631 **File Name:** 18DEC26D-62.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.20067	1.000	1.00	1.000

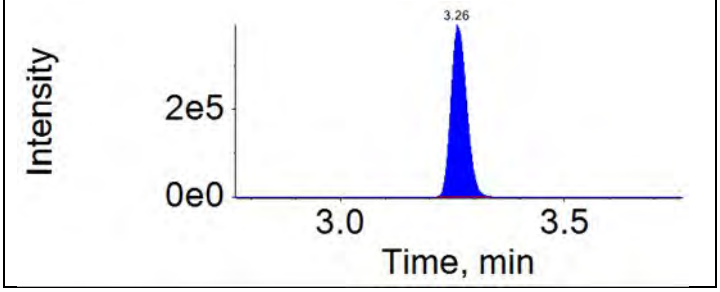
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	45373.1		A	13C3-PFBS	3.81	472465.7	0.096	2.375
PFHxA	4.16	1.000	143878.8		M	13C5-PFHxA	4.16	795857.1	0.181	3.698
PFHpA	4.54	1.000	80224.2		A	13C4-PFHpA	4.54	654368.8	0.123	1.931
PFHxS	4.55	1.000	187049.9		M	13C3-PFHxS	4.55	375021.1	0.499	11.623
PFOA	4.91	1.000	527810.5		M	13C8-PFOA	4.91	1071983.5	0.492	12.981
PFOS	5.21	0.990	193589.3		M	13C8-PFOS	5.24	355291.7	0.545	11.821
PFNA	5.25	1.000	24442.4		A	13C9-PFNA	5.25	721154.0	0.034	0.679
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	914007.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	215555.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	641221.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	139737.9	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.03	1217092.8	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.03	1217092.8	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	714681.6	N/A	

Total Ion Chromatogram

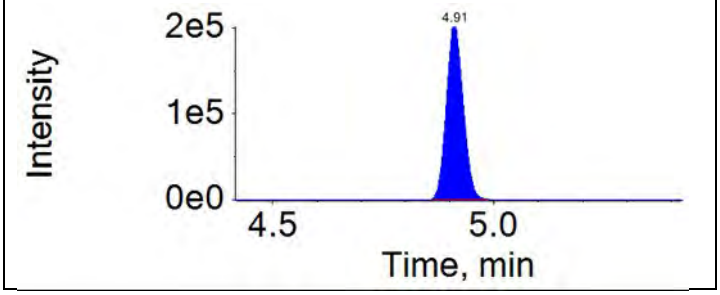


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

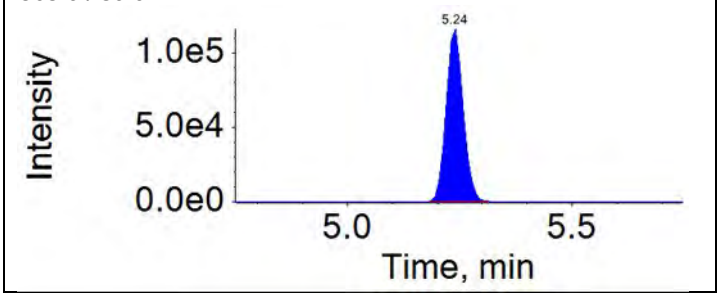
Injection Standard: 13C3-PFBA
216.0 / 172.0



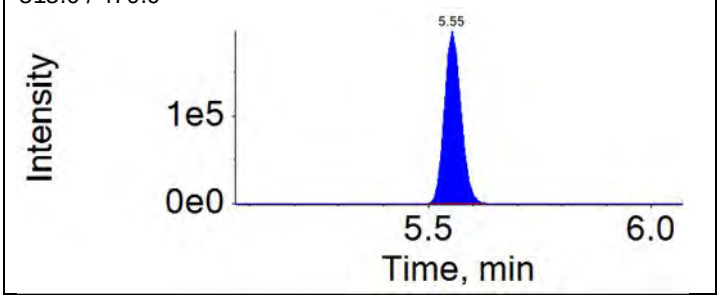
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

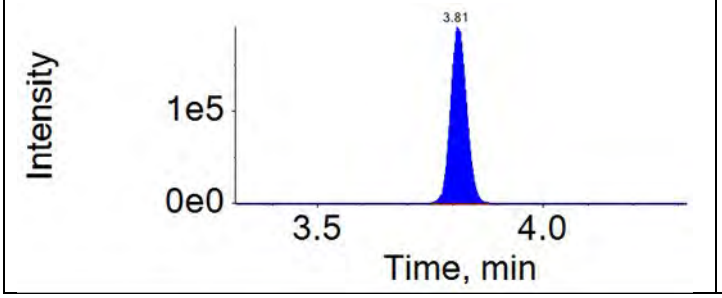


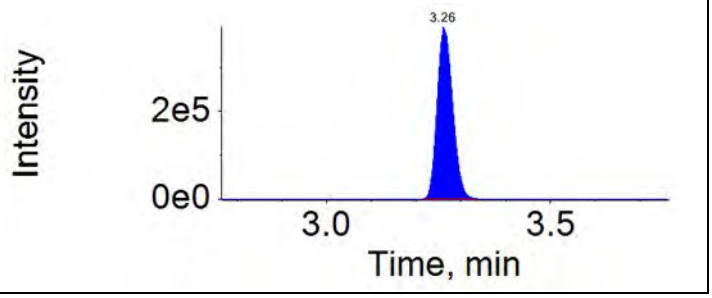
Injection Standard: 13C2-PFDA
515.0 / 470.0



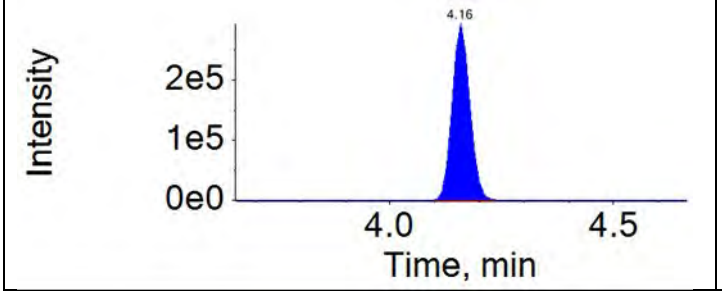
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QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

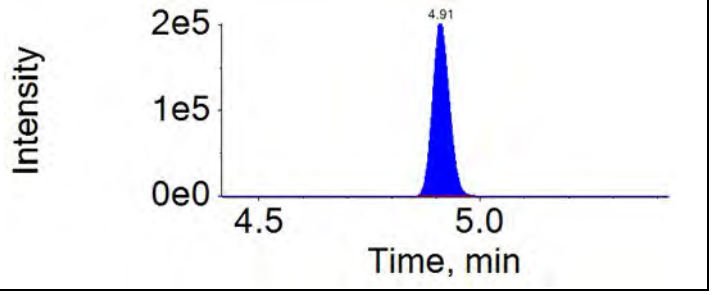
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



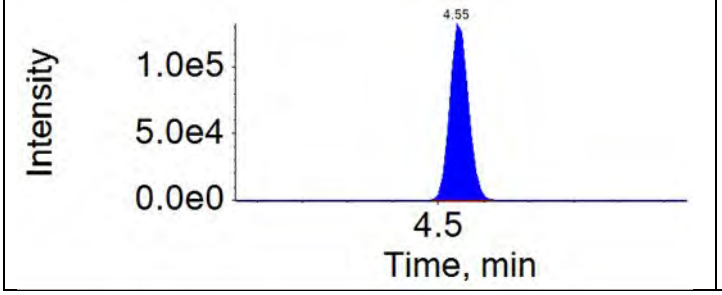


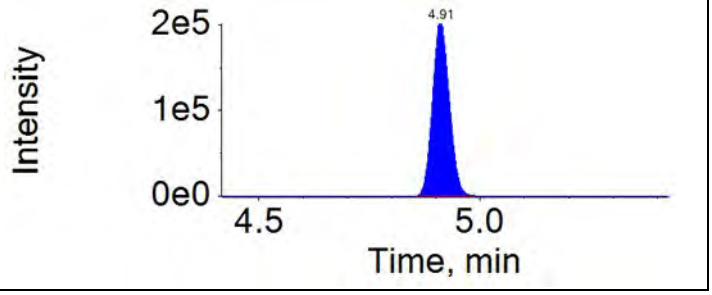
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



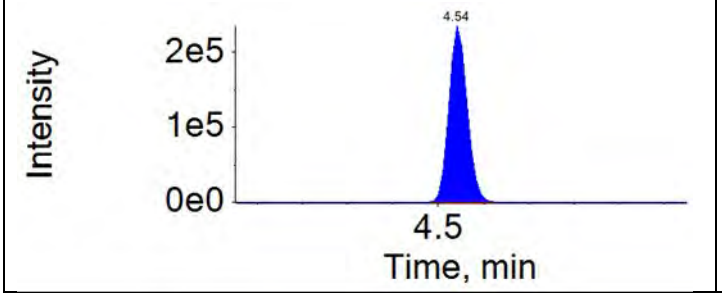


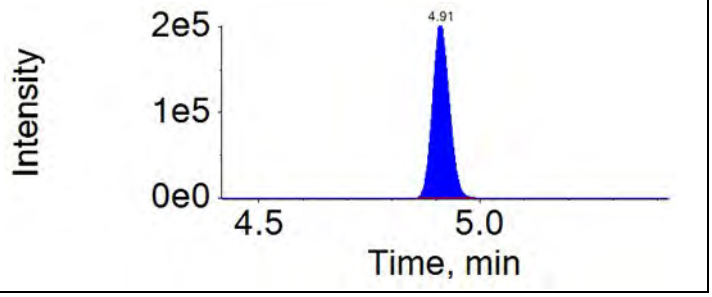
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



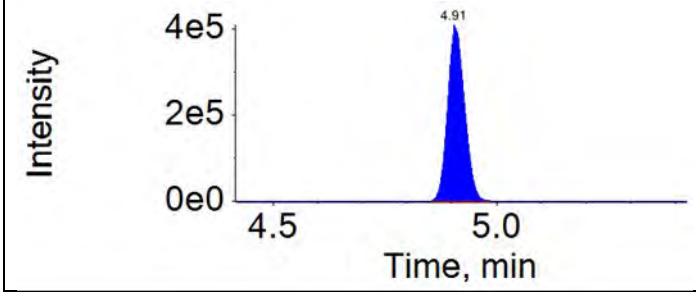
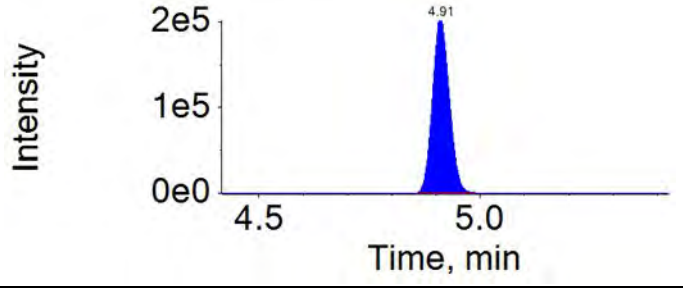


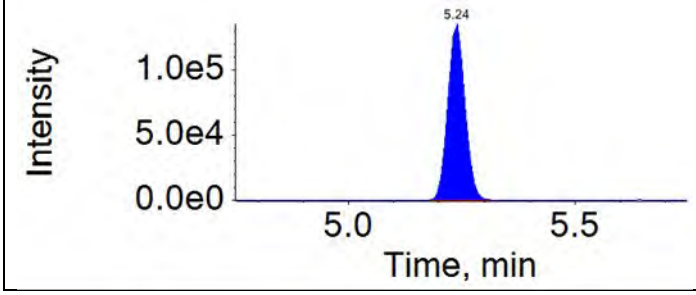
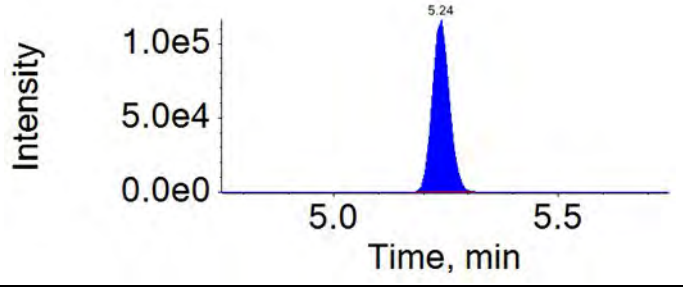
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

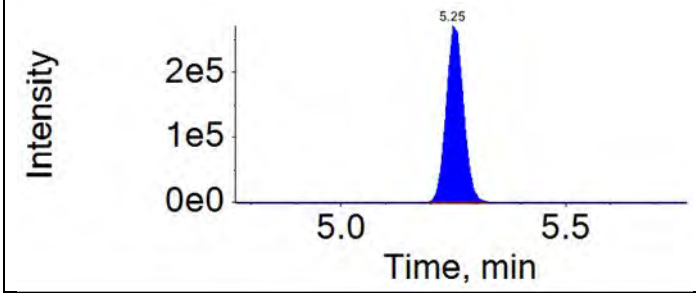
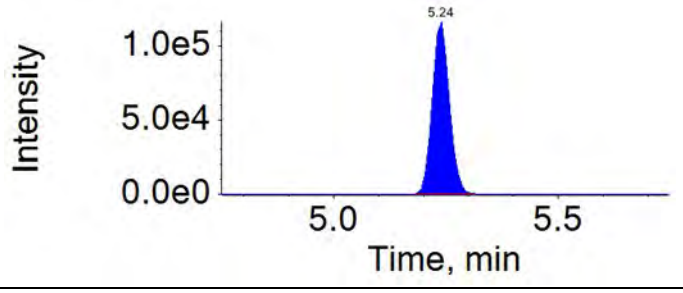


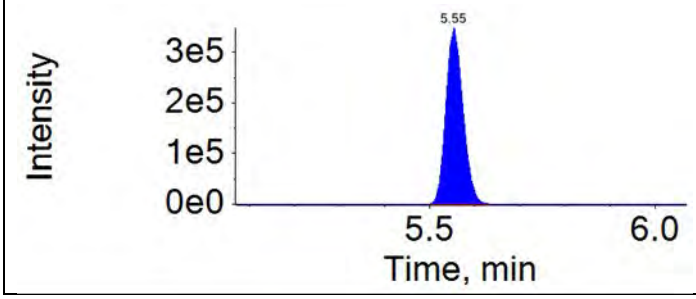
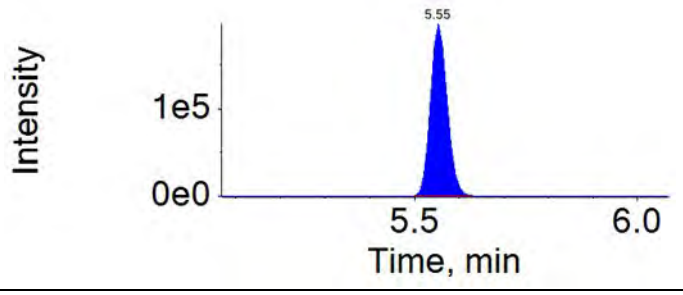


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

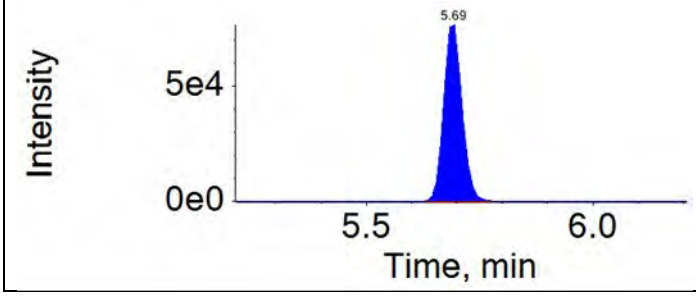
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

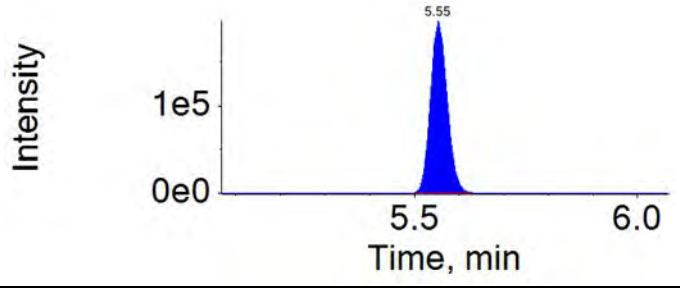
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

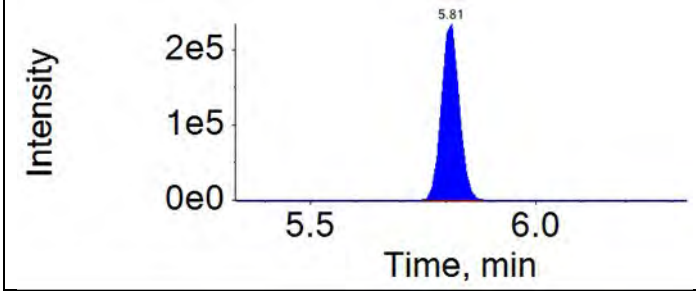
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

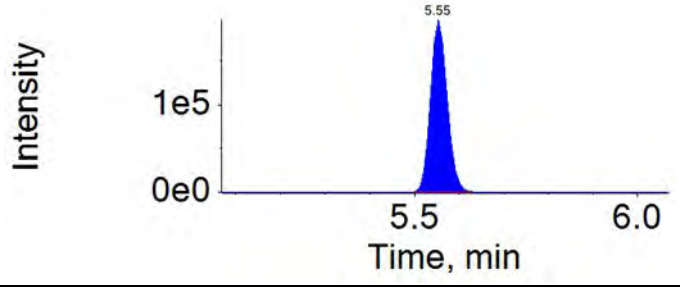
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



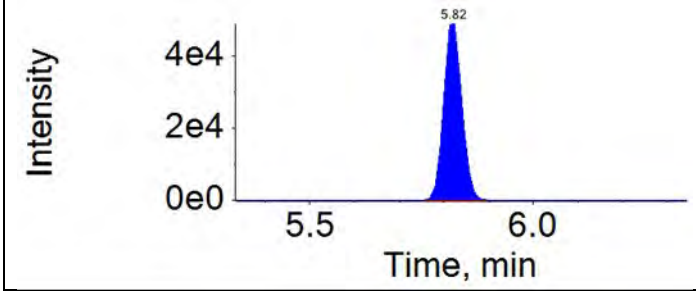


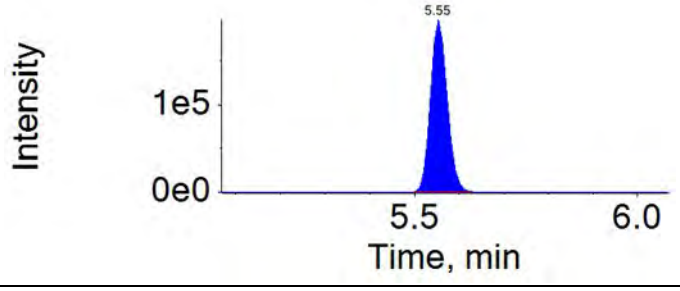
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



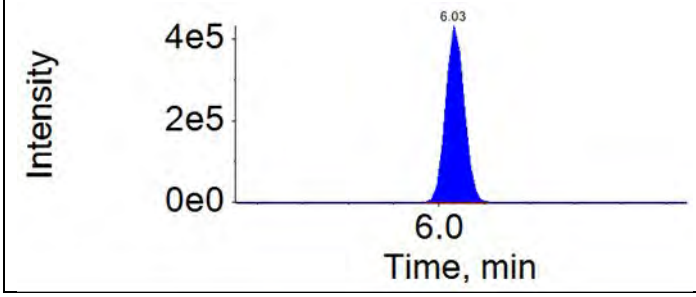


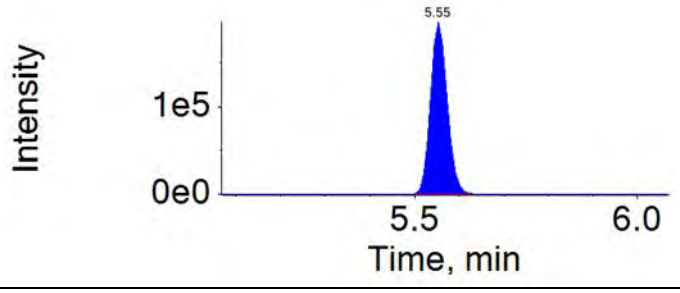
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



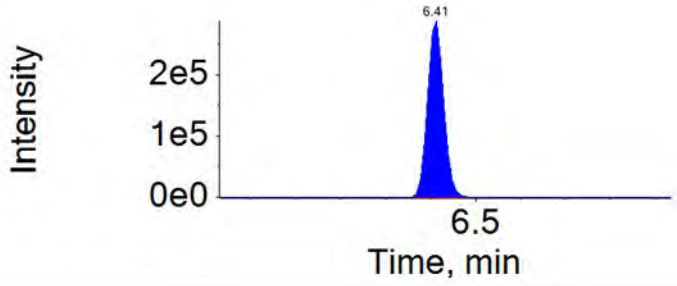
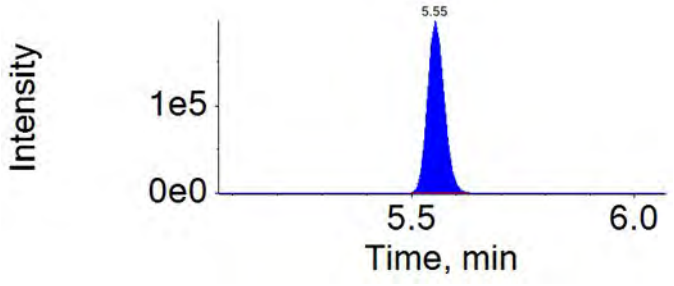


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

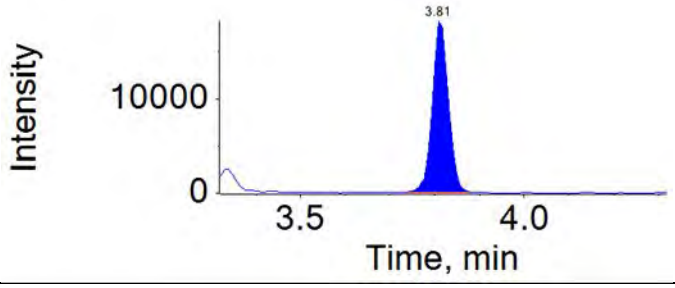
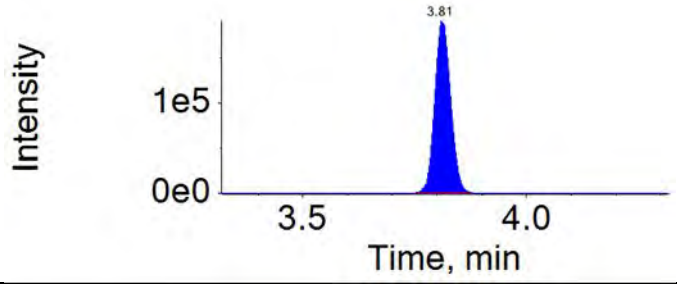


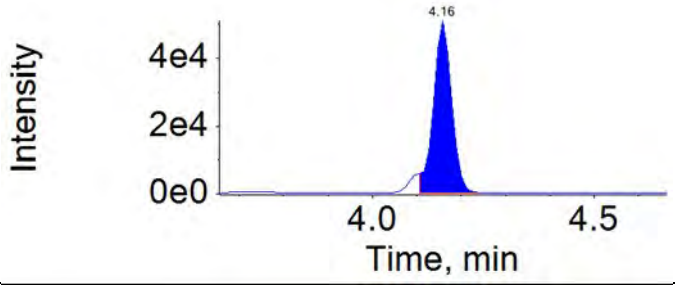
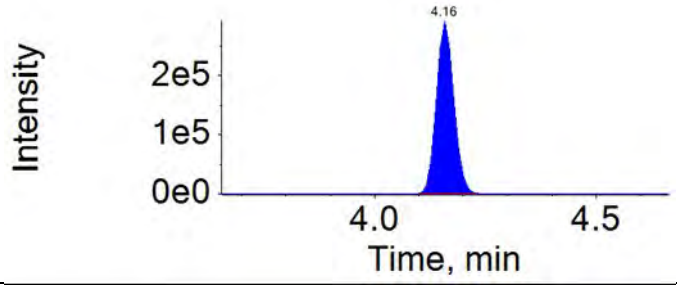


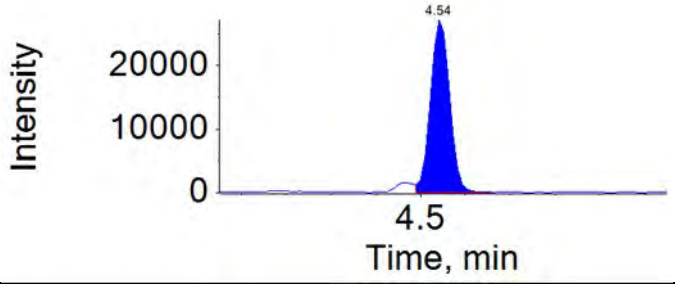
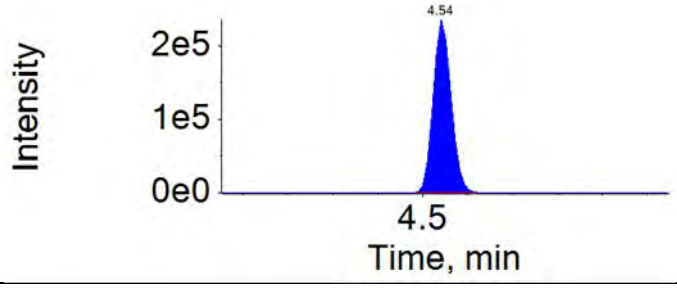
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

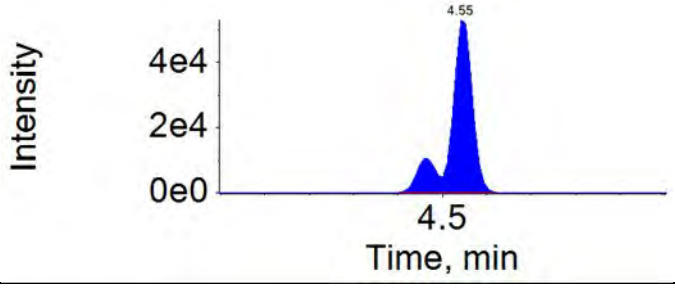
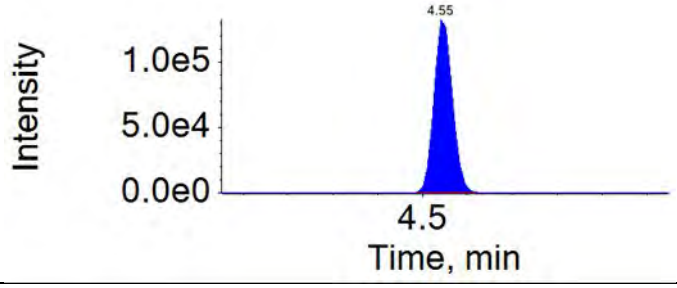
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

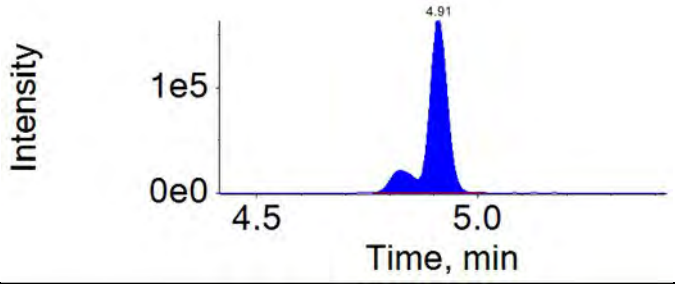
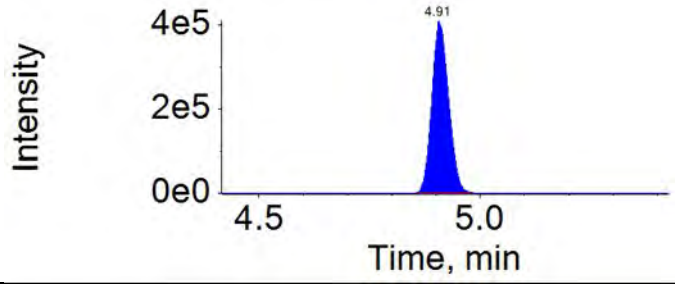
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

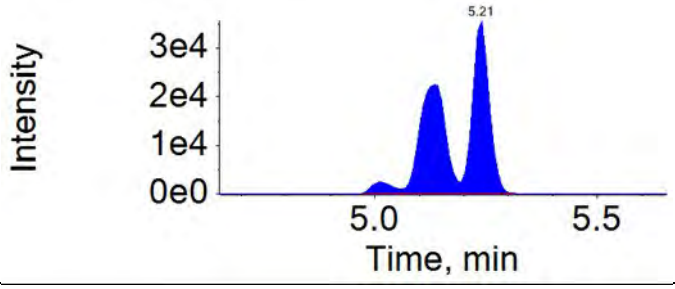
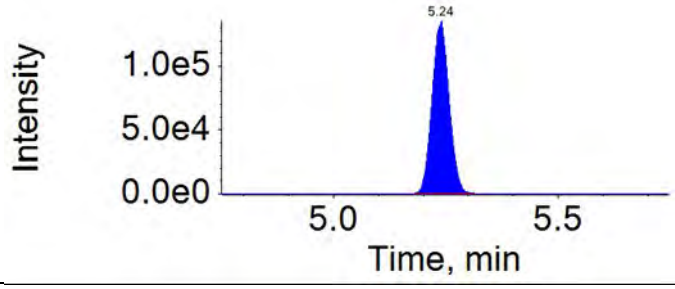
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

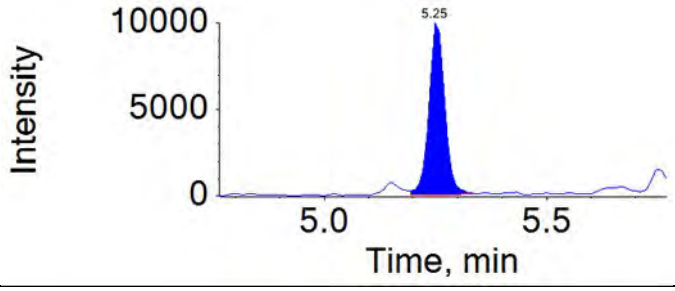
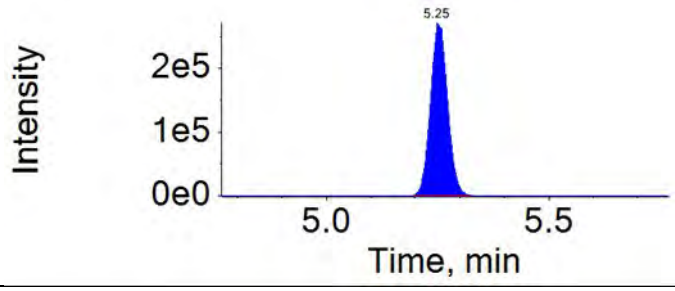
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

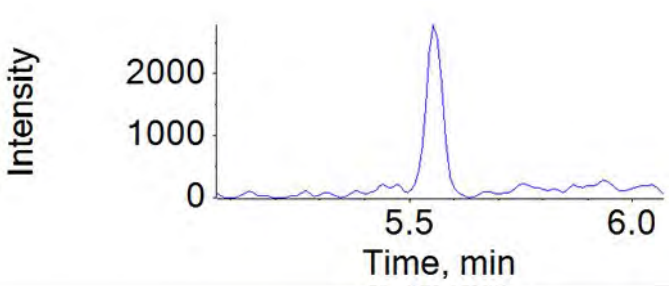
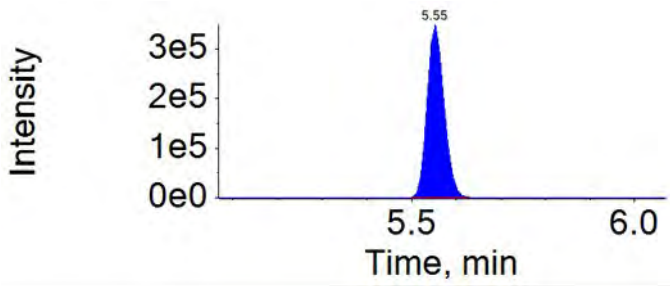
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

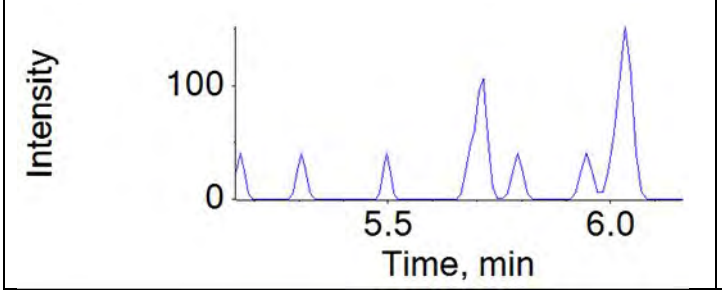
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

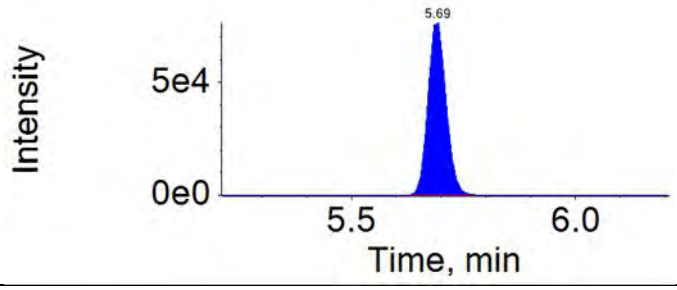
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

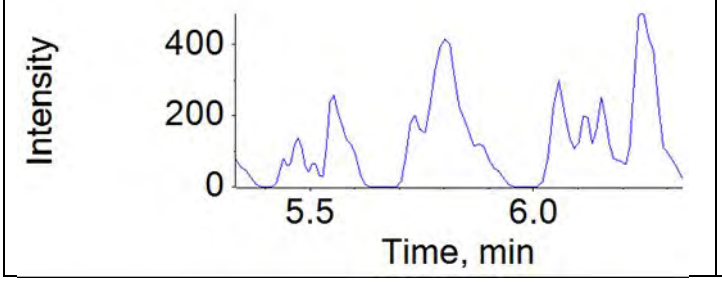
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

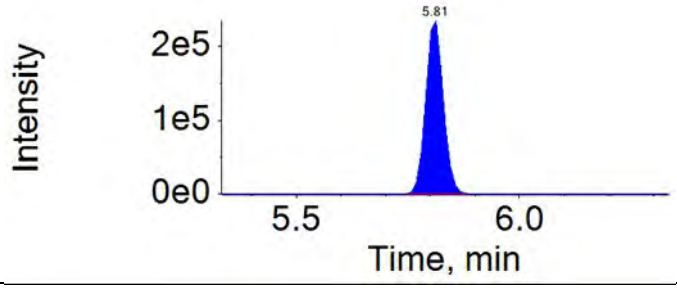
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



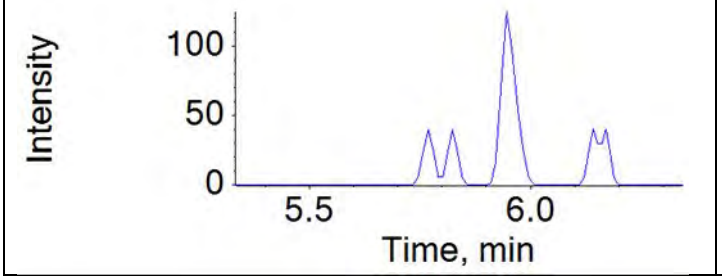


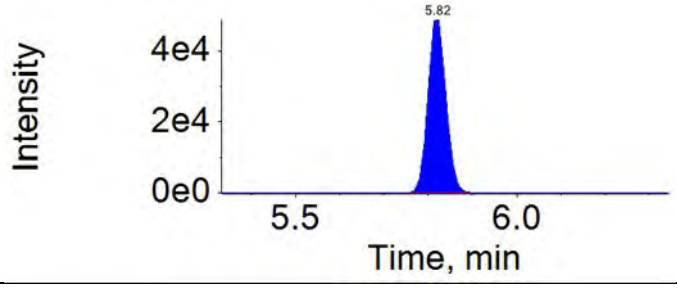
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



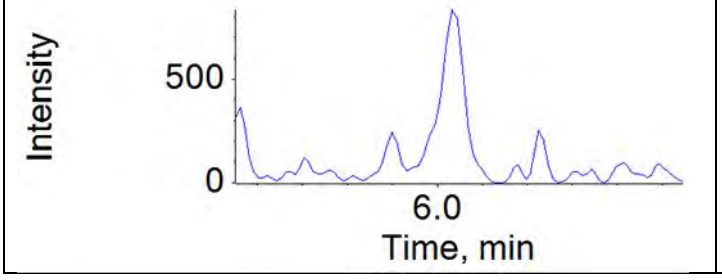


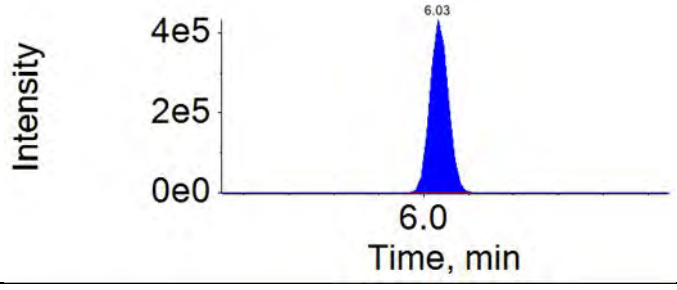
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

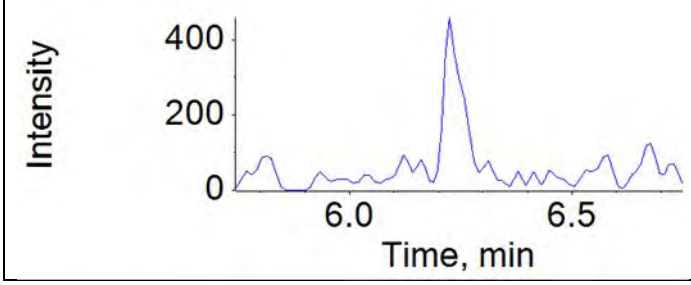
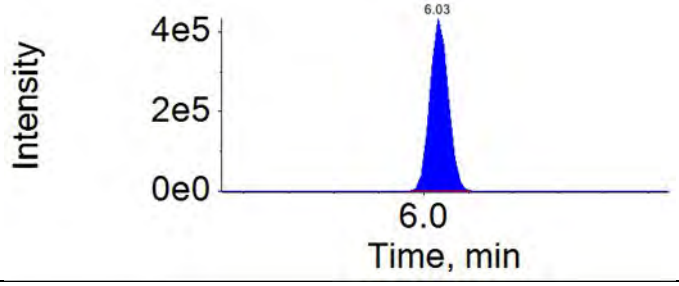


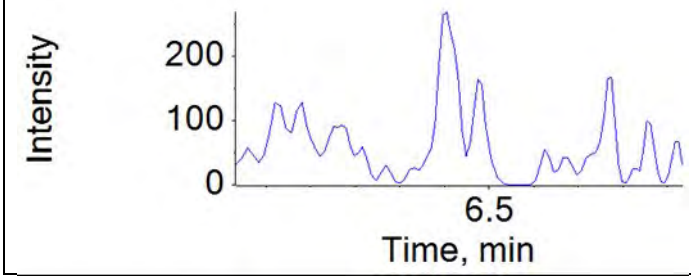
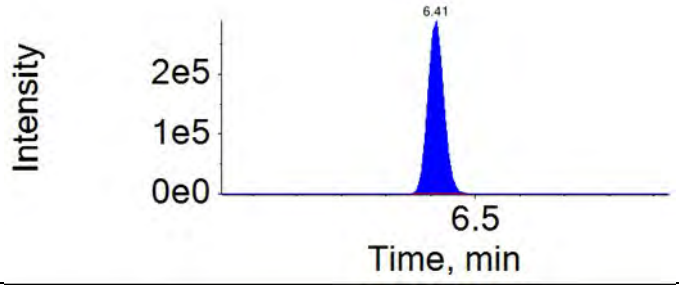


APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

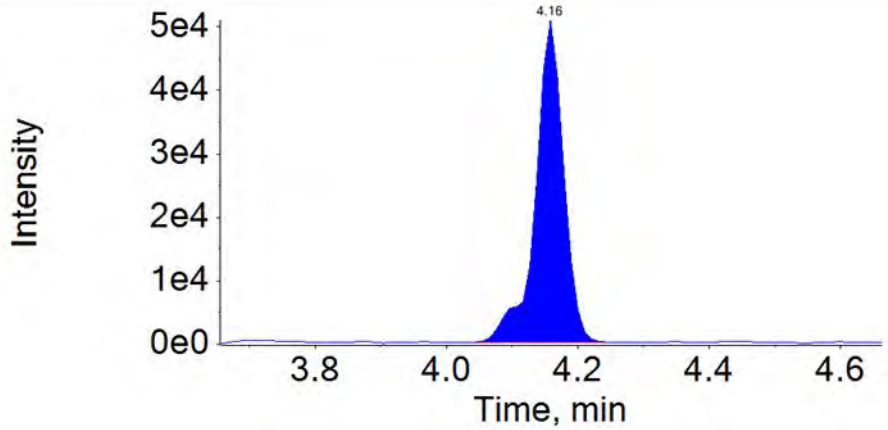
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

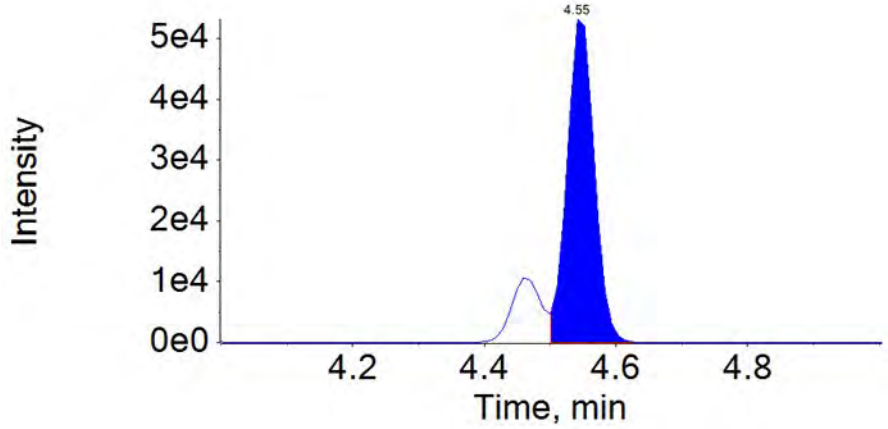
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
153138.2
Mass Range:
313.0 / 269.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



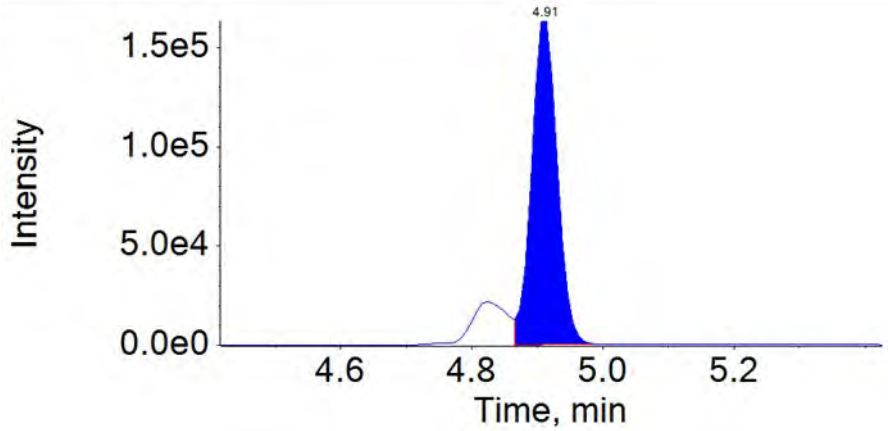
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
153898.4
Mass Range:
399.0 / 80.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



Integration Comment: incorrect integration

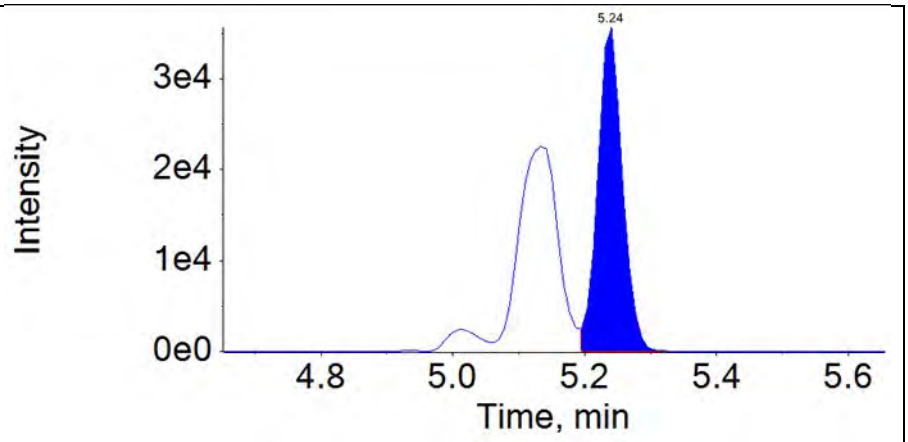
Component Name:
PFOA
RT (min.):
4.91
Peak Area:
448420.8
Mass Range:
413.0 / 369.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



Integration Comment: incorrect integration

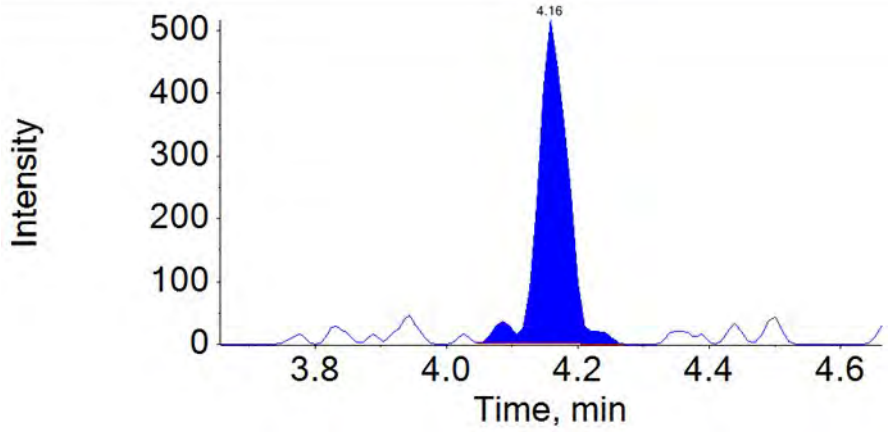
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
92765.6
Mass Range:
499.0 / 80.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



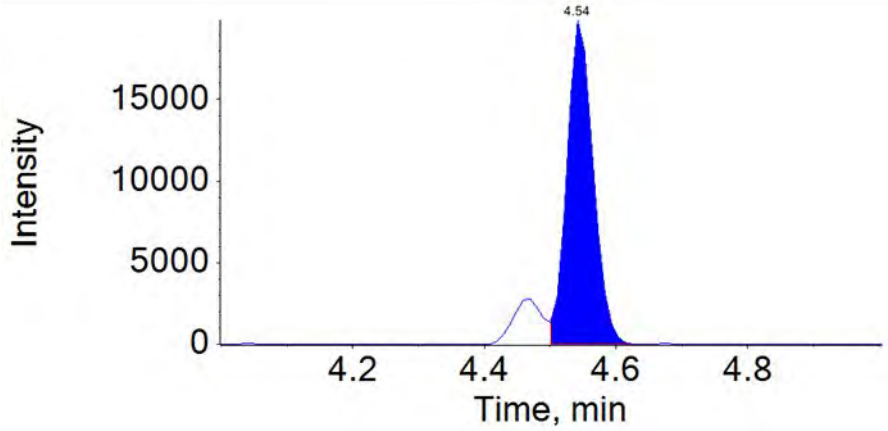
Integration Comment: incorrect integration

Component Name:
PFHxA_2
RT (min.):
4.16
Peak Area:
1620.0
Mass Range:
313.0 / 119.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
54978.5
Mass Range:
399.0 / 99.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



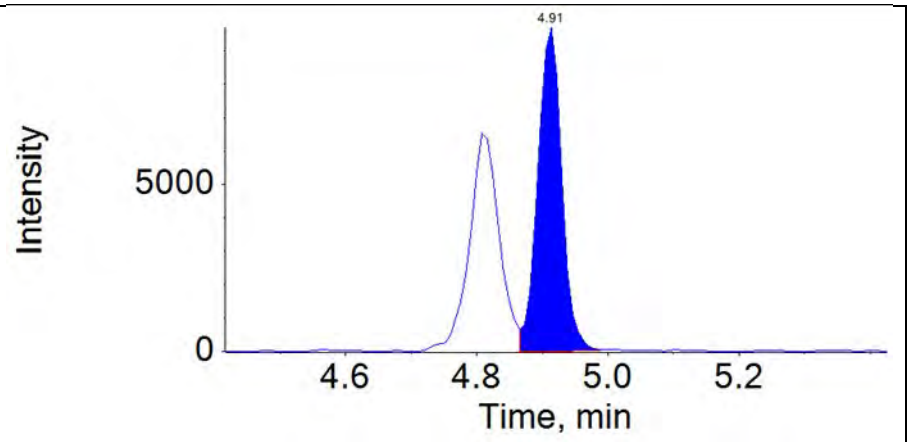
Integration Comment: incorrect integration

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

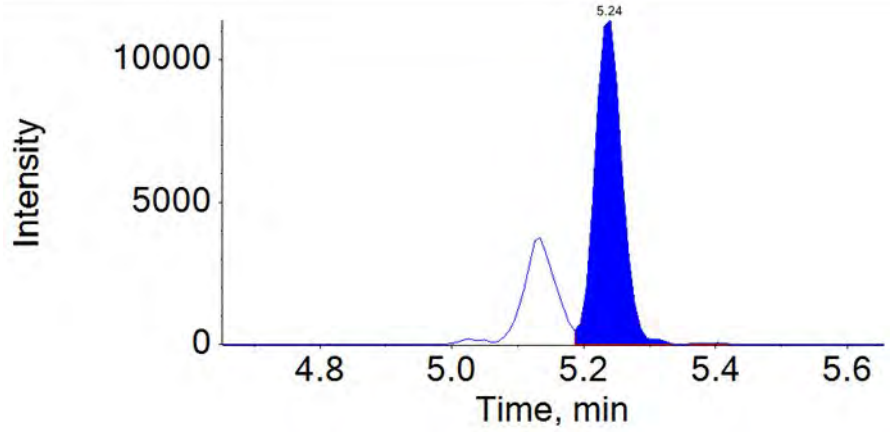
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
24692.6
Mass Range:
413.0 / 169.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



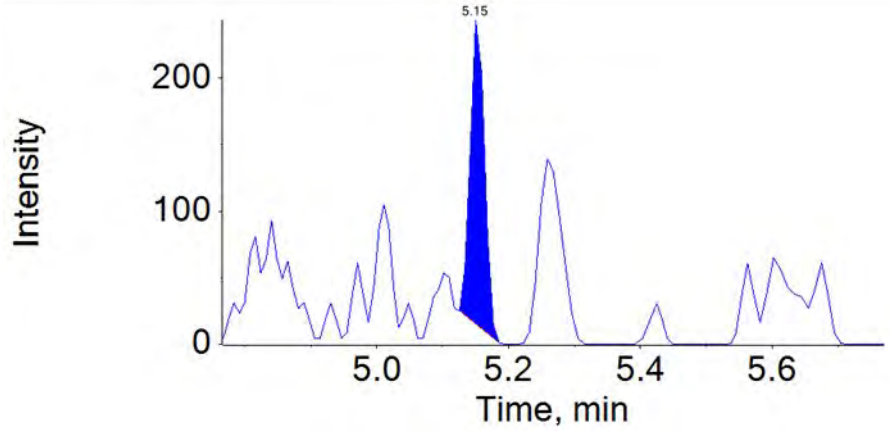
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
33095.3
Mass Range:
499.0 / 99.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



Integration Comment: incorrect integration

Component Name:
PFNA_2
RT (min.):
5.15
Peak Area:
343.3
Mass Range:
463.0 / 169.0
File Name:
18DEC26D-62.wiff
Sample Name:
9934778RE



Integration Comment: incorrect integration

Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Ion Ratio Report

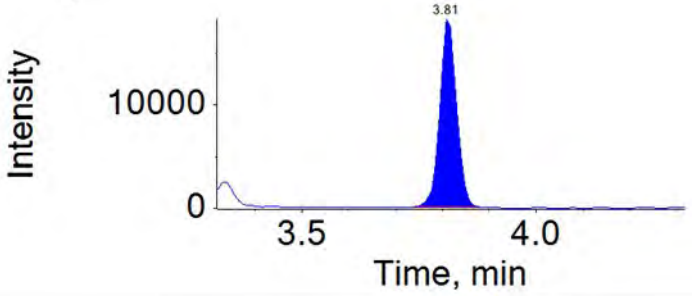
Sample Name: 9934778RE **Instrument Name:** LM27631 **File Name:** 18DEC26D-62.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	45373.1	A	N/A	0.3987			
PFBS_2	3.81	1.00	18091.3	A	N/A	0.3987	10	50	
PFHxA	4.16	1.00	143878.8	M	N/A	0.0109			
PFHxA_2	4.16	1.00	1563.7	M	N/A	0.0109	-11	50	
PFHpA	4.54	1.00	80224.2	A	N/A	0.0460			
PFHpA_2	4.54	1.00	3688.2	A	N/A	0.0460	-18	50	
PFHxS	4.55	1.00	187049.9	M	N/A	0.3401			
PFHxS_2	4.54	1.00	63623.3	M	N/A	0.3401	-5	50	
PFOA	4.91	1.00	527810.5	M	N/A	0.0863			
PFOA_2	4.89	1.00	45537.0	M	N/A	0.0863	59	50	OOS
PFOS	5.21	0.99	193589.3	M	N/A	0.2377			
PFOS_2	5.24	1.00	46008.7	M	N/A	0.2377	-23	50	
PFNA	5.25	1.00	24442.4	A	N/A	0.0139			
PFNA_2	5.26	1.00	338.5	M	N/A	0.0139	-35	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

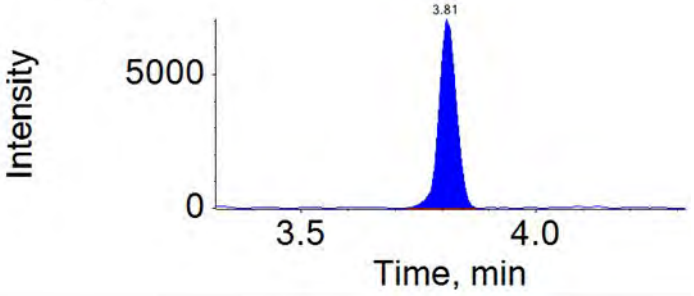
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

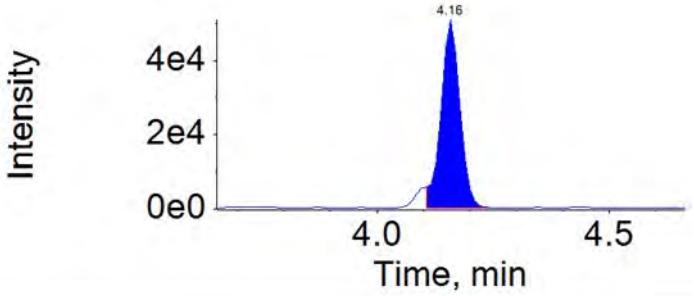
Component: PFBS
Primary Mass: 299.0 / 80.0



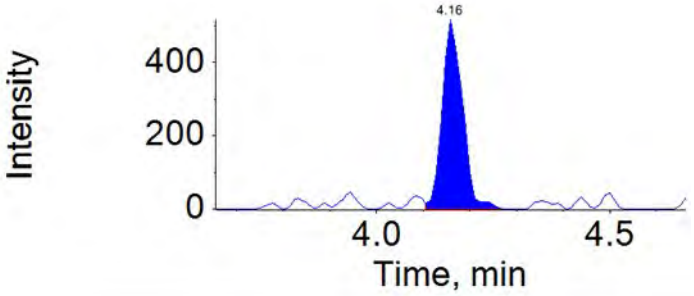
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



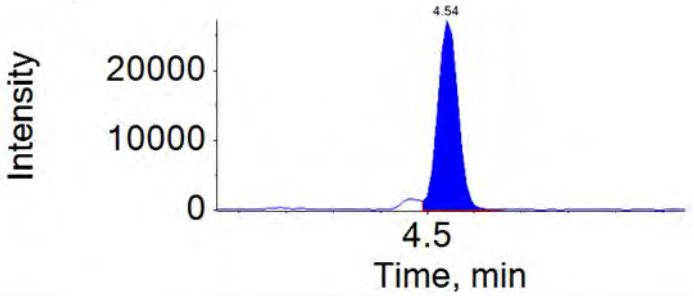
Component: PFHxA
Primary Mass: 313.0 / 269.0



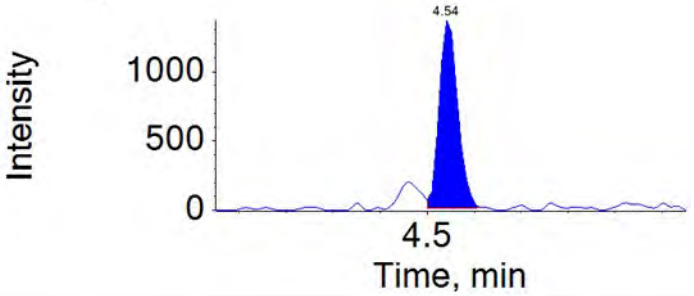
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



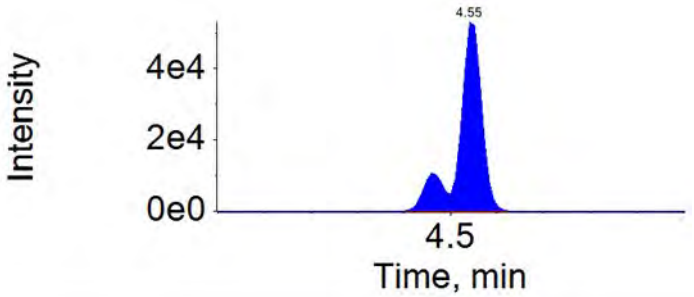
Component: PFHpA
Primary Mass: 363.0 / 319.0



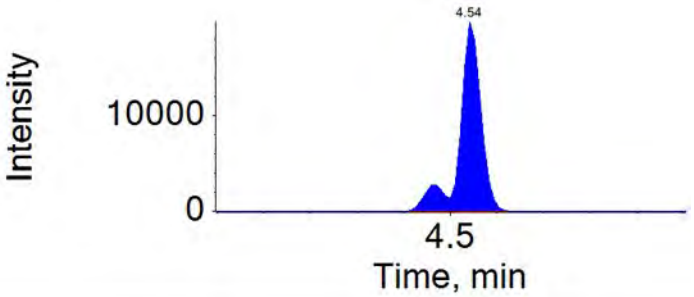
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



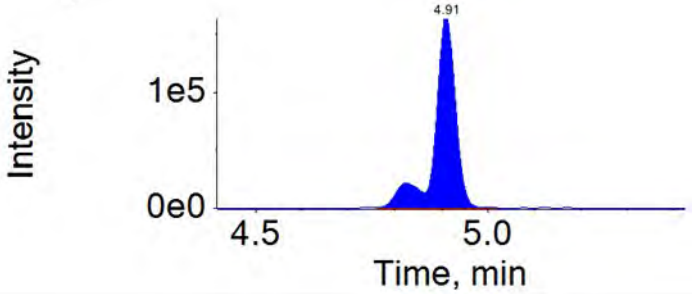
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



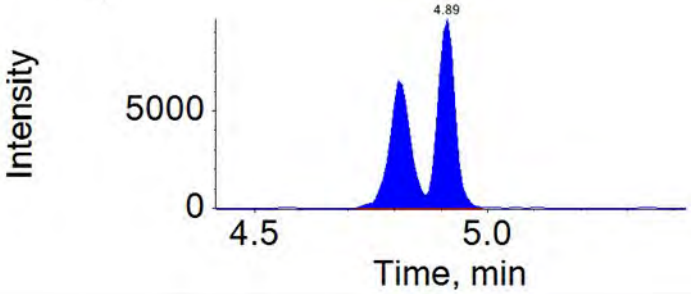
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

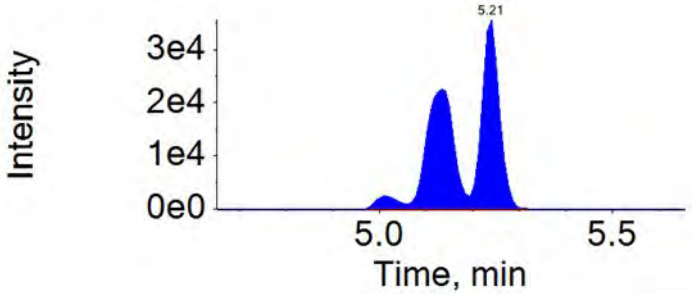
Component: PFOA
Primary Mass: 413.0 / 369.0



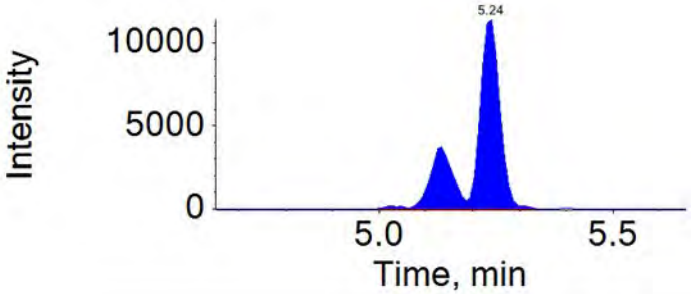
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



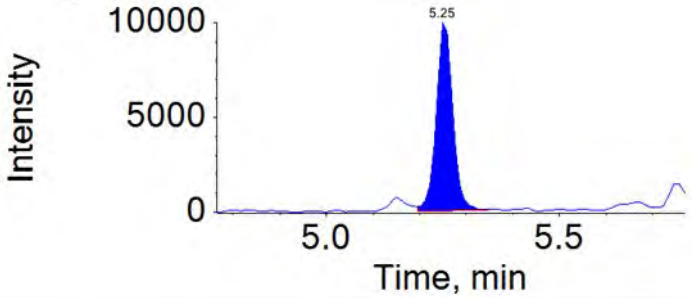
Component: PFOS
Primary Mass: 499.0 / 80.0



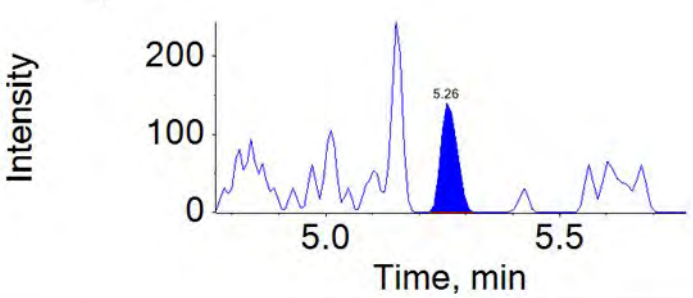
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



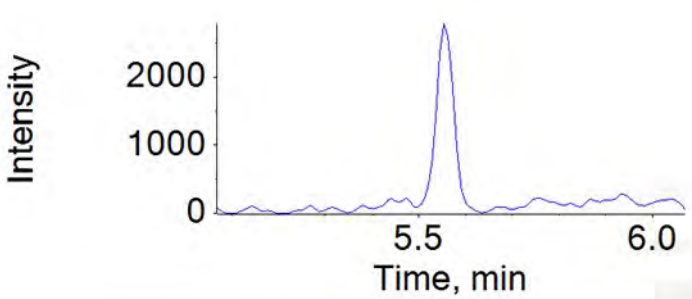
Component: PFNA
Primary Mass: 463.0 / 419.0



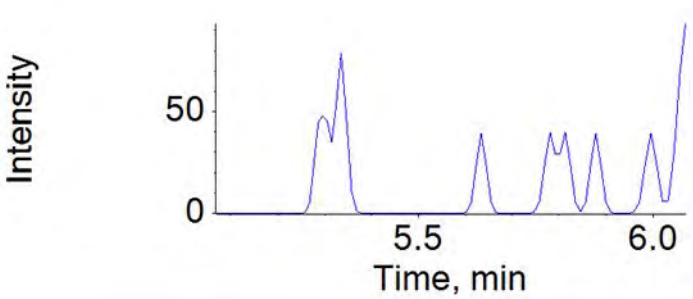
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



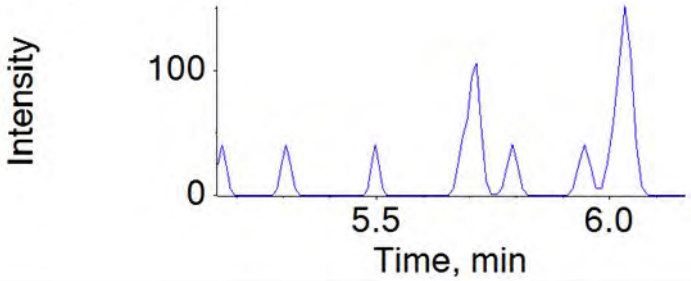
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



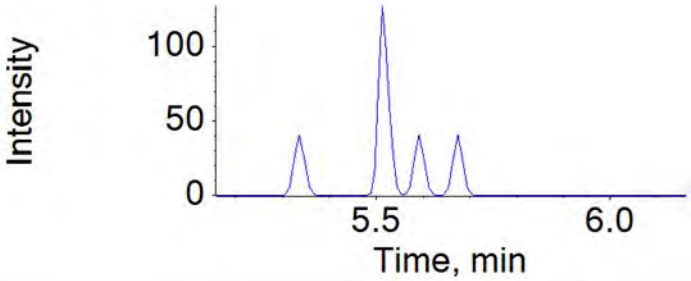
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

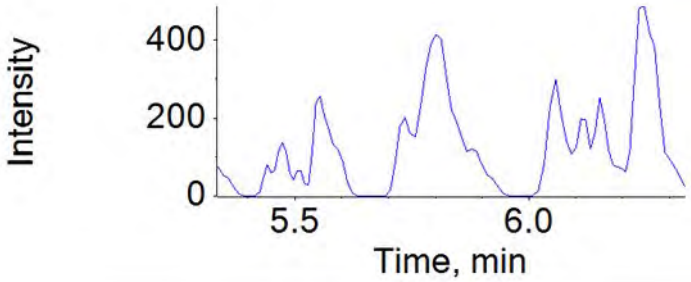
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



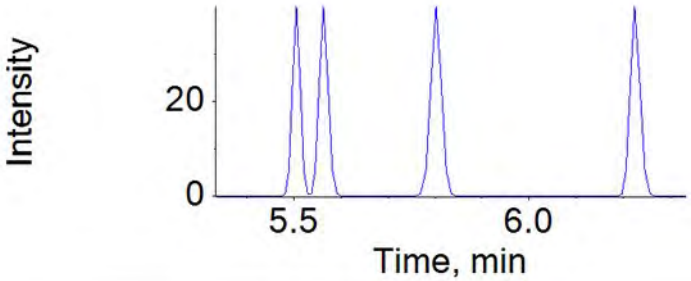
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



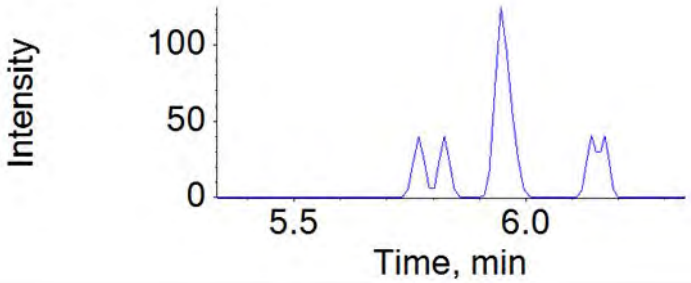
Component: PFUnDA
Primary Mass: 563.0 / 519.0



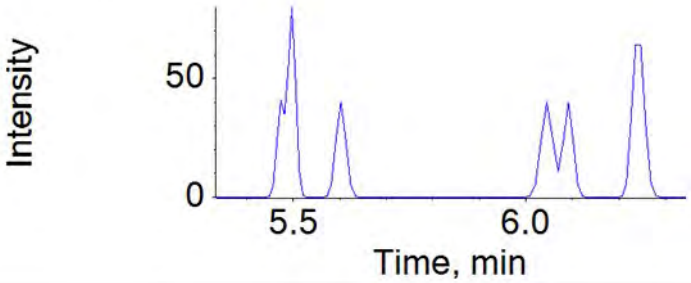
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



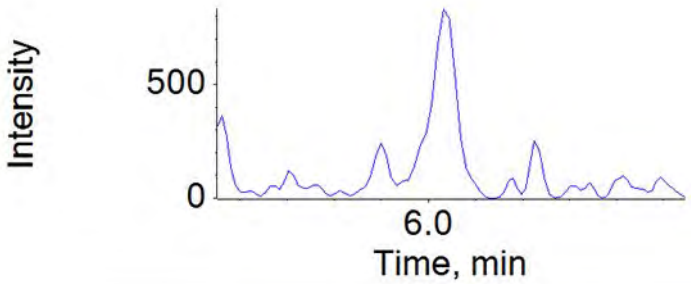
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



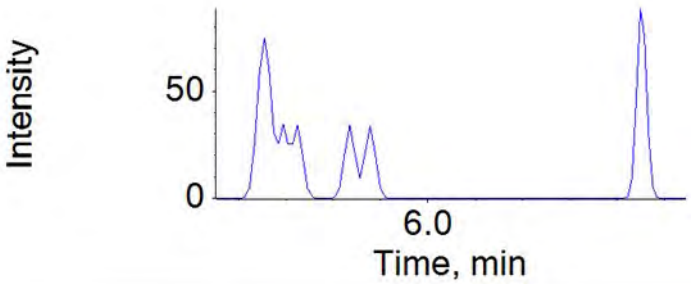
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



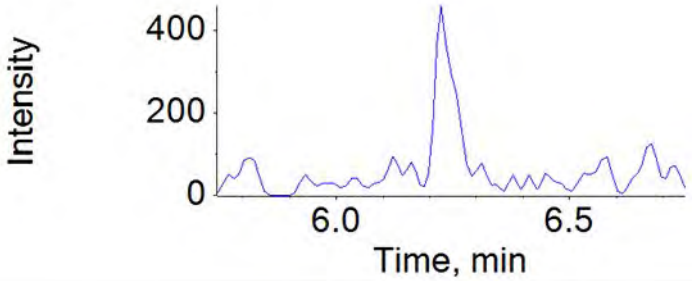
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



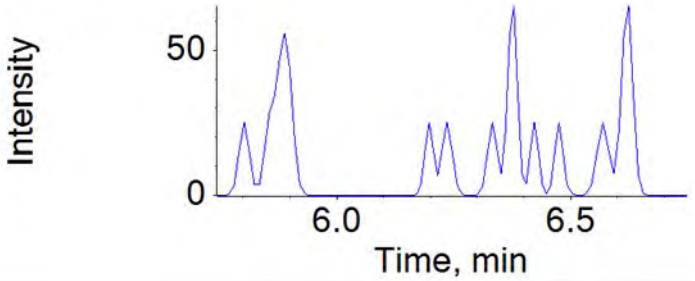
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

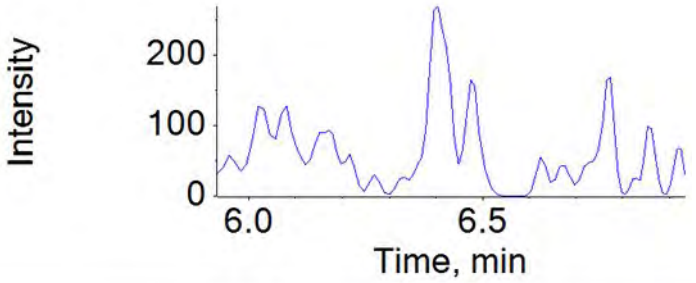
Component: PFTrDA
Primary Mass: 663.0 / 619.0



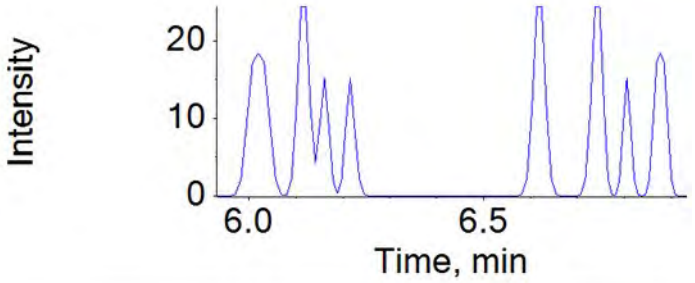
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934779			**Data File:**		18DEC19D-30.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YS16-6-01 Grab Groundwater			**Acquis Date:**		2018-12-19T14:29:11
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	56			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28391			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	926499.0	942675.8	-2	50	
13C2-PFOA	5.0	542473.8	520268.5	4	50	
13C4-PFOS	4.8	300854.3	307968.9	-2	50	
13C2-PFDA	5.0	461023.0	487375.3	-5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	405062.4	13C3-PFBA	926499.0	0.437	16.378	14.994	92	50-150	
E13C5-PFHxA	592936.6	13C2-PFOA	542473.8	1.093	17.611	13.771	78	50-150	
E13C3-PFHxS	286784.2	13C2-PFOA	542473.8	0.529	16.660	14.090	85	50-150	
E13C4-PFHpA	456529.8	13C2-PFOA	542473.8	0.842	17.611	12.804	73	50-150	
E13C8-PFOA	792648.4	13C2-PFOA	542473.8	1.461	17.611	14.152	80	50-150	
E13C8-PFOS	287658.0	13C4-PFOS	300854.3	0.956	16.836	15.060	89	50-150	
E13C9-PFNA	507491.7	13C4-PFOS	300854.3	1.687	17.611	13.516	77	50-150	
E13C6-PFDA	676034.0	13C2-PFDA	461023.0	1.466	17.611	14.712	84	50-150	
Ed3-NMeFOSAA	174357.9	13C2-PFDA	461023.0	0.378	17.611	14.655	83	50-150	
E13C7-PFUnDA	444731.1	13C2-PFDA	461023.0	0.965	17.611	14.223	81	50-150	
Ed5-NEtFOSAA	122143.6	13C2-PFDA	461023.0	0.265	17.611	13.748	78	50-150	
E13C2-PFDoDA	926115.1	13C2-PFDA	461023.0	2.009	17.611	14.886	85	50-150	
E13C2-PFTeDA	681443.9	13C2-PFDA	461023.0	1.478	17.611	14.671	83	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

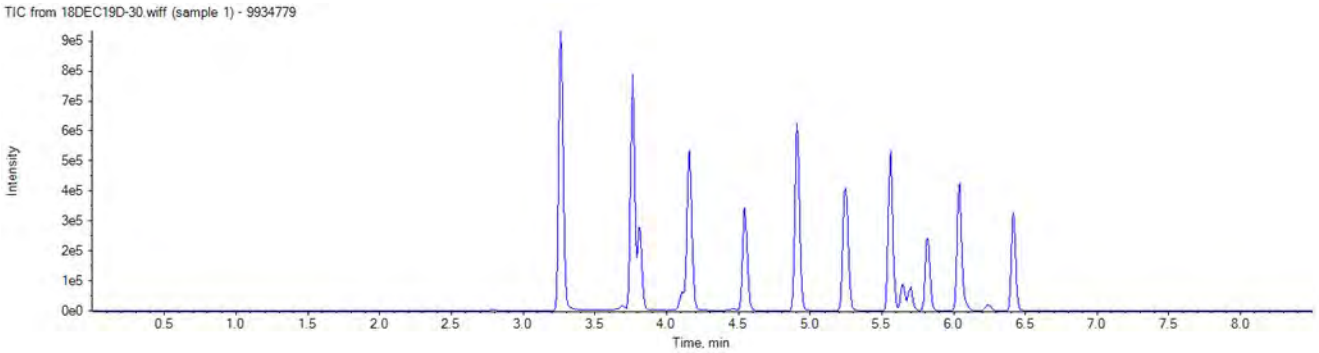
Analyte Quantitation Peak Table

Sample Name: 9934779 **Instrument Name:** LM27631 **File Name:** 18DEC19D-30.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
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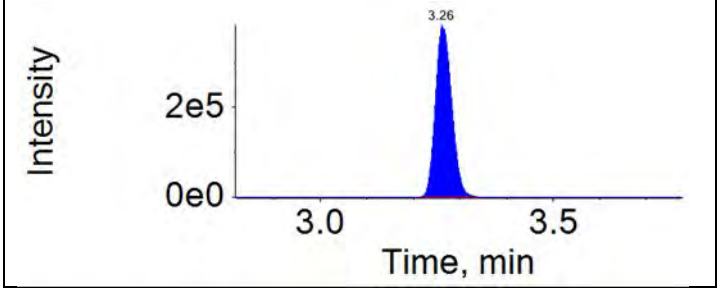
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	114362.4		A	13C3-PFBS	3.81	405062.4	0.282	4.909
PFHxA	4.16	1.000	618487.5		M	13C5-PFHxA	4.16	592936.6	1.043	15.135
PFHpA	4.54	1.000	36927.2		A	13C4-PFHpA	4.54	456529.8	0.081	0.945
PFHxS	4.52	0.990	9633.6		M	13C3-PFHxS	4.55	286784.2	0.034	0.576
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	792648.4	N/A	
PFOS	5.24	1.000	3525.7		M	13C8-PFOS	5.24	287658.1	0.012	0.189
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	507491.7	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	676034.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	174357.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	444731.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	122143.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	926115.1	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	926115.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	681443.9	N/A	

Total Ion Chromatogram

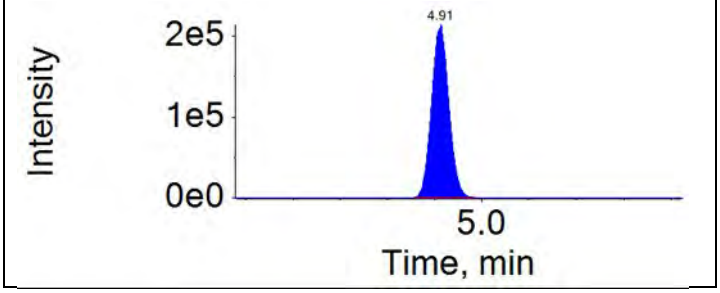


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

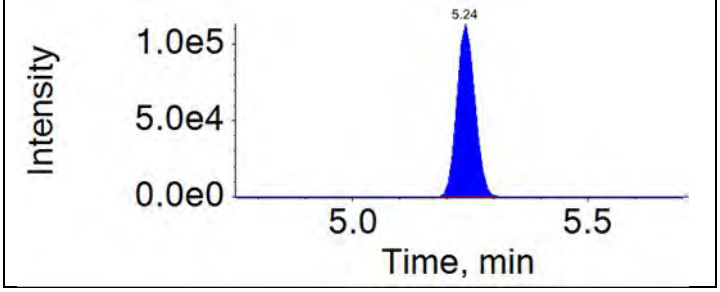
Injection Standard: 13C3-PFBA
216.0 / 172.0



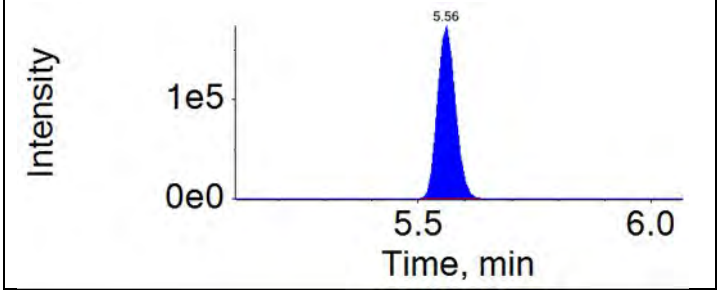
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

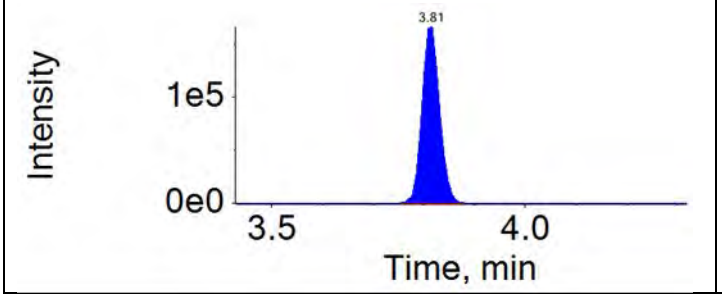


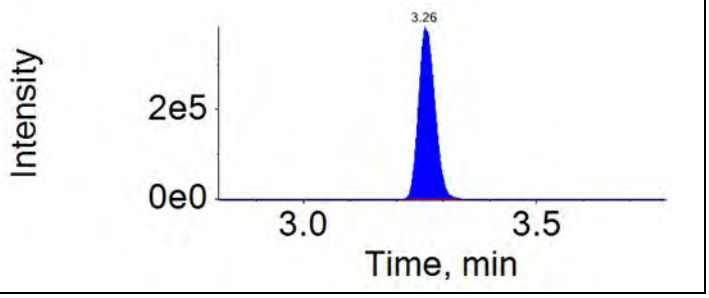
Injection Standard: 13C2-PFDA
515.0 / 470.0



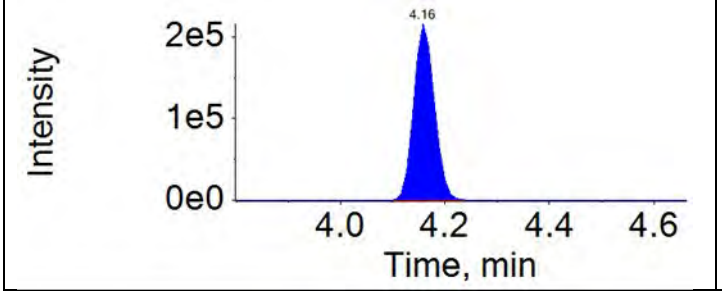
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

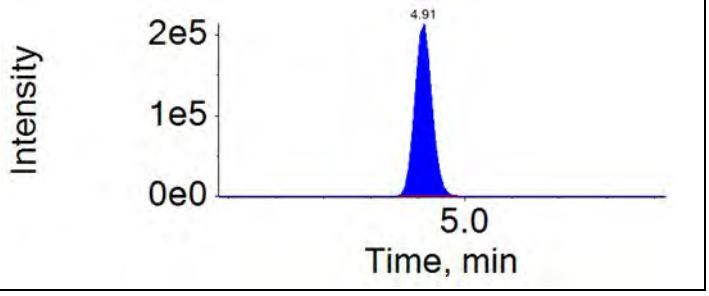
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



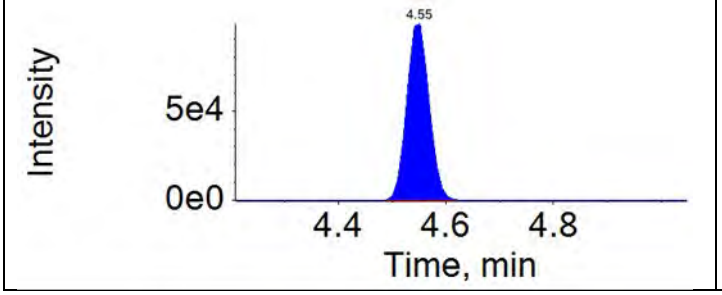


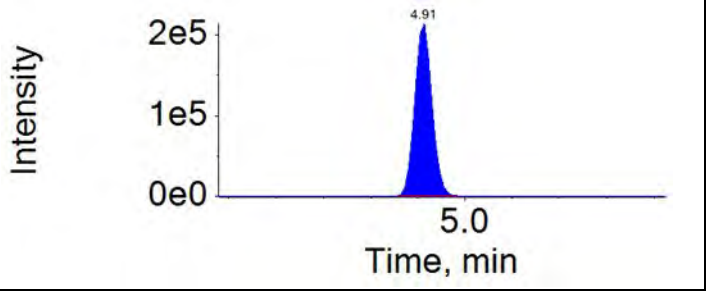
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



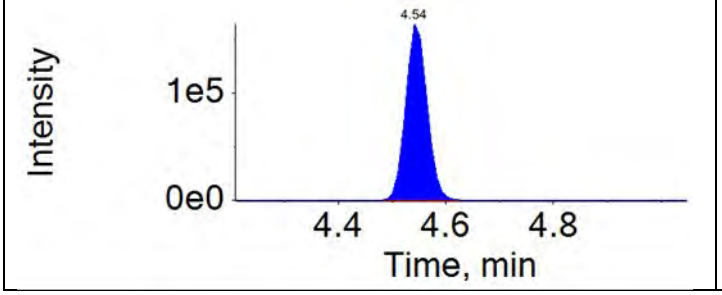


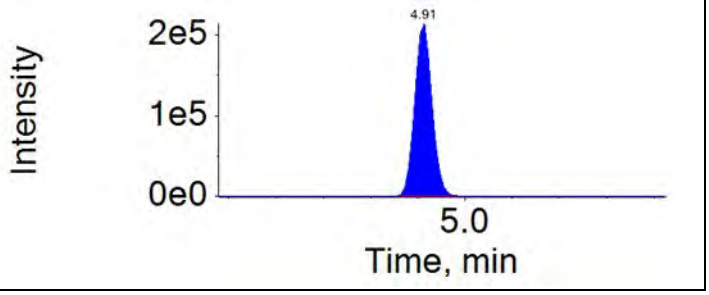
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



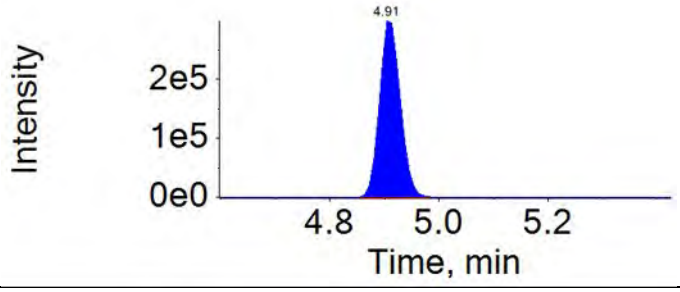
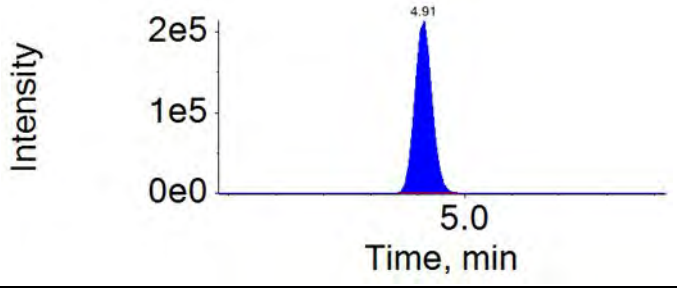


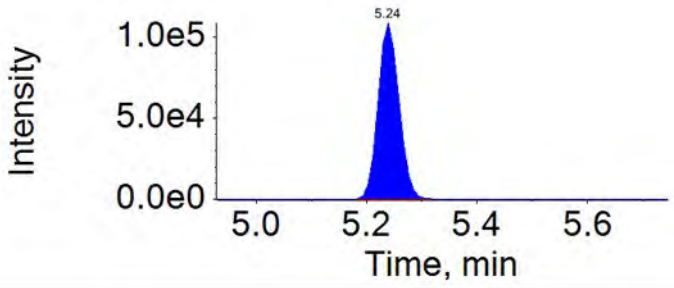
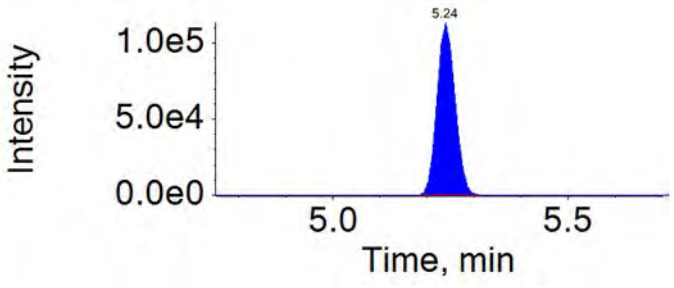
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

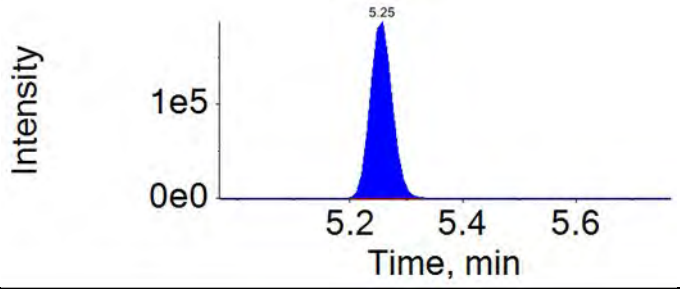
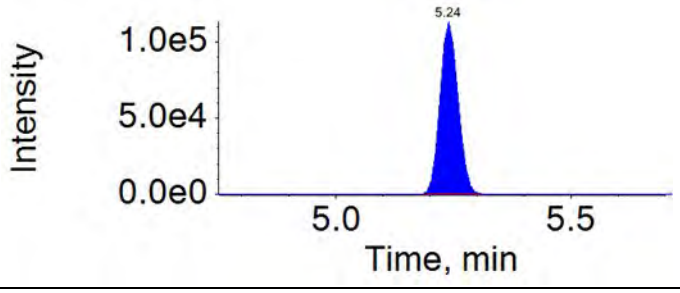


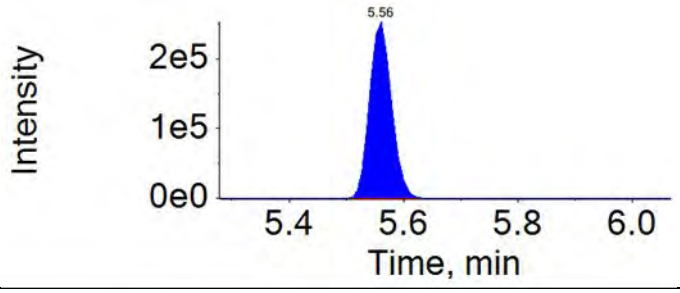
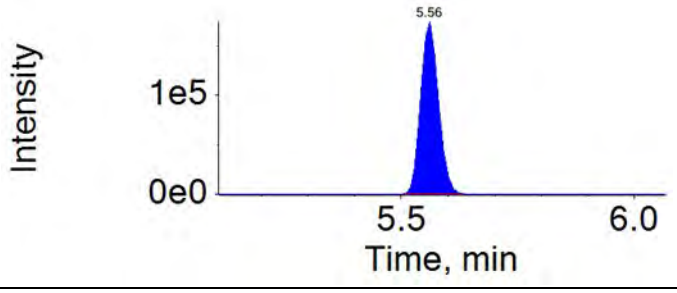


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

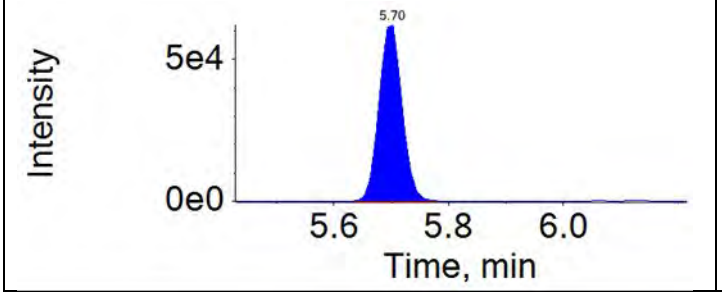
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

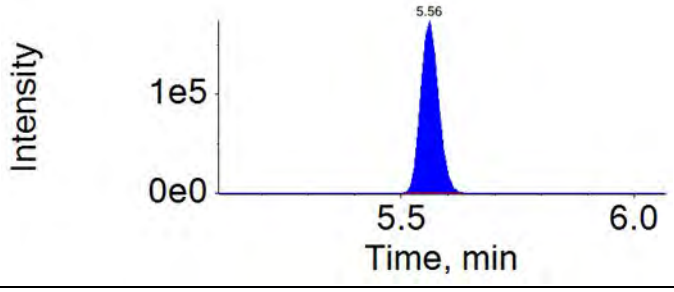
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

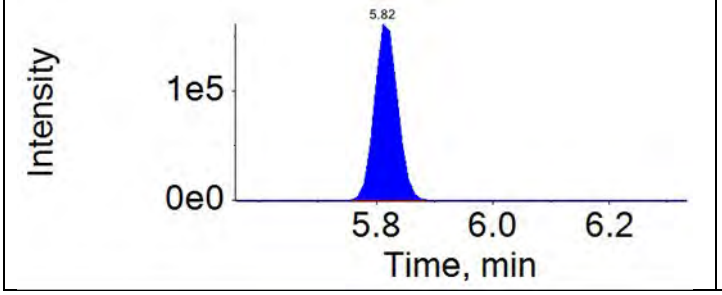
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

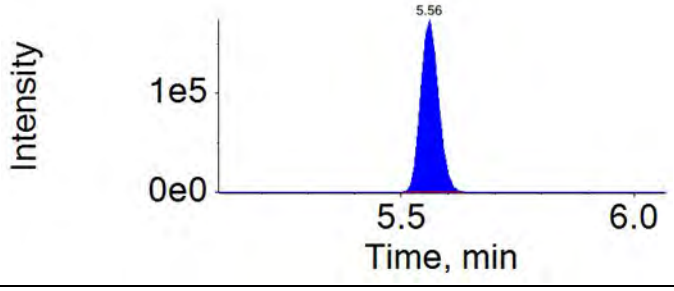
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



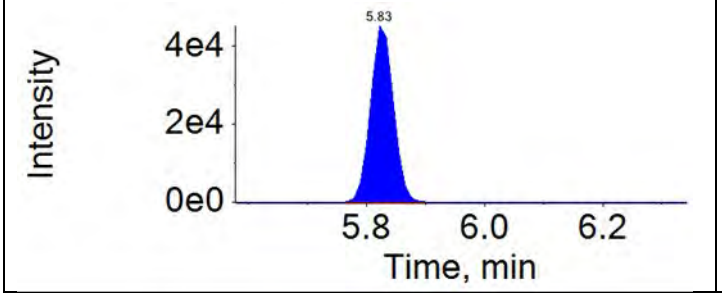


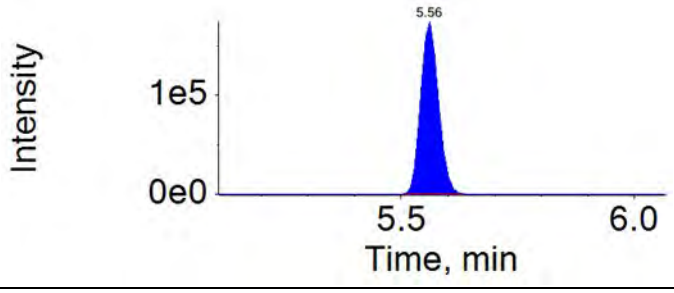
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



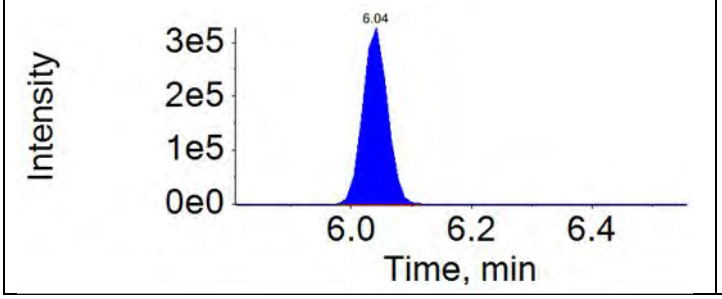


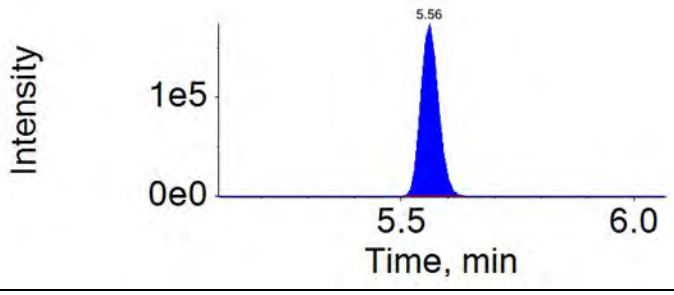
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

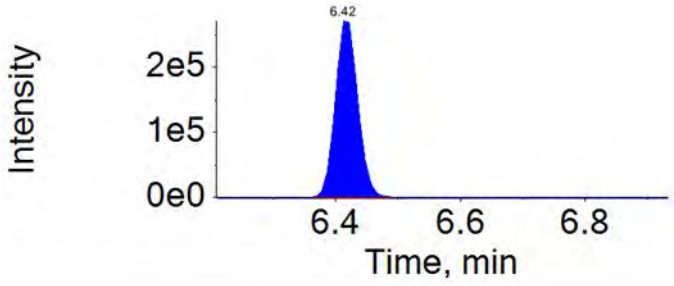
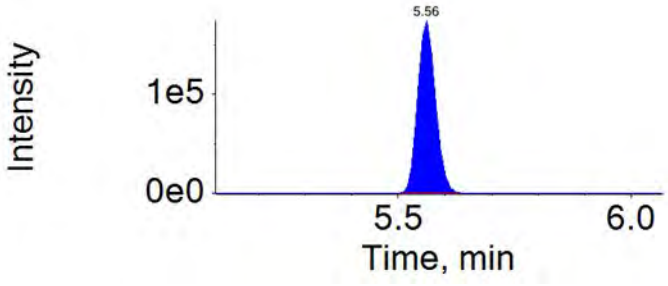




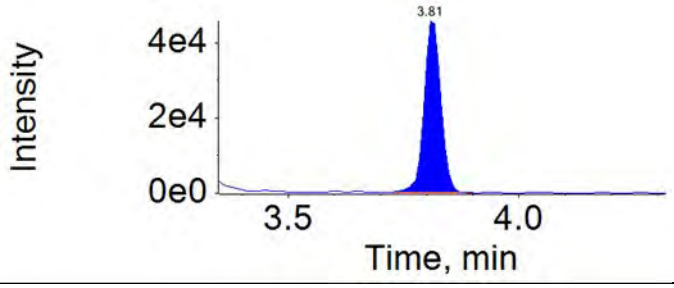
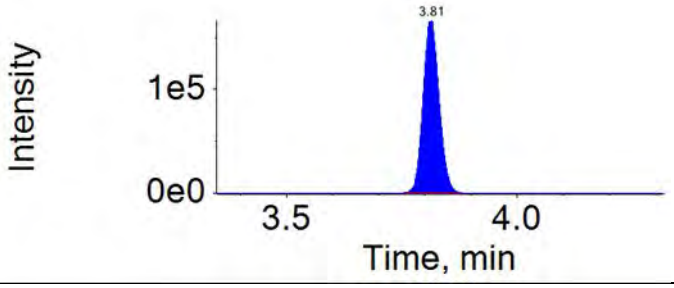
APPROVED
By MSM at 10:14 am, 12/20/18

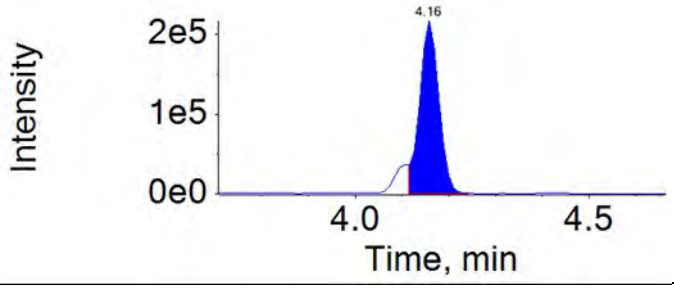
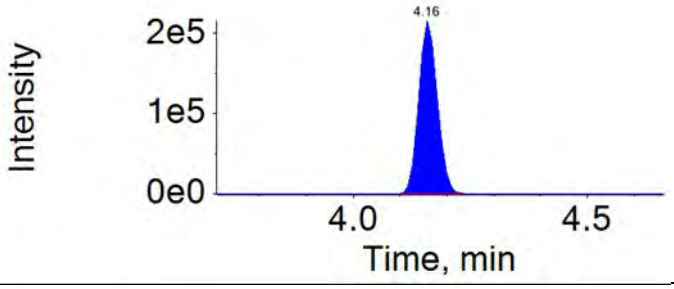
REVIEWED
By umar at 4:41 pm, 12/28/18

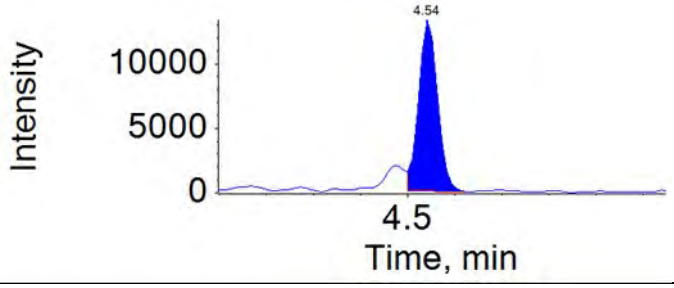
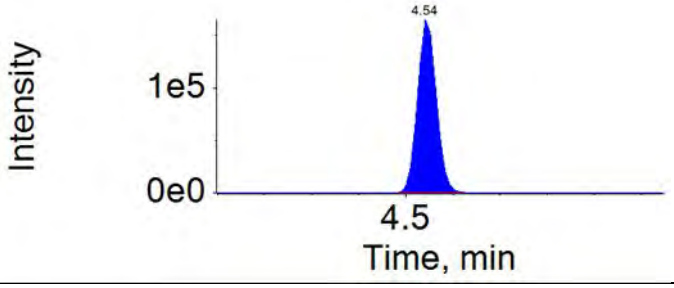
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

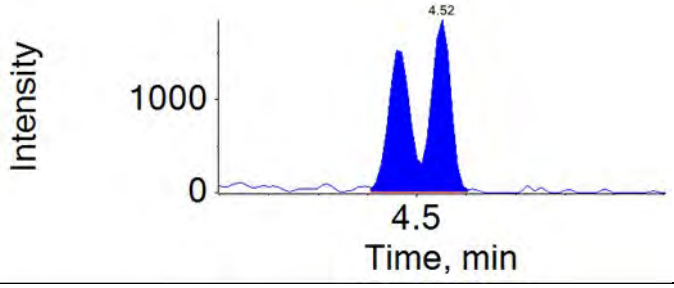
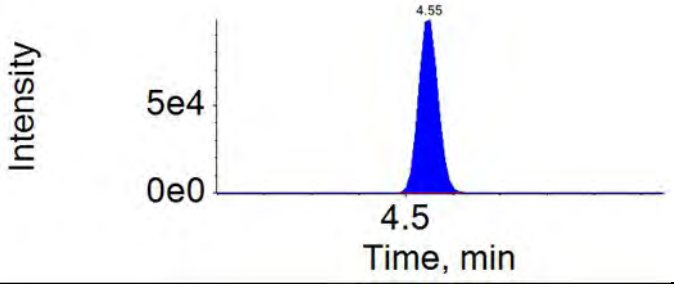
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

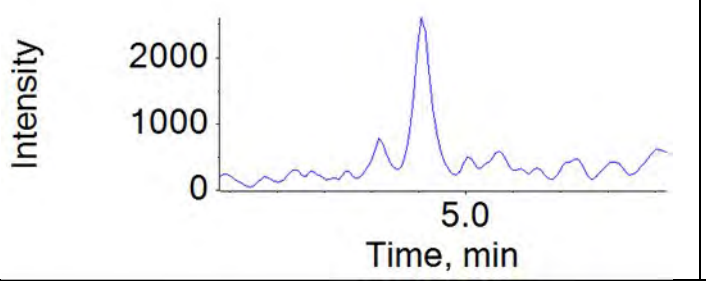
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

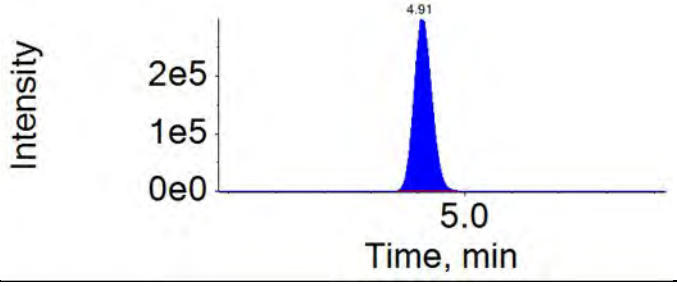
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

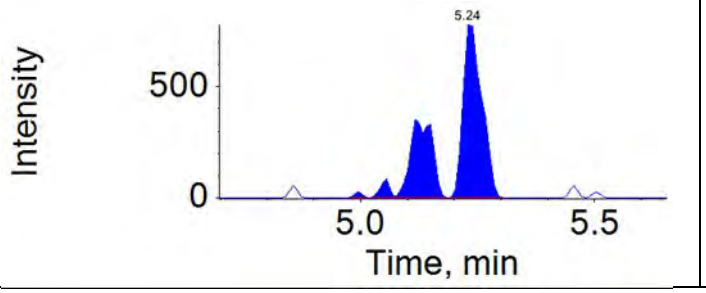
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

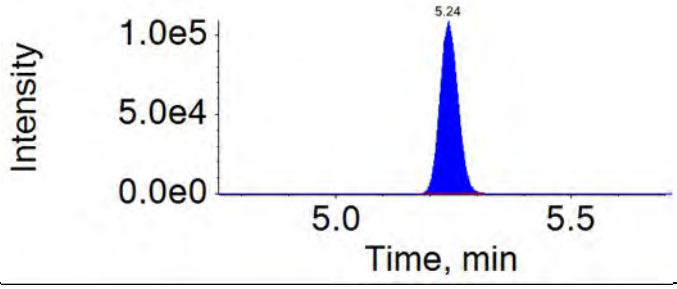
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



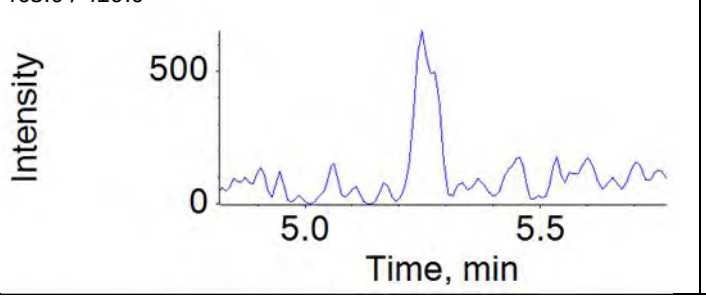


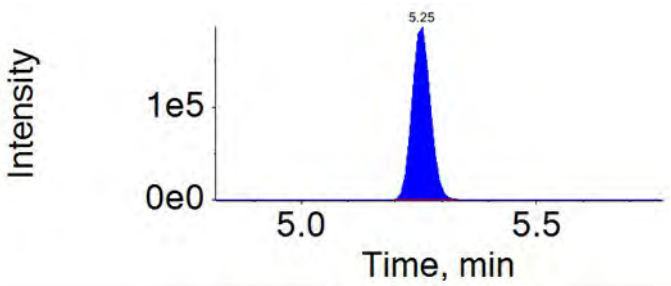
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



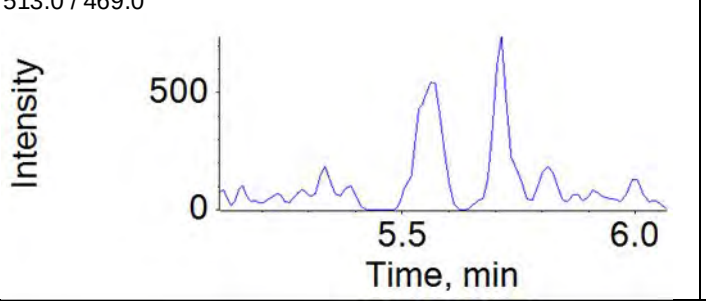


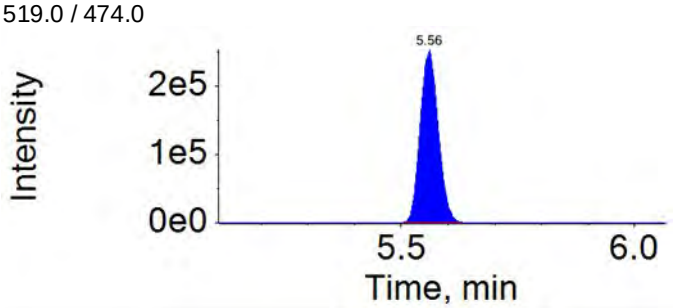
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





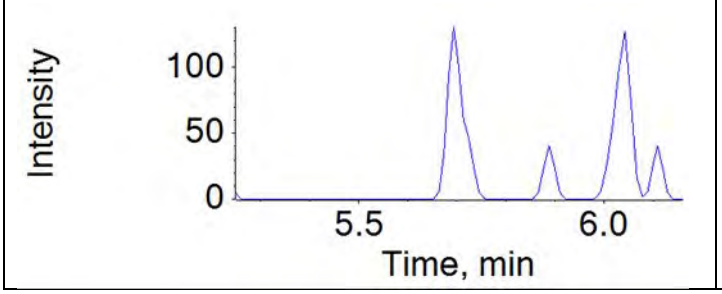
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

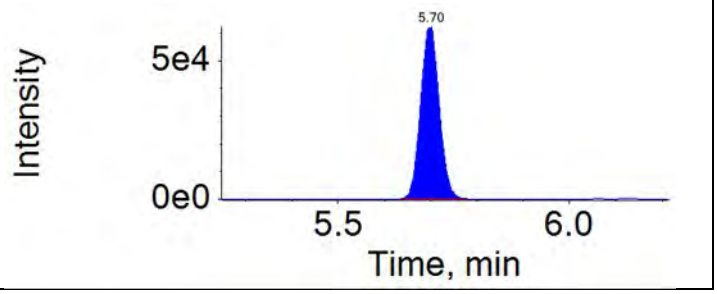




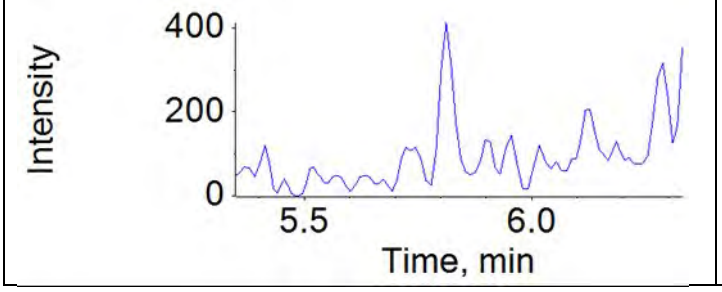
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

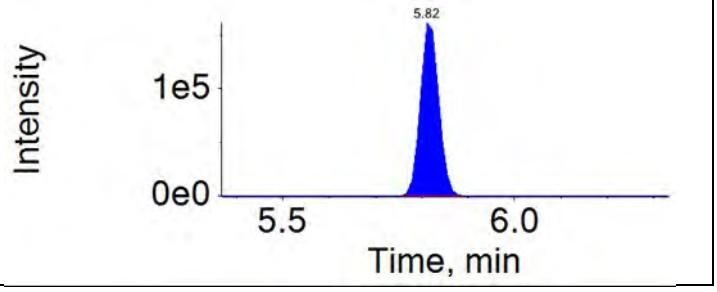
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



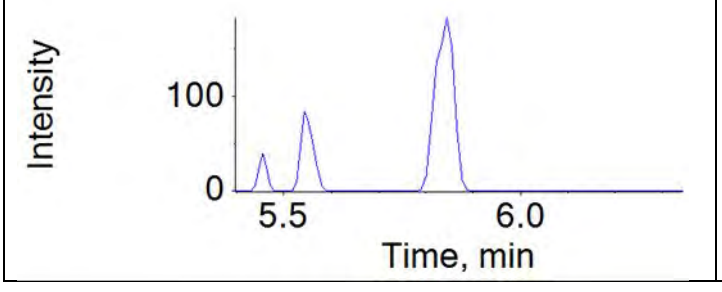


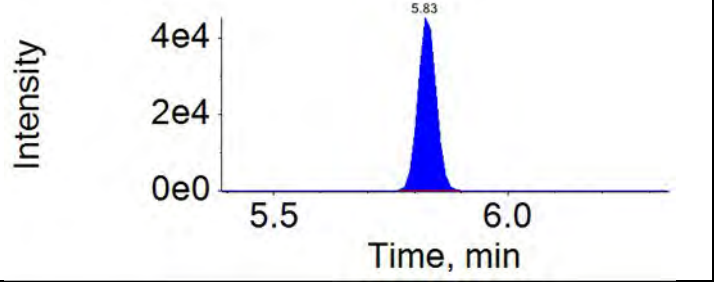
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



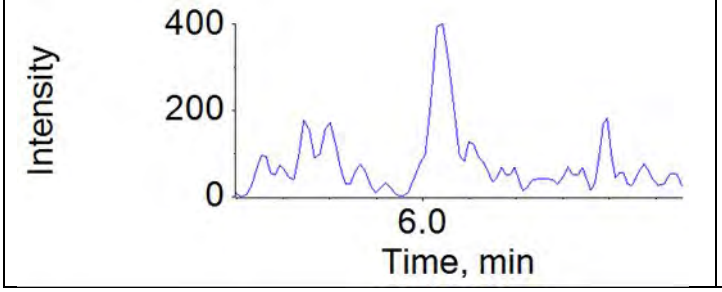


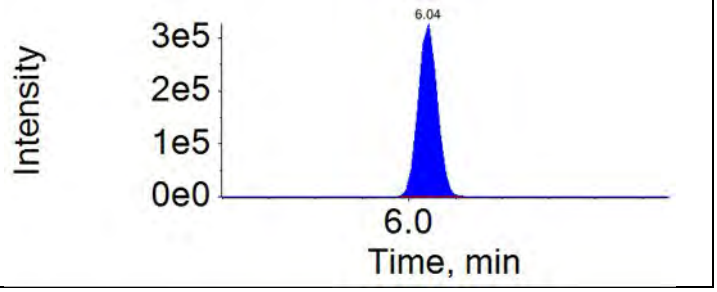
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





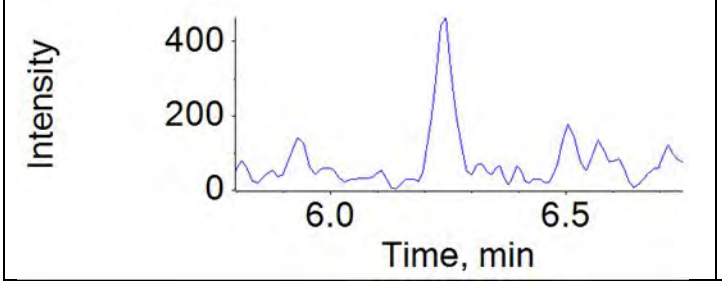
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

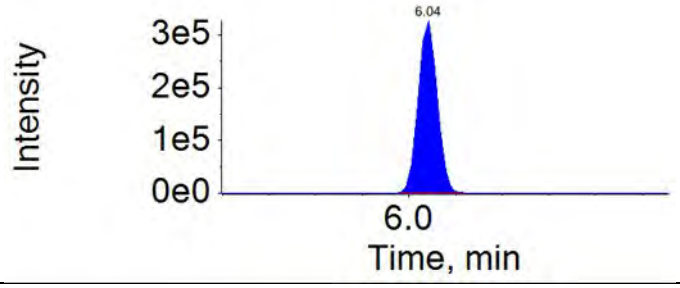




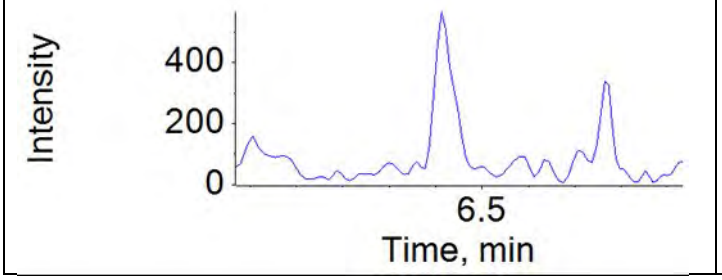
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

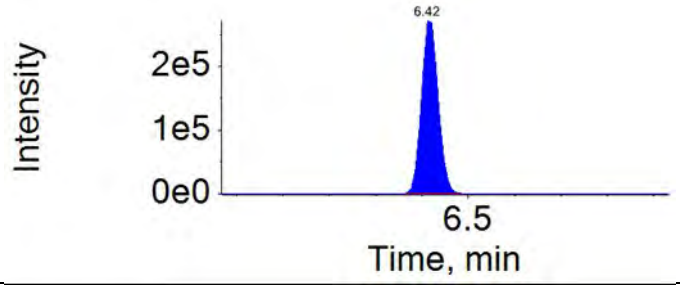
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





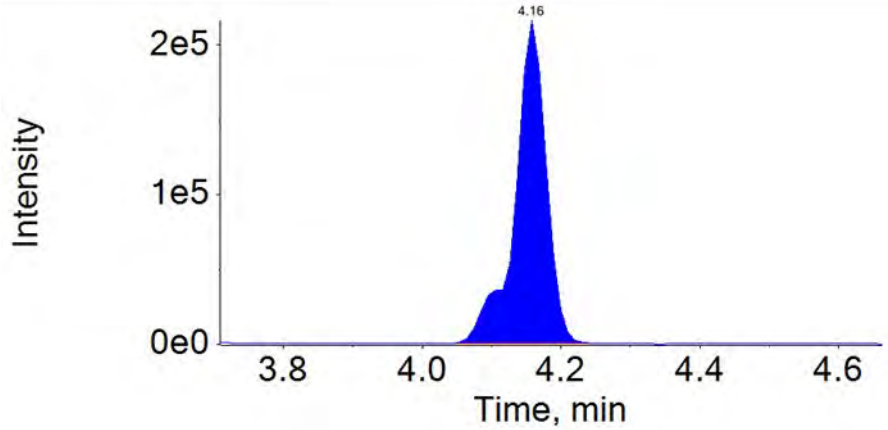
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





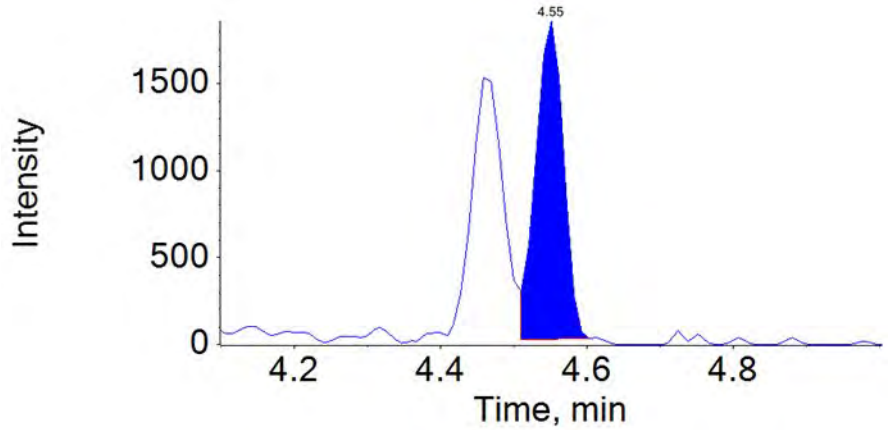
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
686506.1
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-30.wiff
Sample Name:
9934779



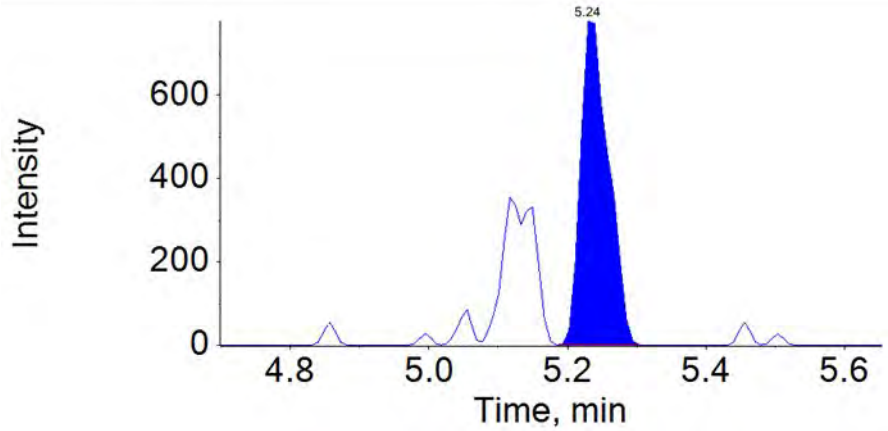
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
4833.9
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-30.wiff
Sample Name:
9934779



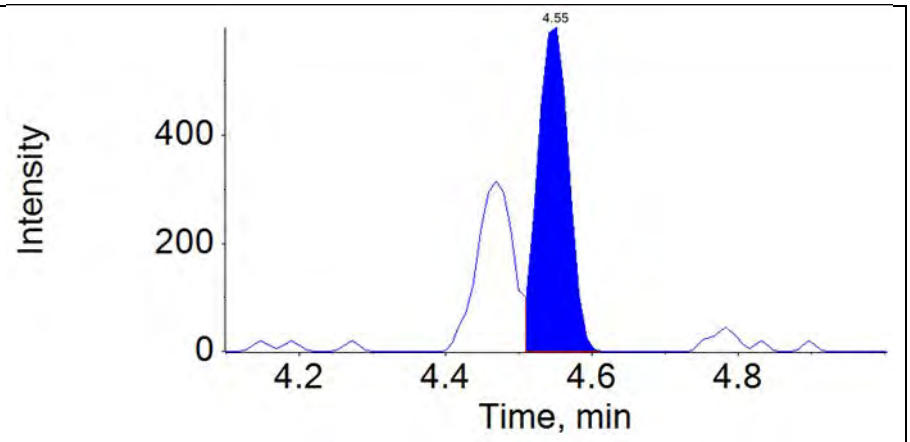
Integration Comment: incorrect integration

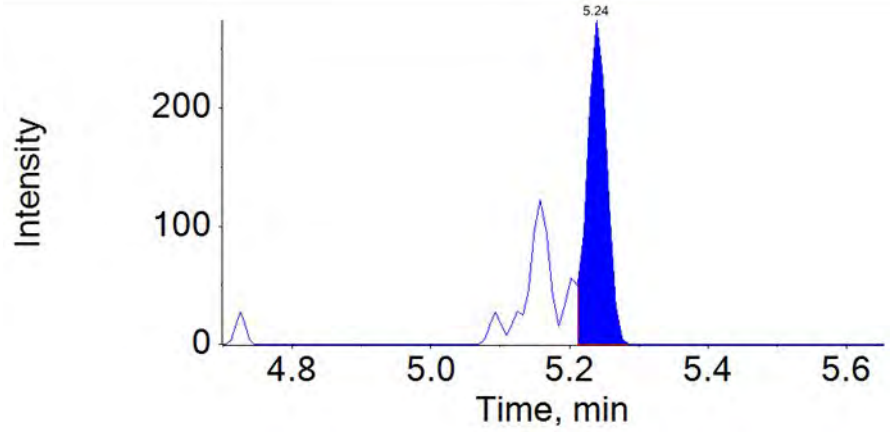
Component Name:
PFOS
RT (min.):
5.24
Peak Area:
2197.2
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-30.wiff
Sample Name:
9934779



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxS_2 **RT (min.):** 4.55 **Peak Area:** 1758.6 **Mass Range:** 399.0 / 99.0 **File Name:** 18DEC19D-30.wiff **Sample Name:** 9934779	 **Integration Comment:** incorrect integration

Component Name: PFOS_2 **RT (min.):** 5.24 **Peak Area:** 539.5 **Mass Range:** 499.0 / 99.0 **File Name:** 18DEC19D-30.wiff **Sample Name:** 9934779	 **Integration Comment:** incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Ion Ratio Report

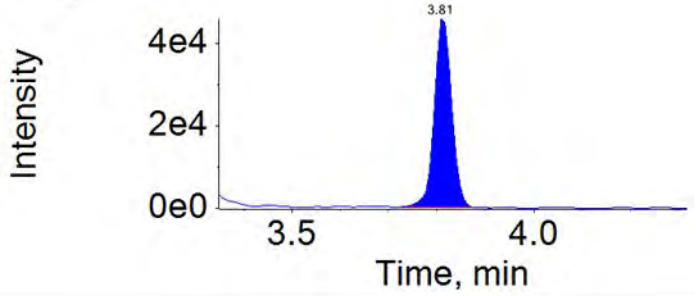
Sample Name: 9934779 **Instrument Name:** LM27631 **File Name:** 18DEC19D-30.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	114362.4	A	N/A	1.0000			
PFBS_2	3.81	1.00	44728.1	A	N/A	0.3911	6	50	
PFHxA	4.16	1.00	618487.5	M	N/A	1.0000			
PFHxA_2	4.16	1.00	6684.9	A	N/A	0.0108	-6	50	
PFHpA	4.54	1.00	36927.2	A	N/A	1.0000			
PFHpA_2	4.55	1.00	2628.4	A	N/A	0.0712	30	50	
PFHxS	4.52	0.99	9633.6	M	N/A	1.0000			
PFHxS_2	4.55	1.00	2855.4	M	N/A	0.2964	-12	50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	5.24	1.00	3525.7	M	N/A	1.0000			
PFOS_2	5.24	1.00	881.8	M	N/A	0.2501	-16	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

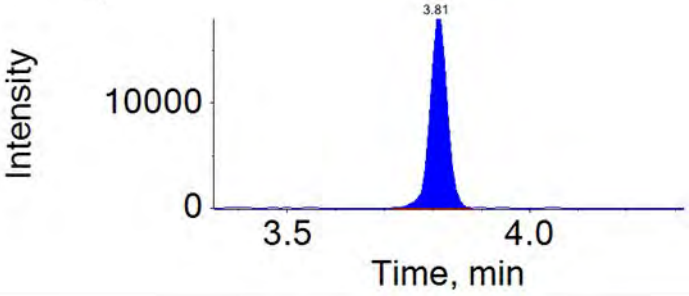
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

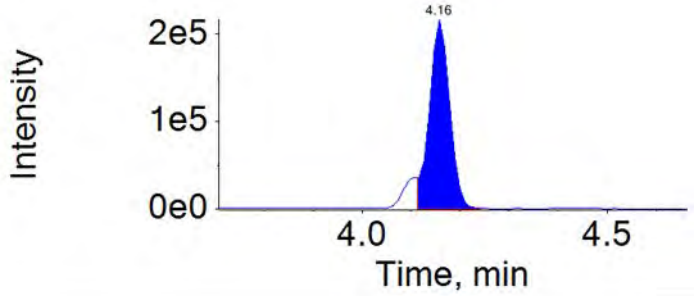
Component: PFBS
Primary Mass: 299.0 / 80.0



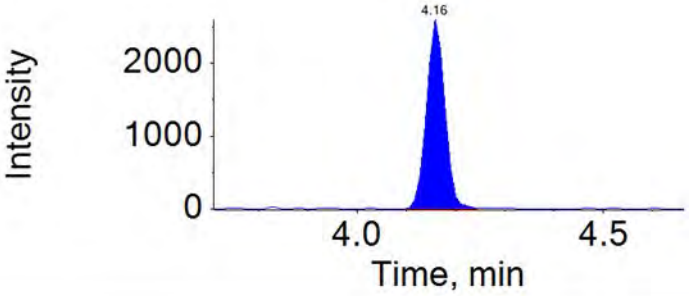
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



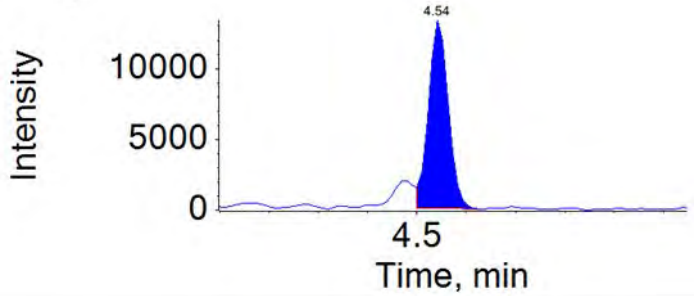
Component: PFHxA
Primary Mass: 313.0 / 269.0



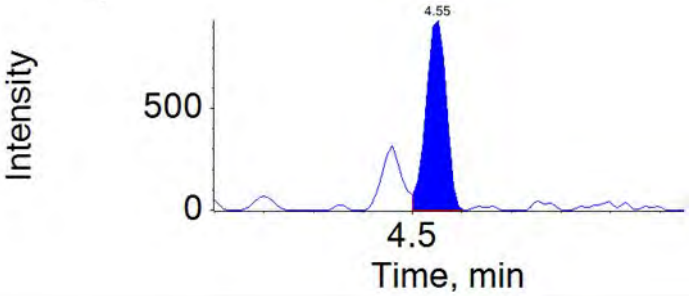
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



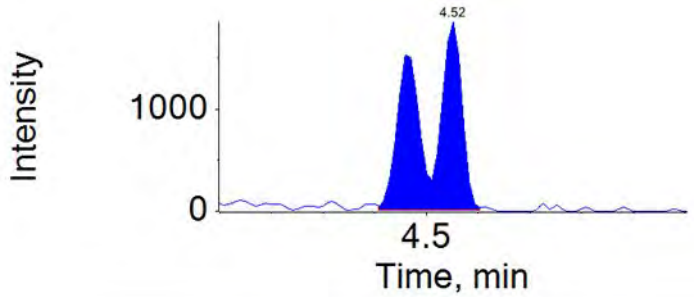
Component: PFHpA
Primary Mass: 363.0 / 319.0



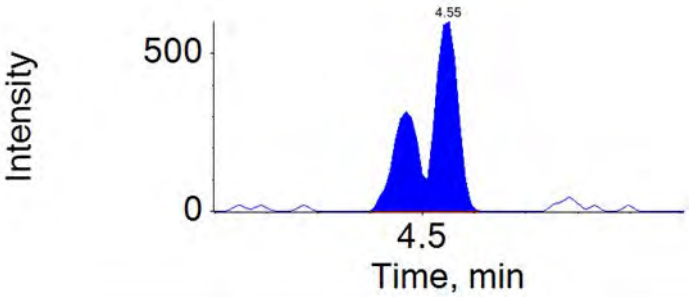
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



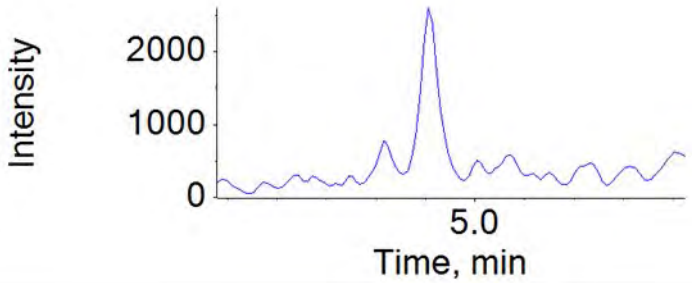
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



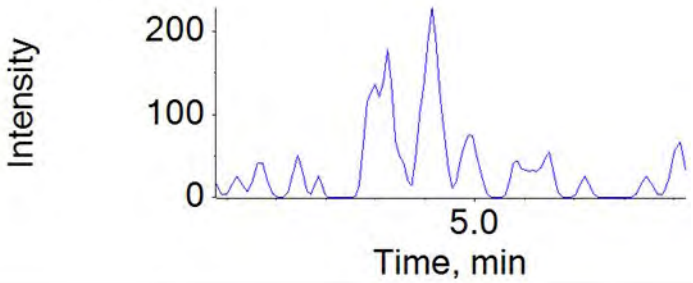
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

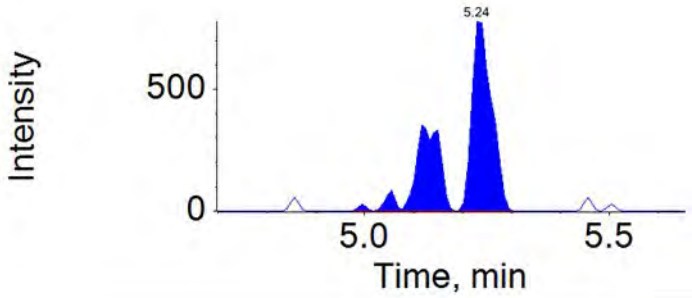
Component: PFOA
Primary Mass: 413.0 / 369.0



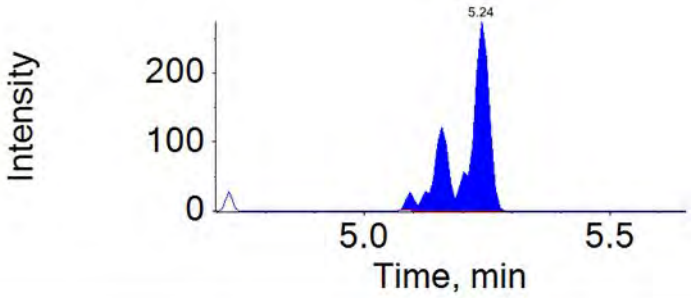
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



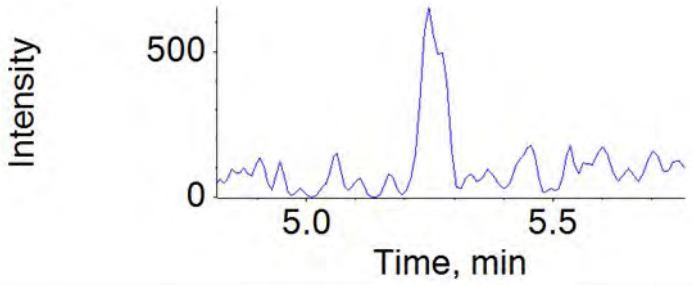
Component: PFOS
Primary Mass: 499.0 / 80.0



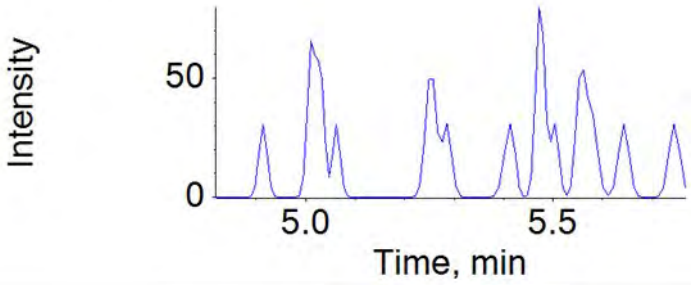
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



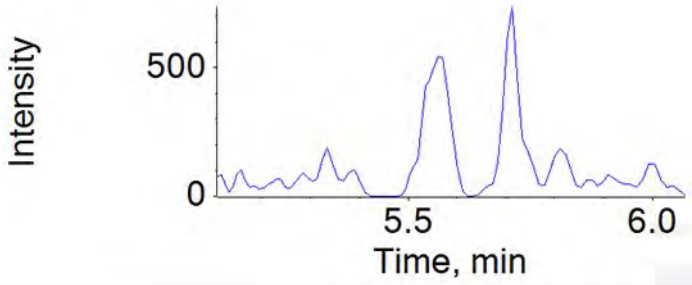
Component: PFNA
Primary Mass: 463.0 / 419.0



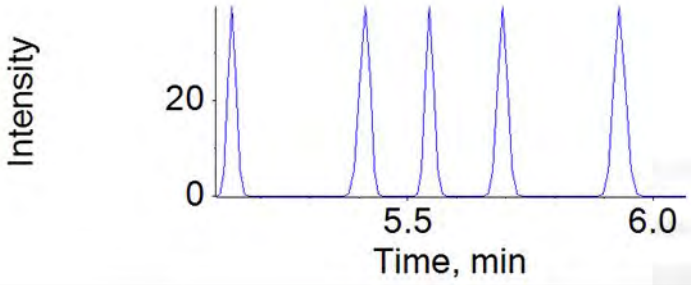
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



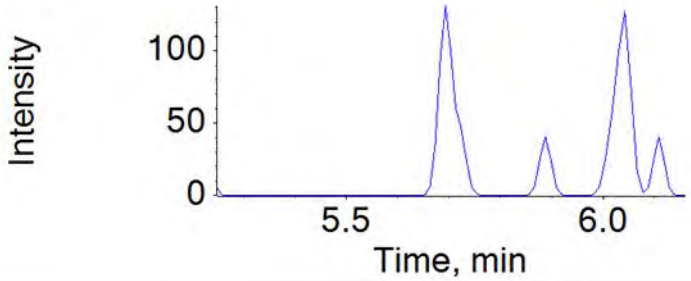
Component: PFDA
Primary Mass: 513.0 / 469.0



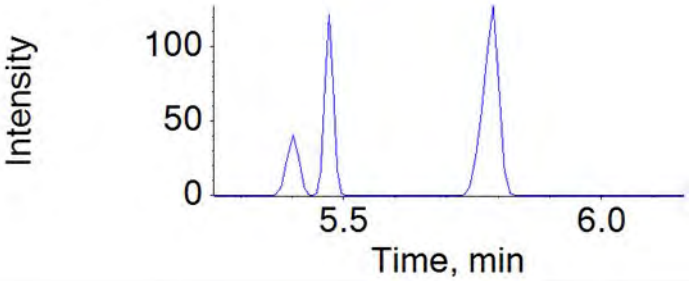
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



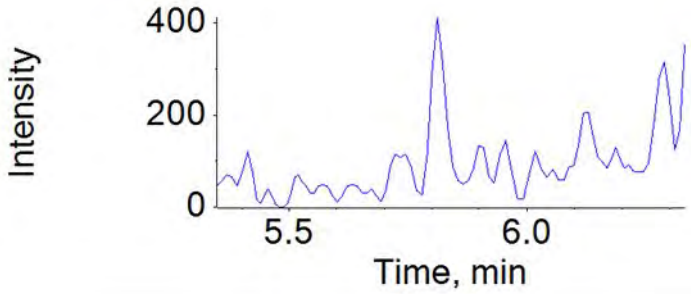
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



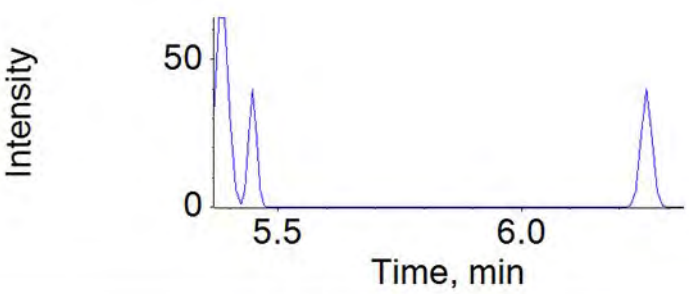
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



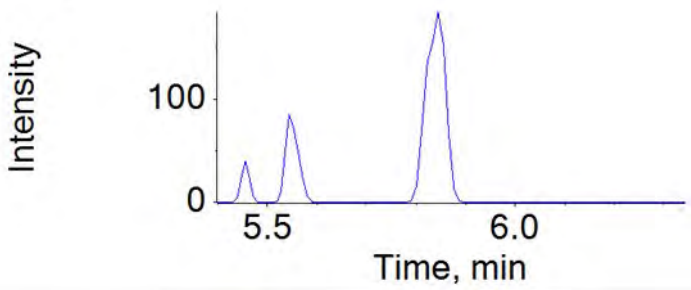
Component: PFUnDA
Primary Mass: 563.0 / 519.0



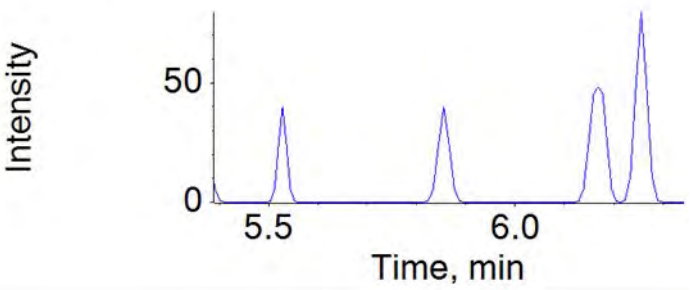
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



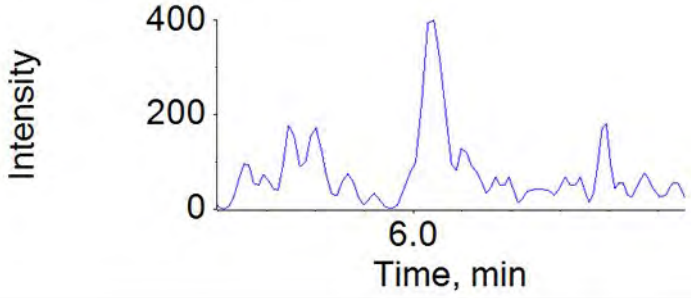
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



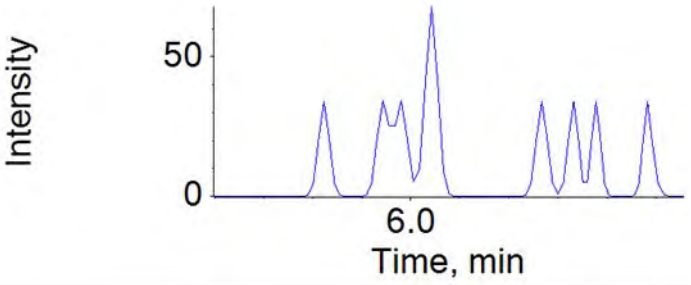
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



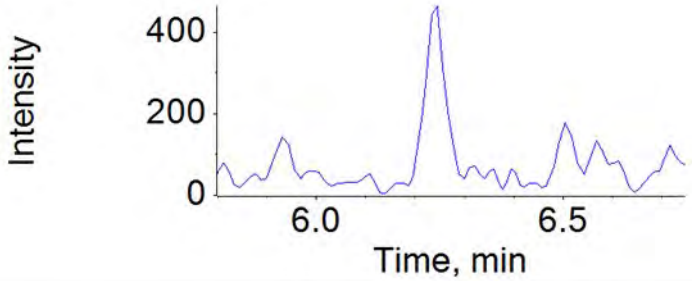
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



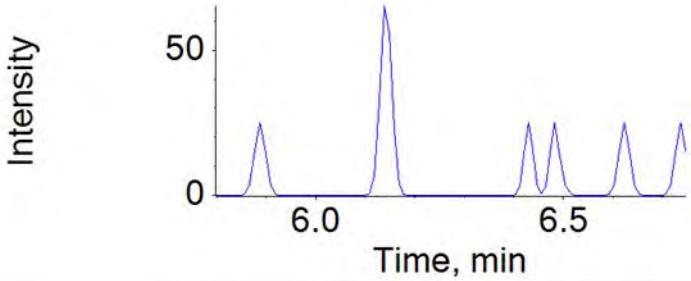
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

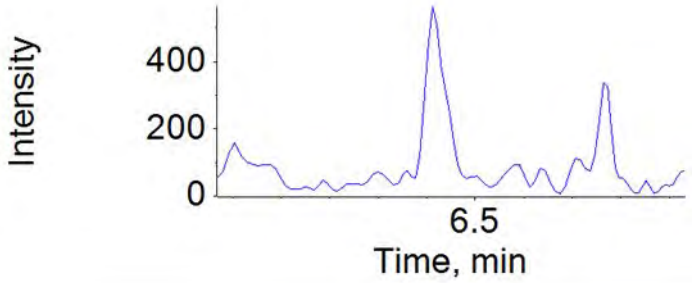
Component: PFTrDA
Primary Mass: 663.0 / 619.0



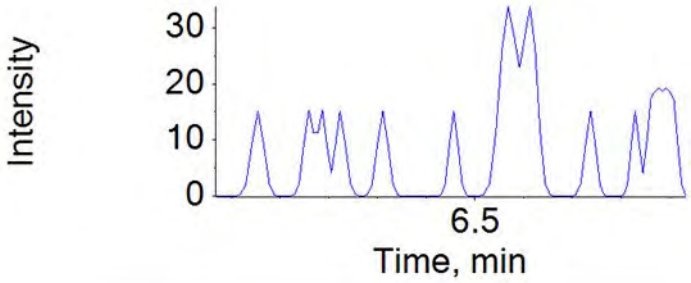
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934780			**Data File:**		18DEC19D-31.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YCW16-1-01 Grab Groundwater			**Acquis Date:**		2018-12-19T14:38:11
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	57			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.27629			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	998403.9	942675.8	6	50	
13C2-PFOA	5.0	557140.7	520268.5	7	50	
13C4-PFOS	4.8	318314.0	307968.9	3	50	
13C2-PFDA	5.0	493404.8	487375.3	1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	384387.7	13C3-PFBA	998403.9	0.385	16.830	13.568	81	50-150	
E13C5-PFHxA	649367.2	13C2-PFOA	557140.7	1.166	18.097	15.089	83	50-150	
E13C3-PFHxS	301573.5	13C2-PFOA	557140.7	0.541	17.120	14.825	87	50-150	
E13C4-PFHpA	495436.1	13C2-PFOA	557140.7	0.889	18.097	13.902	77	50-150	
E13C8-PFOA	884336.1	13C2-PFOA	557140.7	1.587	18.097	15.797	87	50-150	
E13C8-PFOS	269160.5	13C4-PFOS	318314.0	0.846	17.301	13.686	79	50-150	
E13C9-PFNA	595371.6	13C4-PFOS	318314.0	1.870	18.097	15.400	85	50-150	
E13C6-PFDA	767581.3	13C2-PFDA	493404.8	1.556	18.097	16.039	89	50-150	
Ed3-NMeFOSAA	197464.6	13C2-PFDA	493404.8	0.400	18.097	15.936	88	50-150	
E13C7-PFUnDA	495759.2	13C2-PFDA	493404.8	1.005	18.097	15.223	84	50-150	
Ed5-NEtFOSAA	126402.7	13C2-PFDA	493404.8	0.256	18.097	13.660	75	50-150	
E13C2-PFDoDA	983304.5	13C2-PFDA	493404.8	1.993	18.097	15.175	84	50-150	
E13C2-PFTeDA	588494.2	13C2-PFDA	493404.8	1.193	18.097	12.165	67	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

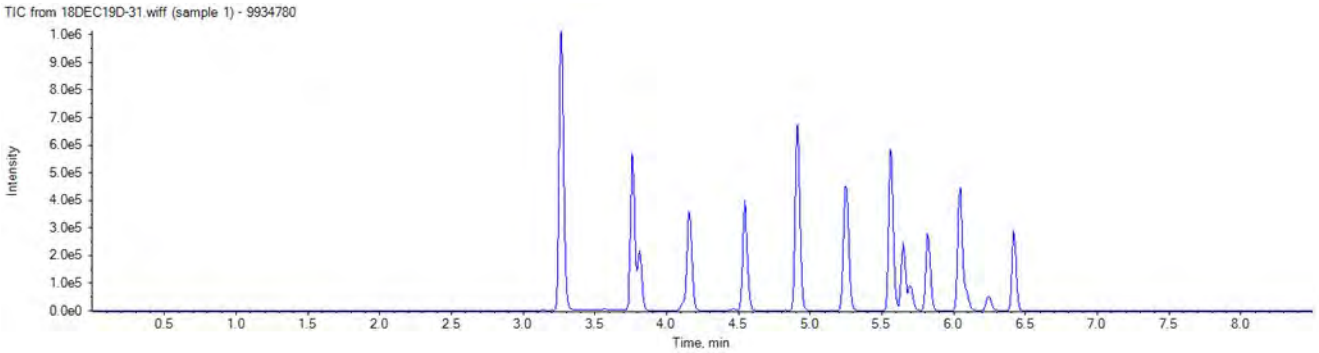
Analyte Quantitation Peak Table

Sample Name: 9934780 **Instrument Name:** LM27631 **File Name:** 18DEC19D-31.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27629	1.000	1.00	1.000

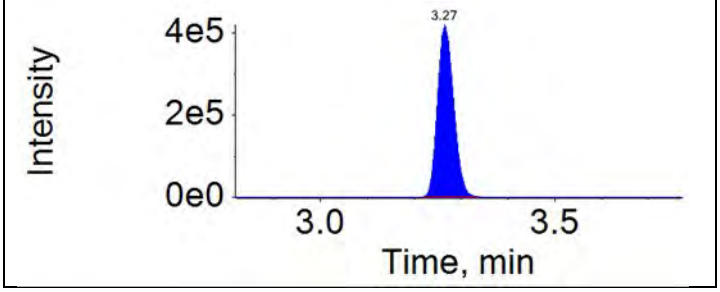
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	39465.5		A	13C3-PFBS	3.81	384387.7	0.103	1.834
PFHxA	4.16	1.000	176990.4		M	13C5-PFHxA	4.16	649367.2	0.273	4.064
PFHpA	4.54	1.000	26422.5		A	13C4-PFHpA	4.54	495436.1	0.053	0.640
PFHxS	4.55	1.000	34541.0		M	13C3-PFHxS	4.55	301573.5	0.115	2.016
PFOA	4.91	1.000	32200.1		M	13C8-PFOA	4.91	884336.1	0.036	0.698
PFOS	5.24	1.000	7206.8		M	13C8-PFOS	5.24	269160.5	0.027	0.424
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	595371.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	767581.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	197464.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	495759.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	126402.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	983304.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	983304.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	588494.2	N/A	

Total Ion Chromatogram

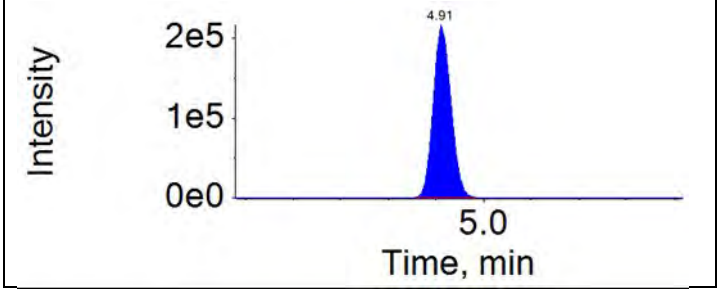


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

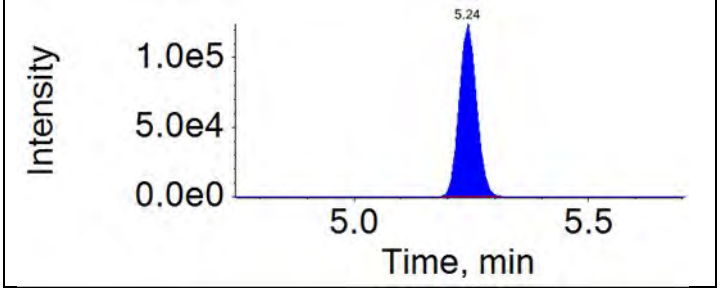
Injection Standard: 13C3-PFBA
216.0 / 172.0



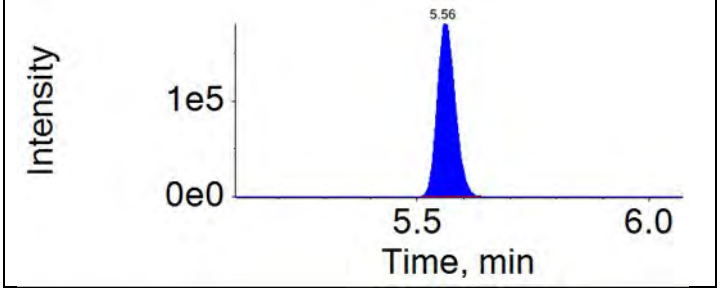
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

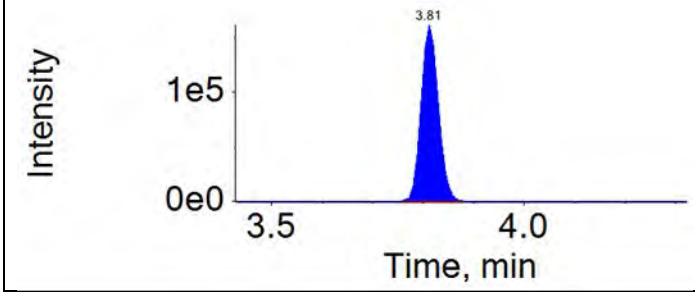


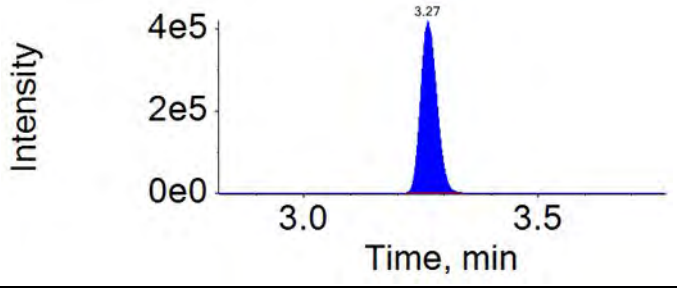
Injection Standard: 13C2-PFDA
515.0 / 470.0



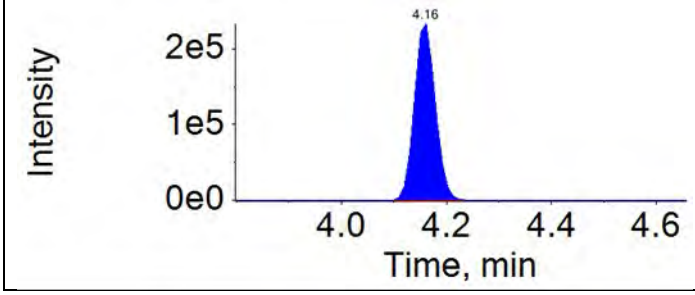
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

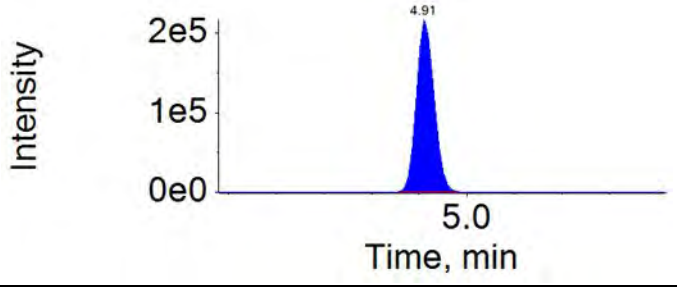
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



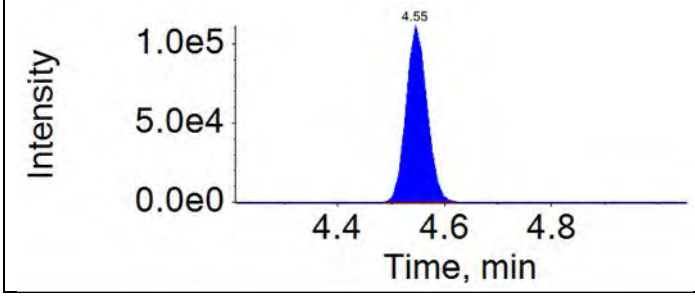


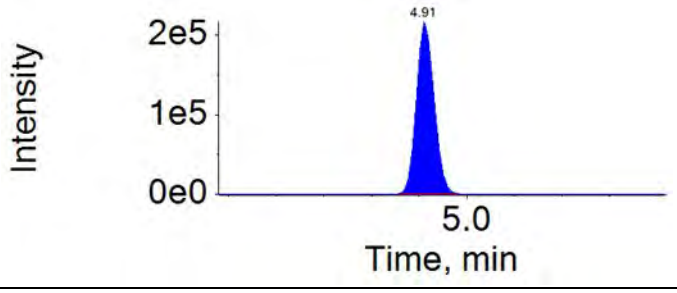
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



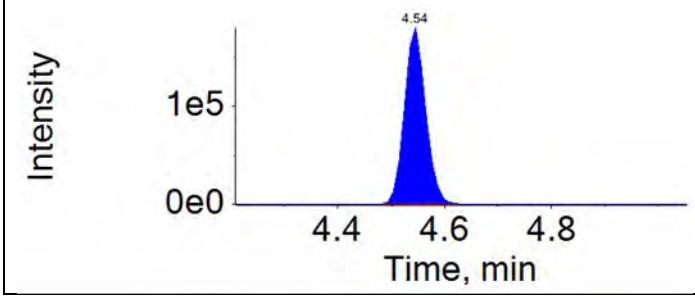


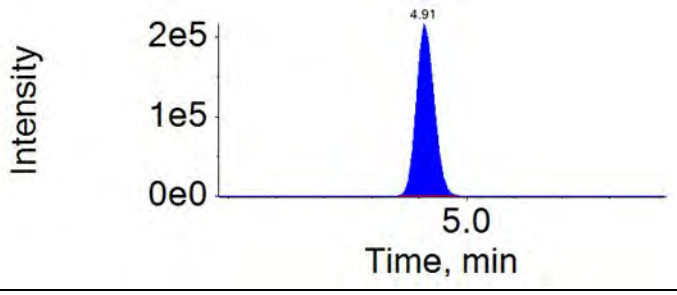
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



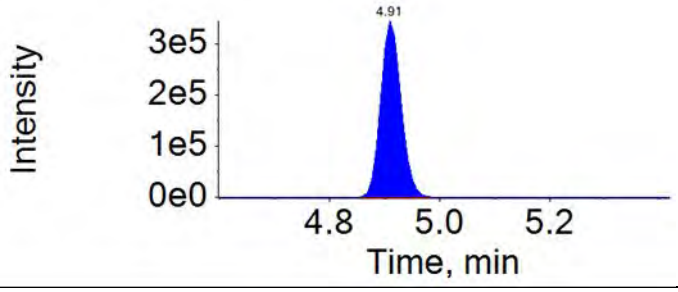
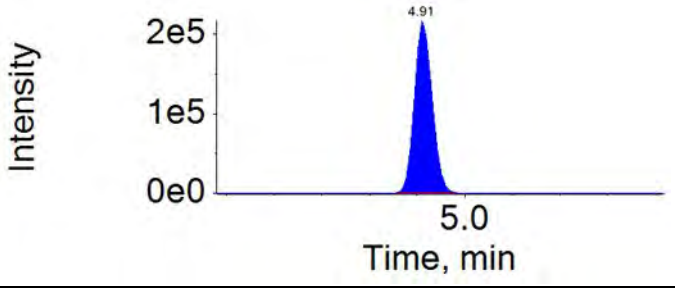


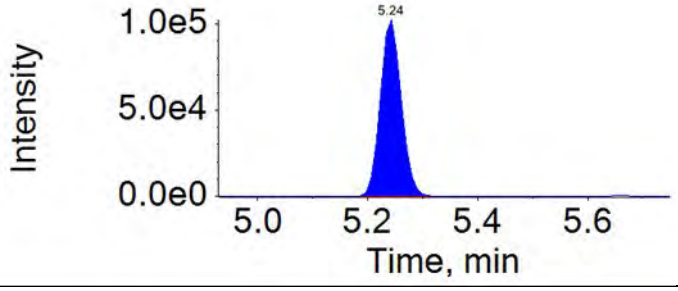
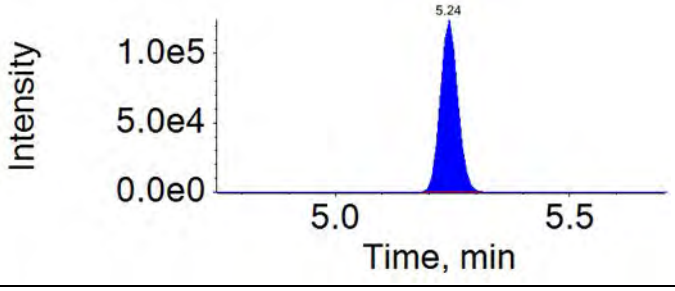
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

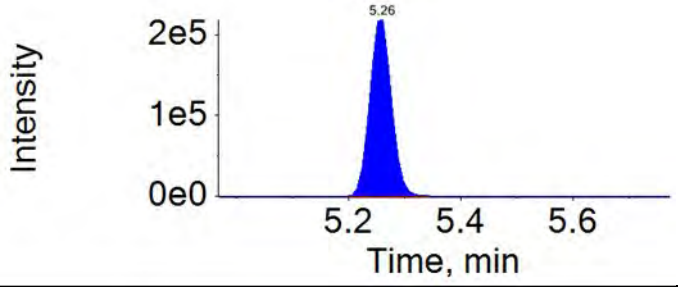
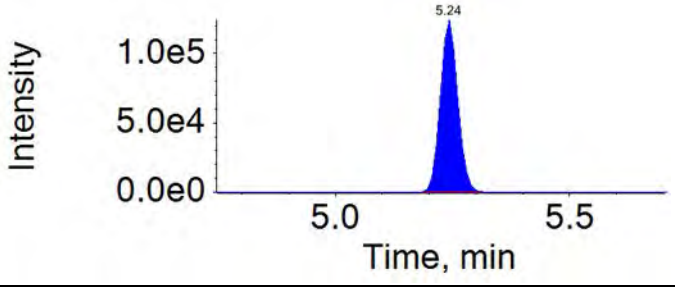


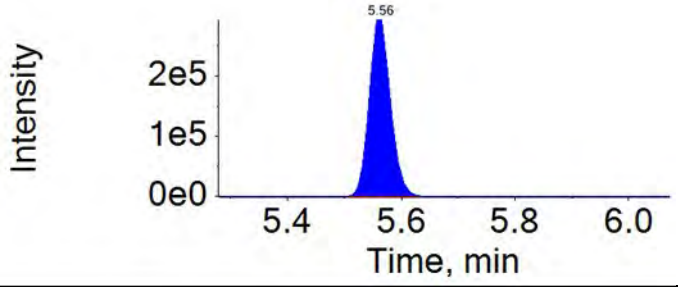
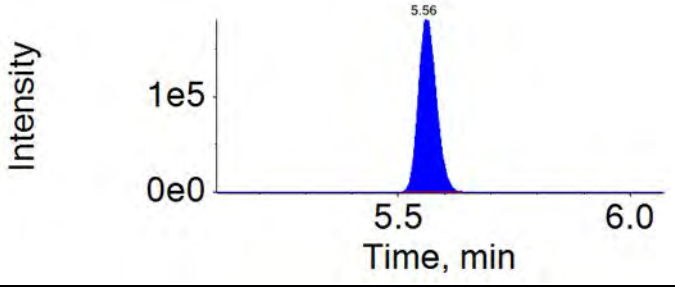


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

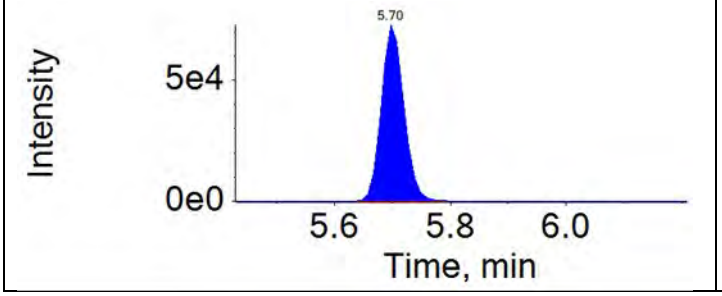
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

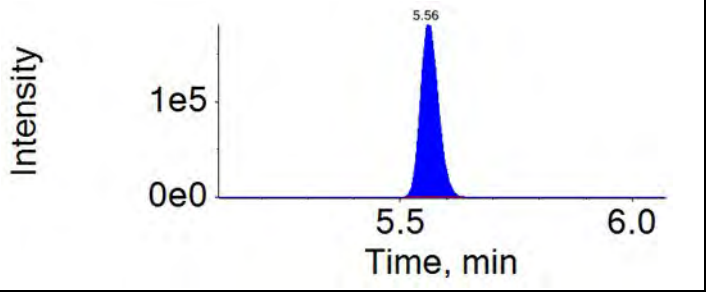
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

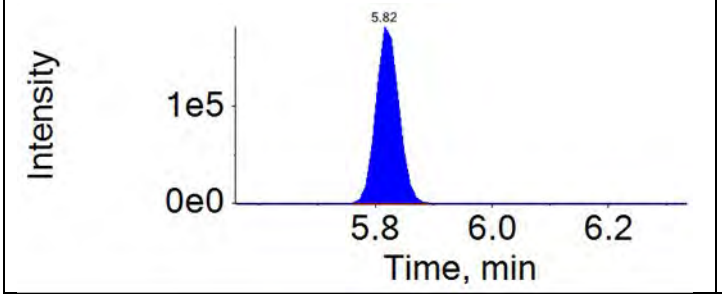
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

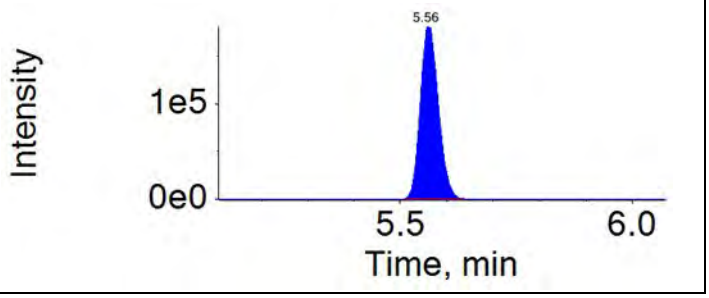
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



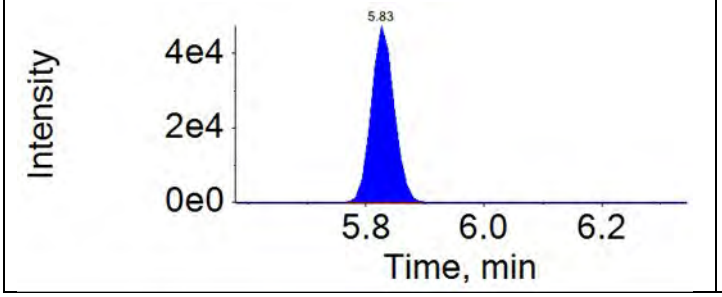


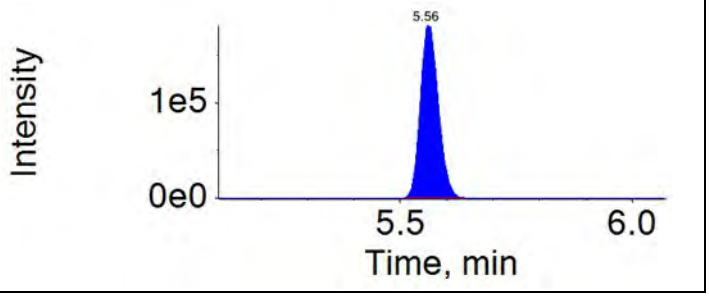
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



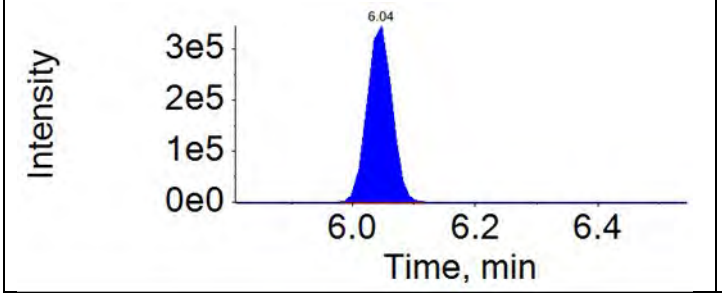


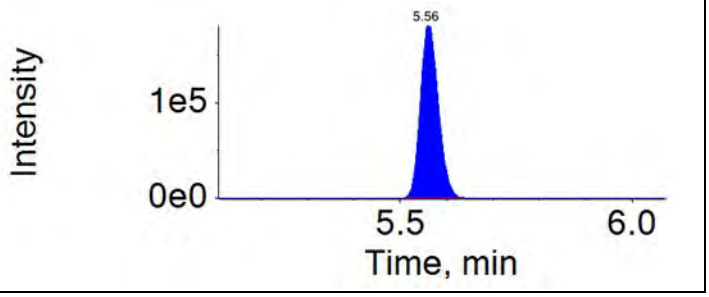
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



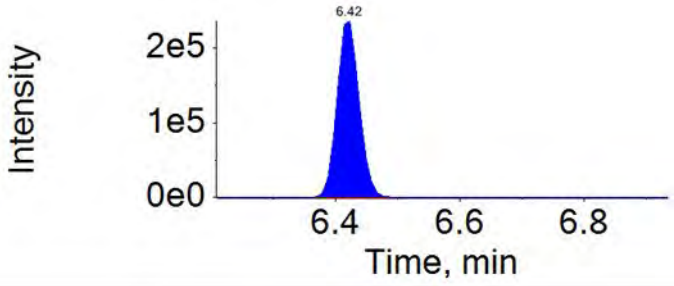
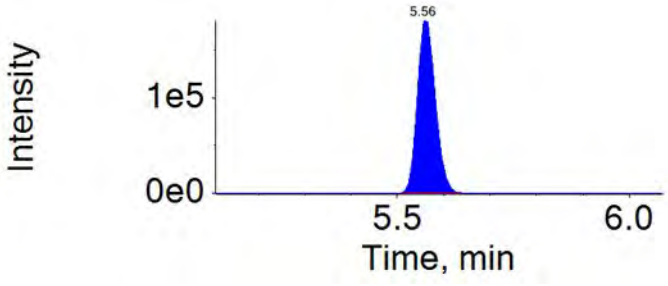


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



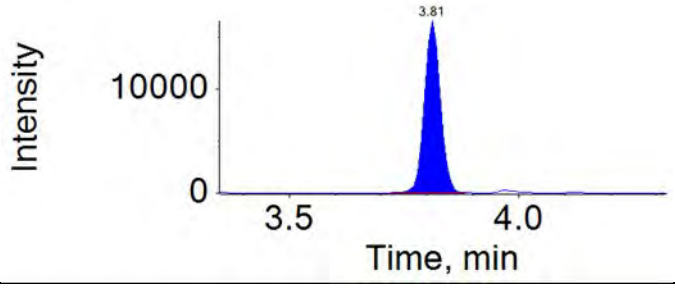


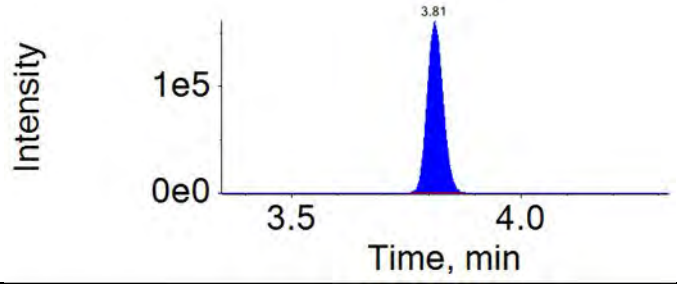
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

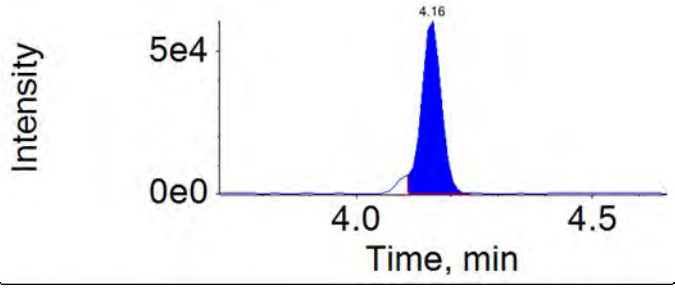
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

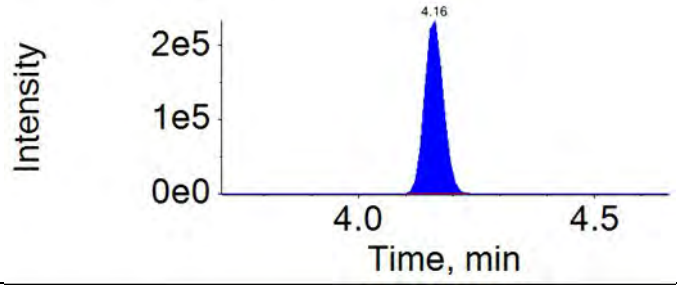
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



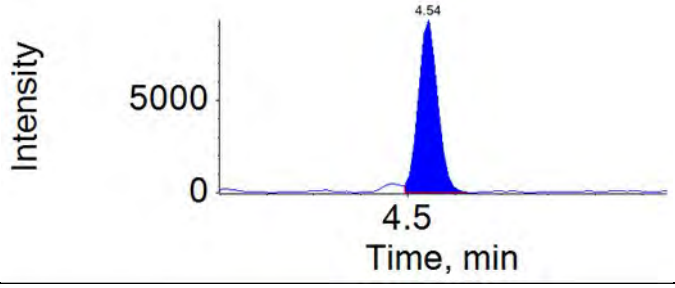


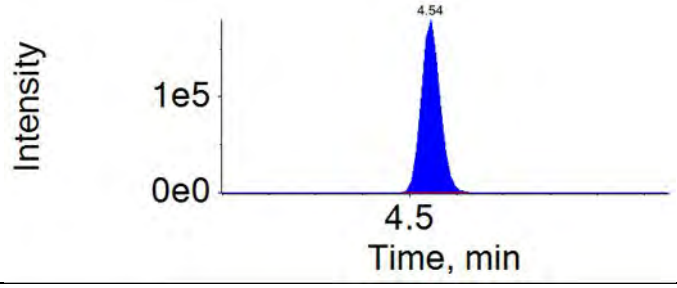
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



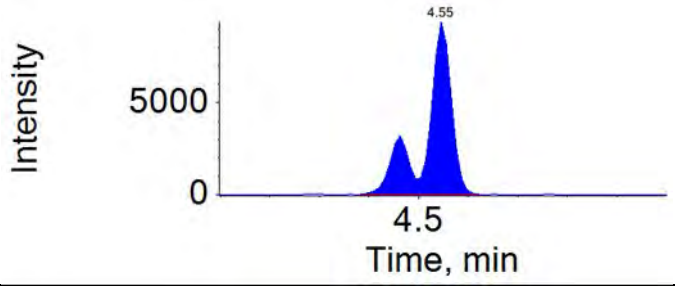


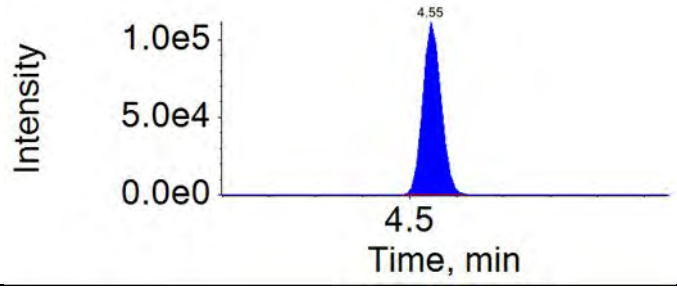
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



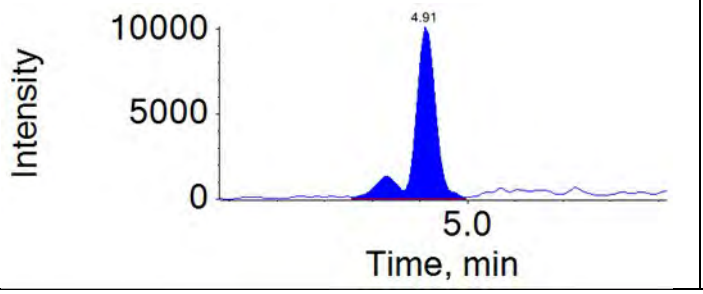


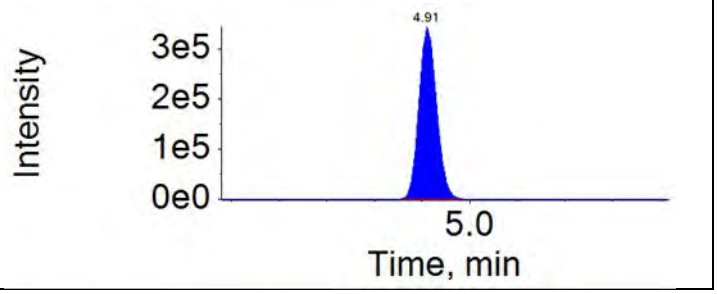
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

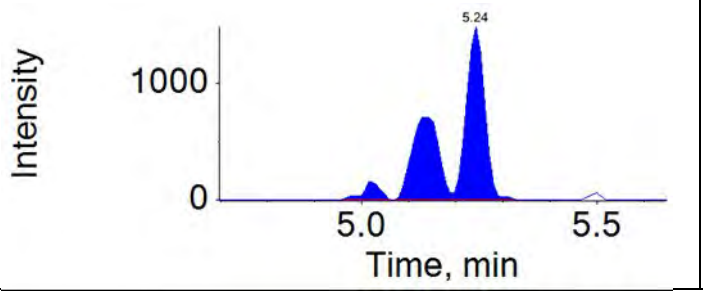
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

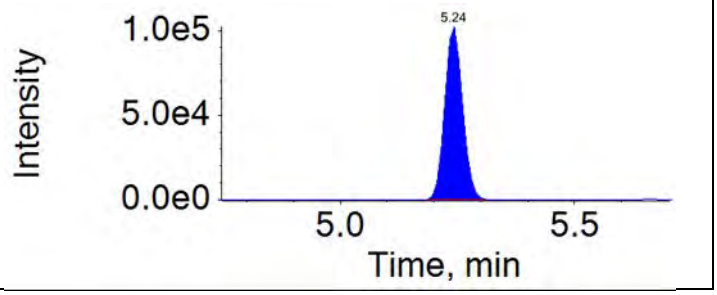
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



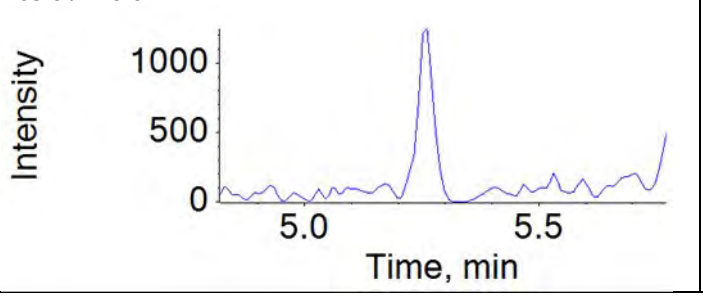


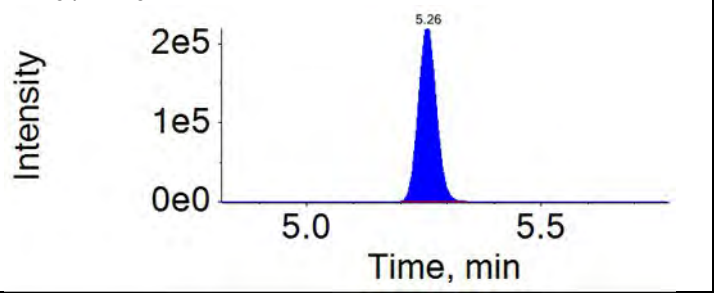
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



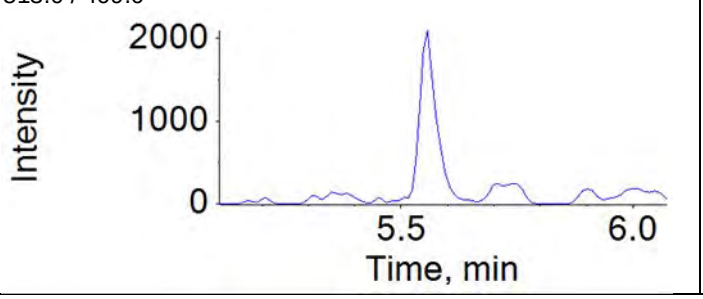


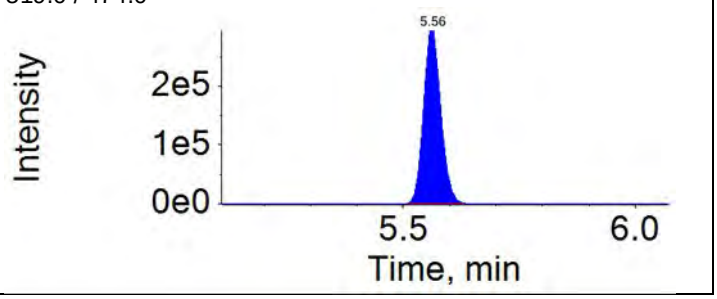
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





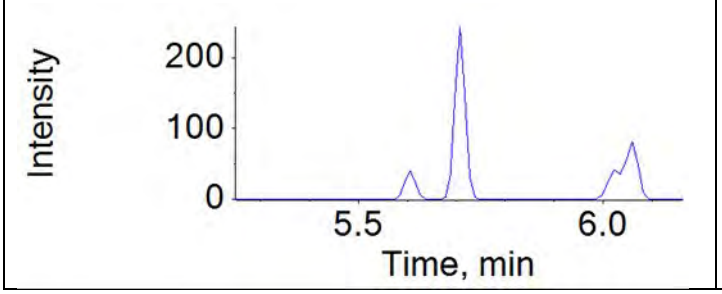
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

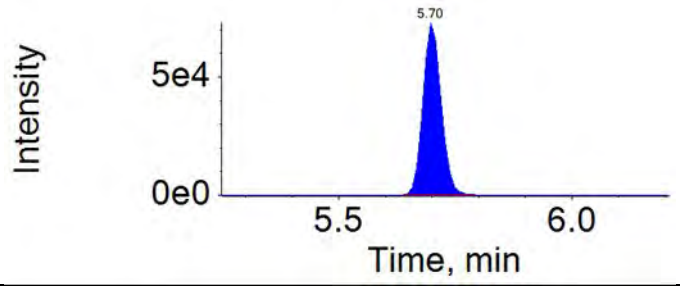




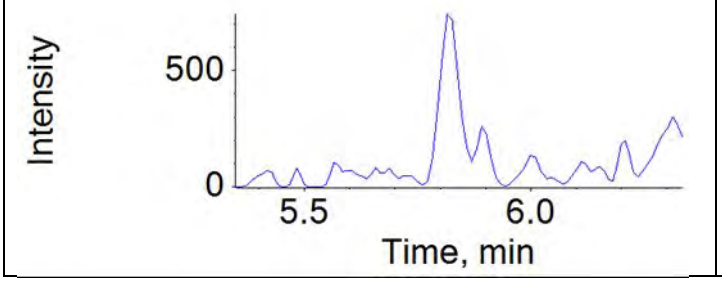
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

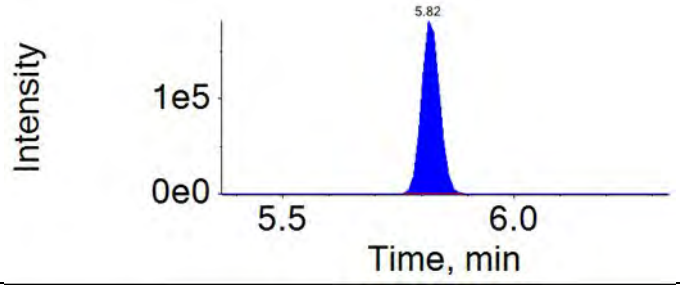
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



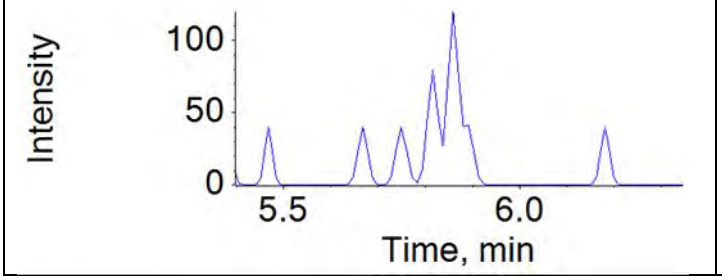


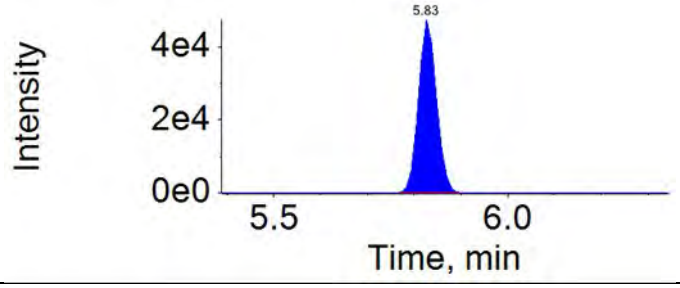
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



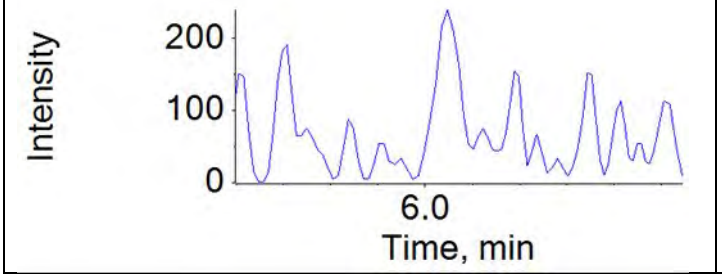


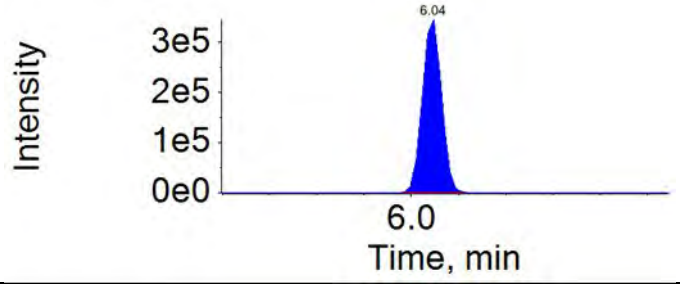
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



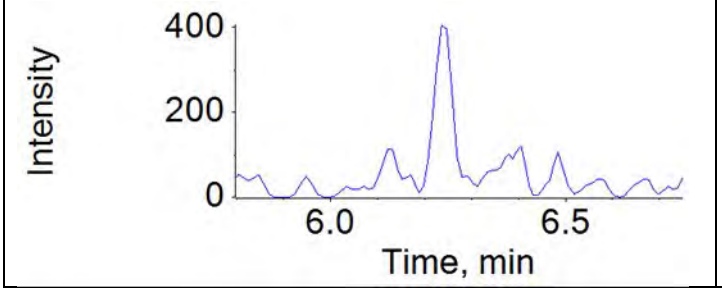


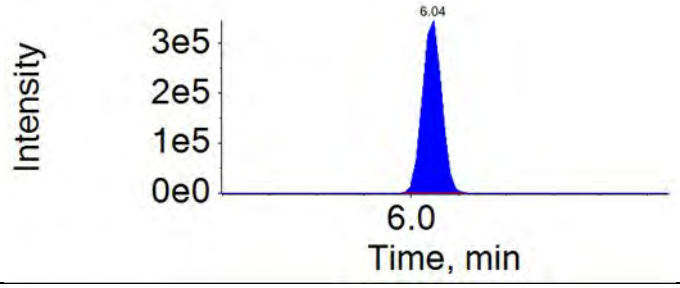
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

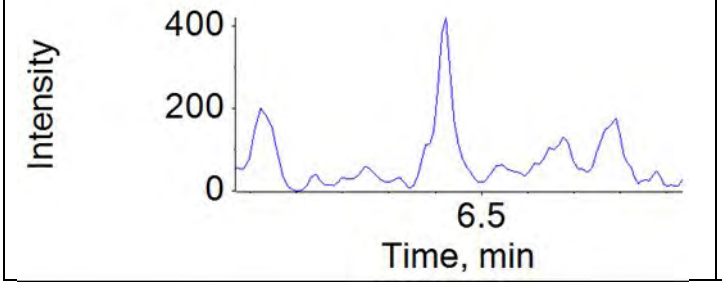
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

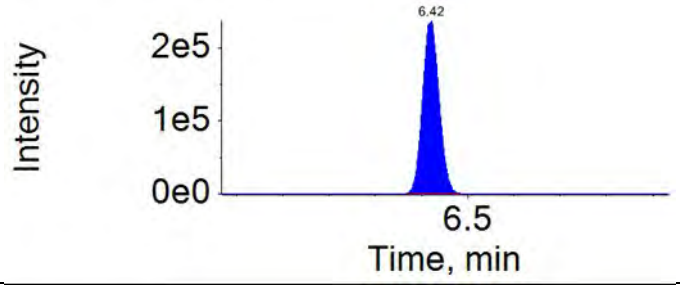
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





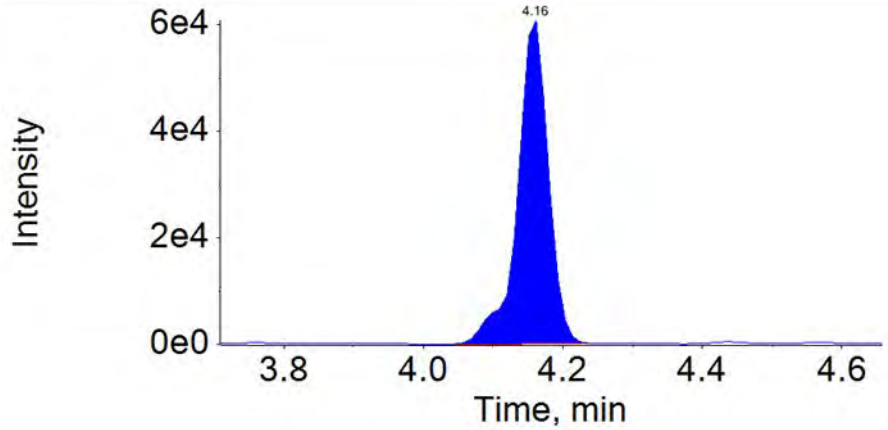
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





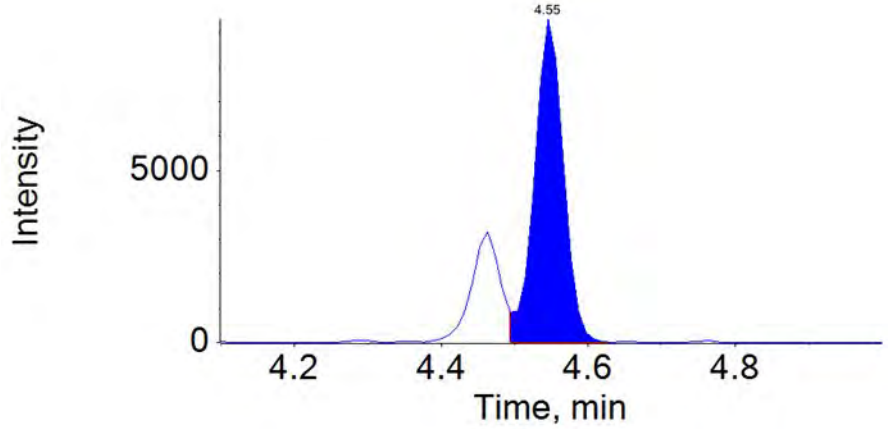
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.16
Peak Area:
187400.3
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



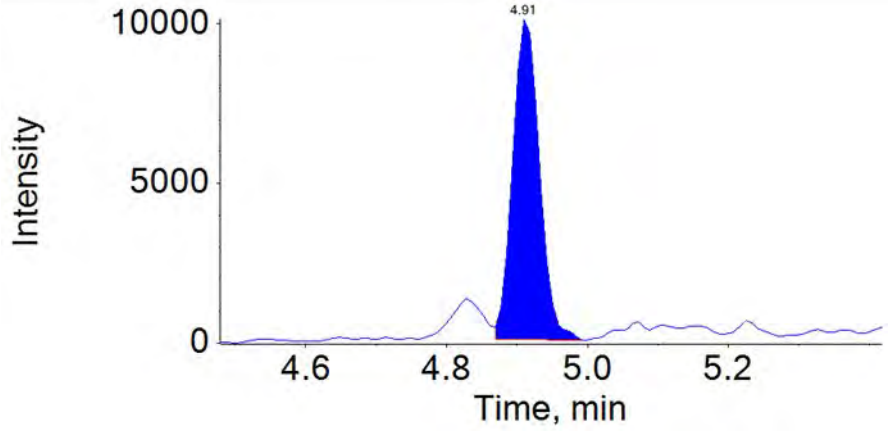
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
25753.9
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
26508.5
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



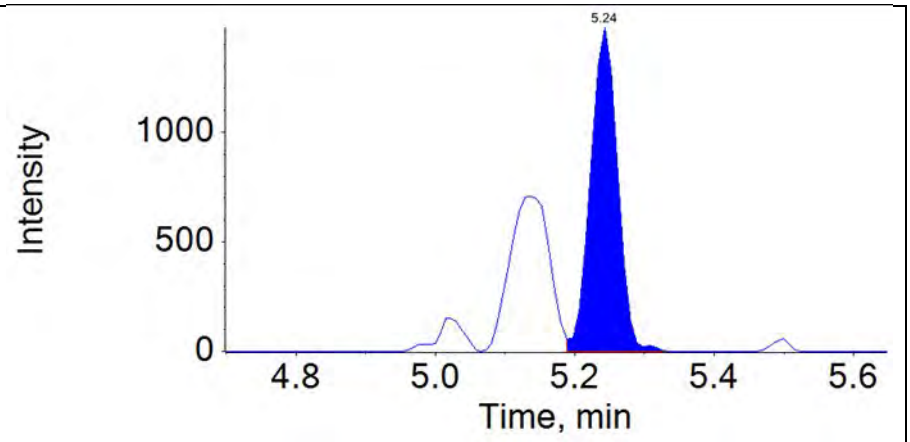
Integration Comment: incorrect integration

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

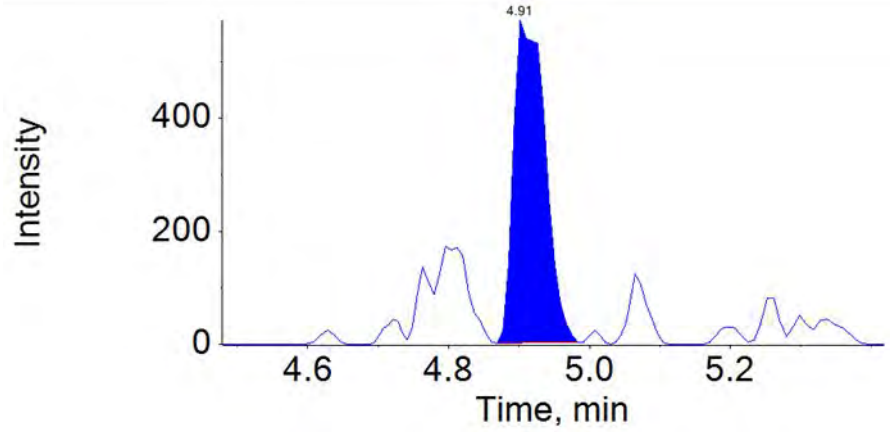
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
3984.2
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



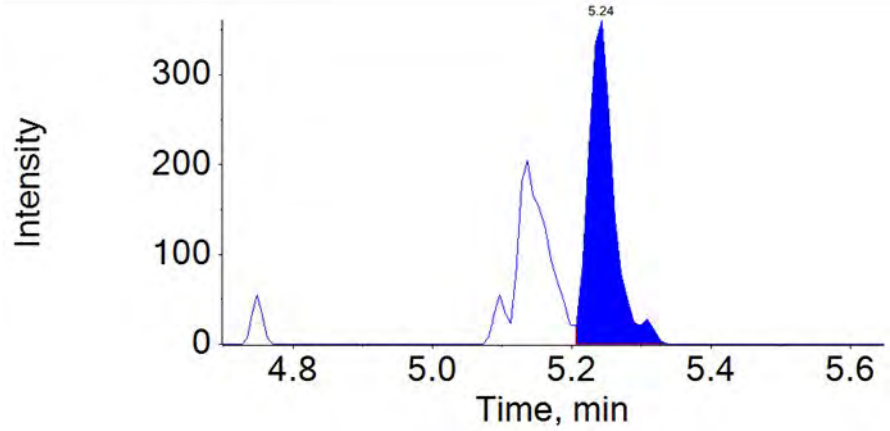
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
1789.7
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
908.5
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-31.wiff
Sample Name:
9934780



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Ion Ratio Report

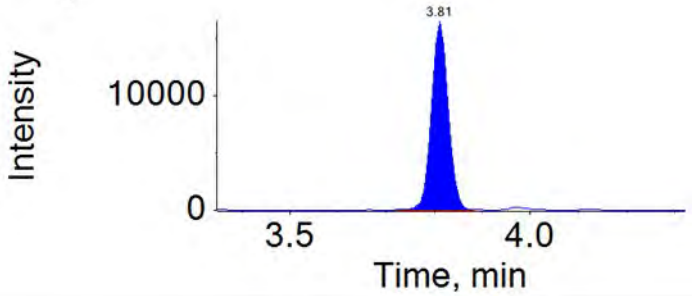
Sample Name: 9934780 **Instrument Name:** LM27631 **File Name:** 18DEC19D-31.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	39465.5	A	N/A	1.0000			
PFBS_2	3.81	1.00	14415.6	A	N/A	0.3653	-1	50	
PFHxA	4.16	1.00	176990.4	M	N/A	1.0000			
PFHxA_2	4.15	1.00	2183.4	A	N/A	0.0123	8	50	
PFHpA	4.54	1.00	26422.5	A	N/A	1.0000			
PFHpA_2	4.55	1.00	1186.1	A	N/A	0.0449	-18	50	
PFHxS	4.55	1.00	34541.0	M	N/A	1.0000			
PFHxS_2	4.55	1.00	12623.2	A	N/A	0.3655	9	50	
PFOA	4.91	1.00	32200.1	M	N/A	1.0000			
PFOA_2	4.91	1.00	2518.1	M	N/A	0.0782	33	50	
PFOS	5.24	1.00	7206.8	M	N/A	1.0000			
PFOS_2	5.23	1.00	1566.6	M	N/A	0.2174	-27	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

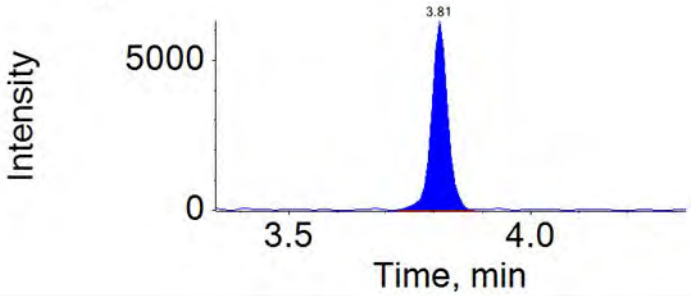
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

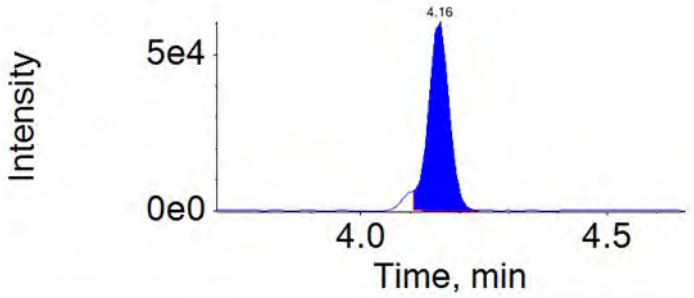
Component: PFBS
Primary Mass: 299.0 / 80.0



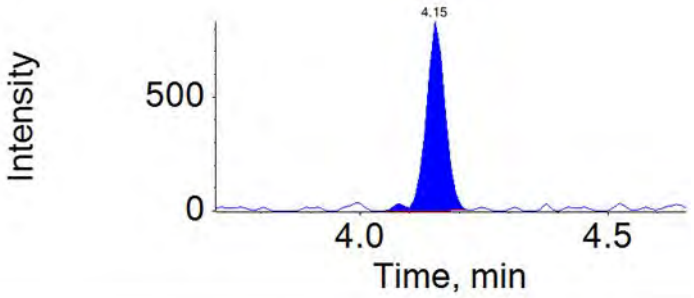
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



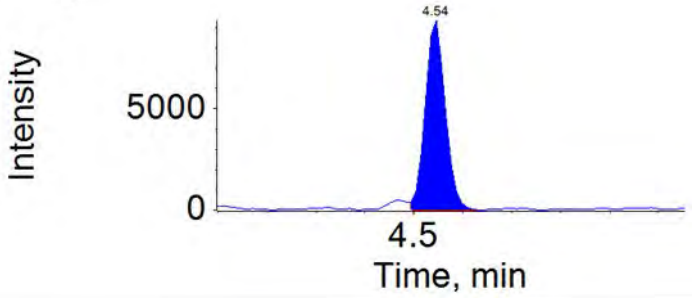
Component: PFHxA
Primary Mass: 313.0 / 269.0



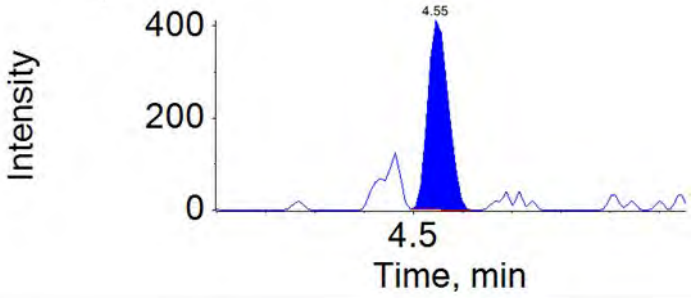
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



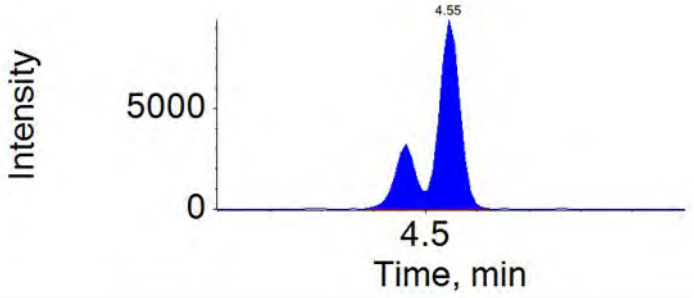
Component: PFHpA
Primary Mass: 363.0 / 319.0



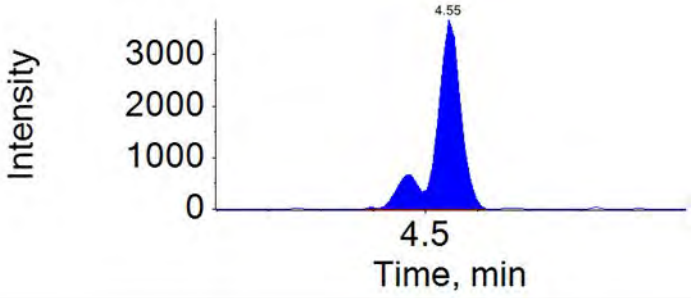
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



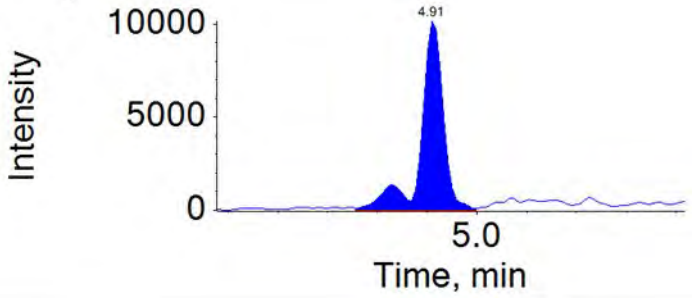
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Secondary Mass: 399.0 / 99.0



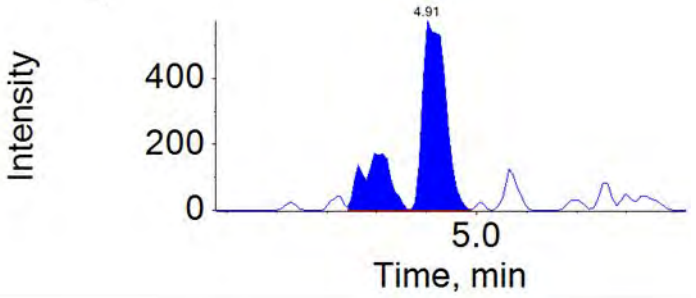
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REVIEWED
By umar at 4:41 pm, 12/28/18

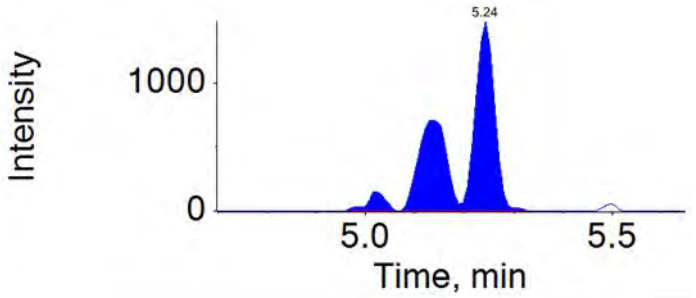
Component: PFOA
Primary Mass: 413.0 / 369.0



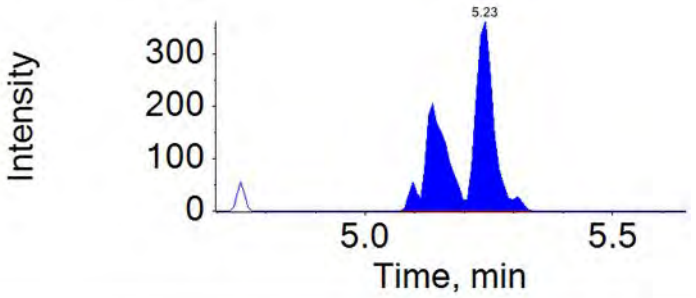
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



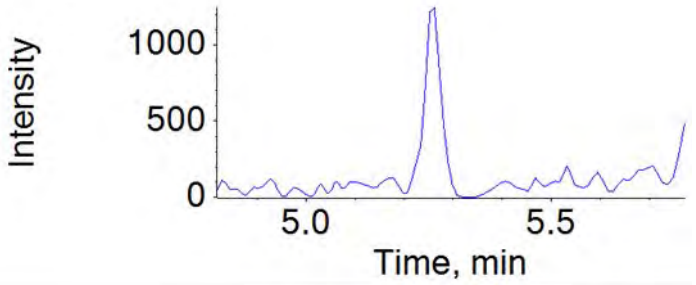
Component: PFOS
Primary Mass: 499.0 / 80.0



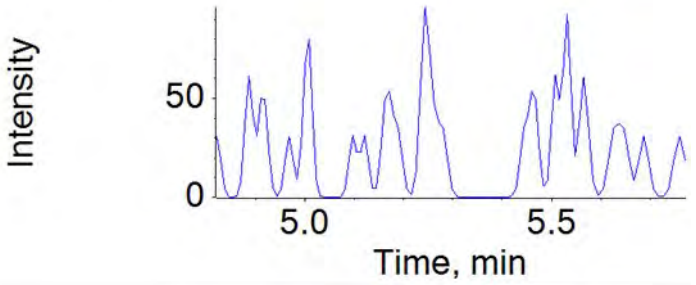
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



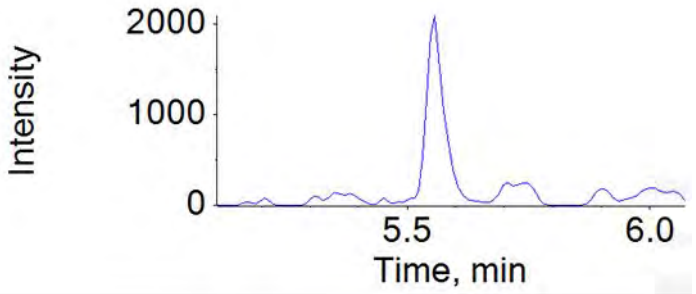
Component: PFNA
Primary Mass: 463.0 / 419.0



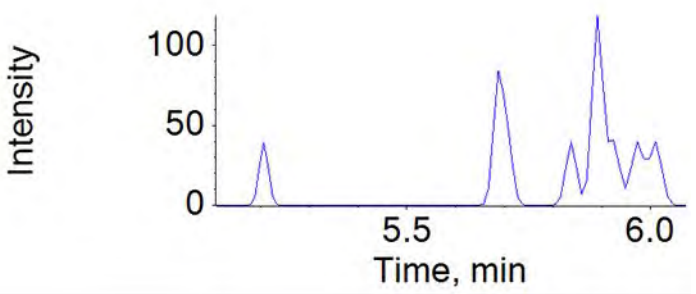
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



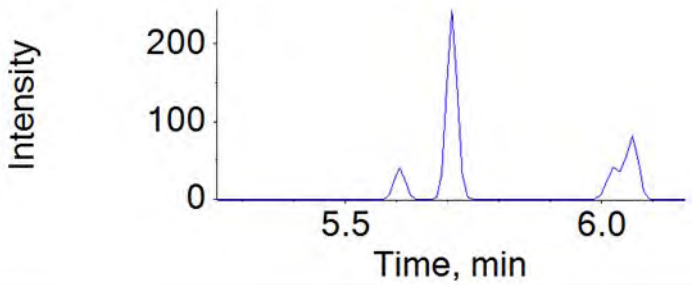
Component: PFDA
Primary Mass: 513.0 / 469.0



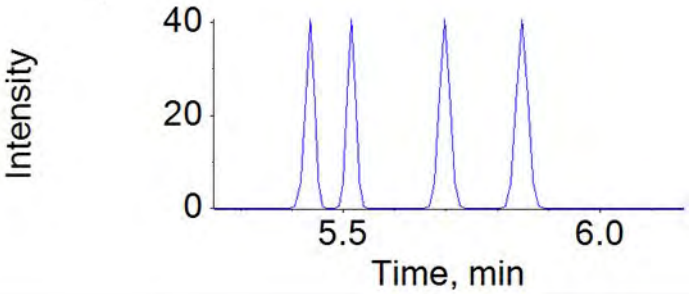
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



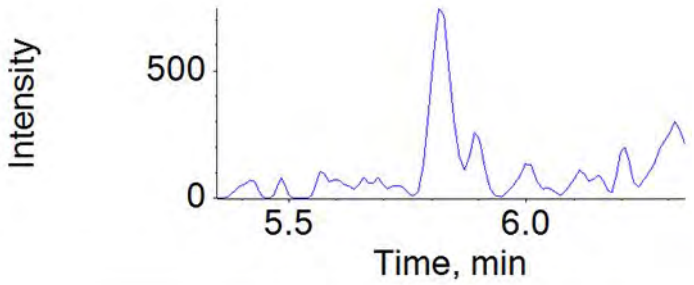
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



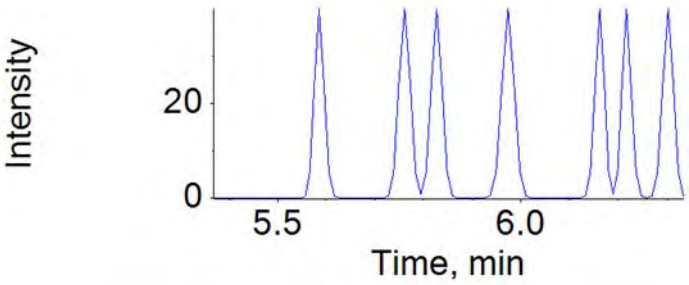
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



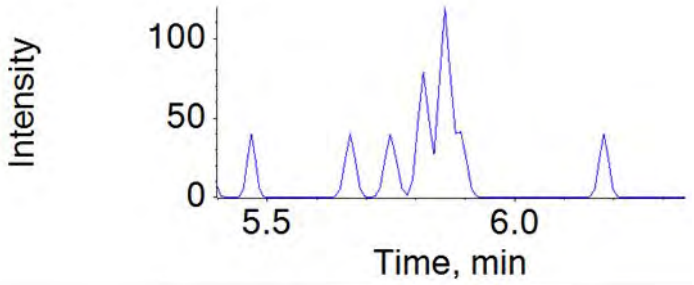
Component: PFUnDA
Primary Mass: 563.0 / 519.0



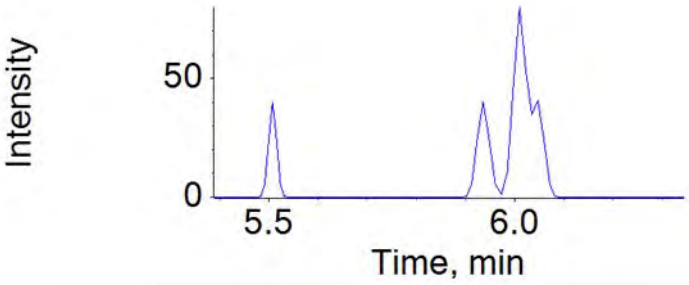
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



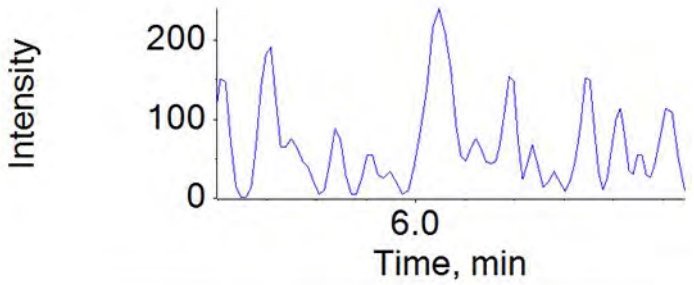
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



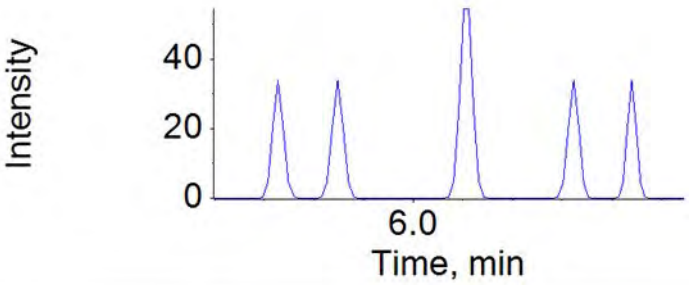
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



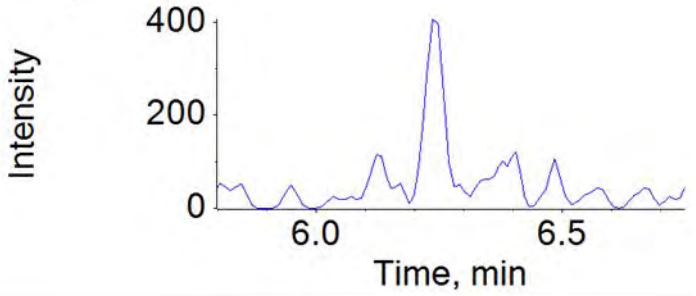
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



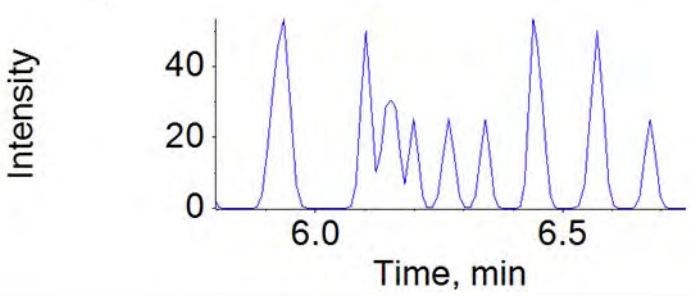
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

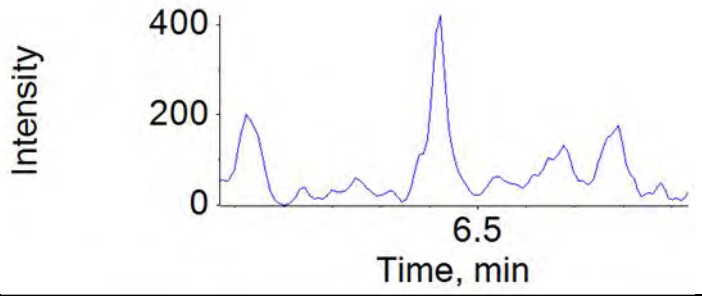
Component: PFTrDA
Primary Mass: 663.0 / 619.0



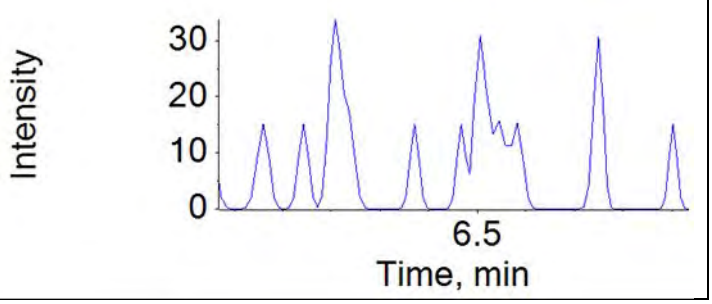
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934781			**Data File:**		18DEC19D-32.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YS16-6-W-01 Grab Water			**Acquis Date:**		2018-12-19T14:47:14
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	58			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.27276			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	996794.0	942675.8	6	50	
13C2-PFOA	5.0	540526.6	520268.5	4	50	
13C4-PFOS	4.8	304921.7	307968.9	-1	50	
13C2-PFDA	5.0	517367.1	487375.3	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	380853.3	13C3-PFBA	996794.0	0.382	17.048	13.640	80	50-150	
E13C5-PFHxA	549321.3	13C2-PFOA	540526.6	1.016	18.331	13.327	73	50-150	
E13C3-PFHxS	302816.6	13C2-PFOA	540526.6	0.560	17.341	15.542	90	50-150	
E13C4-PFHpA	461291.8	13C2-PFOA	540526.6	0.853	18.331	13.515	74	50-150	
E13C8-PFOA	828202.6	13C2-PFOA	540526.6	1.532	18.331	15.446	84	50-150	
E13C8-PFOS	285969.6	13C4-PFOS	304921.7	0.938	17.525	15.376	88	50-150	
E13C9-PFNA	561589.9	13C4-PFOS	304921.7	1.842	18.331	15.361	84	50-150	
E13C6-PFDA	791495.9	13C2-PFDA	517367.1	1.530	18.331	15.977	87	50-150	
Ed3-NMeFOSAA	200426.9	13C2-PFDA	517367.1	0.387	18.331	15.626	85	50-150	
E13C7-PFUnDA	561963.0	13C2-PFDA	517367.1	1.086	18.331	16.669	91	50-150	
Ed5-NEtFOSAA	162225.0	13C2-PFDA	517367.1	0.314	18.331	16.936	92	50-150	
E13C2-PFDoDA	1138886.7	13C2-PFDA	517367.1	2.201	18.331	16.979	93	50-150	
E13C2-PFTeDA	799360.5	13C2-PFDA	517367.1	1.545	18.331	15.963	87	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

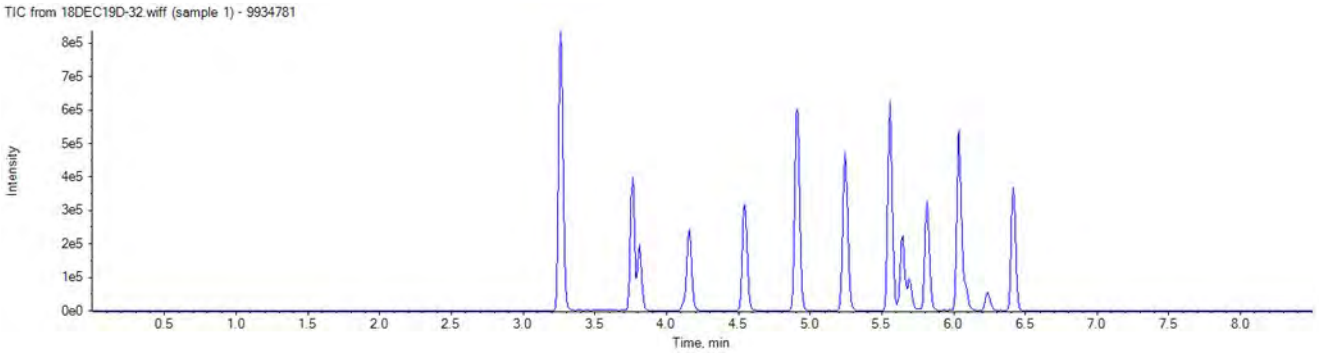
Analyte Quantitation Peak Table

Sample Name: 9934781 **Instrument Name:** LM27631 **File Name:** 18DEC19D-32.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27276	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	380853.3	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	549321.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	461291.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	302816.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	828202.6	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	285969.6	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	561589.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	791495.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	200426.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	561963.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	162225.0	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1138886.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1138886.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	799360.5	N/A	

Total Ion Chromatogram

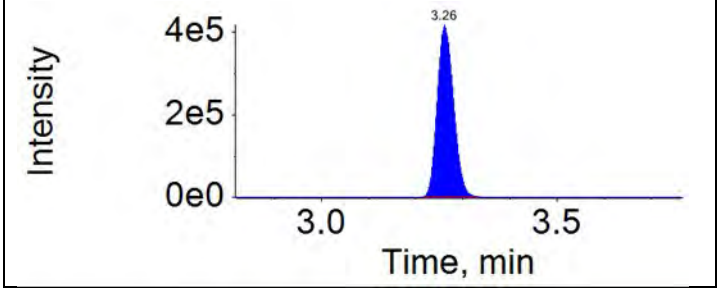


APPROVED
By MSM at 10:14 am, 12/20/18

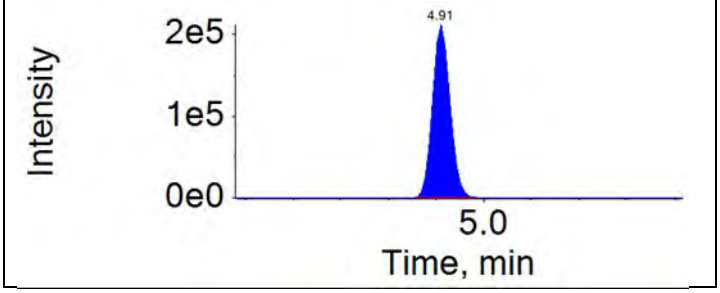
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

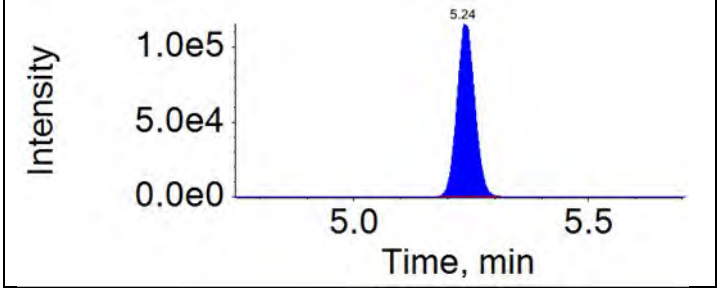
Injection Standard: 13C3-PFBA
216.0 / 172.0



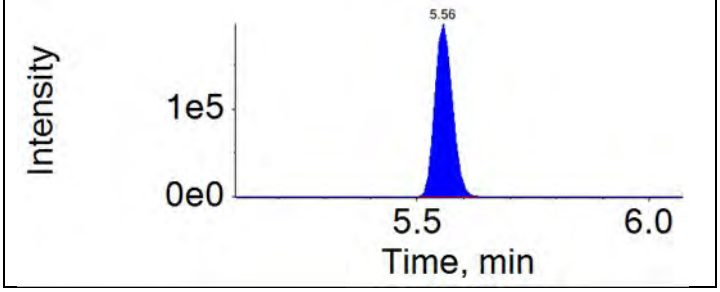
Injection Standard: 13C2-PFOA
415.0 / 370.0



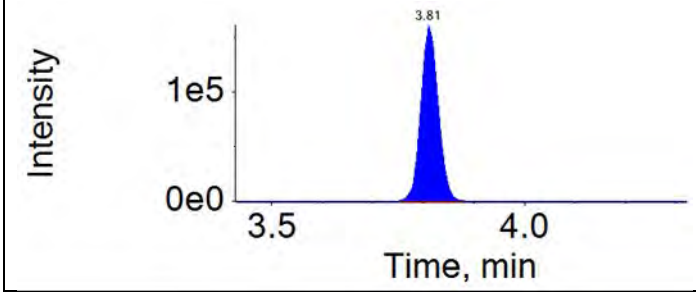
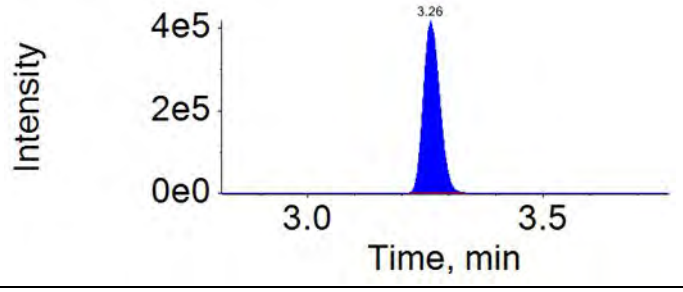
Injection Standard: 13C4-PFOS
503.0 / 80.0

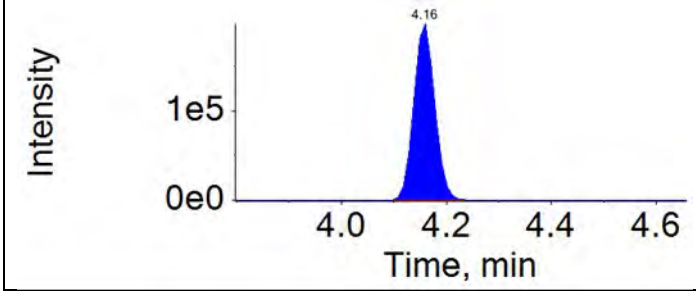
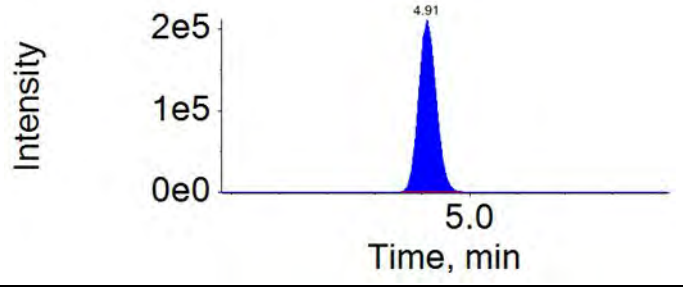


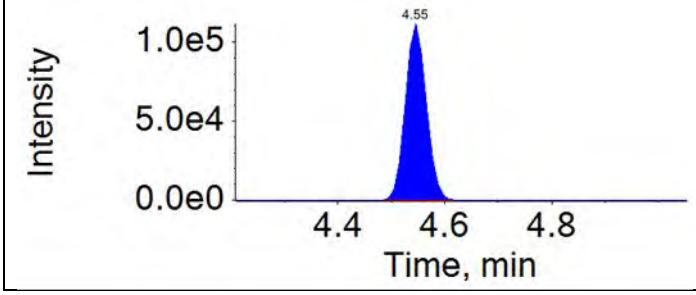
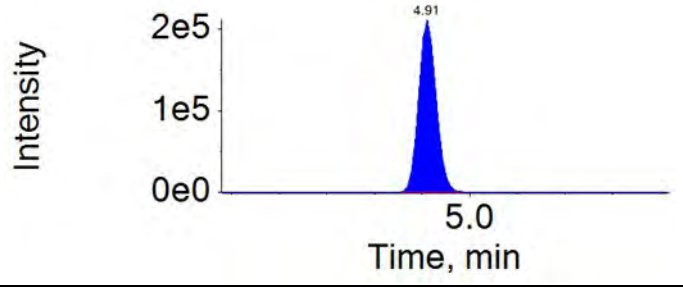
Injection Standard: 13C2-PFDA
515.0 / 470.0

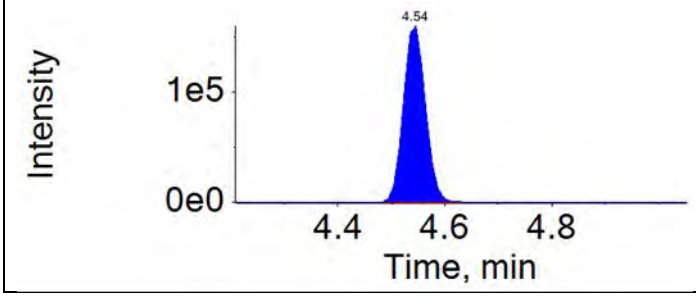
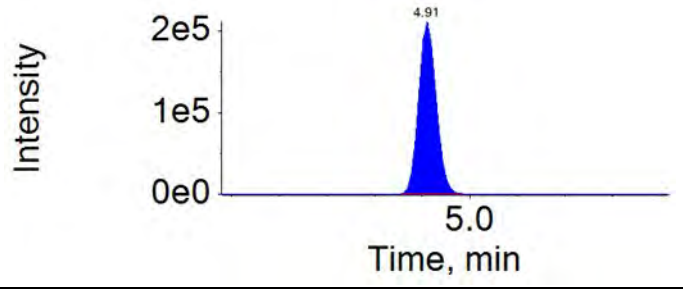


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

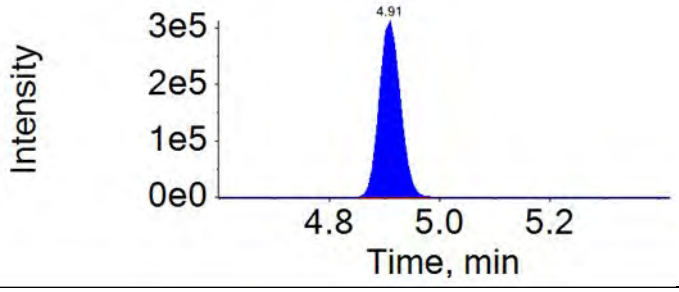
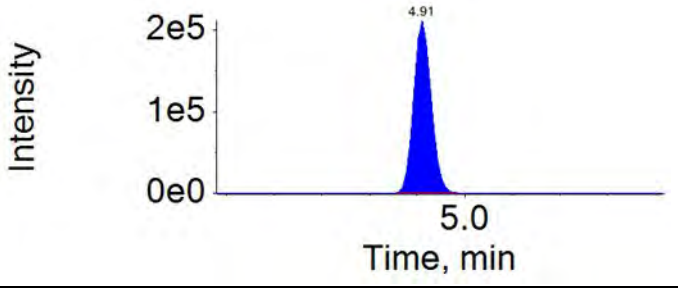
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

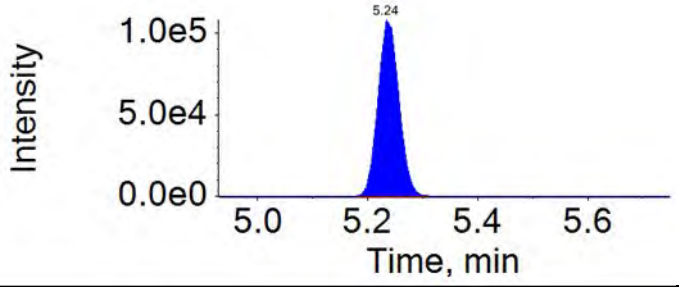
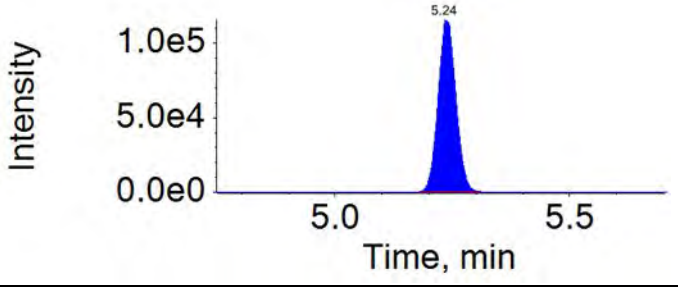
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

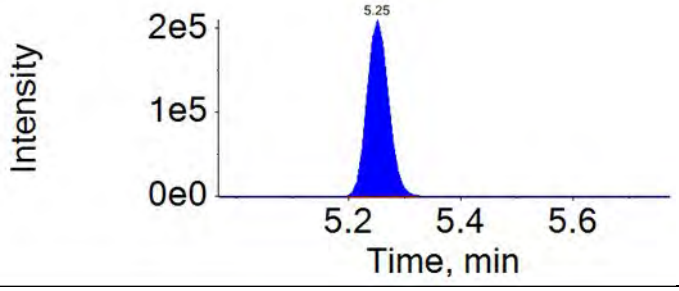
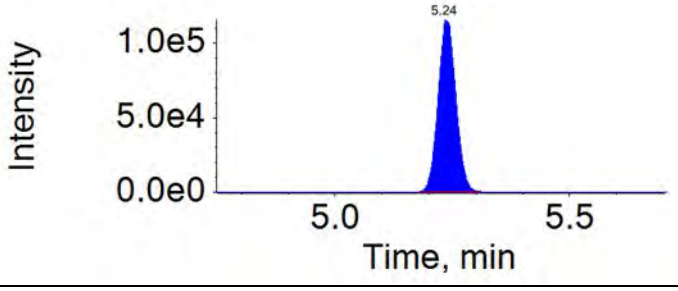
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

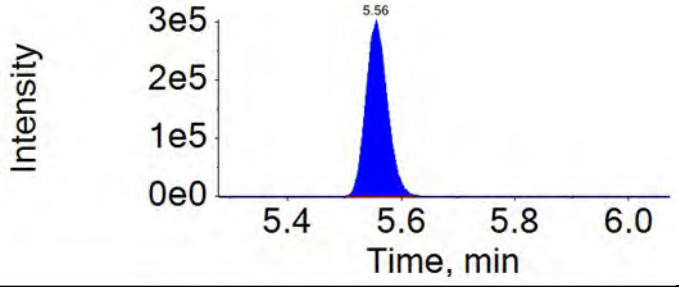
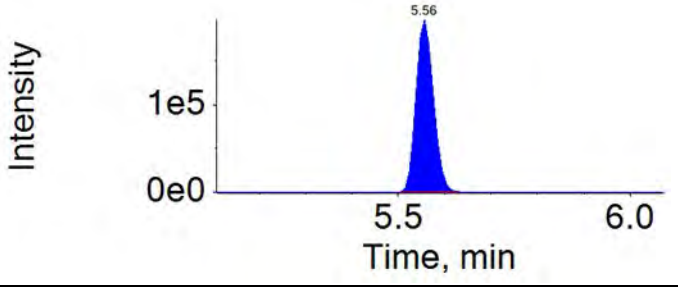
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

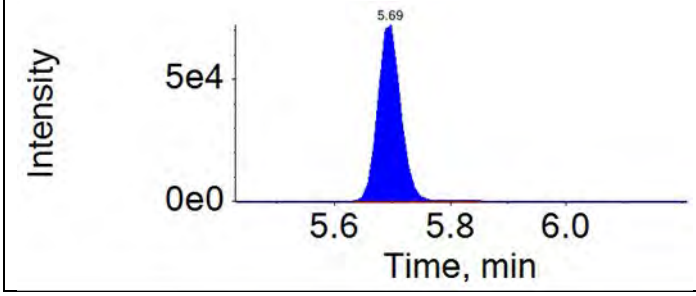
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

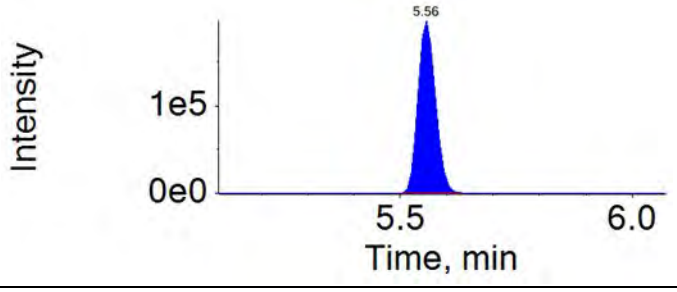
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

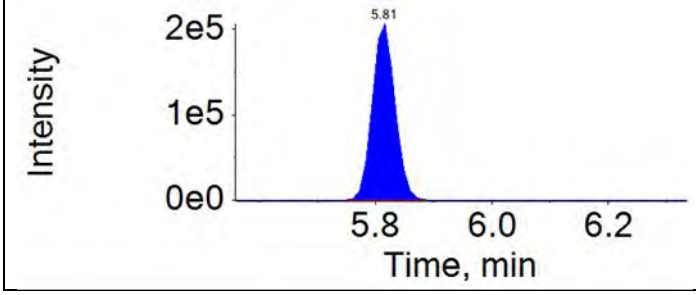
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

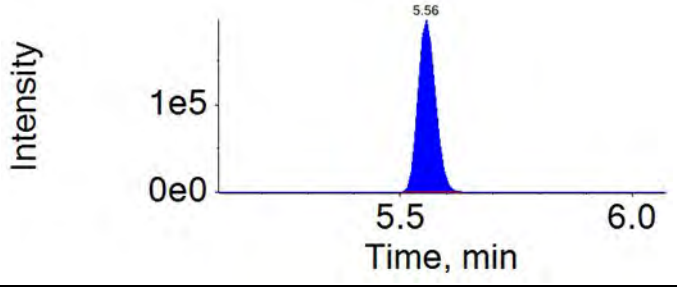
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



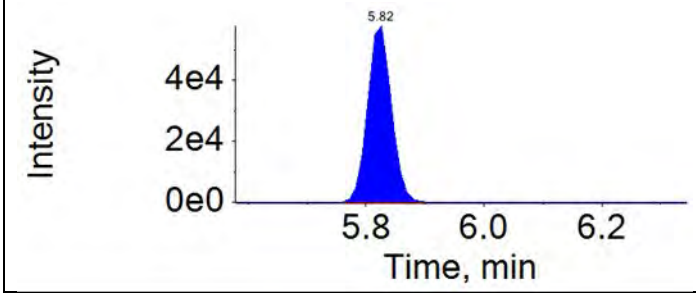


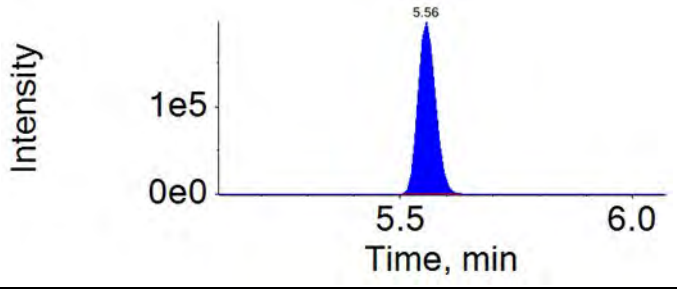
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



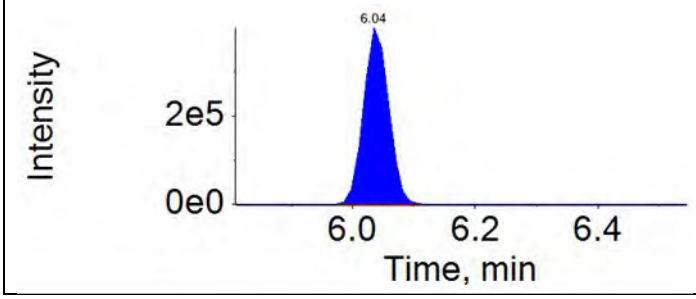


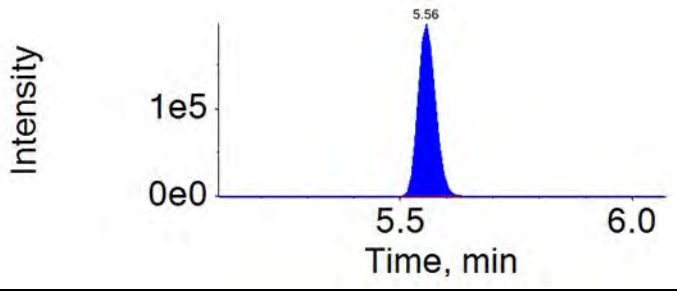
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



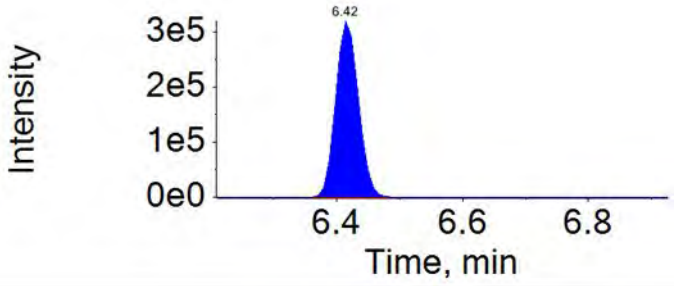
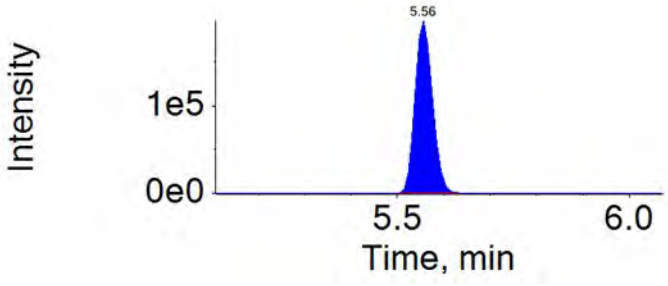


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



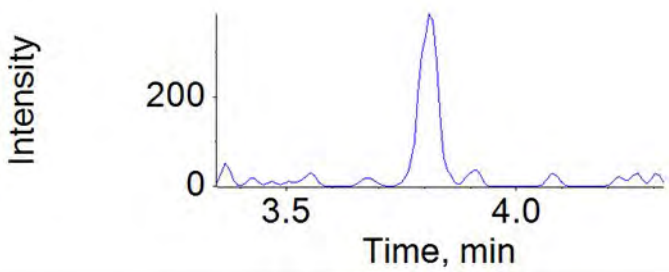


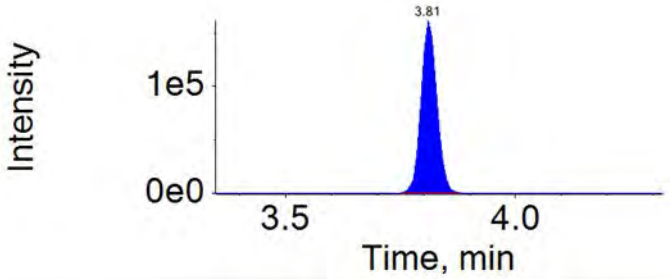
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

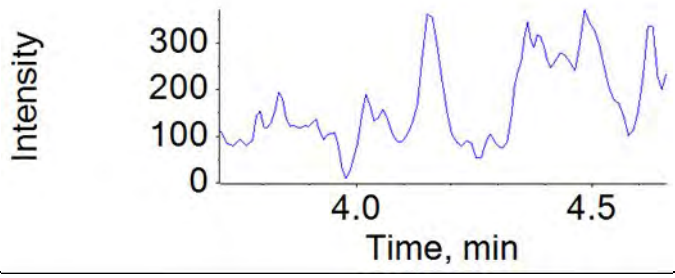
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

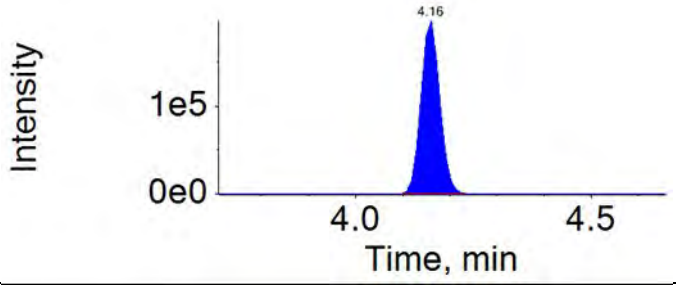
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



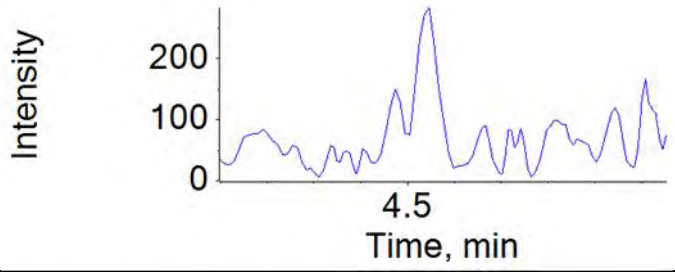


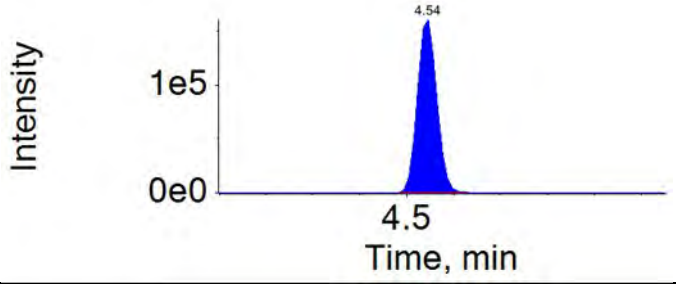
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



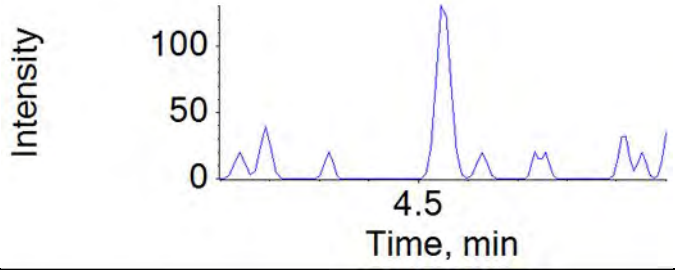


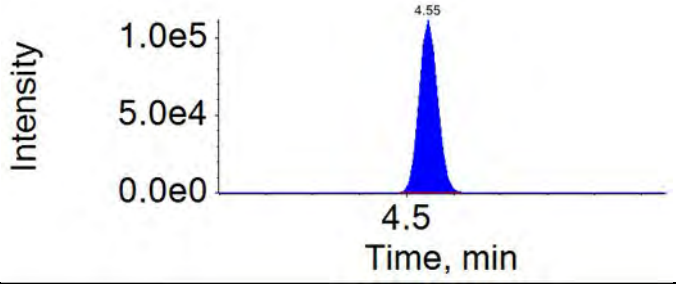
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





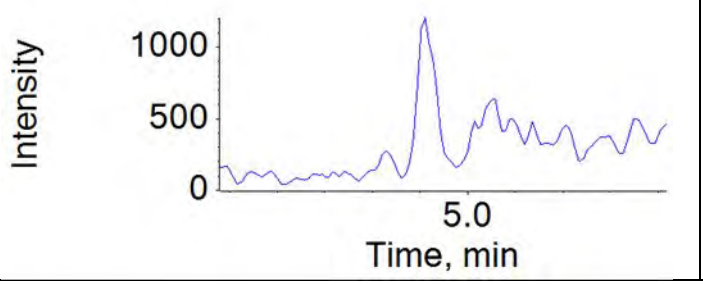
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

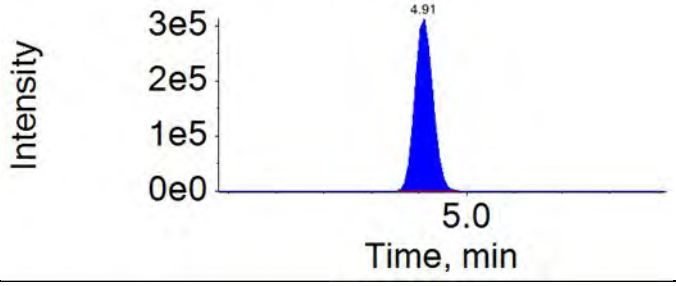




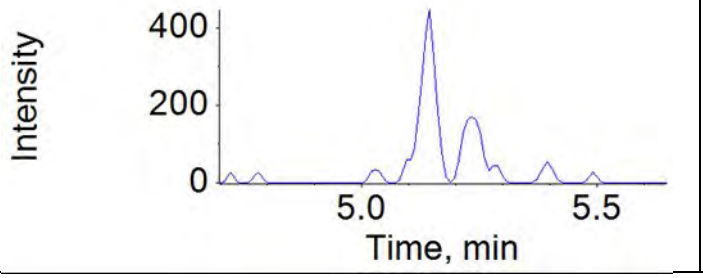
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

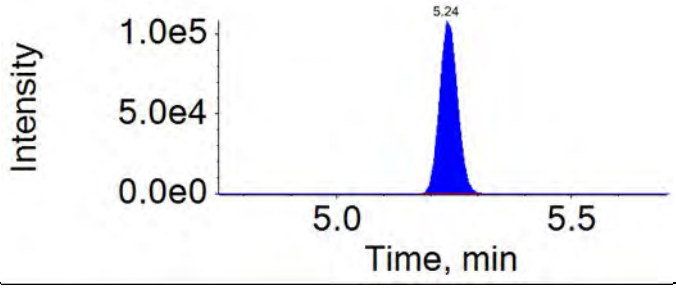
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



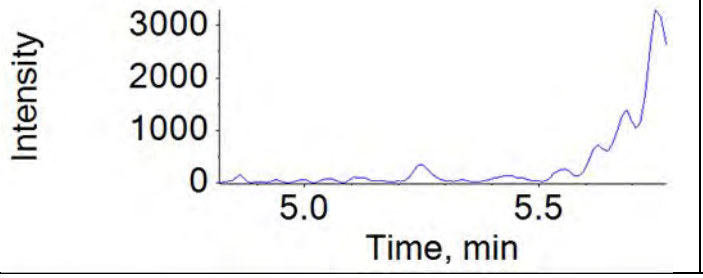


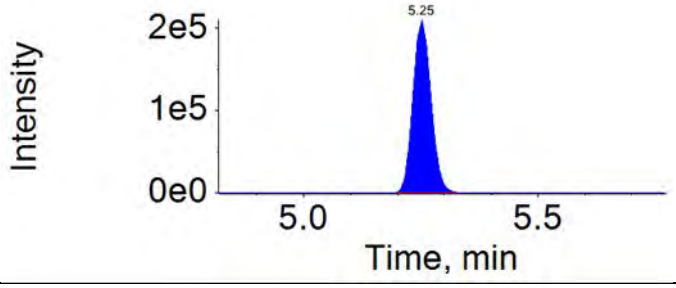
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



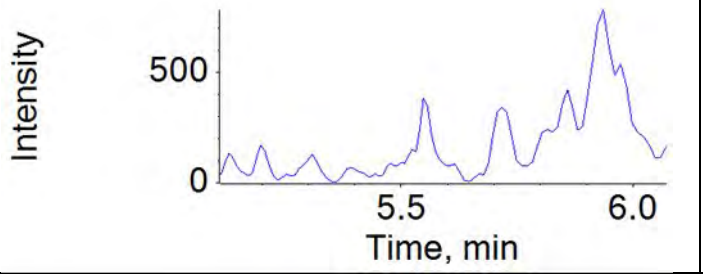


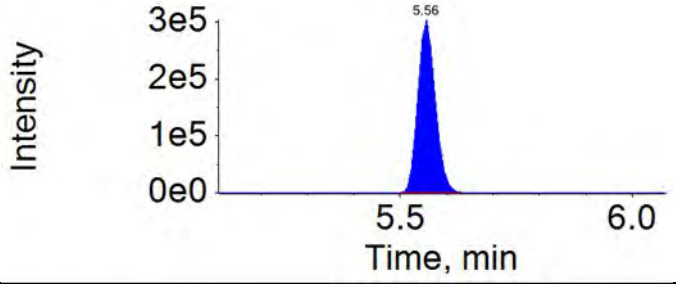
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





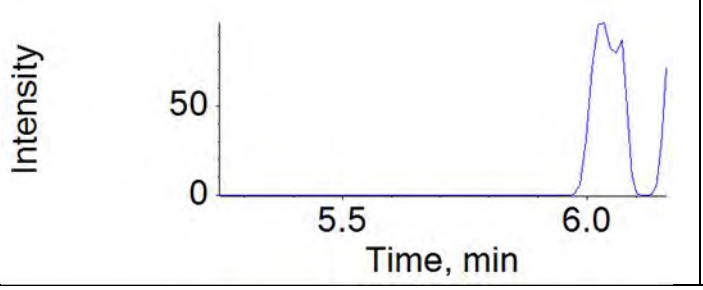
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

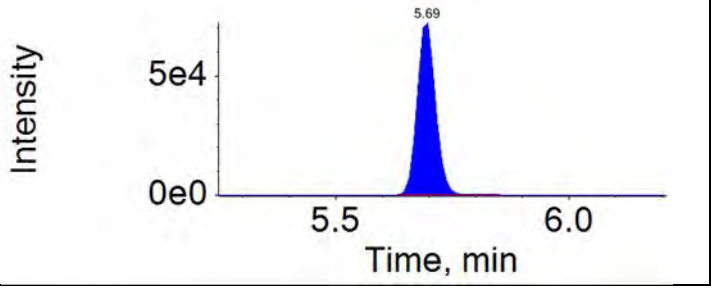




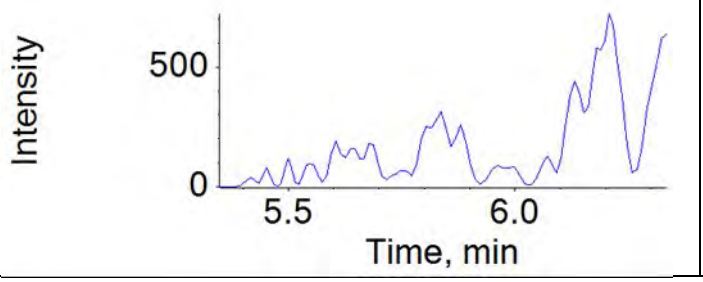
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

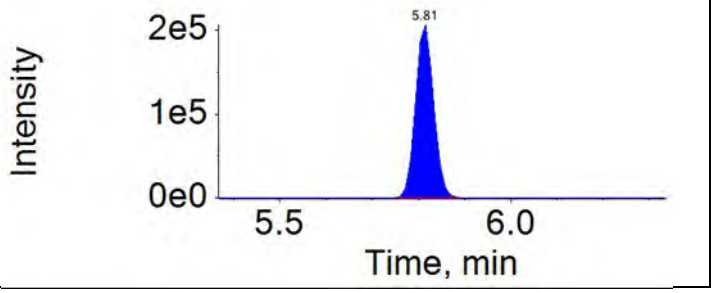
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



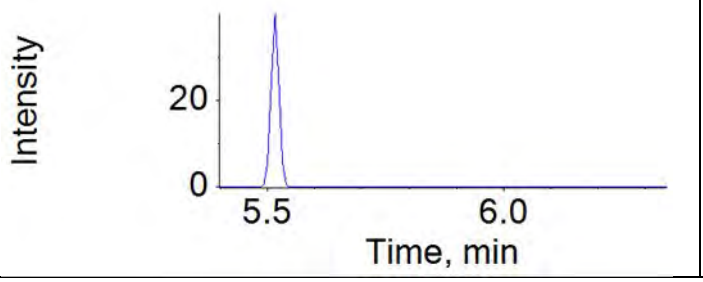


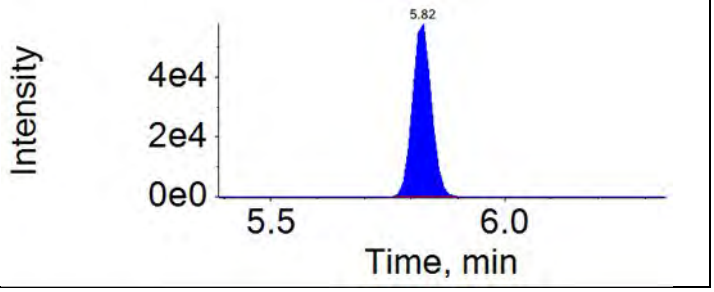
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



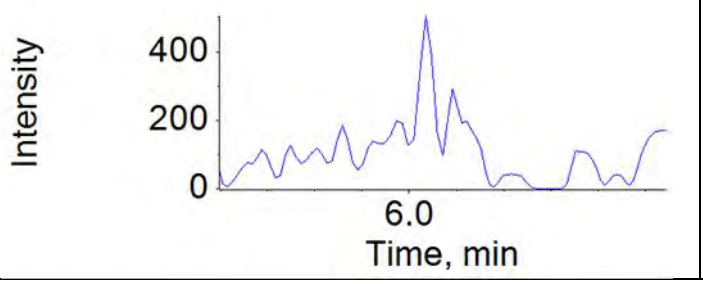


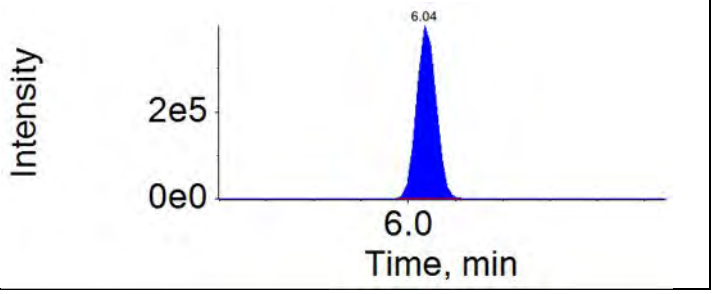
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



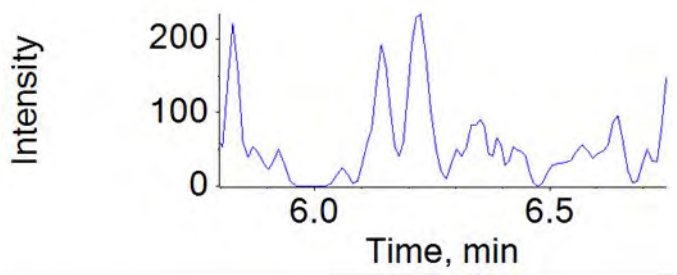
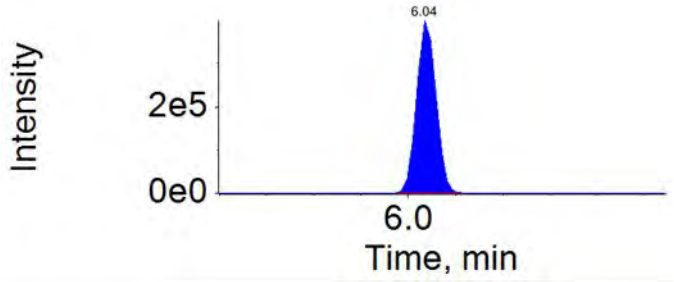


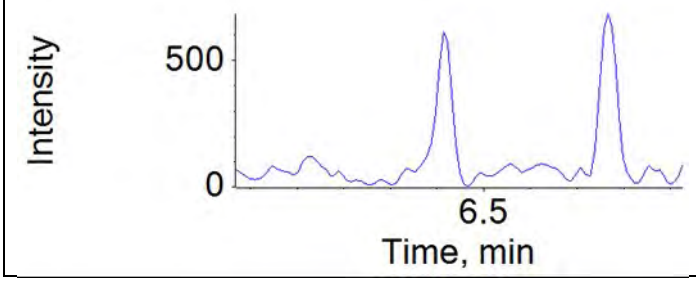
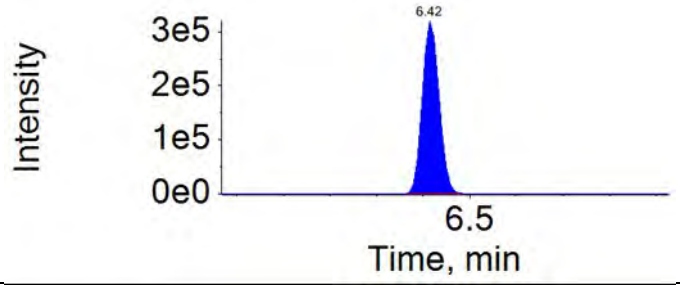
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0





ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Ion Ratio Report

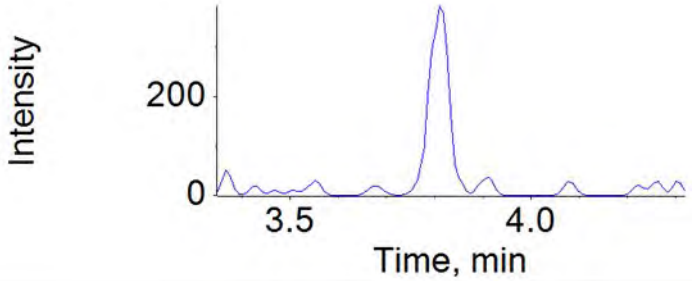
Sample Name: 9934781 **Instrument Name:** LM27631 **File Name:** 18DEC19D-32.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

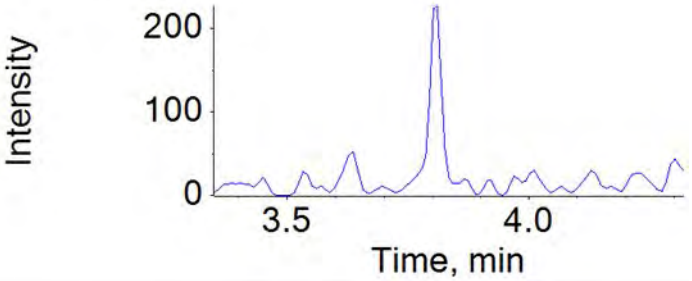
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

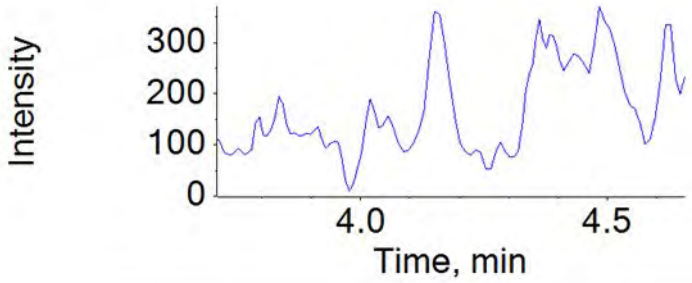
Component: PFBS
Primary Mass: 299.0 / 80.0



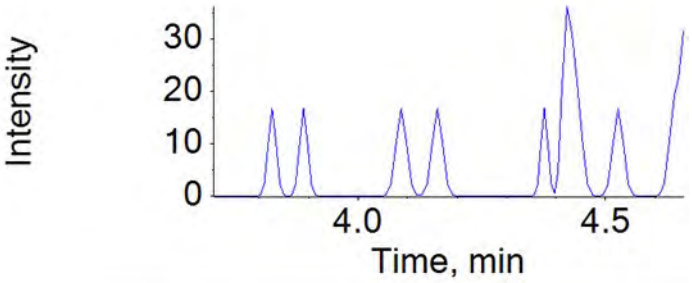
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



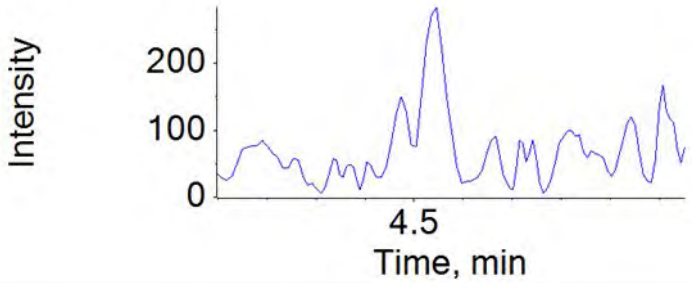
Component: PFHxA
Primary Mass: 313.0 / 269.0



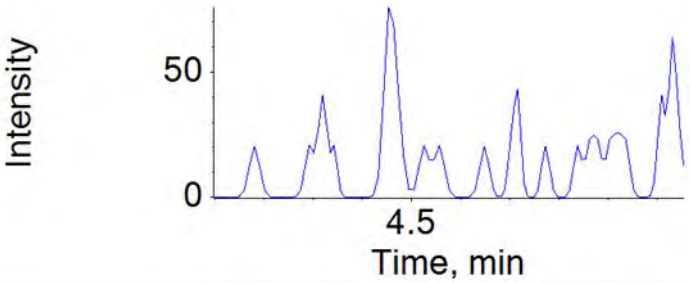
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



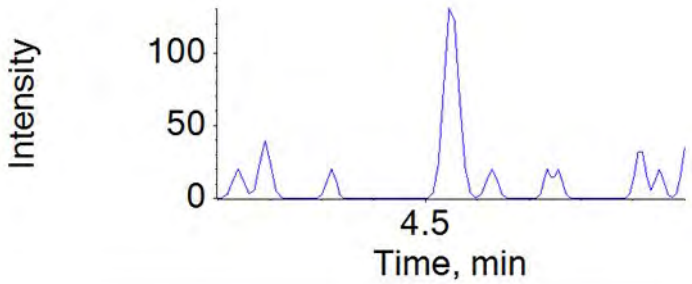
Component: PFHpA
Primary Mass: 363.0 / 319.0



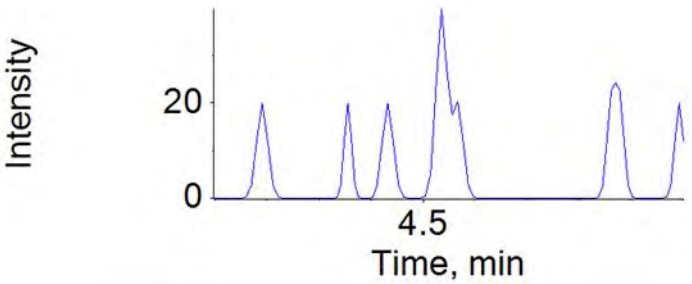
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



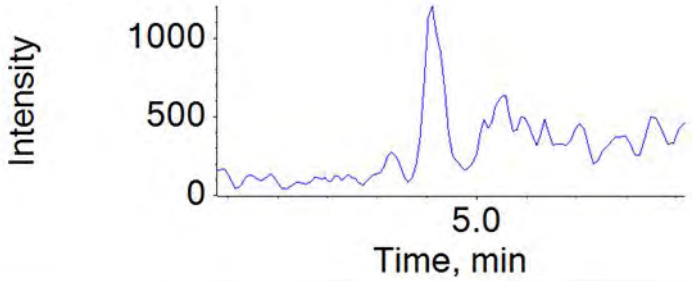
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



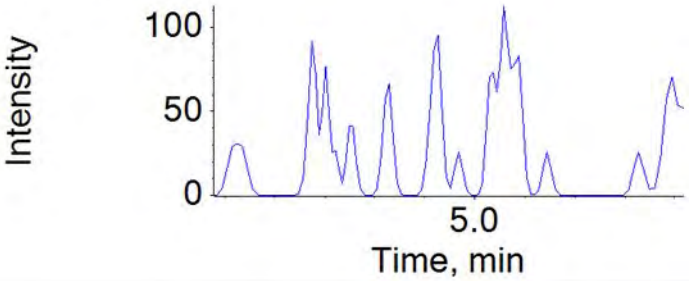
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

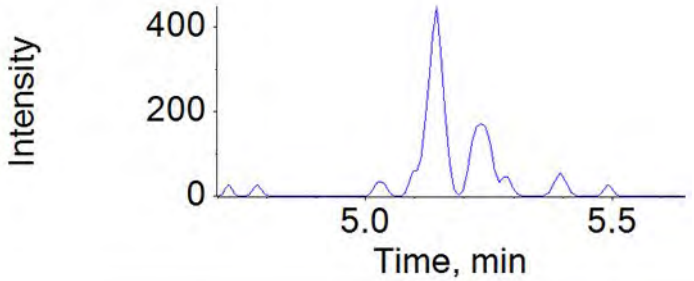
Component: PFOA
Primary Mass: 413.0 / 369.0



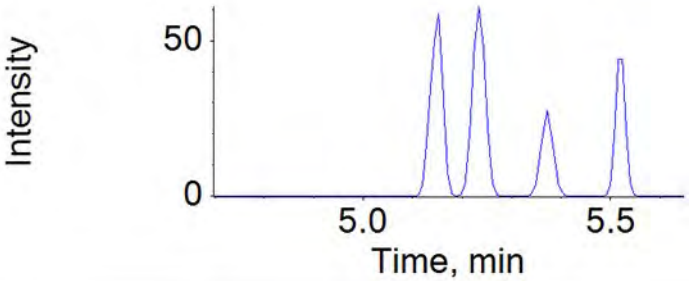
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



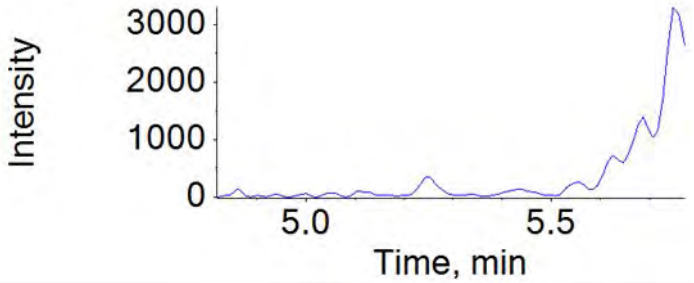
Component: PFOS
Primary Mass: 499.0 / 80.0



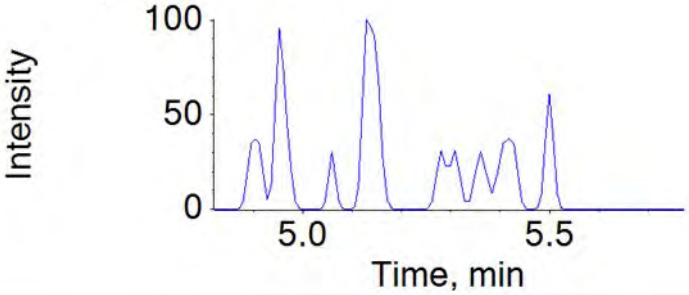
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



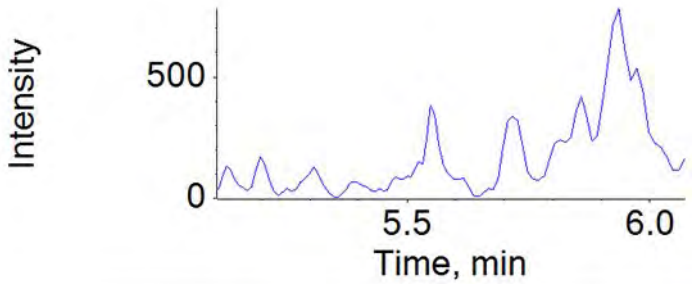
Component: PFNA
Primary Mass: 463.0 / 419.0



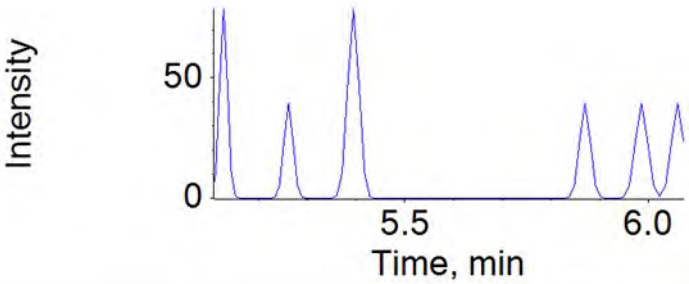
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



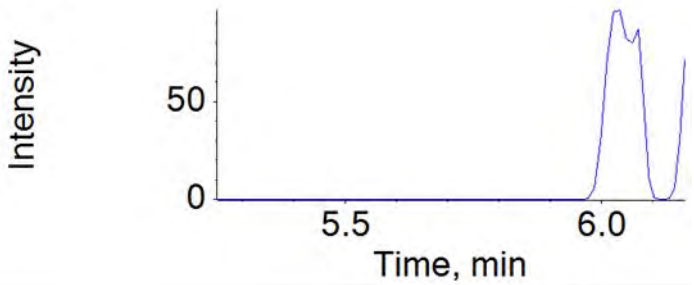
Component: PFDA
Primary Mass: 513.0 / 469.0



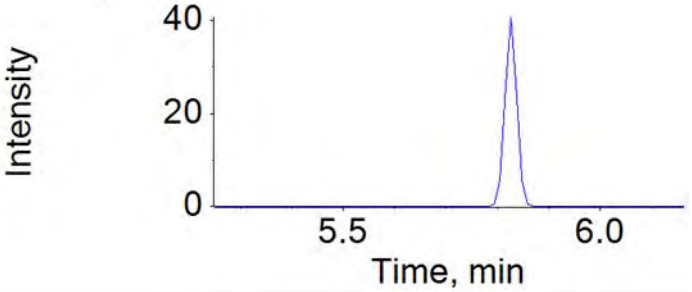
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



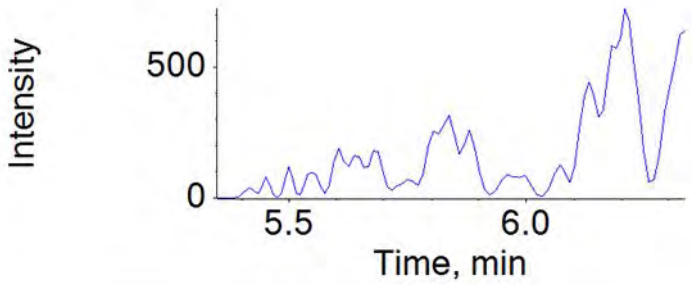
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



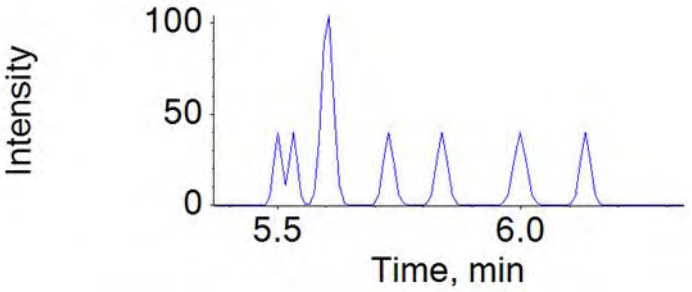
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



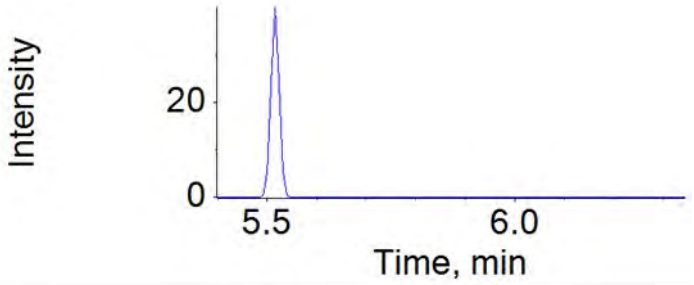
Component: PFUnDA
Primary Mass: 563.0 / 519.0



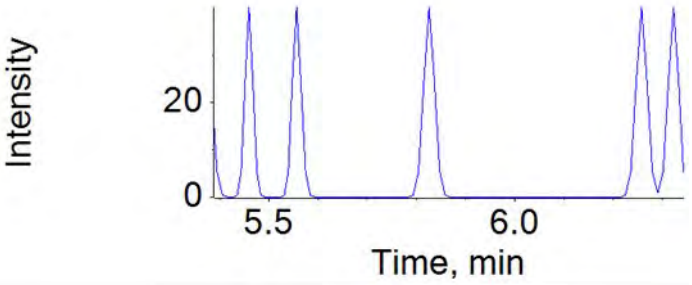
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



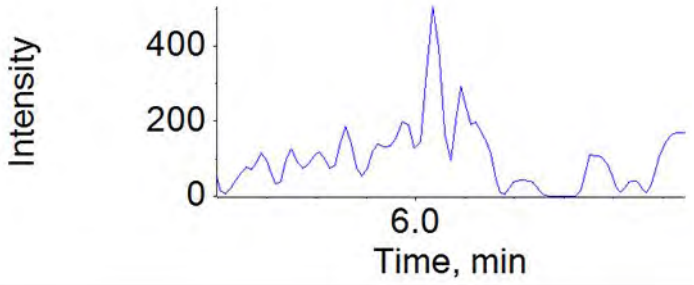
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



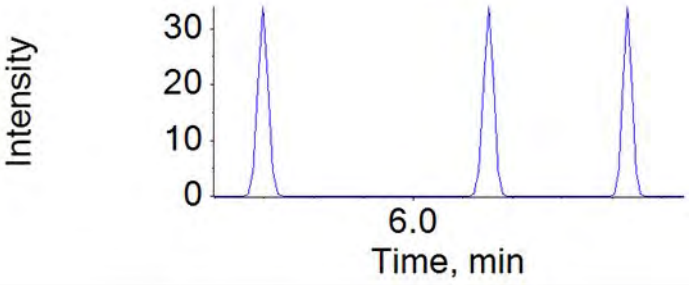
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



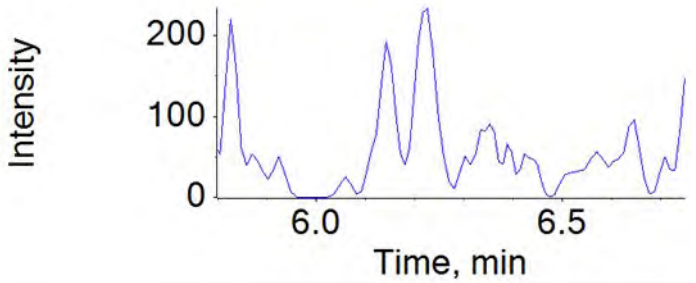
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



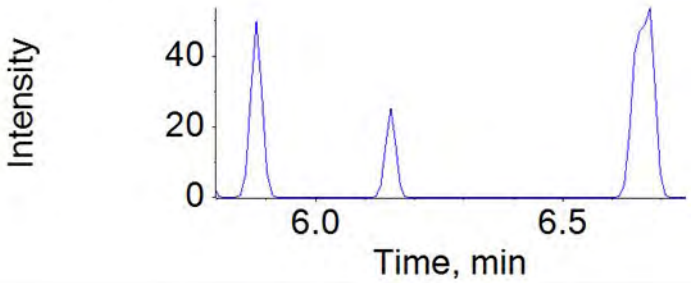
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

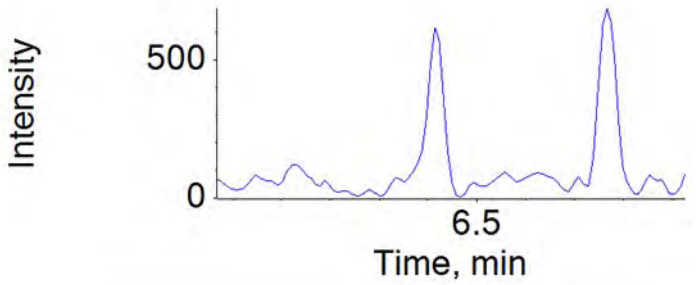
Component: PFTrDA
Primary Mass: 663.0 / 619.0



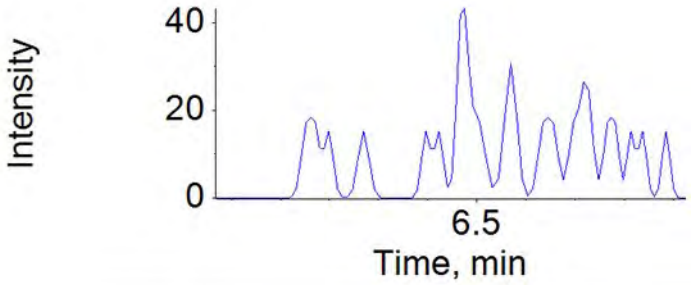
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934782			**Data File:**		18DEC19D-33.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YS16-6-W-02 Grab Water			**Acquis Date:**		2018-12-19T14:56:18
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	59			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28382			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1013443.5	942675.8	8	50	
13C2-PFOA	5.0	538727.4	520268.5	4	50	
13C4-PFOS	4.8	322792.8	307968.9	5	50	
13C2-PFDA	5.0	504698.6	487375.3	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	405030.5	13C3-PFBA	1013443.5	0.400	16.384	13.711	84	50-150	
E13C5-PFHxA	721742.7	13C2-PFOA	538727.4	1.340	17.617	16.884	96	50-150	
E13C3-PFHxS	316346.0	13C2-PFOA	538727.4	0.587	16.665	15.656	94	50-150	
E13C4-PFHpA	552496.7	13C2-PFOA	538727.4	1.026	17.617	15.608	89	50-150	
E13C8-PFOA	962093.0	13C2-PFOA	538727.4	1.786	17.617	17.302	98	50-150	
E13C8-PFOS	316421.9	13C4-PFOS	322792.8	0.980	16.842	15.445	92	50-150	
E13C9-PFNA	652014.5	13C4-PFOS	322792.8	2.020	17.617	16.190	92	50-150	
E13C6-PFDA	862133.4	13C2-PFDA	504698.6	1.708	17.617	17.144	97	50-150	
Ed3-NMeFOSAA	215911.3	13C2-PFDA	504698.6	0.428	17.617	16.583	94	50-150	
E13C7-PFUnDA	550885.8	13C2-PFDA	504698.6	1.092	17.617	16.098	91	50-150	
Ed5-NEtFOSAA	151517.5	13C2-PFDA	504698.6	0.300	17.617	15.583	88	50-150	
E13C2-PFDoDA	1099284.6	13C2-PFDA	504698.6	2.178	17.617	16.145	92	50-150	
E13C2-PFTeDA	828820.7	13C2-PFDA	504698.6	1.642	17.617	16.305	93	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

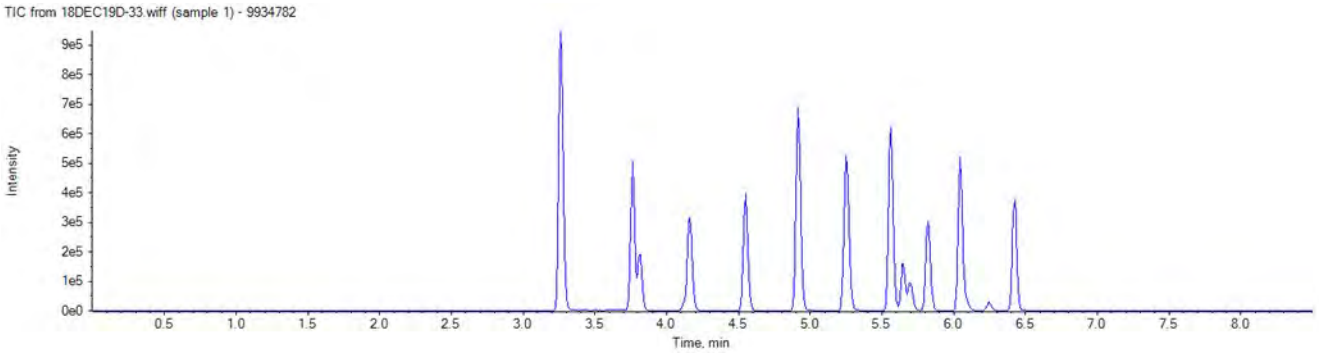
Analyte Quantitation Peak Table

Sample Name: 9934782 **Instrument Name:** LM27631 **File Name:** 18DEC19D-33.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28382	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	405030.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	721742.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	552496.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	316346.0	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	962093.0	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	316421.9	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	652014.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	862133.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	215911.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	550885.8	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	151517.5	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1099284.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1099284.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	828820.7	N/A	

Total Ion Chromatogram

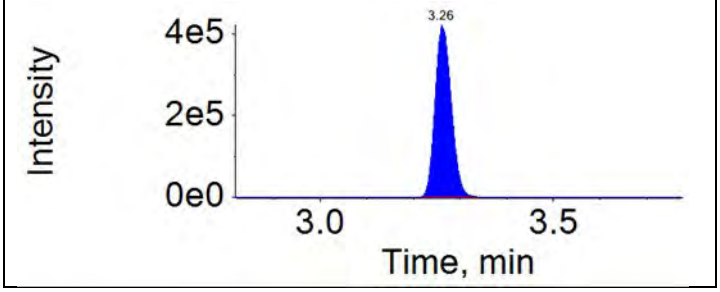


APPROVED
By MSM at 10:14 am, 12/20/18

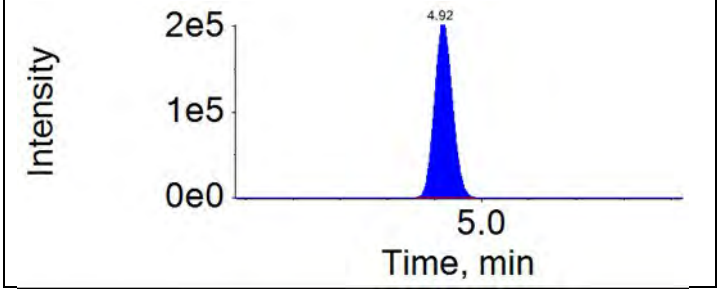
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

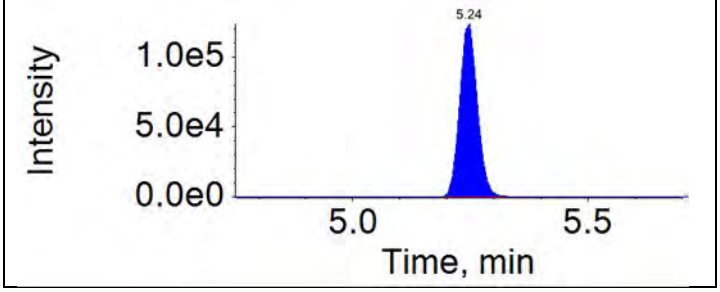
Injection Standard: 13C3-PFBA
216.0 / 172.0



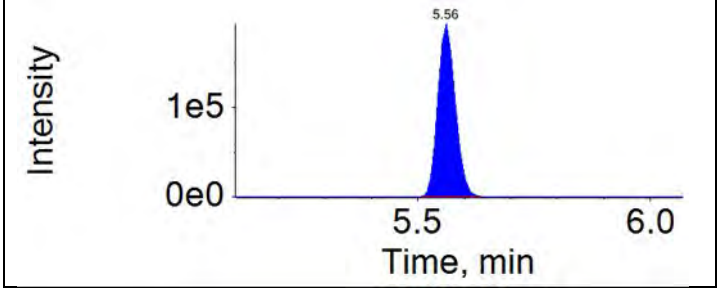
Injection Standard: 13C2-PFOA
415.0 / 370.0



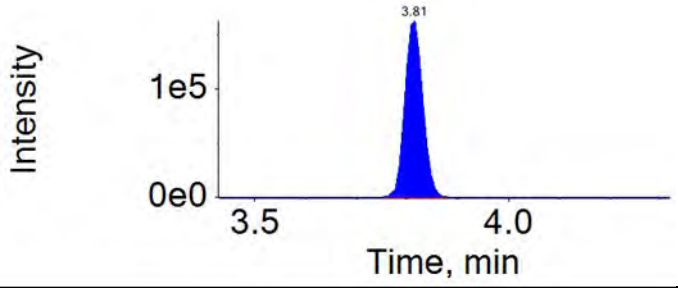
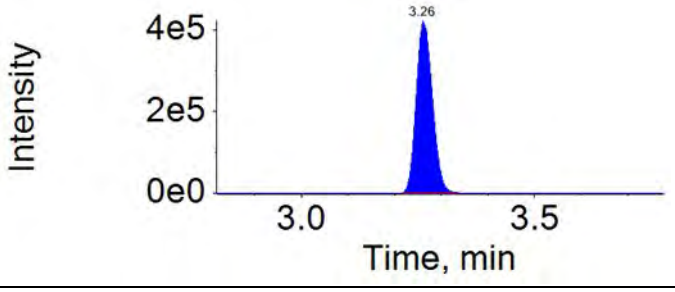
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503.0 / 80.0

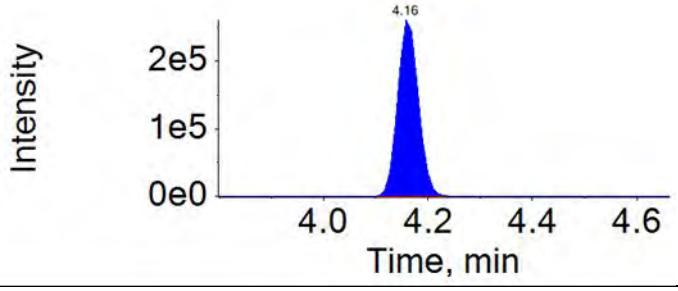
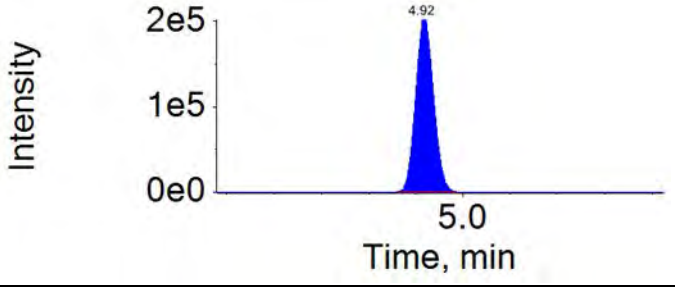


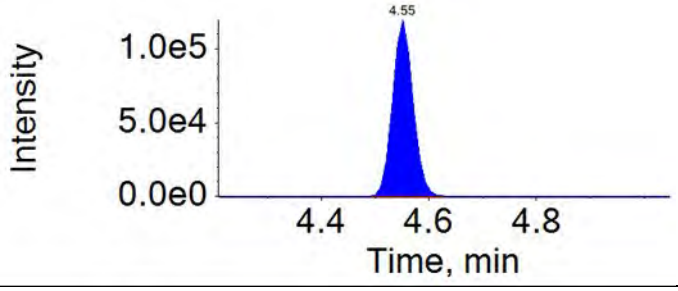
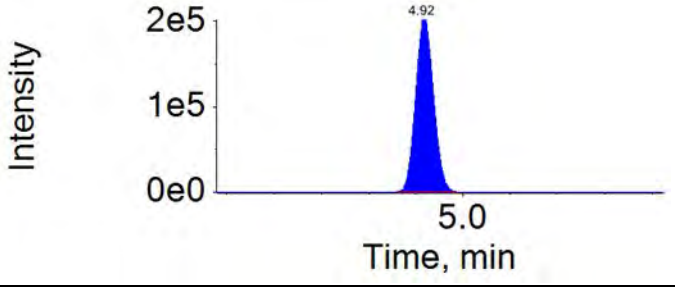
Injection Standard: 13C2-PFDA
515.0 / 470.0

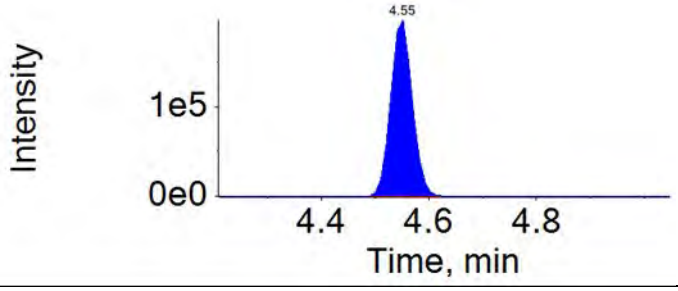
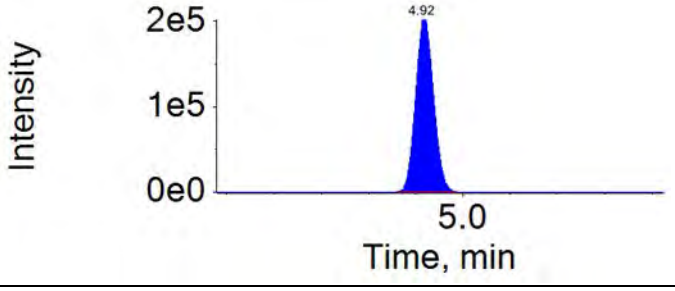


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

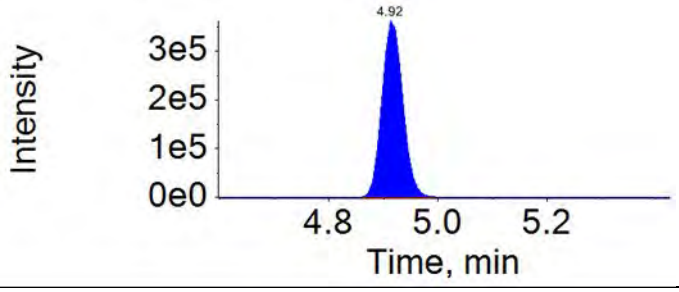
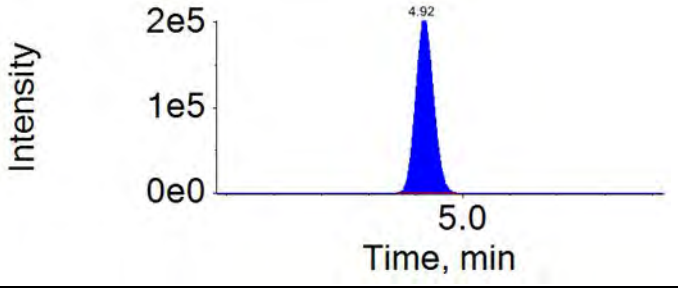
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

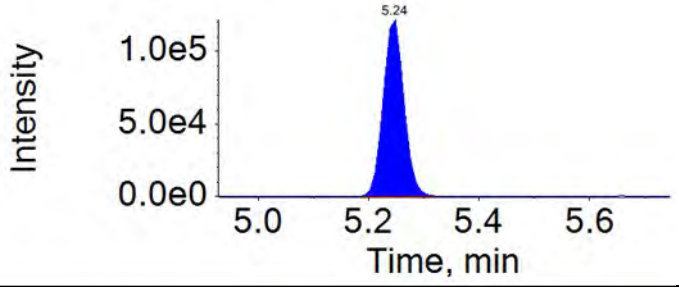
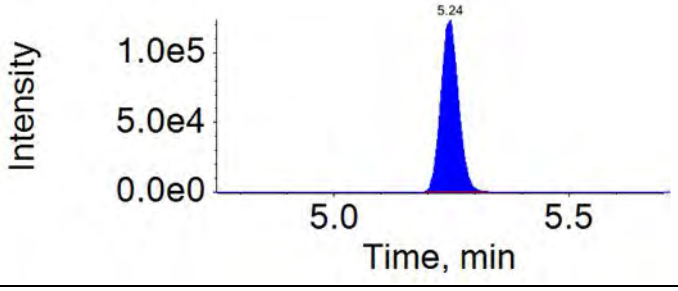
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

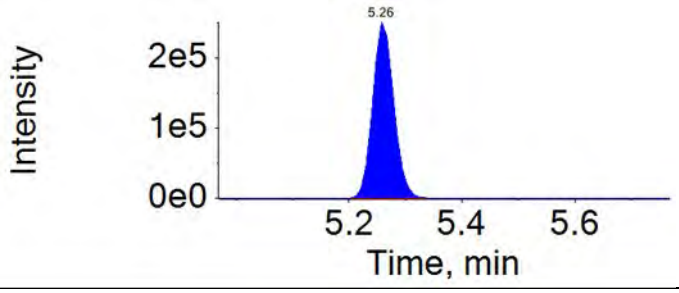
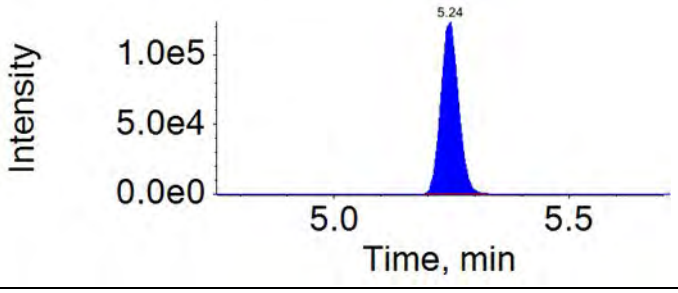
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

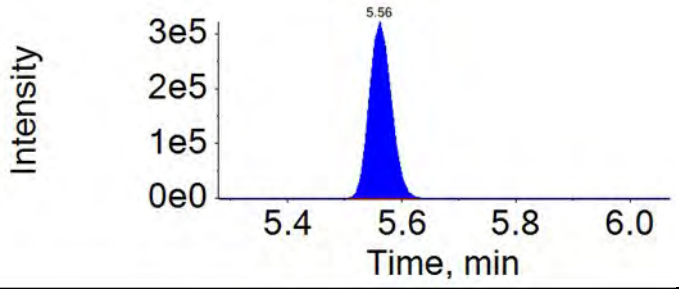
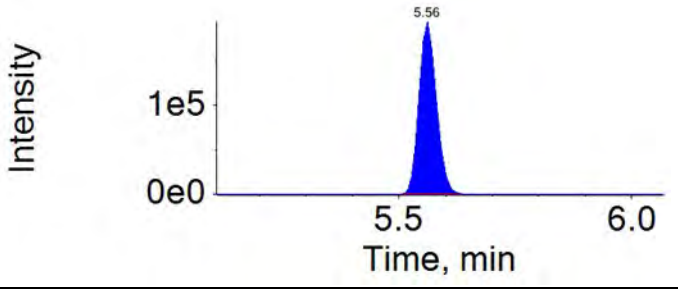
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

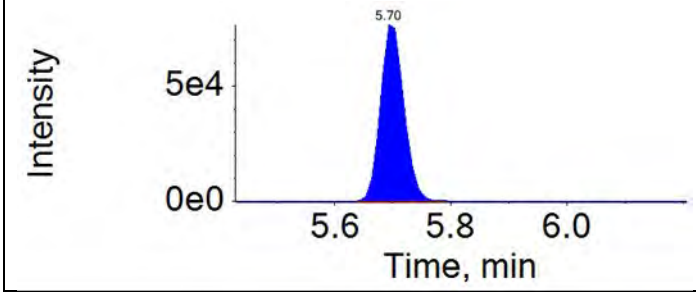
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

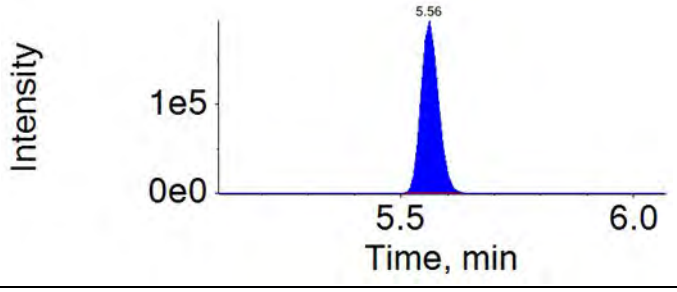
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

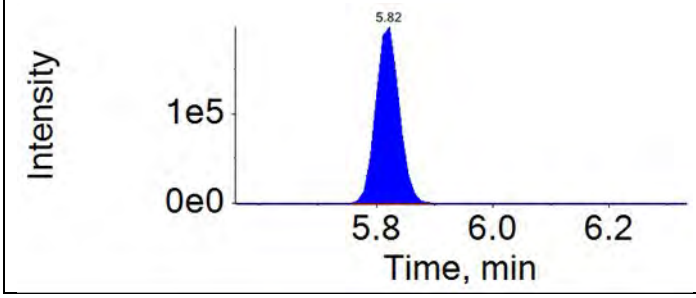
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

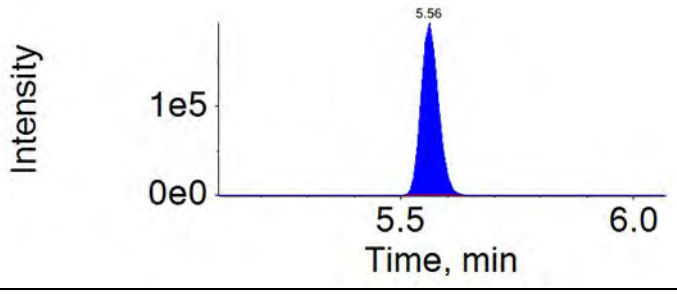
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



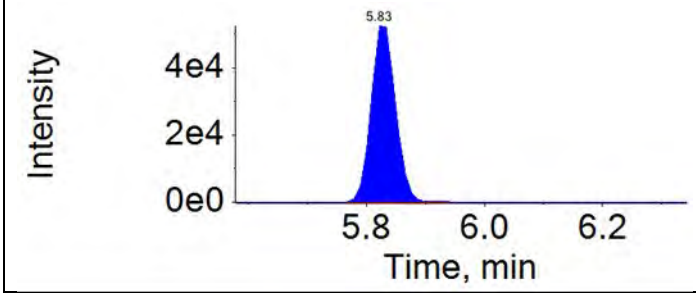


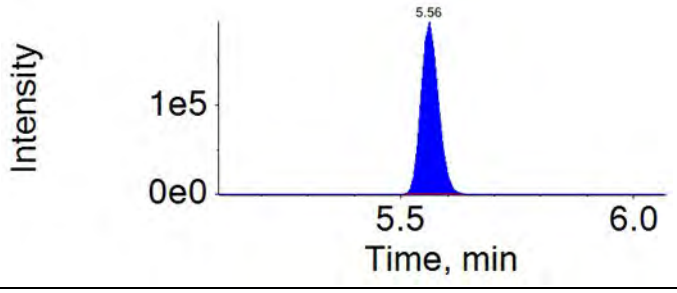
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



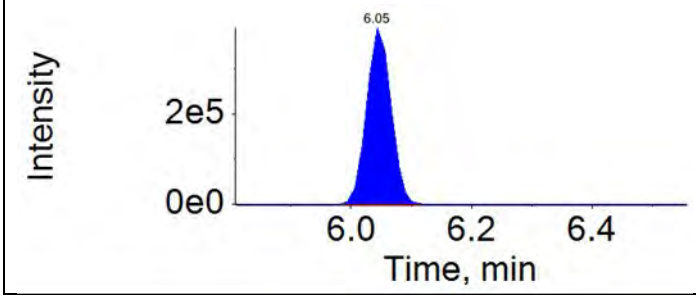


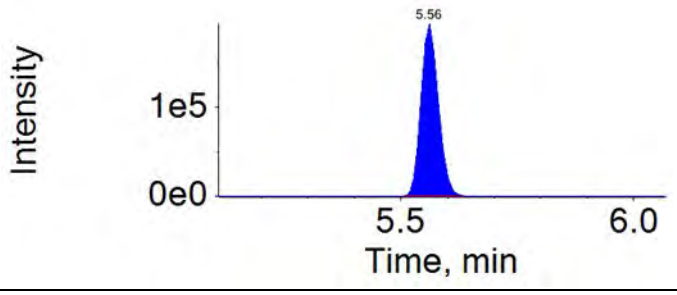
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



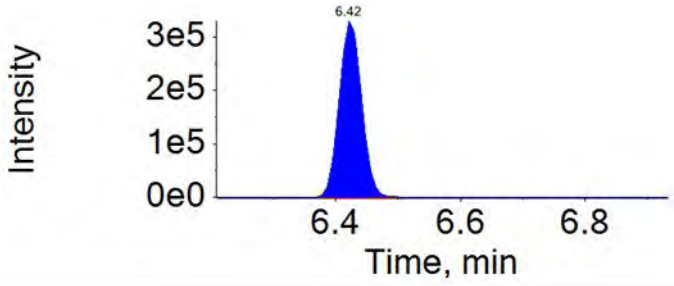
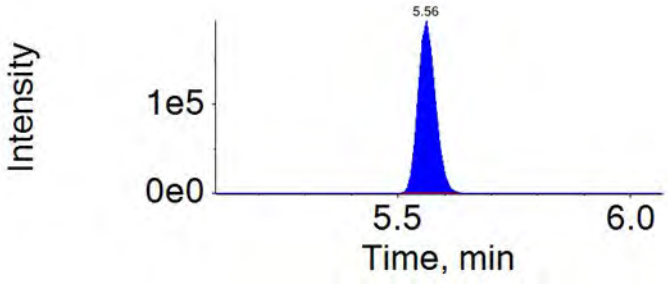


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



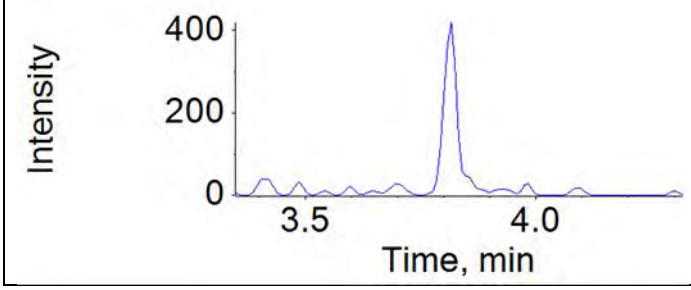


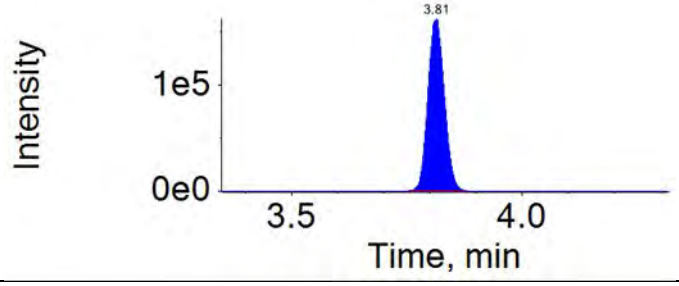
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

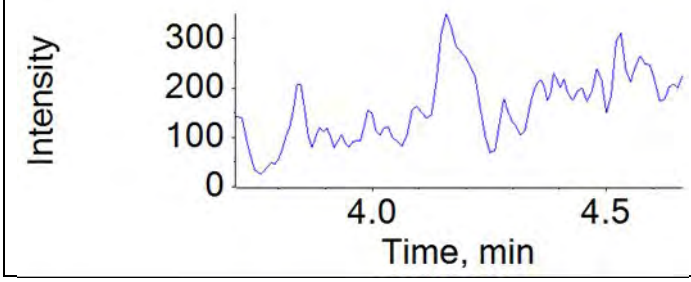
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

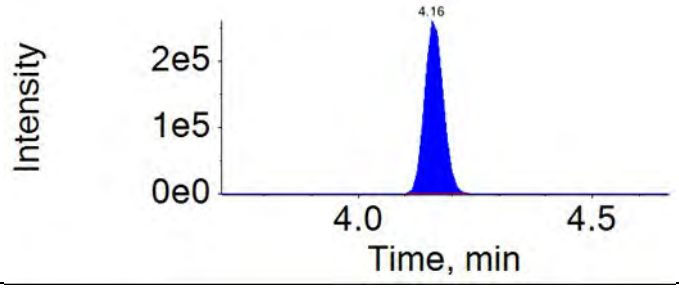
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



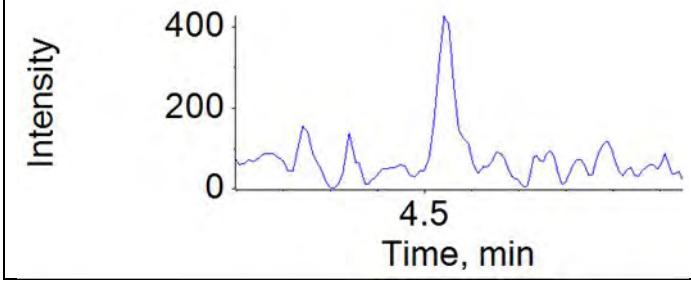


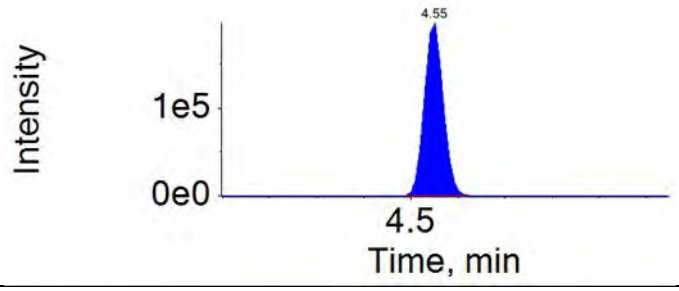
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



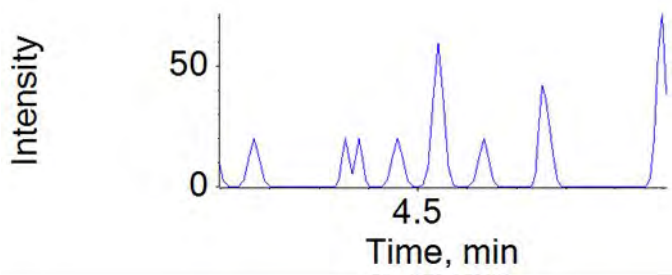


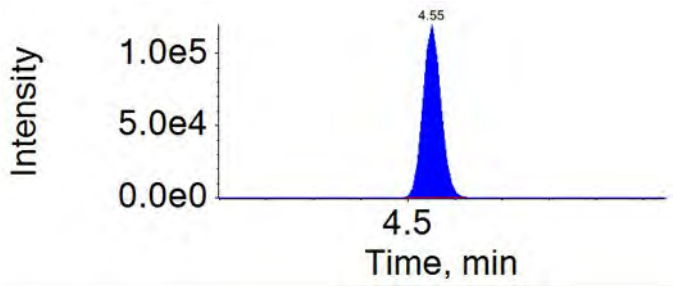
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



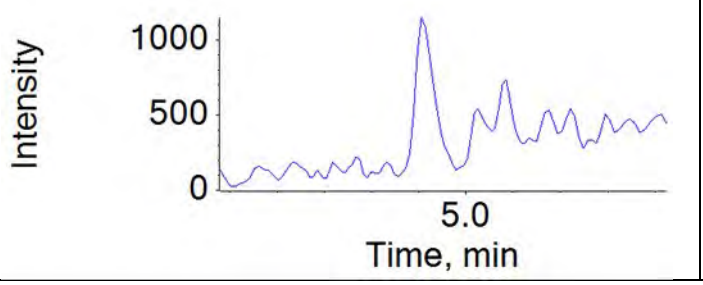


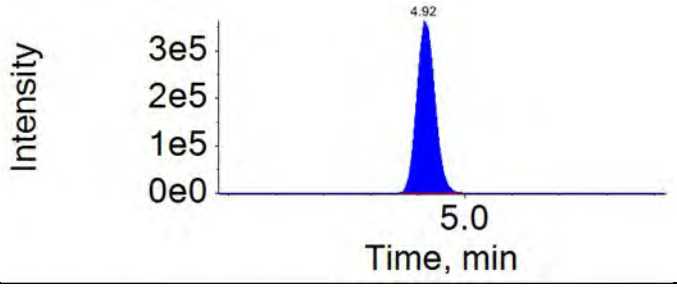
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

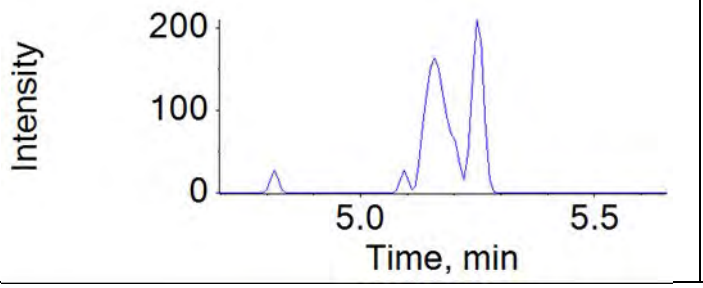
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

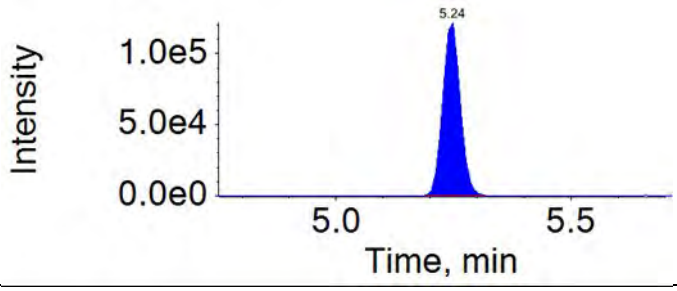
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



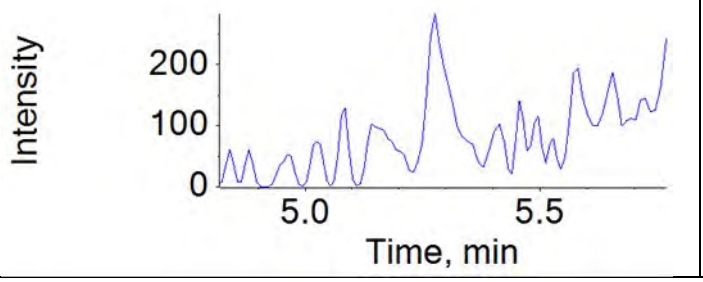


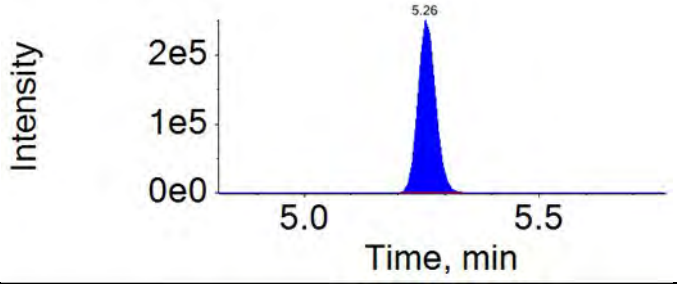
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



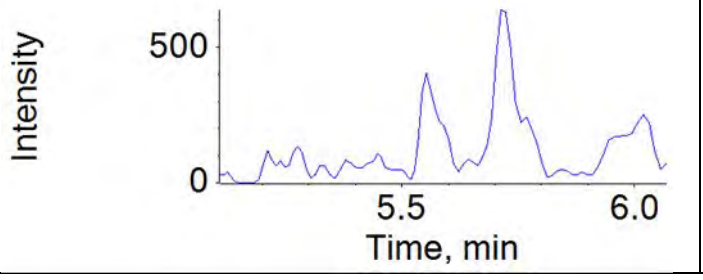


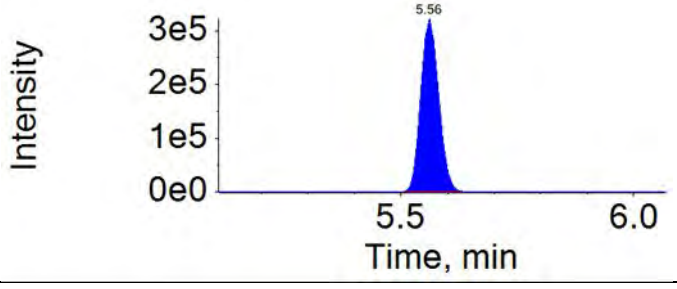
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





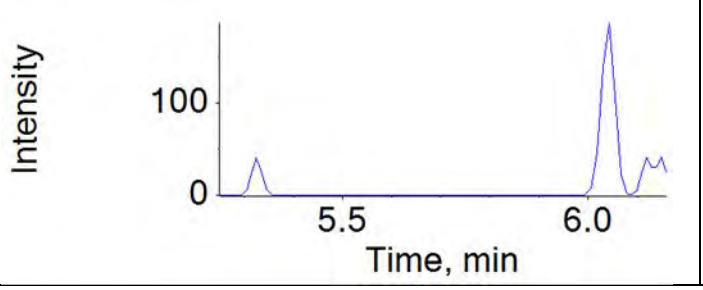
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

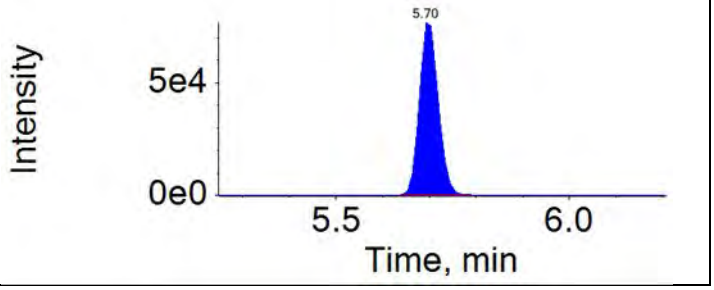




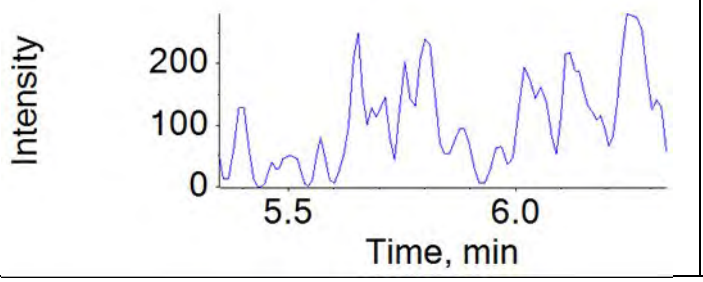
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

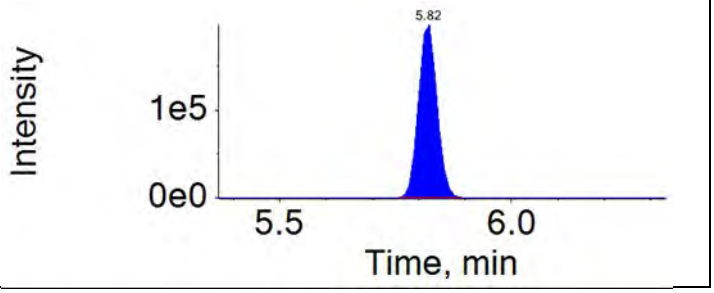
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



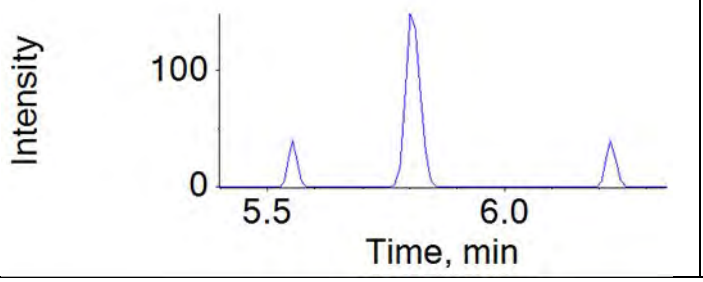


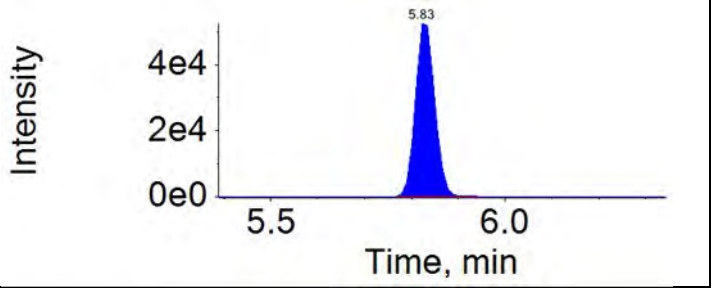
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



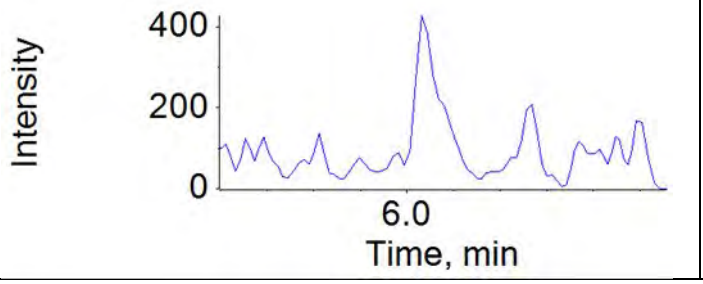


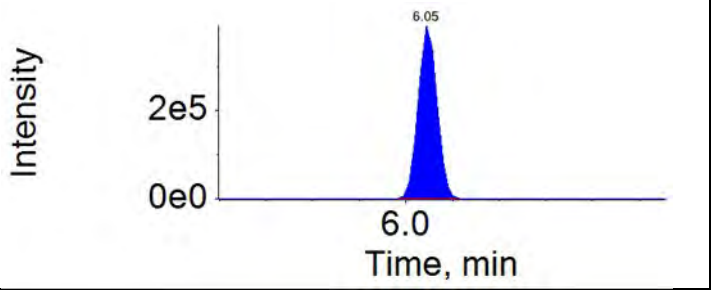
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





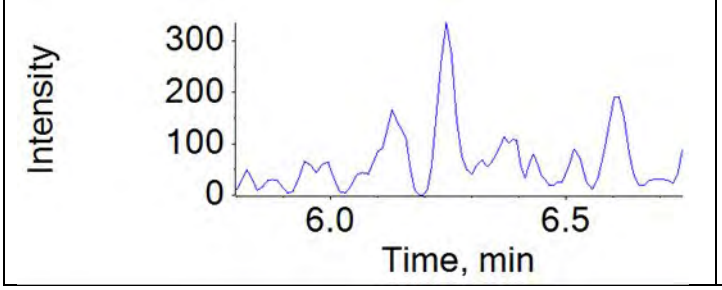
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

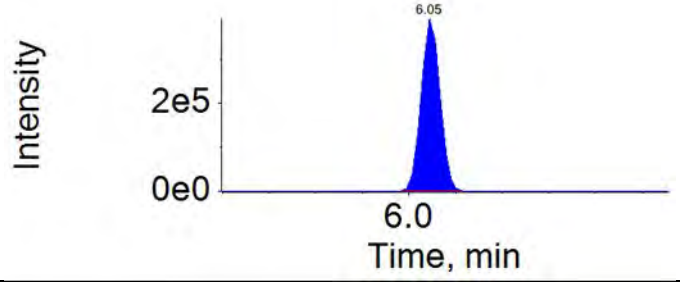




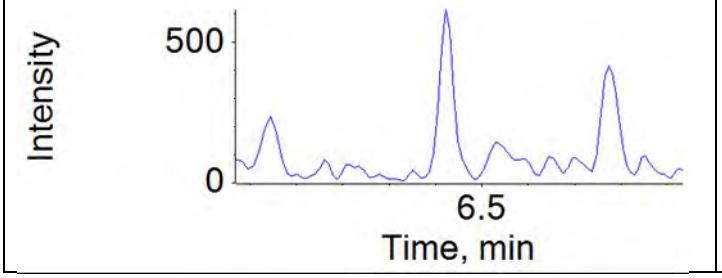
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

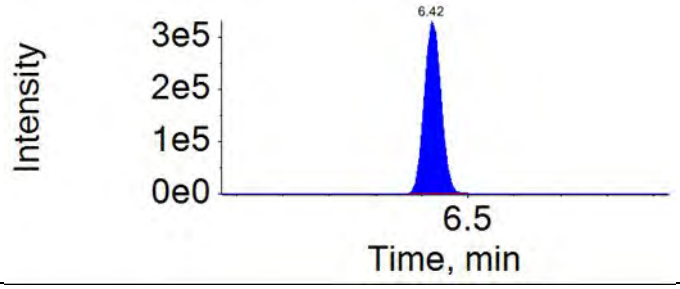
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





Ion Ratio Report

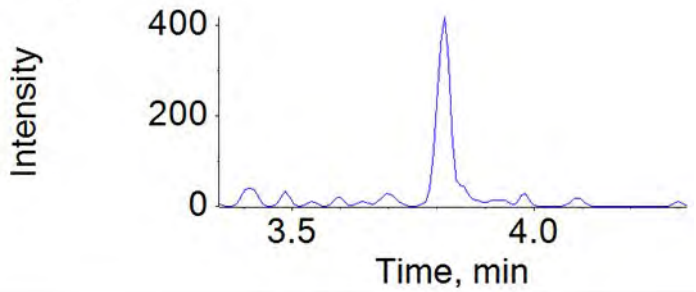
Sample Name: 9934782 **Instrument Name:** LM27631 **File Name:** 18DEC19D-33.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

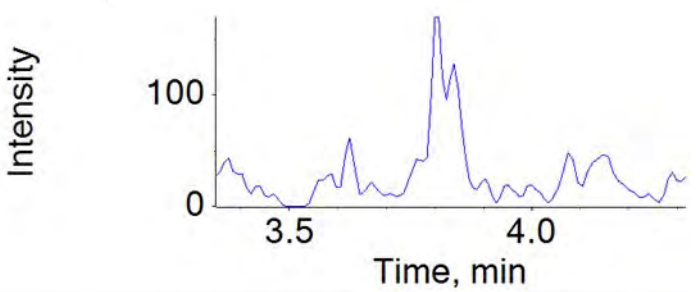
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

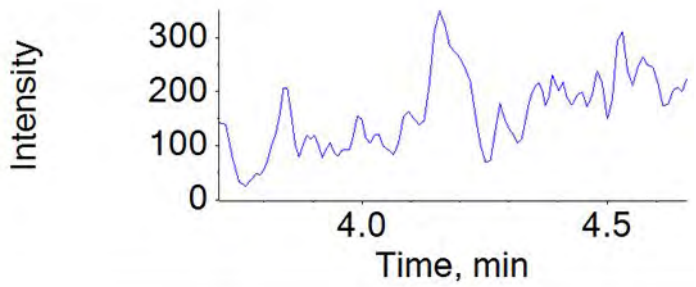
Component: PFBS
Primary Mass: 299.0 / 80.0



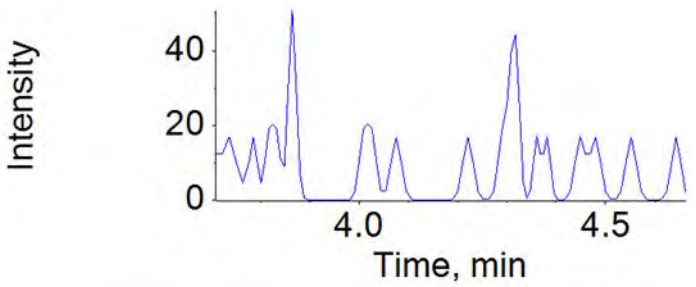
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



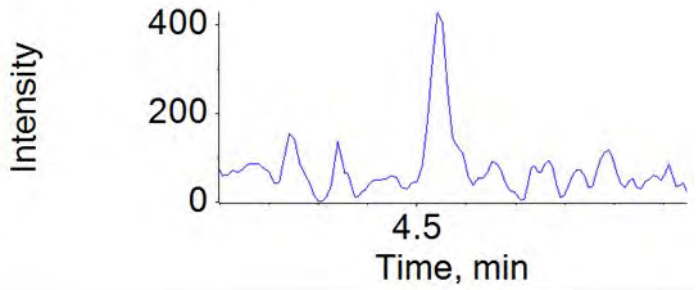
Component: PFHxA
Primary Mass: 313.0 / 269.0



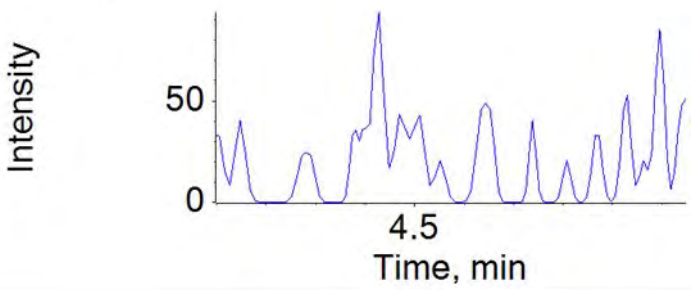
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



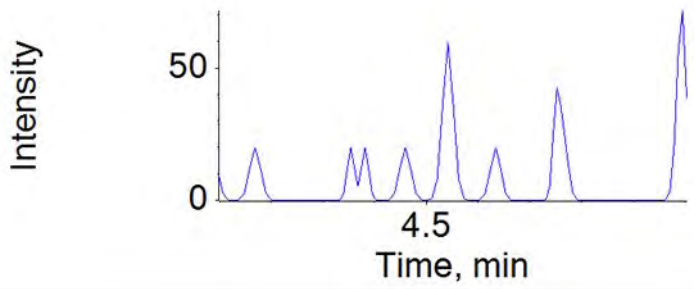
Component: PFHpA
Primary Mass: 363.0 / 319.0



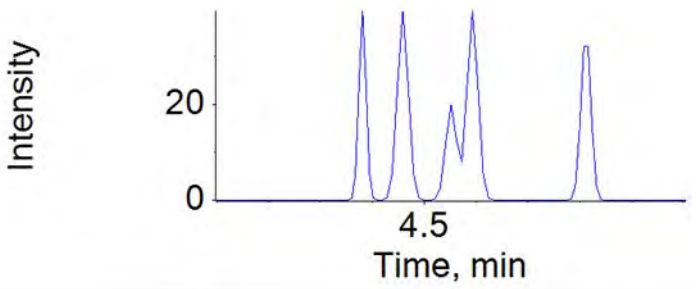
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



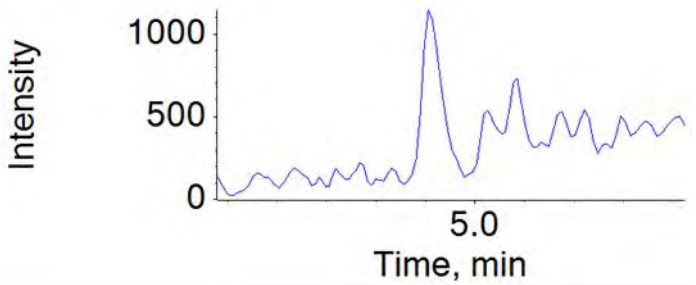
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



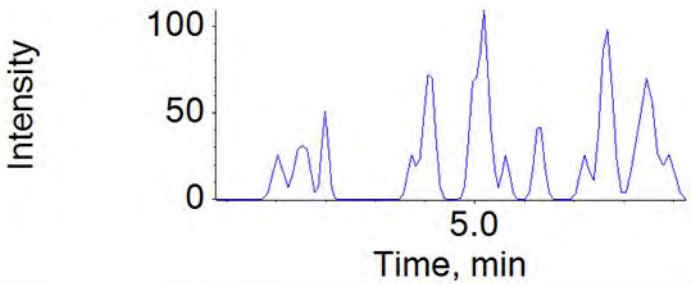
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

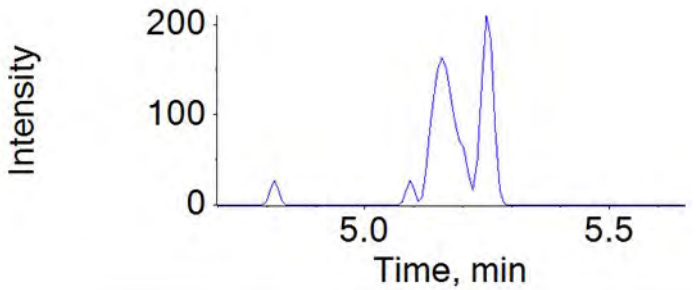
Component: PFOA
Primary Mass: 413.0 / 369.0



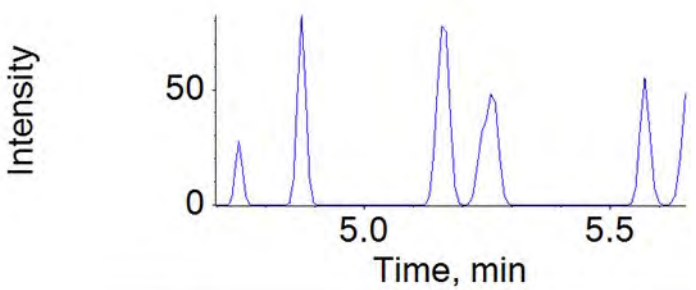
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



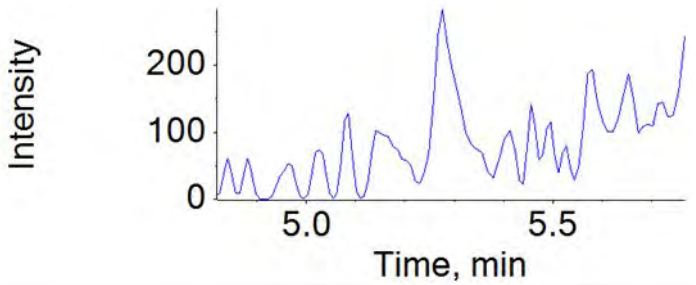
Component: PFOS
Primary Mass: 499.0 / 80.0



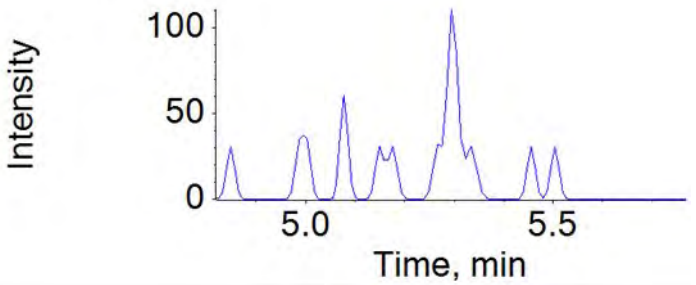
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



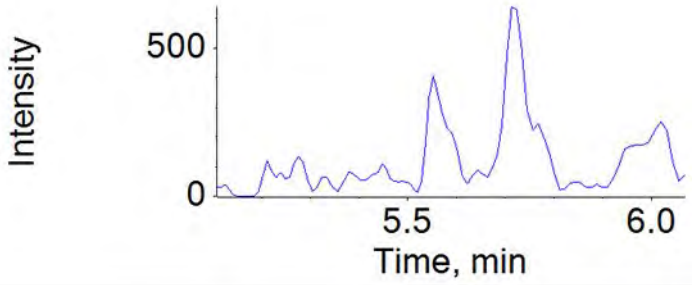
Component: PFNA
Primary Mass: 463.0 / 419.0



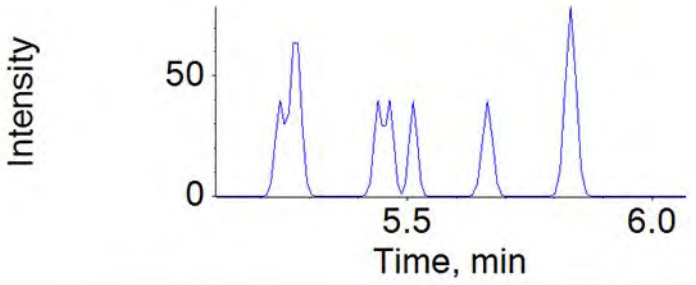
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



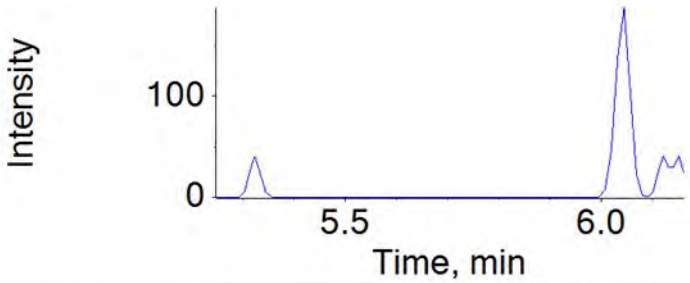
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



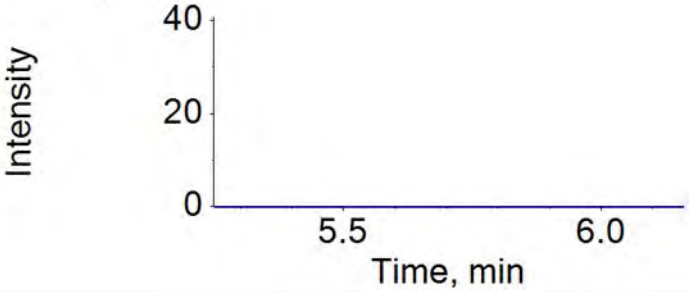
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

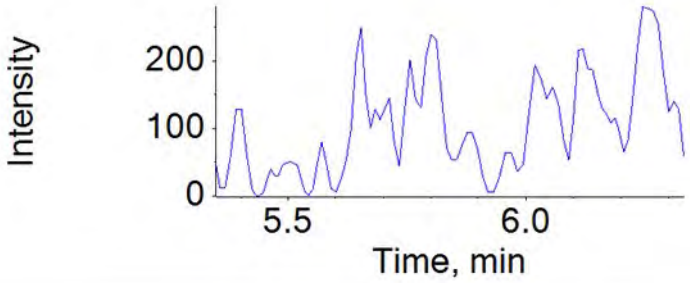
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



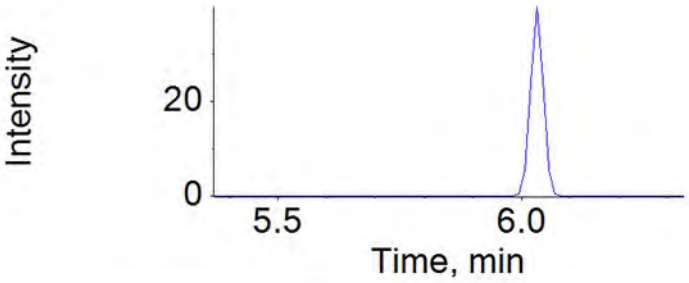
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



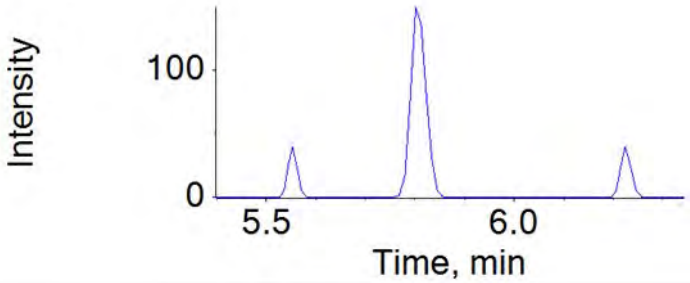
Component: PFUnDA
Primary Mass: 563.0 / 519.0



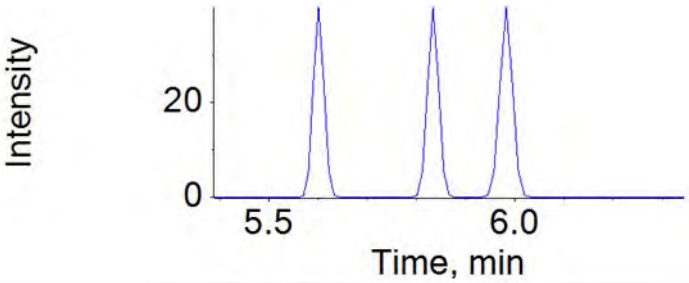
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



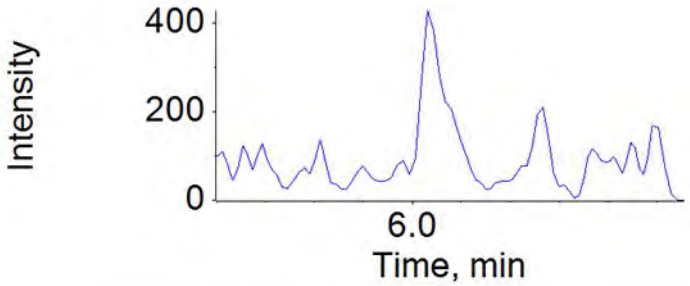
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



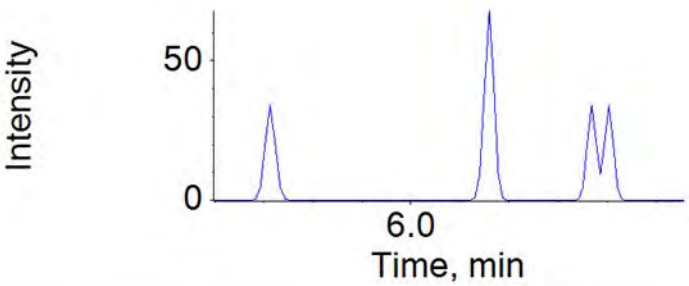
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



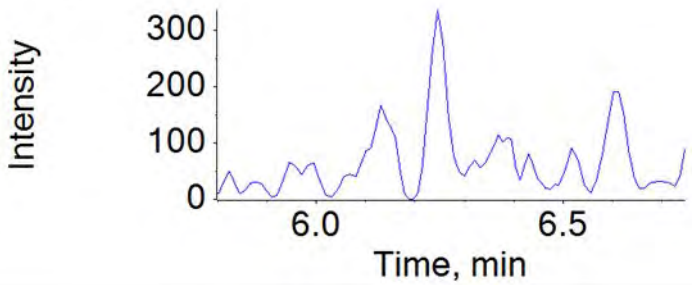
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



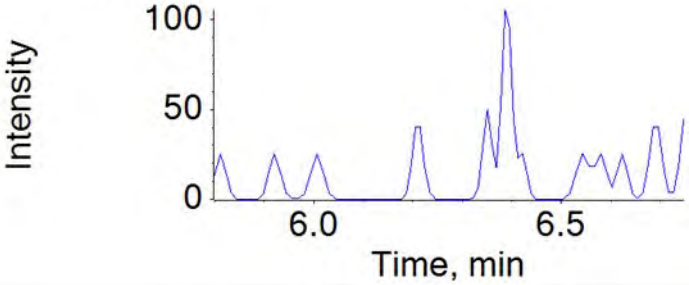
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

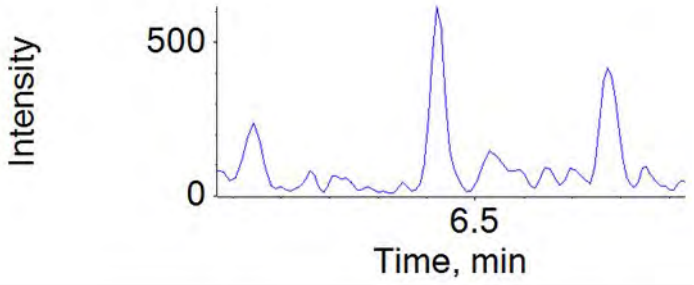
Component: PFTrDA
Primary Mass: 663.0 / 619.0



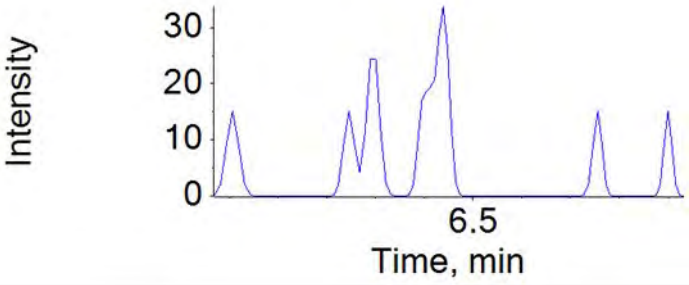
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934783			**Data File:**		18DEC19D-34.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YCW16-1-W-01 Grab Water			**Acquis Date:**		2018-12-19T15:05:17
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	60			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.27724			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1013284.7	942675.8	7	50	
13C2-PFOA	5.0	550871.1	520268.5	6	50	
13C4-PFOS	4.8	310736.0	307968.9	1	50	
13C2-PFDA	5.0	529916.2	487375.3	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	366974.1	13C3-PFBA	1013284.7	0.362	16.772	12.720	76	50-150	
E13C5-PFHxA	586999.0	13C2-PFOA	550871.1	1.066	18.035	13.748	76	50-150	
E13C3-PFHxS	298678.4	13C2-PFOA	550871.1	0.542	17.061	14.799	87	50-150	
E13C4-PFHpA	479809.5	13C2-PFOA	550871.1	0.871	18.035	13.570	75	50-150	
E13C8-PFOA	885141.1	13C2-PFOA	550871.1	1.607	18.035	15.937	88	50-150	
E13C8-PFOS	271156.3	13C4-PFOS	310736.0	0.873	17.241	14.076	82	50-150	
E13C9-PFNA	584655.2	13C4-PFOS	310736.0	1.882	18.035	15.439	86	50-150	
E13C6-PFDA	780761.6	13C2-PFDA	529916.2	1.473	18.035	15.138	84	50-150	
Ed3-NMeFOSAA	213844.9	13C2-PFDA	529916.2	0.404	18.035	16.014	89	50-150	
E13C7-PFUnDA	532488.7	13C2-PFDA	529916.2	1.005	18.035	15.172	84	50-150	
Ed5-NEtFOSAA	165646.8	13C2-PFDA	529916.2	0.313	18.035	16.611	92	50-150	
E13C2-PFDoDA	939642.5	13C2-PFDA	529916.2	1.773	18.035	13.456	75	50-150	
E13C2-PFTeDA	791300.1	13C2-PFDA	529916.2	1.493	18.035	15.178	84	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

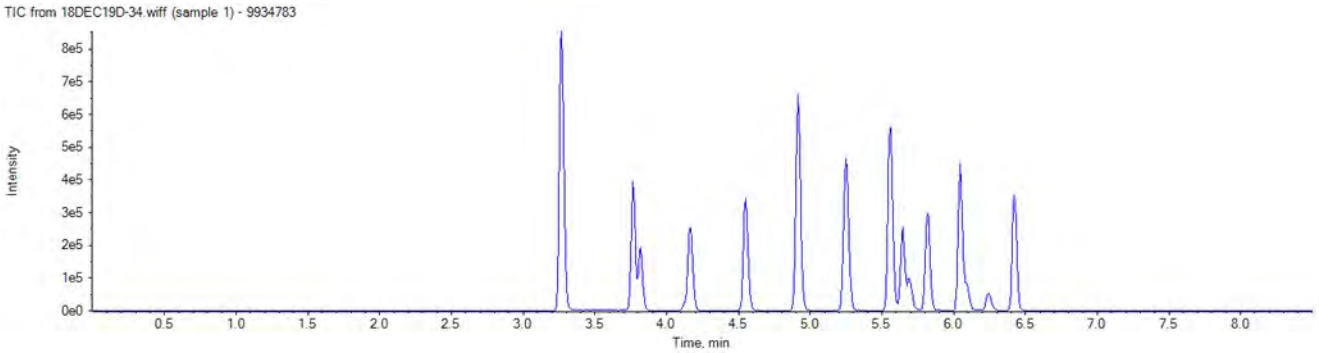
Analyte Quantitation Peak Table

Sample Name: 9934783 **Instrument Name:** LM27631 **File Name:** 18DEC19D-34.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27724	1.000	1.00	1.000

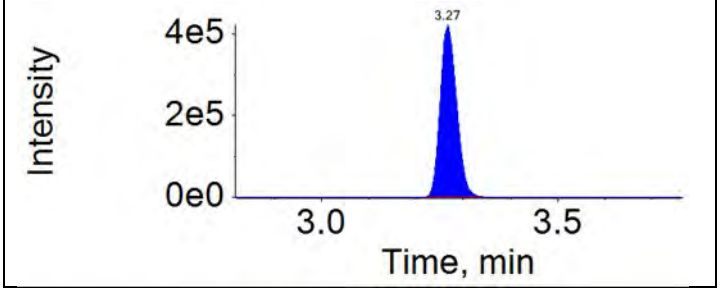
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.82	1.000	8525.7		A	13C3-PFBS	3.82	366974.1	0.023	0.414
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	586999.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	479809.5	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	298678.4	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	885141.1	N/A	
PFOS	5.22	1.000	3212.7		M	13C8-PFOS	5.24	271156.3	0.012	0.187
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	584655.2	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	780761.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	213844.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	532488.7	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	165646.8	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	939642.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	939642.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	791300.1	N/A	

Total Ion Chromatogram

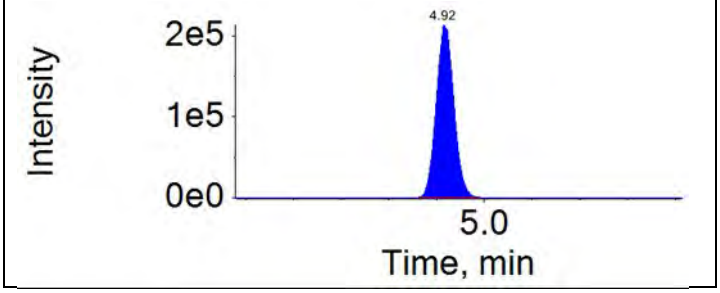


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

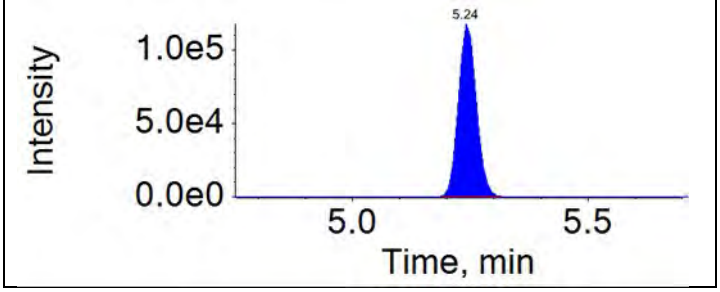
Injection Standard: 13C3-PFBA
216.0 / 172.0



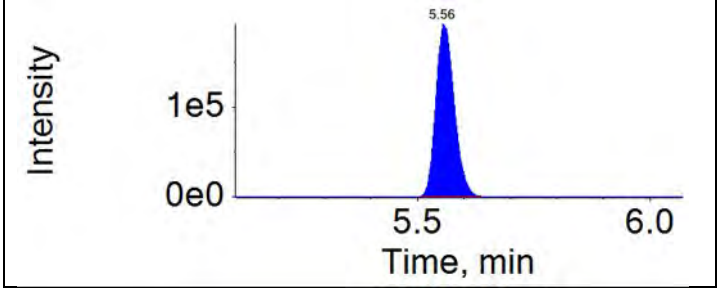
Injection Standard: 13C2-PFOA
415.0 / 370.0



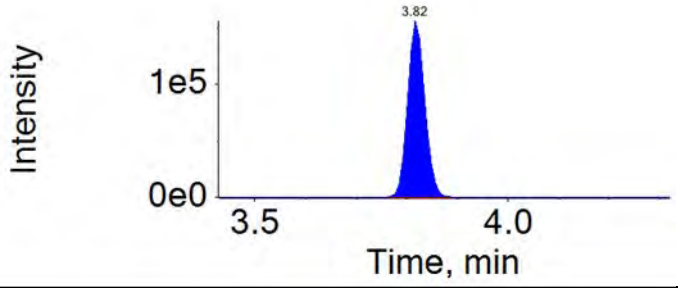
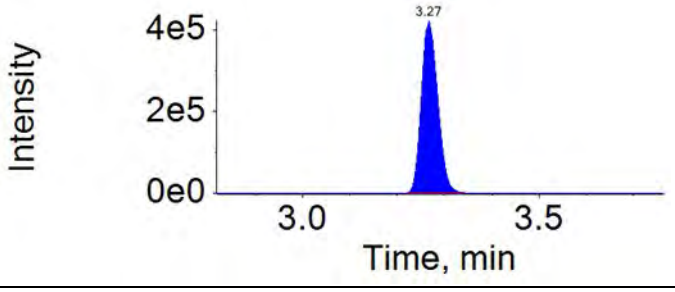
Injection Standard: 13C4-PFOS
503.0 / 80.0

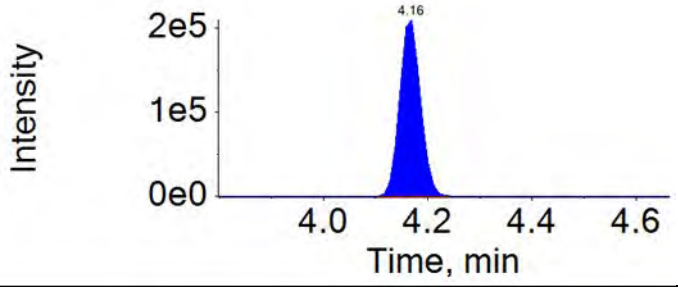
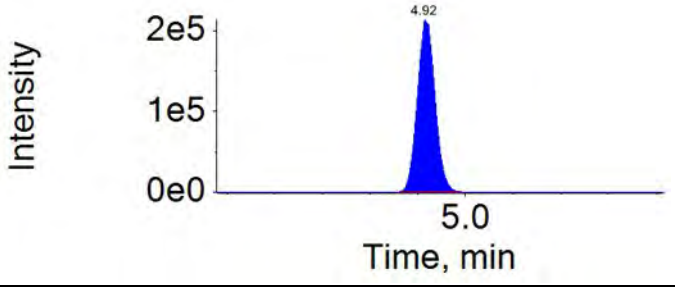


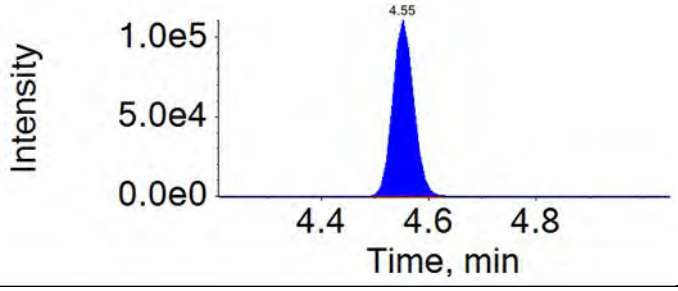
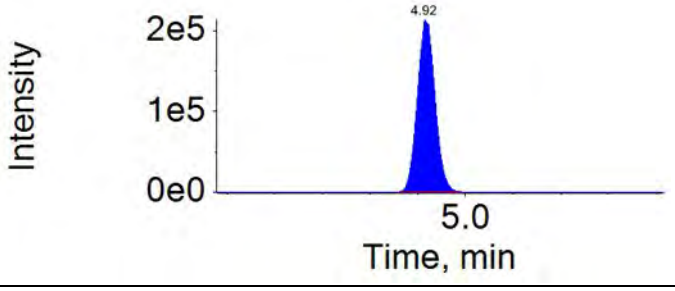
Injection Standard: 13C2-PFDA
515.0 / 470.0

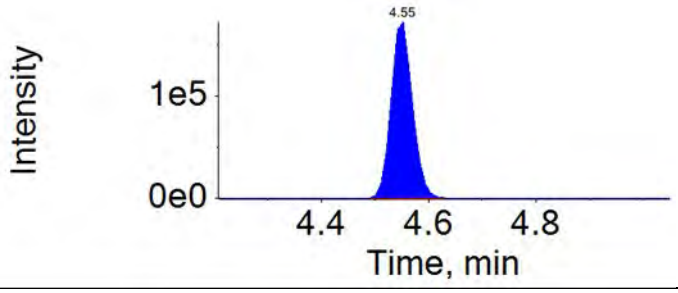
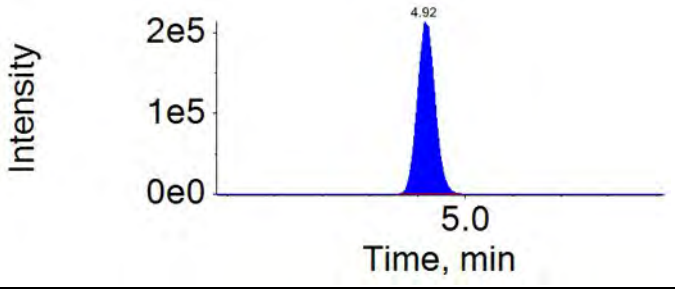


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

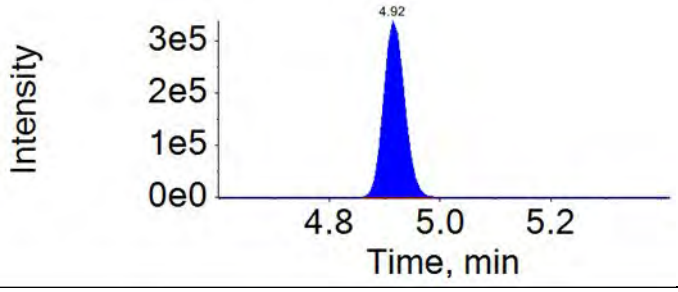
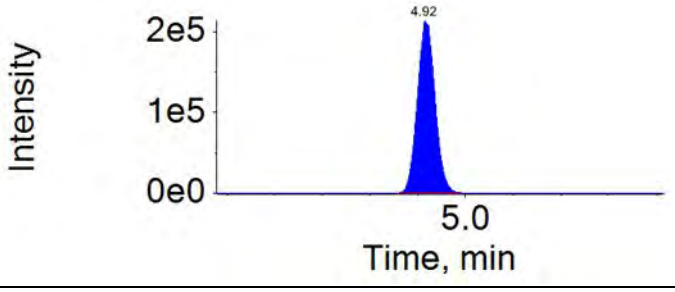
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

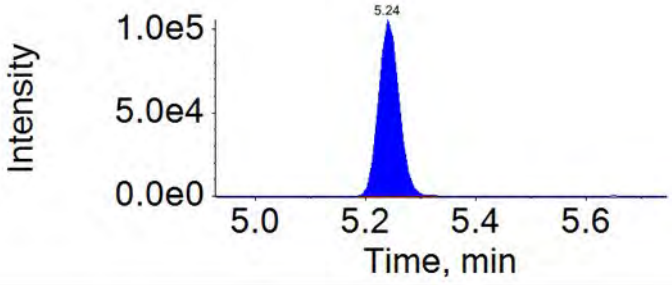
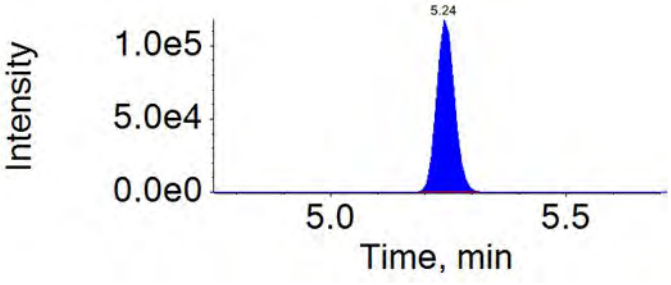
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

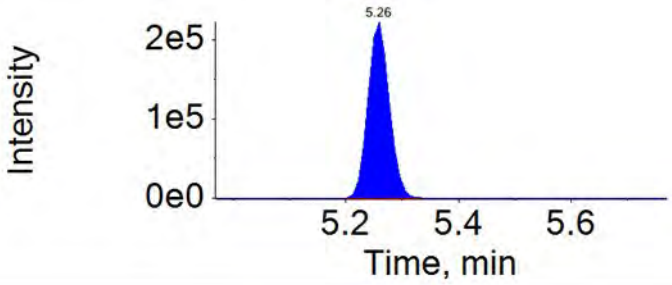
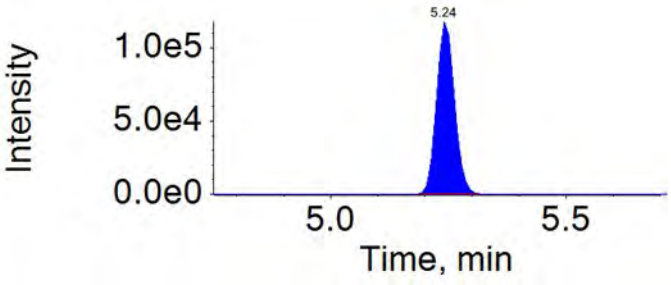
APPROVED
By MSM at 10:14 am, 12/20/18

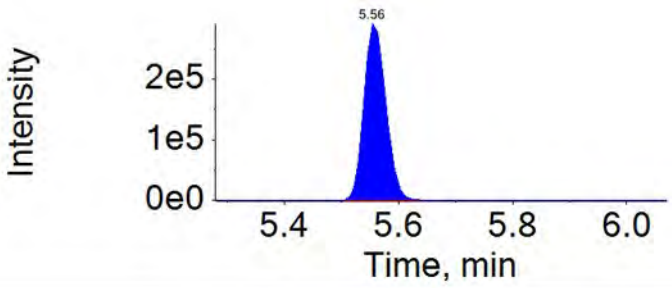
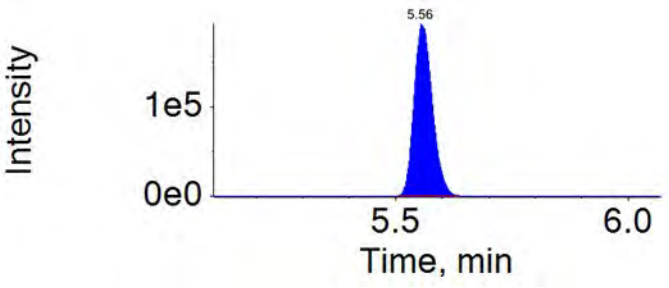
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

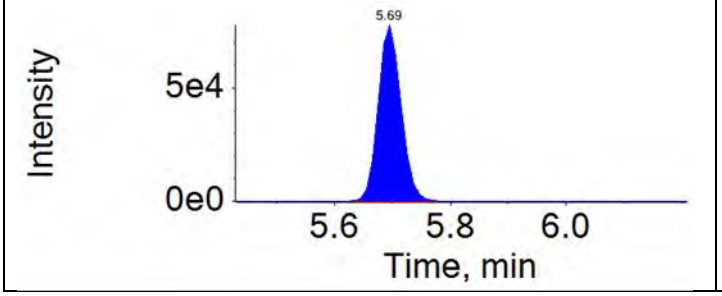
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

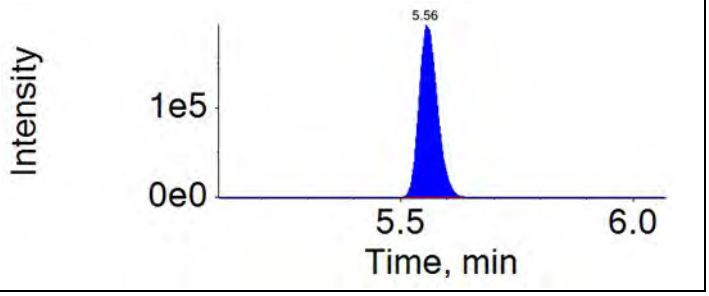
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

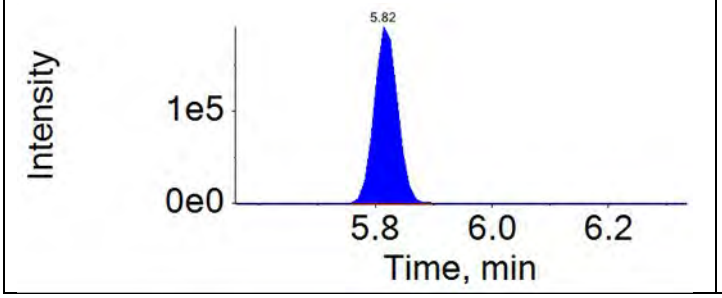
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

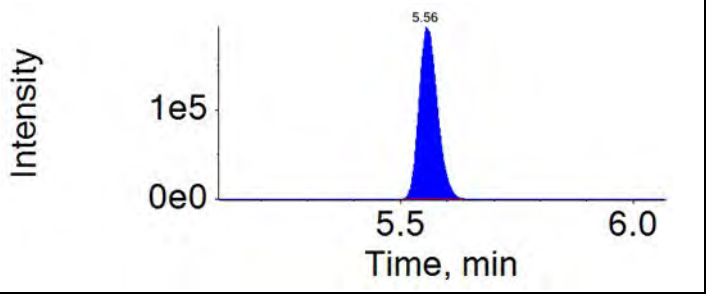
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



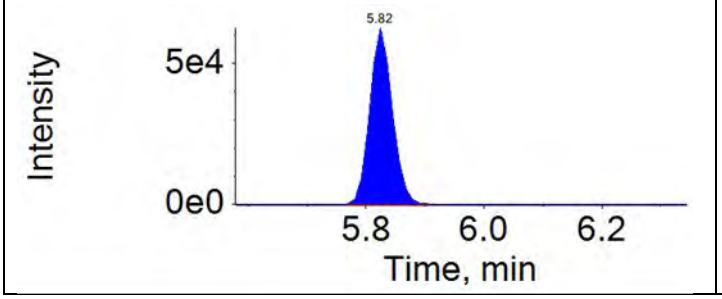


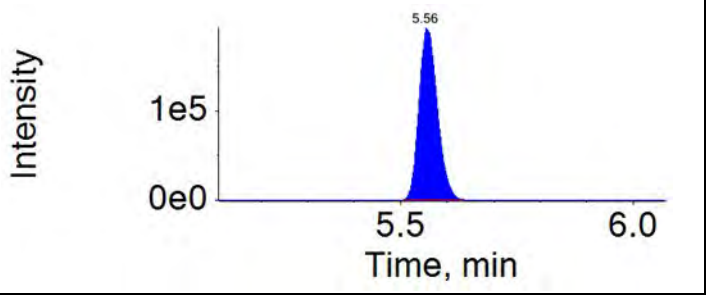
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



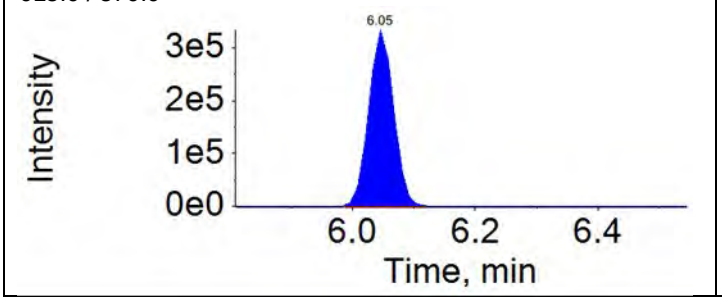


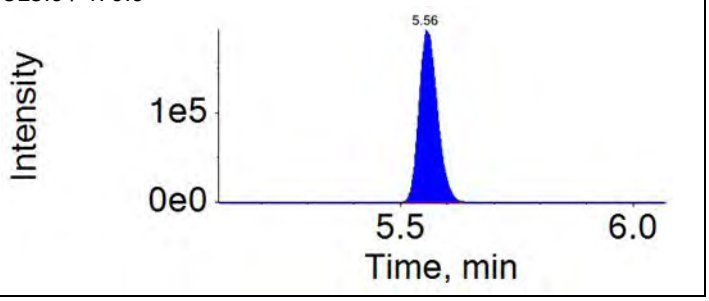
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



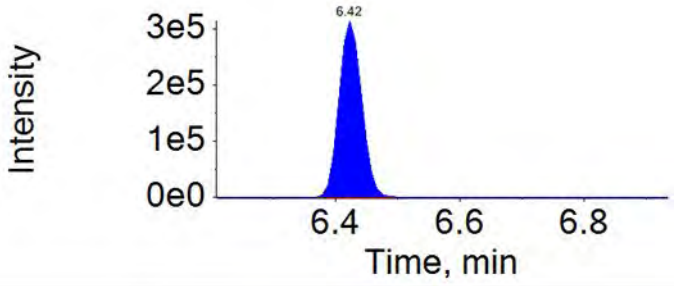
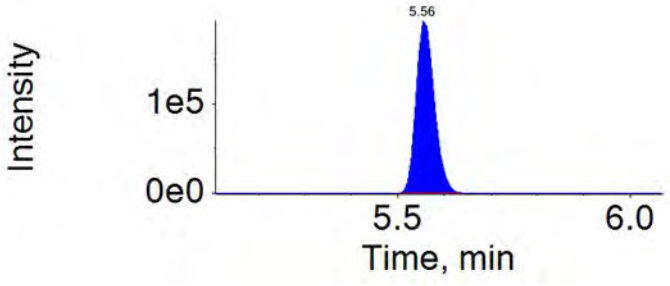


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

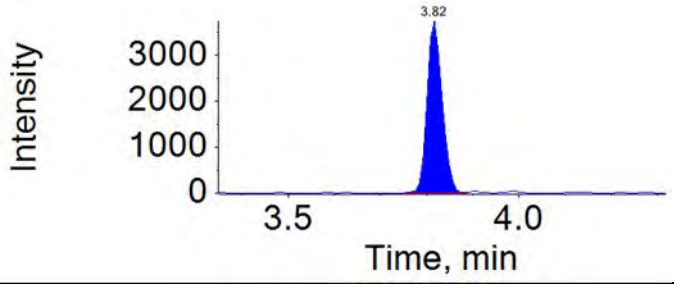
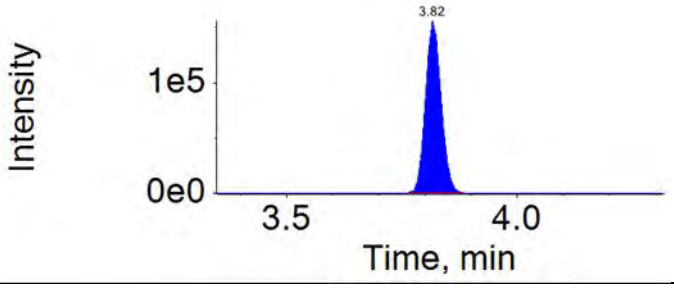


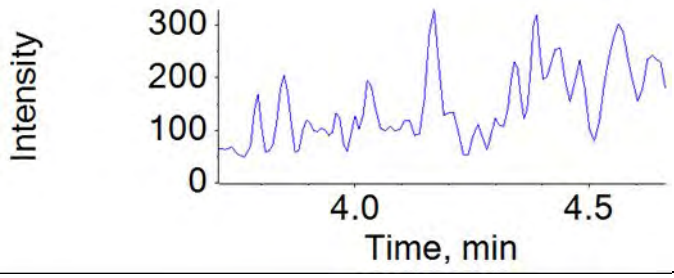
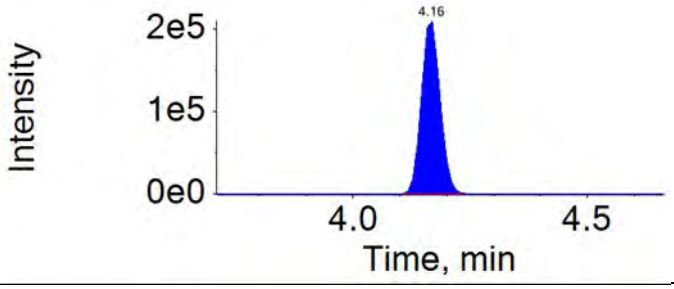


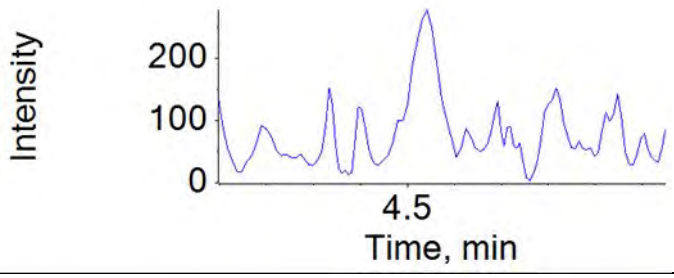
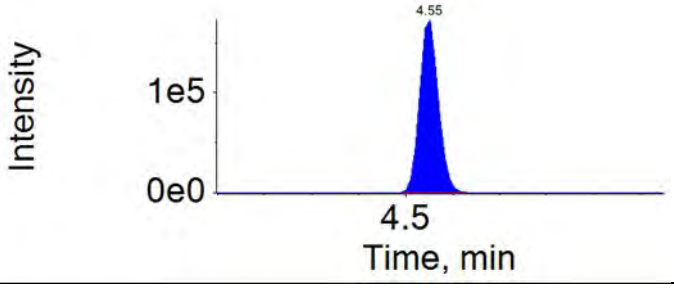
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

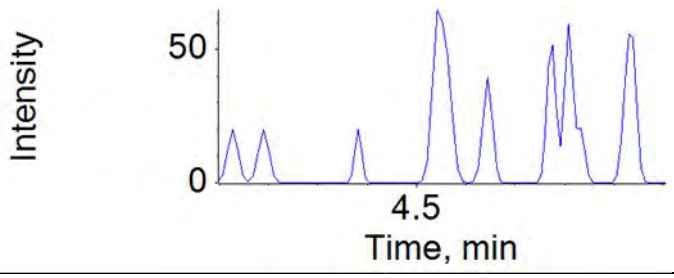
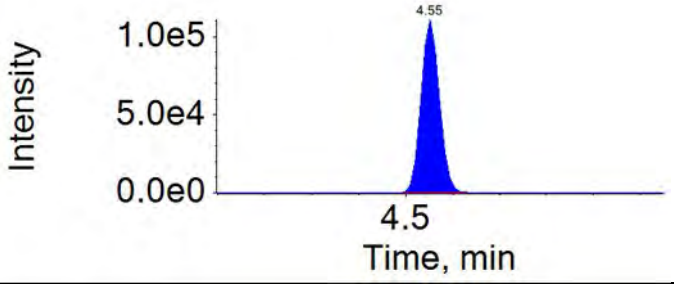
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

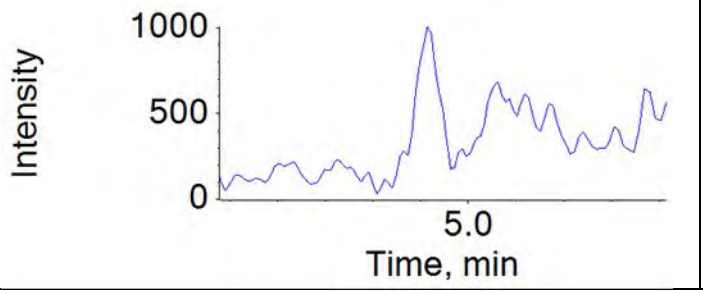
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

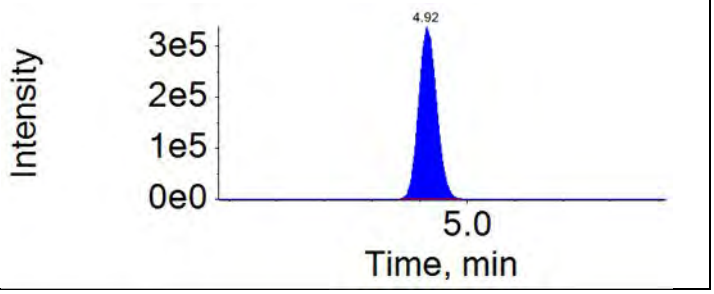
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

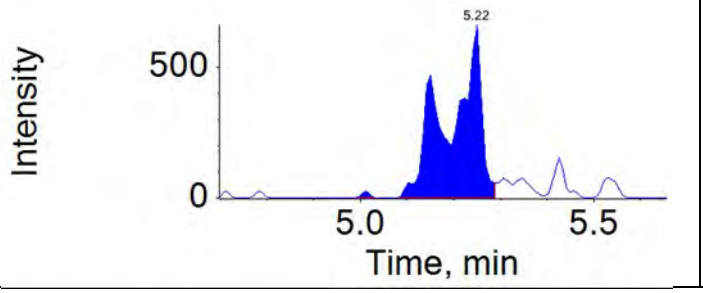
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

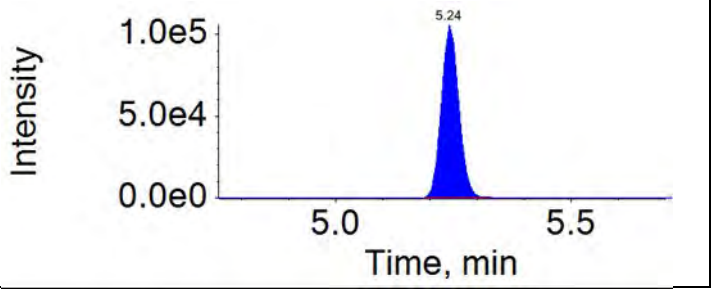
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



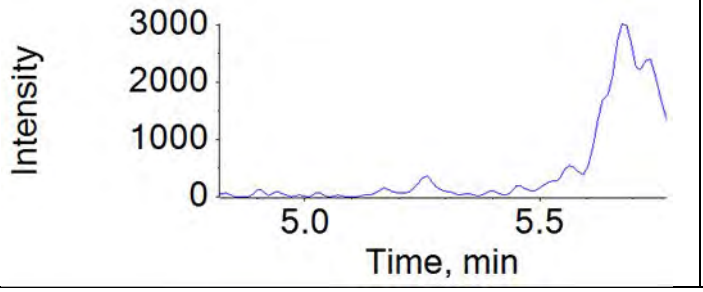


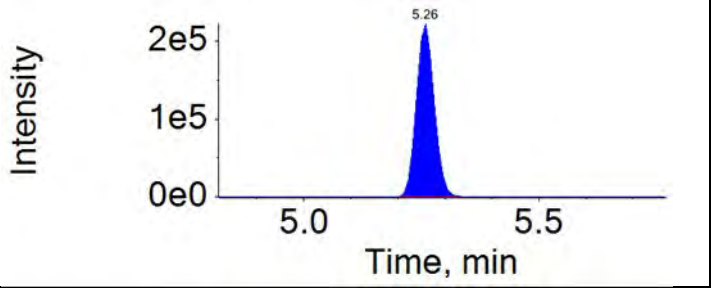
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



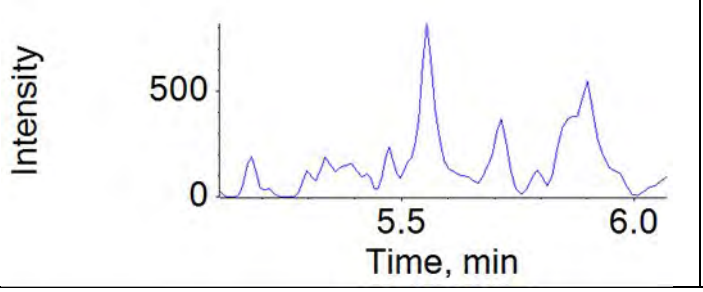


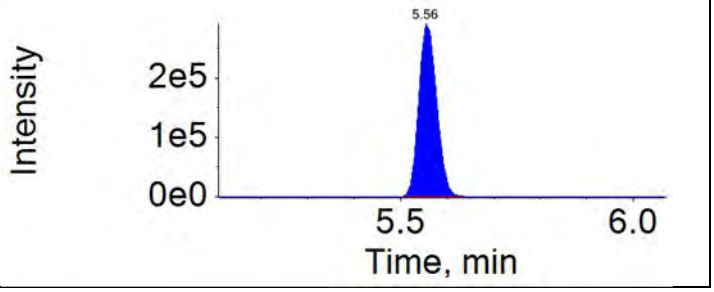
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





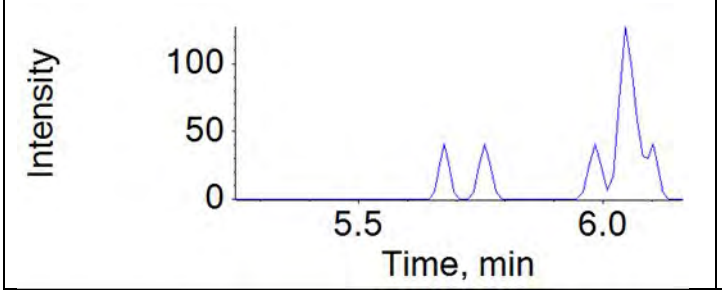
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

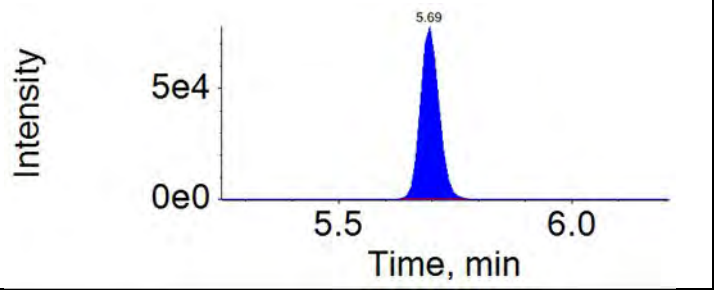




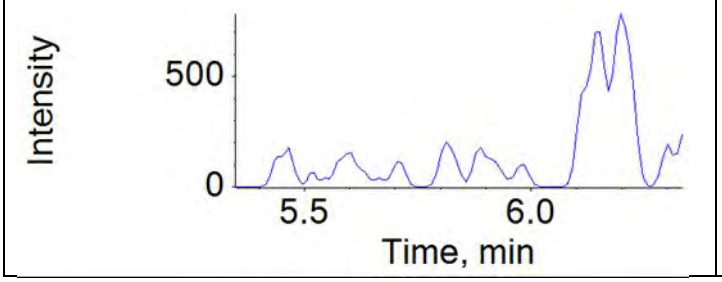
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

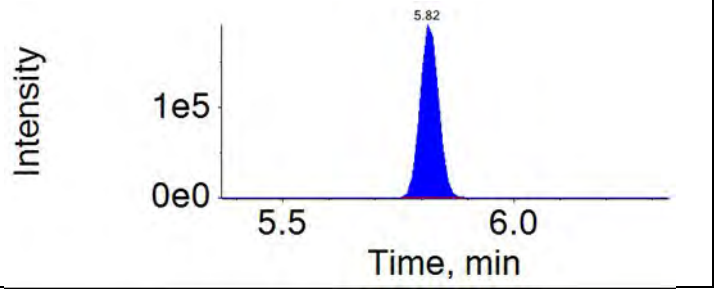
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



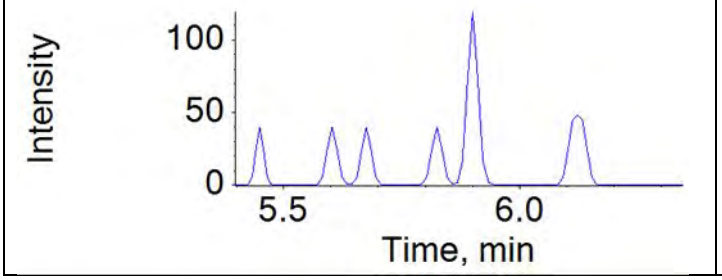


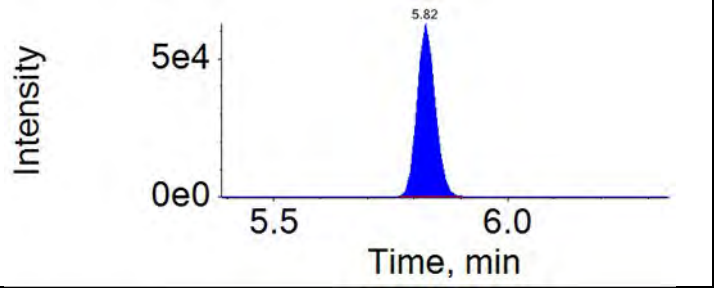
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



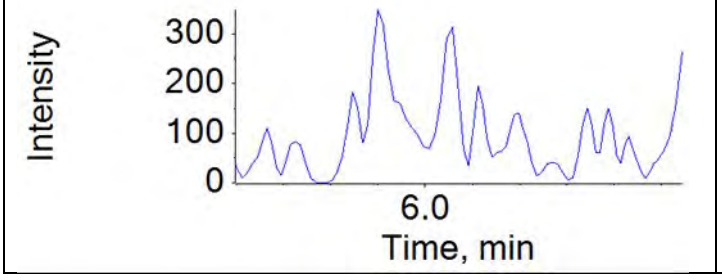


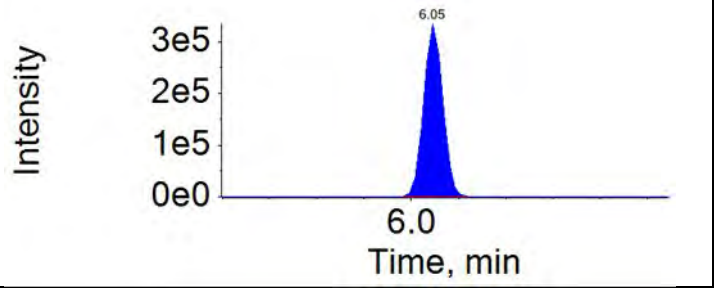
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

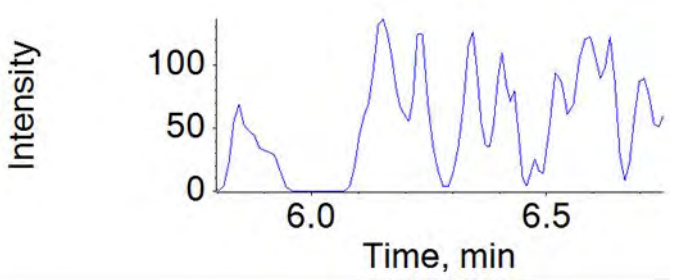
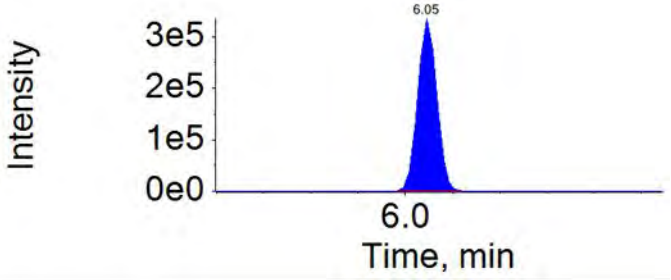


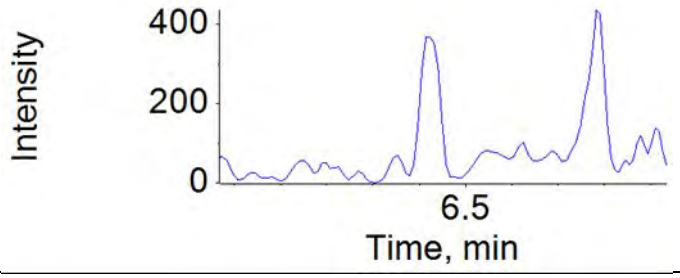
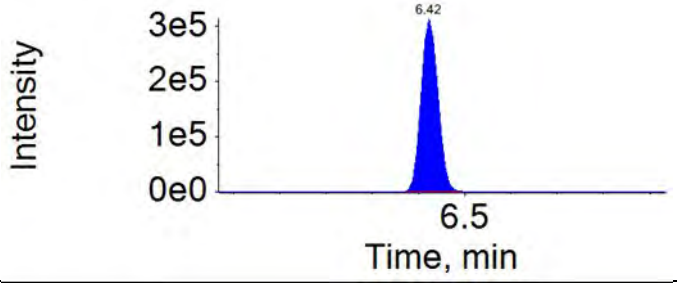


APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

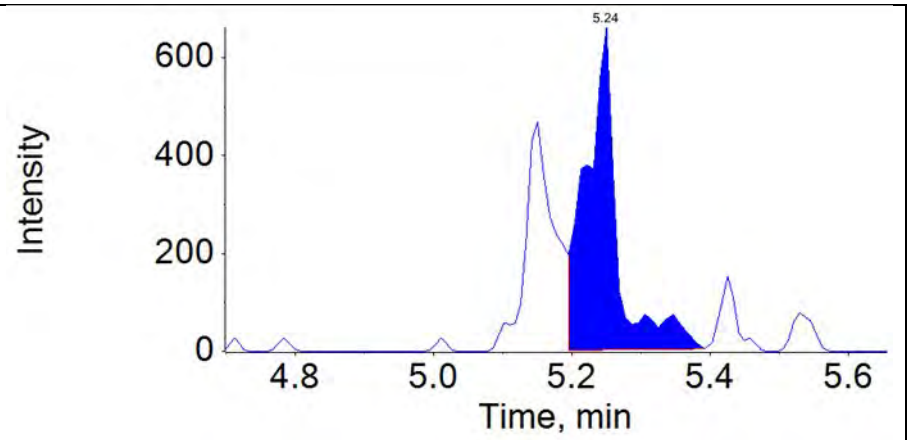
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

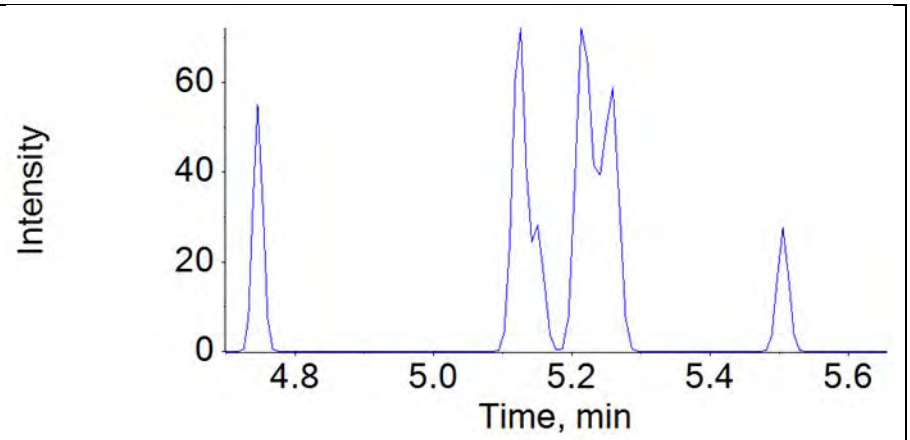
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
2102.2
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-34.wiff
Sample Name:
9934783



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-34.wiff
Sample Name:
9934783



Integration Comment: incorrect integration

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Ion Ratio Report

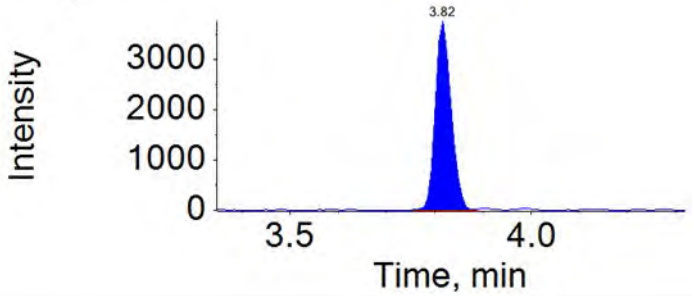
Sample Name: 9934783 **Instrument Name:** LM27631 **File Name:** 18DEC19D-34.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	8525.7	A	N/A	1.0000			
PFBS_2	3.82	1.00	3327.2	A	N/A	0.3903	6	50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	5.22	1.00	3212.7	M	N/A	1.0000			
PFOS_2	5.19	0.99	358.5	M	N/A	0.1116	-63	50	OOS
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

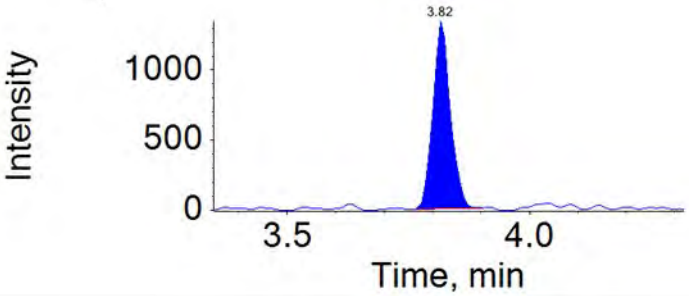
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

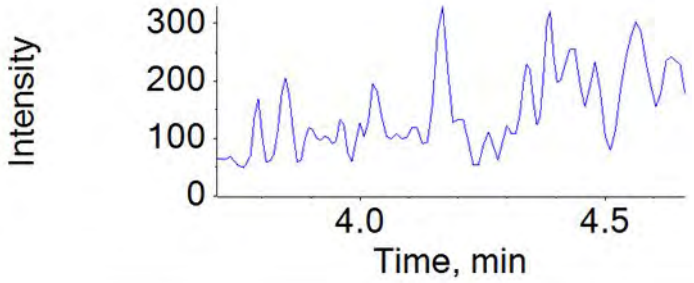
Component: PFBS
Primary Mass: 299.0 / 80.0



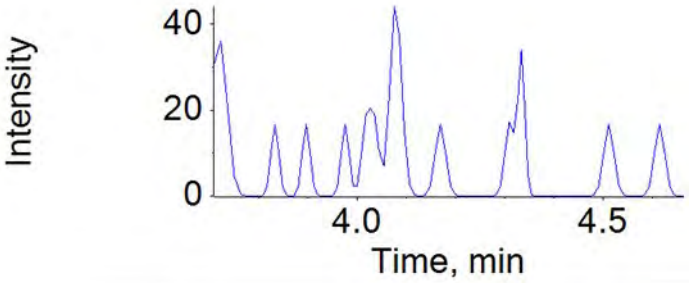
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



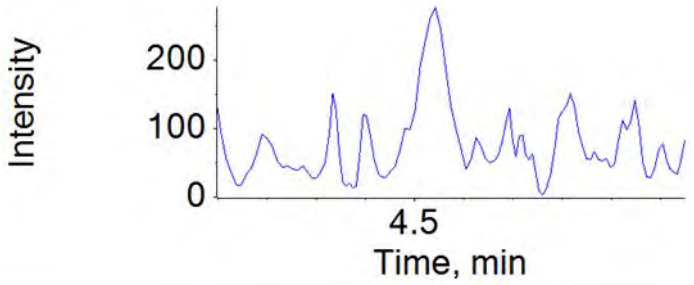
Component: PFHxA
Primary Mass: 313.0 / 269.0



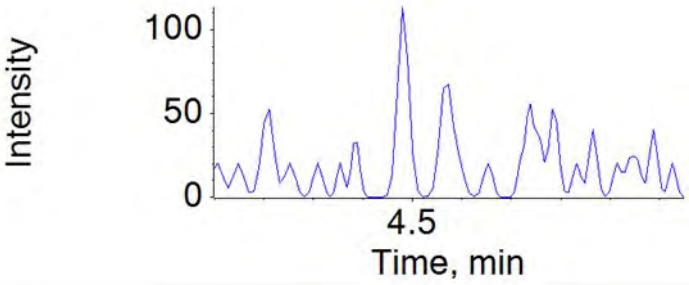
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



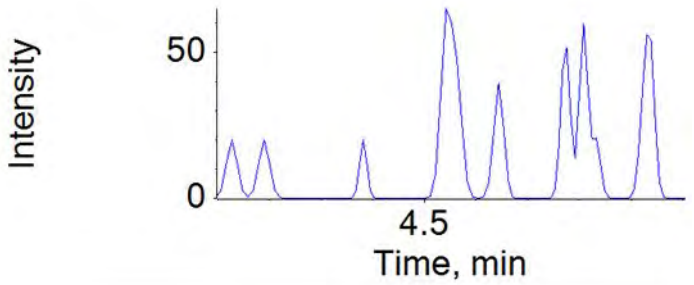
Component: PFHpA
Primary Mass: 363.0 / 319.0



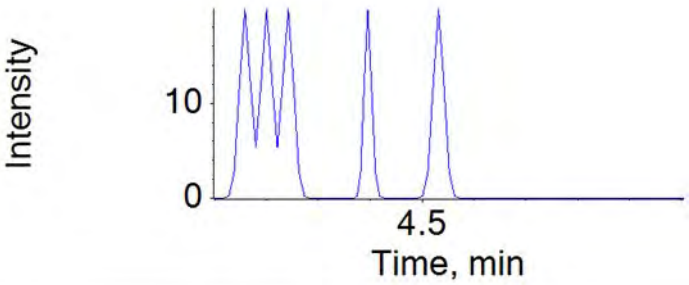
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



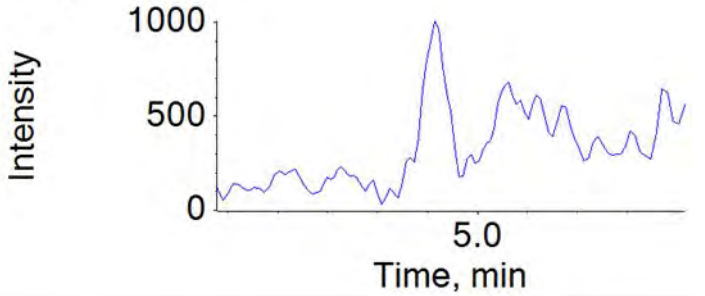
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



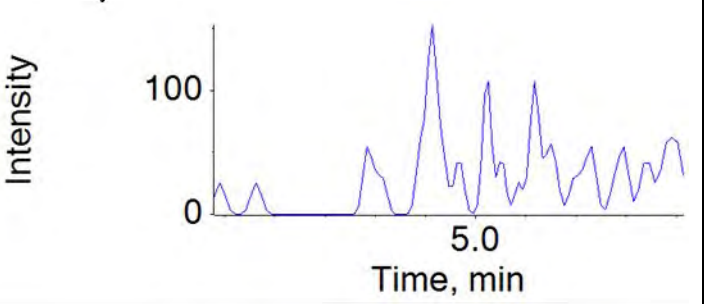
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

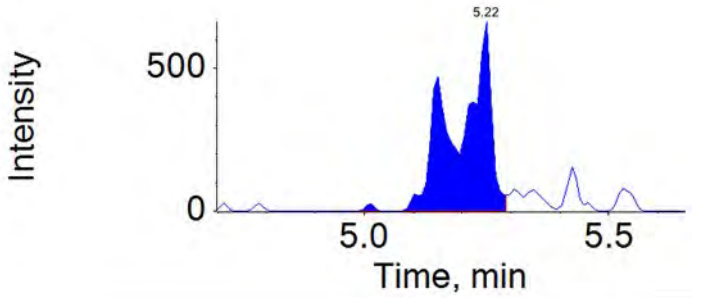
Component: PFOA
Primary Mass: 413.0 / 369.0



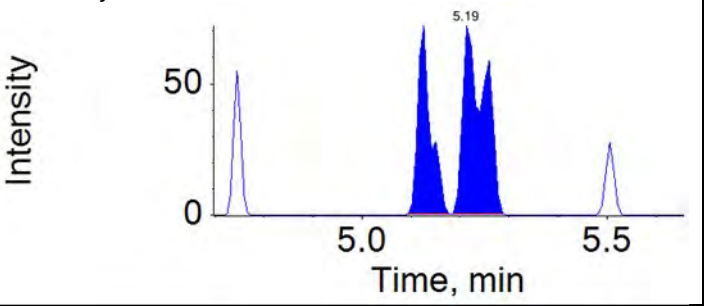
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



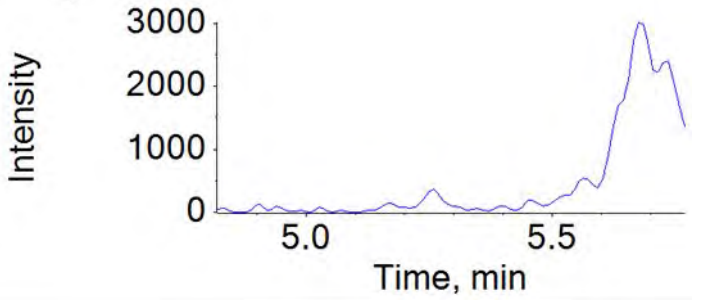
Component: PFOS
Primary Mass: 499.0 / 80.0



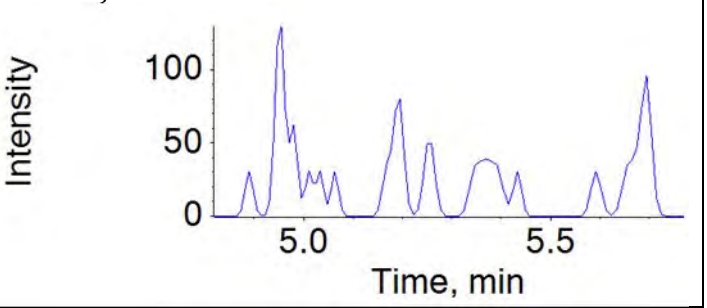
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



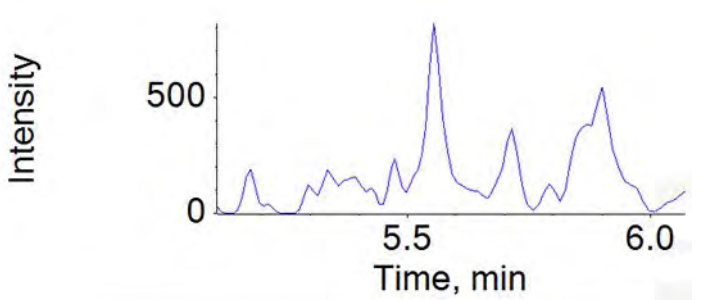
Component: PFNA
Primary Mass: 463.0 / 419.0



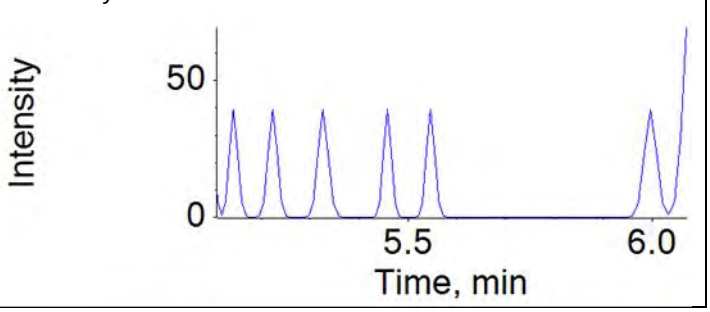
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



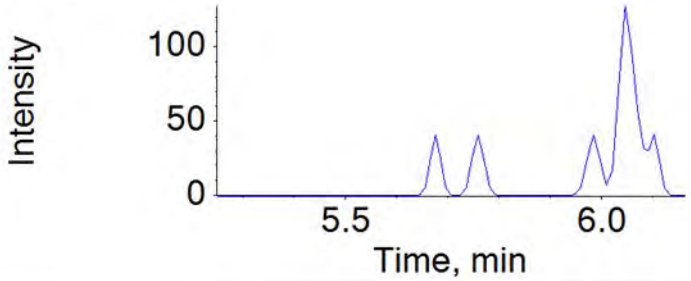
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



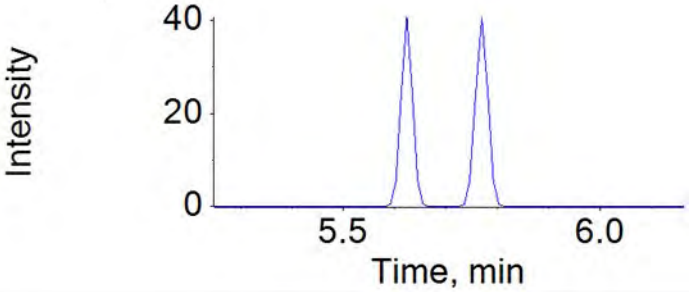
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
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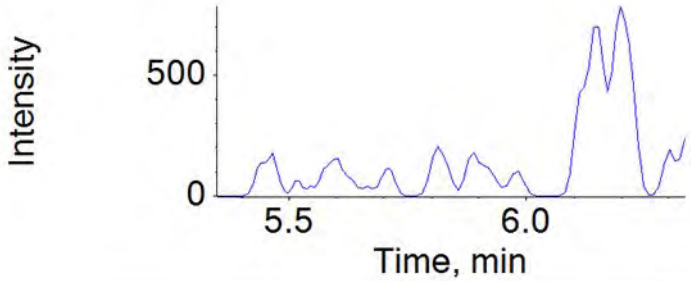
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



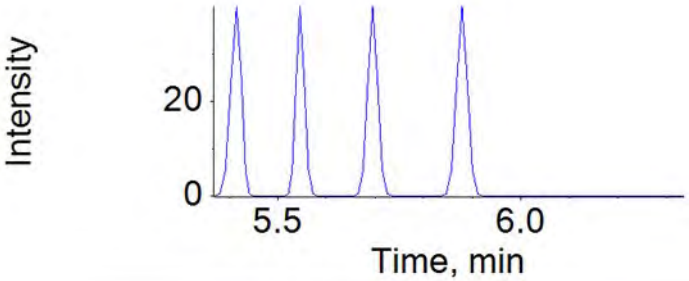
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



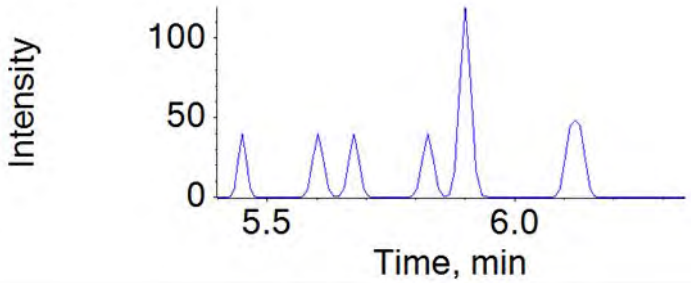
Component: PFUnDA
Primary Mass: 563.0 / 519.0



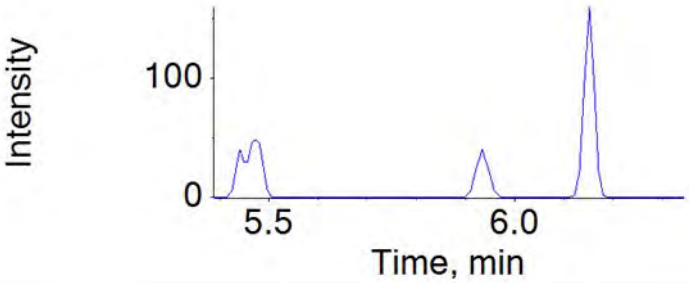
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



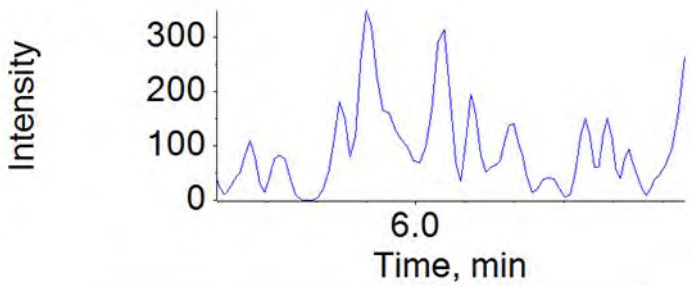
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



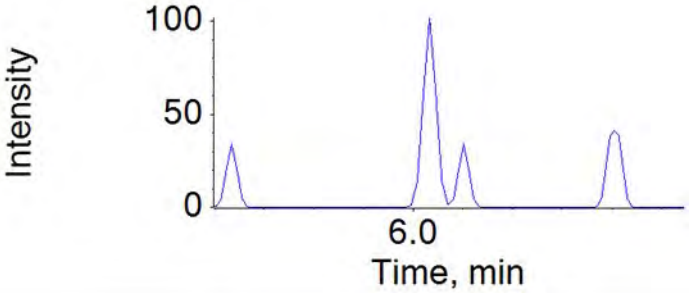
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



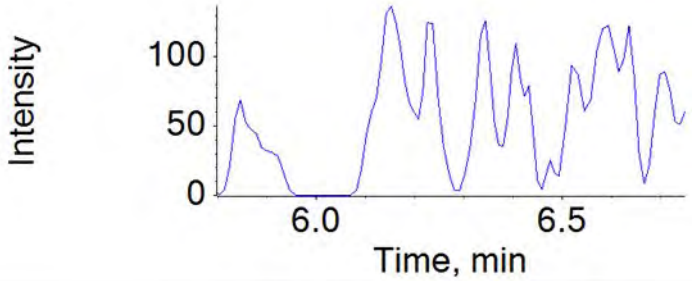
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



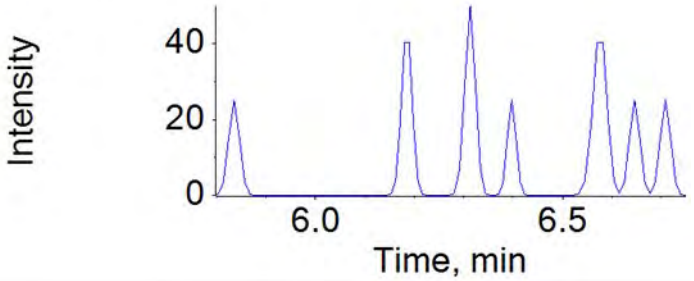
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

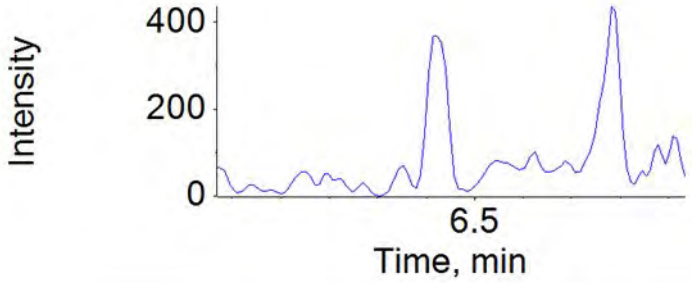
Component: PFTrDA
Primary Mass: 663.0 / 619.0



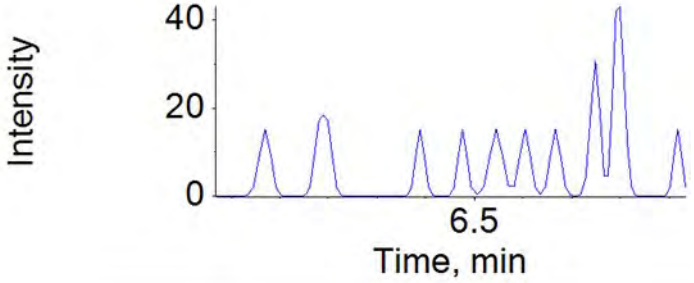
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934784			**Data File:**		18DEC19D-35.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YCW16-1-W-02 Grab Water			**Acquis Date:**		2018-12-19T15:14:20
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	61			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28173			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1009659.6	942675.8	7	50	
13C2-PFOA	5.0	540564.8	520268.5	4	50	
13C4-PFOS	4.8	303691.0	307968.9	-1	50	
13C2-PFDA	5.0	485196.7	487375.3	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	389414.0	13C3-PFBA	1009659.6	0.386	16.505	13.330	81	50-150	
E13C5-PFHxA	640474.8	13C2-PFOA	540564.8	1.185	17.747	15.043	85	50-150	
E13C3-PFHxS	313692.0	13C2-PFOA	540564.8	0.580	16.789	15.586	93	50-150	
E13C4-PFHpA	525580.6	13C2-PFOA	540564.8	0.972	17.747	14.907	84	50-150	
E13C8-PFOA	940007.6	13C2-PFOA	540564.8	1.739	17.747	16.972	96	50-150	
E13C8-PFOS	300812.0	13C4-PFOS	303691.0	0.991	16.967	15.723	93	50-150	
E13C9-PFNA	615800.9	13C4-PFOS	303691.0	2.028	17.747	16.373	92	50-150	
E13C6-PFDA	789106.3	13C2-PFDA	485196.7	1.626	17.747	16.444	93	50-150	
Ed3-NMeFOSAA	197266.8	13C2-PFDA	485196.7	0.407	17.747	15.877	89	50-150	
E13C7-PFUnDA	555422.2	13C2-PFDA	485196.7	1.145	17.747	17.008	96	50-150	
Ed5-NEtFOSAA	152805.2	13C2-PFDA	485196.7	0.315	17.747	16.469	93	50-150	
E13C2-PFDoDA	1060015.7	13C2-PFDA	485196.7	2.185	17.747	16.315	92	50-150	
E13C2-PFTeDA	777534.0	13C2-PFDA	485196.7	1.603	17.747	16.029	90	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

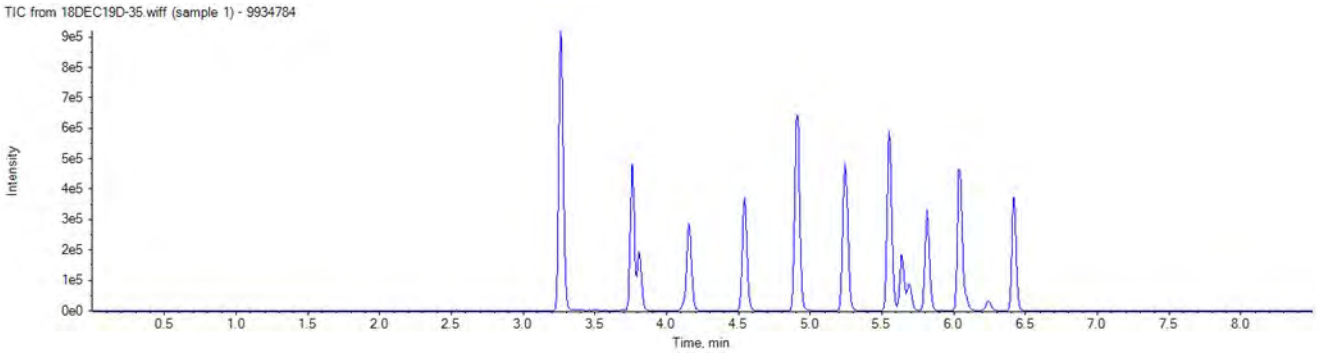
Analyte Quantitation Peak Table

Sample Name: 9934784 **Instrument Name:** LM27631 **File Name:** 18DEC19D-35.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28173	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	389414.0	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	640474.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	525580.6	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	313692.0	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	940007.6	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	300812.0	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	615800.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	789106.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	197266.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	555422.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	152805.2	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1060015.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1060015.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	777534.0	N/A	

Total Ion Chromatogram

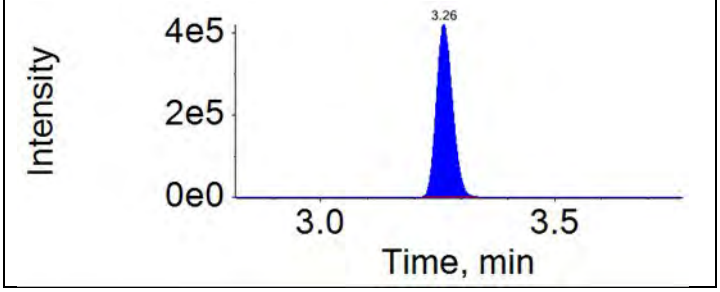


APPROVED
By MSM at 10:14 am, 12/20/18

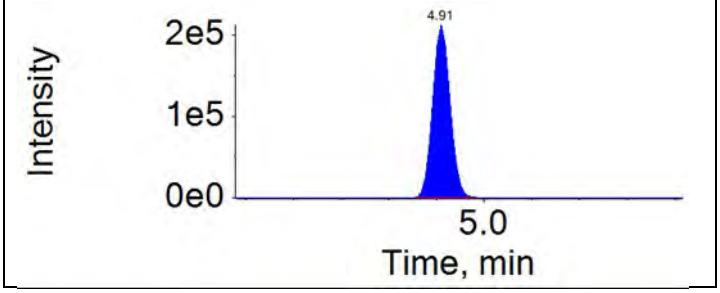
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

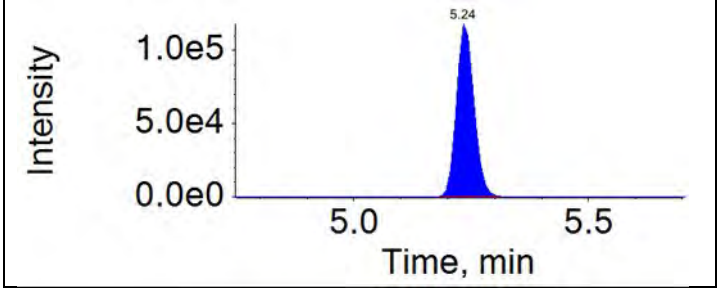
Injection Standard: 13C3-PFBA
216.0 / 172.0



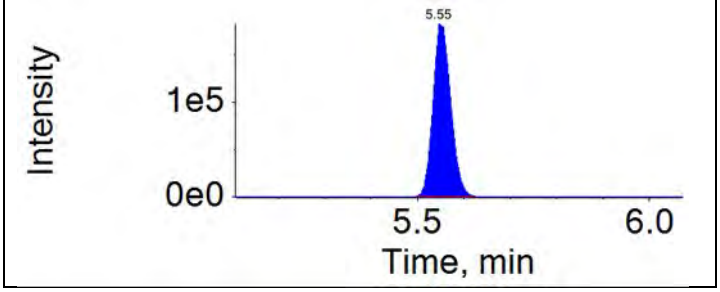
Injection Standard: 13C2-PFOA
415.0 / 370.0



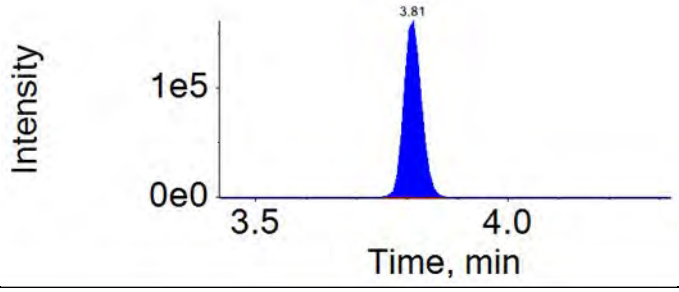
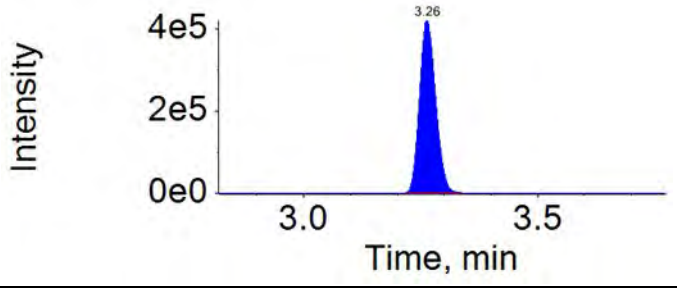
Injection Standard: 13C4-PFOS
503.0 / 80.0

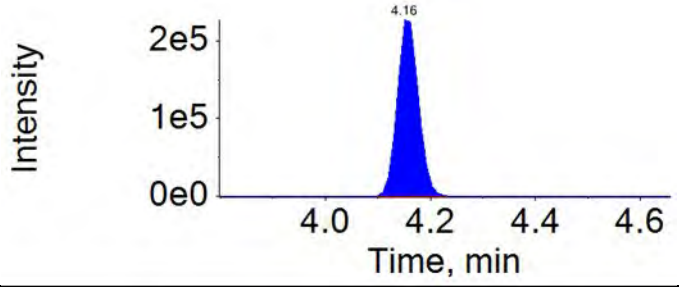
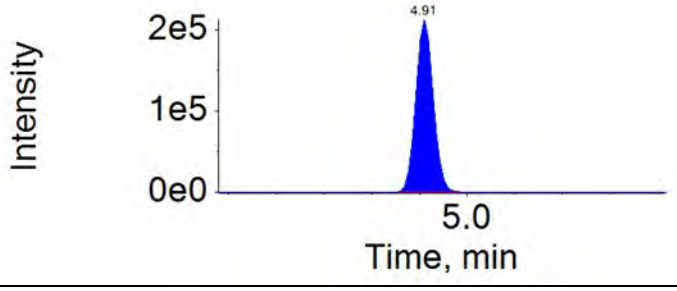


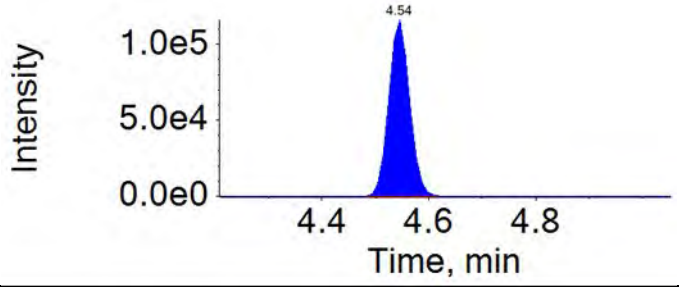
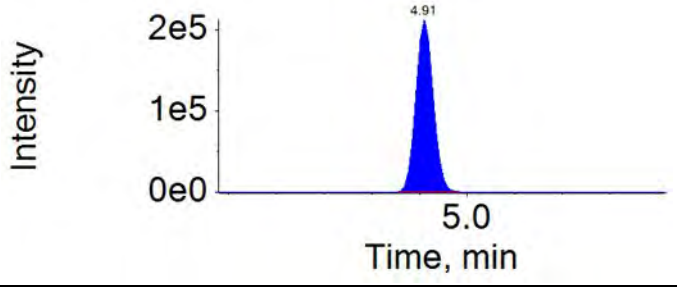
Injection Standard: 13C2-PFDA
515.0 / 470.0

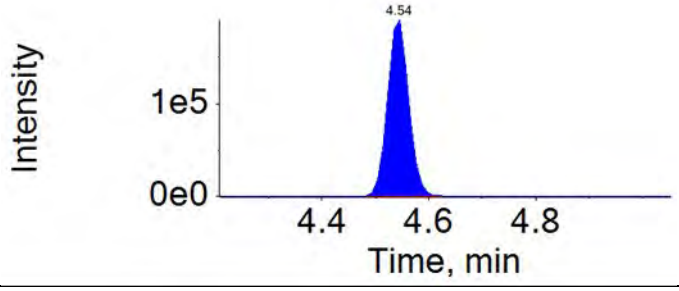
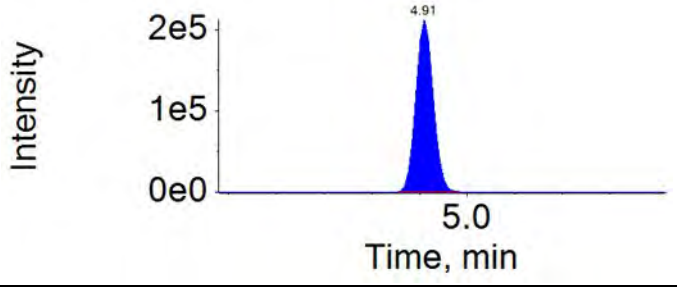


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

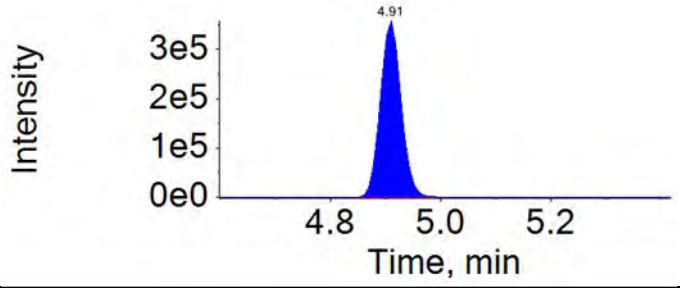
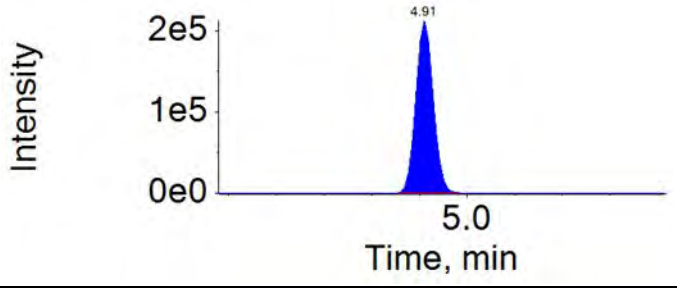
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302.0 / 80.0	216.0 / 172.0
	

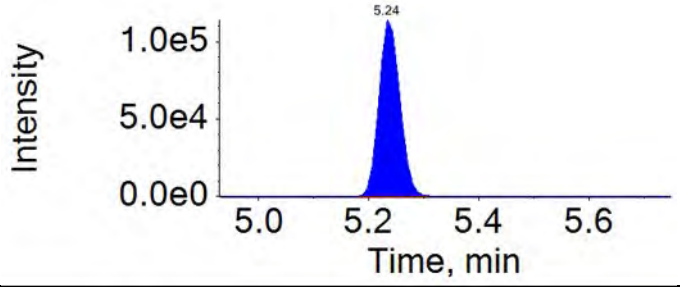
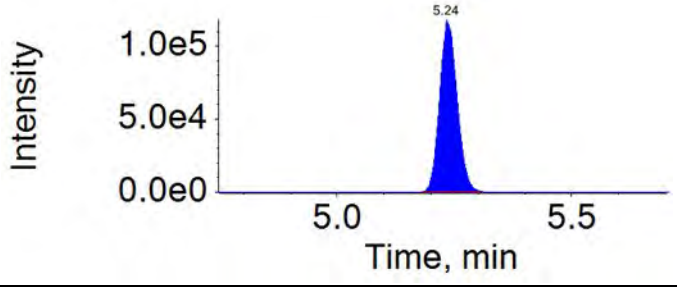
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

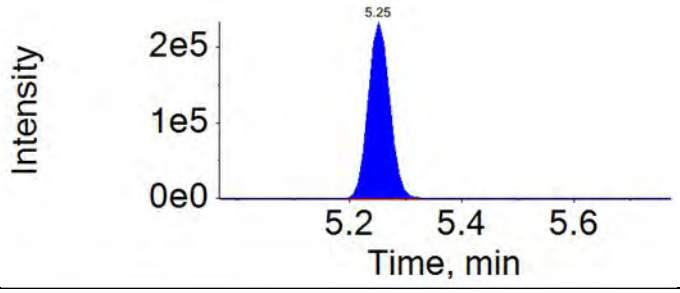
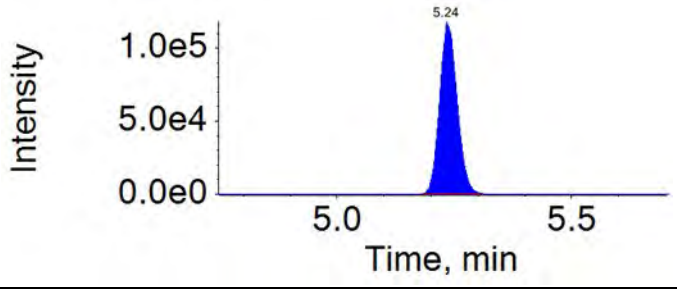
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

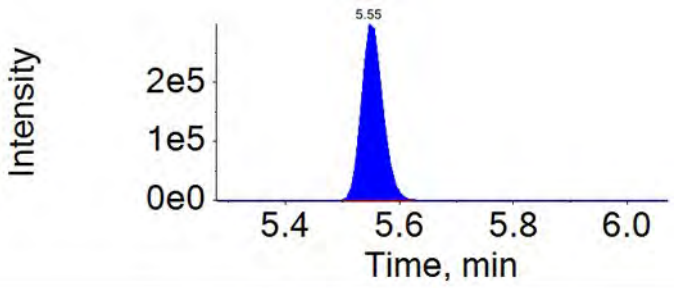
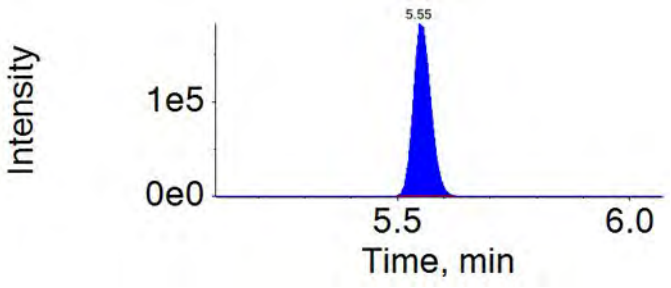
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

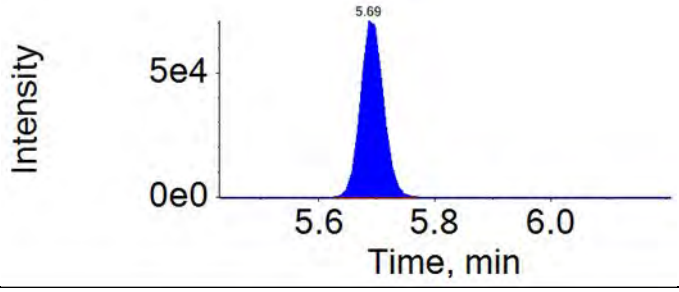
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

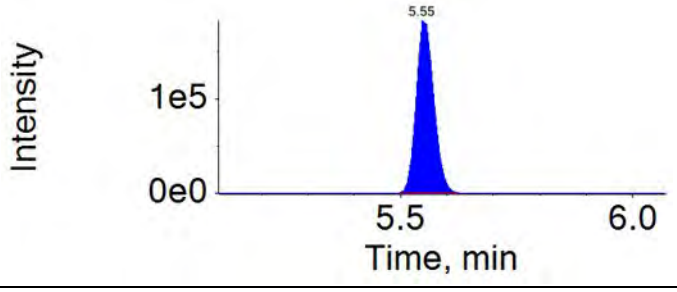
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

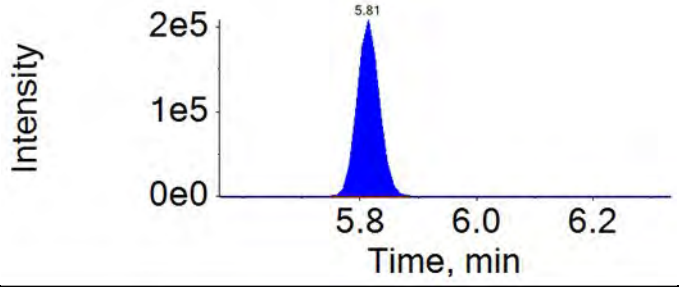
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

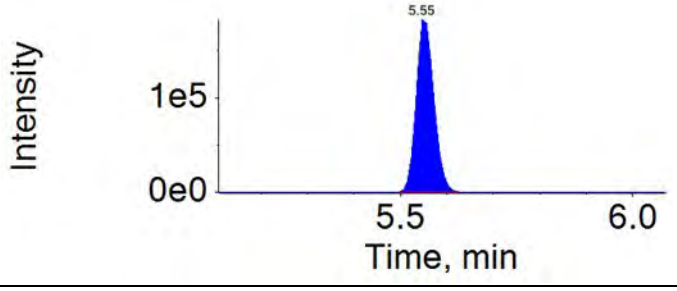
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



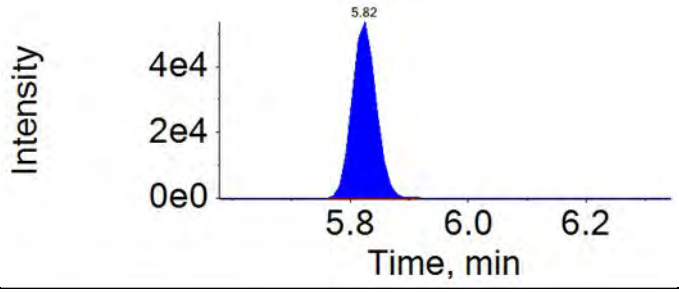


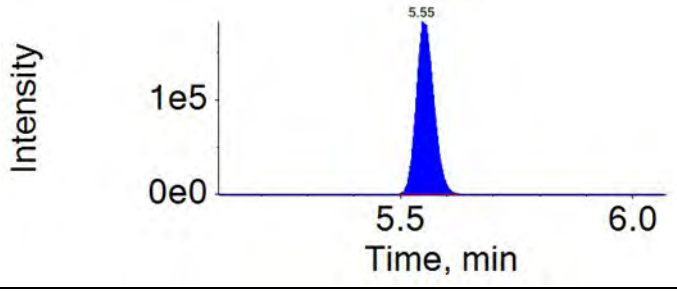
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



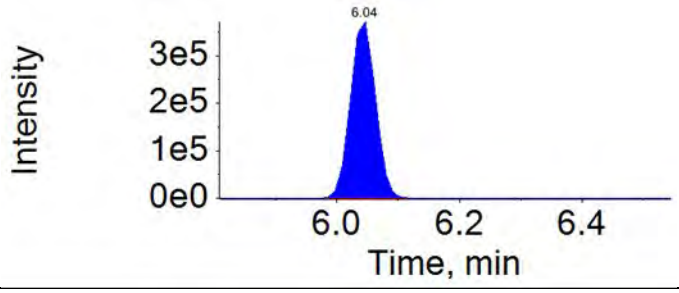


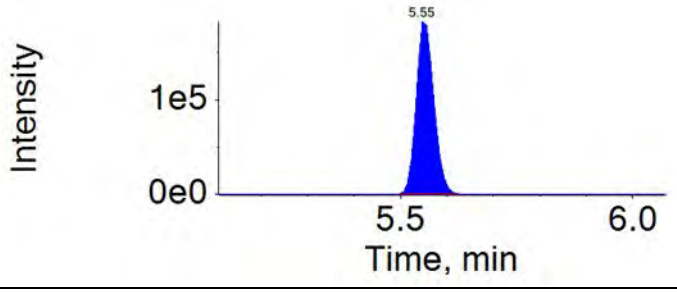
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



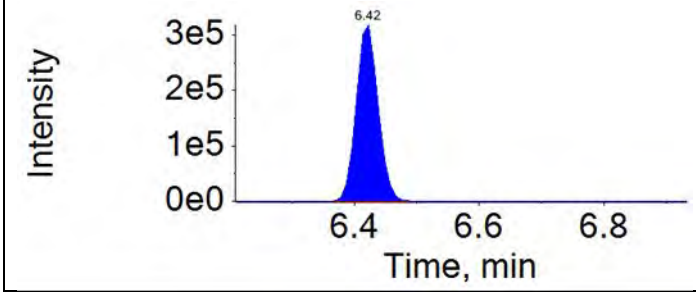
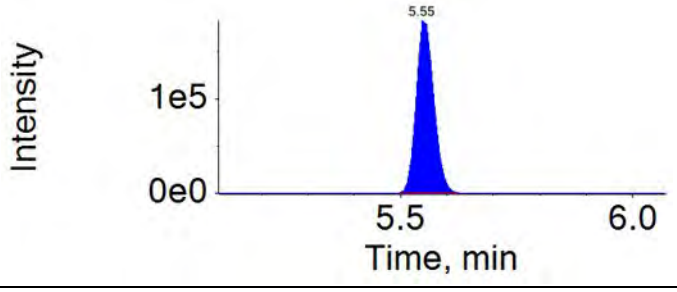


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



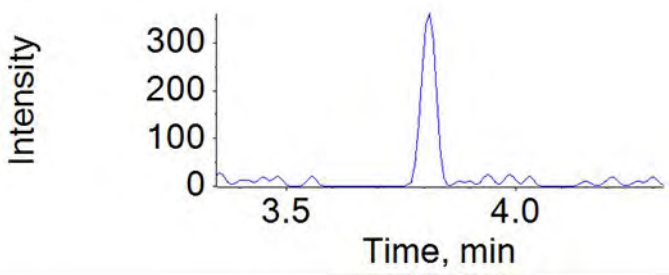


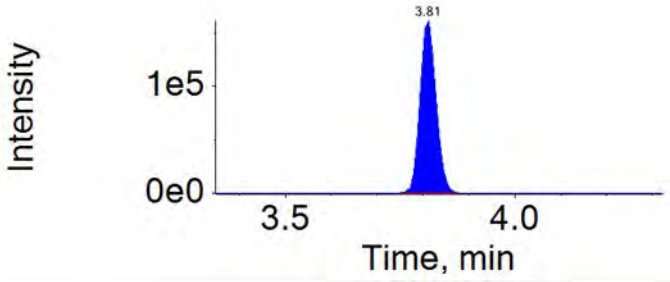
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

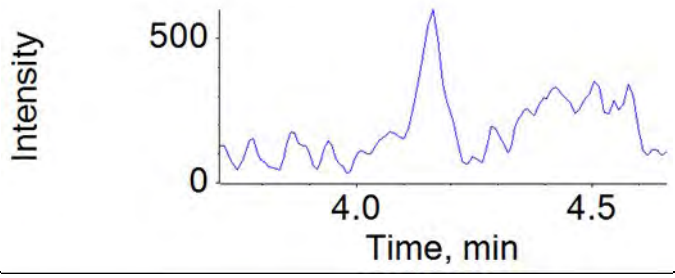
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

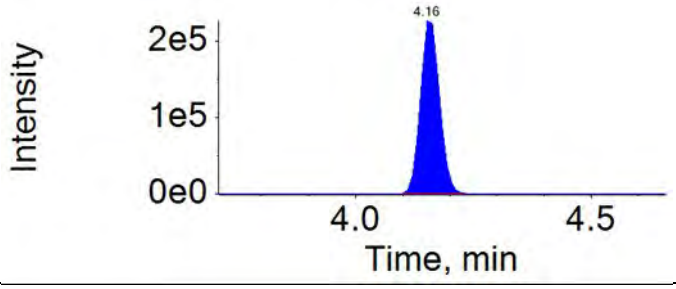
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



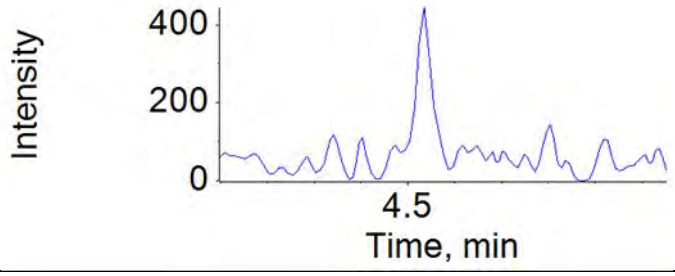


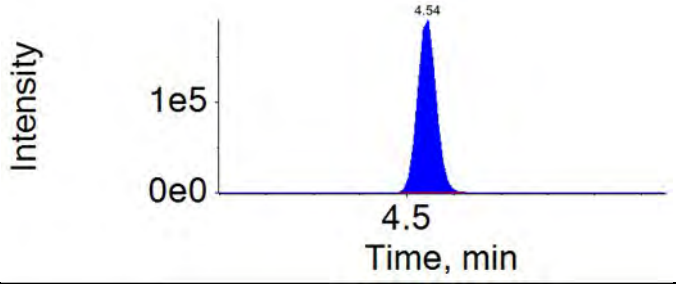
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



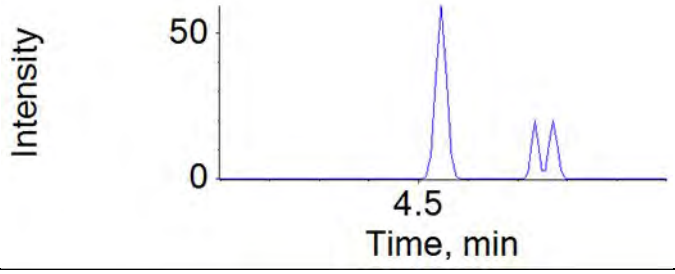


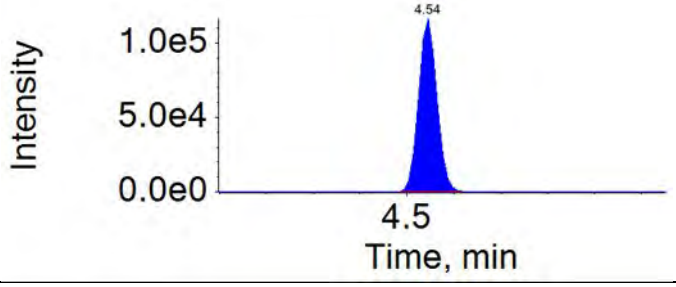
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





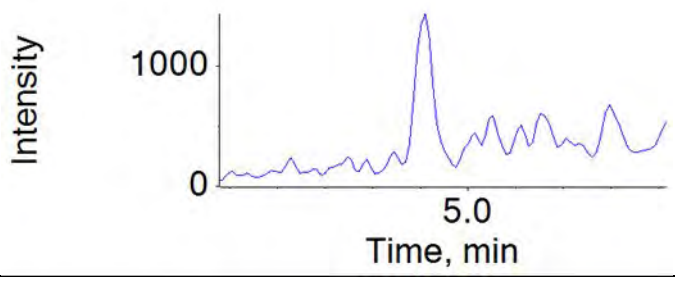
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

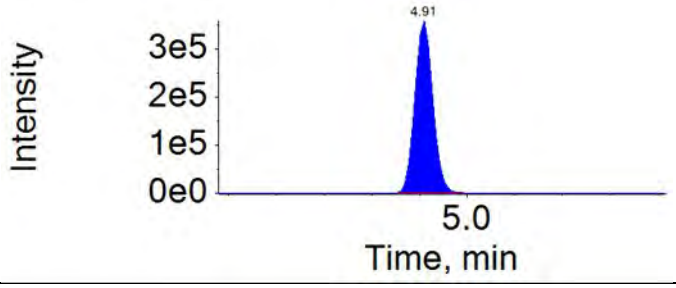




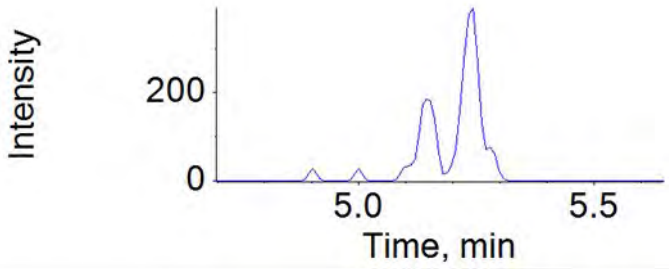
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

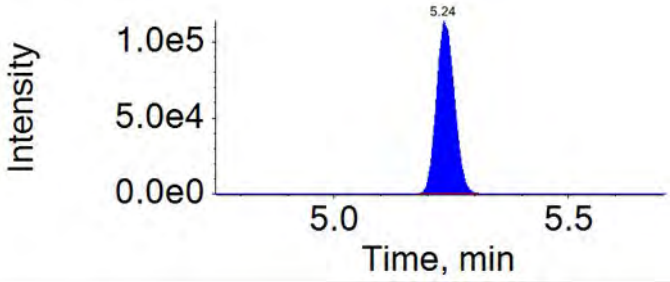
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



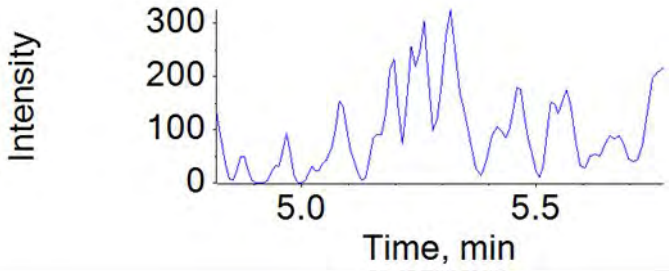


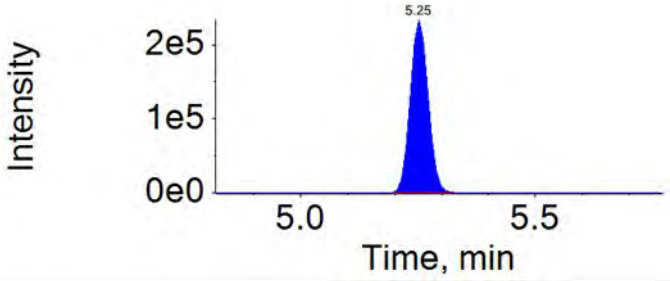
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



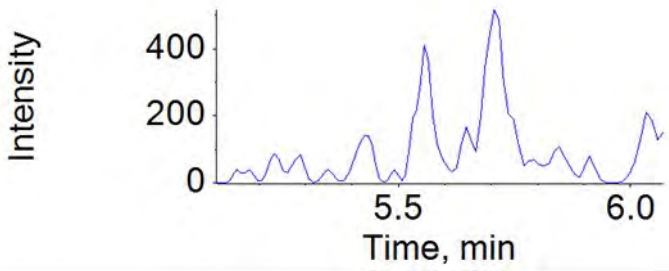


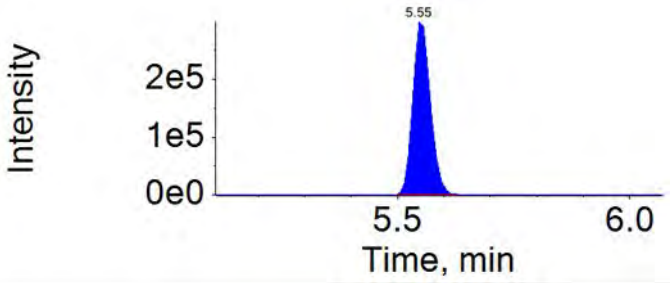
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





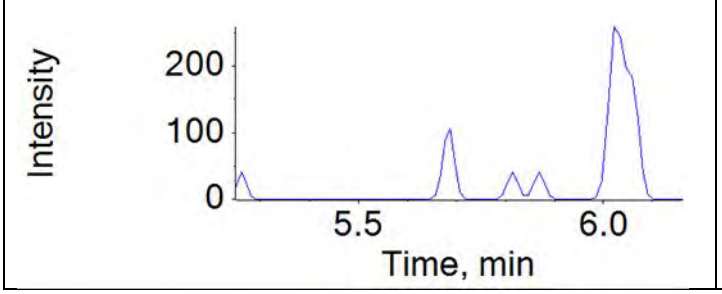
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

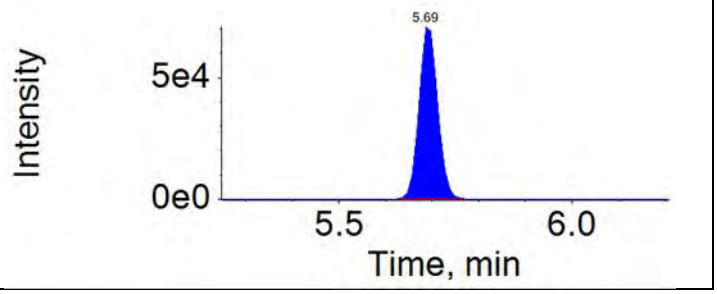




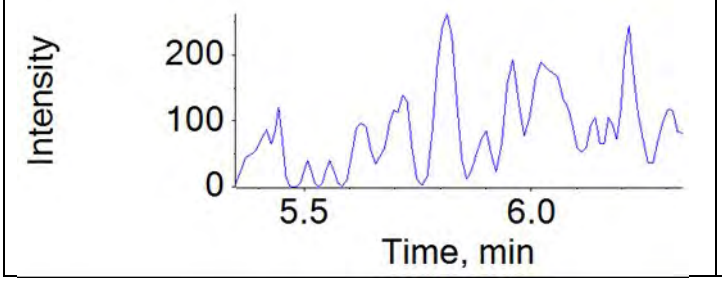
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

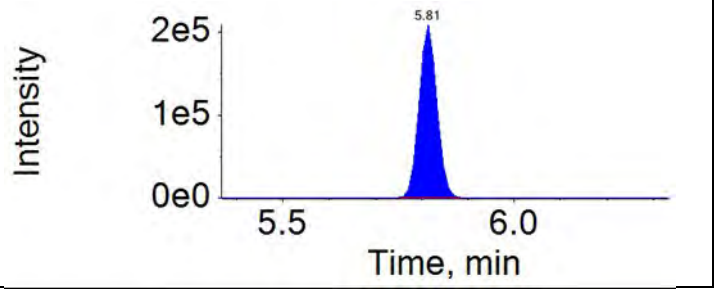
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



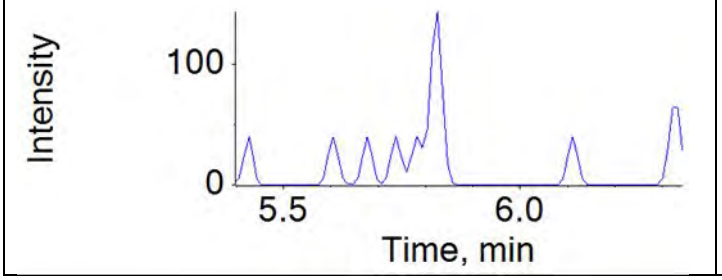


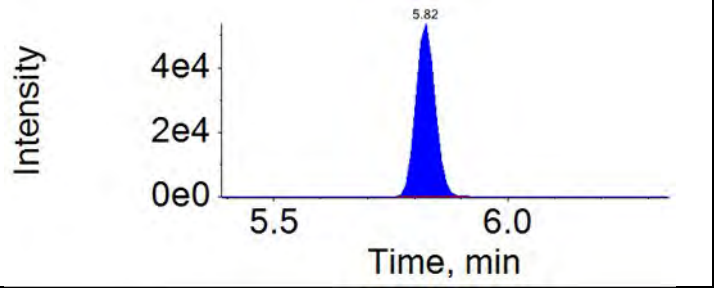
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



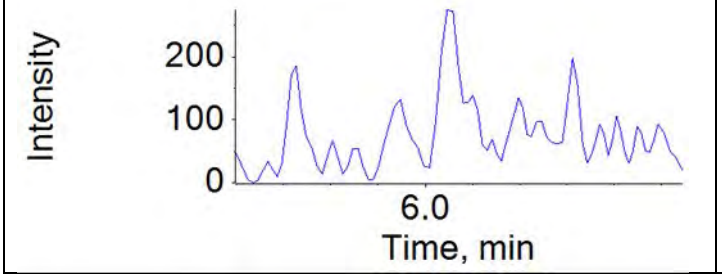


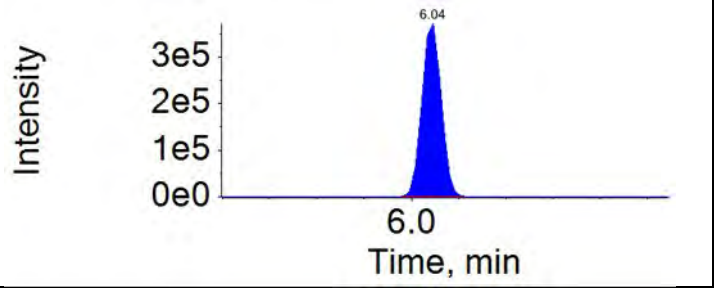
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



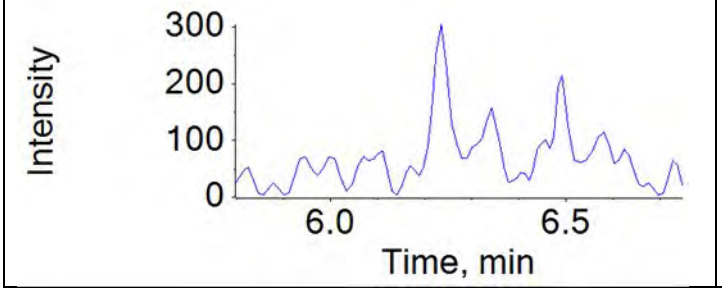


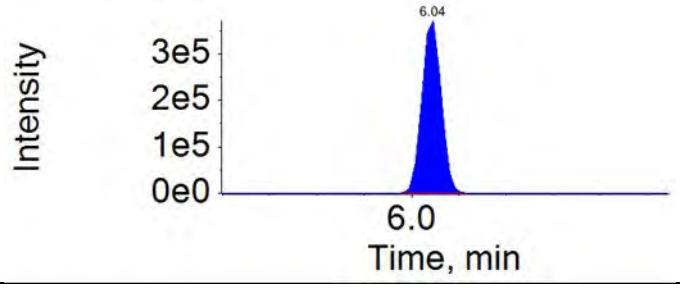
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

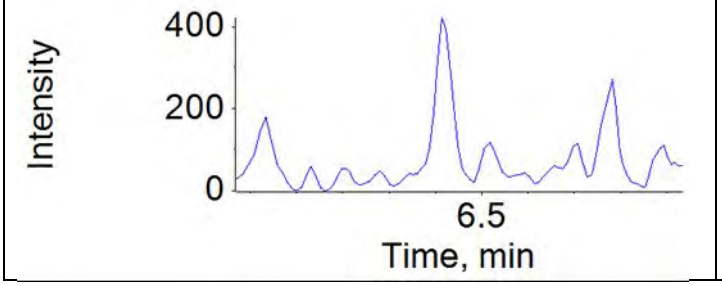
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

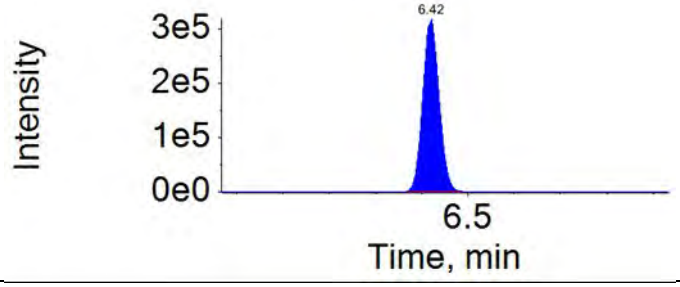
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





Ion Ratio Report

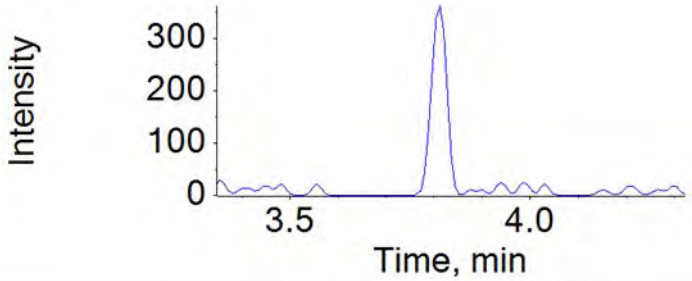
Sample Name: 9934784 **Instrument Name:** LM27631 **File Name:** 18DEC19D-35.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

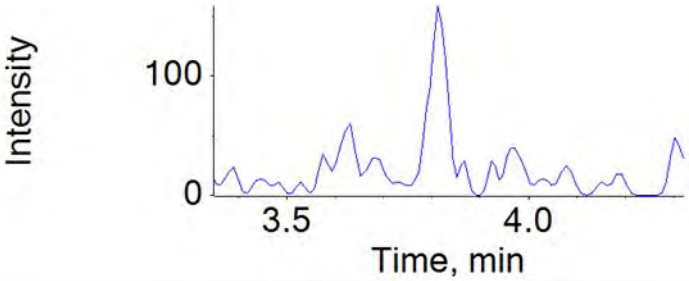
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

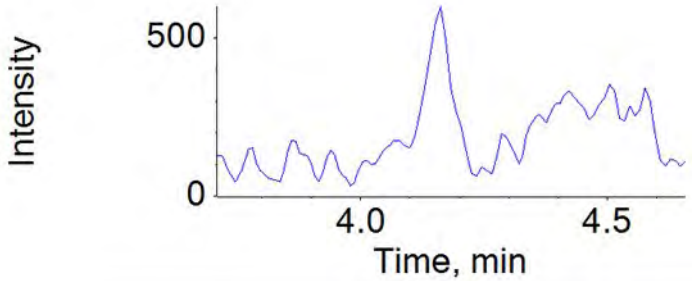
Component: PFBS
Primary Mass: 299.0 / 80.0



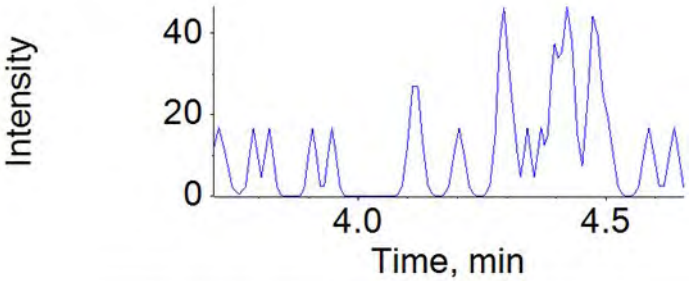
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



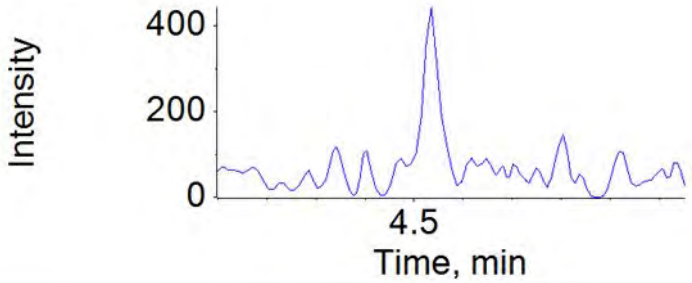
Component: PFHxA
Primary Mass: 313.0 / 269.0



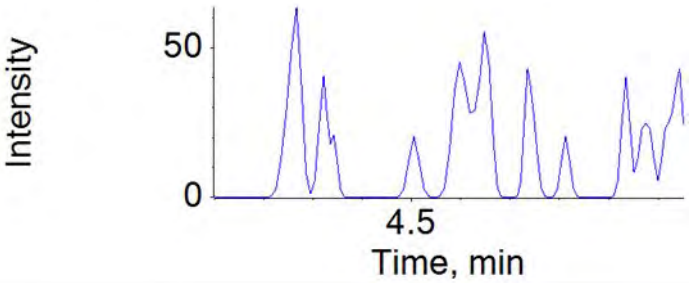
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



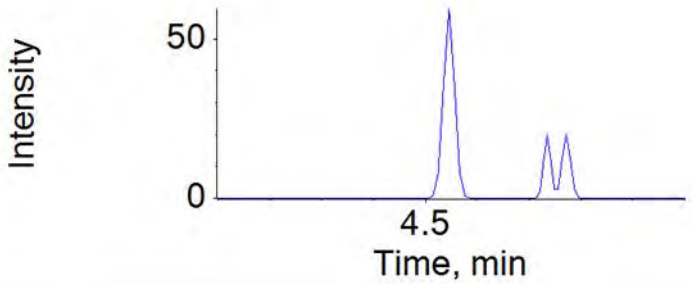
Component: PFHpA
Primary Mass: 363.0 / 319.0



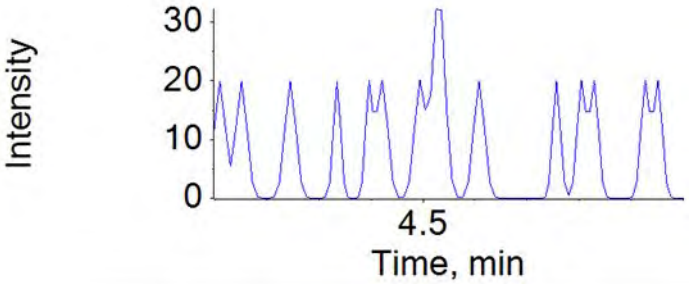
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



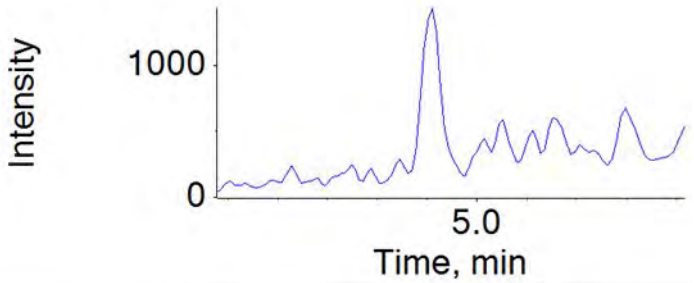
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



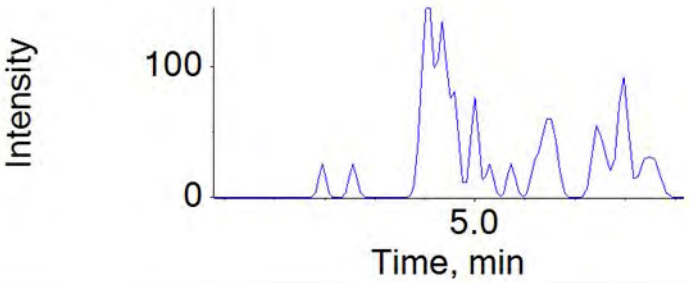
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

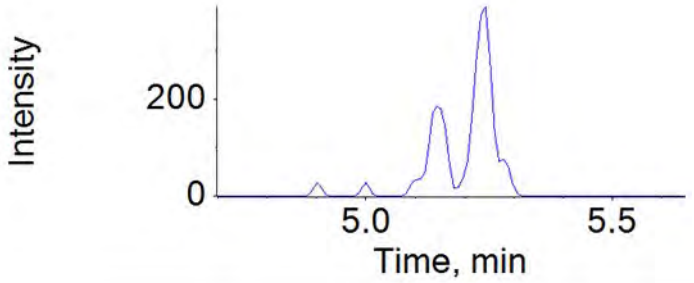
Component: PFOA
Primary Mass: 413.0 / 369.0



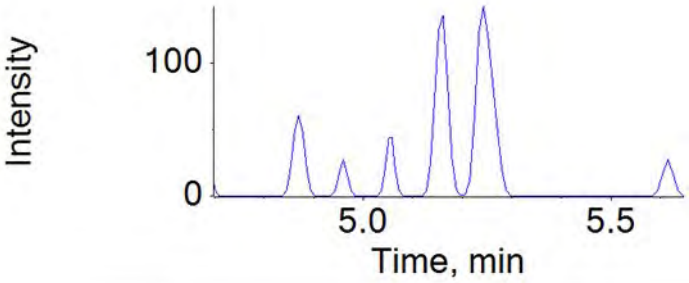
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



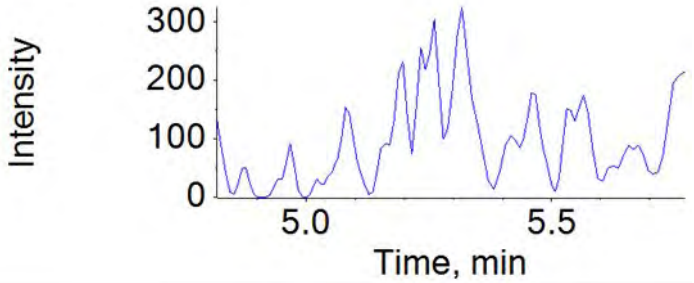
Component: PFOS
Primary Mass: 499.0 / 80.0



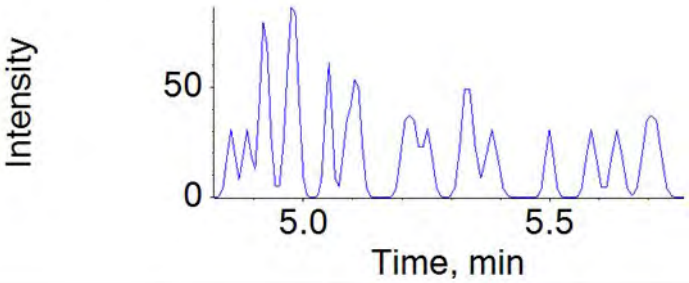
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



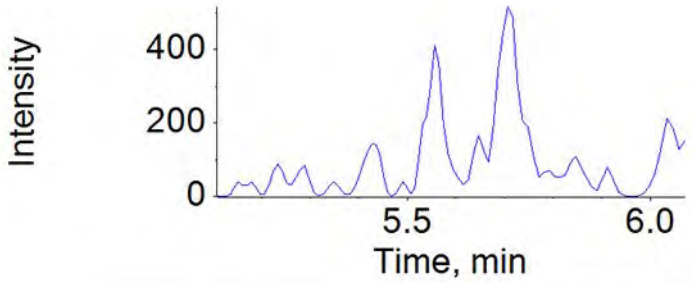
Component: PFNA
Primary Mass: 463.0 / 419.0



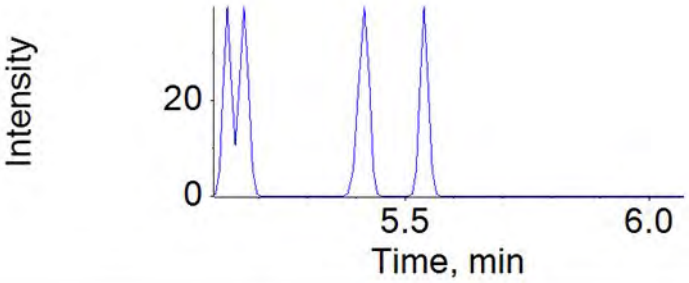
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



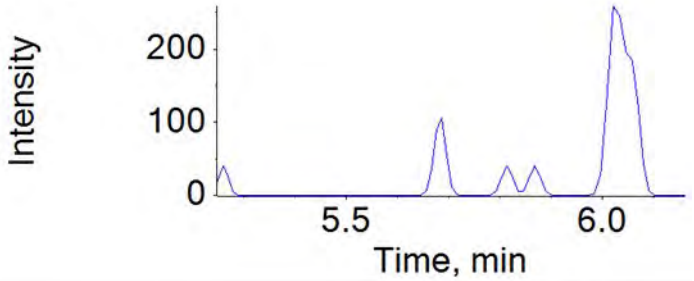
Component: PFDA
Primary Mass: 513.0 / 469.0



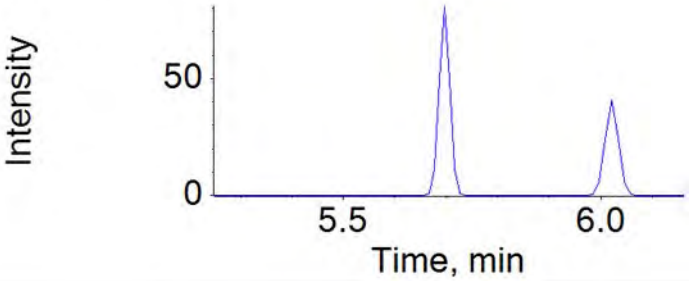
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



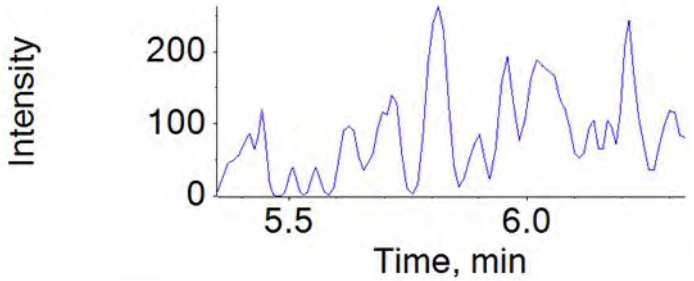
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



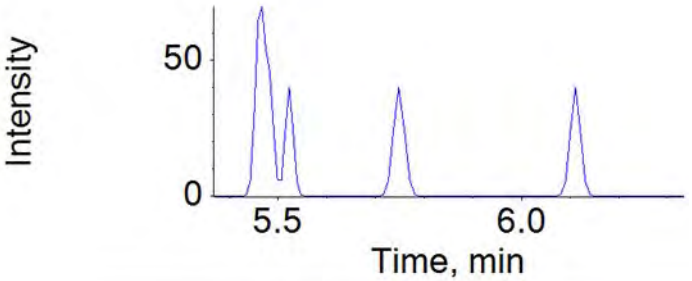
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



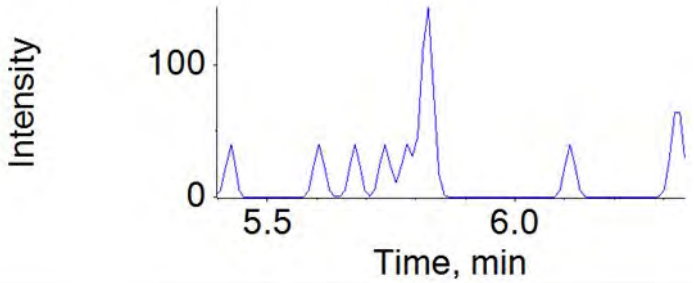
Component: PFUnDA
Primary Mass: 563.0 / 519.0



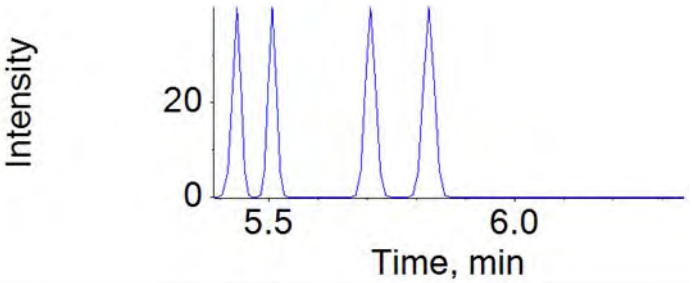
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



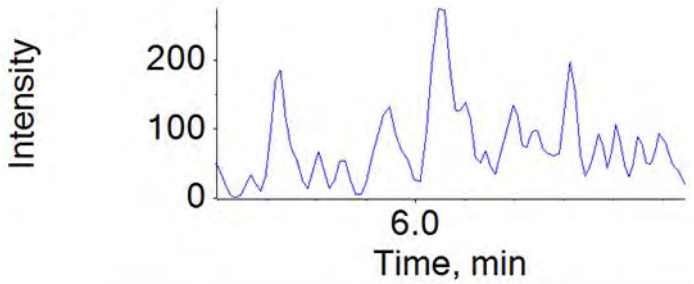
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



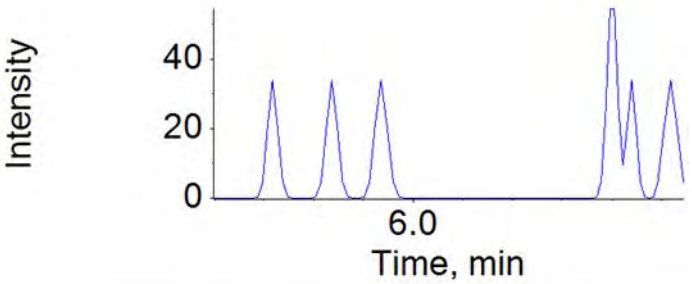
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Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



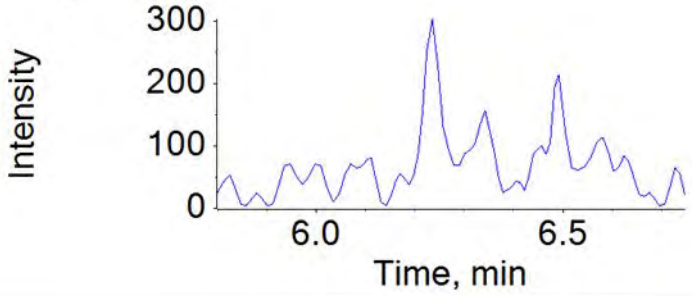
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



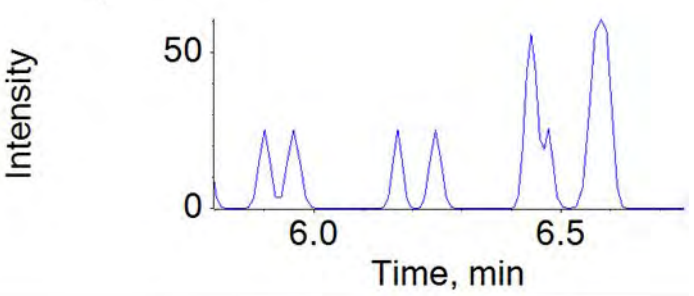
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

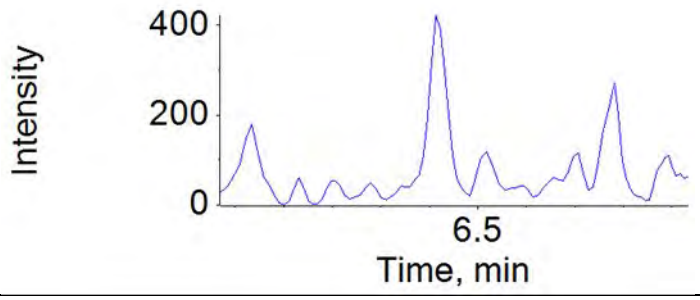
Component: PFTrDA
Primary Mass: 663.0 / 619.0



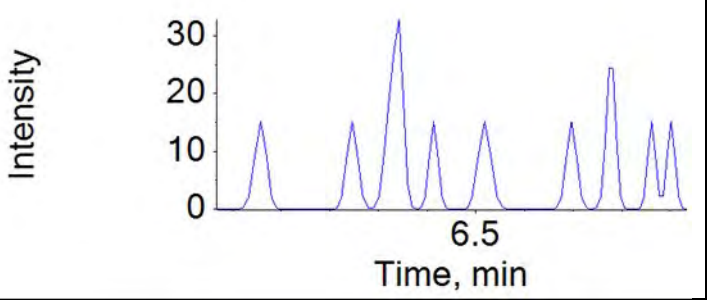
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934785			**Data File:**		18DEC19D-36.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YCW16-3-01 Grab Groundwater			**Acquis Date:**		2018-12-19T15:23:20
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	62			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.26097			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	948425.3	942675.8	1	50	
13C2-PFOA	5.0	525674.2	520268.5	1	50	
13C4-PFOS	4.8	293643.0	307968.9	-5	50	
13C2-PFDA	5.0	492263.8	487375.3	1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	375315.7	13C3-PFBA	948425.3	0.396	17.818	14.765	83	50-150	
E13C5-PFHxA	624595.1	13C2-PFOA	525674.2	1.188	19.159	16.286	85	50-150	
E13C3-PFHxS	289084.7	13C2-PFOA	525674.2	0.550	18.125	15.946	88	50-150	
E13C4-PFHpA	474346.0	13C2-PFOA	525674.2	0.902	19.159	14.935	78	50-150	
E13C8-PFOA	853210.1	13C2-PFOA	525674.2	1.623	19.159	17.102	89	50-150	
E13C8-PFOS	283833.0	13C4-PFOS	293643.0	0.967	18.316	16.563	90	50-150	
E13C9-PFNA	580293.5	13C4-PFOS	293643.0	1.976	19.159	17.227	90	50-150	
E13C6-PFDA	731304.4	13C2-PFDA	492263.8	1.486	19.159	16.215	85	50-150	
Ed3-NMeFOSAA	189334.9	13C2-PFDA	492263.8	0.385	19.159	16.214	85	50-150	
E13C7-PFUnDA	477604.9	13C2-PFDA	492263.8	0.970	19.159	15.562	81	50-150	
Ed5-NEtFOSAA	137882.5	13C2-PFDA	492263.8	0.280	19.159	15.812	83	50-150	
E13C2-PFDoDA	962807.4	13C2-PFDA	492263.8	1.956	19.159	15.768	82	50-150	
E13C2-PFTeDA	700469.1	13C2-PFDA	492263.8	1.423	19.159	15.365	80	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

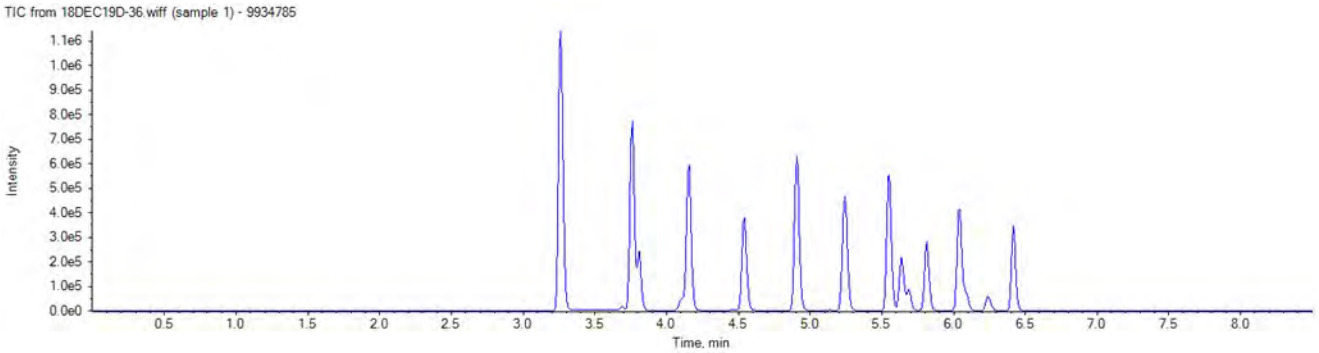
Analyte Quantitation Peak Table

Sample Name: 9934785 **Instrument Name:** LM27631 **File Name:** 18DEC19D-36.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.26097	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	61973.9		A	13C3-PFBS	3.81	375315.7	0.165	3.124
PFHxA	4.15	1.000	738448.1		M	13C5-PFHxA	4.15	624595.1	1.182	18.663
PFHpA	4.54	1.000	100393.8		A	13C4-PFHpA	4.54	474346.0	0.212	2.689
PFHxS	4.54	1.000	20935.3		M	13C3-PFHxS	4.54	289084.7	0.072	1.350
PFOA	4.91	1.000	46691.4		M	13C8-PFOA	4.91	853210.1	0.055	1.111
PFOS	5.21	1.000	9227.0		M	13C8-PFOS	5.23	283833.0	0.033	0.545
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	580293.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	731304.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	189334.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	477604.9	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	137882.5	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	962807.4	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	962807.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	700469.1	N/A	

Total Ion Chromatogram

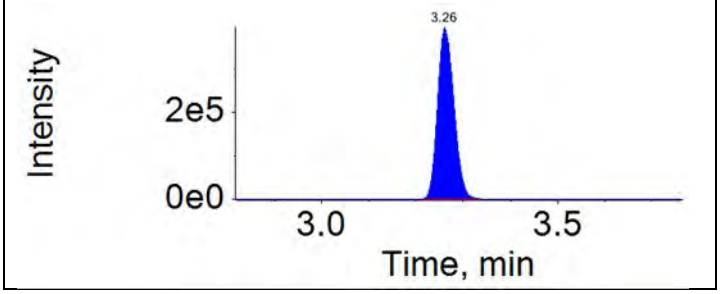


APPROVED
By MSM at 10:14 am, 12/20/18

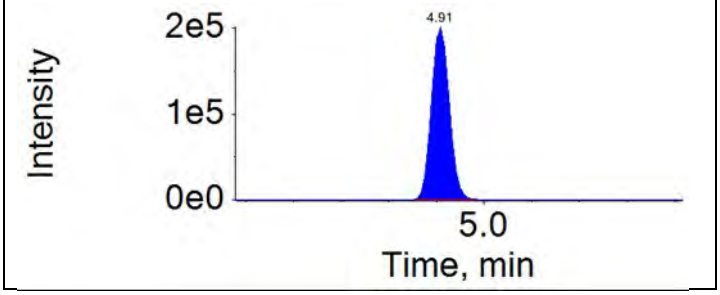
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

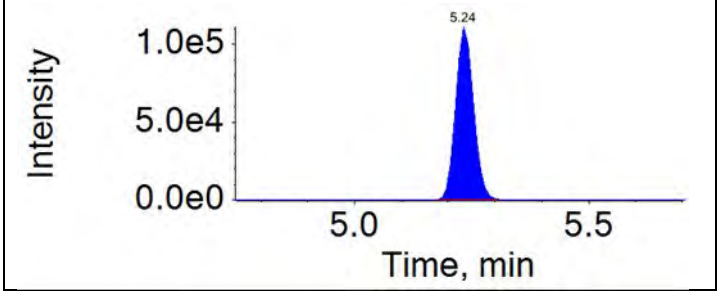
Injection Standard: 13C3-PFBA
216.0 / 172.0



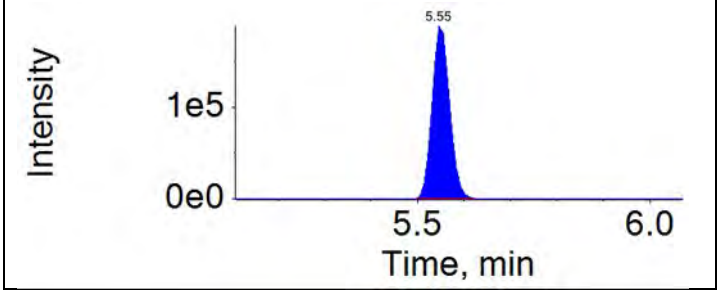
Injection Standard: 13C2-PFOA
415.0 / 370.0



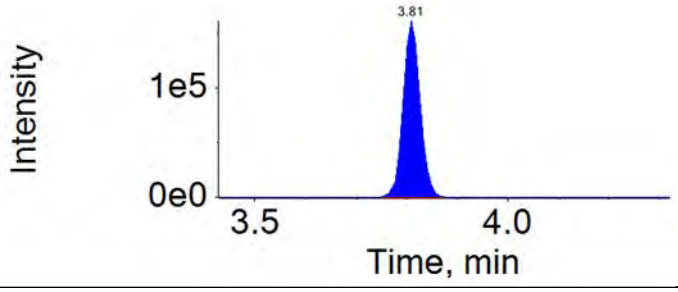
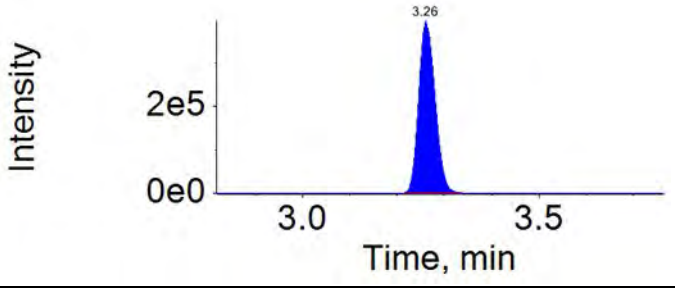
Injection Standard: 13C4-PFOS
503.0 / 80.0

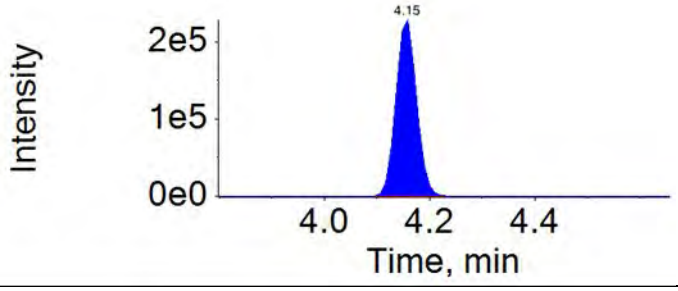
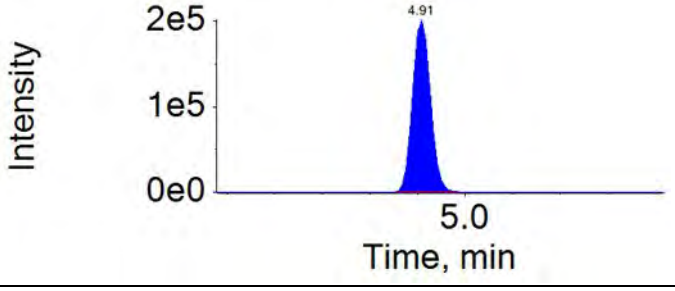


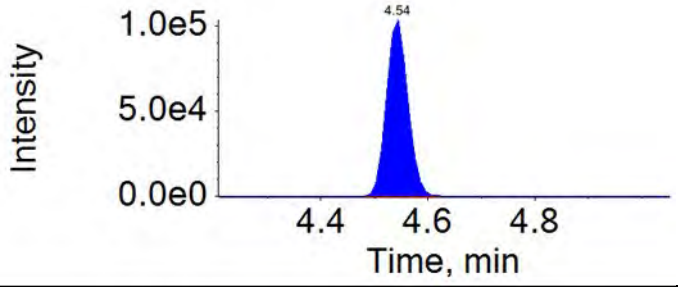
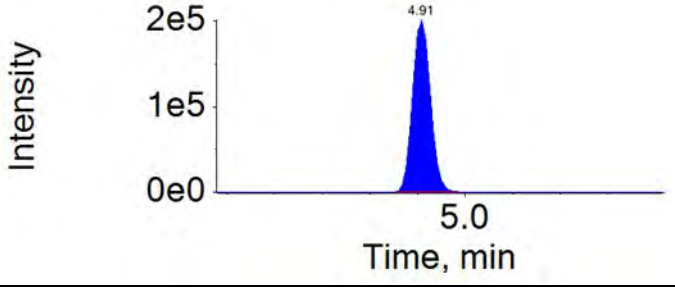
Injection Standard: 13C2-PFDA
515.0 / 470.0

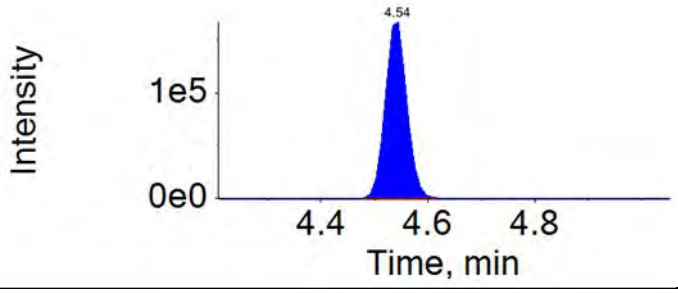
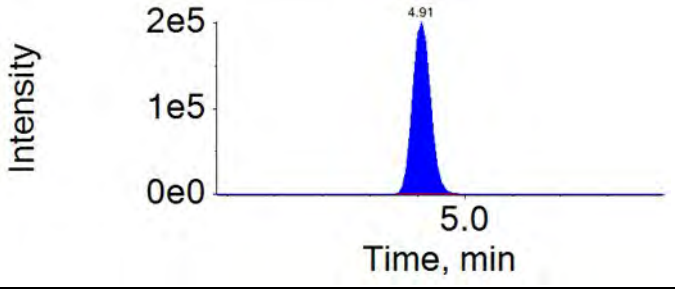


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

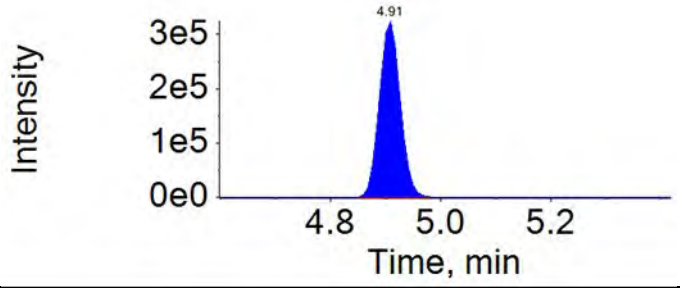
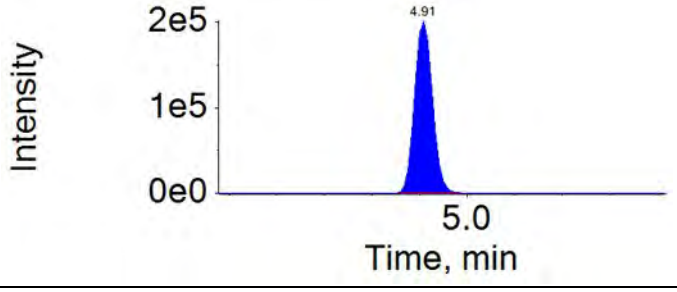
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

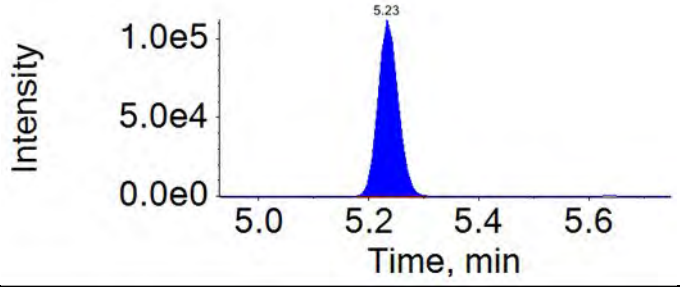
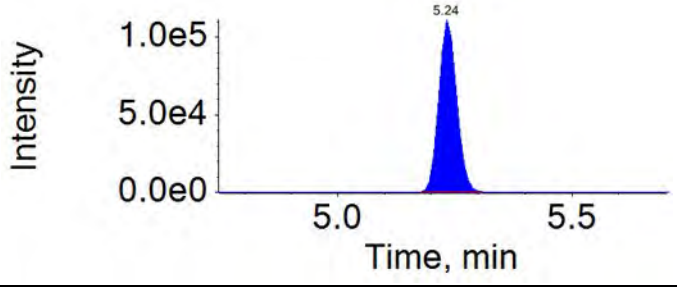
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

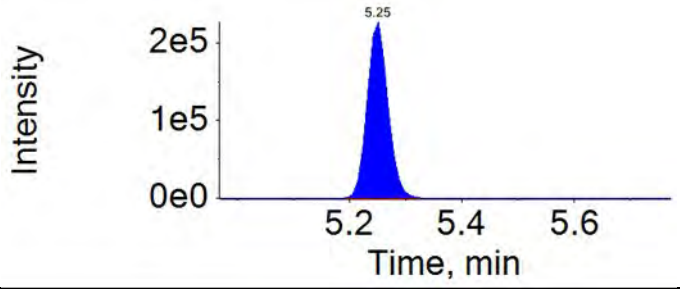
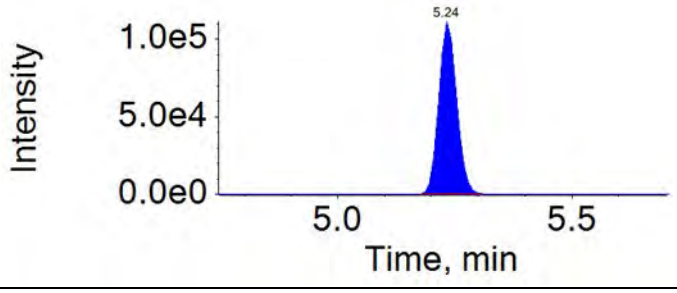
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

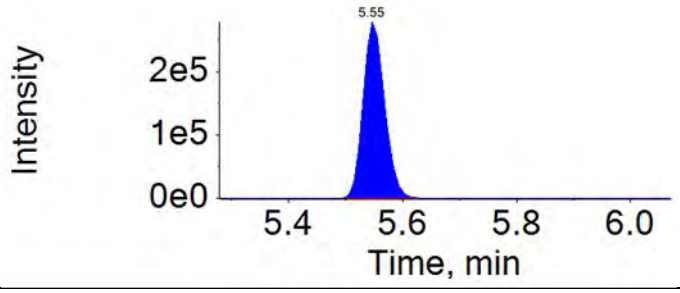
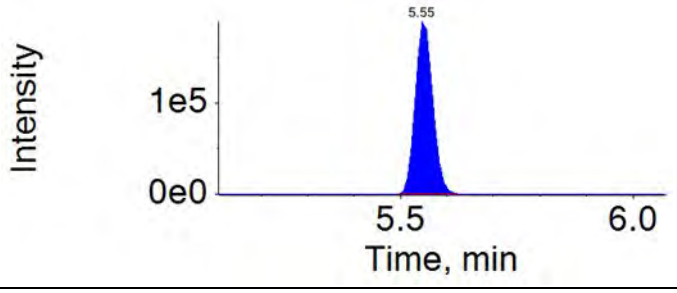
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

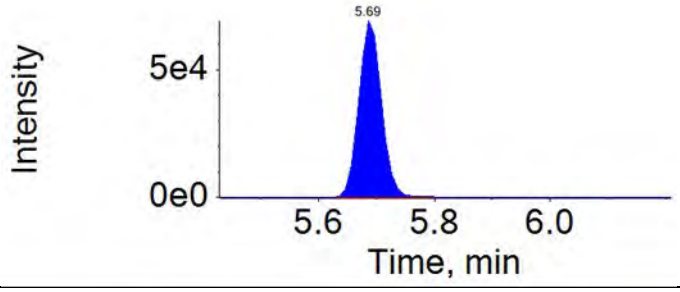
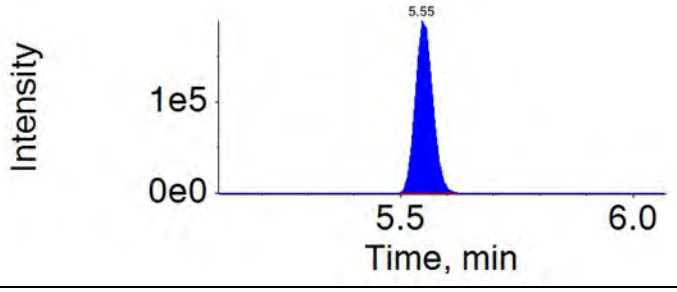
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

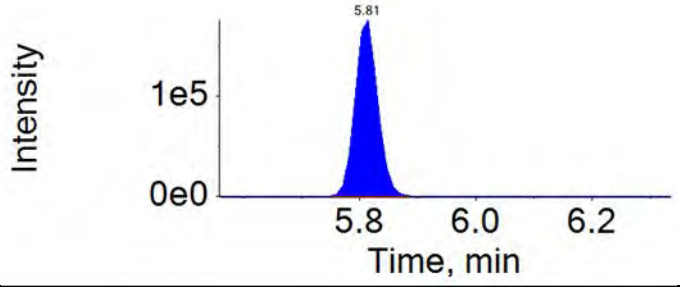
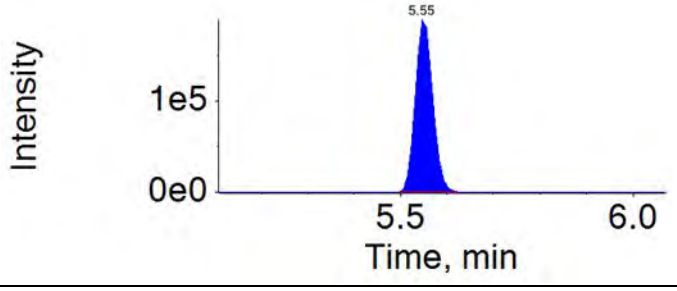
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

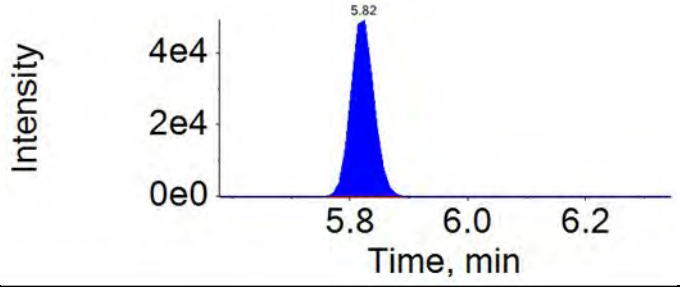
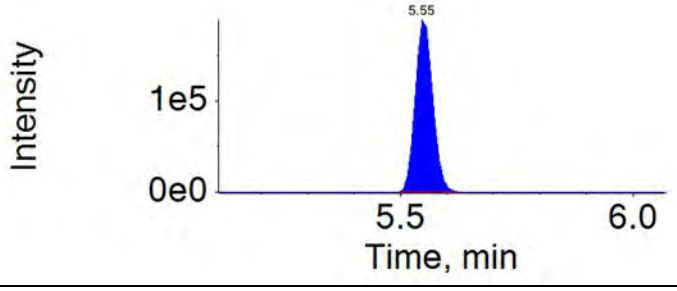
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

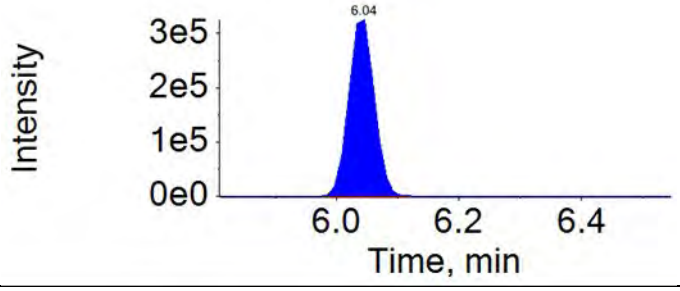
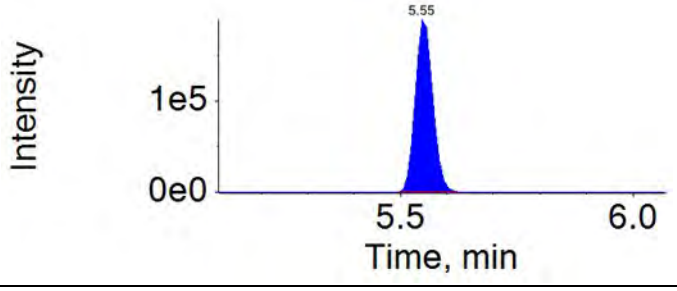
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

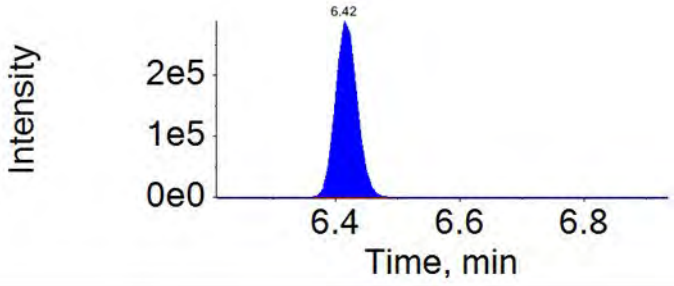
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

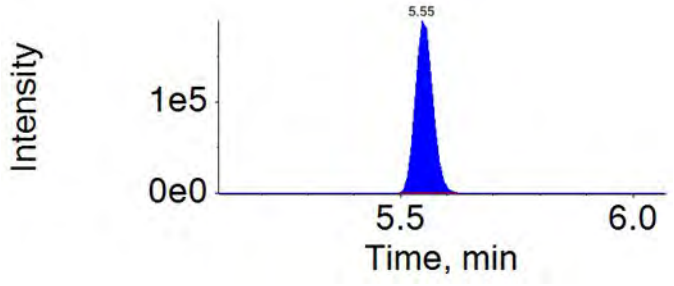
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



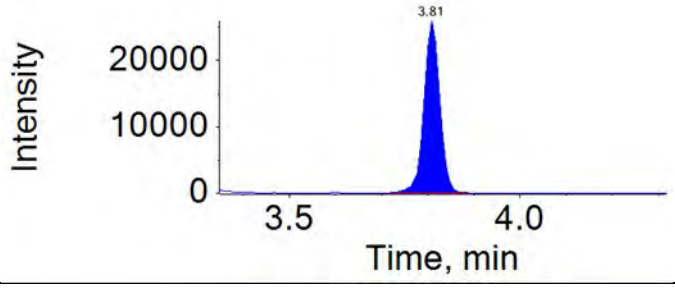


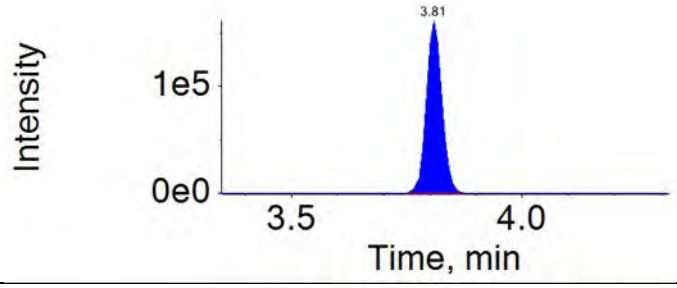
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

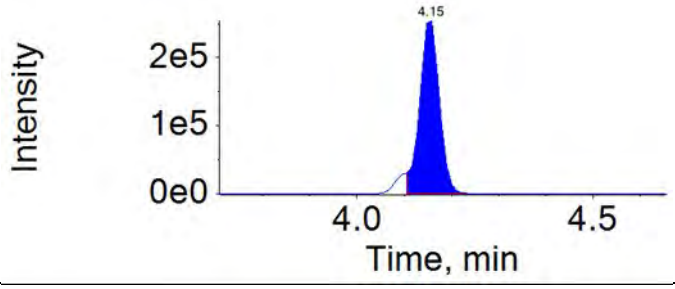
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

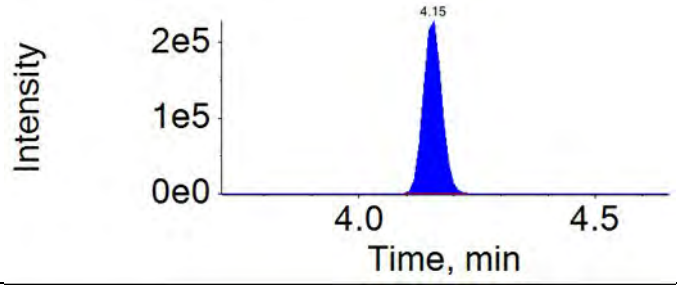
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



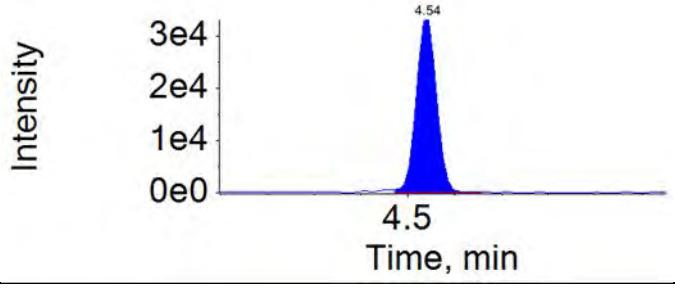


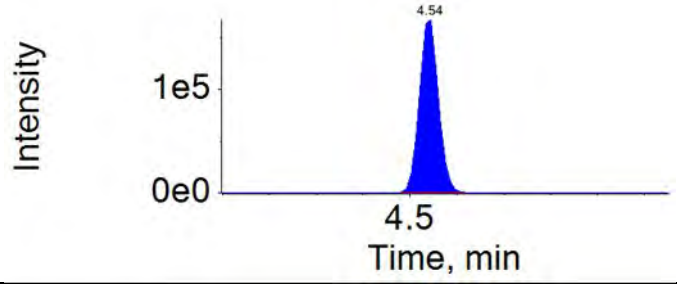
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



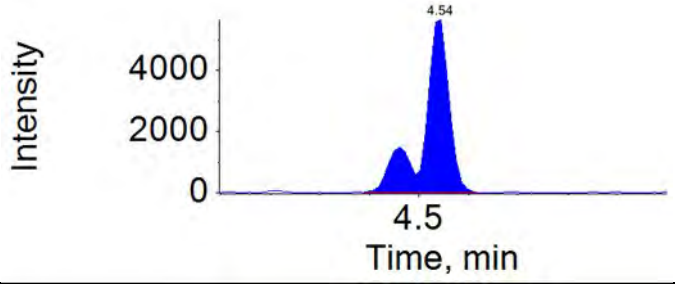


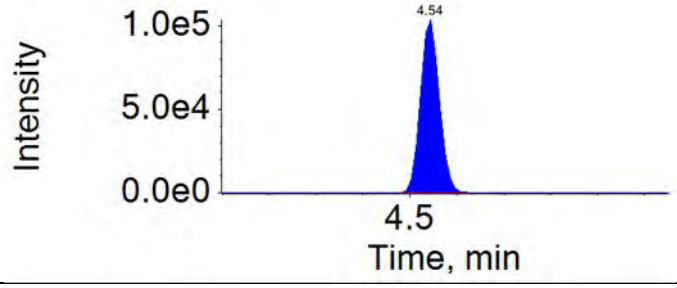
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





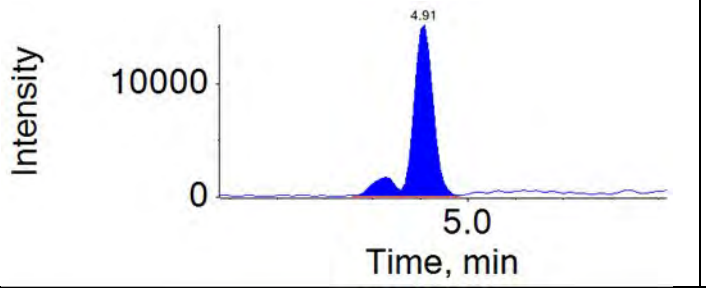
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

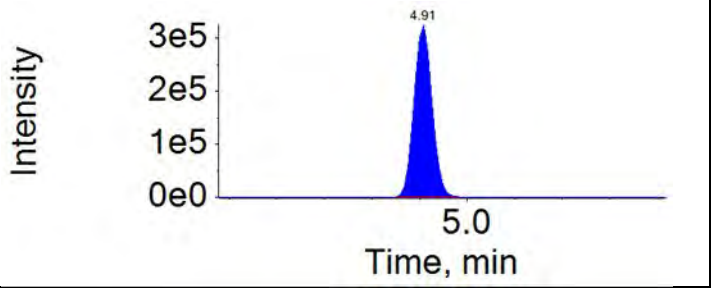




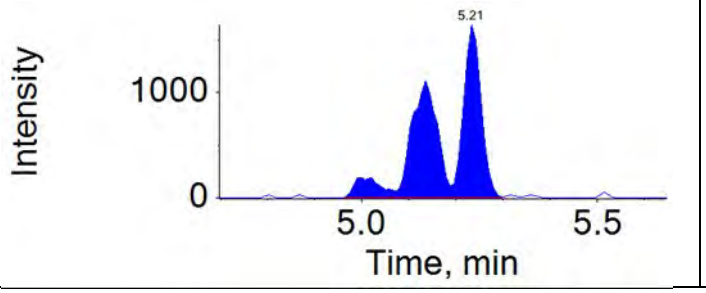
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

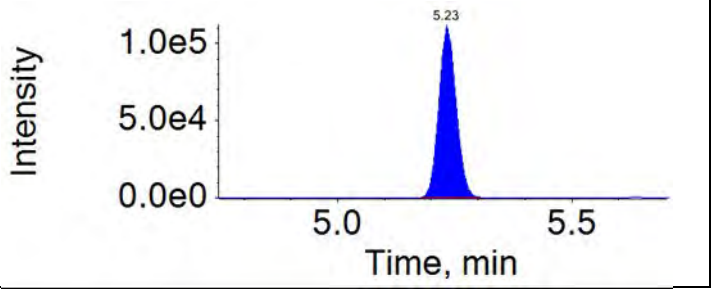
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



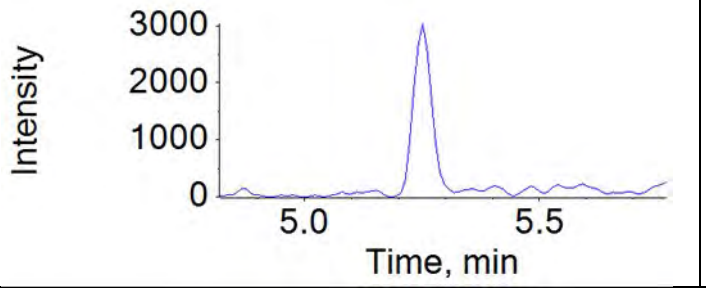


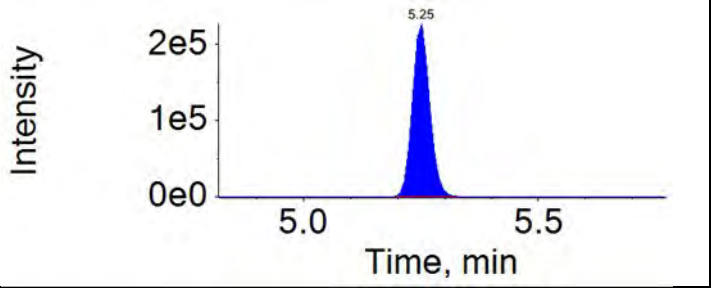
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



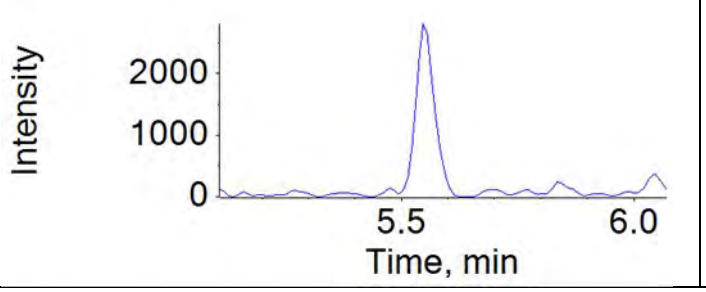


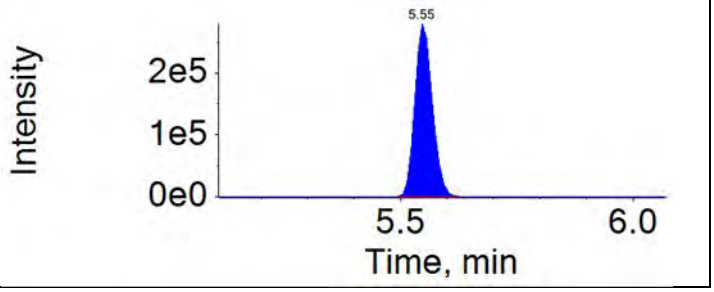
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





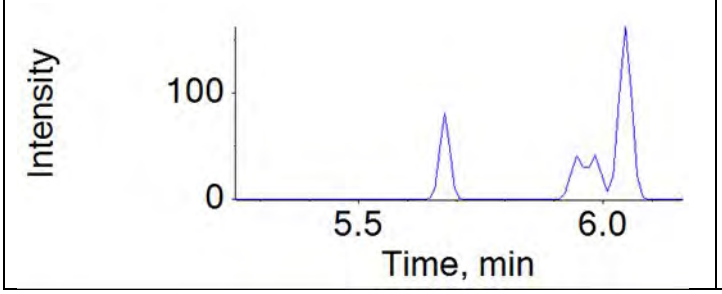
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

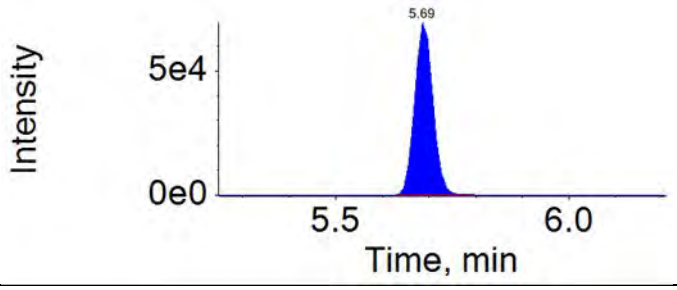




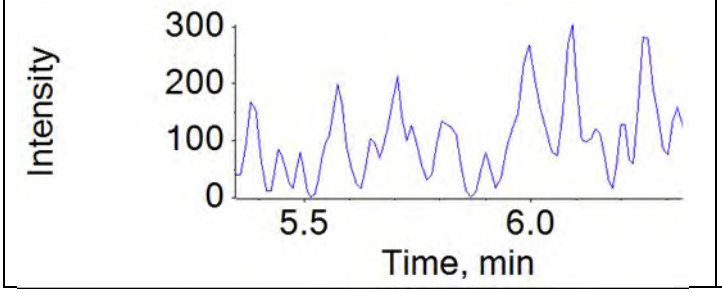
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

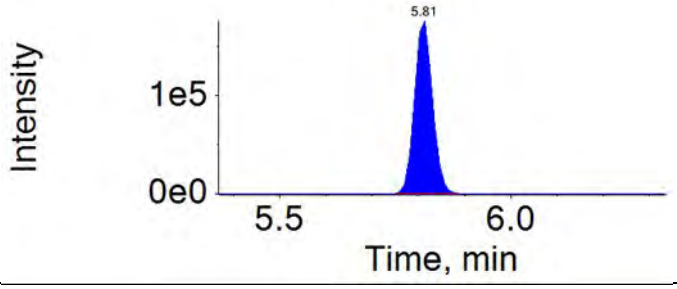
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



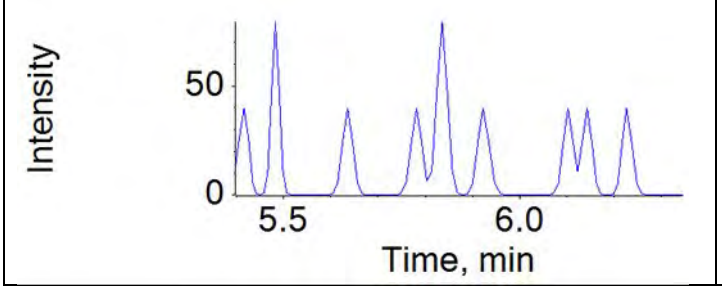


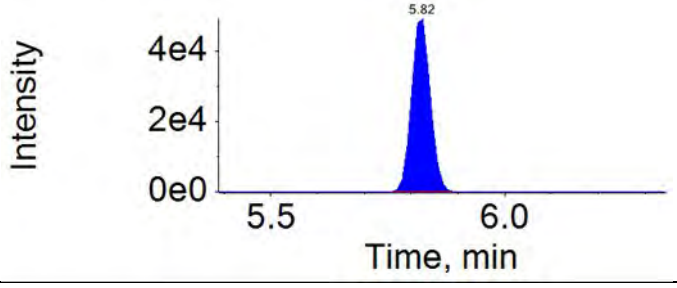
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



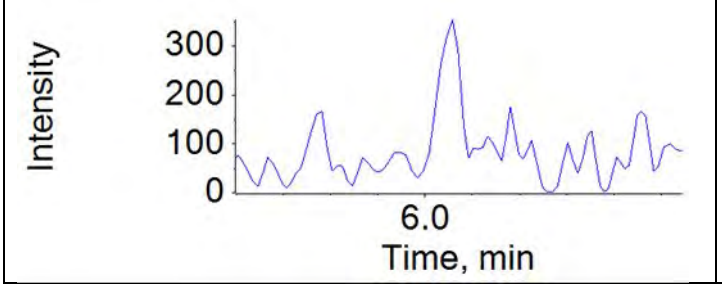


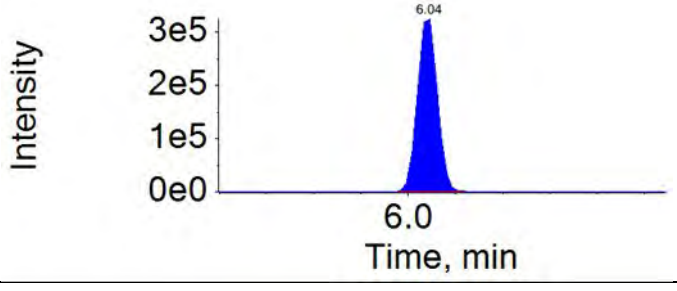
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





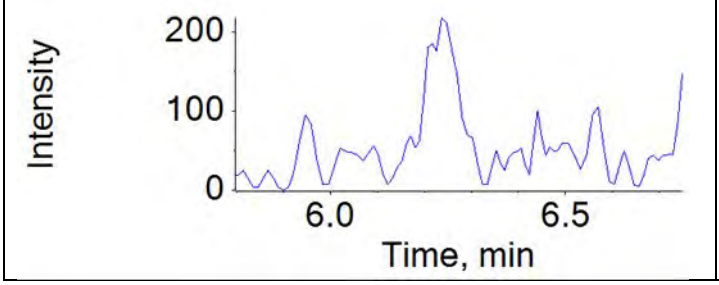
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

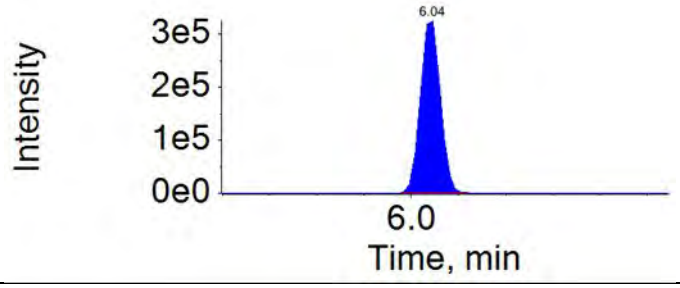




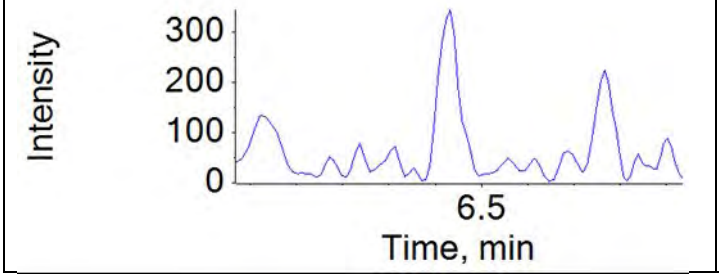
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 10:04:26 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

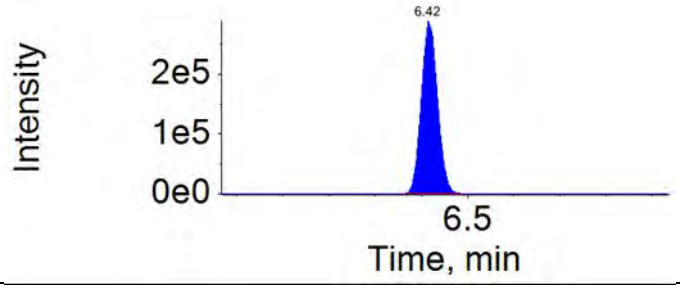
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





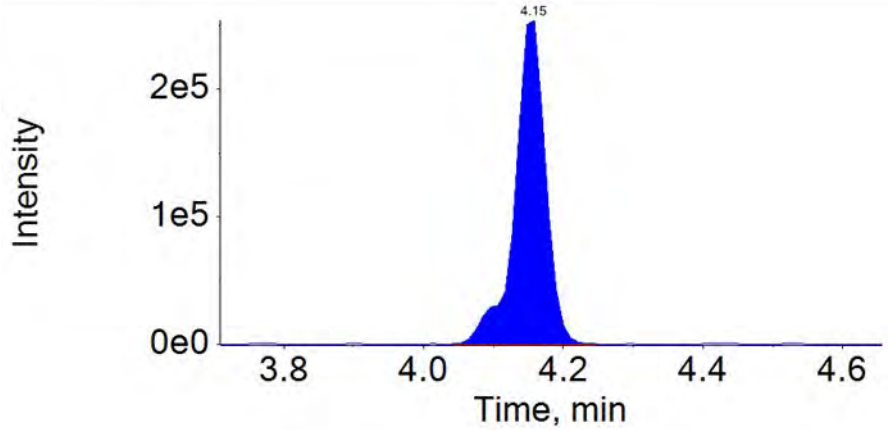
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





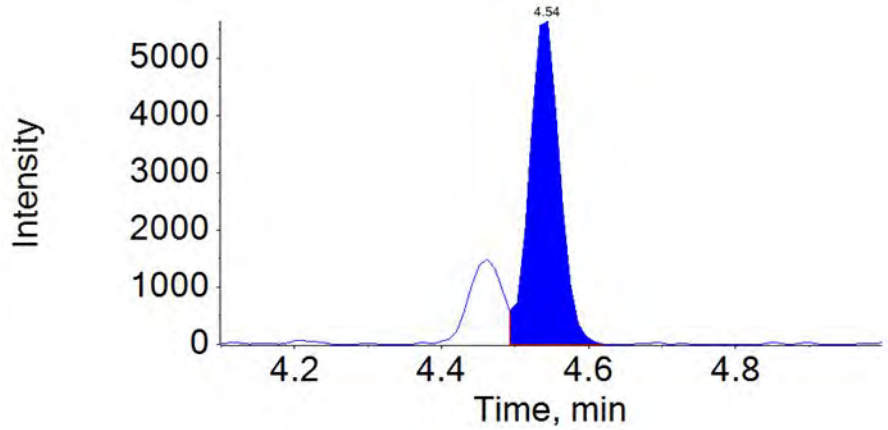
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
785048.8
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



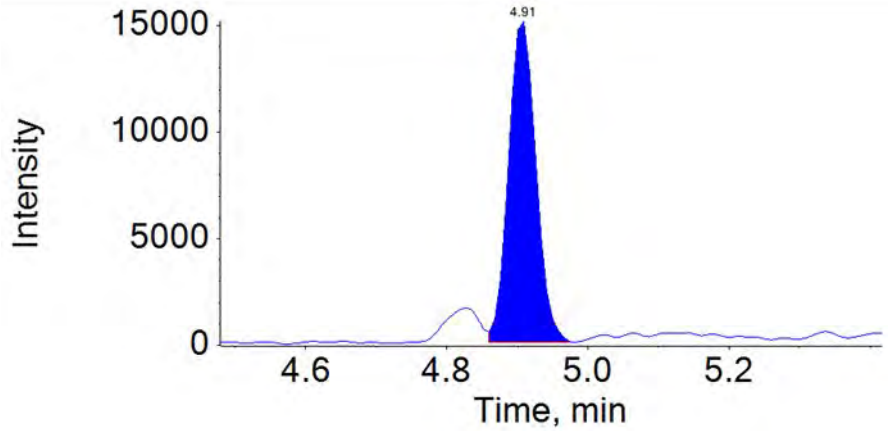
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
16264.8
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



Integration Comment: incorrect integration

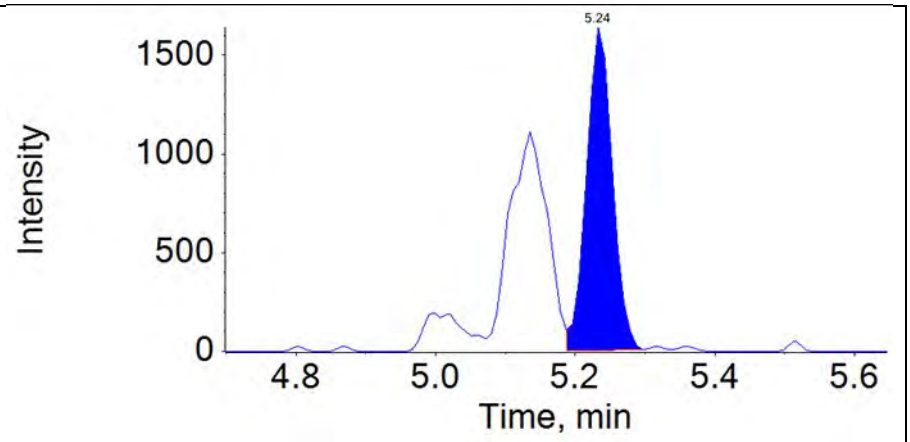
Component Name:
PFOA
RT (min.):
4.91
Peak Area:
40721.1
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



Integration Comment: incorrect integration

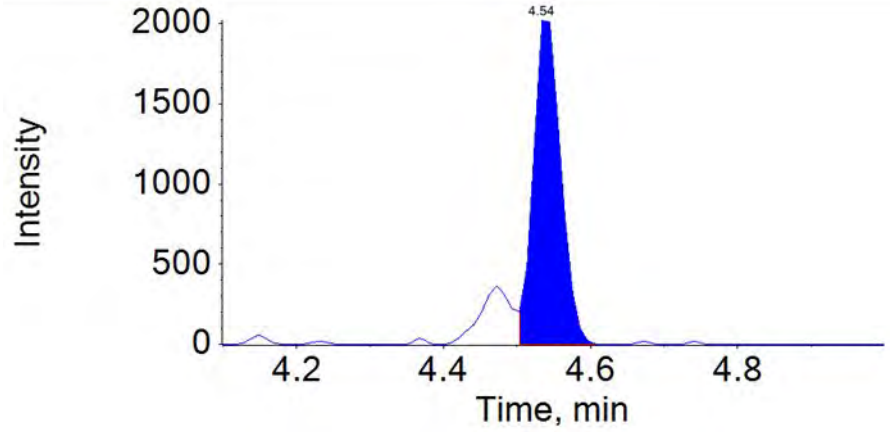
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
4225.3
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



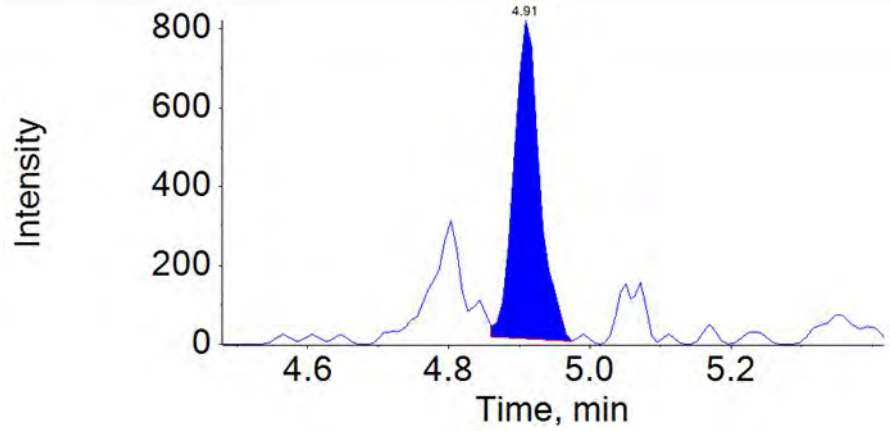
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
5279.5
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



Integration Comment: incorrect integration

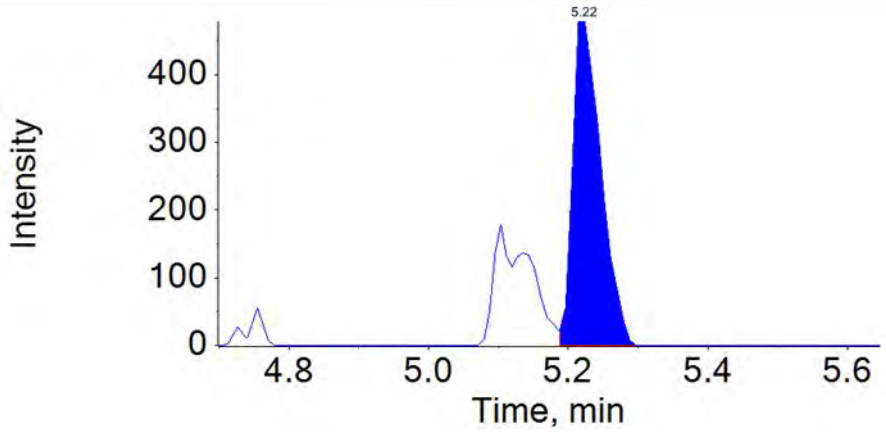
Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
2064.9
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.22
Peak Area:
1368.8
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-36.wiff
Sample Name:
9934785



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Ion Ratio Report

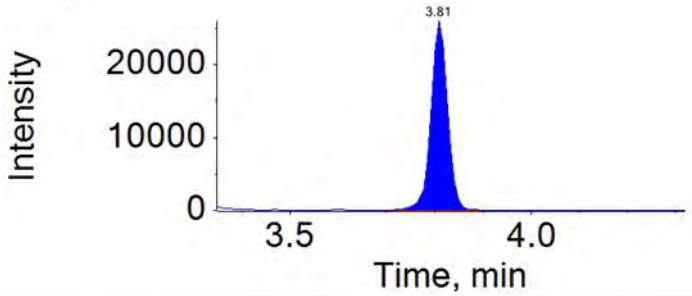
Sample Name: 9934785 **Instrument Name:** LM27631 **File Name:** 18DEC19D-36.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	61973.9	A	N/A	1.0000			
PFBS_2	3.81	1.00	23325.0	A	N/A	0.3764	2	50	
PFHxA	4.15	1.00	738448.1	M	N/A	1.0000			
PFHxA_2	4.15	1.00	7717.9	A	N/A	0.0105	-9	50	
PFHpA	4.54	1.00	100393.8	A	N/A	1.0000			
PFHpA_2	4.54	1.00	4313.3	A	N/A	0.0430	-22	50	
PFHxS	4.54	1.00	20935.3	M	N/A	1.0000			
PFHxS_2	4.54	1.00	6372.5	M	N/A	0.3044	-9	50	
PFOA	4.91	1.00	46691.4	M	N/A	1.0000			
PFOA_2	4.91	1.00	3122.3	M	N/A	0.0669	13	50	
PFOS	5.21	1.00	9227.0	M	N/A	1.0000			
PFOS_2	5.22	1.00	2005.8	M	N/A	0.2174	-27	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

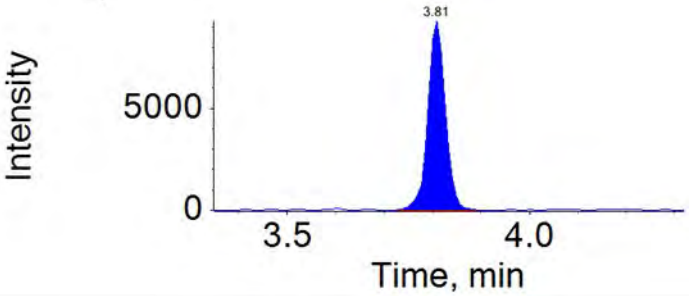
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

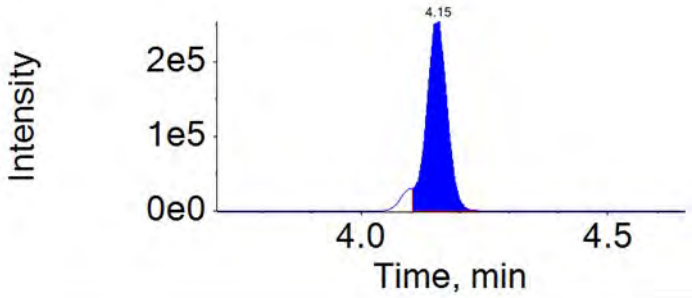
Component: PFBS
Primary Mass: 299.0 / 80.0



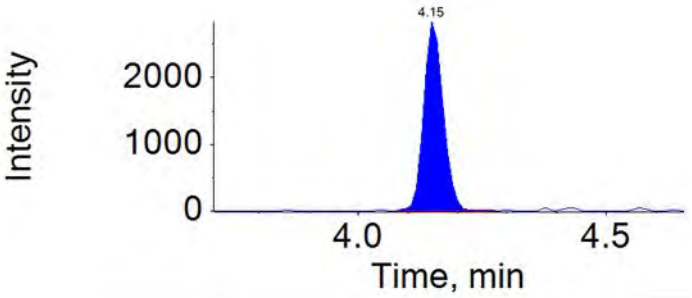
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



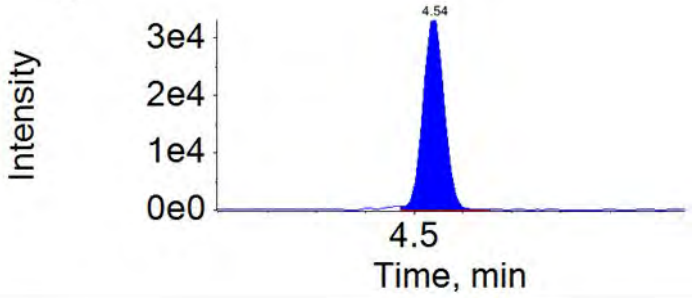
Component: PFHxA
Primary Mass: 313.0 / 269.0



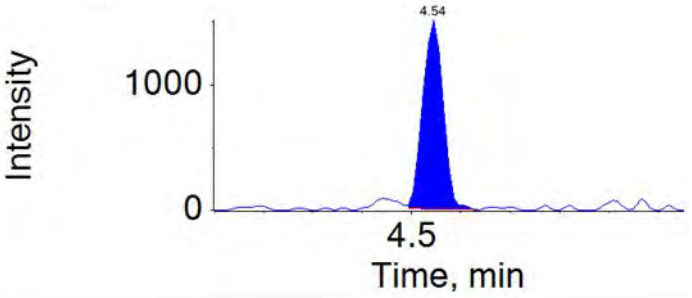
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



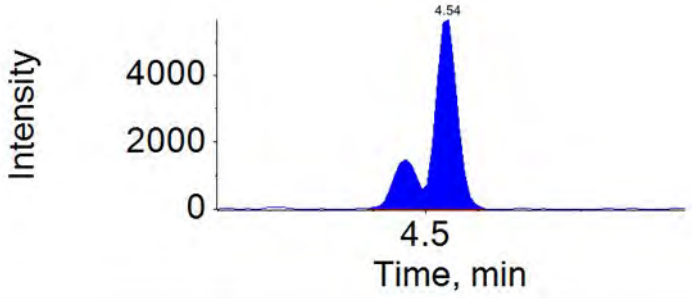
Component: PFHpA
Primary Mass: 363.0 / 319.0



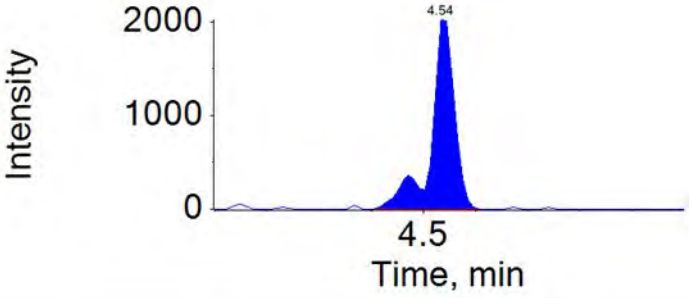
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



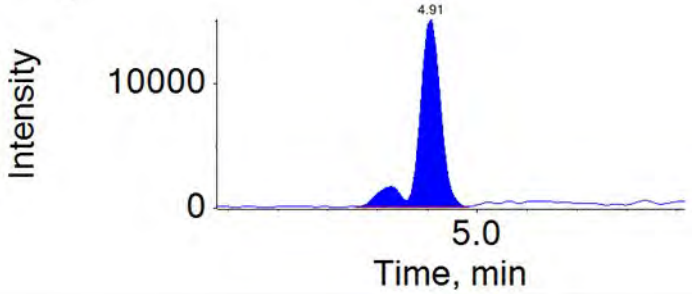
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



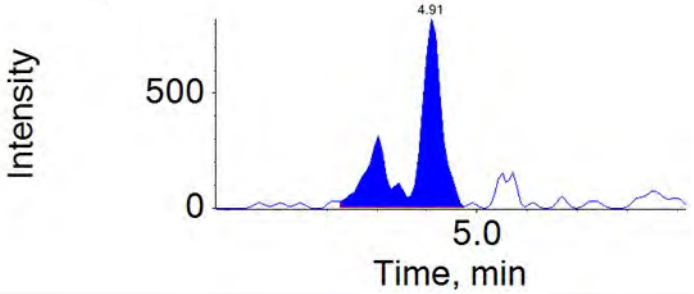
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

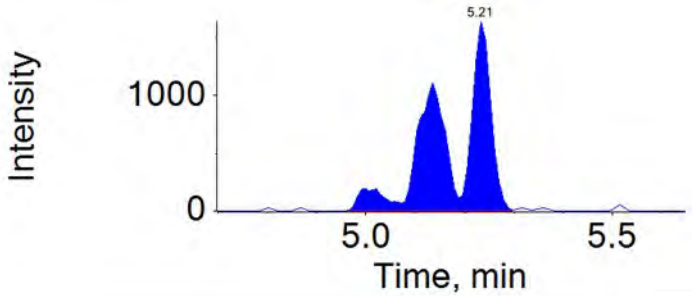
Component: PFOA
Primary Mass: 413.0 / 369.0



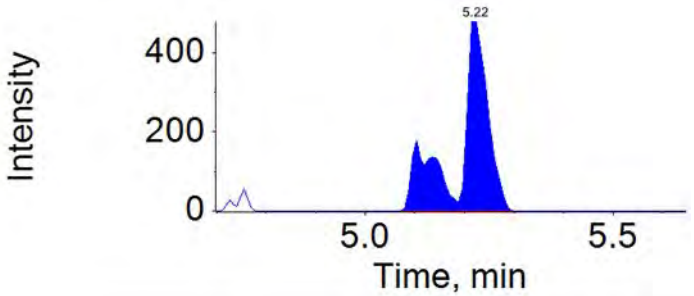
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



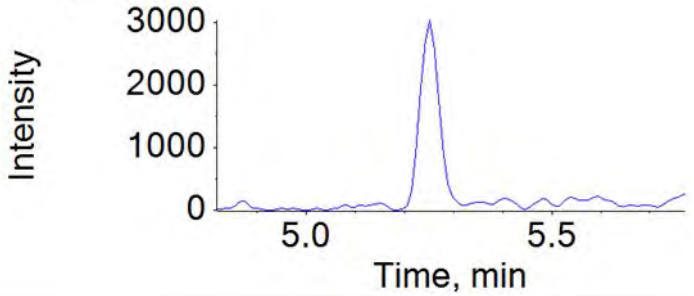
Component: PFOS
Primary Mass: 499.0 / 80.0



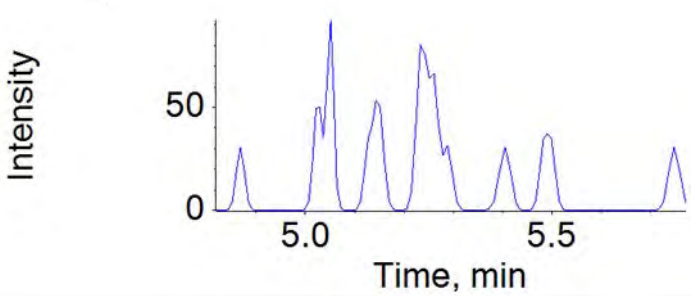
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



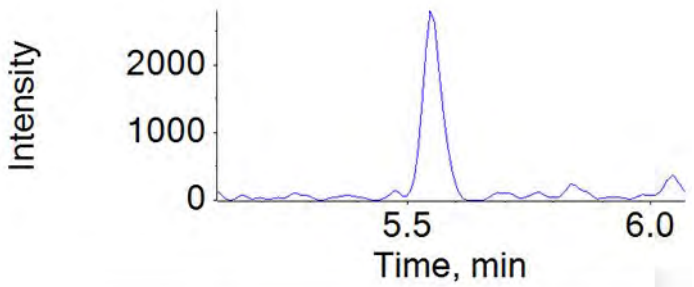
Component: PFNA
Primary Mass: 463.0 / 419.0



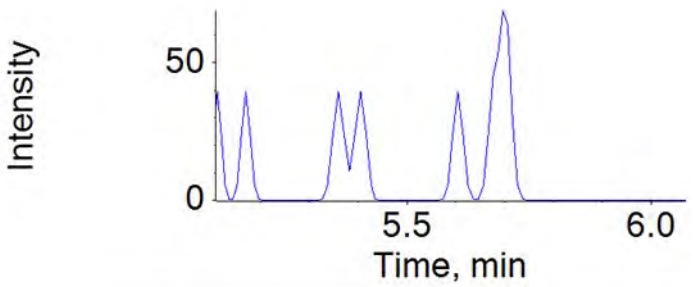
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



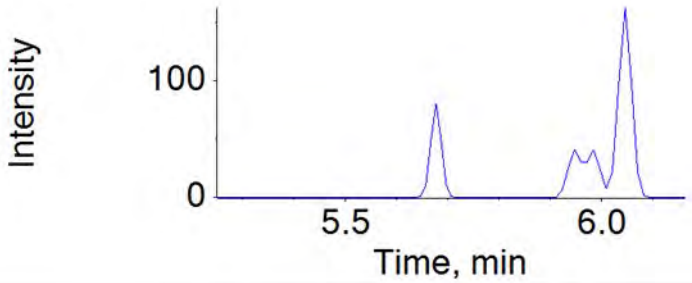
Component: PFDA
Primary Mass: 513.0 / 469.0



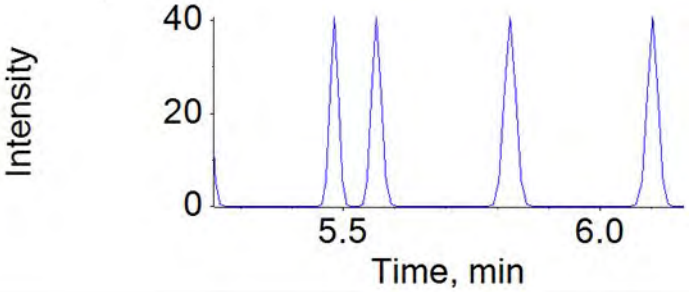
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



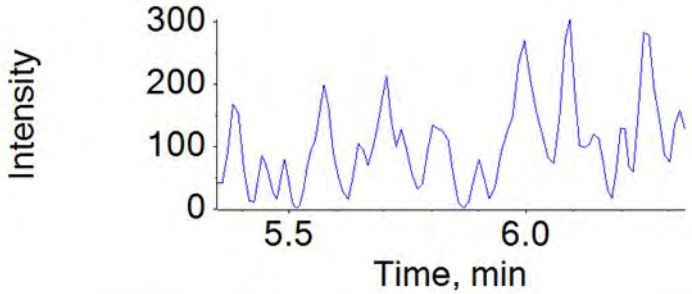
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



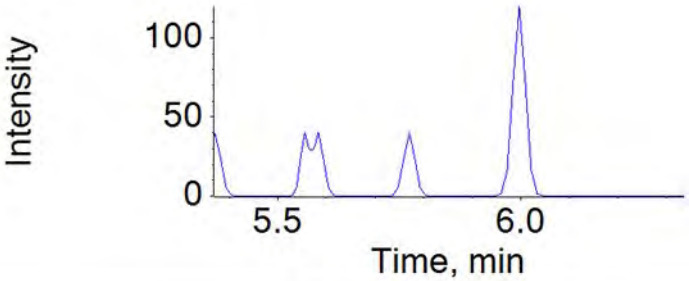
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



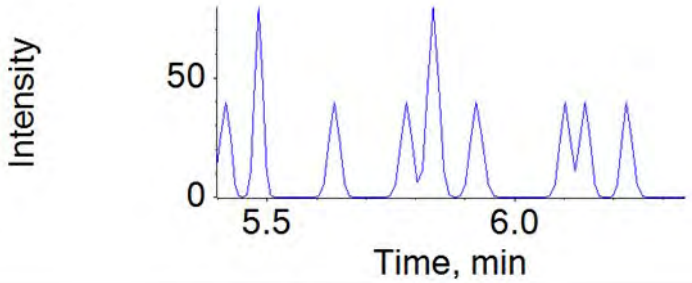
Component: PFUnDA
Primary Mass: 563.0 / 519.0



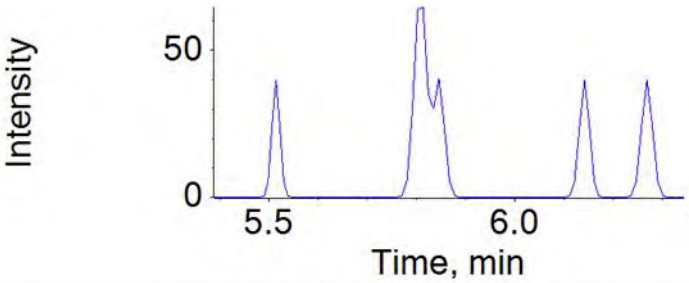
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



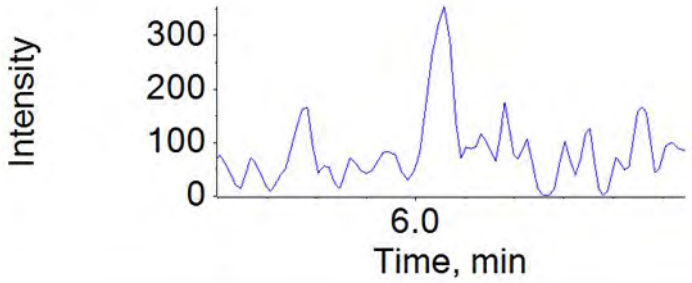
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



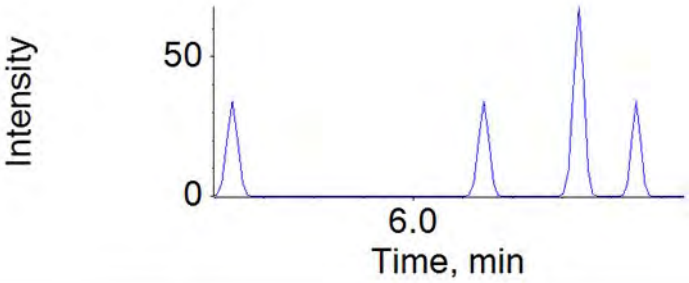
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



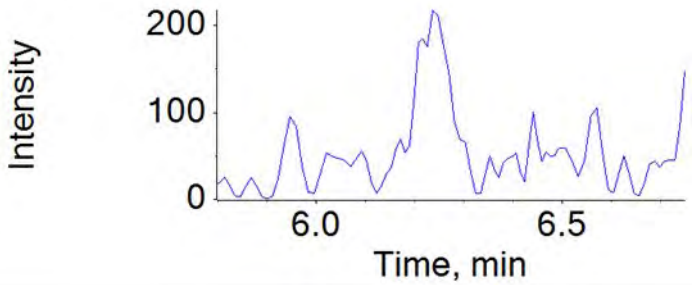
Component: PFDoDA
Primary Mass: 613.0 / 569.0



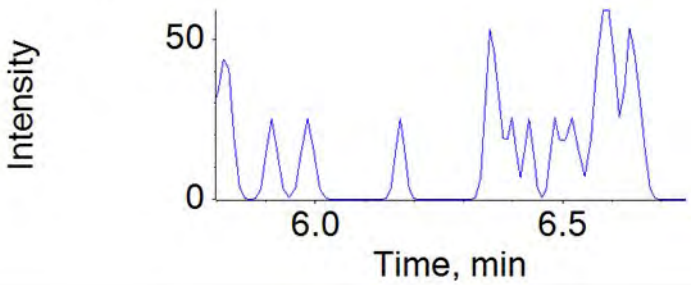
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



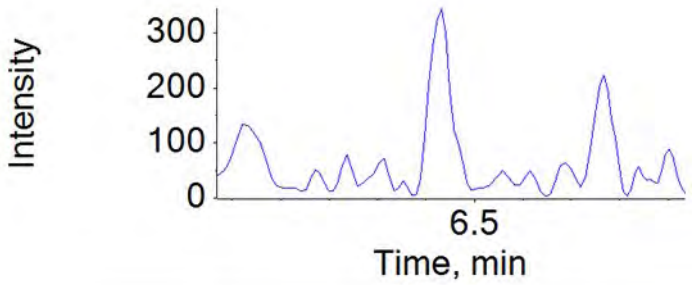
Component: PFTrDA
Primary Mass: 663.0 / 619.0



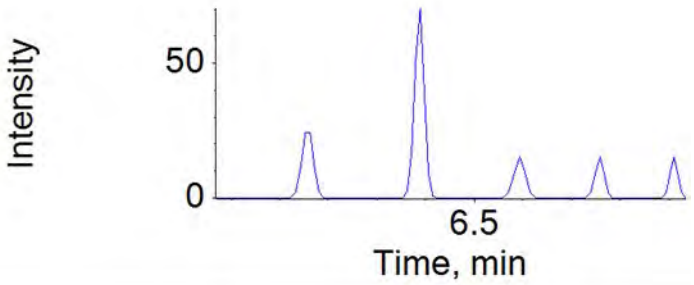
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934786			**Data File:**		18DEC19D-37.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-YIMW-4-01 Grab Groundwater			**Acquis Date:**		2018-12-19T15:32:20
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	63			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.27963			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	939785.2	942675.8	0	50	
13C2-PFOA	5.0	531220.8	520268.5	2	50	
13C4-PFOS	4.8	306812.2	307968.9	0	50	
13C2-PFDA	5.0	466600.0	487375.3	-4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	391925.2	13C3-PFBA	939785.2	0.417	16.629	14.522	87	50-150	
E13C5-PFHxA	657146.6	13C2-PFOA	531220.8	1.237	17.881	15.824	88	50-150	
E13C3-PFHxS	300389.6	13C2-PFOA	531220.8	0.565	16.915	15.302	90	50-150	
E13C4-PFHpA	538138.4	13C2-PFOA	531220.8	1.013	17.881	15.648	88	50-150	
E13C8-PFOA	887319.7	13C2-PFOA	531220.8	1.670	17.881	16.425	92	50-150	
E13C8-PFOS	269295.0	13C4-PFOS	306812.2	0.878	17.094	14.037	82	50-150	
E13C9-PFNA	572913.0	13C4-PFOS	306812.2	1.867	17.881	15.191	85	50-150	
E13C6-PFDA	729774.4	13C2-PFDA	466600.0	1.564	17.881	15.932	89	50-150	
Ed3-NMeFOSAA	162183.5	13C2-PFDA	466600.0	0.348	17.881	13.675	76	50-150	
E13C7-PFUnDA	463401.0	13C2-PFDA	466600.0	0.993	17.881	14.867	83	50-150	
Ed5-NEtFOSAA	104041.4	13C2-PFDA	466600.0	0.223	17.881	11.748	66	50-150	
E13C2-PFDoDA	848839.7	13C2-PFDA	466600.0	1.819	17.881	13.687	77	50-150	
E13C2-PFTeDA	358469.8	13C2-PFDA	466600.0	0.768	17.881	7.742	43	50-150	OOS

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

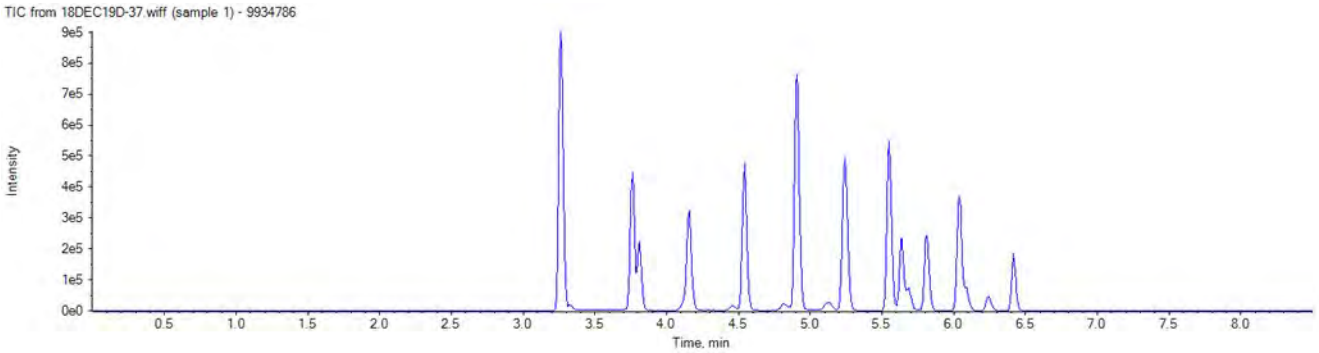
Analyte Quantitation Peak Table

Sample Name: 9934786 **Instrument Name:** LM27631 **File Name:** 18DEC19D-37.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27963	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	37573.9		A	13C3-PFBS	3.81	391925.2	0.096	1.692
PFHxA	4.15	1.000	47773.4		A	13C5-PFHxA	4.16	657146.6	0.073	1.071
PFHpA	4.54	1.000	20761.0		A	13C4-PFHpA	4.54	538138.4	0.039	0.457
PFHxS	4.54	1.000	159863.4		M	13C3-PFHxS	4.54	300389.6	0.532	9.257
PFOA	4.91	1.000	334016.7		M	13C8-PFOA	4.91	887319.7	0.376	7.132
PFOS	5.19	0.990	172990.5		M	13C8-PFOS	5.24	269295.0	0.642	10.058
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	572913.0	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	729774.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	162183.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	463401.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	104041.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	848839.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	848839.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	358469.8	N/A	

Total Ion Chromatogram

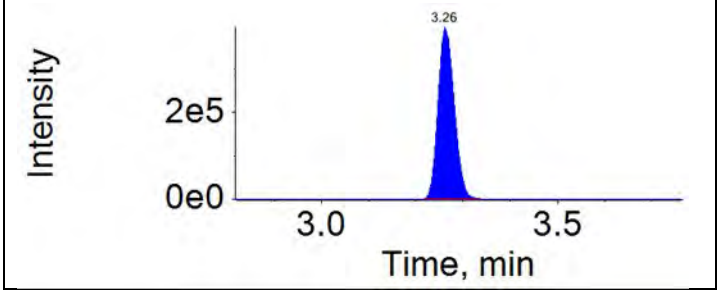


APPROVED
By MSM at 1:03 pm, 12/20/18

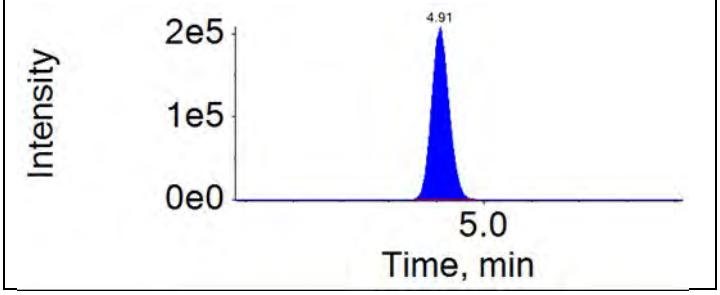
REVIEWED
By umar at 3:49 pm, 12/31/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

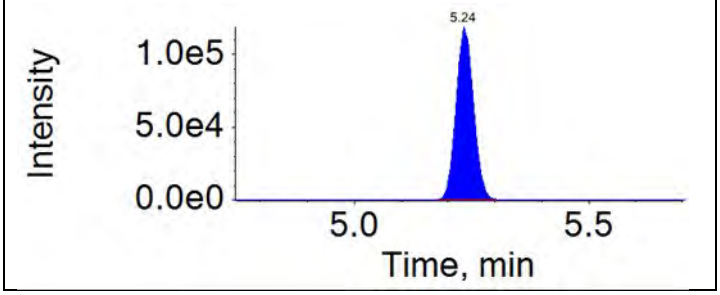
Injection Standard: 13C3-PFBA
216.0 / 172.0



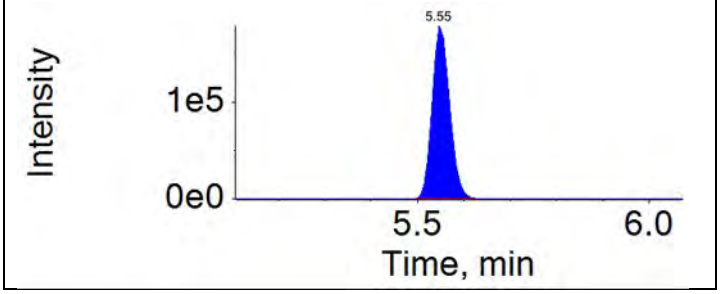
Injection Standard: 13C2-PFOA
415.0 / 370.0



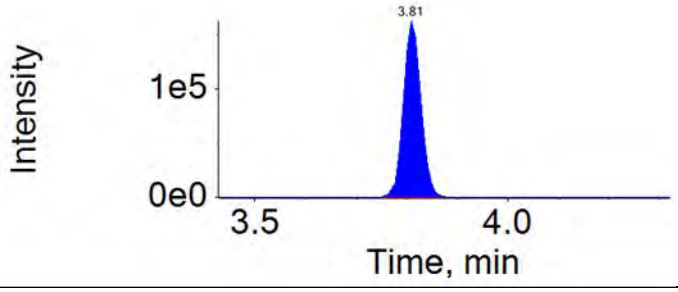
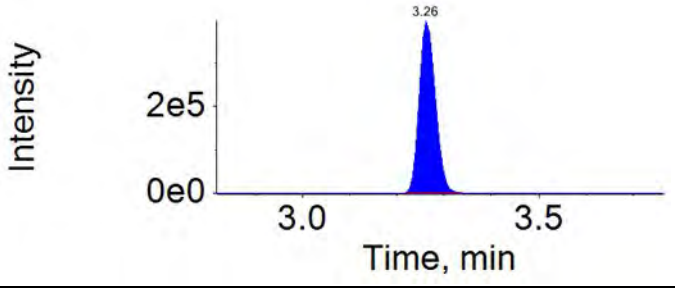
Injection Standard: 13C4-PFOS
503.0 / 80.0

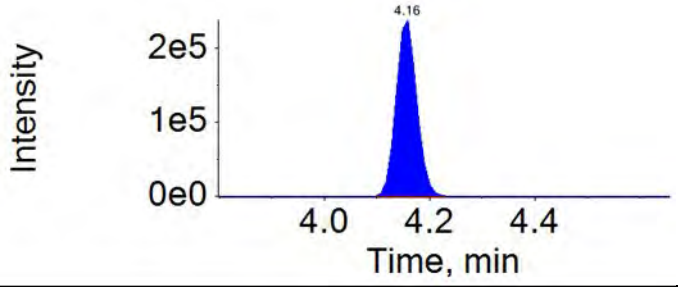
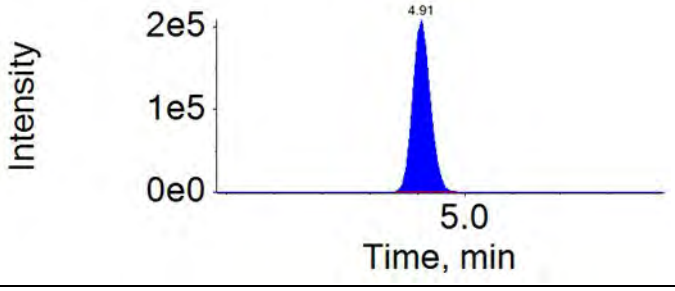


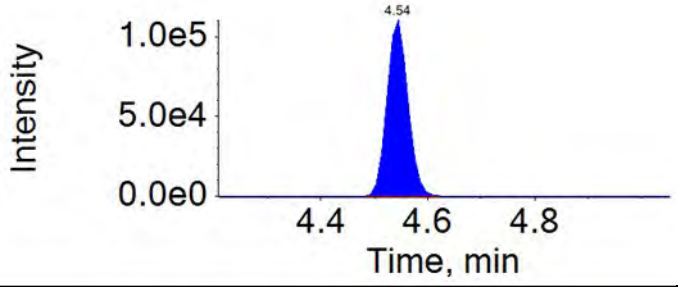
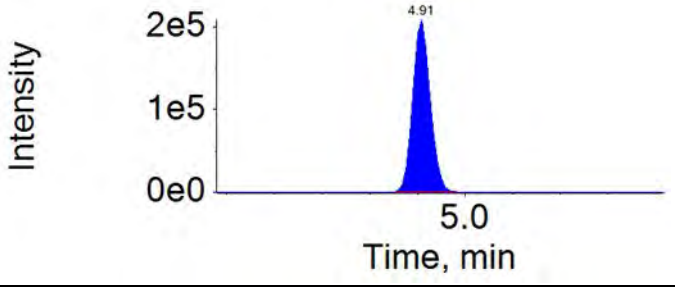
Injection Standard: 13C2-PFDA
515.0 / 470.0

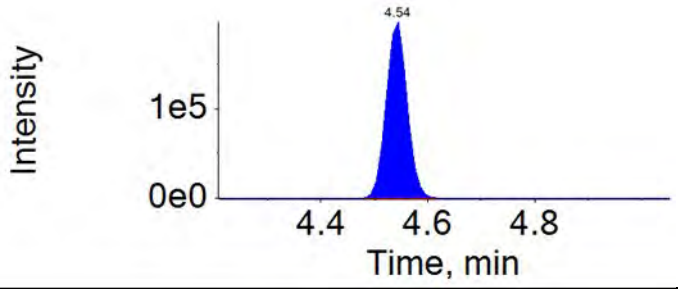
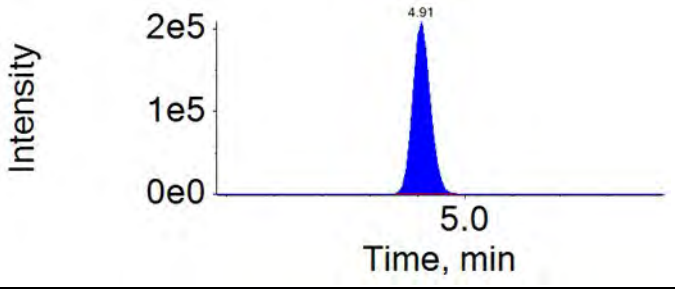


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

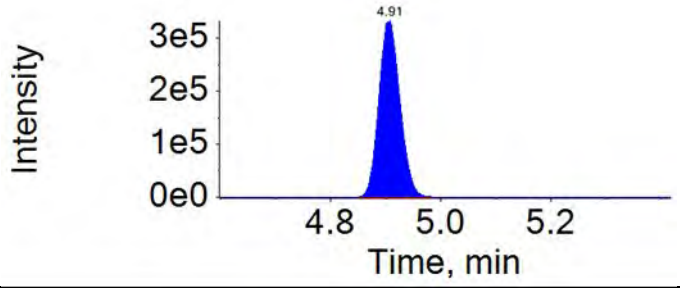
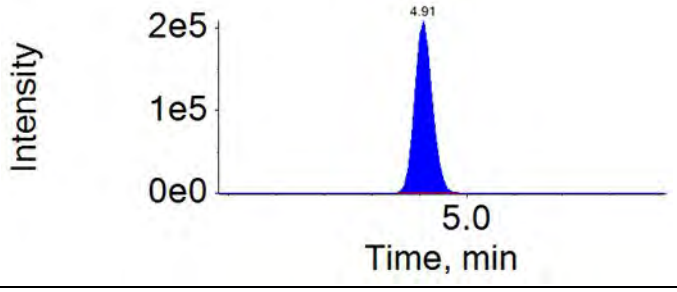
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

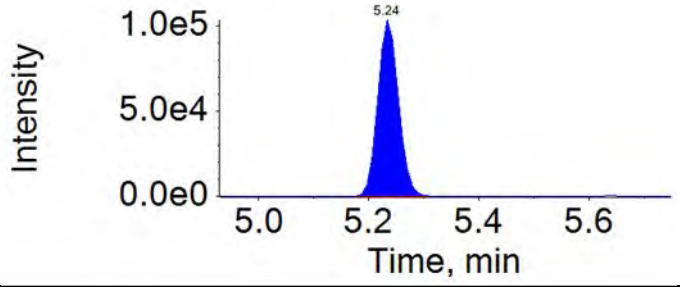
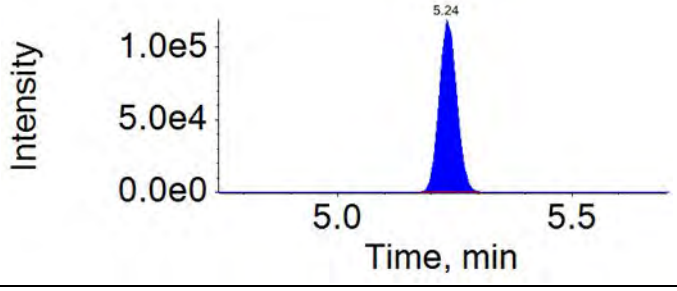
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

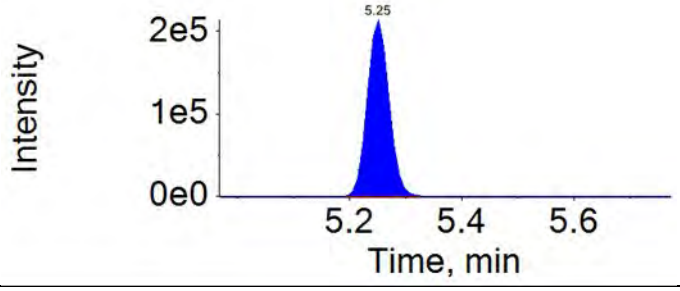
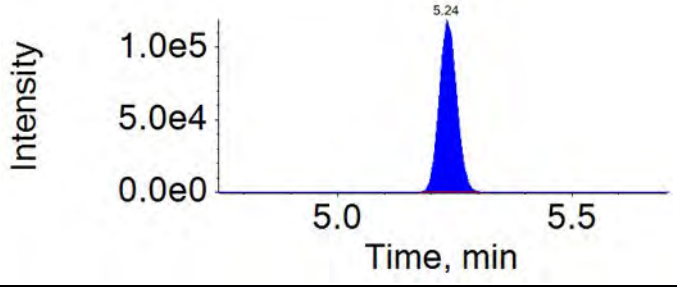
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

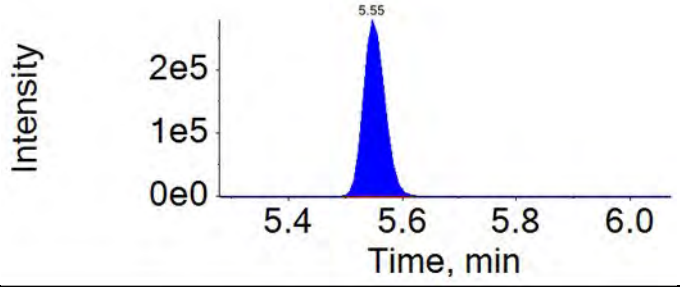
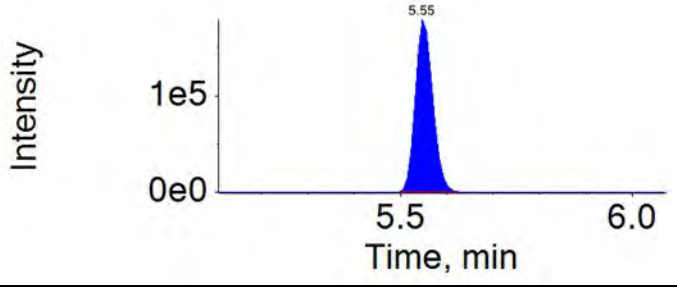
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

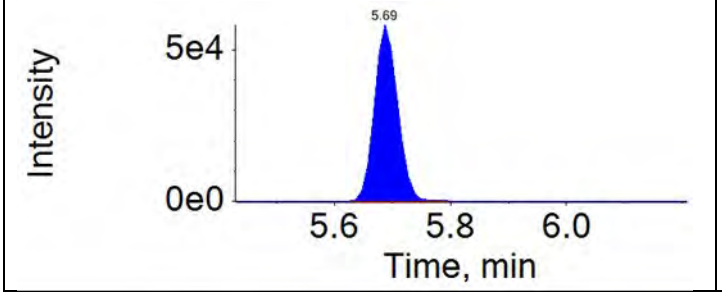
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

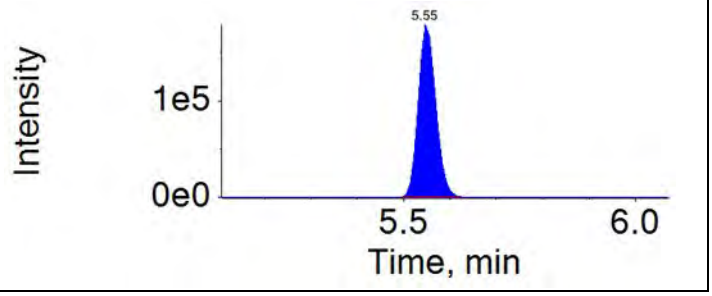
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

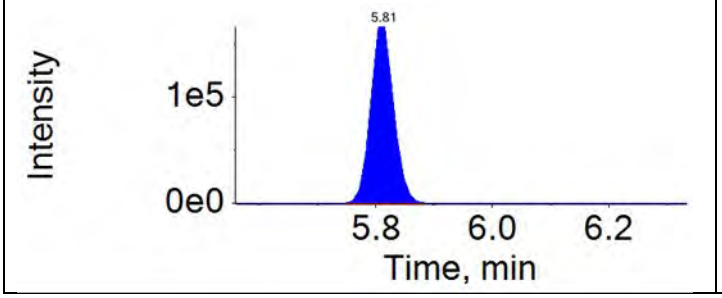
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

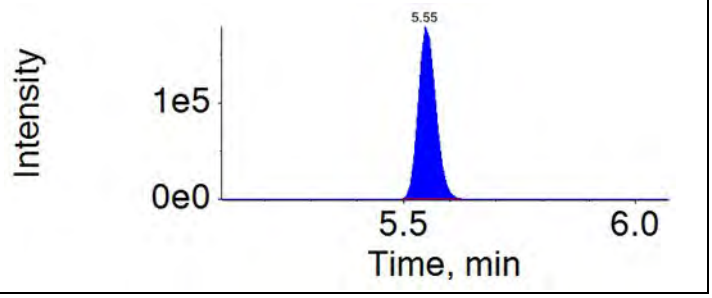
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



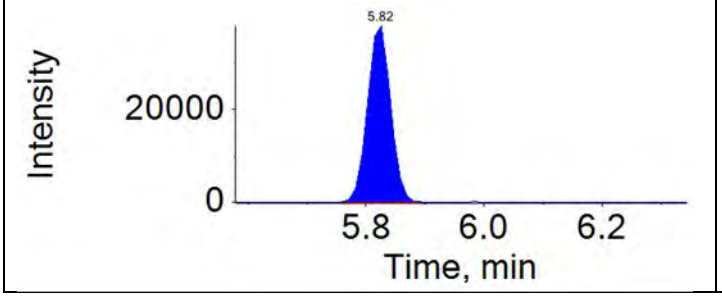


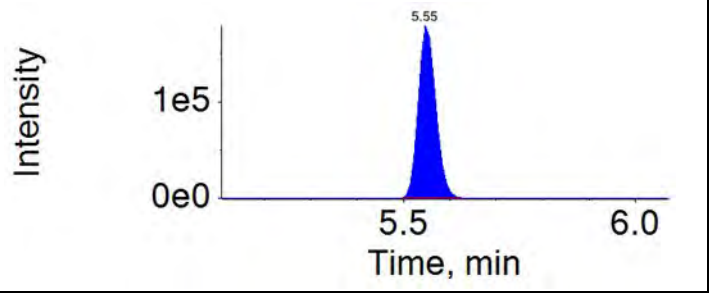
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



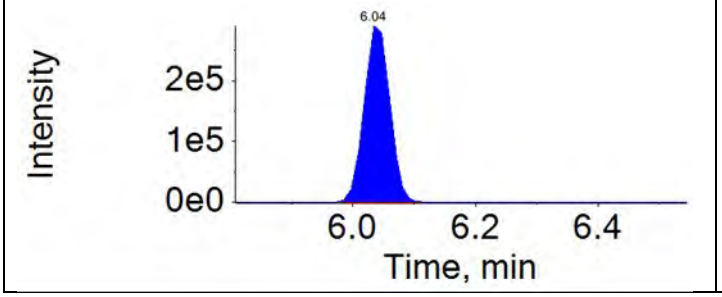


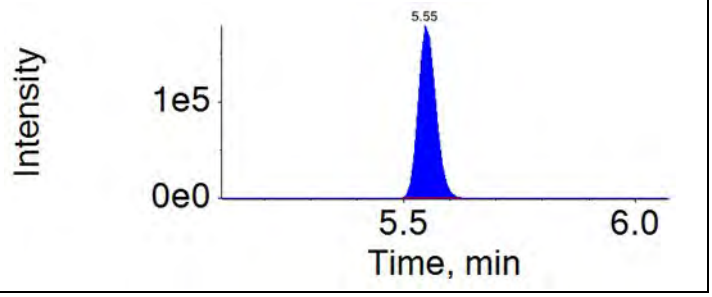
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



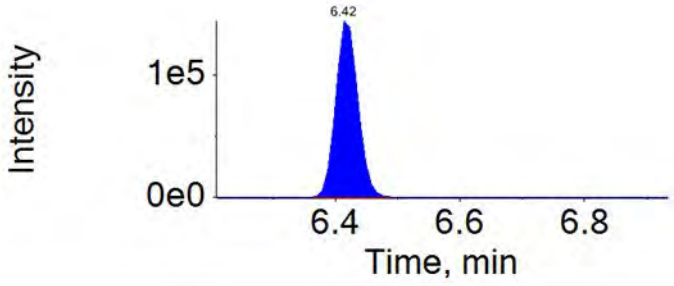
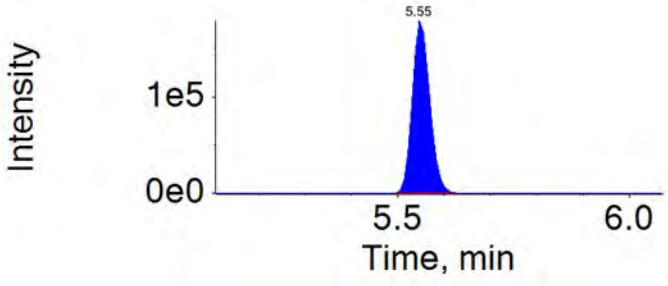


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



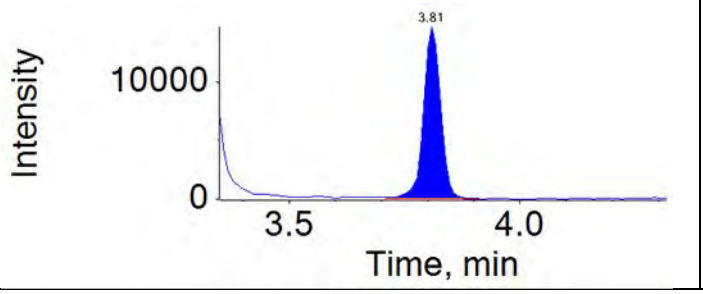


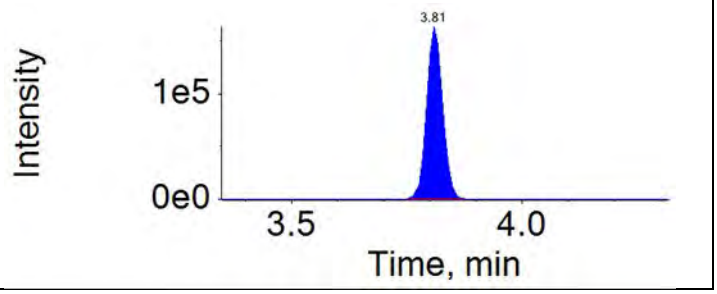
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

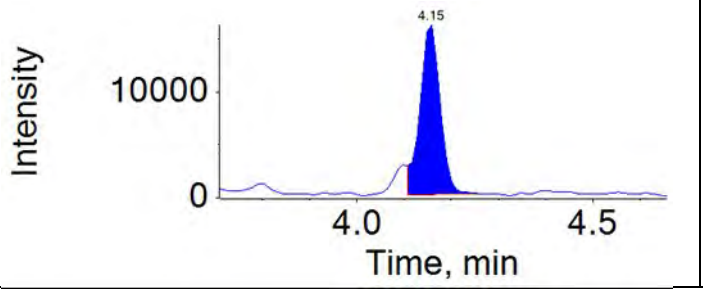
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

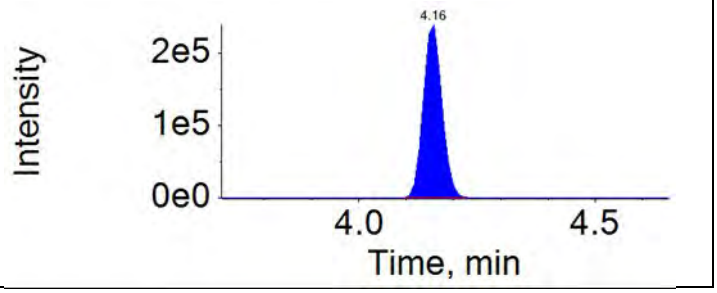
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



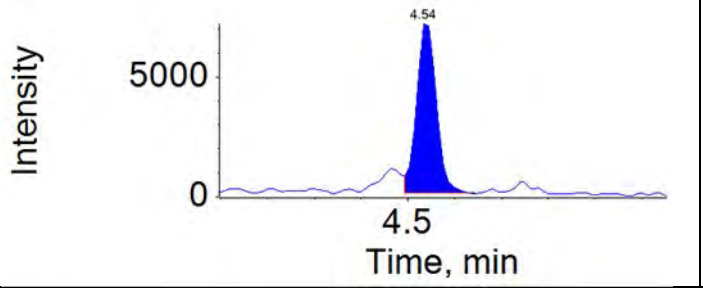


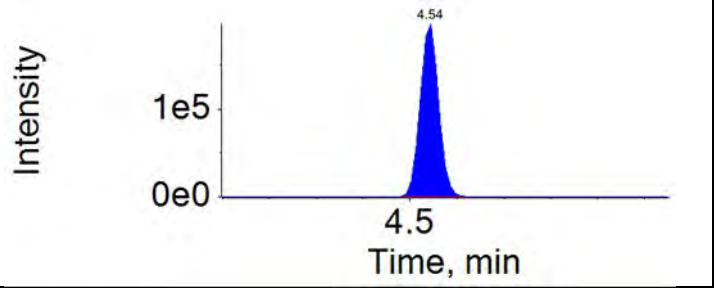
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



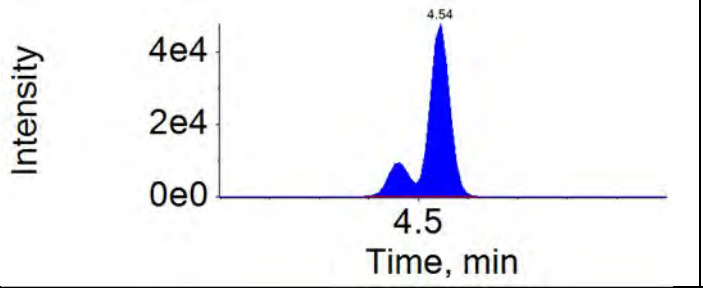


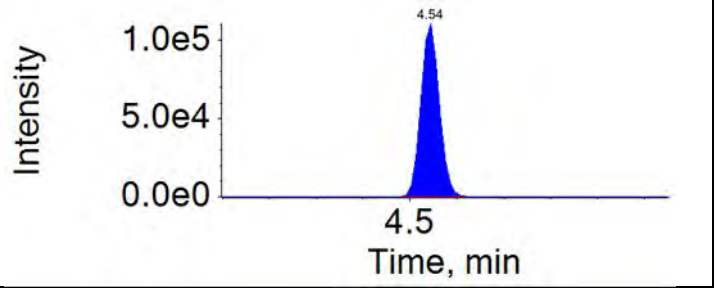
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

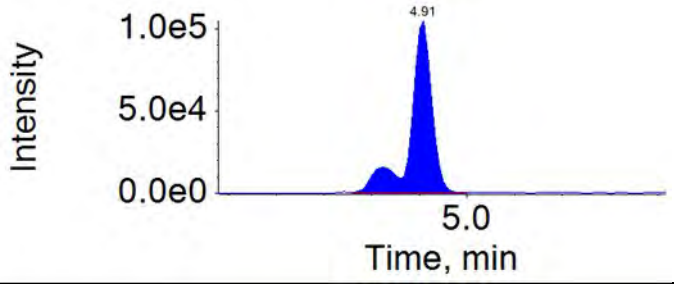
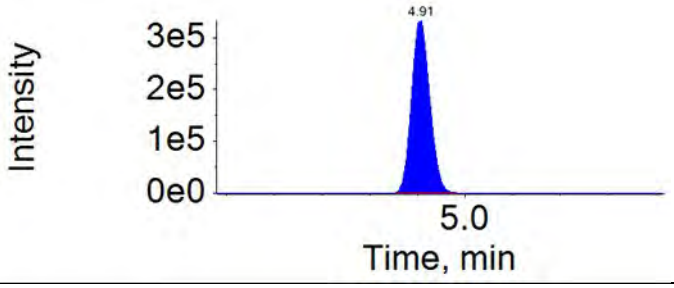


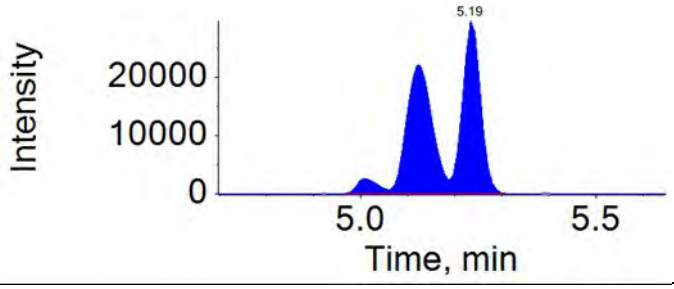
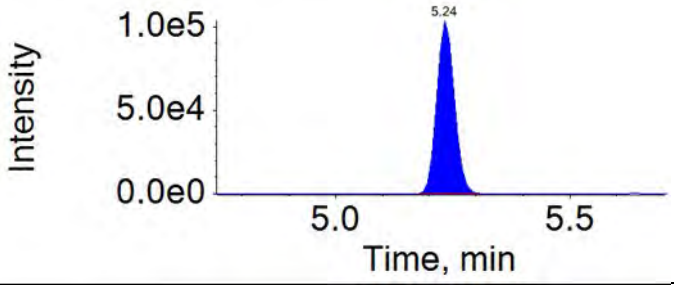


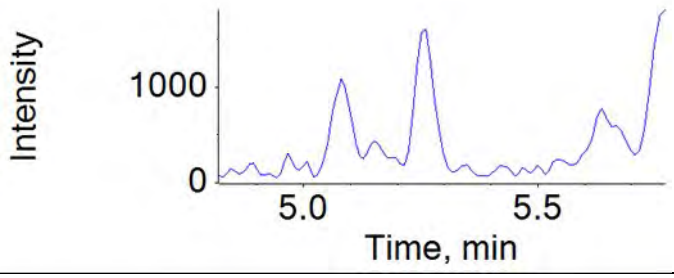
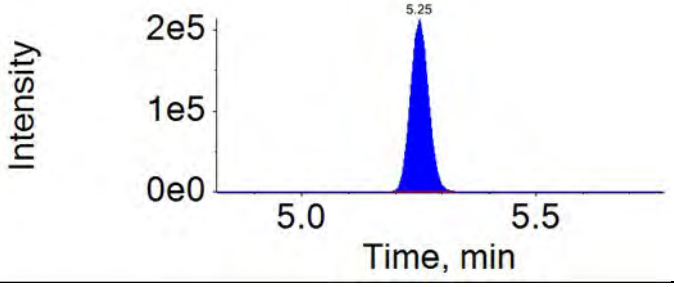
APPROVED
By MSM at 1:03 pm, 12/20/18

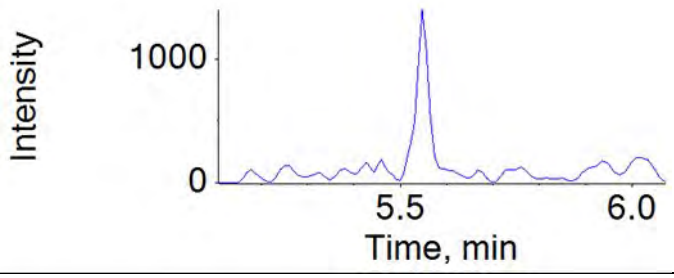
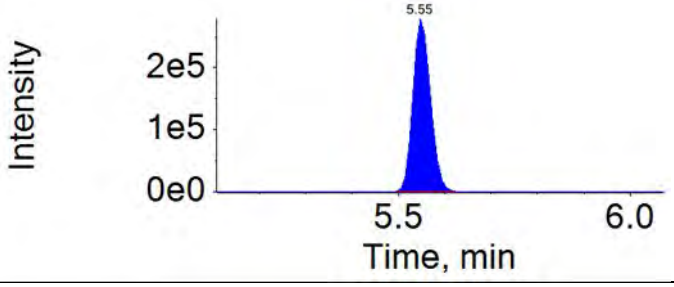
REVIEWED
By umar at 3:49 pm, 12/31/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

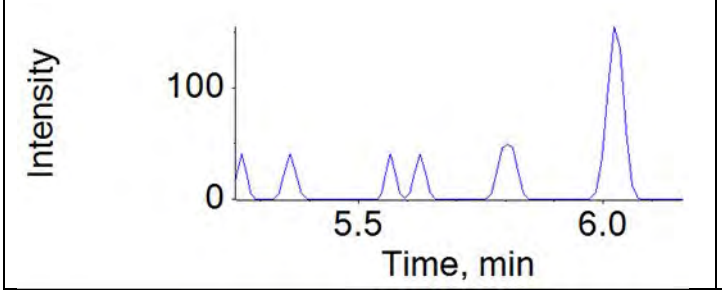
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

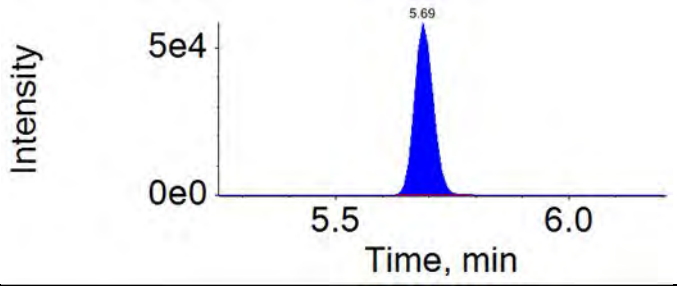
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

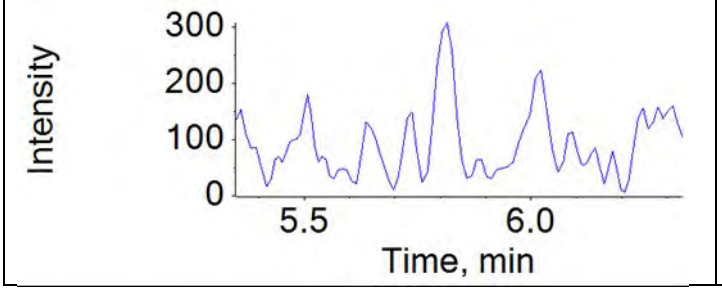
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

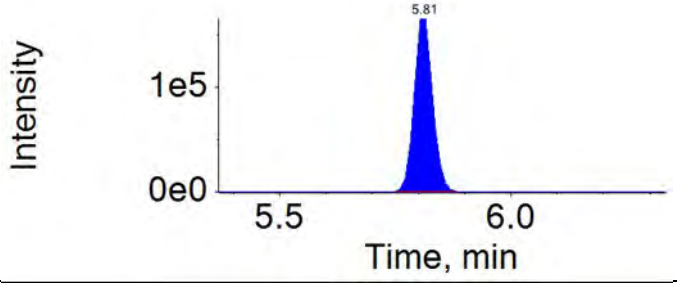
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



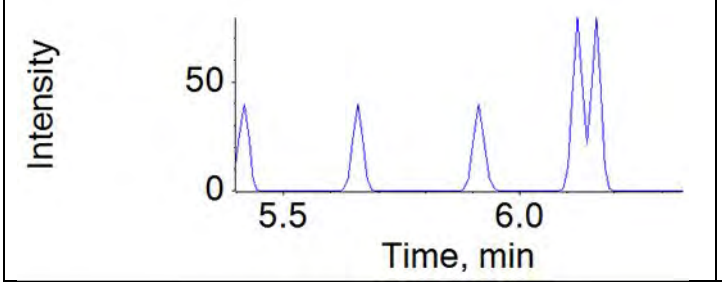


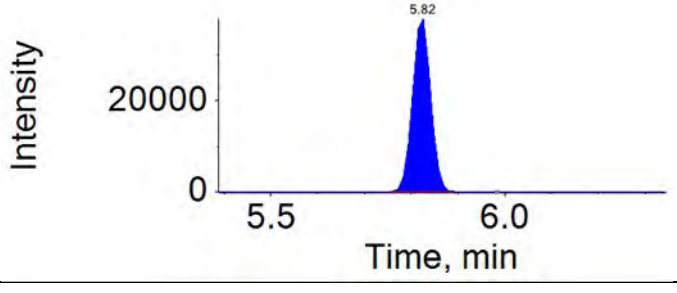
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



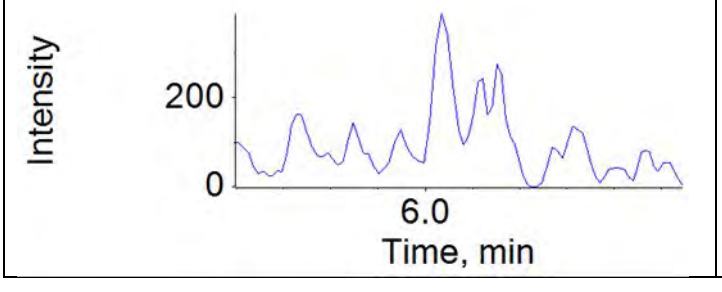


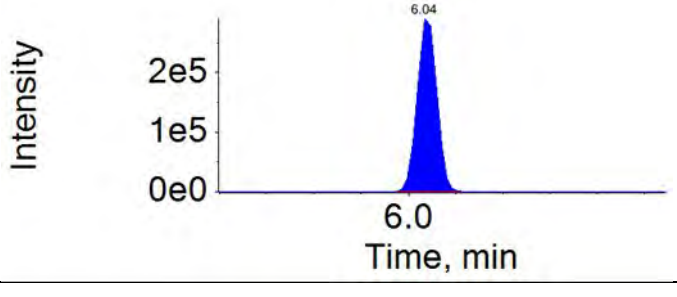
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



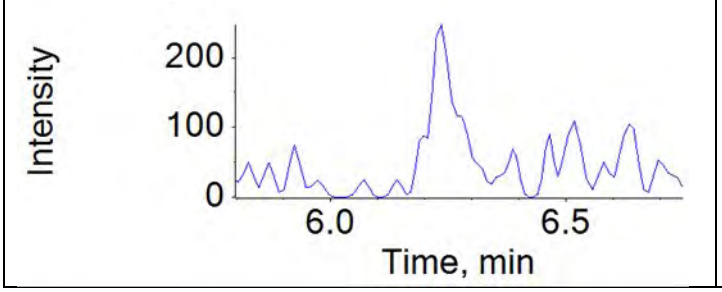


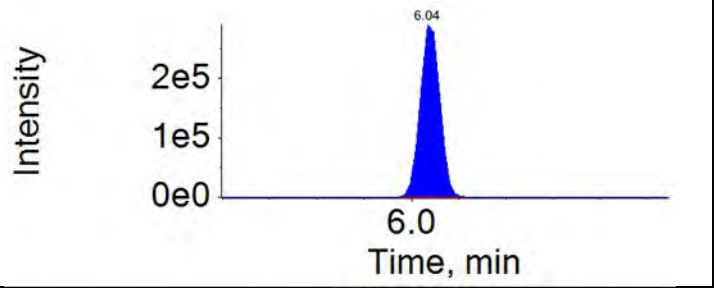
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

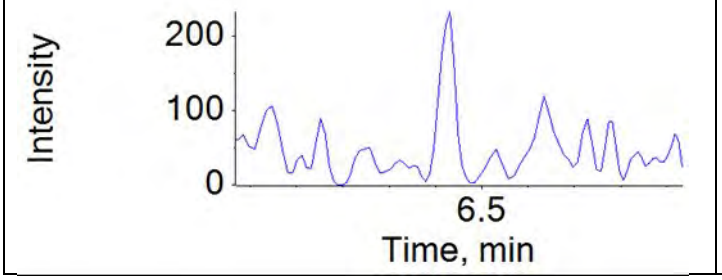
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

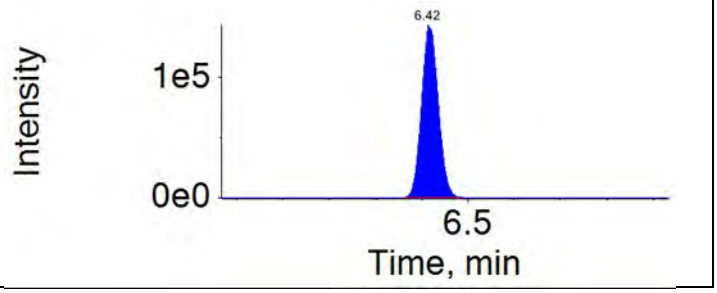
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





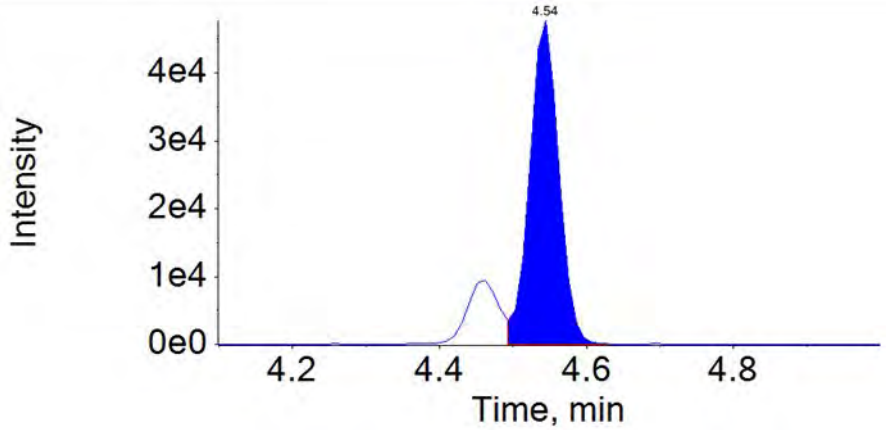
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





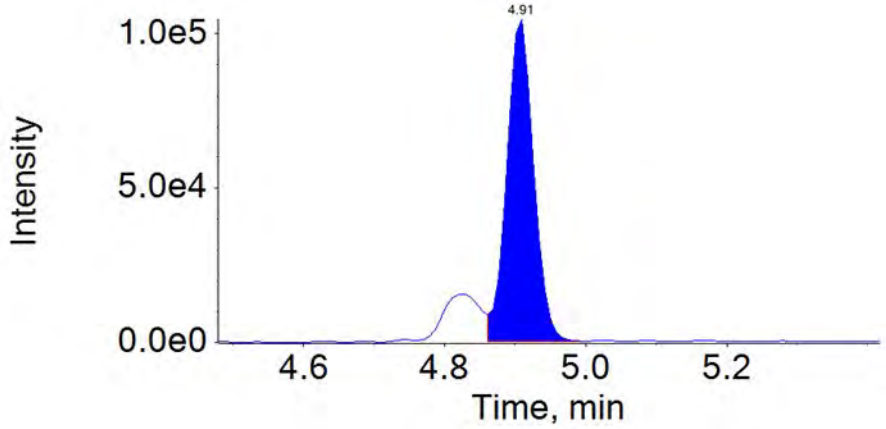
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
131579.1
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



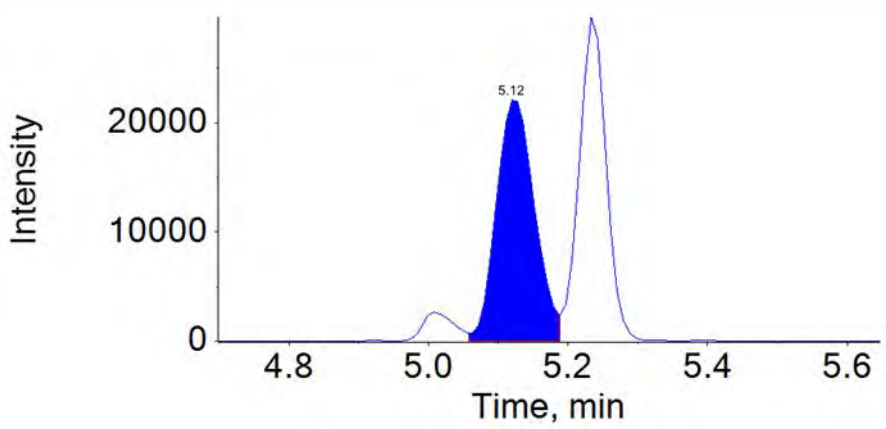
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
276679.0
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



Integration Comment: incorrect integration

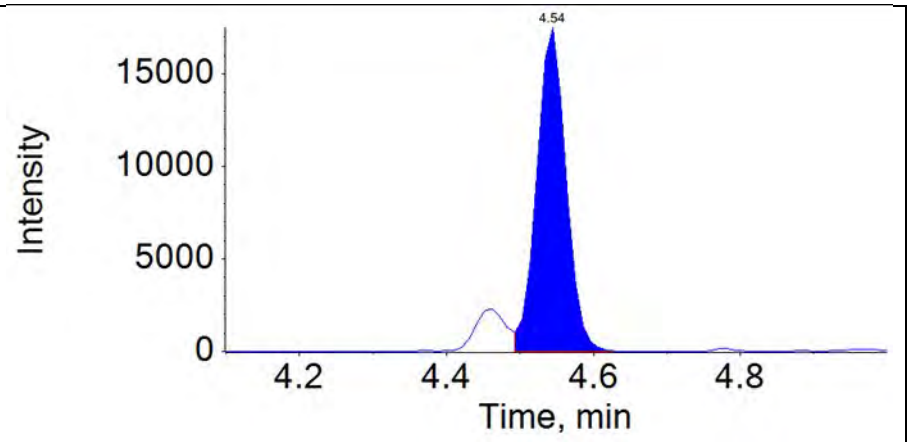
Component Name:
PFOS
RT (min.):
5.12
Peak Area:
84303.0
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



Integration Comment: incorrect integration

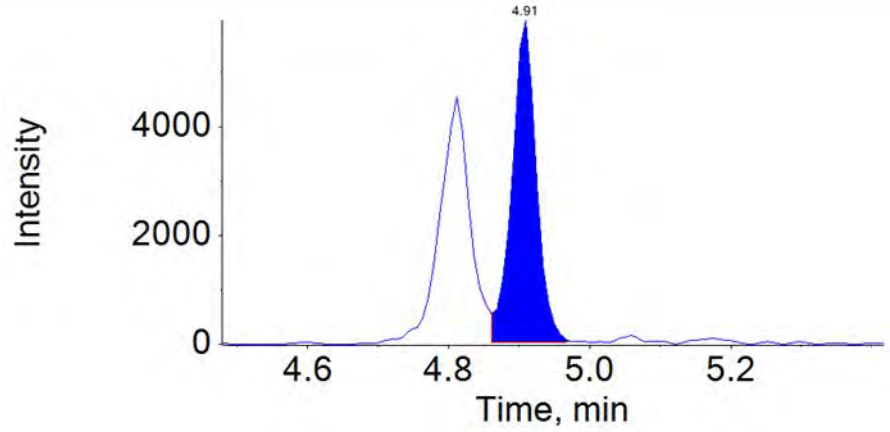
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
48473.3
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



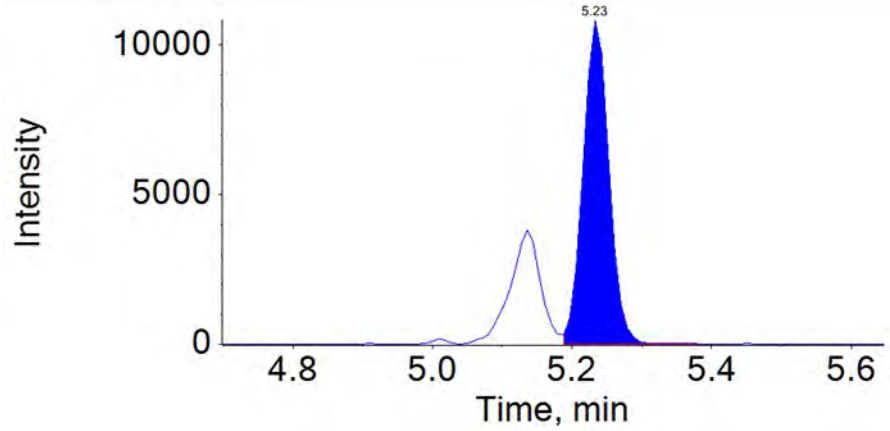
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
14232.8
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
27932.5
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-37.wiff
Sample Name:
9934786



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:03 pm, 12/20/18

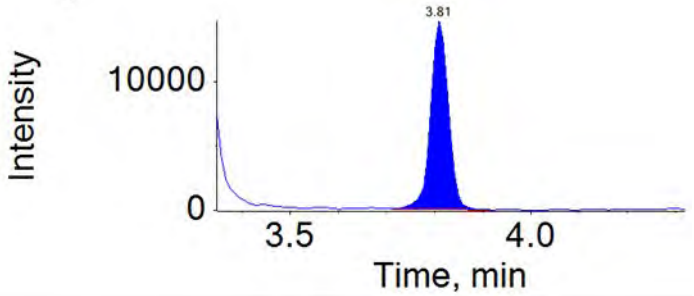
REVIEWED
By umar at 3:49 pm, 12/31/18

Ion Ratio Report

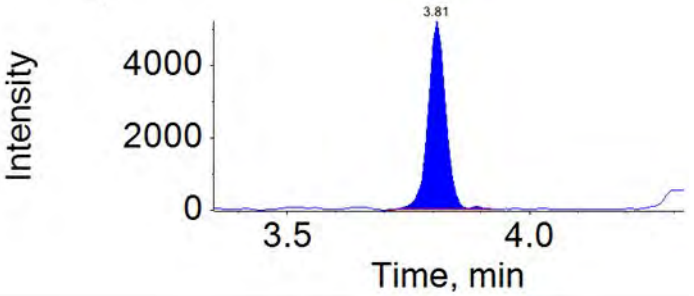
Sample Name: 9934786 **Instrument Name:** LM27631 **File Name:** 18DEC19D-37.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	37573.9	A	N/A	1.0000			
PFBS_2	3.81	1.00	13128.9	A	N/A	0.3494	-5	50	
PFHxA	4.15	1.00	47773.4	A	N/A	1.0000			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	4.54	1.00	20761.0	A	N/A	1.0000			
PFHpA_2	4.53	1.00	1274.6	A	N/A	0.0614	12	50	
PFHxS	4.54	1.00	159863.4	M	N/A	1.0000			
PFHxS_2	4.54	1.00	55153.7	M	N/A	0.3450	3	50	
PFOA	4.91	1.00	334016.7	M	N/A	1.0000			
PFOA_2	4.88	0.99	27923.3	M	N/A	0.0836	42	50	
PFOS	5.19	0.99	172990.5	M	N/A	1.0000			
PFOS_2	5.23	1.00	39863.8	M	N/A	0.2304	-23	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

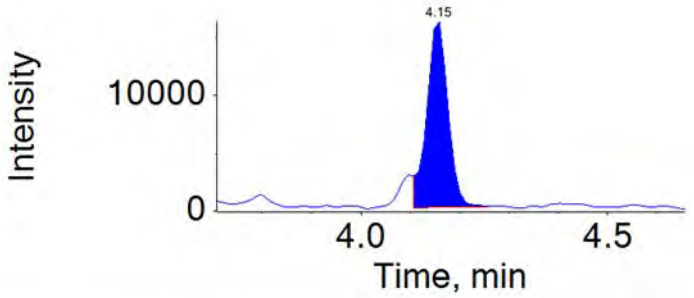
Component: PFBS
Primary Mass: 299.0 / 80.0



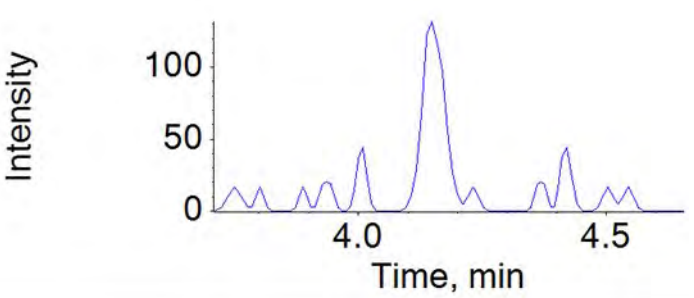
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



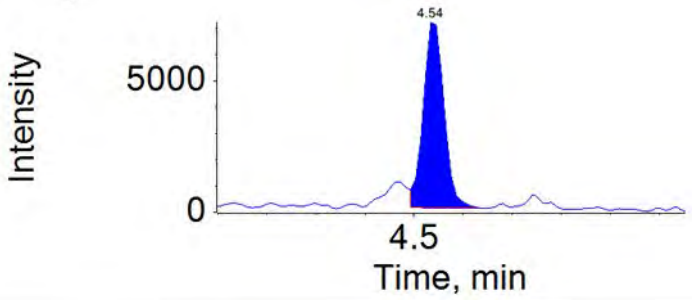
Component: PFHxA
Primary Mass: 313.0 / 269.0



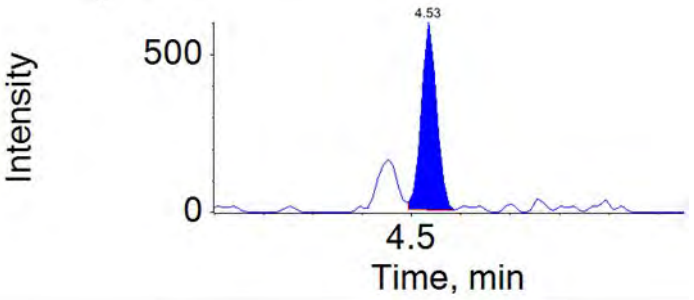
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



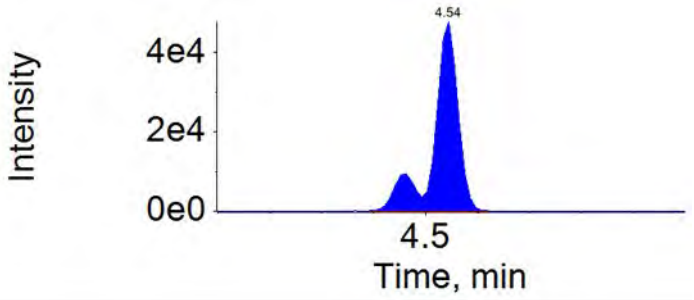
Component: PFHpA
Primary Mass: 363.0 / 319.0



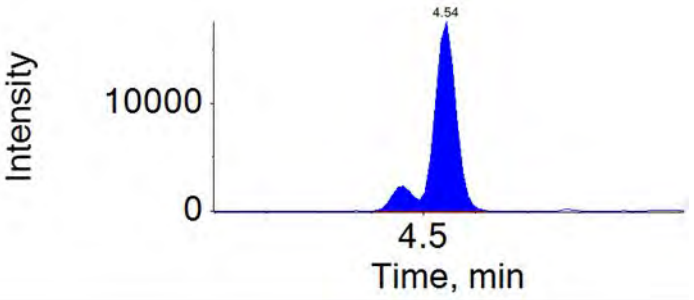
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



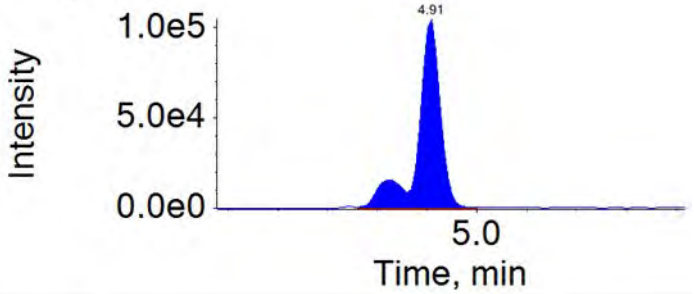
Component: PFHxS
Primary Mass: 399.0 / 80.0



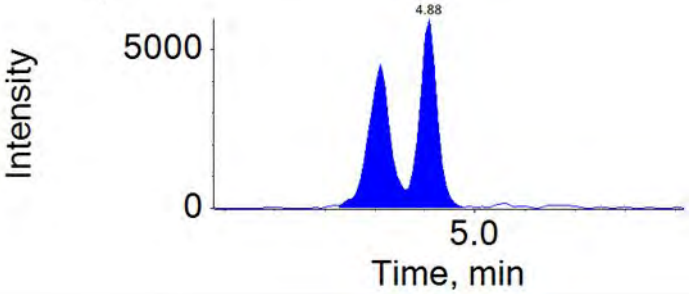
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



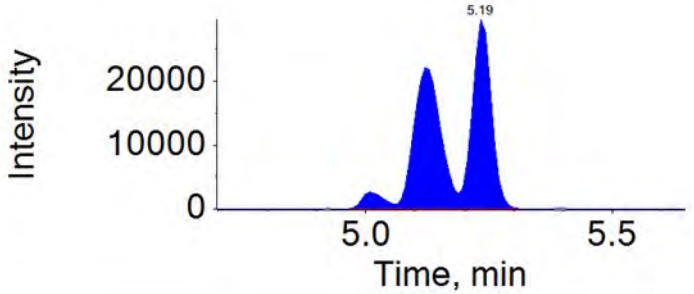
Component: PFOA
Primary Mass: 413.0 / 369.0



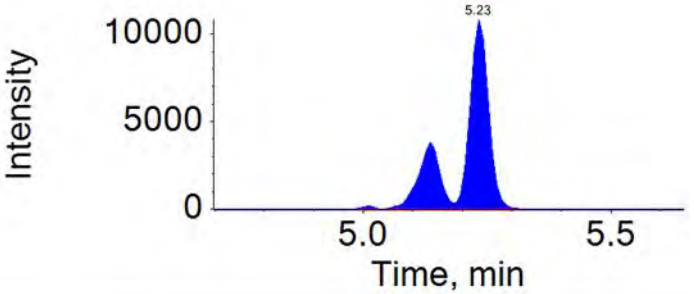
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



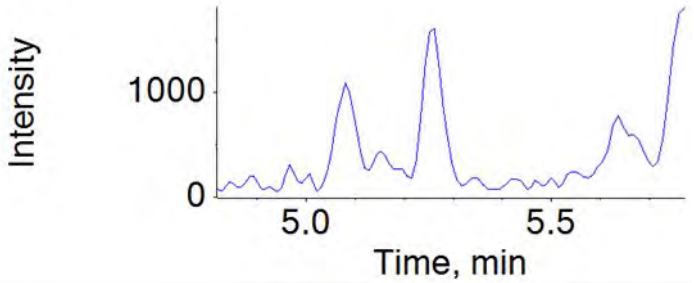
Component: PFOS
Primary Mass: 499.0 / 80.0



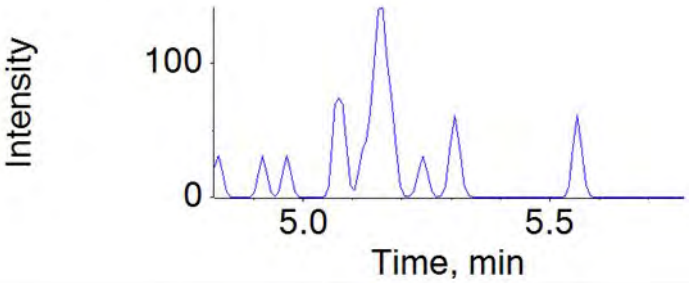
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



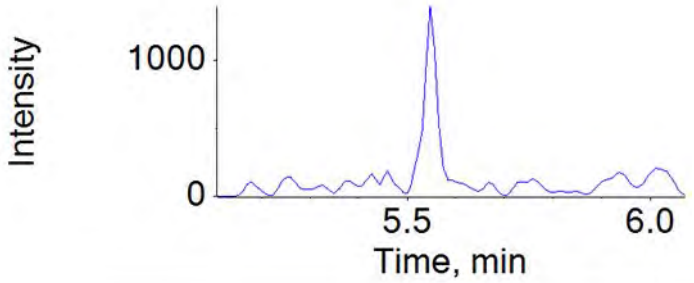
Component: PFNA
Primary Mass: 463.0 / 419.0



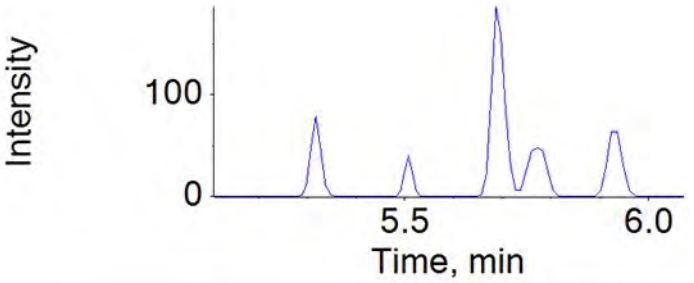
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



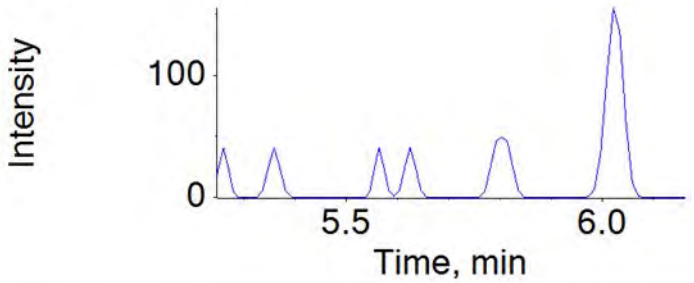
Component: PFDA
Primary Mass: 513.0 / 469.0



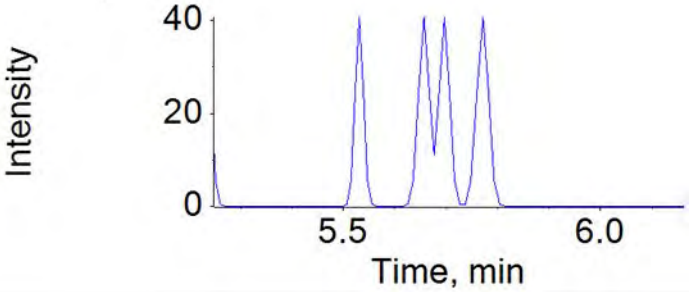
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



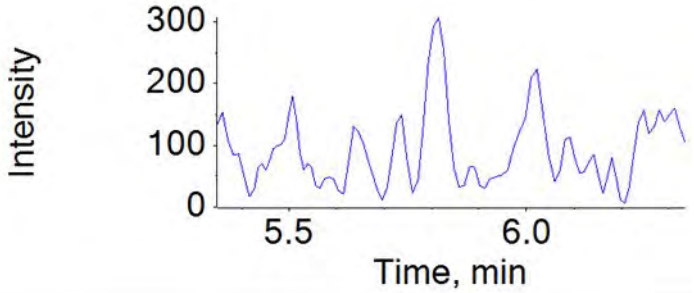
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



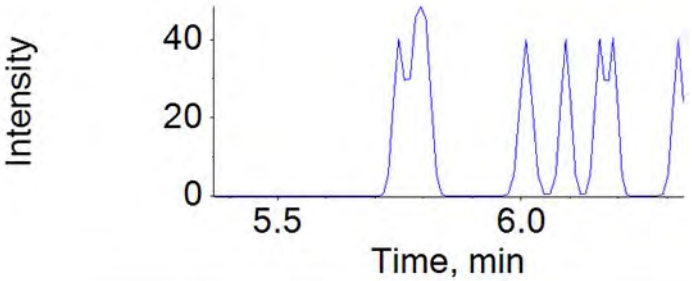
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



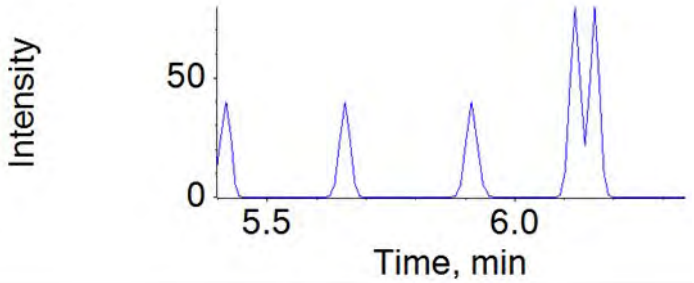
Component: PFUnDA
Primary Mass: 563.0 / 519.0



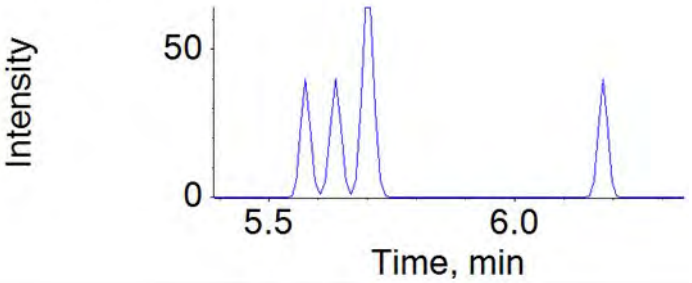
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Secondary Mass: 563.0 / 169.0



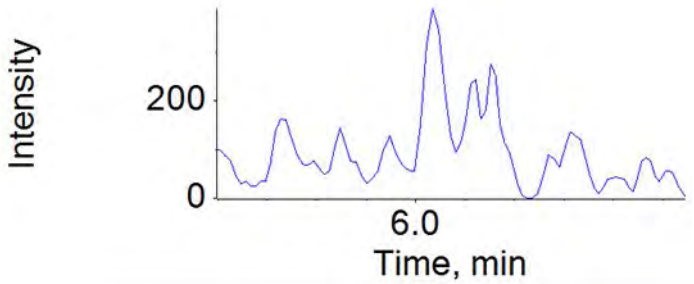
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



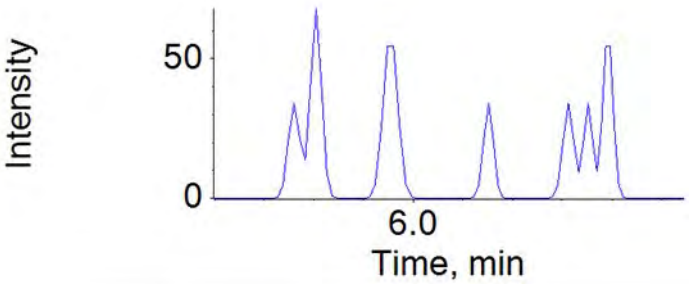
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



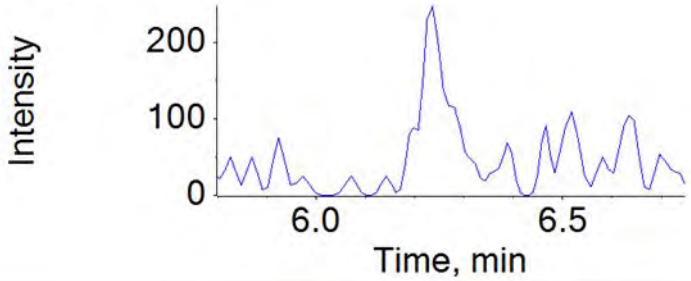
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



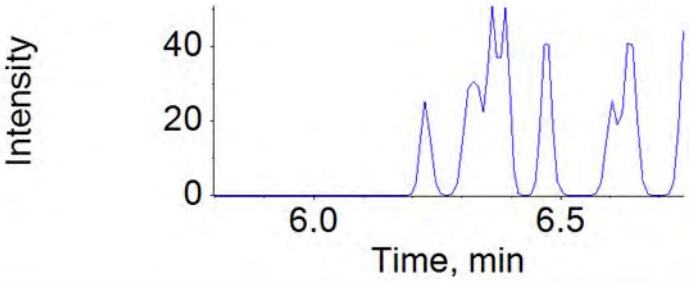
APPROVED
By MSM at 1:03 pm, 12/20/18

REVIEWED
By umar at 3:49 pm, 12/31/18

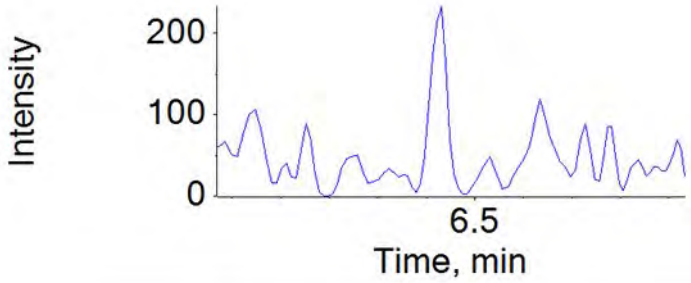
Component: PFTrDA
Primary Mass: 663.0 / 619.0



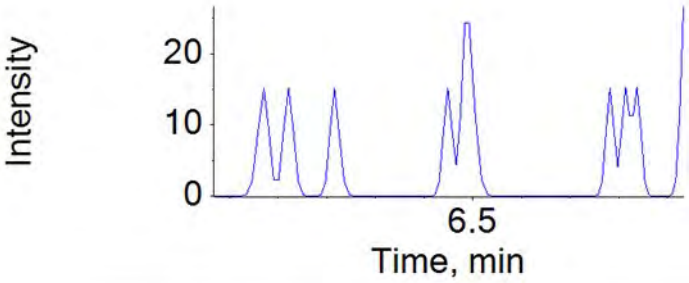
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934786RE			**Data File:**		18DEC26D-63.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18360005 OU1-YIMW-4-01 Grab Groundwater			**Acquis Date:**		2018-12-27T00:40:35
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	16			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18360005
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	18360005			**Operator:**		MCD7824
Sample Wt.:	0.28338			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	916829.3	965438.2	-5	50	
13C2-PFOA	5.0	539716.7	527066.0	2	50	
13C4-PFOS	4.8	297075.6	307230.6	-3	50	
13C2-PFDA	5.0	467985.5	493258.9	-5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	480863.6	13C3-PFBA	916829.3	0.524	16.409	17.982	110	50-150	
E13C5-PFHxA	812131.1	13C2-PFOA	539716.7	1.505	17.644	19.425	110	50-150	
E13C3-PFHxS	371000.2	13C2-PFOA	539716.7	0.687	16.691	18.640	112	50-150	
E13C4-PFHpA	628673.3	13C2-PFOA	539716.7	1.165	17.644	18.519	105	50-150	
E13C8-PFOA	1104423.5	13C2-PFOA	539716.7	2.046	17.644	20.232	115	50-150	
E13C8-PFOS	345305.8	13C4-PFOS	297075.6	1.162	16.868	17.881	106	50-150	
E13C9-PFNA	707203.5	13C4-PFOS	297075.6	2.381	17.644	18.506	105	50-150	
E13C6-PFDA	876560.5	13C2-PFDA	467985.5	1.873	17.644	18.978	108	50-150	
Ed3-NMeFOSAA	187170.2	13C2-PFDA	467985.5	0.400	17.644	18.009	102	50-150	
E13C7-PFUnDA	586809.0	13C2-PFDA	467985.5	1.254	17.644	19.119	108	50-150	
Ed5-NEtFOSAA	120196.6	13C2-PFDA	467985.5	0.257	17.644	15.704	89	50-150	
E13C2-PFDoDA	1024361.6	13C2-PFDA	467985.5	2.189	17.644	16.754	95	50-150	
E13C2-PFTeDA	523474.1	13C2-PFDA	467985.5	1.119	17.644	11.642	66	50-150	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

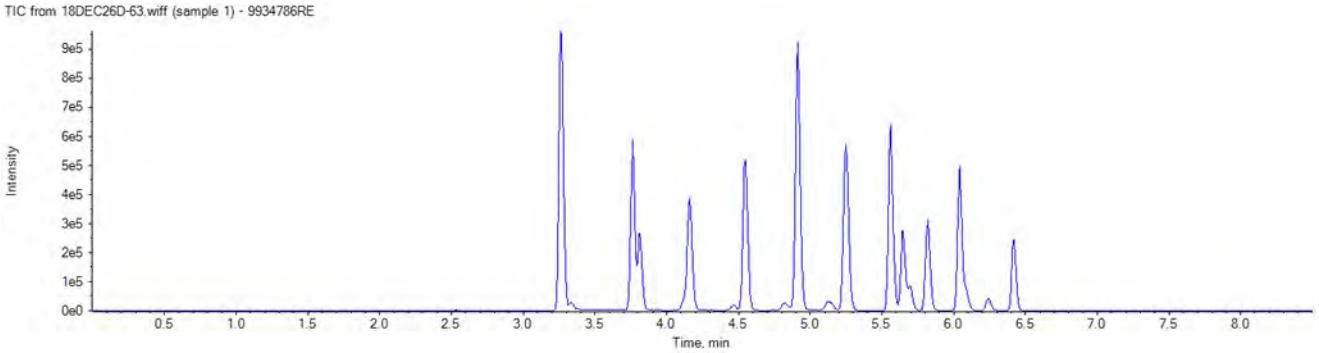
Analyte Quantitation Peak Table

Sample Name: 9934786RE **Instrument Name:** LM27631 **File Name:** 18DEC26D-63.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28338	1.000	1.00	1.000

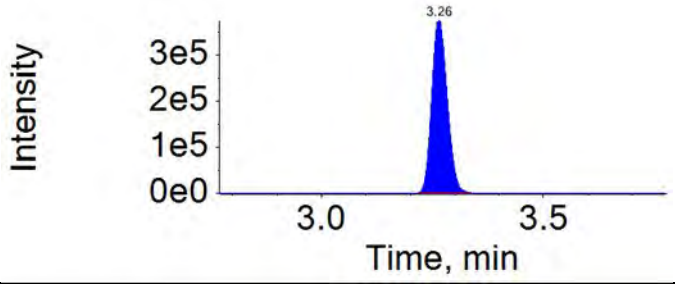
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	43636.1		A	13C3-PFBS	3.81	480863.6	0.091	1.589
PFHxA	4.16	1.000	55355.7		A	13C5-PFHxA	4.16	812131.1	0.068	0.987
PFHpA	4.55	1.000	26156.3		A	13C4-PFHpA	4.55	628673.3	0.042	0.464
PFHxS	4.55	1.000	194867.0		M	13C3-PFHxS	4.55	371000.2	0.525	8.668
PFOA	4.91	1.000	372094.1		M	13C8-PFOA	4.91	1104423.5	0.337	6.290
PFOS	5.20	0.990	206396.8		M	13C8-PFOS	5.24	345305.8	0.598	9.183
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	707203.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	876560.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	187170.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	586809.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	120196.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1024361.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1024361.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	523474.1	N/A	

Total Ion Chromatogram

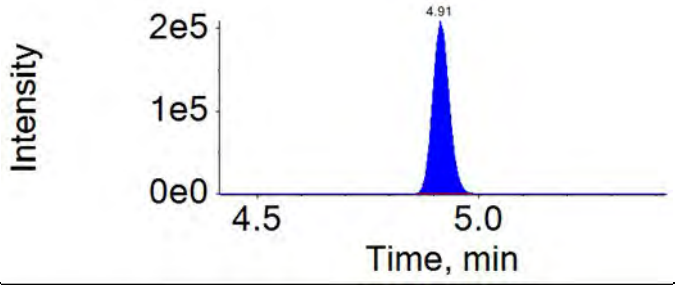


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

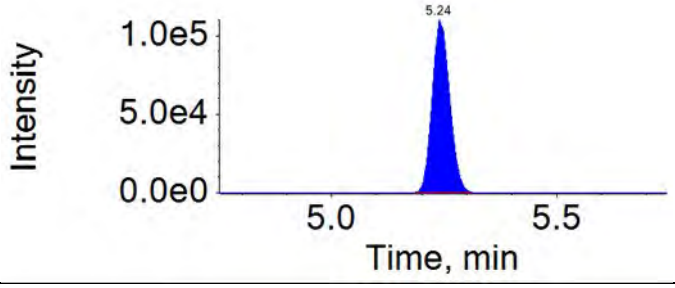
Injection Standard: 13C3-PFBA
216.0 / 172.0



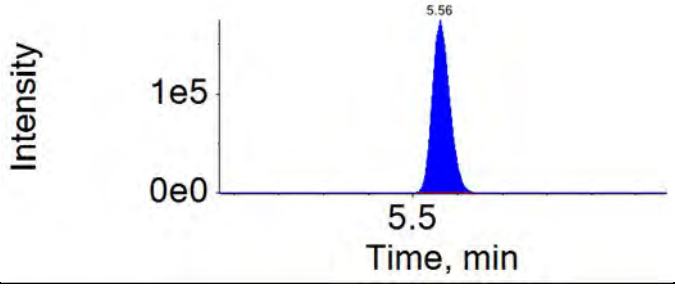
Injection Standard: 13C2-PFOA
415.0 / 370.0



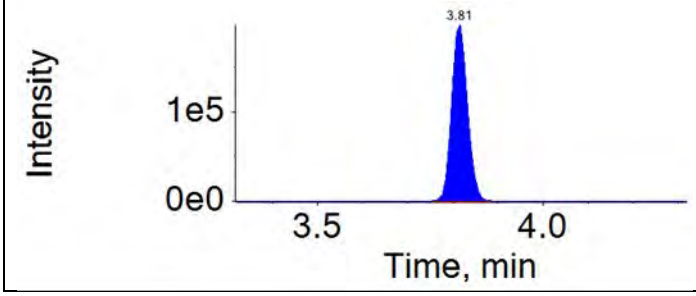
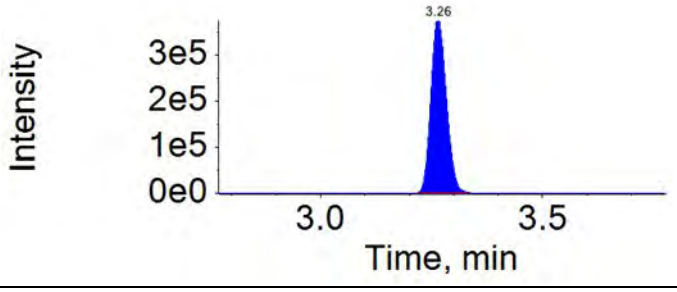
Injection Standard: 13C4-PFOS
503.0 / 80.0

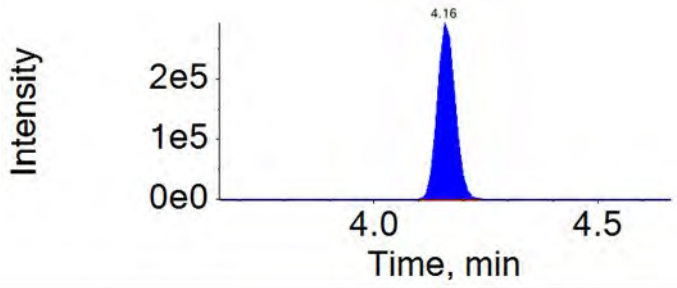
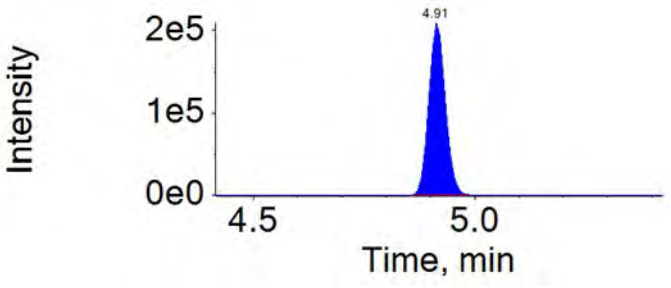


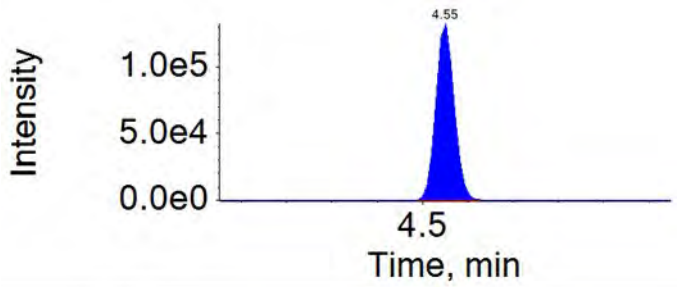
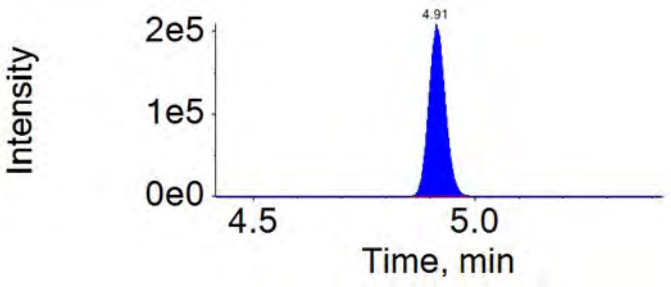
Injection Standard: 13C2-PFDA
515.0 / 470.0

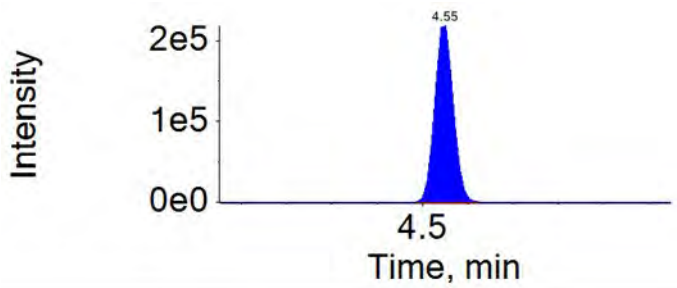
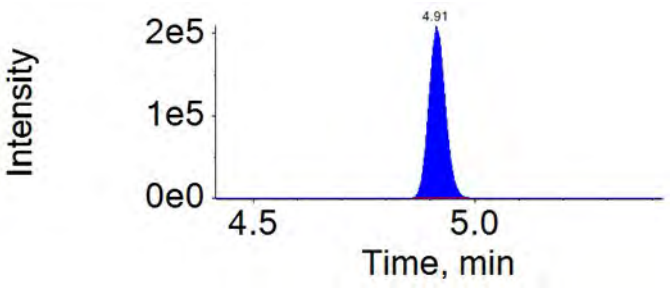


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

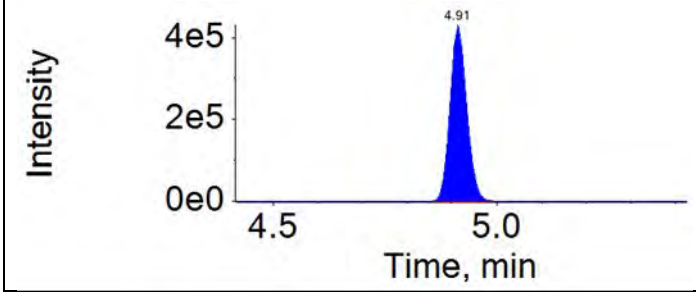
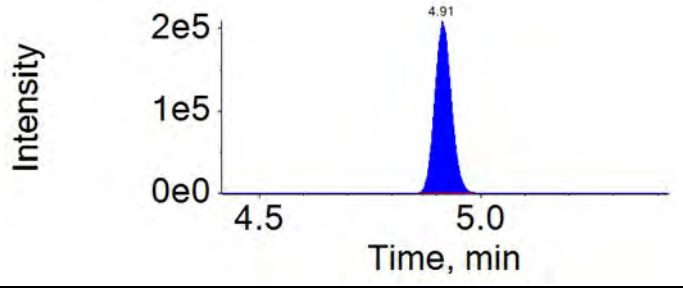
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

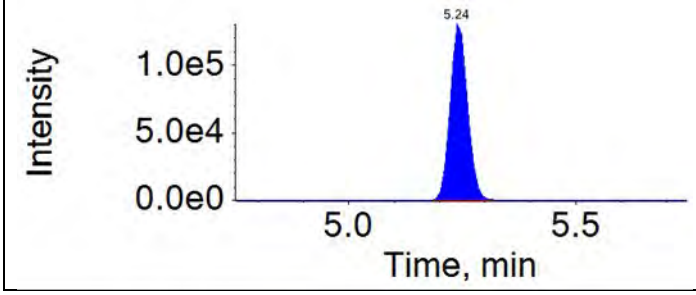
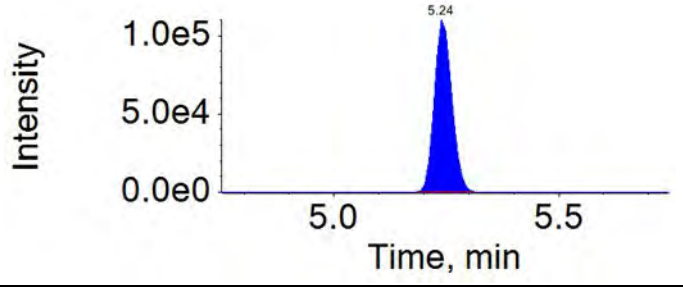
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

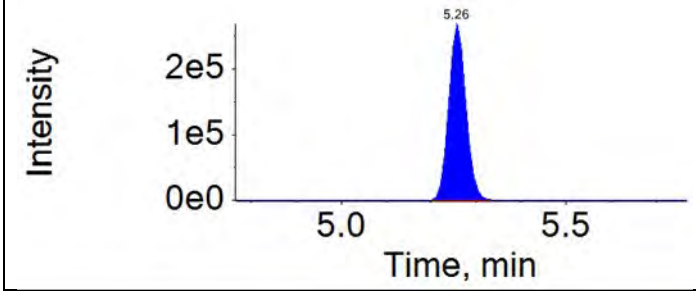
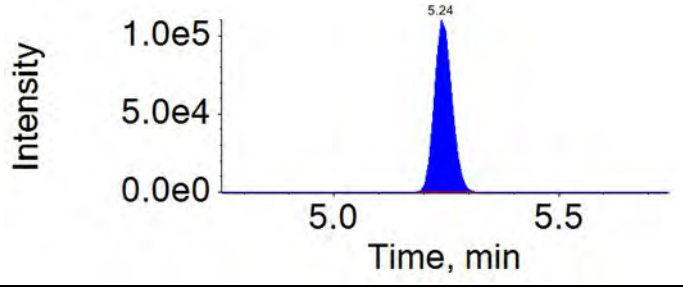
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

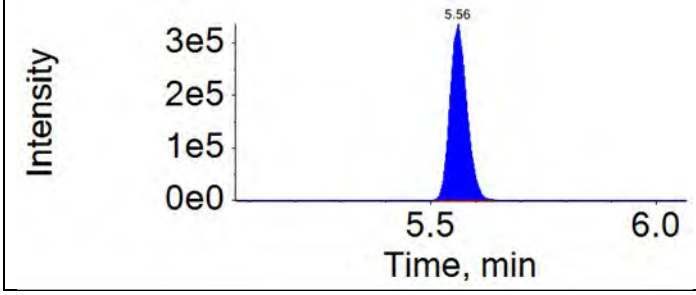
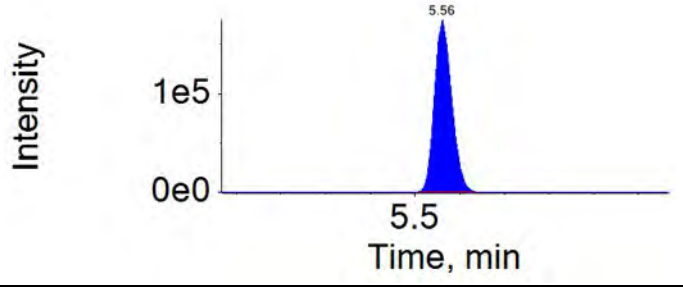
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

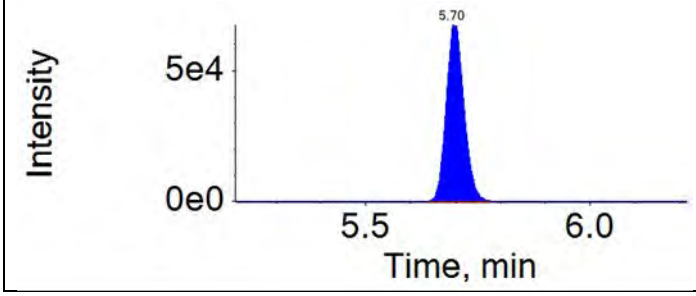
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

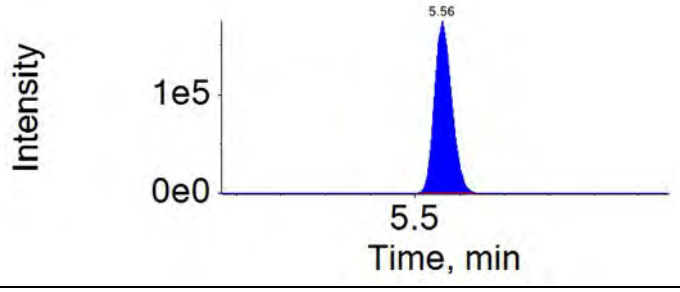
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

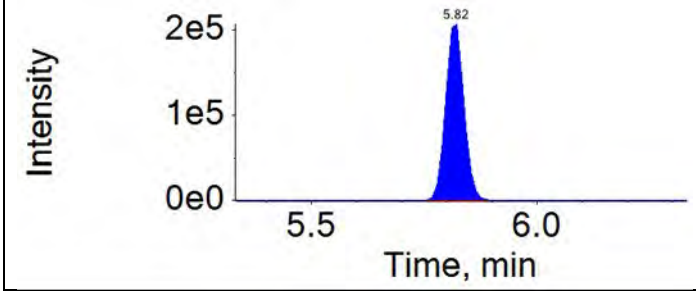
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

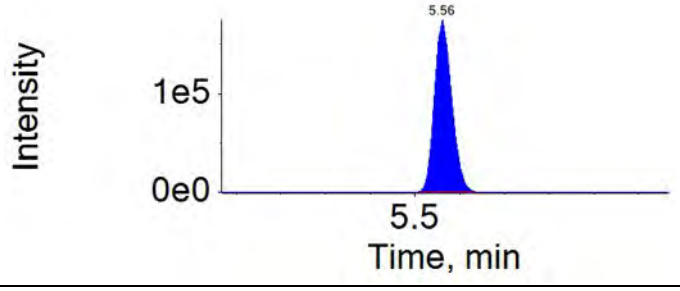
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



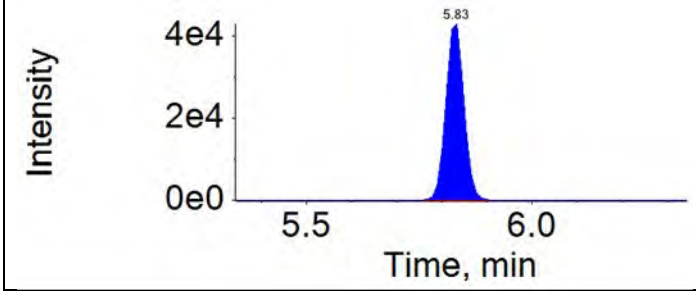


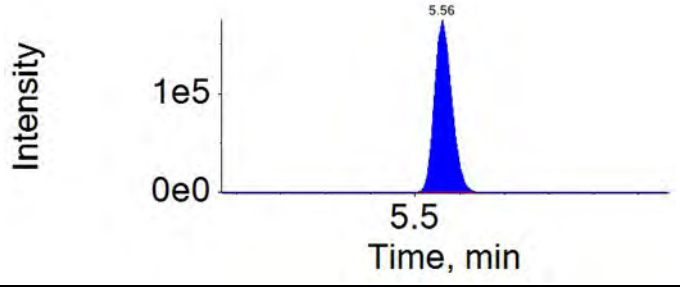
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



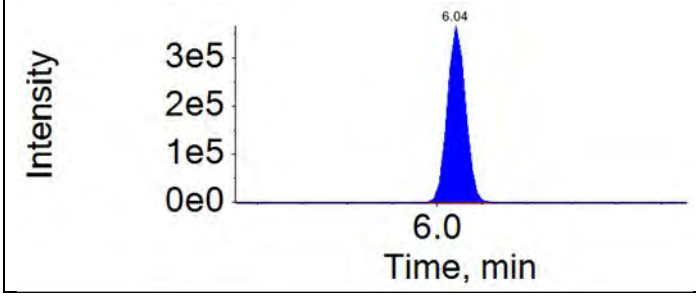


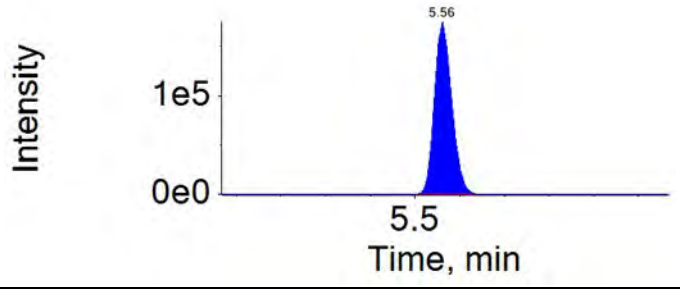
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



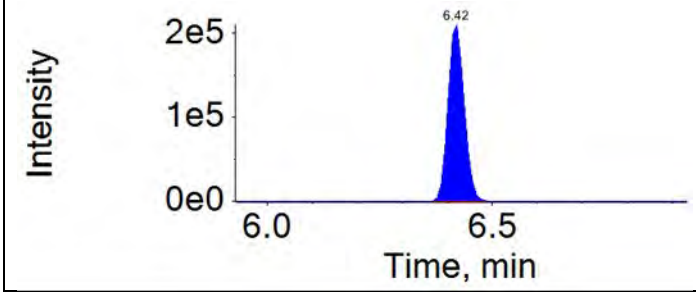


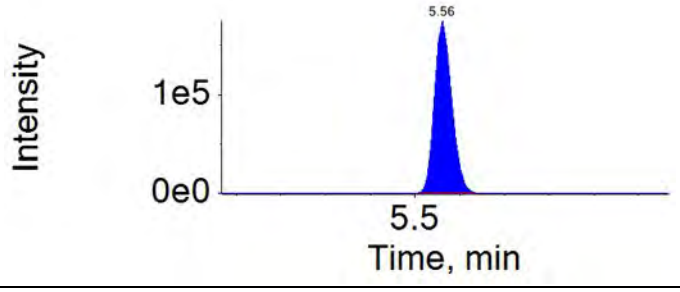
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

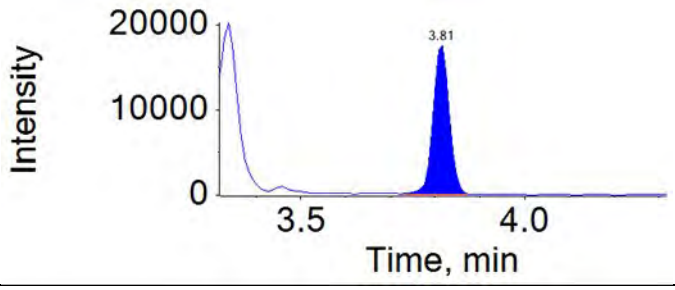
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

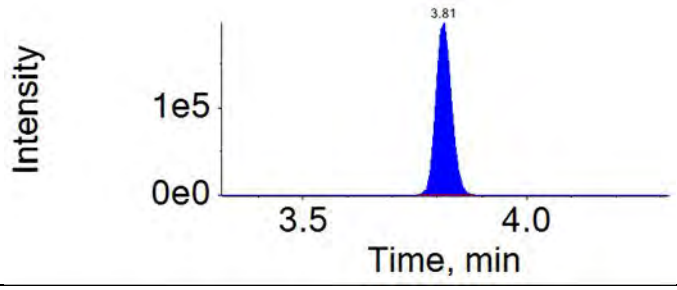




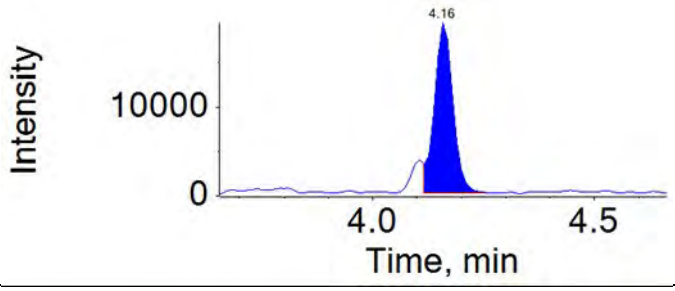
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

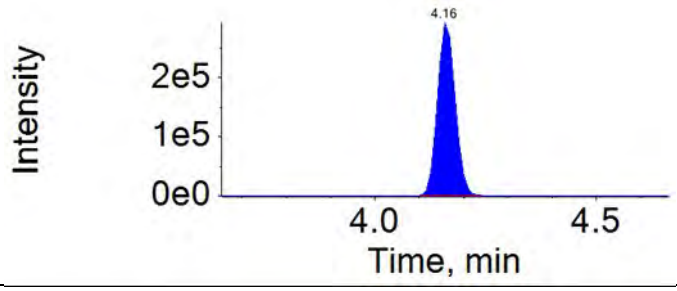
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



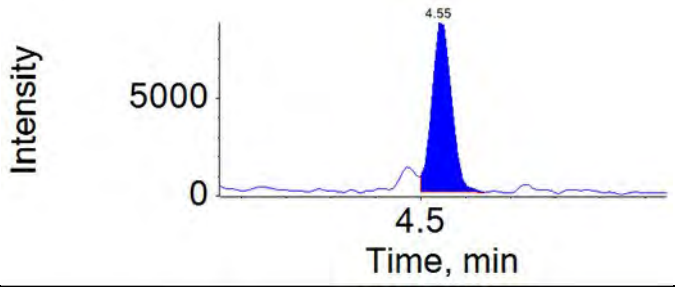


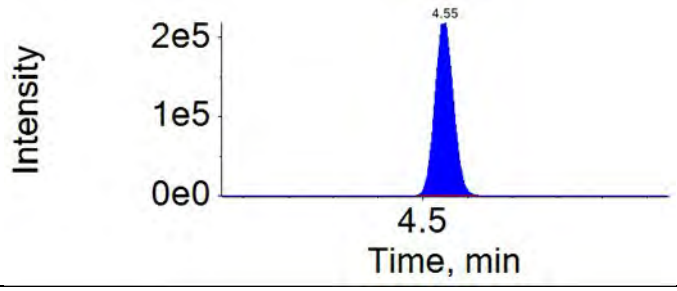
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



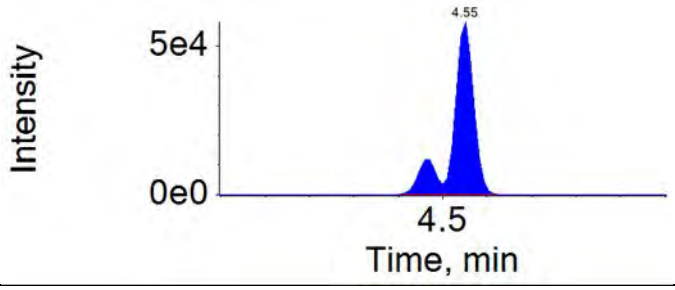


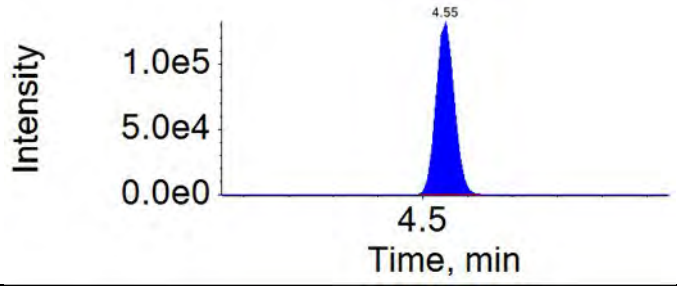
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



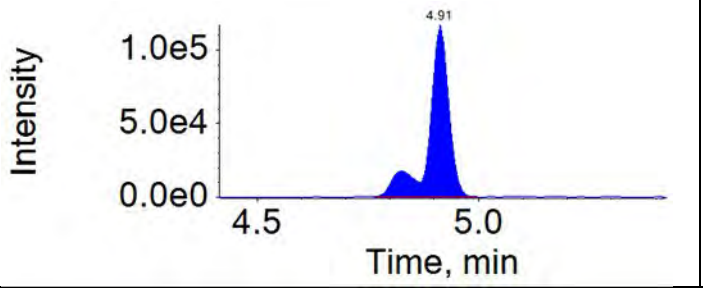


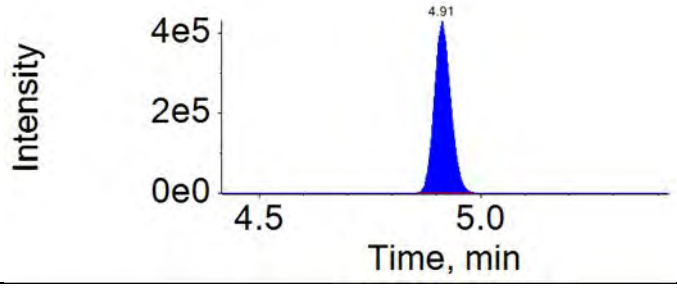
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

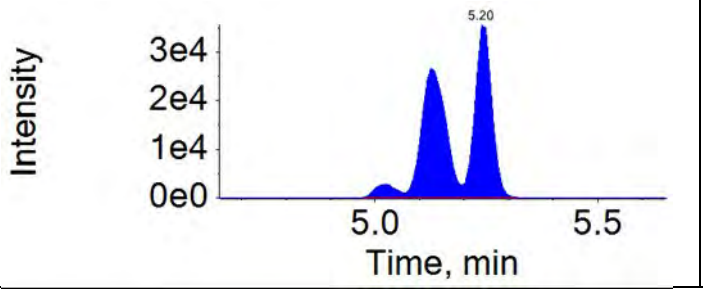
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

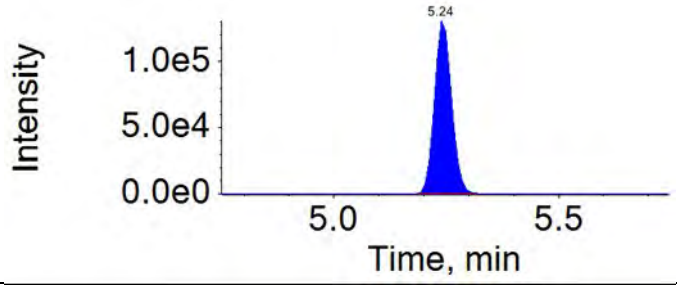
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



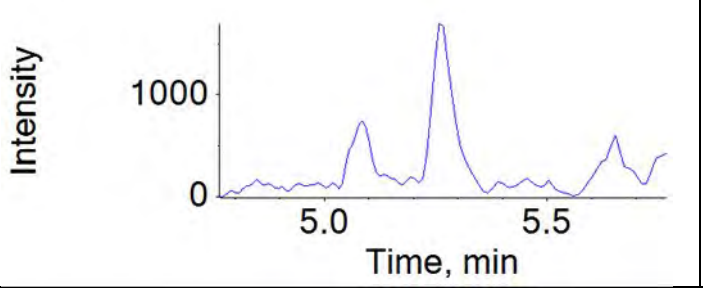


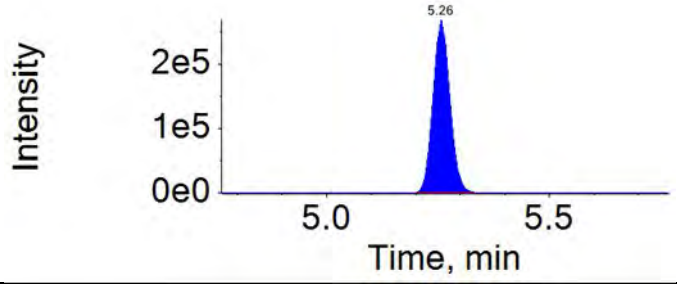
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



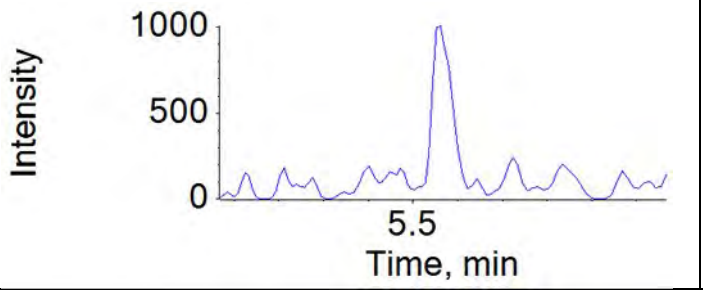


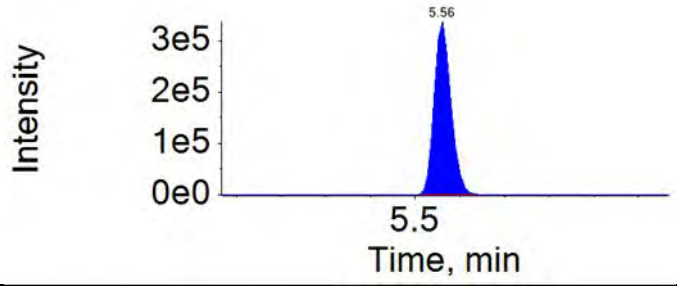
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





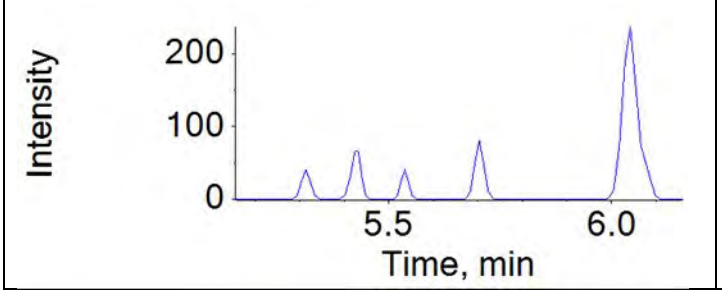
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

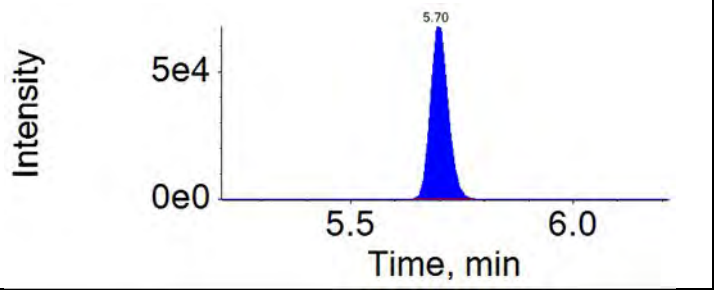




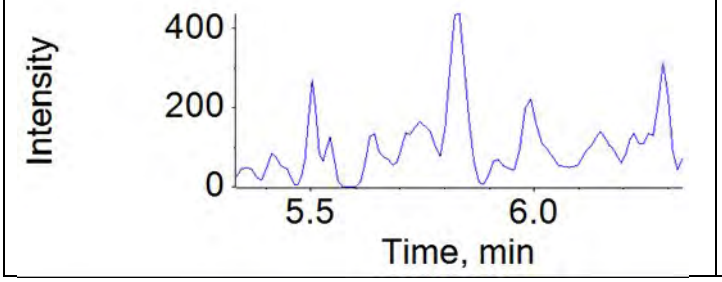
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

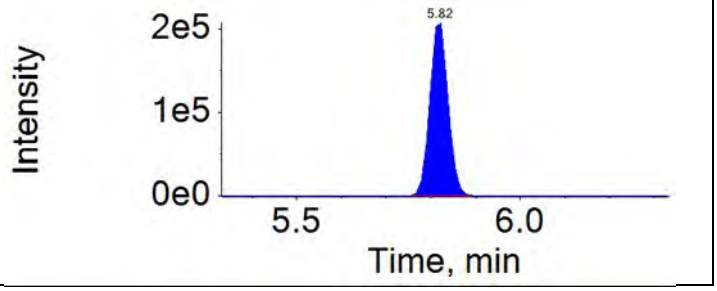
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



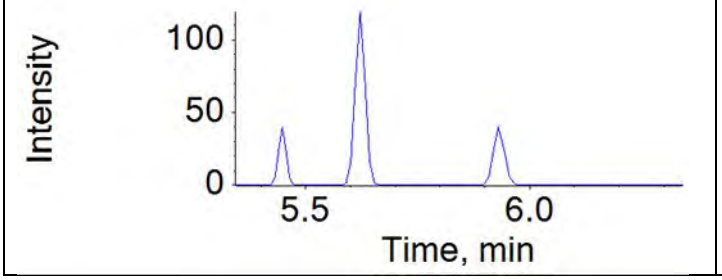


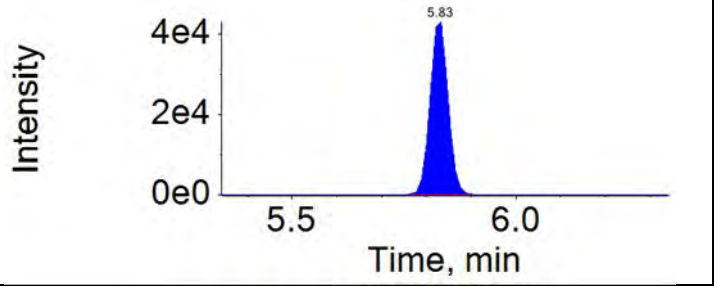
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



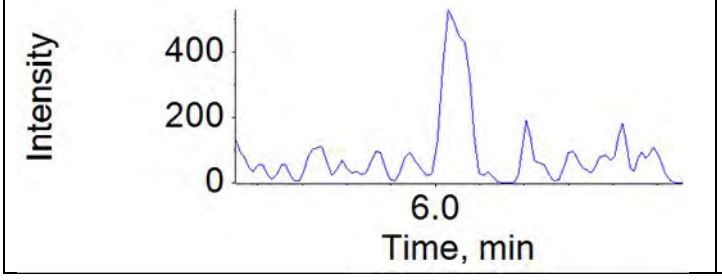


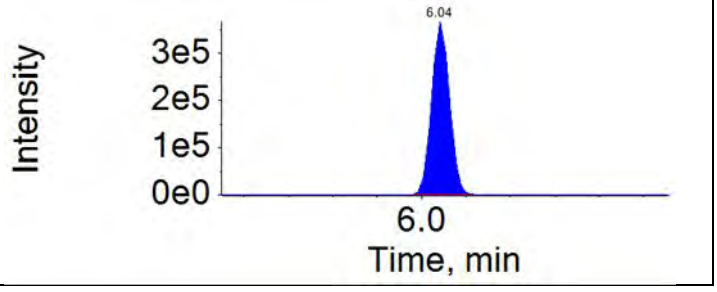
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





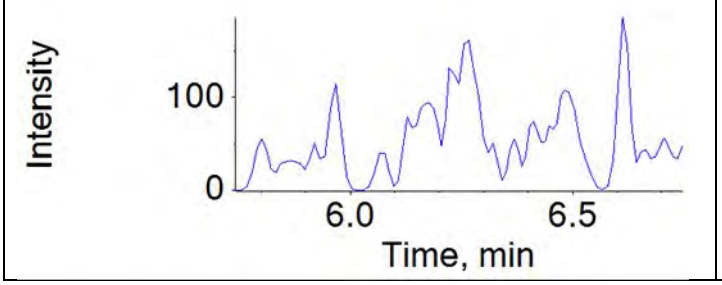
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0

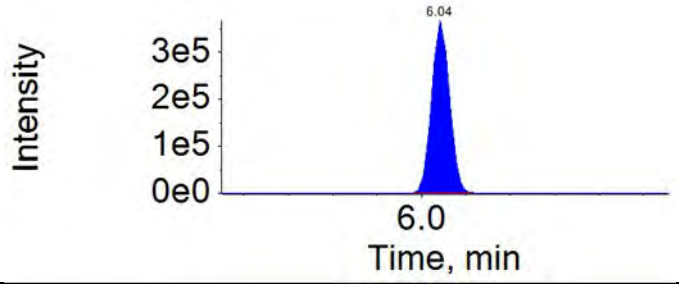




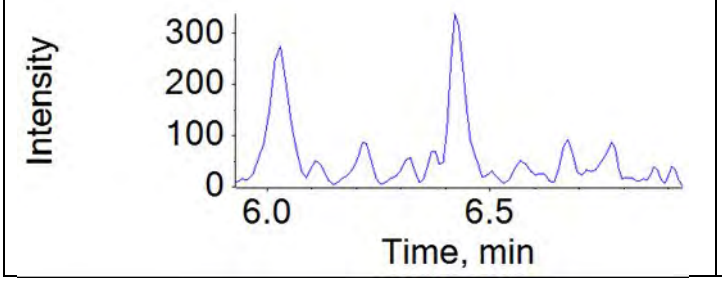
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

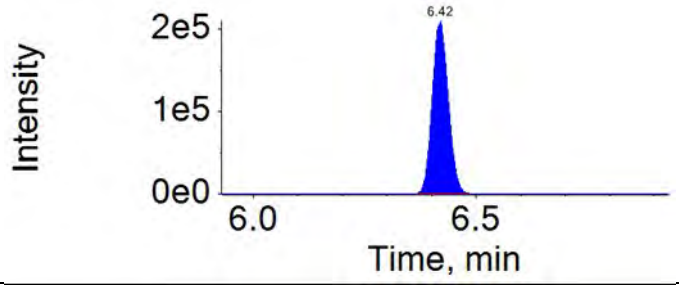
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



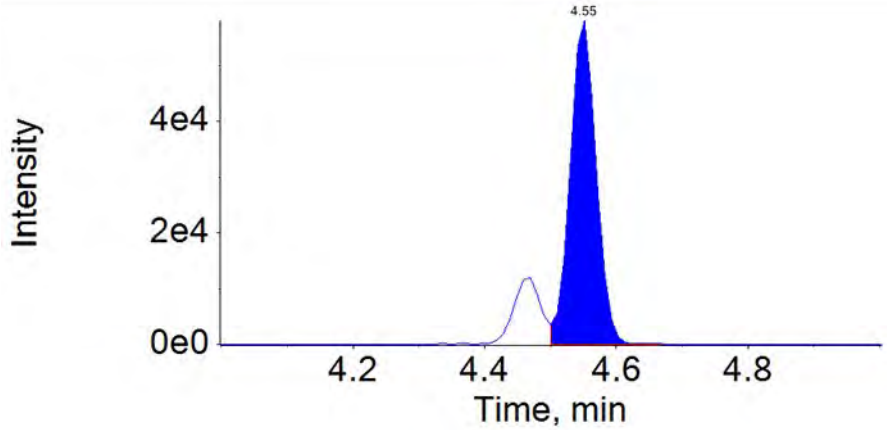


APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

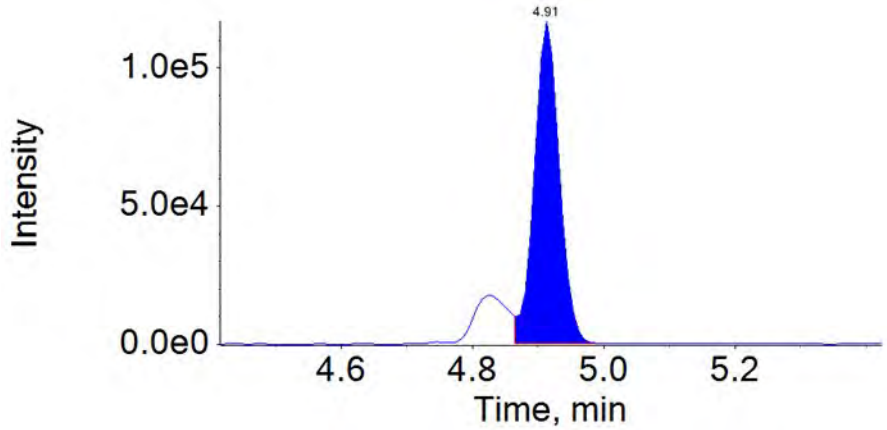
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
160647.0
Mass Range:
399.0 / 80.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



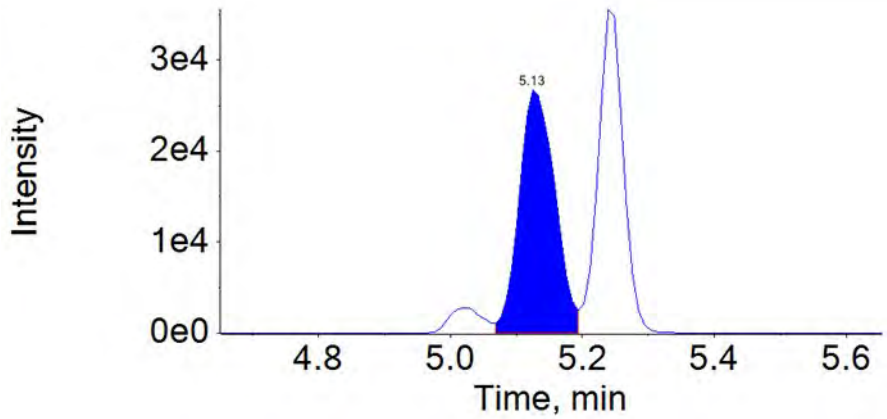
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
310088.6
Mass Range:
413.0 / 369.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



Integration Comment: incorrect integration

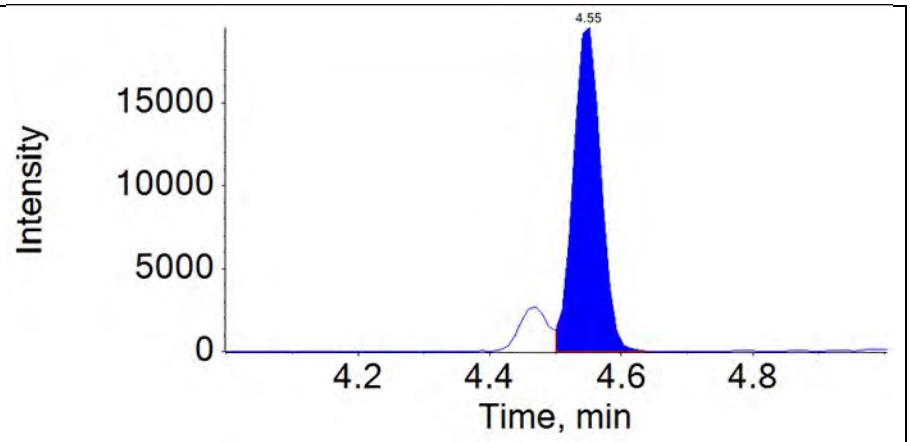
Component Name:
PFOS
RT (min.):
5.13
Peak Area:
100727.1
Mass Range:
499.0 / 80.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



Integration Comment: incorrect integration

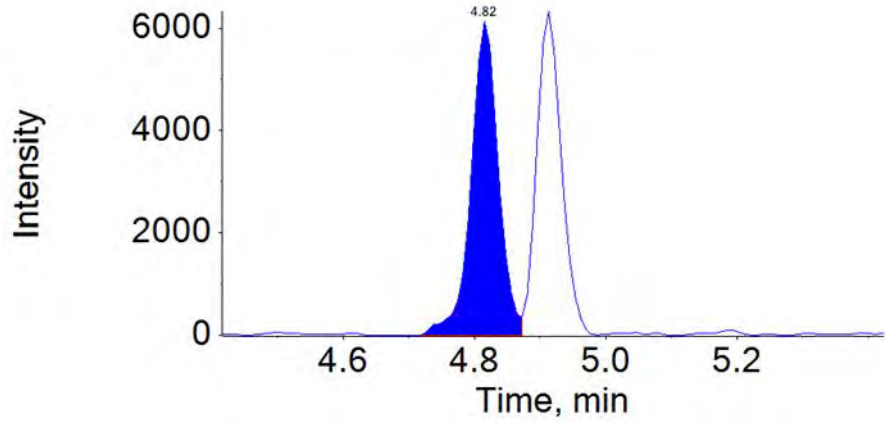
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
57082.4
Mass Range:
399.0 / 99.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



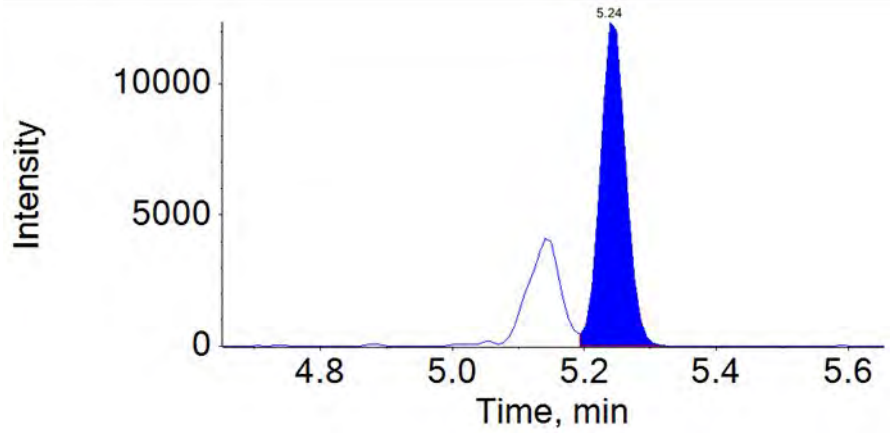
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.82
Peak Area:
17872.5
Mass Range:
413.0 / 169.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
33455.4
Mass Range:
499.0 / 99.0
File Name:
18DEC26D-63.wiff
Sample Name:
9934786RE



Integration Comment: incorrect integration

Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Ion Ratio Report

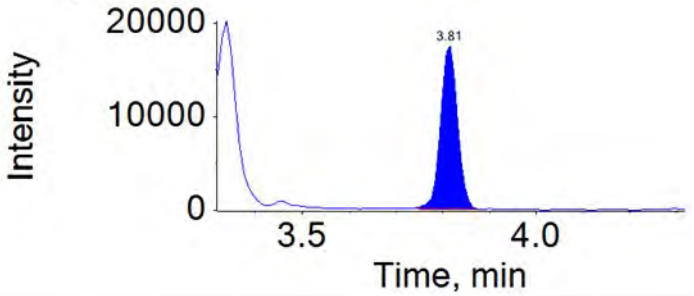
Sample Name: 9934786RE **Instrument Name:** LM27631 **File Name:** 18DEC26D-63.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	43636.1	A	N/A	0.3714			
PFBS_2	3.81	1.00	16204.3	A	N/A	0.3714	3	50	
PFHxA	4.16	1.00	55355.7	A	N/A	0.0155			
PFHxA_2	4.16	1.00	858.2	A	N/A	0.0155	27	50	
PFHpA	4.55	1.00	26156.3	A	N/A	0.0514			
PFHpA_2	4.55	1.00	1345.4	A	N/A	0.0514	-9	50	
PFHxS	4.55	1.00	194867.0	M	N/A	0.3341			
PFHxS_2	4.55	1.00	65098.9	M	N/A	0.3341	-7	50	
PFOA	4.91	1.00	372094.1	M	N/A	0.0928			
PFOA_2	4.87	0.99	34528.1	M	N/A	0.0928	71	50	OOS
PFOS	5.20	0.99	206396.8	M	N/A	0.2329			
PFOS_2	5.24	1.00	48078.0	M	N/A	0.2329	-24	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

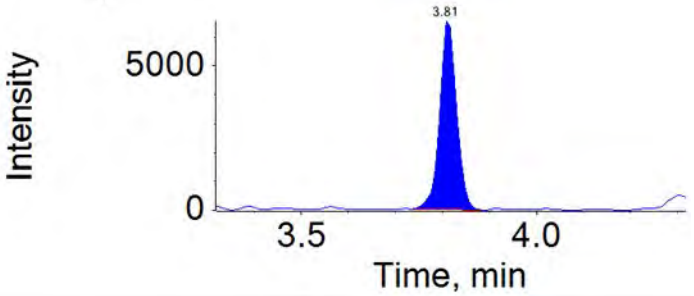
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

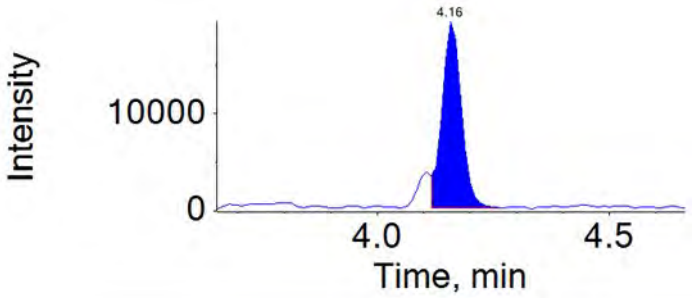
Component: PFBS
Primary Mass: 299.0 / 80.0



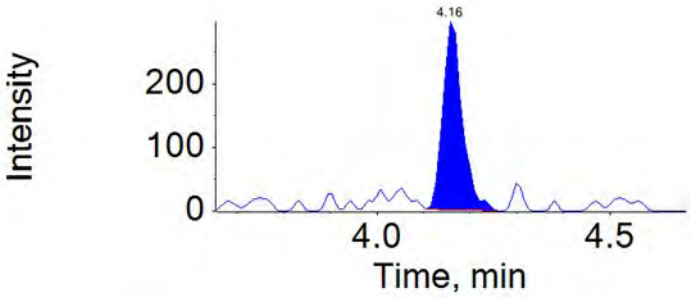
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



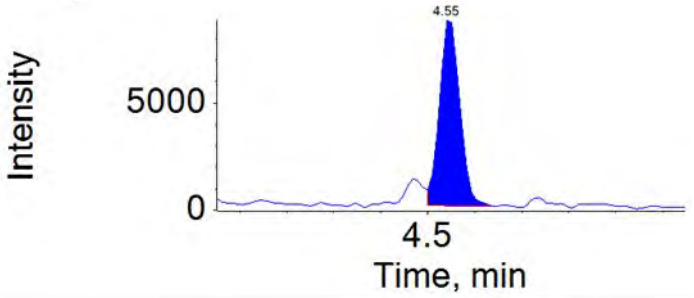
Component: PFHxA
Primary Mass: 313.0 / 269.0



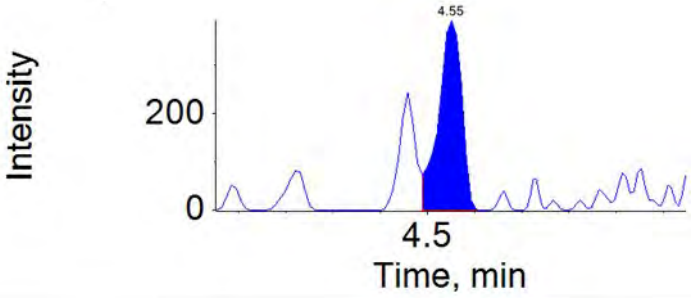
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



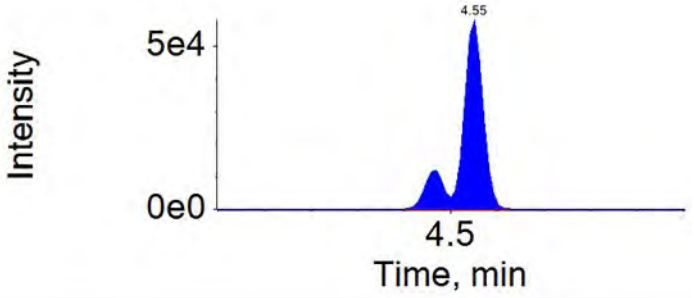
Component: PFHpA
Primary Mass: 363.0 / 319.0



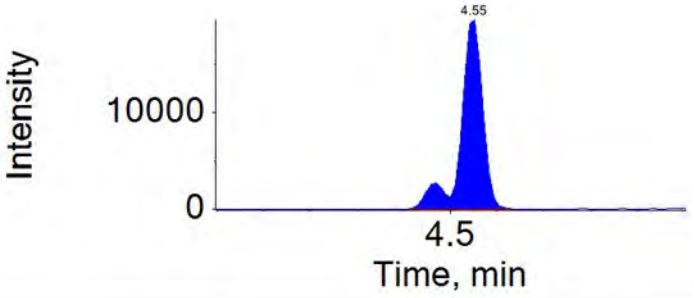
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



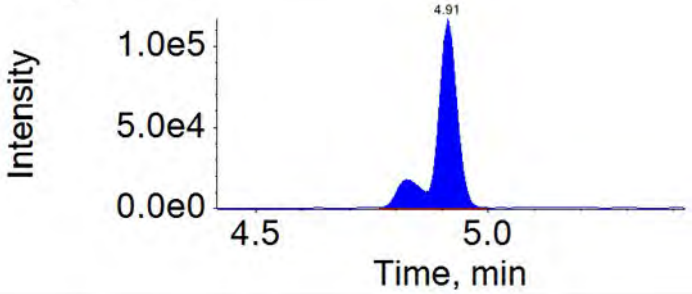
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



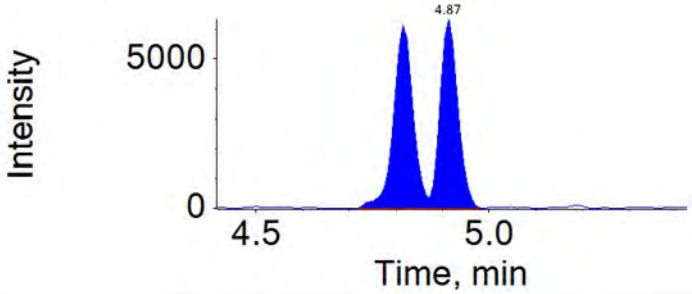
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

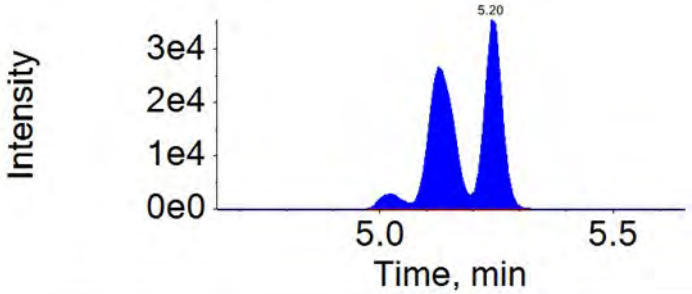
Component: PFOA
Primary Mass: 413.0 / 369.0



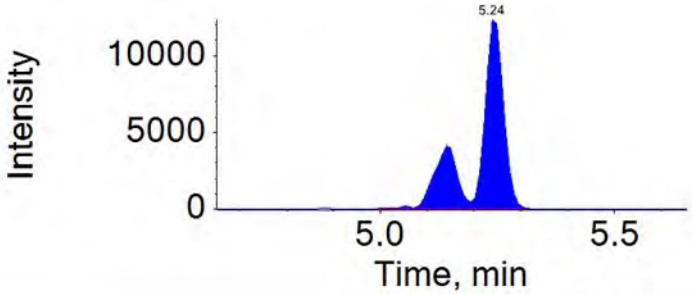
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



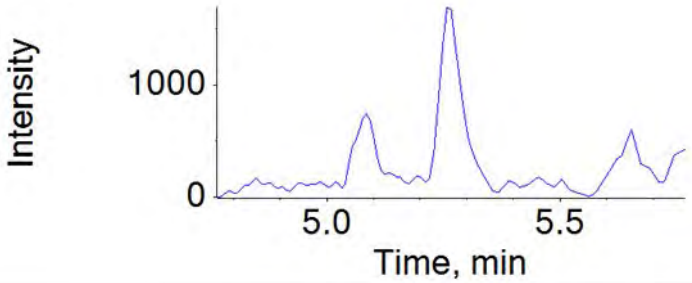
Component: PFOS
Primary Mass: 499.0 / 80.0



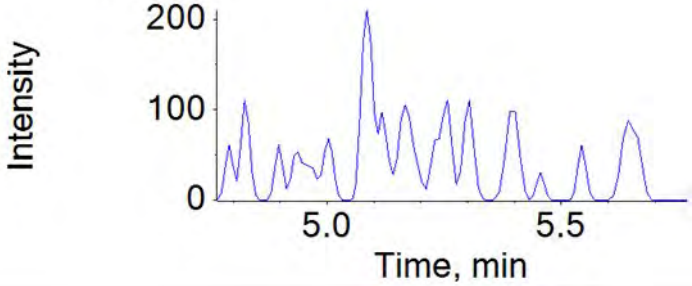
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



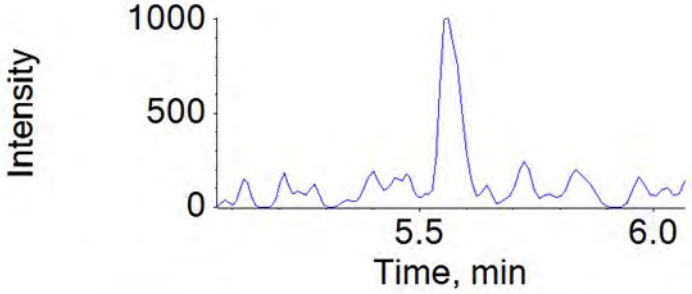
Component: PFNA
Primary Mass: 463.0 / 419.0



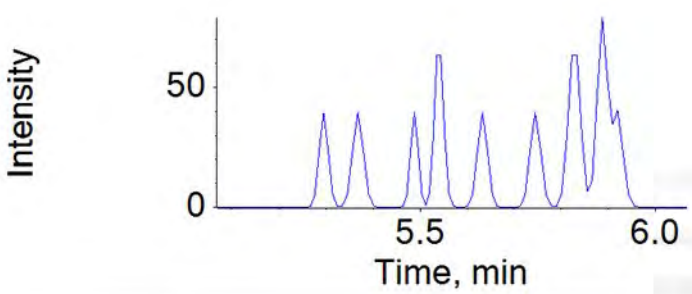
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



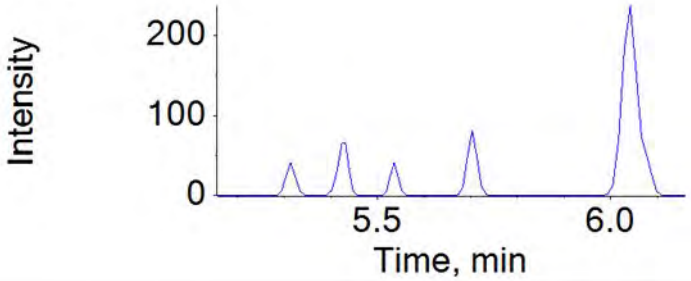
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



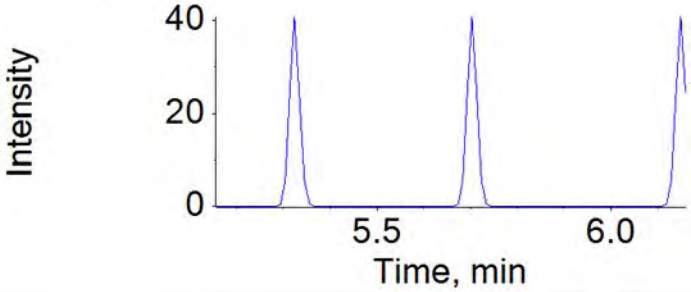
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

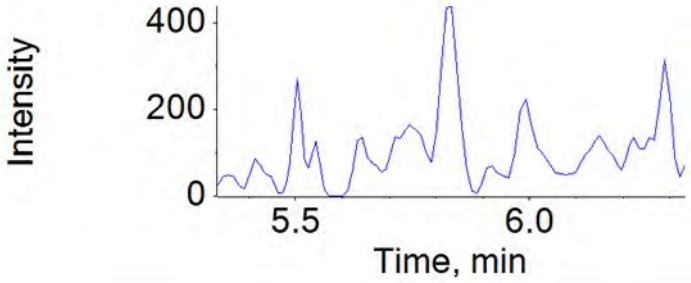
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



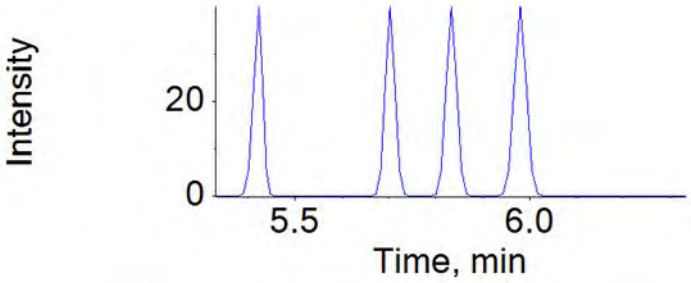
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



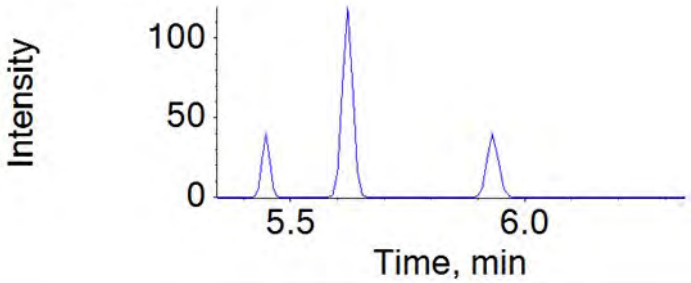
Component: PFUnDA
Primary Mass: 563.0 / 519.0



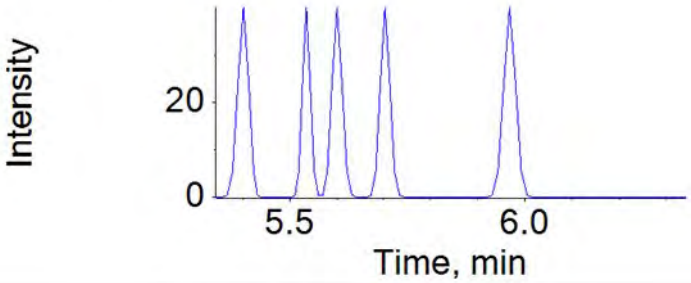
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



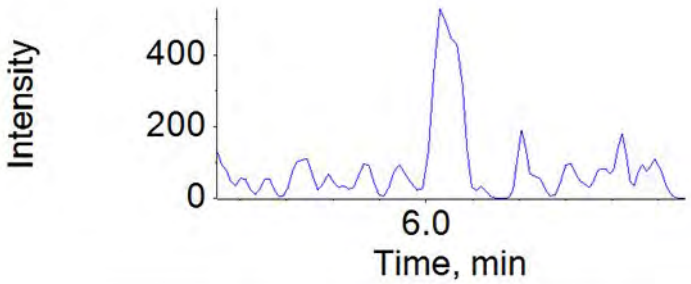
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



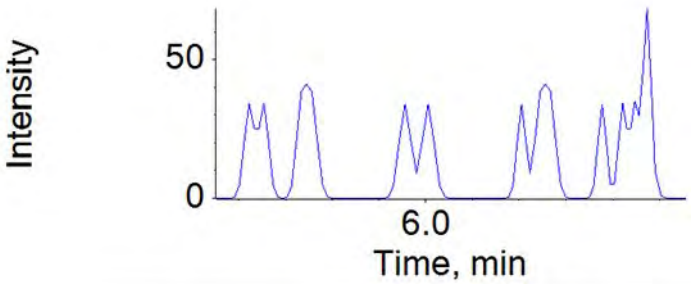
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



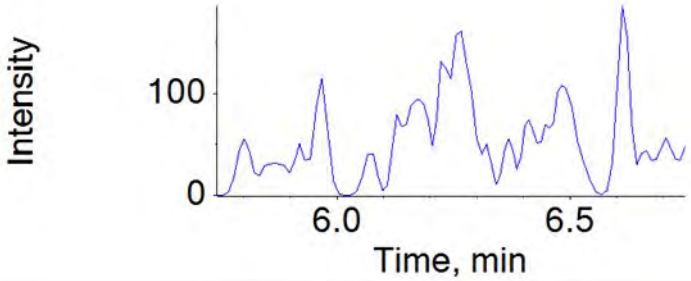
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



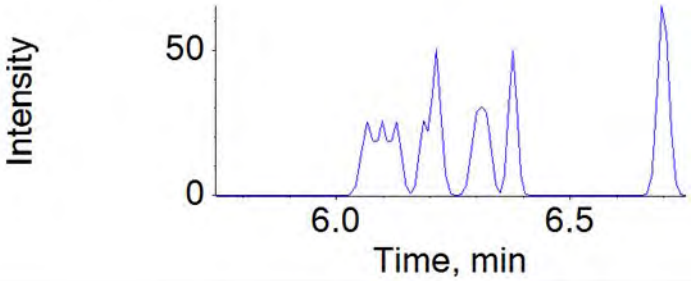
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

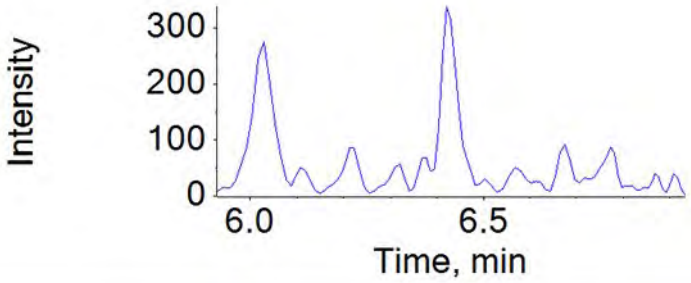
Component: PFTrDA
Primary Mass: 663.0 / 619.0



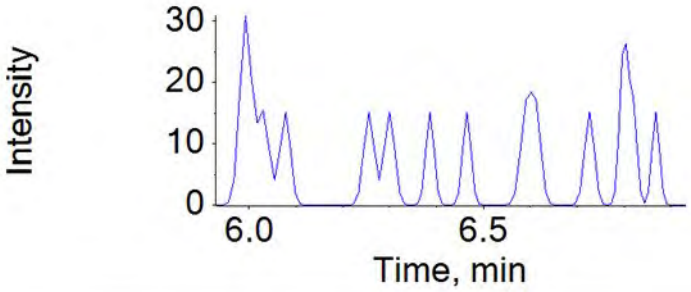
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934787			**Data File:**		18DEC19D-38.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-PMW-2-01 Grab Groundwater			**Acquis Date:**		2018-12-19T15:41:20
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	64			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28392			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	956513.5	942675.8	1	50	
13C2-PFOA	5.0	513077.0	520268.5	-1	50	
13C4-PFOS	4.8	301248.0	307968.9	-2	50	
13C2-PFDA	5.0	485150.0	487375.3	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	401014.7	13C3-PFBA	956513.5	0.419	16.378	14.378	88	50-150	
E13C5-PFHxA	676179.7	13C2-PFOA	513077.0	1.318	17.611	16.603	94	50-150	
E13C3-PFHxS	316232.7	13C2-PFOA	513077.0	0.616	16.660	16.427	99	50-150	
E13C4-PFHpA	555237.6	13C2-PFOA	513077.0	1.082	17.611	16.464	93	50-150	
E13C8-PFOA	947613.3	13C2-PFOA	513077.0	1.847	17.611	17.887	102	50-150	
E13C8-PFOS	287963.3	13C4-PFOS	301248.0	0.956	16.836	15.056	89	50-150	
E13C9-PFNA	593987.2	13C4-PFOS	301248.0	1.972	17.611	15.799	90	50-150	
E13C6-PFDA	817159.8	13C2-PFDA	485150.0	1.684	17.611	16.899	96	50-150	
Ed3-NMeFOSAA	184783.0	13C2-PFDA	485150.0	0.381	17.611	14.759	84	50-150	
E13C7-PFUnDA	498495.2	13C2-PFDA	485150.0	1.028	17.611	15.149	86	50-150	
Ed5-NEtFOSAA	133058.2	13C2-PFDA	485150.0	0.274	17.611	14.231	81	50-150	
E13C2-PFDoDA	946647.4	13C2-PFDA	485150.0	1.951	17.611	14.459	82	50-150	
E13C2-PFTeDA	501938.4	13C2-PFDA	485150.0	1.035	17.611	10.269	58	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

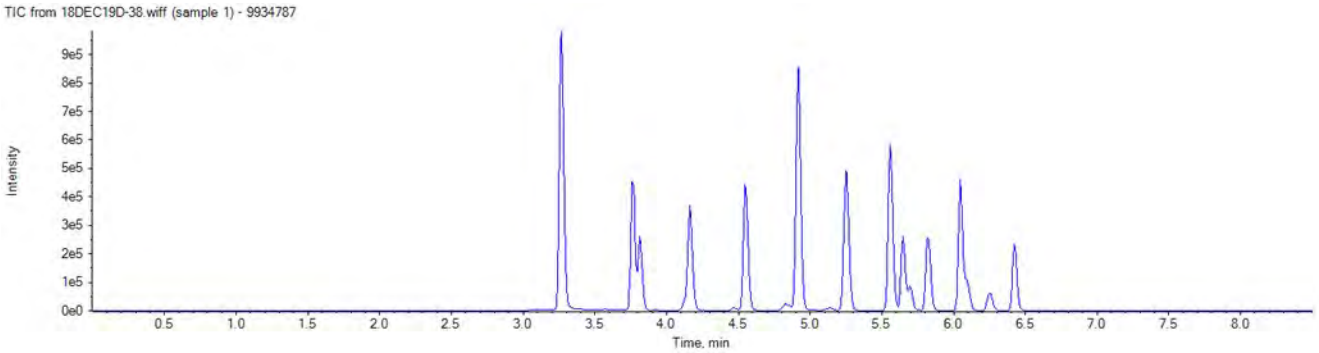
Analyte Quantitation Peak Table

Sample Name: 9934787 **Instrument Name:** LM27631 **File Name:** 18DEC19D-38.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28392	1.000	1.00	1.000

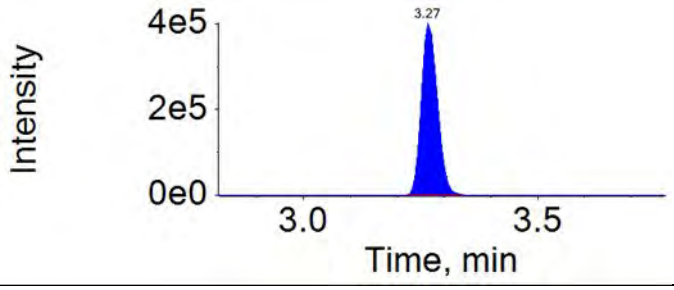
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.82	1.000	82000.7		A	13C3-PFBS	3.82	401014.7	0.204	3.555
PFHxA	4.16	1.000	102016.4		M	13C5-PFHxA	4.16	676179.7	0.151	2.189
PFHpA	4.55	1.000	32567.0		A	13C4-PFHpA	4.55	555237.6	0.059	0.685
PFHxS	4.55	1.000	96659.8		M	13C3-PFHxS	4.55	316232.7	0.306	5.236
PFOA	4.92	1.000	480094.2		M	13C8-PFOA	4.92	947613.3	0.507	9.453
PFOS	5.15	0.980	42401.8		M	13C8-PFOS	5.25	287963.3	0.147	2.271
PFNA	5.26	1.000	14579.4		A	13C9-PFNA	5.26	593987.2	0.025	0.344
PFDA	5.56	1.000	15572.5		A	13C6-PFDA	5.56	817159.8	0.019	0.347
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	184783.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	498495.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	133058.2	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	946647.4	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	946647.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	501938.4	N/A	

Total Ion Chromatogram

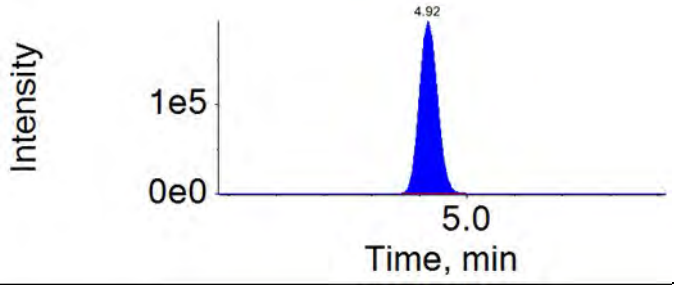


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

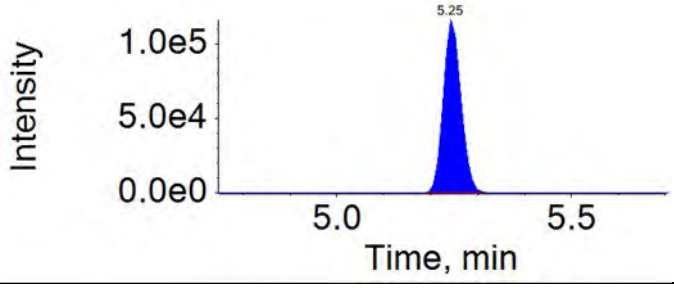
Injection Standard: 13C3-PFBA
216.0 / 172.0



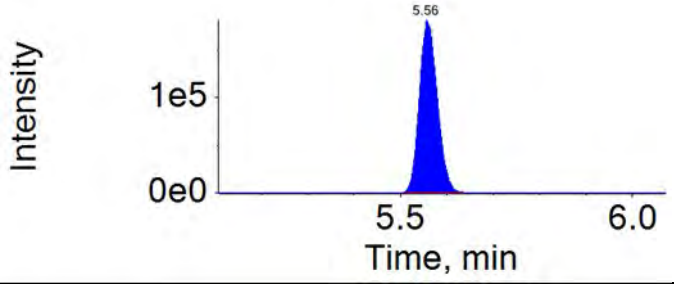
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

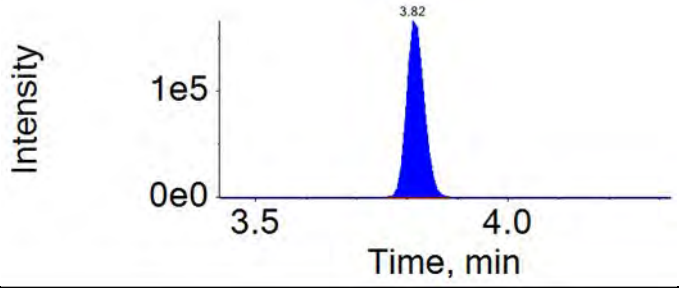


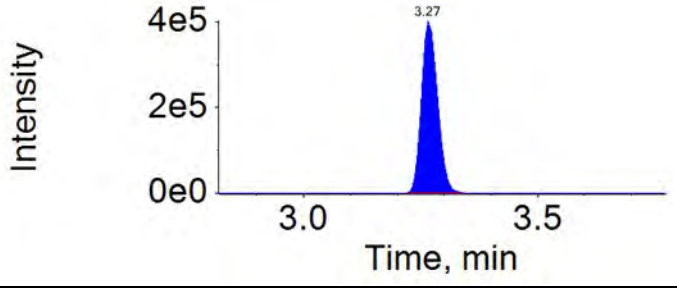
Injection Standard: 13C2-PFDA
515.0 / 470.0



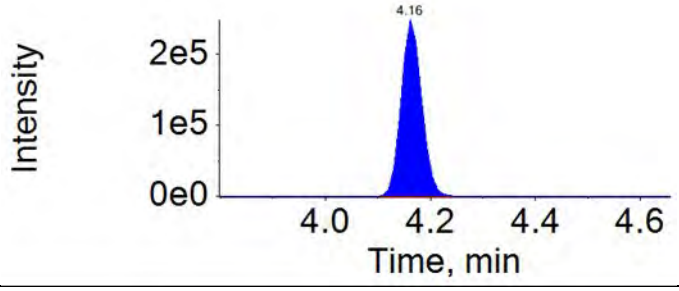
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

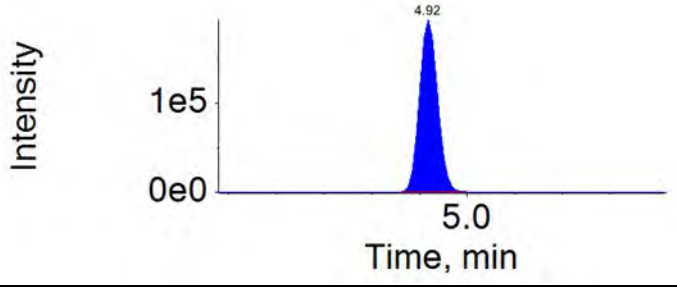
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



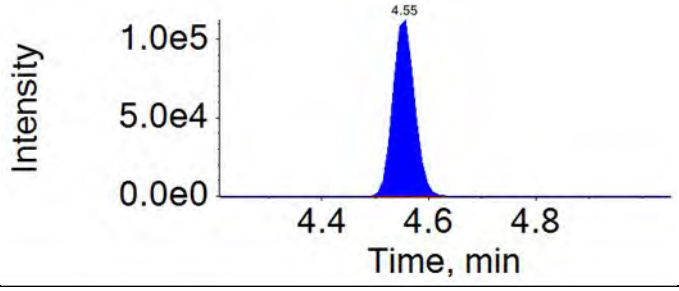


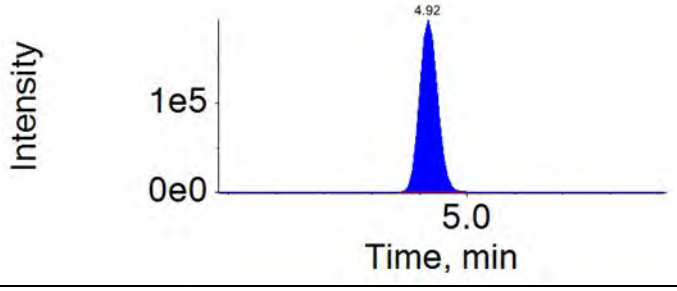
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



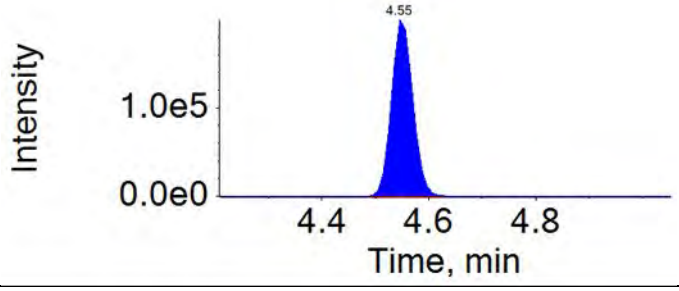


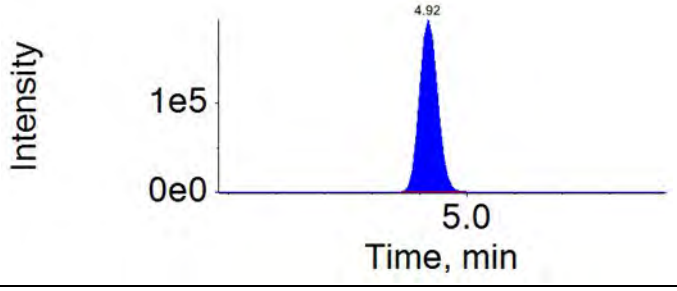
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



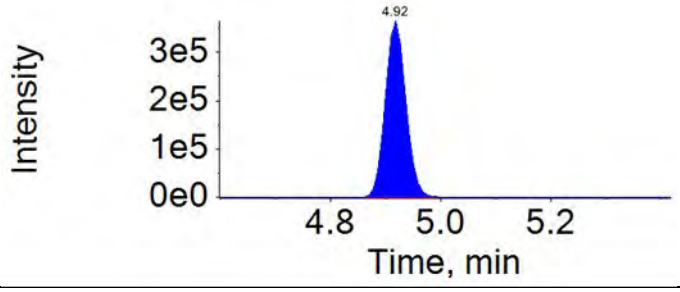
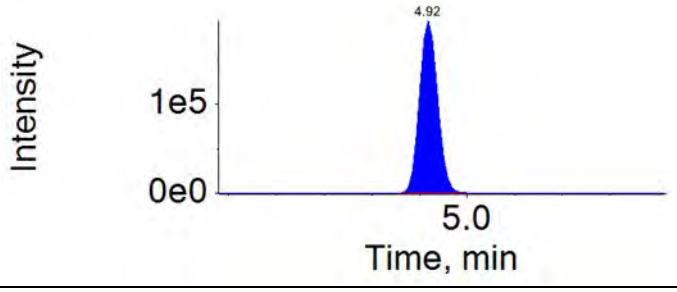


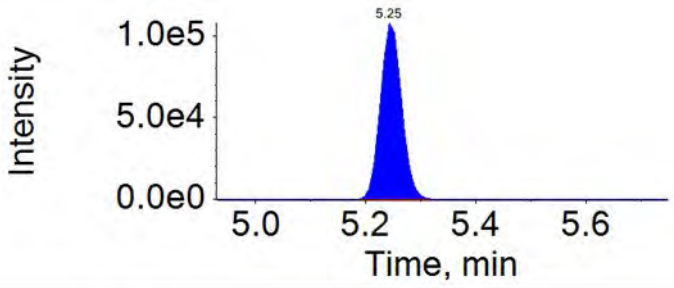
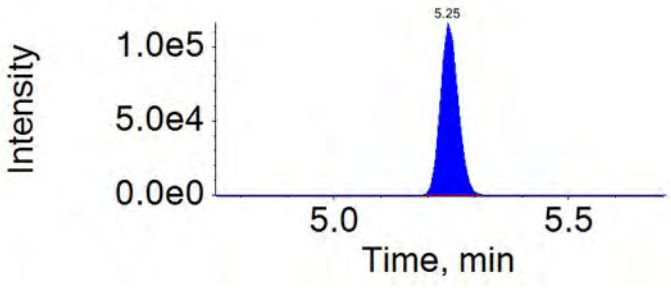
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

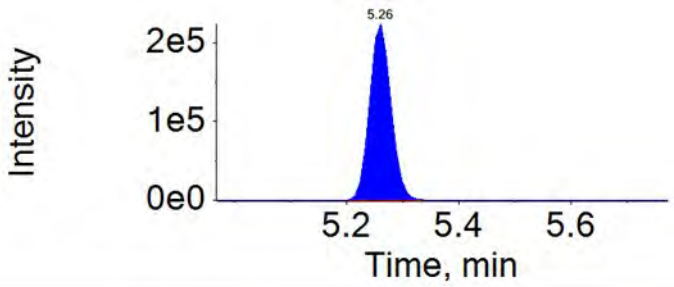
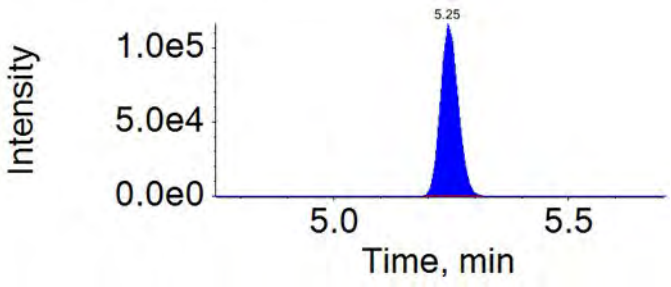


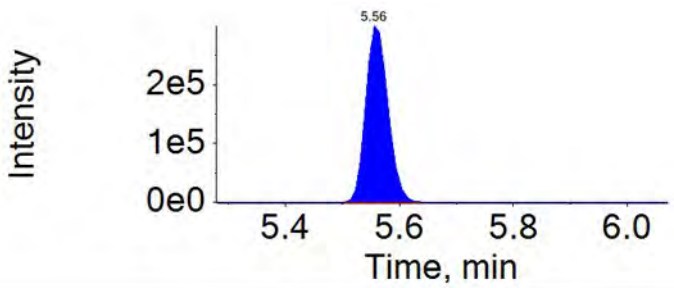
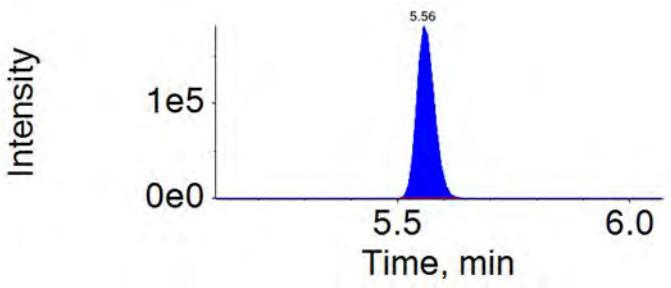


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

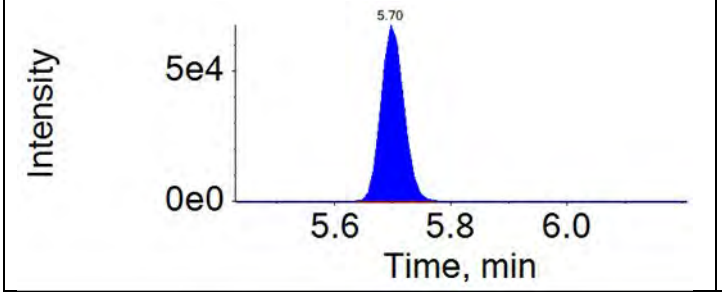
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

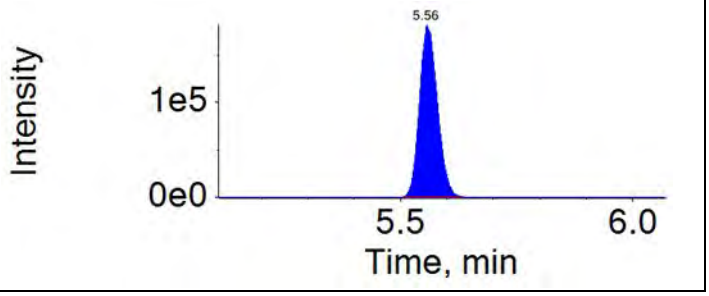
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

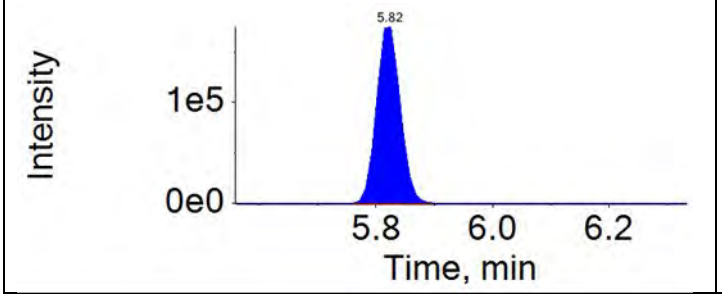
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

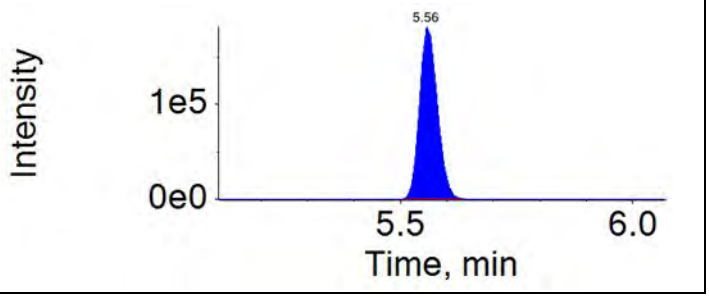
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



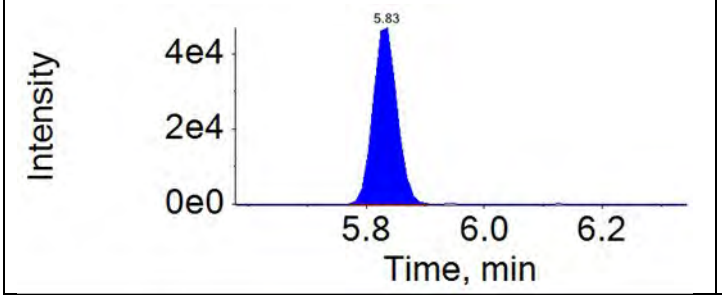


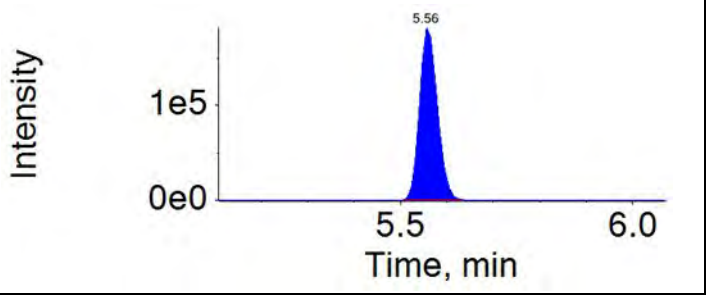
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



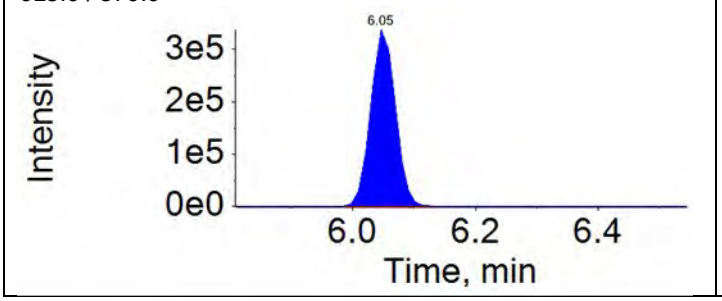


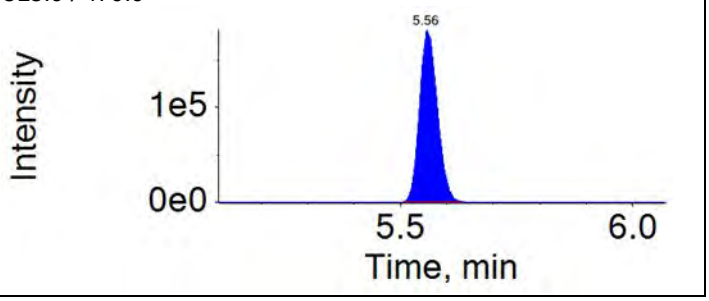
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0

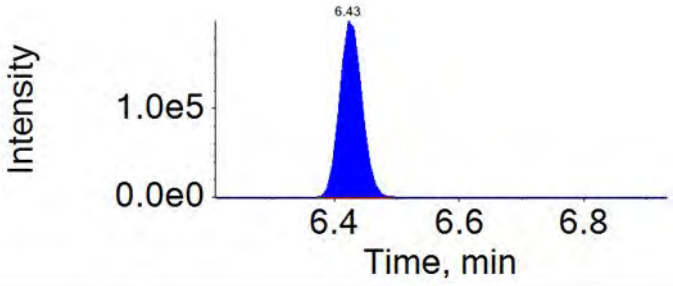
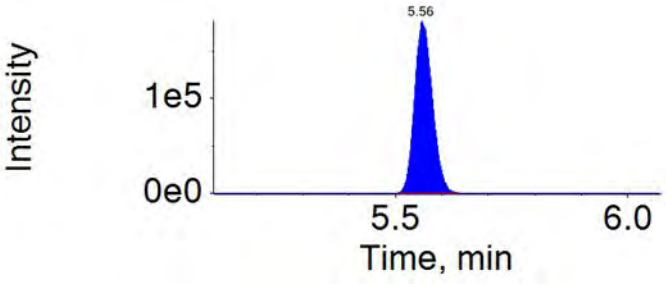




APPROVED
By MSM at 10:14 am, 12/20/18

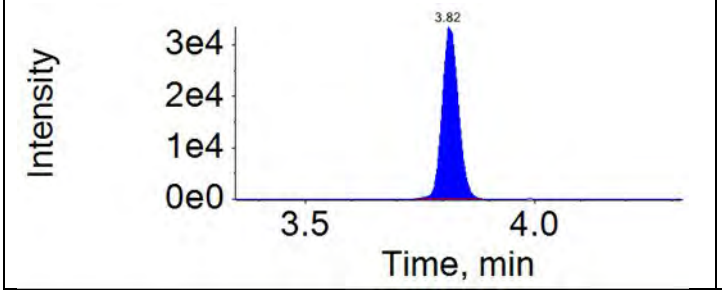
REVIEWED
By umar at 4:41 pm, 12/28/18

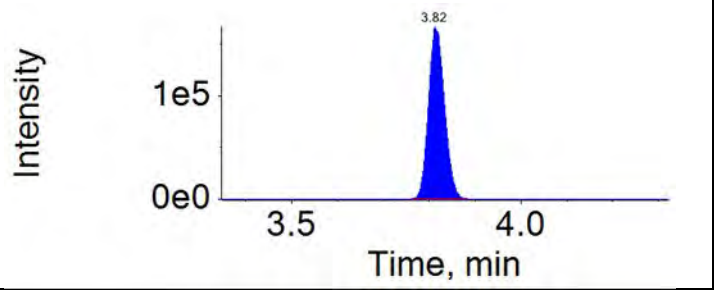
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

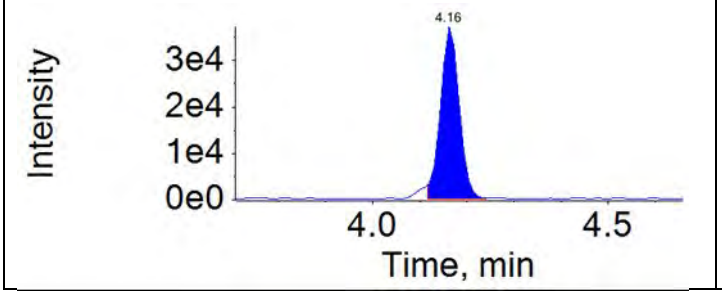
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

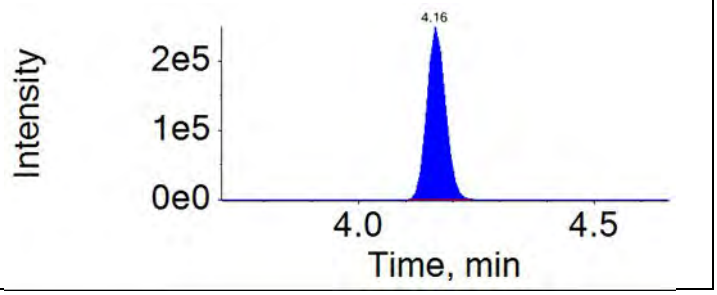
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



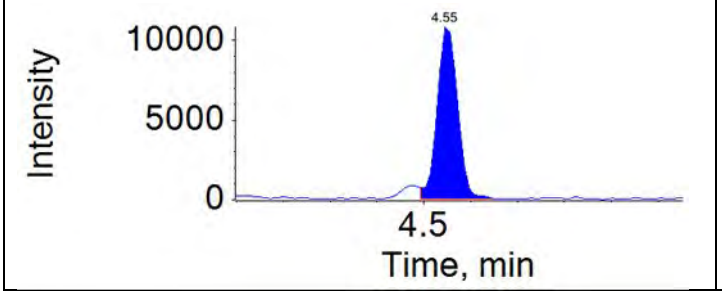


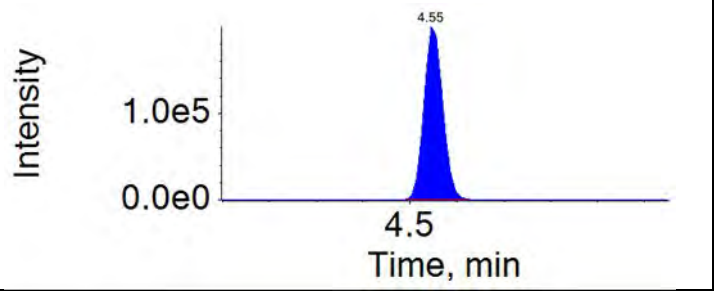
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



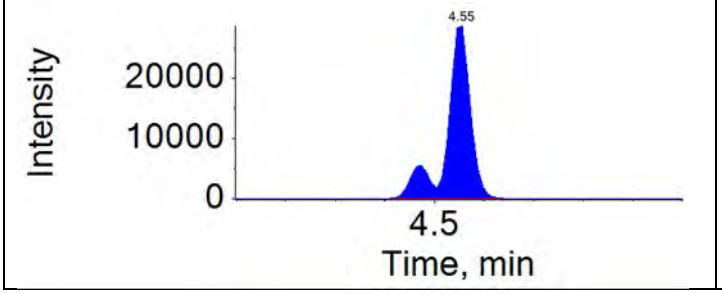


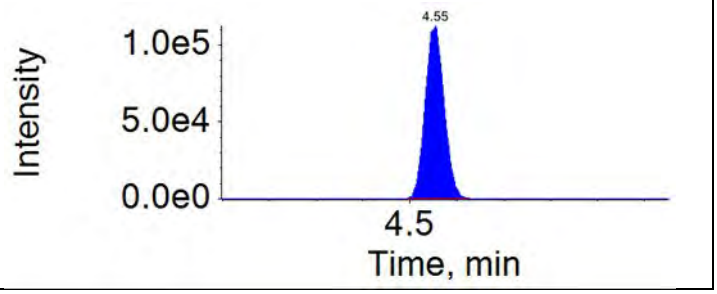
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





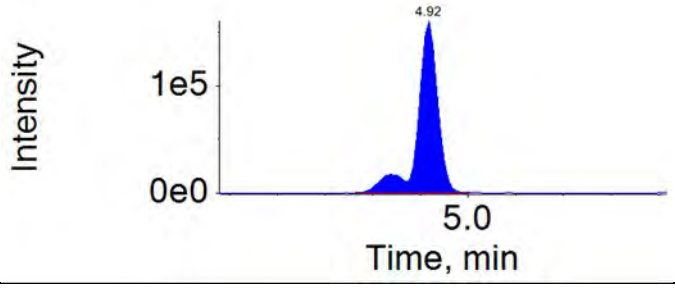
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

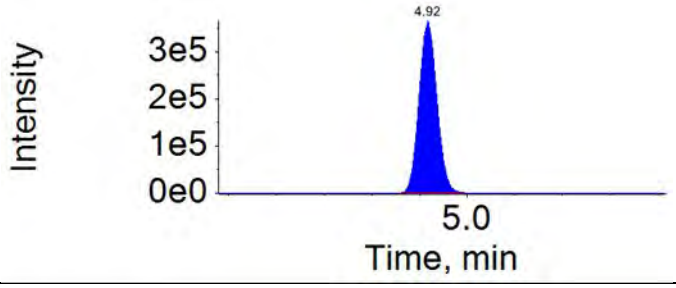




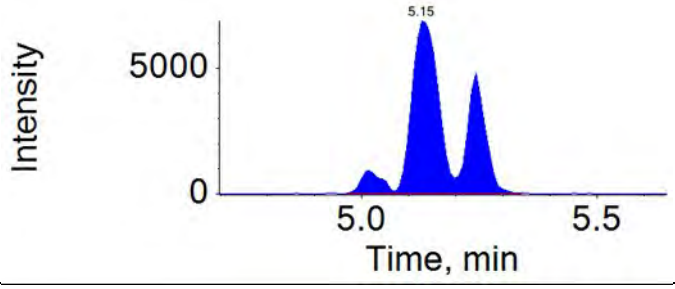
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

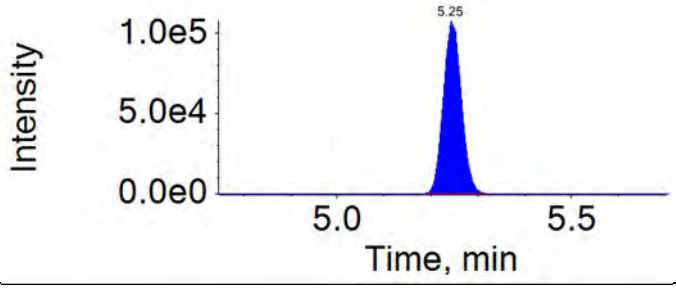
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



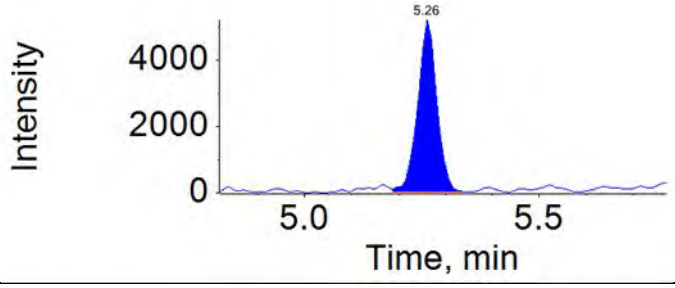


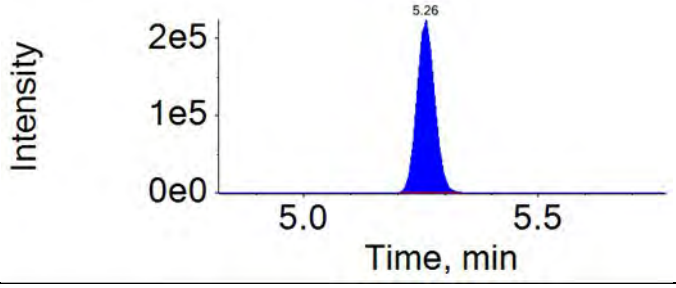
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



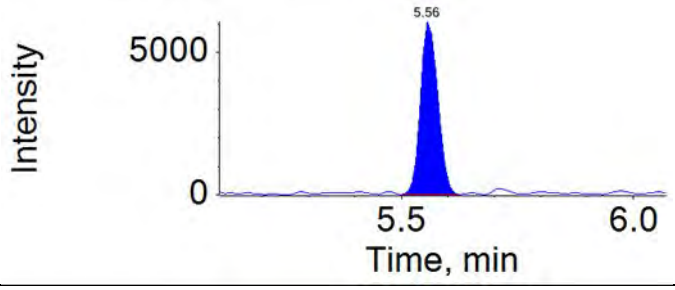


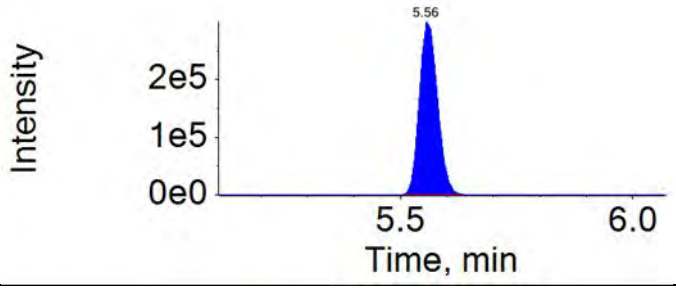
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



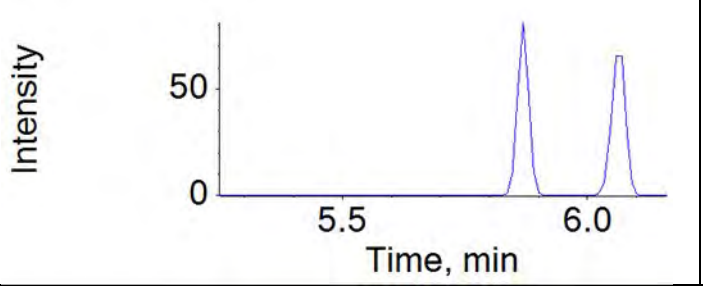


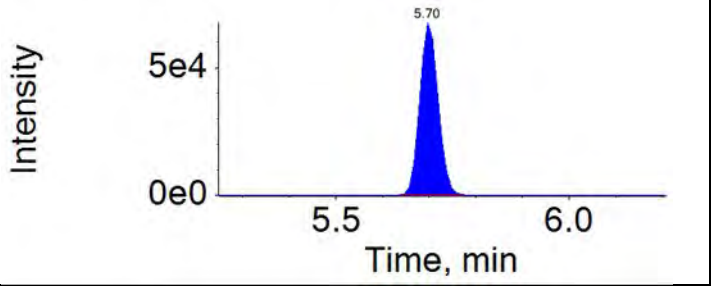
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

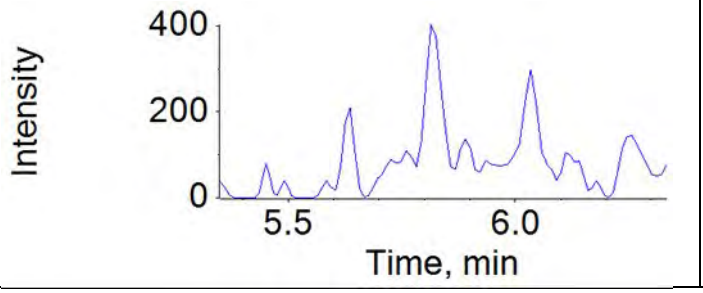
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

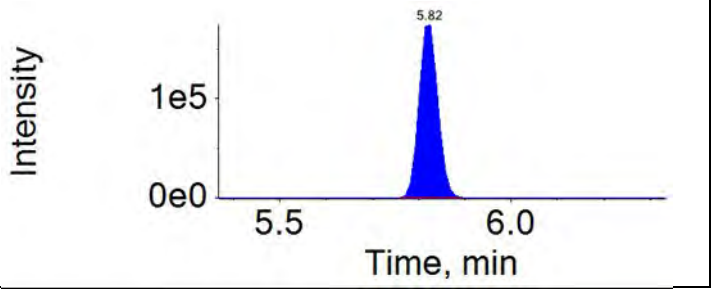
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



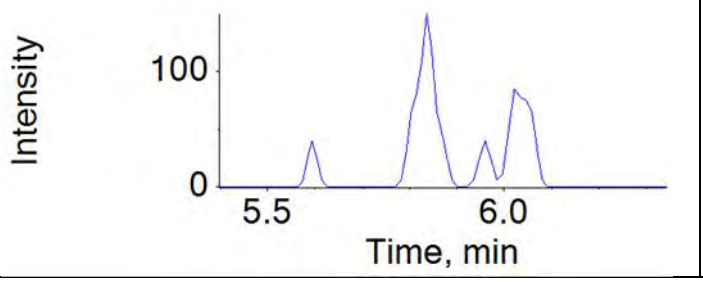


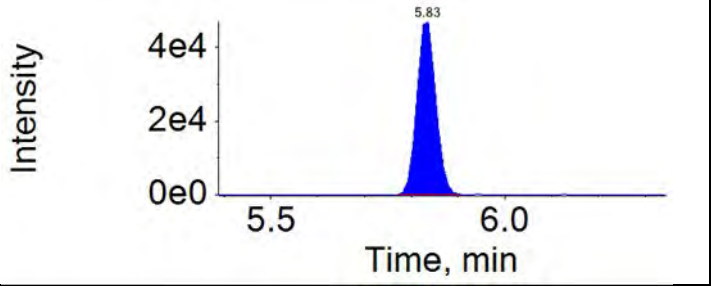
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



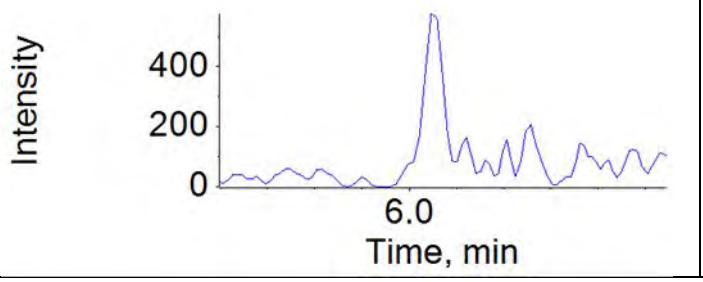


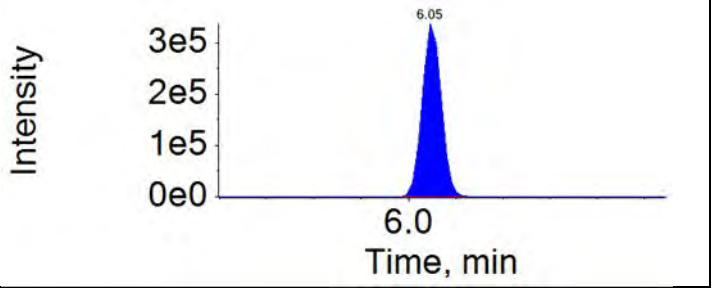
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



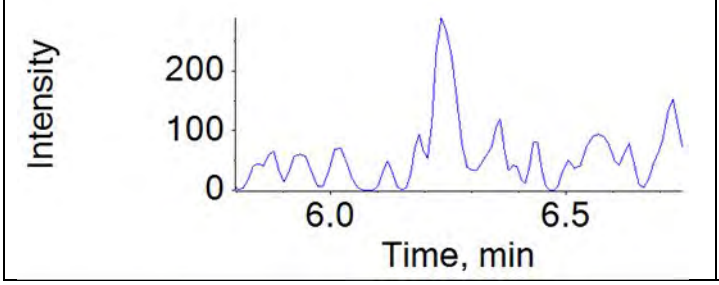


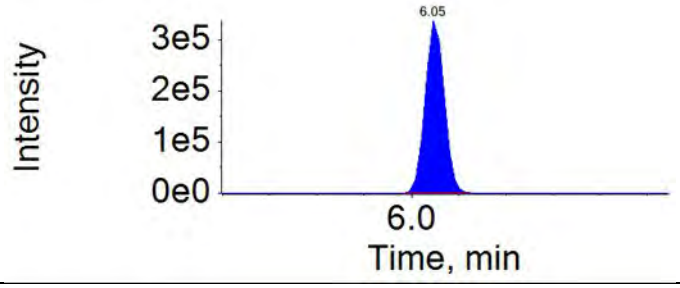
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

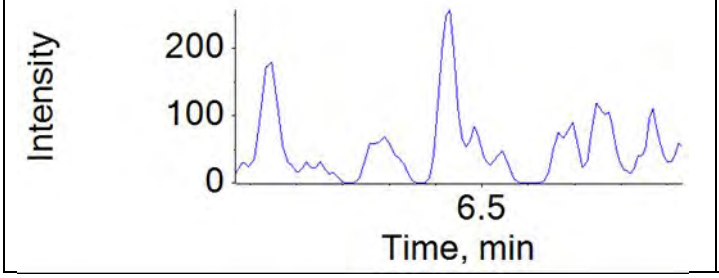
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

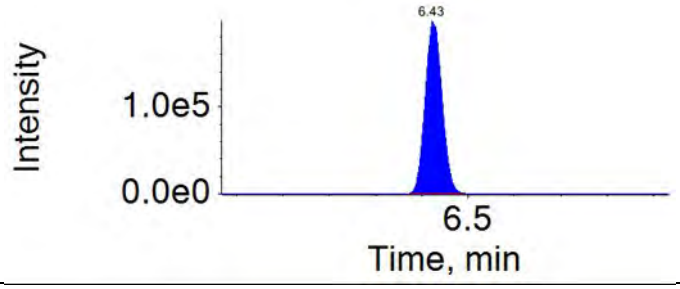
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





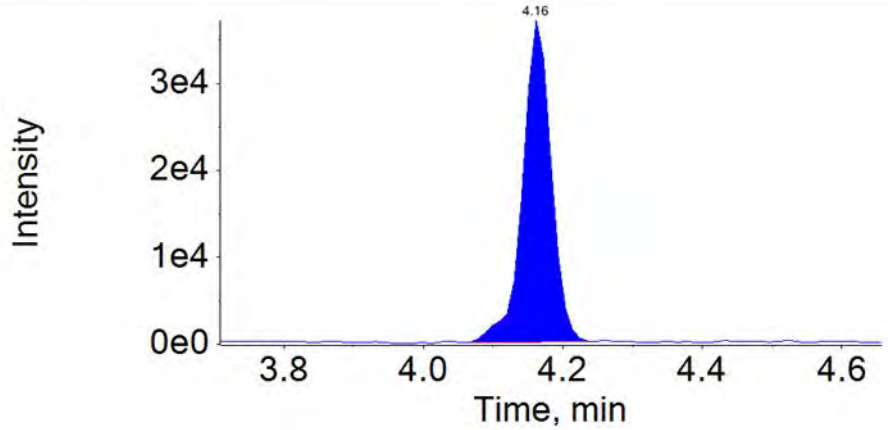
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





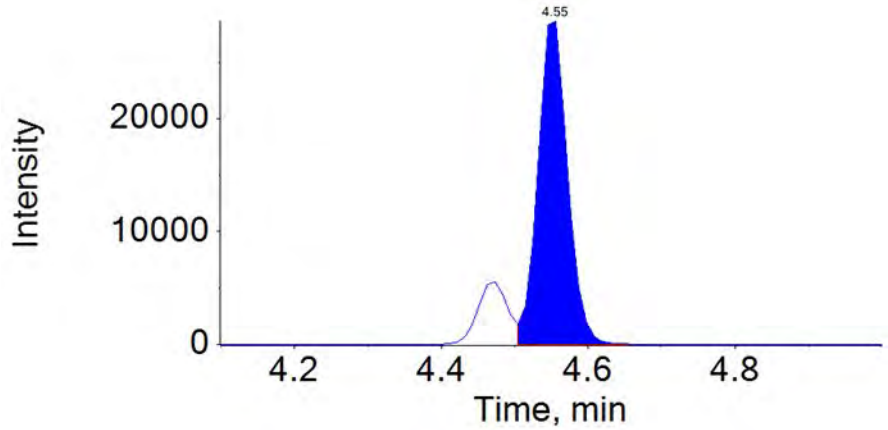
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxA
RT (min.): 4.16
Peak Area: 105338.7
Mass Range: 313.0 / 269.0
File Name: 18DEC19D-38.wiff
Sample Name: 9934787



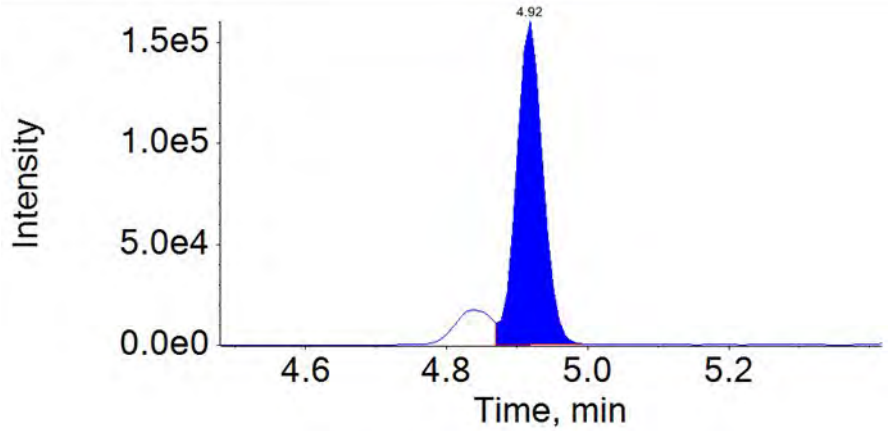
Integration Comment: incorrect integration

Component Name: PFHxS
RT (min.): 4.55
Peak Area: 80831.0
Mass Range: 399.0 / 80.0
File Name: 18DEC19D-38.wiff
Sample Name: 9934787



Integration Comment: incorrect integration

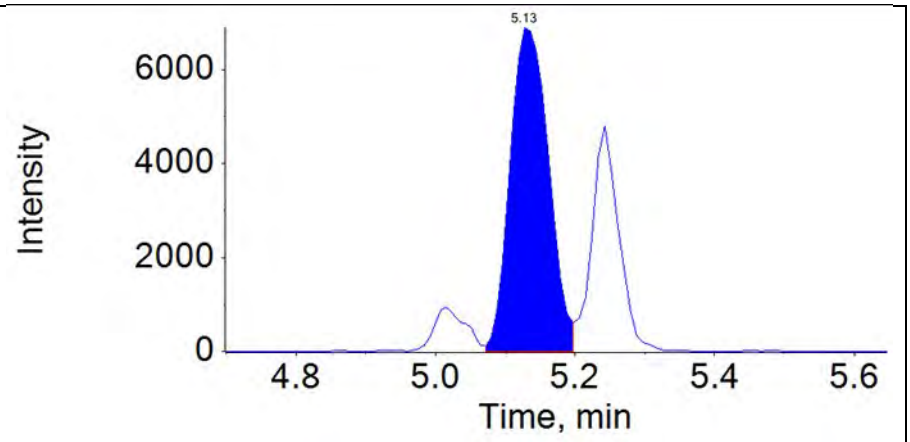
Component Name: PFOA
RT (min.): 4.92
Peak Area: 416702.2
Mass Range: 413.0 / 369.0
File Name: 18DEC19D-38.wiff
Sample Name: 9934787



Integration Comment: incorrect integration

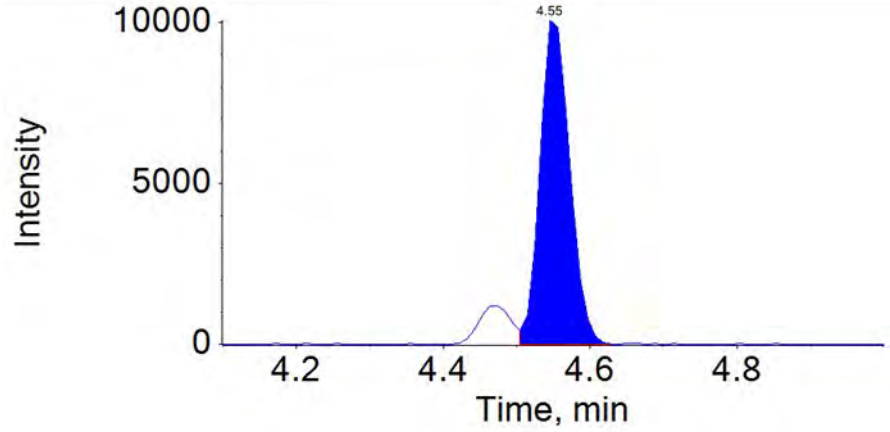
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.13
Peak Area:
26404.7
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-38.wiff
Sample Name:
9934787



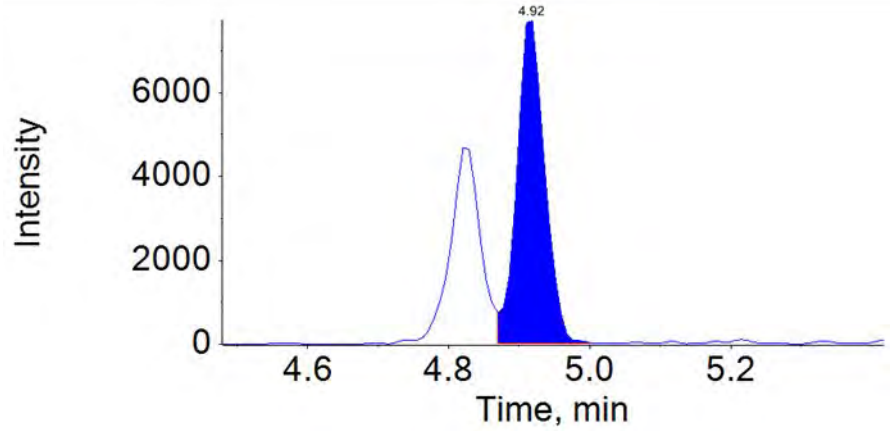
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
28478.4
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-38.wiff
Sample Name:
9934787



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
21314.6
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-38.wiff
Sample Name:
9934787

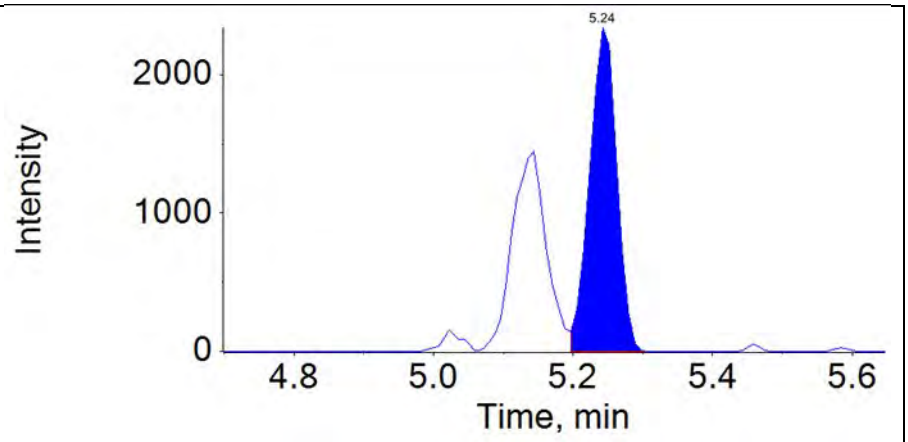


Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
6327.5
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-38.wiff
Sample Name:
9934787



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

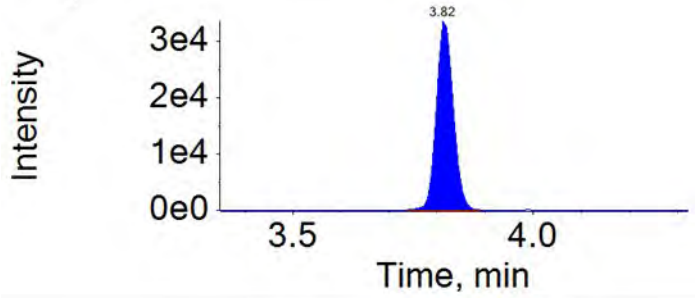
Sample Name: 9934787 **Instrument Name:** LM27631 **File Name:** 18DEC19D-38.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	82000.7	A	N/A	1.0000			
PFBS_2	3.82	1.00	29888.8	A	N/A	0.3645	-1	50	
PFHxA	4.16	1.00	102016.4	M	N/A	1.0000			
PFHxA_2	4.16	1.00	967.9	A	N/A	0.0095	-17	50	
PFHpA	4.55	1.00	32567.0	A	N/A	1.0000			
PFHpA_2	4.55	1.00	970.7	A	N/A	0.0298	-46	50	
PFHxS	4.55	1.00	96659.8	M	N/A	1.0000			
PFHxS_2	4.55	1.00	32148.3	M	N/A	0.3326	-1	50	
PFOA	4.92	1.00	480094.2	M	N/A	1.0000			
PFOA_2	4.91	1.00	35432.3	M	N/A	0.0738	25	50	
PFOS	5.15	0.98	42401.8	M	N/A	1.0000			
PFOS_2	5.23	1.00	11568.0	M	N/A	0.2728	-8	50	
PFNA	5.26	1.00	14579.4	A	N/A	1.0000			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	5.56	1.00	15572.5	A	N/A	1.0000			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

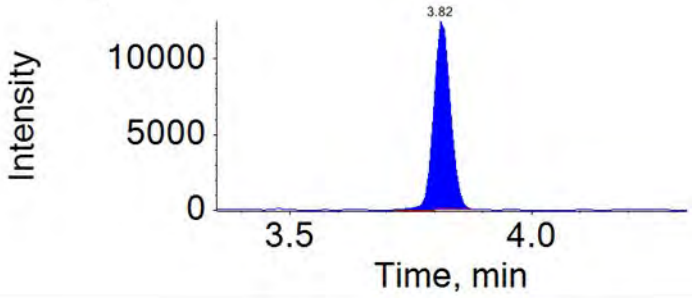
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

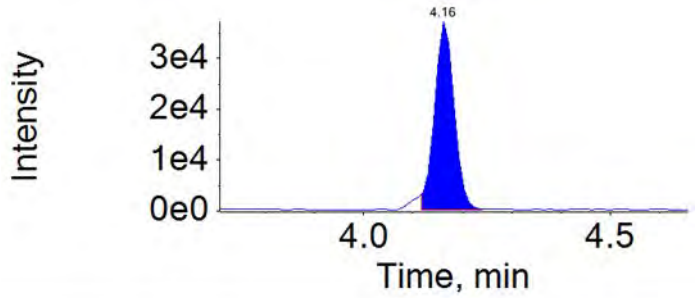
Component: PFBS
Primary Mass: 299.0 / 80.0



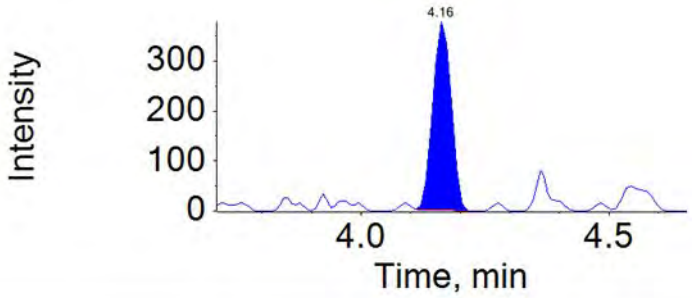
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



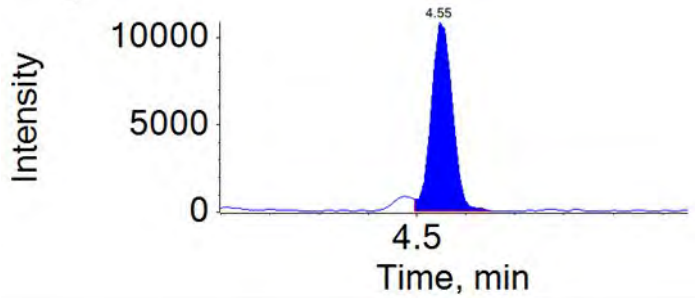
Component: PFHxA
Primary Mass: 313.0 / 269.0



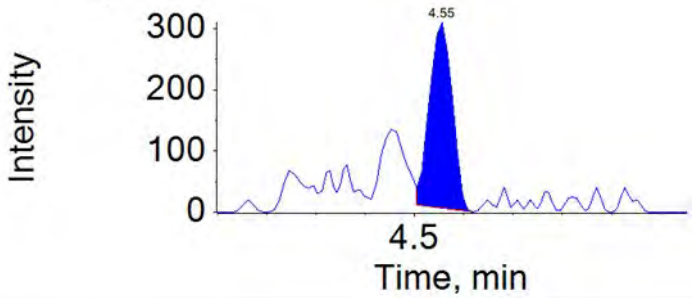
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



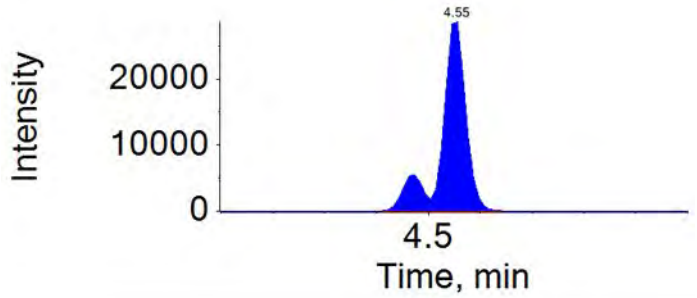
Component: PFHpA
Primary Mass: 363.0 / 319.0



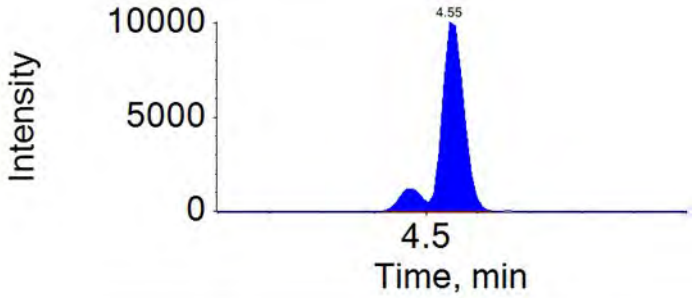
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



Component: PFHxS
Primary Mass: 399.0 / 80.0



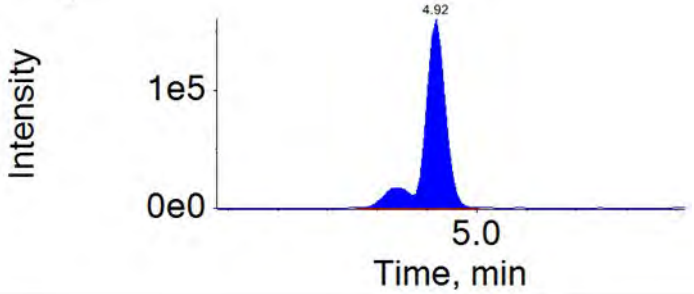
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Secondary Mass: 399.0 / 99.0



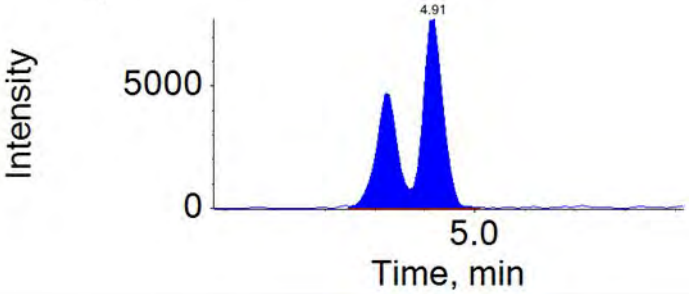
APPROVED
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REVIEWED
By umar at 4:41 pm, 12/28/18

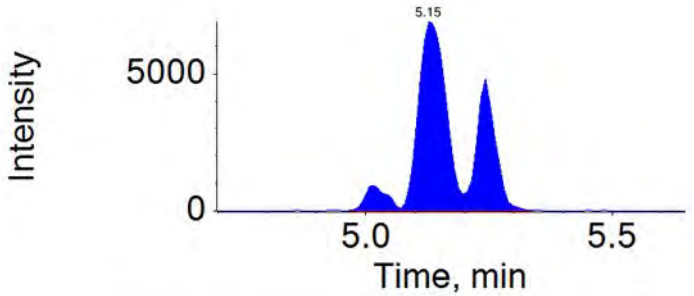
Component: PFOA
Primary Mass: 413.0 / 369.0



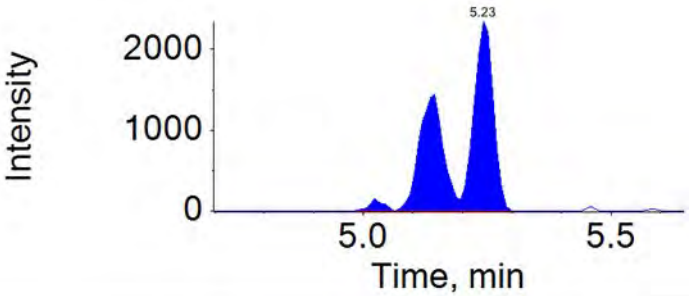
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



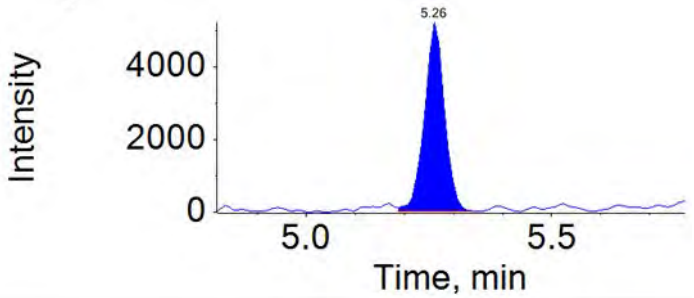
Component: PFOS
Primary Mass: 499.0 / 80.0



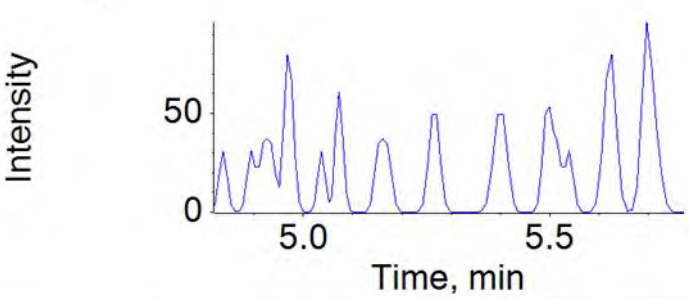
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



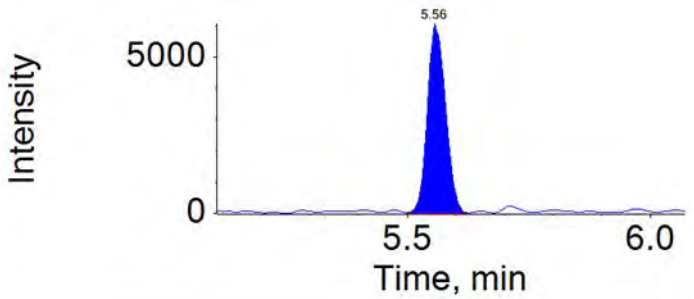
Component: PFNA
Primary Mass: 463.0 / 419.0



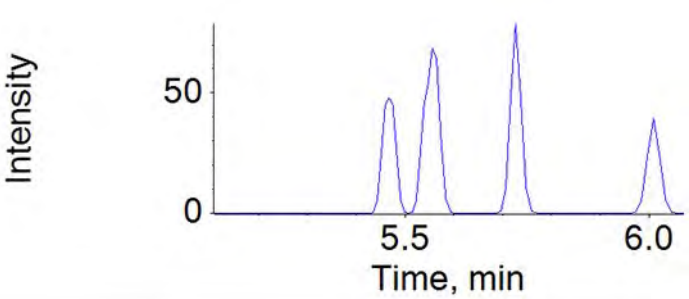
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



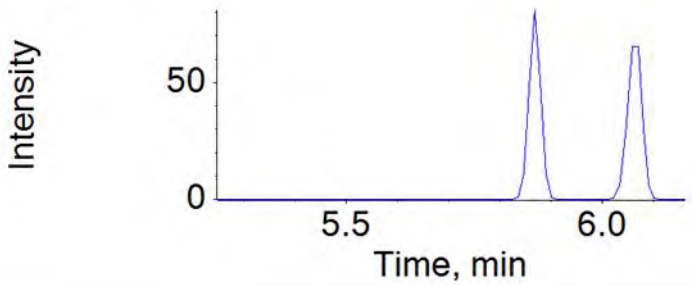
Component: PFDA
Primary Mass: 513.0 / 469.0



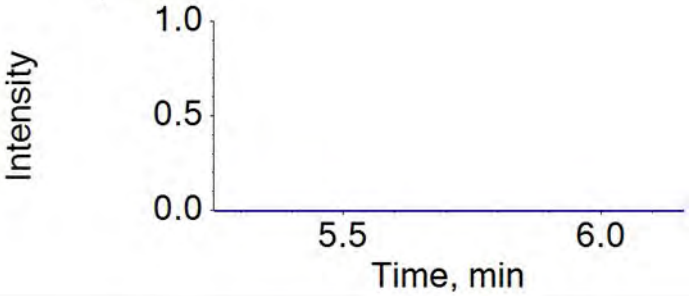
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



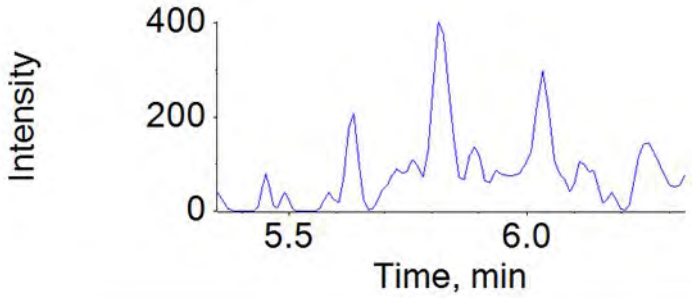
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



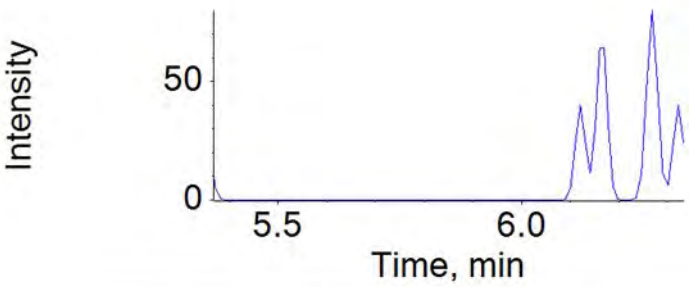
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



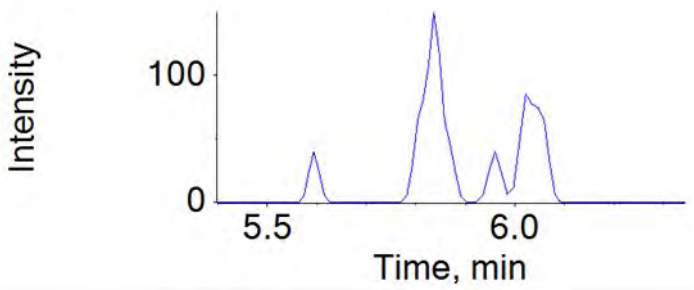
Component: PFUnDA
Primary Mass: 563.0 / 519.0



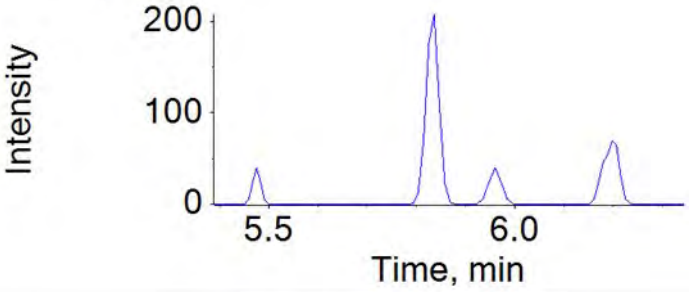
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



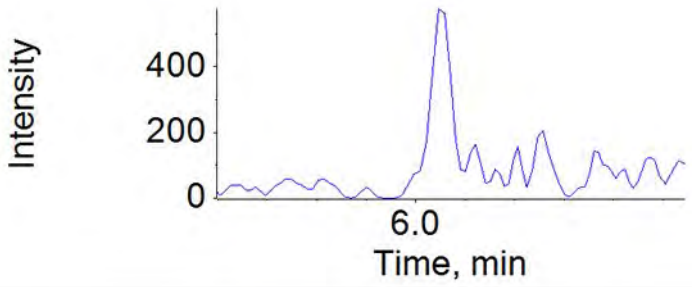
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



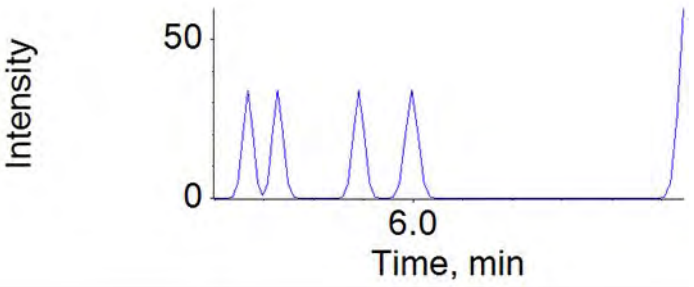
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



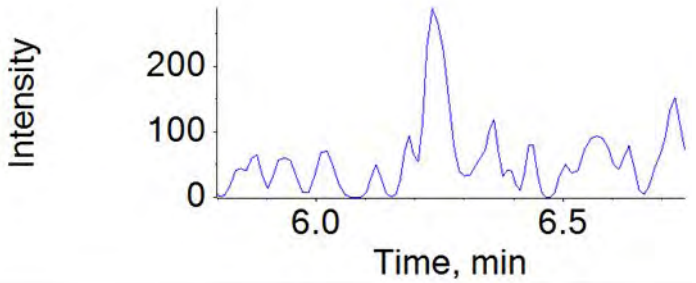
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



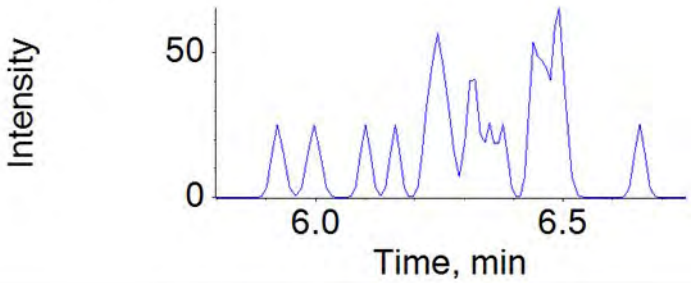
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

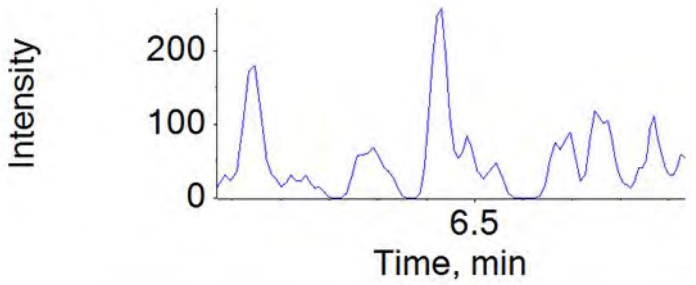
Component: PFTrDA
Primary Mass: 663.0 / 619.0



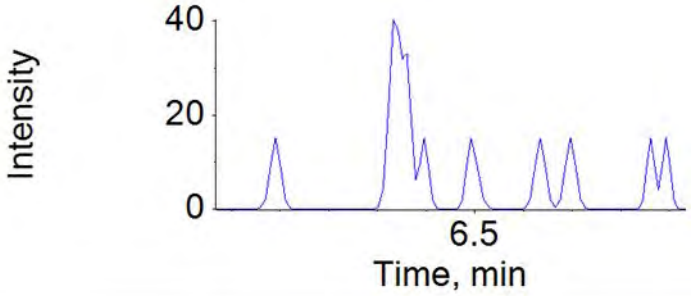
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9934788			**Data File:**		18DEC19D-39.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012 OU1-49-4-01 Grab Groundwater			**Acquis Date:**		2018-12-19T15:50:20
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	65			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.28255			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	951096.3	942675.8	1	50	
13C2-PFOA	5.0	540446.4	520268.5	4	50	
13C4-PFOS	4.8	305418.7	307968.9	-1	50	
13C2-PFDA	5.0	484304.4	487375.3	-1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	369014.5	13C3-PFBA	951096.3	0.388	16.457	13.371	81	50-150	
E13C5-PFHxA	608285.9	13C2-PFOA	540446.4	1.126	17.696	14.249	81	50-150	
E13C3-PFHxS	292617.9	13C2-PFOA	540446.4	0.541	16.740	14.500	87	50-150	
E13C4-PFHpA	512986.0	13C2-PFOA	540446.4	0.949	17.696	14.511	82	50-150	
E13C8-PFOA	841621.5	13C2-PFOA	540446.4	1.557	17.696	15.155	86	50-150	
E13C8-PFOS	267161.3	13C4-PFOS	305418.7	0.875	16.917	13.844	82	50-150	
E13C9-PFNA	540021.8	13C4-PFOS	305418.7	1.768	17.696	14.236	80	50-150	
E13C6-PFDA	722912.6	13C2-PFDA	484304.4	1.493	17.696	15.048	85	50-150	
Ed3-NMeFOSAA	166857.2	13C2-PFDA	484304.4	0.345	17.696	13.415	76	50-150	
E13C7-PFUnDA	454574.6	13C2-PFDA	484304.4	0.939	17.696	13.905	79	50-150	
Ed5-NEtFOSAA	118602.6	13C2-PFDA	484304.4	0.245	17.696	12.769	72	50-150	
E13C2-PFDoDA	914928.5	13C2-PFDA	484304.4	1.889	17.696	14.067	79	50-150	
E13C2-PFTeDA	540085.2	13C2-PFDA	484304.4	1.115	17.696	11.122	63	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

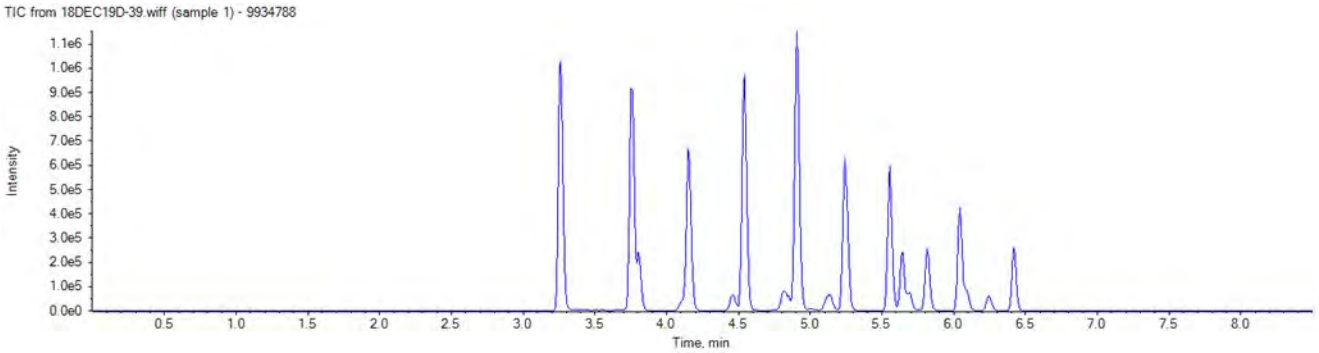
Analyte Quantitation Peak Table

Sample Name: 9934788 **Instrument Name:** LM27631 **File Name:** 18DEC19D-39.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.28255	1.000	1.00	1.000

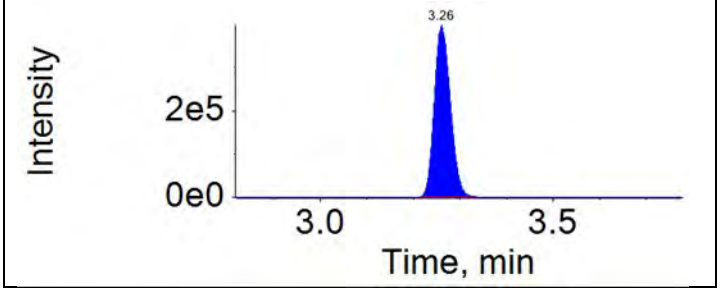
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	3.81	1.000	77694.1		A	13C3-PFBS	3.81	369014.5	0.211	3.679
PFHxA	4.15	1.000	848352.7		M	13C5-PFHxA	4.15	608285.9	1.395	20.334
PFHpA	4.54	1.000	424861.5		A	13C4-PFHpA	4.54	512986.0	0.828	9.720
PFHxS	4.54	1.000	847308.7		M	13C3-PFHxS	4.54	292617.9	2.896	49.847
PFOA	4.91	1.000	1300314.9		M	13C8-PFOA	4.91	841621.5	1.545	28.968
PFOS	5.21	0.990	449848.1		M	13C8-PFOS	5.24	267161.3	1.684	26.091
PFNA	5.25	1.000	125216.7		A	13C9-PFNA	5.25	540021.8	0.232	3.262
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	722912.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	166857.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	454574.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	118602.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	914928.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	914928.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	540085.2	N/A	

Total Ion Chromatogram

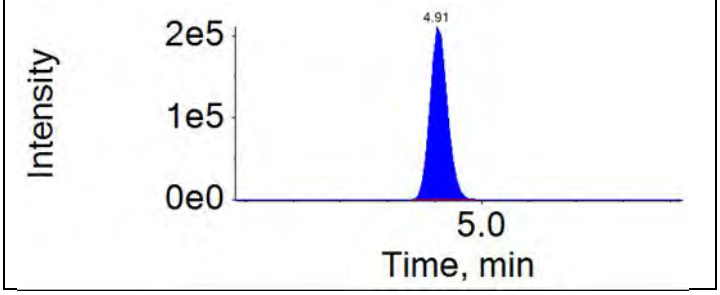


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

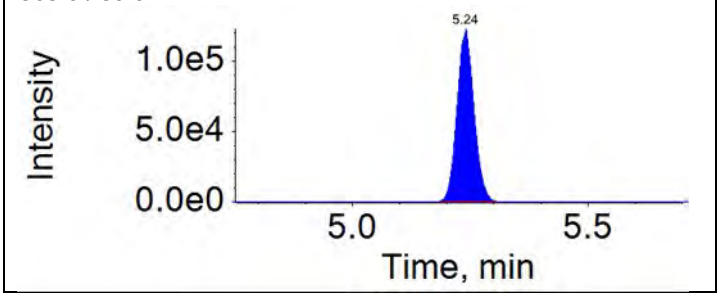
Injection Standard: 13C3-PFBA
216.0 / 172.0



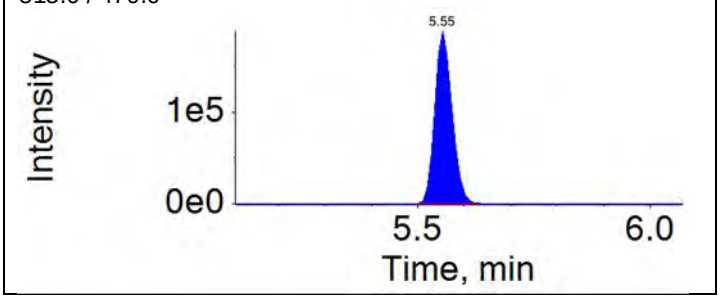
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

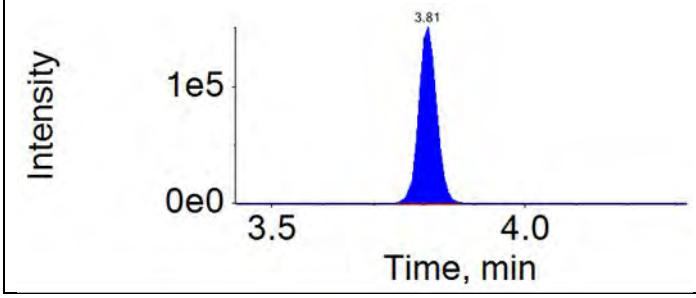


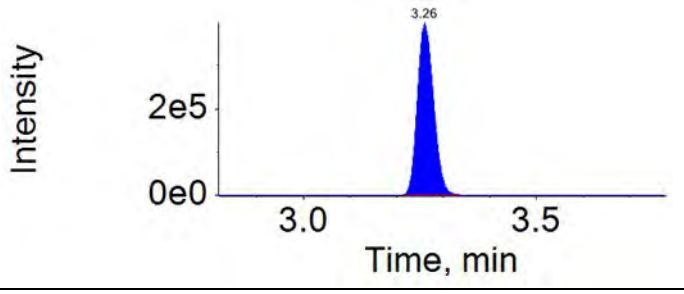
Injection Standard: 13C2-PFDA
515.0 / 470.0



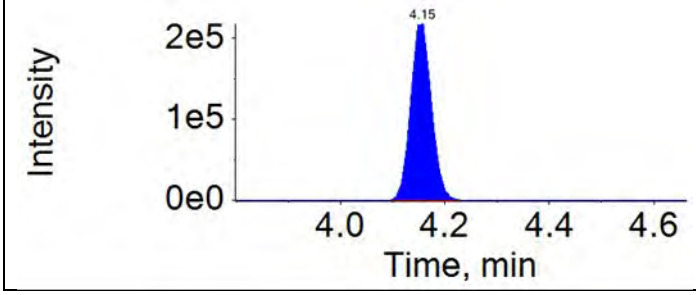
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

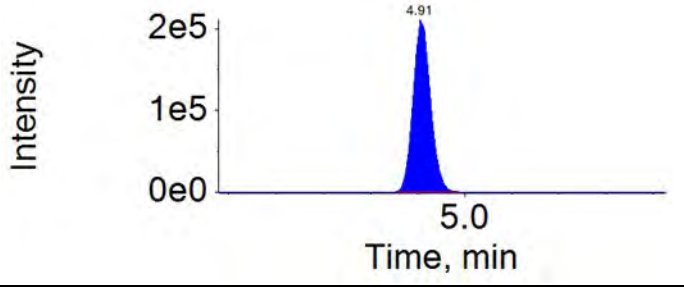
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



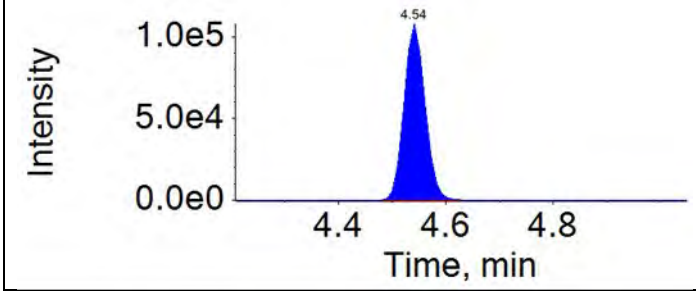


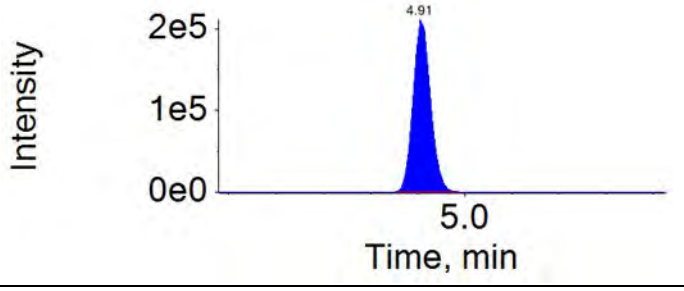
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



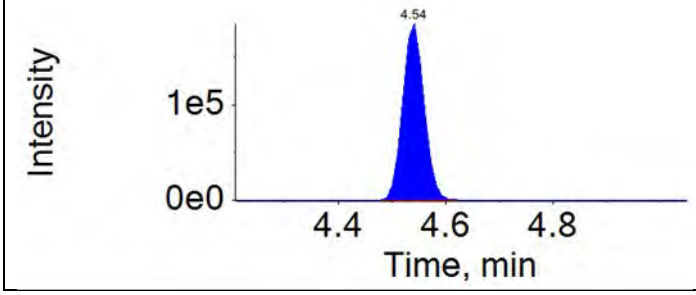


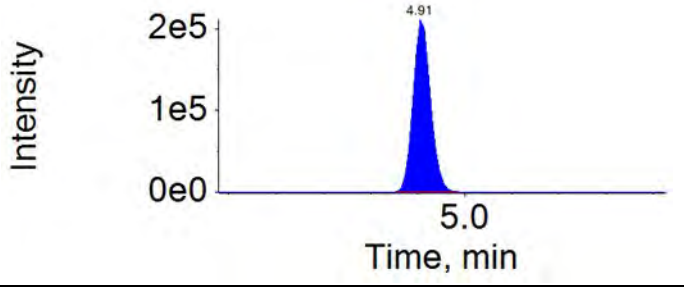
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



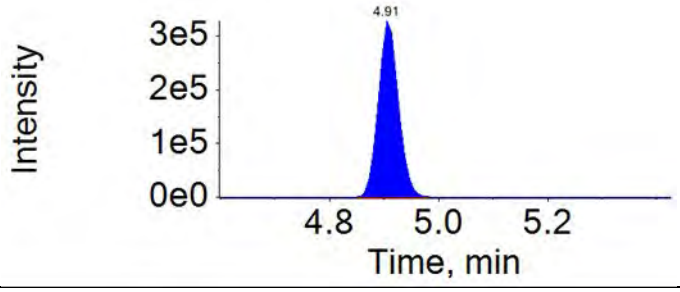
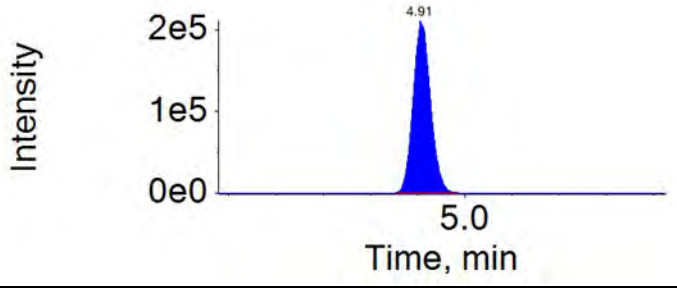


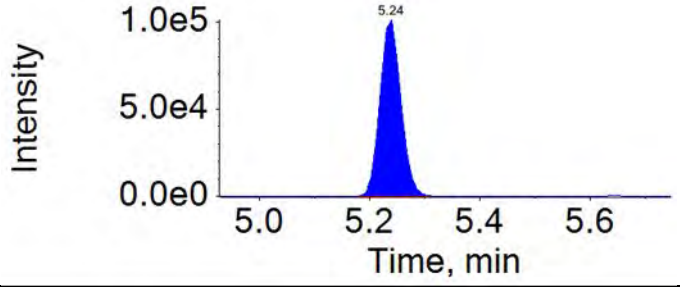
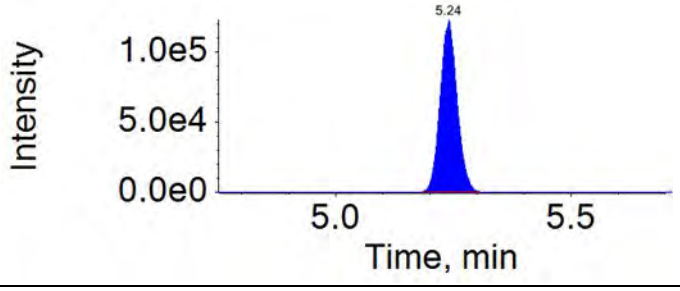
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0

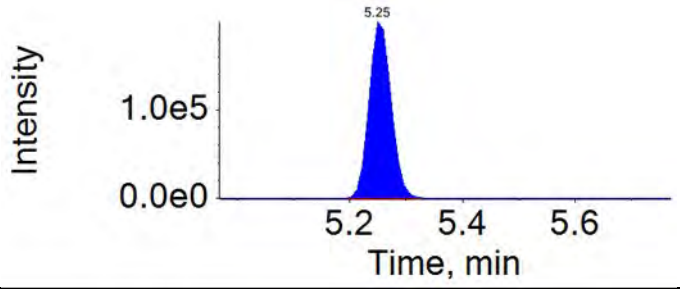
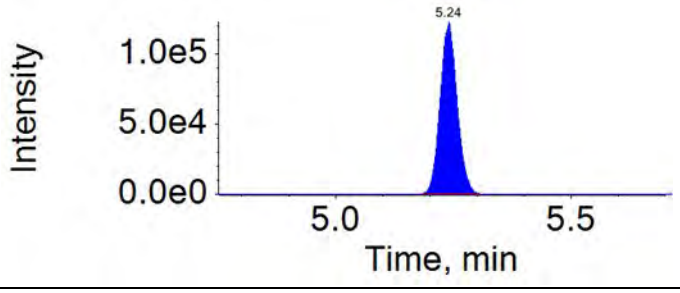


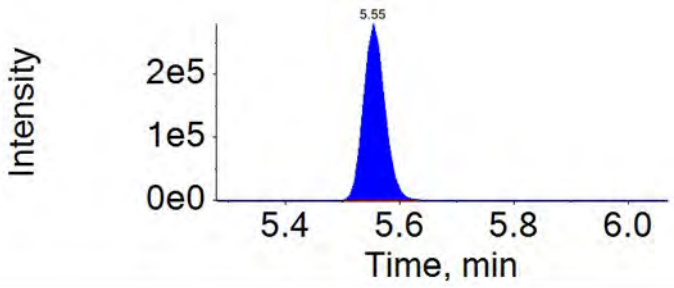
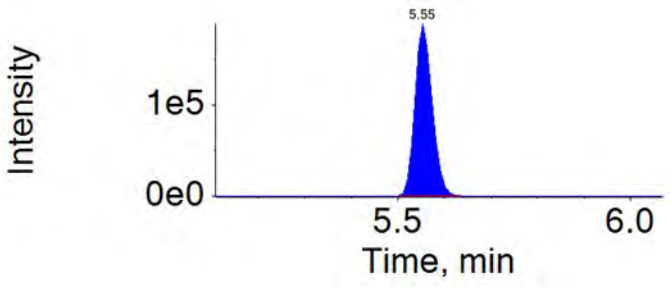


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

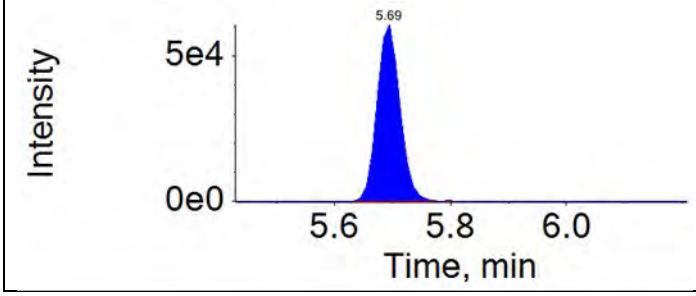
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

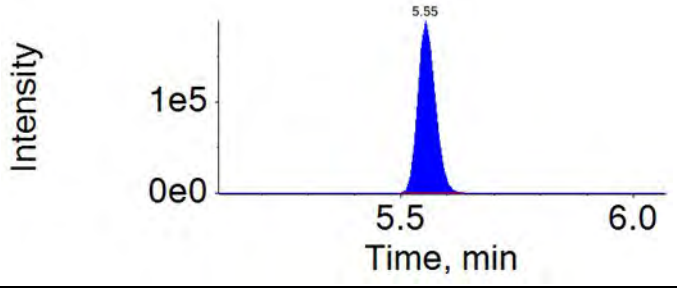
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

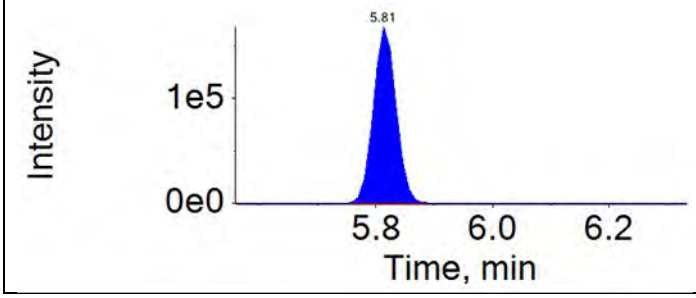
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

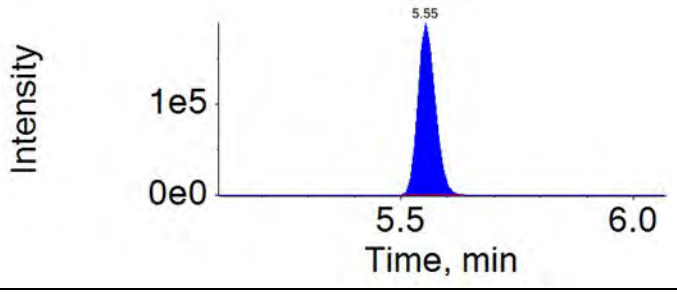
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0



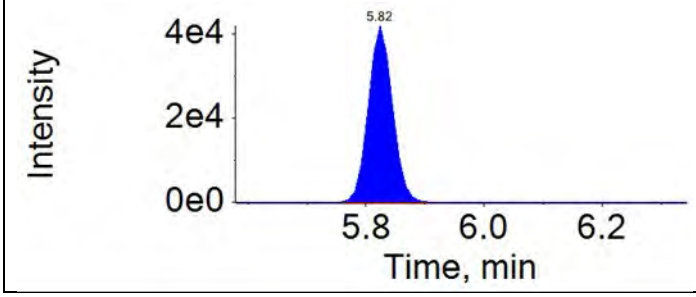


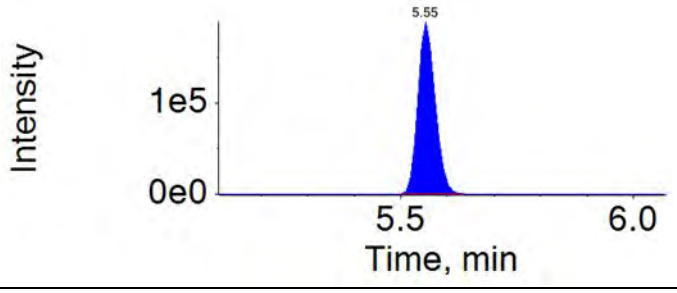
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



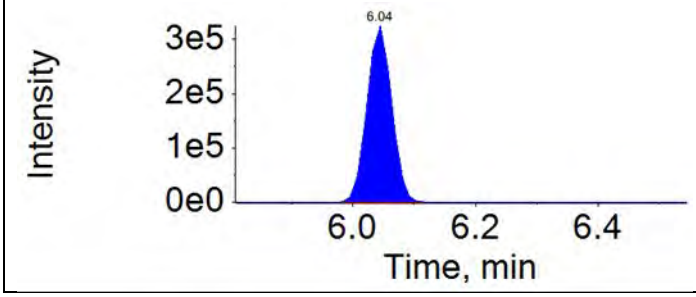


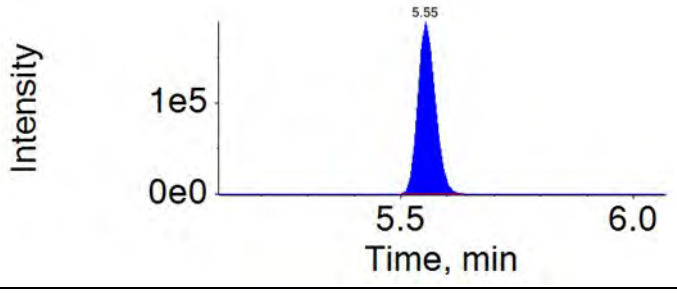
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



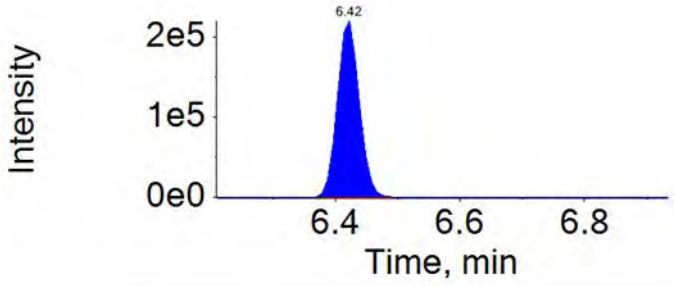
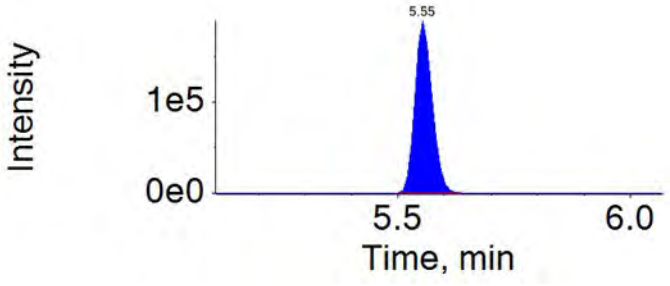


Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



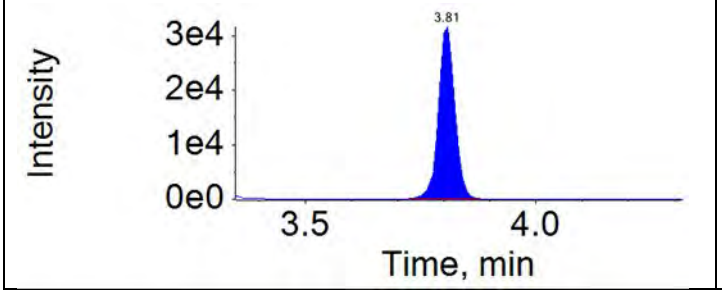


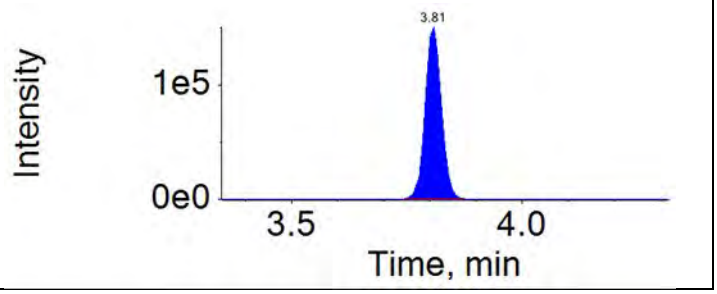
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

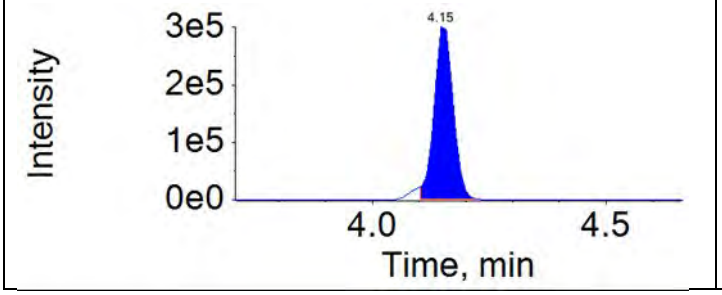
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

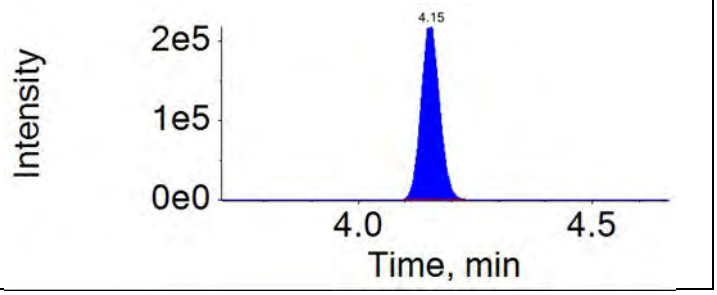
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



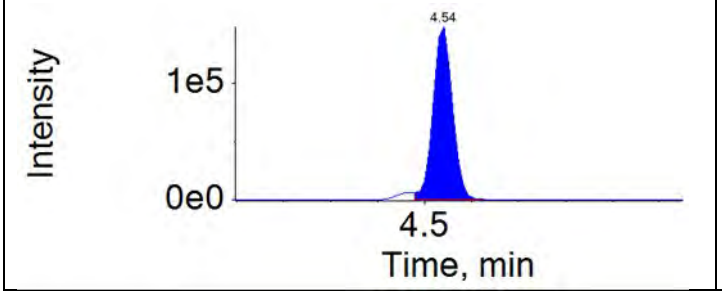


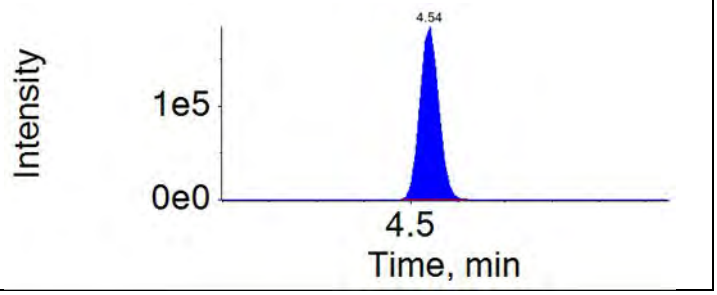
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



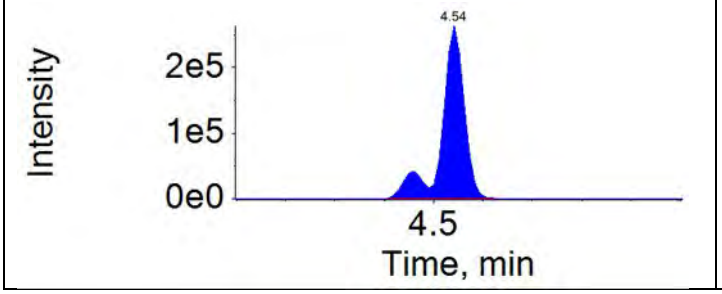


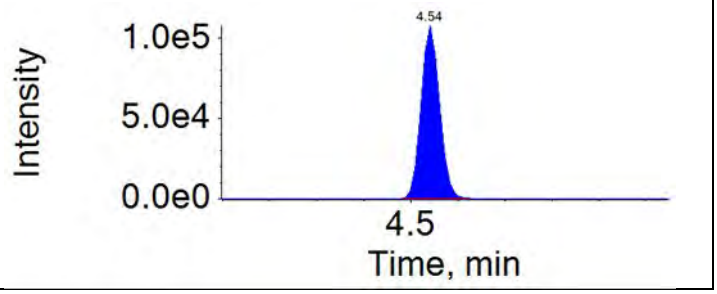
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





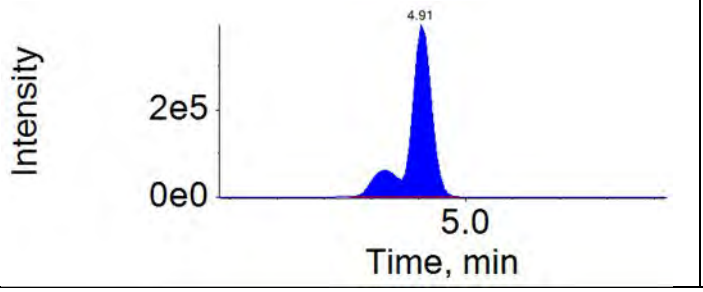
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

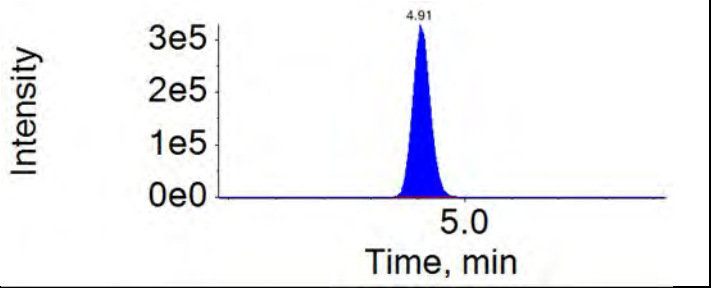




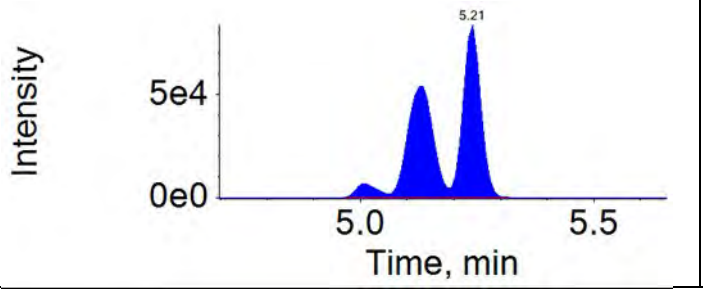
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

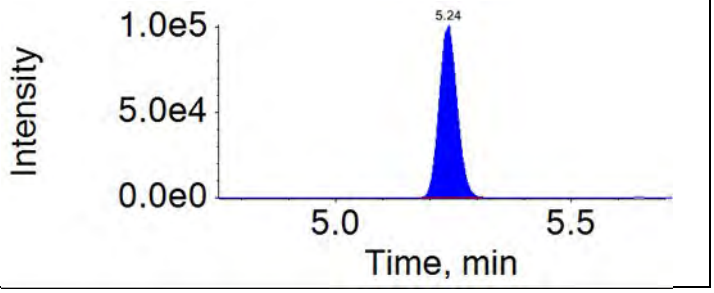
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



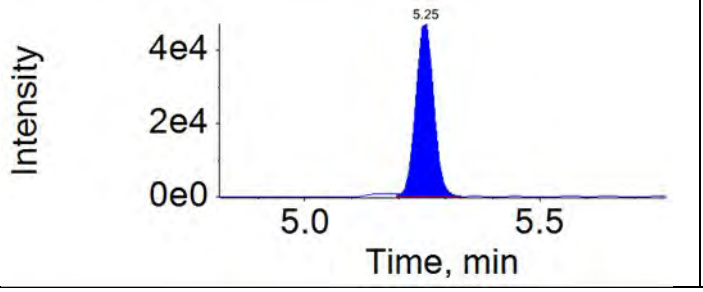


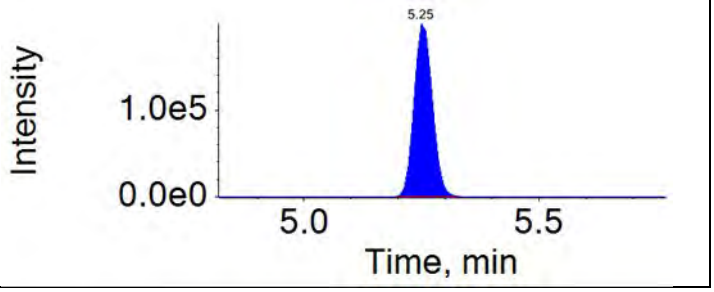
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



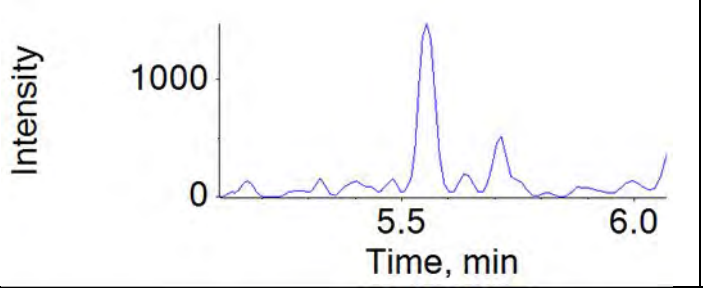


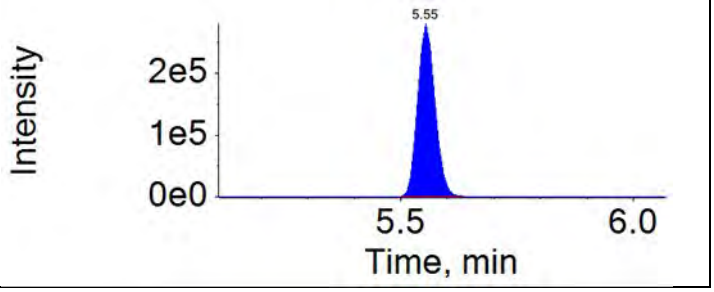
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





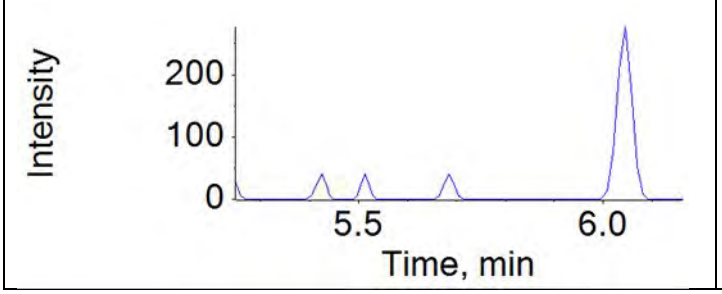
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0

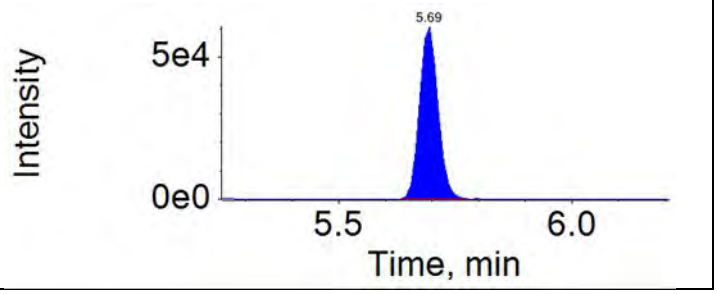




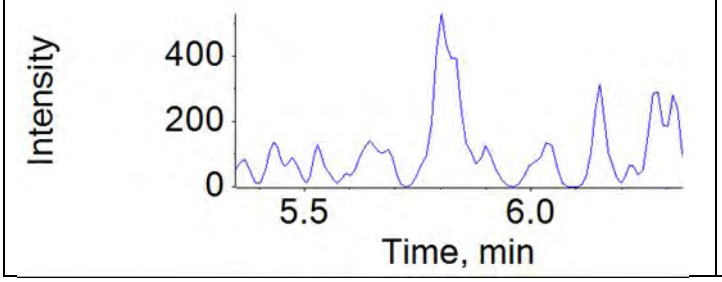
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

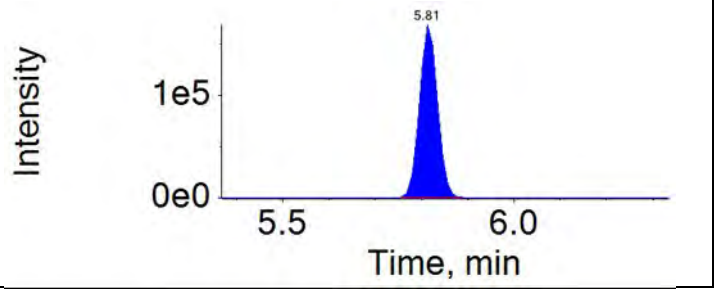
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



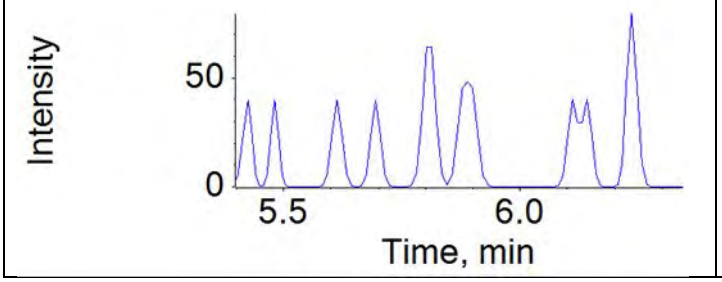


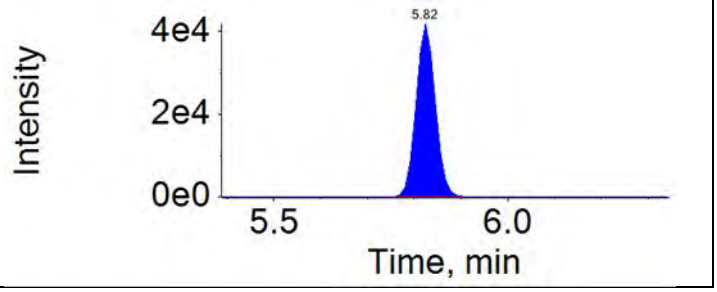
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



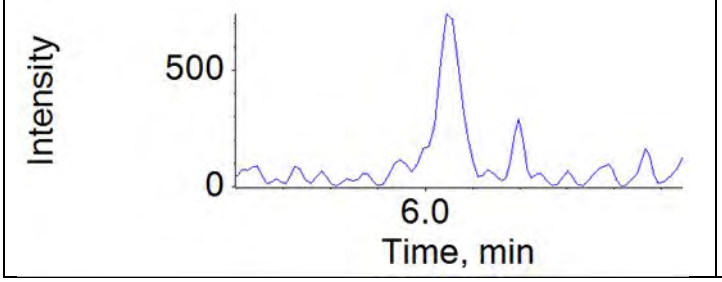


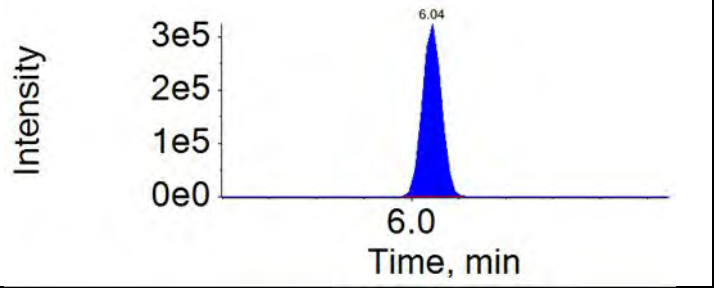
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



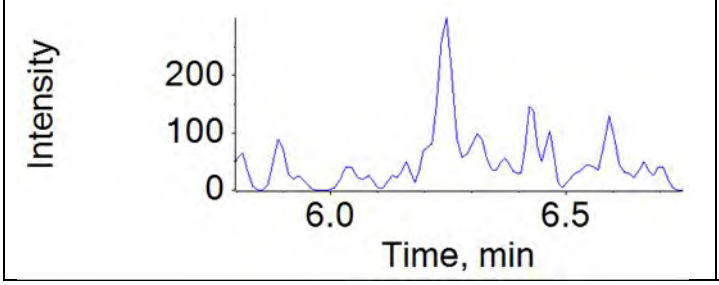


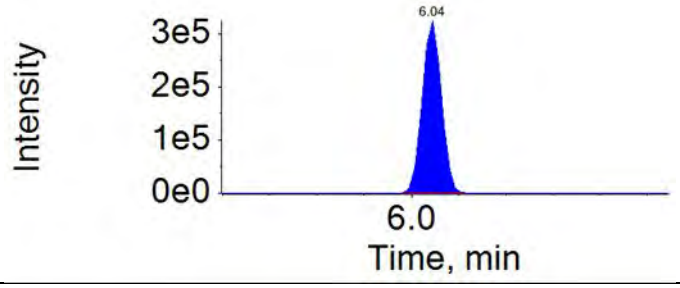
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

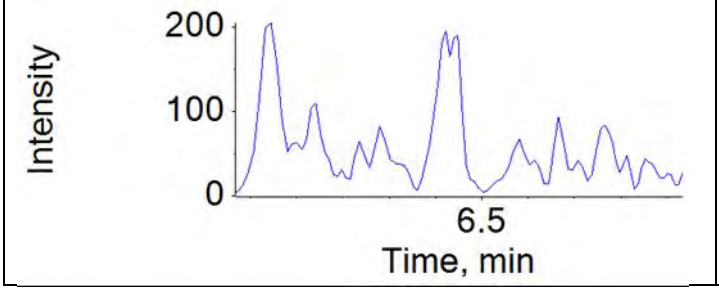
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

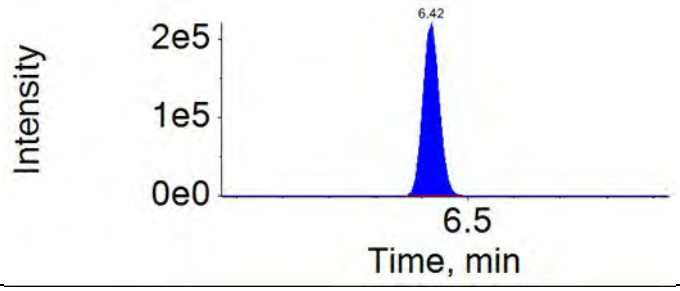
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





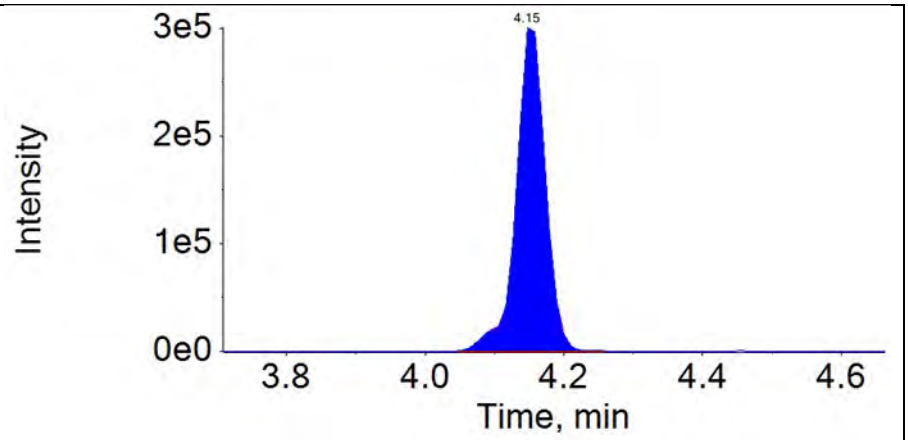
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0





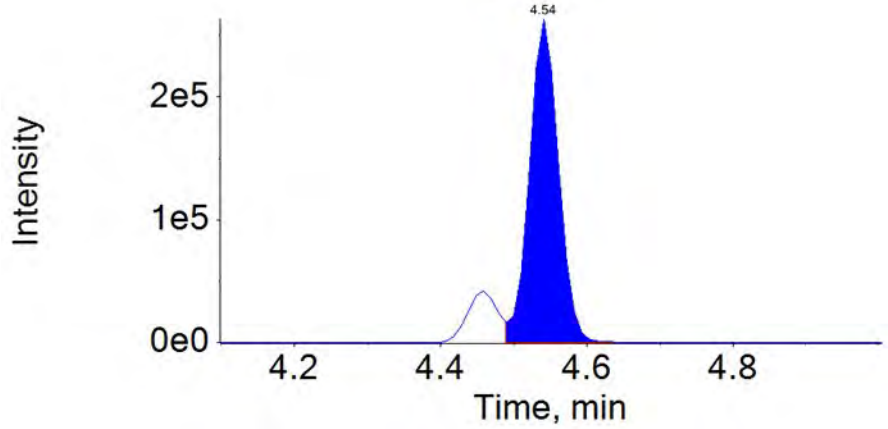
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA
RT (min.):
4.15
Peak Area:
889780.4
Mass Range:
313.0 / 269.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



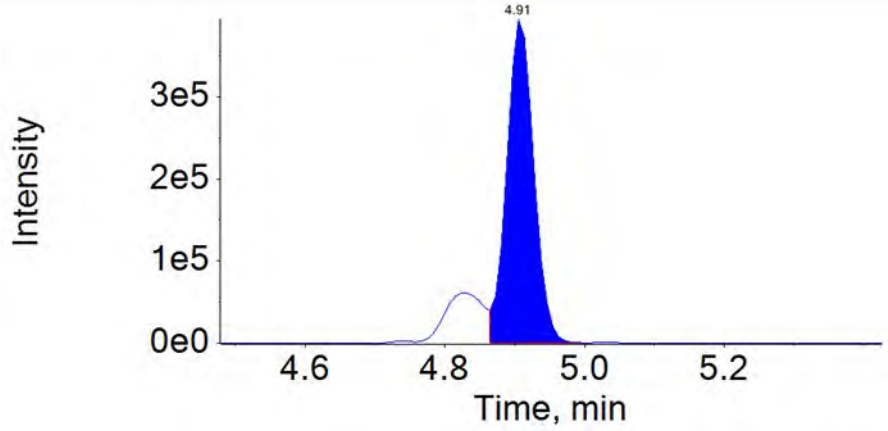
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
727945.7
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



Integration Comment: incorrect integration

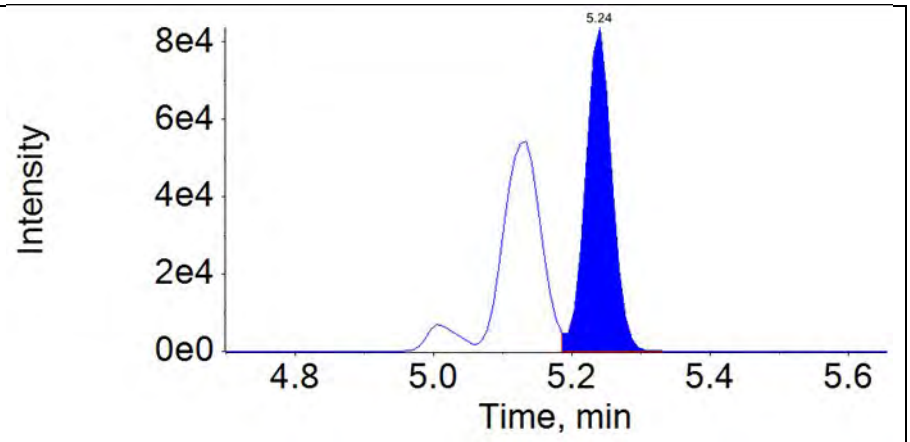
Component Name:
PFOA
RT (min.):
4.91
Peak Area:
1064319.1
Mass Range:
413.0 / 369.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



Integration Comment: incorrect integration

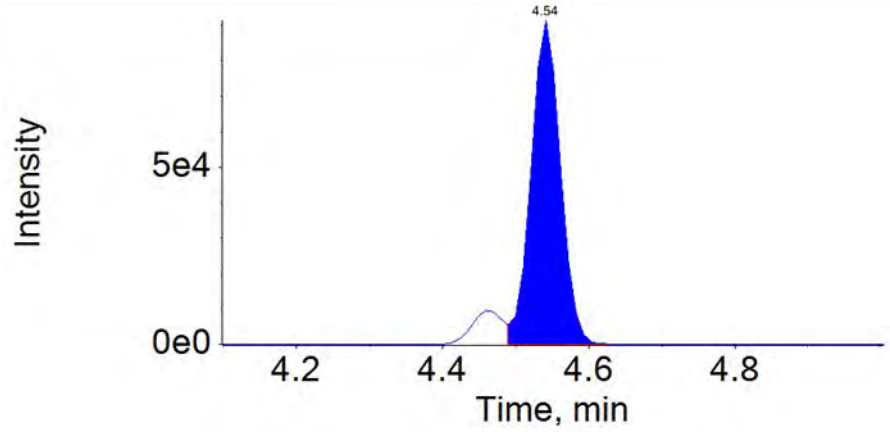
Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
222464.9
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



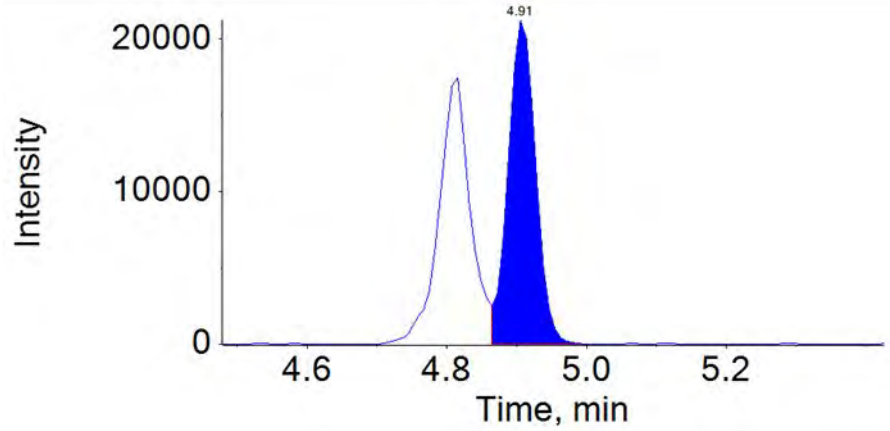
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
254775.0
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



Integration Comment: incorrect integration

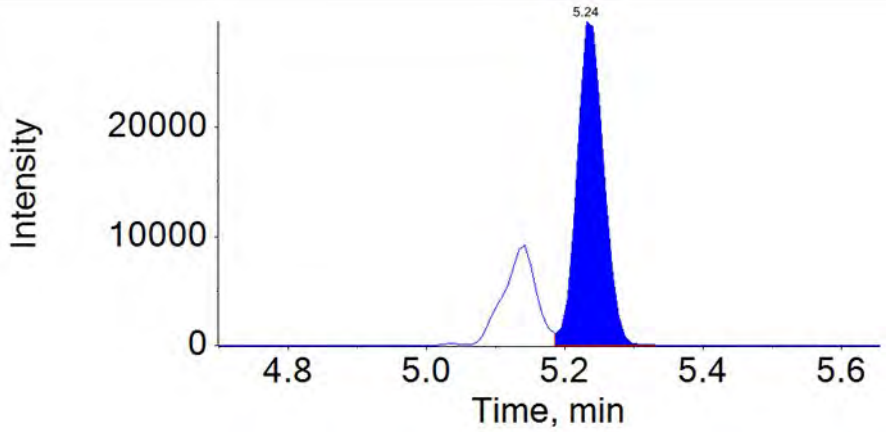
Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
58268.0
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



Integration Comment: incorrect integration

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
80189.3
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-39.wiff
Sample Name:
9934788



Integration Comment: incorrect integration

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Results Table Name: 18348012
Results Table Date: 12/20/2018 9:25:03 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Ion Ratio Report

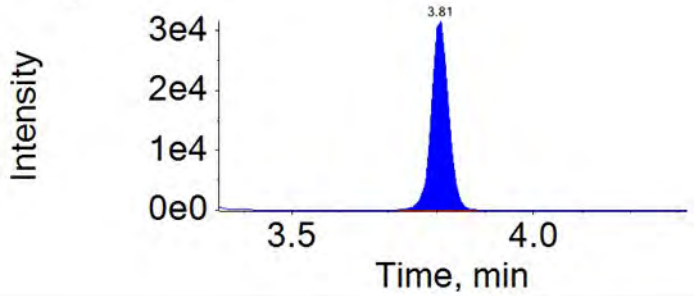
Sample Name: 9934788 **Instrument Name:** LM27631 **File Name:** 18DEC19D-39.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	77694.1	A	N/A	1.0000			
PFBS_2	3.81	1.00	27789.8	A	N/A	0.3577	-3	50	
PFHxA	4.15	1.00	848352.7	M	N/A	1.0000			
PFHxA_2	4.15	1.00	9581.0	A	N/A	0.0113	-2	50	
PFHpA	4.54	1.00	424861.5	A	N/A	1.0000			
PFHpA_2	4.54	1.00	21637.5	A	N/A	0.0509	-7	50	
PFHxS	4.54	1.00	847308.7	M	N/A	1.0000			
PFHxS_2	4.54	1.00	282556.1	M	N/A	0.3335	-1	50	
PFOA	4.91	1.00	1300314.9	M	N/A	1.0000			
PFOA_2	4.87	0.99	113019.7	M	N/A	0.0869	47	50	
PFOS	5.21	0.99	449848.1	M	N/A	1.0000			
PFOS_2	5.24	1.00	110704.0	M	N/A	0.2461	-17	50	
PFNA	5.25	1.00	125216.7	A	N/A	1.0000			
PFNA_2	5.26	1.00	1880.0	A	N/A	0.0150	-30	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

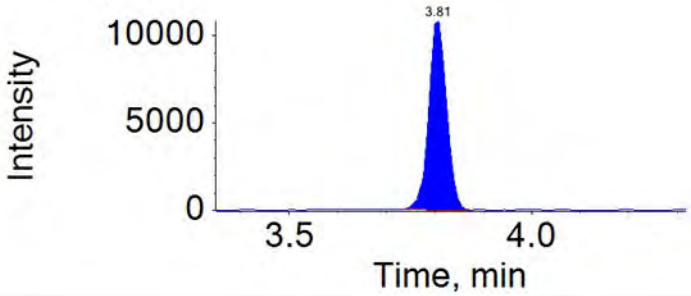
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

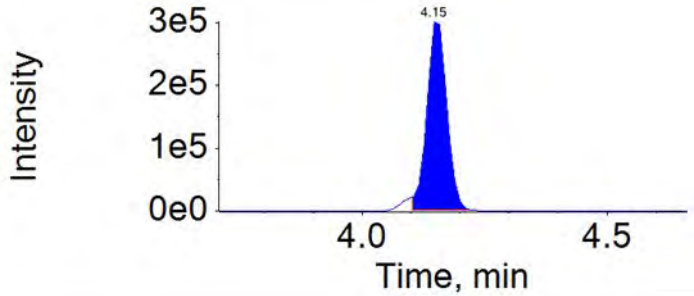
Component: PFBS
Primary Mass: 299.0 / 80.0



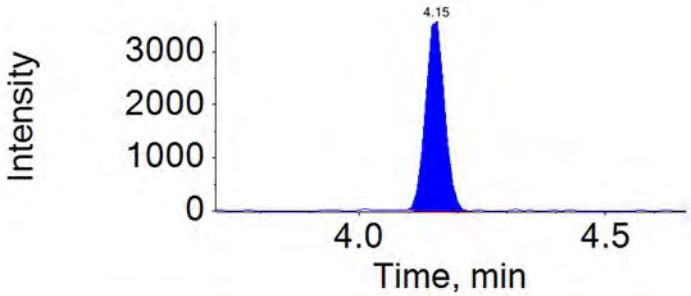
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



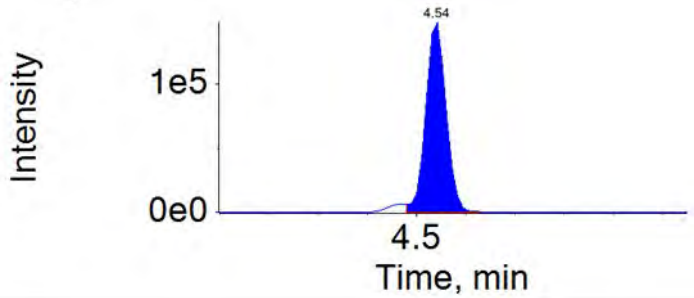
Component: PFHxA
Primary Mass: 313.0 / 269.0



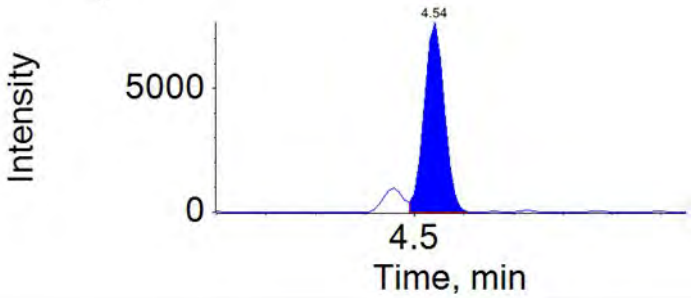
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



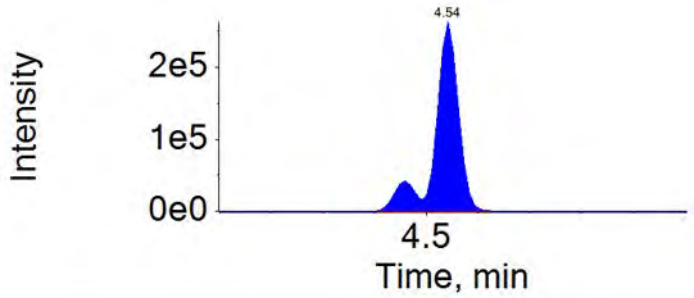
Component: PFHpA
Primary Mass: 363.0 / 319.0



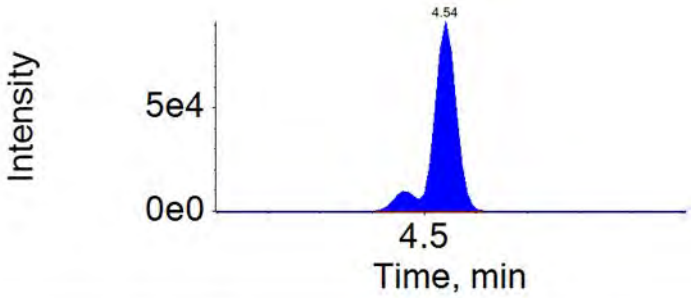
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



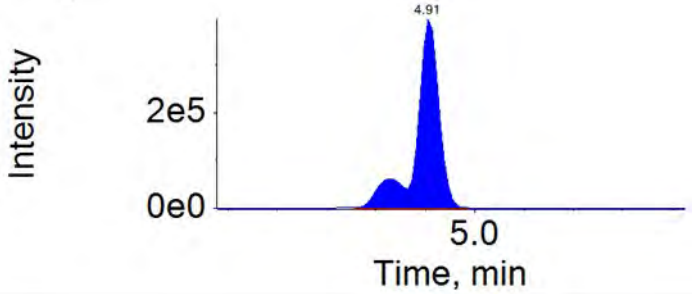
Component: PFHxS
Primary Mass: 399.0 / 80.0



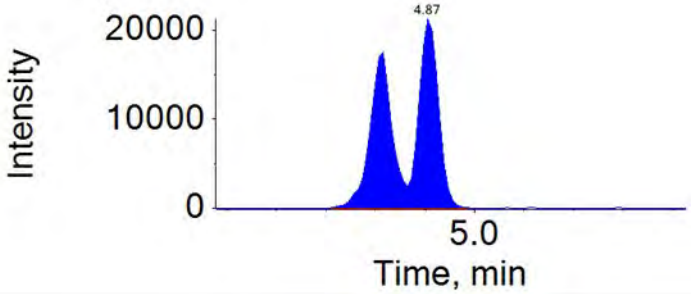
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Secondary Mass: 399.0 / 99.0



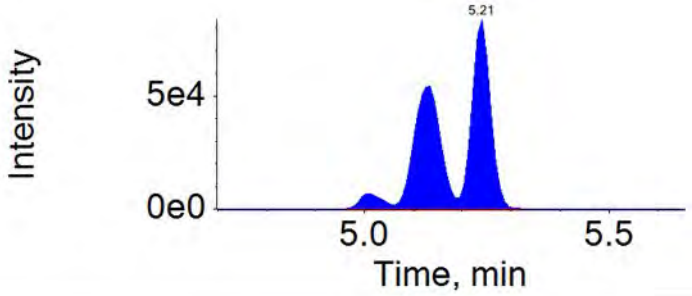
Component: PFOA
Primary Mass: 413.0 / 369.0



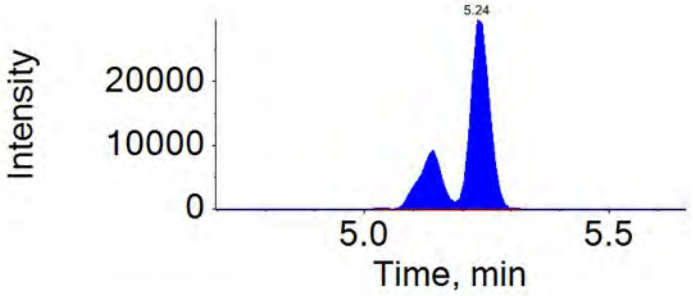
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



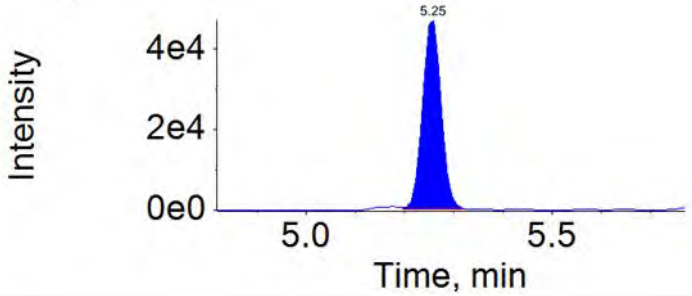
Component: PFOS
Primary Mass: 499.0 / 80.0



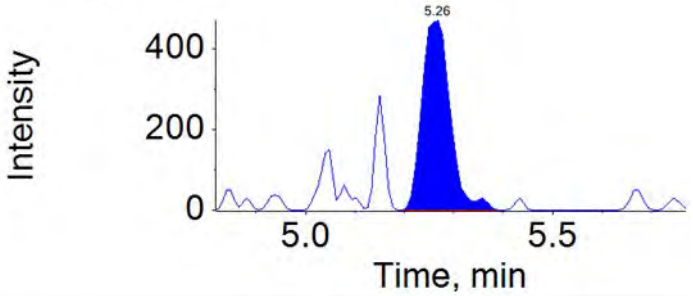
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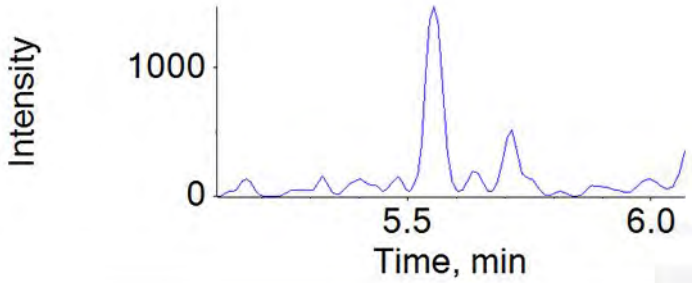
Component: PFNA
Primary Mass: 463.0 / 419.0



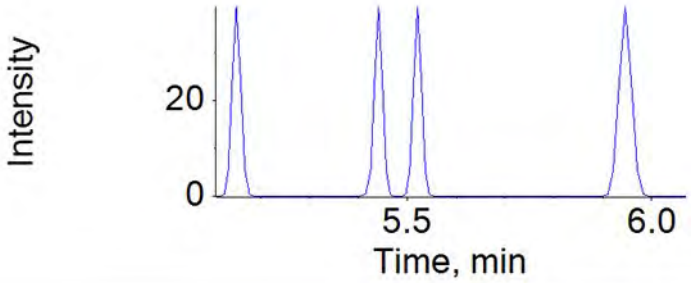
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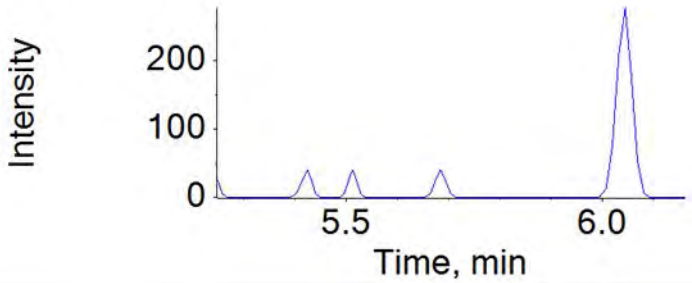
Component: PFDA
Primary Mass: 513.0 / 469.0



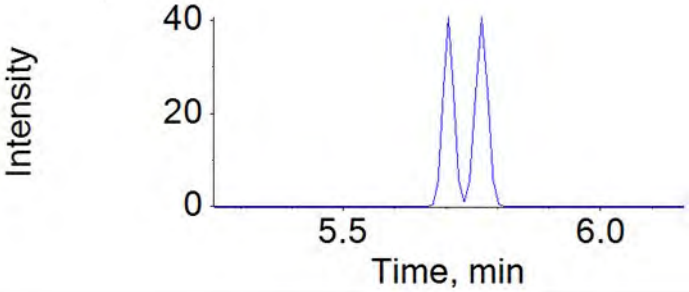
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



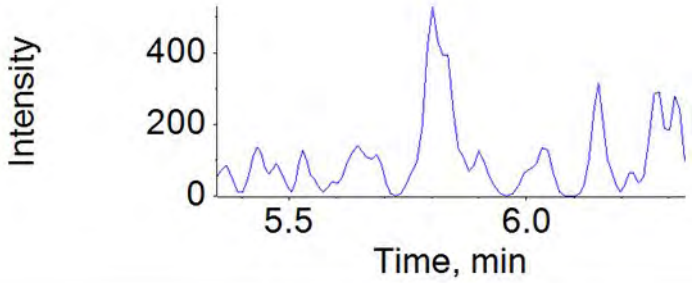
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



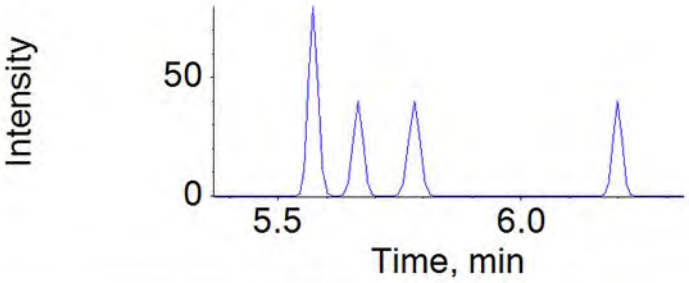
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



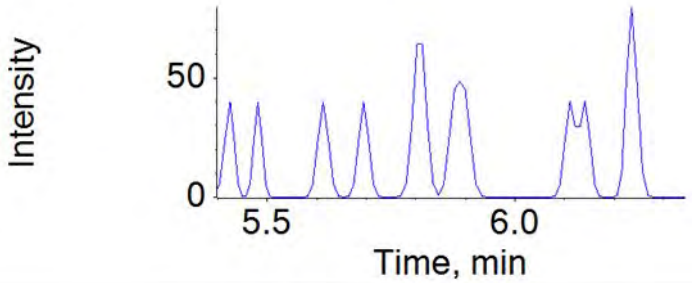
Component: PFUnDA
Primary Mass: 563.0 / 519.0



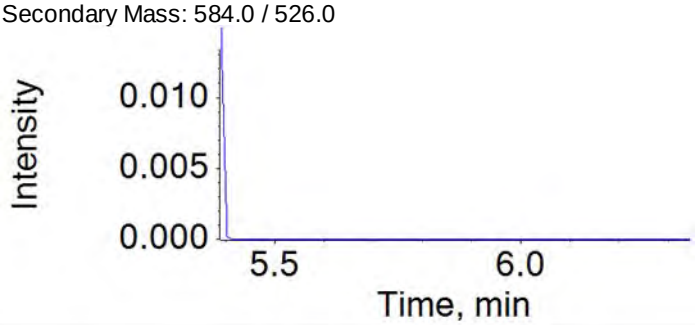
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



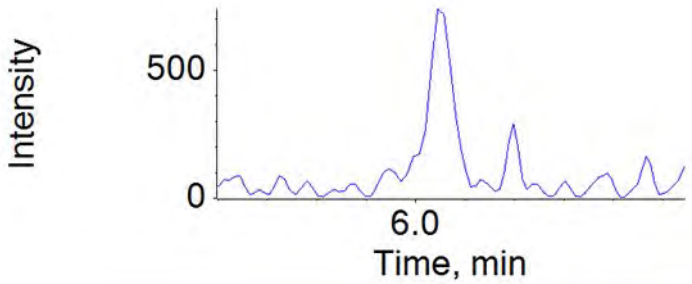
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



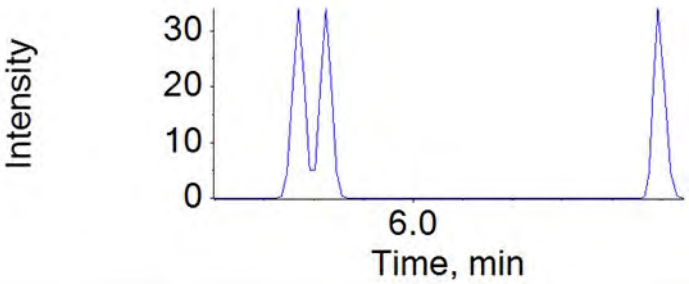
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



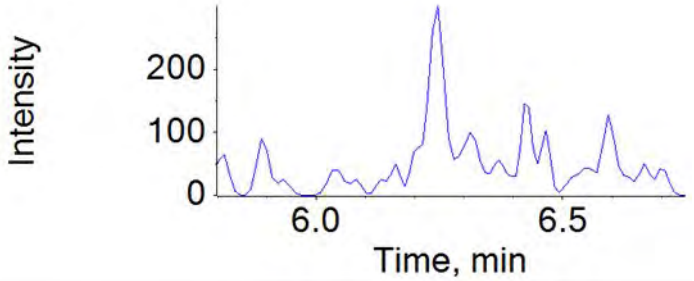
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



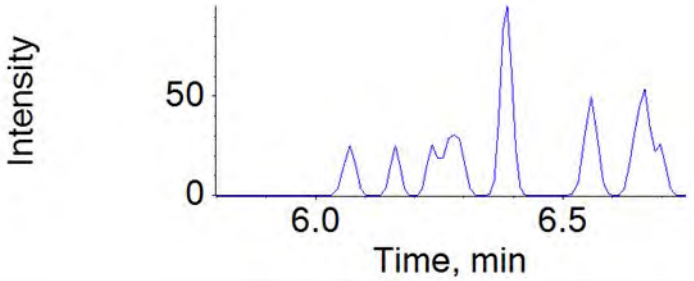
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

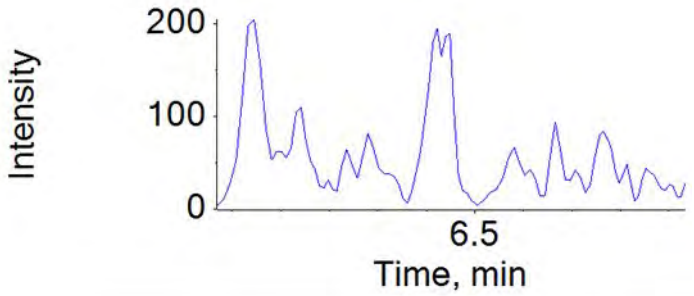
Component: PFTrDA
Primary Mass: 663.0 / 619.0



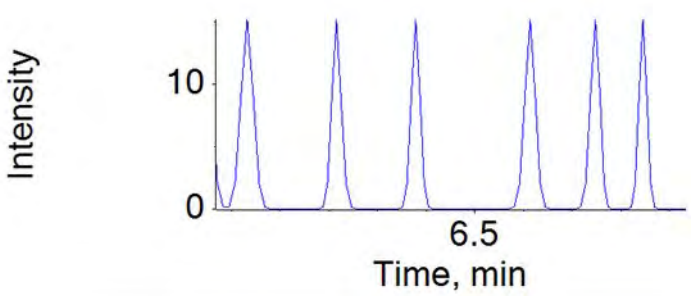
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



Standards Data

PFAS by LC/MS/MS

eurofins | Lancaster Laboratories

LC-MS/MS
Sample Run Log

Printed: 12/26/2018 3:26:00 PM
Template: Sample Run Log-17JUL05.docx

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18DEC18DCAL-67.wiff	MDL	N/A	12/18/2018 11:25:52 PM
18DEC18DCAL-68.wiff	CAL1	N/A	12/18/2018 11:34:56 PM
18DEC18DCAL-69.wiff	CAL2	N/A	12/18/2018 11:43:56 PM
18DEC18DCAL-70.wiff	CAL3	N/A	12/18/2018 11:52:56 PM
18DEC18DCAL-71.wiff	CAL4	N/A	12/19/2018 12:01:56 AM
18DEC18DCAL-72.wiff	CAL5	N/A	12/19/2018 12:10:55 AM
18DEC18DCAL-73.wiff	CAL6	N/A	12/19/2018 12:19:55 AM
18DEC18DCAL-74.wiff	CAL7	N/A	12/19/2018 12:28:56 AM
18DEC18DCAL-75.wiff	Instrument Blank	N/A	12/19/2018 12:37:59 AM
18DEC18DCAL-76.wiff	ICV	N/A	12/19/2018 12:46:59 AM
18DEC18DCAL-77.wiff	L+B CAL3	N/A	12/19/2018 12:56:02 AM
18DEC18DCAL-78.wiff	CCV1_CAL3	N/A	12/19/2018 1:05:05 AM
18DEC19D-01.wiff	solvent	N/A	12/19/2018 10:07:50 AM
18DEC19D-02.wiff	solvent	N/A	12/19/2018 10:16:53 AM
18DEC19D-03.wiff	solvent	N/A	12/19/2018 10:25:53 AM
18DEC19D-04.wiff	solvent	N/A	12/19/2018 10:34:56 AM
18DEC19D-05.wiff	CCV1_ISC_CAL2	N/A	12/19/2018 10:43:56 AM
18DEC19D-06.wiff	Instrument blank	N/A	12/19/2018 10:52:56 AM
18DEC19D-07.wiff	BLK348011	18348011	12/19/2018 11:01:59 AM
18DEC19D-08.wiff	LCS348011	18348011	12/19/2018 11:10:59 AM
18DEC19D-09.wiff	LCSDA	18348011	12/19/2018 11:19:59 AM
18DEC19D-10.wiff	9934708	18348011	12/19/2018 11:28:59 AM
18DEC19D-11.wiff	9934709	18348011	12/19/2018 11:37:59 AM
18DEC19D-12.wiff	9934710	18348011	12/19/2018 11:47:02 AM
18DEC19D-13.wiff	9934711	18348011	12/19/2018 11:56:02 AM
18DEC19D-14.wiff	9934712	18348011	12/19/2018 12:05:02 PM
18DEC19D-15.wiff	9934714	18348011	12/19/2018 12:14:05 PM
18DEC19D-16.wiff	9934715	18348011	12/19/2018 12:23:05 PM
18DEC19D-17.wiff	CCV2_CAL3	N/A	12/19/2018 12:32:05 PM
18DEC19D-18.wiff	9934716	18348011	12/19/2018 12:41:05 PM
18DEC19D-19.wiff	9934717	18348011	12/19/2018 12:50:05 PM
18DEC19D-20.wiff	9927494RE	18348002	12/19/2018 12:59:05 PM
18DEC19D-21.wiff	9927496RE	18346012	12/19/2018 1:08:05 PM
18DEC19D-22.wiff	solvent	N/A	12/19/2018 1:17:08 PM
18DEC19D-23.wiff	BLK348012	18348012	12/19/2018 1:26:08 PM
18DEC19D-24.wiff	LCS348012	18348012	12/19/2018 1:35:08 PM
18DEC19D-25.wiff	LCSDA	18348012	12/19/2018 1:44:11 PM
18DEC19D-26.wiff	9927672	18348012	12/19/2018 1:53:11 PM
18DEC19D-27.wiff	9934777	18348012	12/19/2018 2:02:11 PM
18DEC19D-28.wiff	9934778	18348012	12/19/2018 2:11:11 PM
18DEC19D-29.wiff	CCV3_CAL4	N/A	12/19/2018 2:20:11 PM
18DEC19D-30.wiff	9934779	18348012	12/19/2018 2:29:11 PM
18DEC19D-31.wiff	9934780	18348012	12/19/2018 2:38:11 PM
18DEC19D-32.wiff	9934781	18348012	12/19/2018 2:47:14 PM
18DEC19D-33.wiff	9934782	18348012	12/19/2018 2:56:18 PM
18DEC19D-34.wiff	9934783	18348012	12/19/2018 3:05:17 PM
18DEC19D-35.wiff	9934784	18348012	12/19/2018 3:14:20 PM
18DEC19D-36.wiff	9934785	18348012	12/19/2018 3:23:20 PM
18DEC19D-37.wiff	9934786	18348012	12/19/2018 3:32:20 PM
18DEC19D-38.wiff	9934787	18348012	12/19/2018 3:41:20 PM
18DEC19D-39.wiff	9934788	18348012	12/19/2018 3:50:20 PM
18DEC19D-40.wiff	CCV4_ISC_CAL2	N/A	12/19/2018 3:59:21 PM
18DEC19D-41.wiff	BLK352017	18352017	12/19/2018 4:08:21 PM
18DEC19D-42.wiff	LCS352017	18352017	12/19/2018 4:17:20 PM
18DEC19D-43.wiff	9927473	18352017	12/19/2018 4:26:23 PM
18DEC19D-44.wiff	9941499	18352017	12/19/2018 4:35:26 PM
18DEC19D-45.wiff	9941500	18352017	12/19/2018 4:44:26 PM

APPROVED
By JPT at 4:32 pm, 12/26/18

Instrument Name: LM27631

18DEC19D-46.wiff	9941501	18352017	12/19/2018 4:53:26 PM
18DEC19D-47.wiff	9941502	18352017	12/19/2018 5:02:26 PM
18DEC19D-48.wiff	9941509BKG	18352017	12/19/2018 5:11:26 PM
18DEC19D-49.wiff	9941512	18352017	12/19/2018 5:20:26 PM
18DEC19D-50.wiff	9941513	18352017	12/19/2018 5:29:26 PM
18DEC19D-51.wiff	CCV5_CAL3	N/A	12/19/2018 5:38:26 PM
18DEC19D-52.wiff	9941516	18352017	12/19/2018 5:47:29 PM
18DEC19D-53.wiff	9941517	18352017	12/19/2018 5:56:29 PM
18DEC19D-54.wiff	9941518	18352017	12/19/2018 6:05:32 PM
18DEC19D-55.wiff	9941519	18352017	12/19/2018 6:14:35 PM
18DEC19D-56.wiff	9941520	18352017	12/19/2018 6:23:39 PM
18DEC19D-57.wiff	9941510MS	18352017	12/19/2018 6:32:38 PM
18DEC19D-58.wiff	9941511MSD	18352017	12/19/2018 6:41:42 PM
18DEC19D-59.wiff	CCV6_CAL4	N/A	12/19/2018 6:50:45 PM
18DEC19D-60.wiff	BLK352006	18352006	12/19/2018 6:59:45 PM
18DEC19D-61.wiff	LCS352006	18352006	12/19/2018 7:08:45 PM
18DEC19D-62.wiff	9939796	18352006	12/19/2018 7:17:45 PM
18DEC19D-63.wiff	9939797	18352006	12/19/2018 7:26:45 PM
18DEC19D-64.wiff	9939798BKG	18352006	12/19/2018 7:35:45 PM
18DEC19D-65.wiff	9939799MS	18352006	12/19/2018 7:44:45 PM
18DEC19D-66.wiff	9939800MSD	18352006	12/19/2018 7:53:45 PM
18DEC19D-67.wiff	CCV7_ISC_CAL2	N/A	12/19/2018 8:02:45 PM
18DEC19D-68.wiff	BLK352007	18352007	12/19/2018 8:11:48 PM
18DEC19D-69.wiff	LCS352007	18352007	12/19/2018 8:20:48 PM
18DEC19D-70.wiff	9939803	18352007	12/19/2018 8:29:48 PM
18DEC19D-71.wiff	9939804BKG	18352007	12/19/2018 8:38:48 PM
18DEC19D-72.wiff	9939807	18352007	12/19/2018 8:47:48 PM
18DEC19D-73.wiff	9939808	18352007	12/19/2018 8:56:51 PM
18DEC19D-74.wiff	9939809	18352007	12/19/2018 9:05:54 PM
18DEC19D-75.wiff	9939810	18352007	12/19/2018 9:14:57 PM
18DEC19D-76.wiff	9939811	18352007	12/19/2018 9:24:00 PM
18DEC19D-77.wiff	9939812	18352007	12/19/2018 9:33:00 PM
18DEC19D-78.wiff	CCV8_CAL3	N/A	12/19/2018 9:42:00 PM
18DEC19D-79.wiff	9939805MS	18352007	12/19/2018 9:51:00 PM
18DEC19D-80.wiff	9939806MSD	18352007	12/19/2018 10:00:03 PM
18DEC19D-81.wiff	solvent	N/A	12/19/2018 10:09:03 PM
18DEC19D-82.wiff	BLK352019	18352019	12/19/2018 10:18:03 PM
18DEC19D-83.wiff	LCS352019	18352019	12/19/2018 10:27:03 PM
18DEC19D-84.wiff	9941672BKG	18352019	12/19/2018 10:36:03 PM
18DEC19D-85.wiff	9941679	18352019	12/19/2018 10:45:06 PM
18DEC19D-86.wiff	9941680	18352019	12/19/2018 10:54:06 PM
18DEC19D-87.wiff	9941673MS	18352019	12/19/2018 11:03:09 PM
18DEC19D-88.wiff	9941674MSD	18352019	12/19/2018 11:12:09 PM
18DEC19D-89.wiff	CCV9_CAL4	N/A	12/19/2018 11:21:12 PM
18DEC19D-90.wiff	solvent	N/A	12/19/2018 11:30:12 PM

20mM Ammonium Acetate in H2O: 782412211833A
20mM Ammonium Acetate in 0.5% H2O\Methanol: 782412211833B

APPROVED
By JPT at 4:32 pm, 12/26/18

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18DEC26DCAL-05.wiff	MDL	N/A	12/26/2018 1:28:16 PM
18DEC26DCAL-06.wiff	CAL1	N/A	12/26/2018 1:37:19 PM
18DEC26DCAL-07.wiff	CAL2	N/A	12/26/2018 1:46:22 PM
18DEC26DCAL-08.wiff	CAL3	N/A	12/26/2018 1:55:25 PM
18DEC26DCAL-09.wiff	CAL4	N/A	12/26/2018 2:04:28 PM
18DEC26DCAL-10.wiff	CAL5	N/A	12/26/2018 2:13:31 PM
18DEC26DCAL-11.wiff	CAL6	N/A	12/26/2018 2:22:31 PM
18DEC26DCAL-12.wiff	CAL7	N/A	12/26/2018 2:31:31 PM
18DEC26DCAL-13.wiff	Instrument Blank	N/A	12/26/2018 2:40:34 PM
18DEC26DCAL-14.wiff	ICV	N/A	12/26/2018 2:49:37 PM
18DEC26DCAL-15.wiff	L+B CAL3	N/A	12/26/2018 2:58:40 PM
18DEC26DCAL-16.wiff	CCV1_CAL3	N/A	12/26/2018 3:07:46 PM
18DEC26D-01.wiff	solvent	N/A	12/26/2018 3:20:39 PM
18DEC26D-02.wiff	solvent	N/A	12/26/2018 3:29:40 PM
18DEC26D-03.wiff	solvent	N/A	12/26/2018 3:38:43 PM
18DEC26D-04.wiff	solvent	N/A	12/26/2018 3:47:46 PM
18DEC26D-05.wiff	CCV1_ISC_CAL2	N/A	12/26/2018 3:56:49 PM
18DEC26D-06.wiff	Instrument Blank	N/A	12/26/2018 4:05:52 PM
18DEC26D-07.wiff	BLK353009	18353009	12/26/2018 4:14:55 PM
18DEC26D-08.wiff	LCS353009	18353009	12/26/2018 4:23:58 PM
18DEC26D-09.wiff	9927476RE	18353009	12/26/2018 4:32:58 PM
18DEC26D-10.wiff	9939815BKG	18353009	12/26/2018 4:41:58 PM
18DEC26D-11.wiff	9939818	18353009	12/26/2018 4:50:58 PM
18DEC26D-12.wiff	9939819	18353009	12/26/2018 4:59:58 PM
18DEC26D-13.wiff	9939820	18353009	12/26/2018 5:08:58 PM
18DEC26D-14.wiff	9939821	18353009	12/26/2018 5:18:01 PM
18DEC26D-15.wiff	CCV2_CAL3	N/A	12/26/2018 5:27:05 PM
18DEC26D-16.wiff	9941503	18353009	12/26/2018 5:36:08 PM
18DEC26D-17.wiff	9941504	18353009	12/26/2018 5:45:11 PM
18DEC26D-18.wiff	9941505	18353009	12/26/2018 5:54:10 PM
18DEC26D-19.wiff	9941506	18353009	12/26/2018 6:03:13 PM
18DEC26D-20.wiff	9941507	18353009	12/26/2018 6:12:19 PM
18DEC26D-21.wiff	9941508	18353009	12/26/2018 6:21:23 PM
18DEC26D-22.wiff	9941514	18353009	12/26/2018 6:30:23 PM
18DEC26D-23.wiff	9941515	18353009	12/26/2018 6:39:23 PM
18DEC26D-24.wiff	9941521	18353009	12/26/2018 6:48:23 PM
18DEC26D-25.wiff	9939816MS	18353009	12/26/2018 6:57:23 PM
18DEC26D-26.wiff	CCV3_CAL4	N/A	12/26/2018 7:06:26 PM
18DEC26D-27.wiff	9939817MSD	18353009	12/26/2018 7:15:29 PM
18DEC26D-28.wiff	solvent	N/A	12/26/2018 7:24:32 PM
18DEC26D-29.wiff	BLK354016	18354016	12/26/2018 7:33:35 PM
18DEC26D-30.wiff	LCS354016	18354016	12/26/2018 7:42:38 PM
18DEC26D-31.wiff	9934708RE	18354016	12/26/2018 7:51:38 PM
18DEC26D-32.wiff	9948301BKG	18354016	12/26/2018 8:00:38 PM
18DEC26D-33.wiff	9948304	18354016	12/26/2018 8:09:38 PM
18DEC26D-34.wiff	9948305	18354016	12/26/2018 8:18:41 PM
18DEC26D-35.wiff	9948306	18354016	12/26/2018 8:27:41 PM
18DEC26D-36.wiff	9948307	18354016	12/26/2018 8:36:44 PM
18DEC26D-37.wiff	9948308	18354016	12/26/2018 8:45:47 PM
18DEC26D-38.wiff	CCV4_ISC_CAL2	N/A	12/26/2018 8:54:50 PM
18DEC26D-39.wiff	9948309	18354016	12/26/2018 9:03:53 PM
18DEC26D-40.wiff	9948310	18354016	12/26/2018 9:12:56 PM
18DEC26D-41.wiff	9948311	18354016	12/26/2018 9:21:59 PM
18DEC26D-42.wiff	9948312	18354016	12/26/2018 9:31:02 PM
18DEC26D-43.wiff	9948302MS	18354016	12/26/2018 9:40:02 PM
18DEC26D-44.wiff	9948303MSD	18354016	12/26/2018 9:49:02 PM
18DEC26D-45.wiff	solvent	N/A	12/26/2018 9:58:02 PM

APPROVED
By MCD at 3:58 pm, 1/2/19

Instrument Name: LM27631

18DEC26D-46.wiff	9941517DL2	18352017	12/26/2018 10:07:05 PM
18DEC26D-47.wiff	9941518DL2	18352017	12/26/2018 10:16:05 PM
18DEC26D-48.wiff	9941519DL2	18352017	12/26/2018 10:25:08 PM
18DEC26D-49.wiff	9941520DL2	18352017	12/26/2018 10:34:11 PM
18DEC26D-50.wiff	CCV5_CAL3	N/A	12/26/2018 10:43:14 PM
18DEC26D-51.wiff	9941651	18354018	12/26/2018 10:52:14 PM
18DEC26D-52.wiff	9941676DL	18354018	12/26/2018 11:01:14 PM
18DEC26D-53.wiff	9941649MS	18354018	12/26/2018 11:10:14 PM
18DEC26D-54.wiff	9941650MSD	18354018	12/26/2018 11:19:17 PM
18DEC26D-55.wiff	solvent	N/A	12/26/2018 11:28:20 PM
18DEC26D-56.wiff	9941672BKGDL	18352019	12/26/2018 11:37:20 PM
18DEC26D-57.wiff	9941679DL	18352019	12/26/2018 11:46:23 PM
18DEC26D-58.wiff	CCV6_CAL4	N/A	12/26/2018 11:55:26 PM
18DEC26D-59.wiff	BLK360005	18360005	12/27/2018 12:04:26 AM
18DEC26D-60.wiff	LCS360005	18360005	12/27/2018 12:13:29 AM
18DEC26D-61.wiff	LCSDA	18360005	12/27/2018 12:22:29 AM
18DEC26D-62.wiff	9934778RE	18360005	12/27/2018 12:31:32 AM
18DEC26D-63.wiff	9934786RE	18360005	12/27/2018 12:40:35 AM
18DEC26D-64.wiff	solvent	N/A	12/27/2018 12:49:38 AM
18DEC26D-65.wiff	BLK355014	18355014	12/27/2018 12:58:41 AM
18DEC26D-66.wiff	LCS355014	18355014	12/27/2018 1:07:41 AM
18DEC26D-67.wiff	LCSDA	18355014	12/27/2018 1:16:41 AM
18DEC26D-68.wiff	9950450BKG	18355014	12/27/2018 1:25:41 AM
18DEC26D-69.wiff	9950451	18355014	12/27/2018 1:34:41 AM
18DEC26D-70.wiff	CCV7_ISC_CAL2	N/A	12/27/2018 1:43:44 AM
18DEC26D-71.wiff	Instrument Blank	N/A	12/27/2018 1:52:47 AM
18DEC26D-72.wiff	9950452	18355014	12/27/2018 2:01:50 AM
18DEC26D-73.wiff	9950453	18355014	12/27/2018 2:10:53 AM
18DEC26D-74.wiff	9950454	18355014	12/27/2018 2:19:56 AM
18DEC26D-75.wiff	9950455	18355014	12/27/2018 2:28:59 AM
18DEC26D-76.wiff	9950456	18355014	12/27/2018 2:37:59 AM
18DEC26D-77.wiff	9950457	18355014	12/27/2018 2:47:02 AM
18DEC26D-78.wiff	9950735	18355014	12/27/2018 2:56:05 AM
18DEC26D-79.wiff	9950450MS	18355014	12/27/2018 3:05:08 AM
18DEC26D-80.wiff	CCV8_CAL3	N/A	12/27/2018 3:14:11 AM
18DEC26D-81.wiff	BLK355015	18355015	12/27/2018 3:23:11 AM
18DEC26D-82.wiff	LCS355015	18355015	12/27/2018 3:32:14 AM
18DEC26D-83.wiff	LCSDA	18355015	12/27/2018 3:41:17 AM
18DEC26D-84.wiff	9941499	18355015	12/27/2018 3:50:20 AM
18DEC26D-85.wiff	9941500	18355015	12/27/2018 3:59:23 AM
18DEC26D-86.wiff	9941501	18355015	12/27/2018 4:08:26 AM
18DEC26D-87.wiff	9941502	18355015	12/27/2018 4:17:26 AM
18DEC26D-88.wiff	9941512	18355015	12/27/2018 4:26:29 AM
18DEC26D-89.wiff	9941513	18355015	12/27/2018 4:35:29 AM
18DEC26D-90.wiff	9941516	18355015	12/27/2018 4:44:29 AM
18DEC26D-91.wiff	CCV9_CAL4	N/A	12/27/2018 4:53:29 AM
18DEC26D-92.wiff	BLK355003	18355003	12/27/2018 5:02:32 AM
18DEC26D-93.wiff	LCS355003	18355003	12/27/2018 5:11:35 AM
18DEC26D-94.wiff	9940820	18355003	12/27/2018 5:20:38 AM
18DEC26D-95.wiff	9940821	18355003	12/27/2018 5:29:41 AM
18DEC26D-96.wiff	9940822BKG	18355003	12/27/2018 5:38:41 AM
18DEC26D-97.wiff	9940825	18355003	12/27/2018 5:47:44 AM
18DEC26D-98.wiff	9940826	18355003	12/27/2018 5:56:47 AM
18DEC26D-99.wiff	9940827	18355003	12/27/2018 6:05:47 AM
18DEC26D-100.wiff	9940828	18355003	12/27/2018 6:14:47 AM
18DEC26D-101.wiff	9940829	18355003	12/27/2018 6:23:47 AM
18DEC26D-102.wiff	CCV10_ISC_CAL2	N/A	12/27/2018 6:32:50 AM
18DEC26D-103.wiff	9940830	18355003	12/27/2018 6:41:53 AM

APPROVED
By MCD at 3:58 pm, 1/2/19

Instrument Name: LM27631

18DEC26D-104.wiff	9940831	18355003	12/27/2018 6:50:56 AM
18DEC26D-105.wiff	9941646	18355003	12/27/2018 6:59:56 AM
18DEC26D-106.wiff	9941647	18355003	12/27/2018 7:08:59 AM
18DEC26D-107.wiff	9941653	18355003	12/27/2018 7:17:59 AM
18DEC26D-108.wiff	9941677	18355003	12/27/2018 7:27:02 AM
18DEC26D-109.wiff	9941678	18355003	12/27/2018 7:36:05 AM
18DEC26D-110.wiff	9950458	18355003	12/27/2018 7:45:08 AM
18DEC26D-111.wiff	9940823MS	18355003	12/27/2018 7:54:14 AM
18DEC26D-112.wiff	9940824MSD	18355003	12/27/2018 8:03:17 AM
18DEC26D-113.wiff	CCV11_CAL3	N/A	12/27/2018 8:12:20 AM
18DEC26D-114.wiff	BLK360020	18360020	12/27/2018 8:21:20 AM
18DEC26D-115.wiff	LCS360020	18360020	12/27/2018 8:30:23 AM
18DEC26D-116.wiff	9954737	18360020	12/27/2018 8:39:26 AM
18DEC26D-117.wiff	9954738BKG	18360020	12/27/2018 8:48:29 AM
18DEC26D-118.wiff	9954739MS	18360020	12/27/2018 8:57:32 AM
18DEC26D-119.wiff	9954740MSD	18360020	12/27/2018 9:06:35 AM
18DEC26D-120.wiff	CCV12_CAL4	N/A	12/27/2018 9:15:35 AM

20 mM Ammonium Acetate in H2O: 782412211833A
20 mM Ammonium Acetate in 0.5% H2O\Methanol: 782412211833B

APPROVED
By MCD at 3:58 pm, 1/2/19

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Sample File Name	Acquisition Date	Sample ID	Sample Name
18DEC18DCAL-68.wiff	12/18/2018 11:34:56 PM	CALBRN11833C	CAL1
18DEC18DCAL-69.wiff	12/18/2018 11:43:56 PM	CALBRN21833C	CAL2
18DEC18DCAL-70.wiff	12/18/2018 11:52:56 PM	CALBRN31833B	CAL3
18DEC18DCAL-71.wiff	12/19/2018 12:01:56 AM	CALBRN41833B	CAL4
18DEC18DCAL-72.wiff	12/19/2018 12:10:55 AM	CALBRN51833B	CAL5
18DEC18DCAL-73.wiff	12/19/2018 12:19:55 AM	CALBRN61833B	CAL6
18DEC18DCAL-74.wiff	12/19/2018 12:28:56 AM	CALBRN71833B	CAL7

CAL3 Injection Standard Areas

Sample Name	Injection Std Name	Injection Std Area
CAL3	13C3-PFBA	941251.6
CAL3	13C2-PFOA	485595.3
CAL3	13C4-PFOS	292182.6
CAL3	13C2-PFDA	467216.0

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Response Factor Table

Analyte Name	CAL 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7	%RSD	Limit	OOS	r^2	OOS
PFBA	1.035	1.039	1.019	0.912	0.943	N/A	N/A	5	20		0.999	
PFPeA	1.073	1.048	1.088	0.943	0.964	N/A	N/A	6	20		0.999	
PFBS	1.050	1.017	1.043	0.973	0.941	0.932	0.942	5	20		1.000	
4:2-FTS	1.860	1.994	1.828	1.786	1.896	1.728	N/A	5	20		0.998	
PFHxA	1.333	1.356	1.237	1.221	1.204	N/A	N/A	5	20		1.000	
PFPeS	0.512	0.501	0.508	0.478	0.476	0.461	0.448	5	20		0.999	
PFHpA	1.871	1.766	1.686	1.503	1.482	N/A	N/A	9	20		0.999	
PFHxS	0.963	1.075	1.058	0.942	0.998	0.963	N/A	5	20		0.999	
6:2-FTS	2.445	2.288	2.173	2.111	1.856	1.880	N/A	10	20		0.998	
PFHpS	0.845	1.015	1.039	0.902	0.917	0.891	0.887	7	20		1.000	
PFOA	1.063	1.089	1.115	0.923	0.990	0.920	N/A	8	20		0.998	
PFOS	1.129	1.112	1.240	1.025	1.059	1.111	1.091	6	20		0.999	
PFNA	1.534	1.391	1.409	1.290	1.349	1.208	N/A	7	20		0.997	
PFNS	0.760	0.810	0.858	0.723	0.725	0.762	N/A	6	20		0.999	
PFDA	1.136	1.056	0.974	0.946	0.973	N/A	N/A	7	20		1.000	
8:2-FTS	2.678	2.650	2.593	2.440	2.325	N/A	N/A	5	20		0.999	
PFOSA	1.066	1.125	1.051	0.967	1.054	0.980	N/A	5	20		0.999	
NMeFOSAA	0.752	0.898	0.879	0.801	0.853	0.782	N/A	6	20		0.998	
PFDS	0.565	0.615	0.644	0.608	0.566	0.580	0.583	5	20		1.000	
PFUnDA	1.652	1.596	1.609	1.515	1.494	N/A	N/A	4	20		1.000	
NEtFOSAA	0.959	0.872	1.035	0.902	1.055	1.008	0.958	6	20		0.998	
PFDoDA	1.207	1.061	1.069	0.932	1.005	N/A	N/A	9	20		0.998	
10:2-FTS	2.837	2.644	2.609	2.279	2.343	N/A	N/A	8	20		0.999	
NMePFOSAE	1.183	1.333	1.259	1.207	1.182	1.165	1.098	6	20		0.999	
NMePFOSA	0.981	1.153	1.075	0.960	0.981	0.994	N/A	7	20		1.000	
PFDoS	0.299	0.305	0.317	0.294	0.313	0.328	0.312	3	20		0.999	
NEtPFOSAE	1.727	1.736	1.611	1.421	1.559	N/A	N/A	7	20		0.998	
NEtPFOSA	1.031	1.099	1.185	1.137	1.061	1.050	1.072	5	20		1.000	
PFTrDA	1.036	1.057	0.995	0.923	0.991	N/A	N/A	5	20		0.999	
PFTeDA	1.015	0.955	0.992	0.868	0.945	N/A	N/A	5	20		0.998	
PFHxDA	0.540	0.478	0.521	0.478	0.482	0.438	N/A	7	20		0.998	
PFODA	0.358	0.354	0.386	0.354	0.362	0.340	N/A	4	20		0.999	

APPROVED
By MSM at 11:49 am, 12/19/18

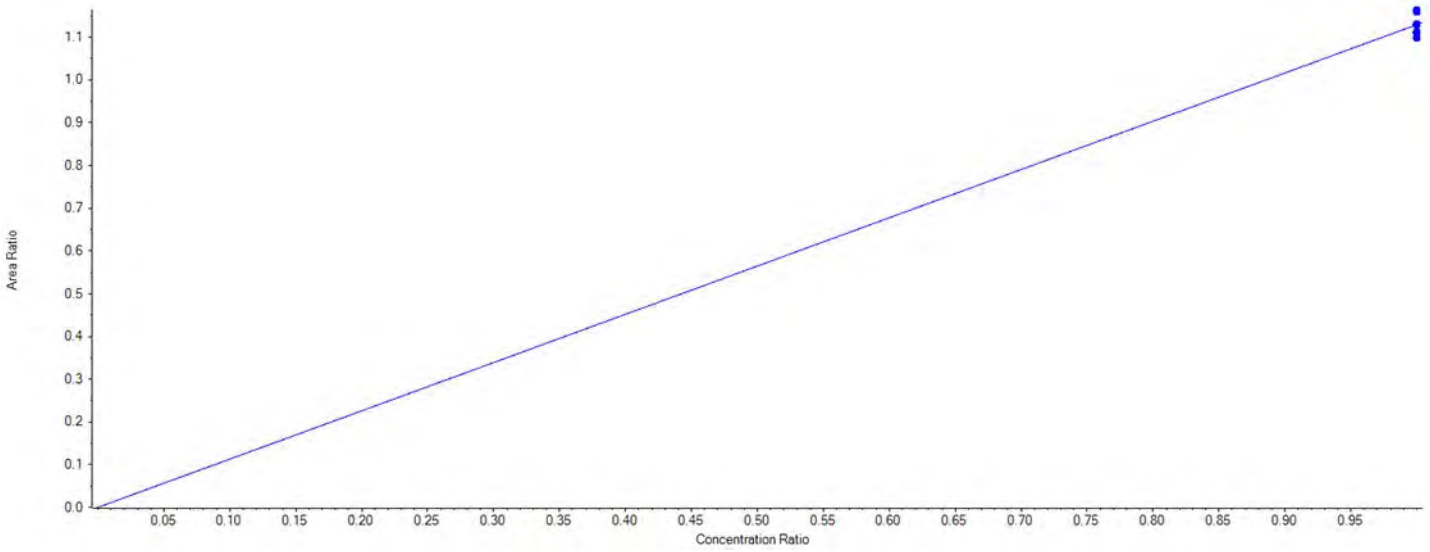
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFBA

y = 1.12911 x (std. dev. = 0.02473) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFBA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1106287.60	996186.00	True	5.00	1.111	3.26	1.000	5.000	4.918	-2	30	
CAL2	1122193.95	964316.66	True	5.00	1.164	3.26	1.000	5.000	5.153	3	30	
CAL3	1064422.79	941251.55	True	5.00	1.131	3.26	1.000	5.000	5.008	0	30	
CAL4	1092510.85	994245.80	True	5.00	1.099	3.26	1.000	5.000	4.866	-3	30	
CAL5	1029366.77	913001.04	True	5.00	1.127	3.26	1.000	5.000	4.993	0	30	
CAL6	976240.59	841816.85	True	5.00	1.160	3.26	1.000	5.000	5.135	3	30	
CAL7	849248.24	763214.46	True	5.00	1.113	3.25	1.000	5.000	4.927	-1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

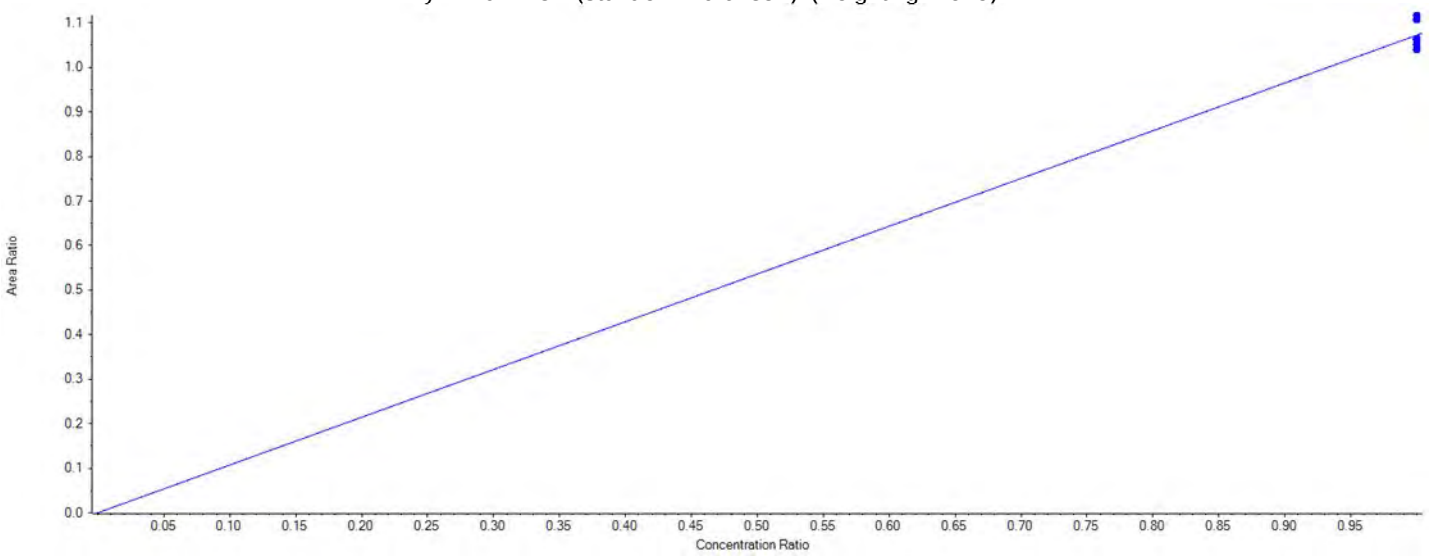
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFPeA

y = 1.07223 x (std. dev. = 0.02851) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFPeA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1046699.00	996186.00	True	5.00	1.051	3.76	1.150	5.000	4.900	-2	30	
CAL2	1076428.66	964316.66	True	5.00	1.116	3.76	1.150	5.000	5.205	4	30	
CAL3	1002351.73	941251.55	True	5.00	1.065	3.77	1.150	5.000	4.966	-1	30	
CAL4	1033656.30	994245.80	True	5.00	1.040	3.76	1.150	5.000	4.848	-3	30	
CAL5	971672.04	913001.04	True	5.00	1.064	3.76	1.150	5.000	4.963	-1	30	
CAL6	931893.93	841816.85	True	5.00	1.107	3.76	1.150	5.000	5.162	3	30	
CAL7	811188.96	763214.46	True	5.00	1.063	3.75	1.150	5.000	4.956	-1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

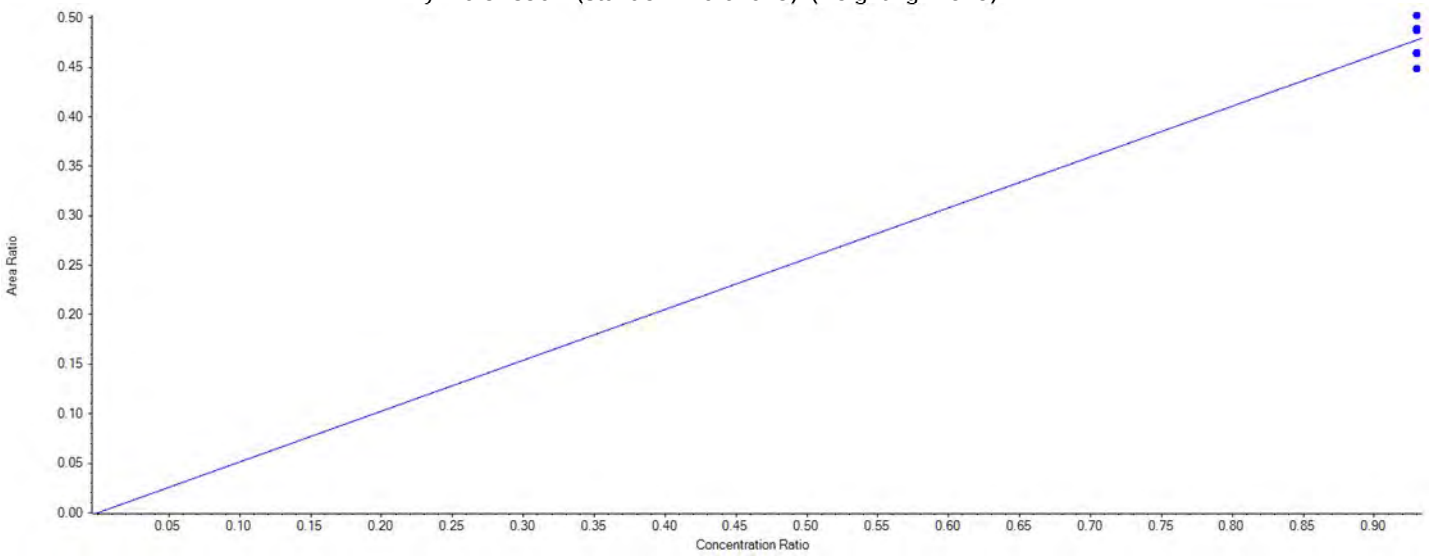
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFBS

y = 0.51350 x (std. dev. = 0.02045) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C3-PFBS Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	461605.31	996186.00	True	5.00	0.463	3.81	1.170	4.650	4.512	-3	30	
CAL2	471423.14	964316.66	True	5.00	0.489	3.81	1.170	4.650	4.760	2	30	
CAL3	437376.42	941251.55	True	5.00	0.465	3.82	1.170	4.650	4.525	-3	30	
CAL4	445696.19	994245.80	True	5.00	0.448	3.81	1.170	4.650	4.365	-6	30	
CAL5	446207.39	913001.04	True	5.00	0.489	3.81	1.170	4.650	4.759	2	30	
CAL6	422799.48	841816.85	True	5.00	0.502	3.81	1.170	4.650	4.890	5	30	
CAL7	371468.64	763214.46	True	5.00	0.487	3.80	1.170	4.650	4.739	2	30	

APPROVED
By MSM at 11:49 am, 12/19/18

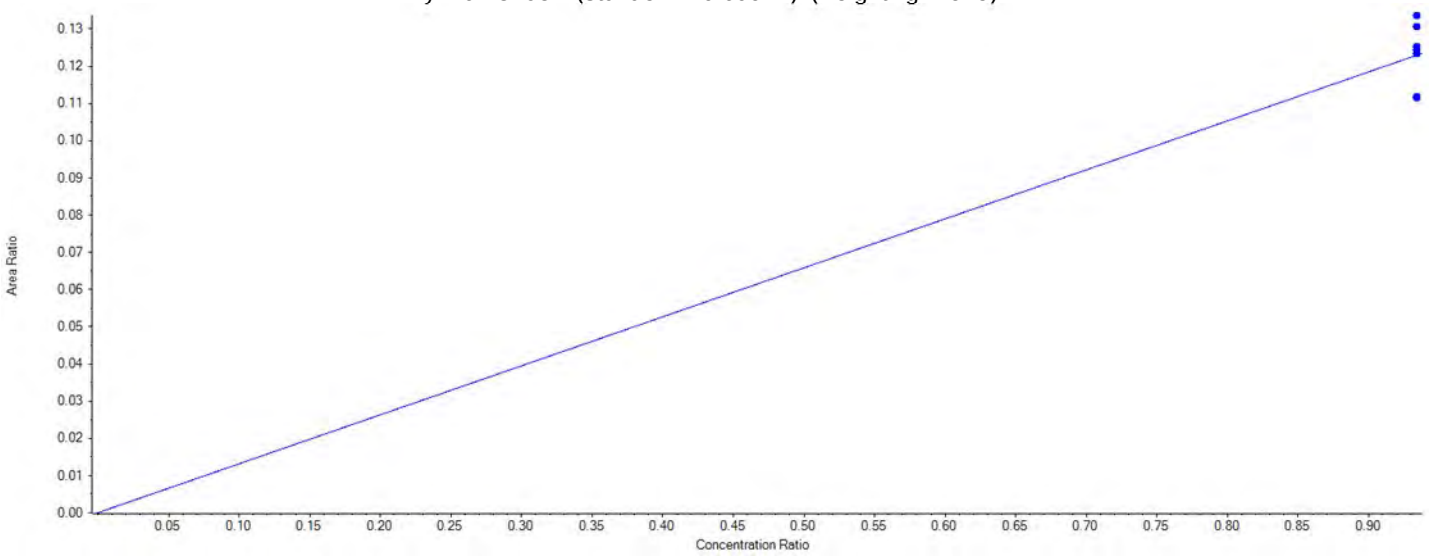
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-4:2-FTS

y = 0.13165 x (std. dev. = 0.00912) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-4:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	70576.52	539687.50	True	5.00	0.131	4.12	0.840	4.670	4.967	6	30	
CAL2	65525.79	523533.32	True	5.00	0.125	4.12	0.840	4.670	4.754	2	30	
CAL3	64885.53	485595.29	True	5.00	0.134	4.13	0.840	4.670	5.075	9	30	
CAL4	64261.81	521121.54	True	5.00	0.123	4.12	0.840	4.670	4.683	0	30	
CAL5	60237.68	539893.39	True	5.00	0.112	4.12	0.840	4.670	4.237	-9	30	
CAL6	60811.26	543818.83	True	5.00	0.112	4.12	0.840	4.670	4.247	-9	30	
CAL7	60332.00	484733.39	True	5.00	0.124	4.11	0.840	4.670	4.727	1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

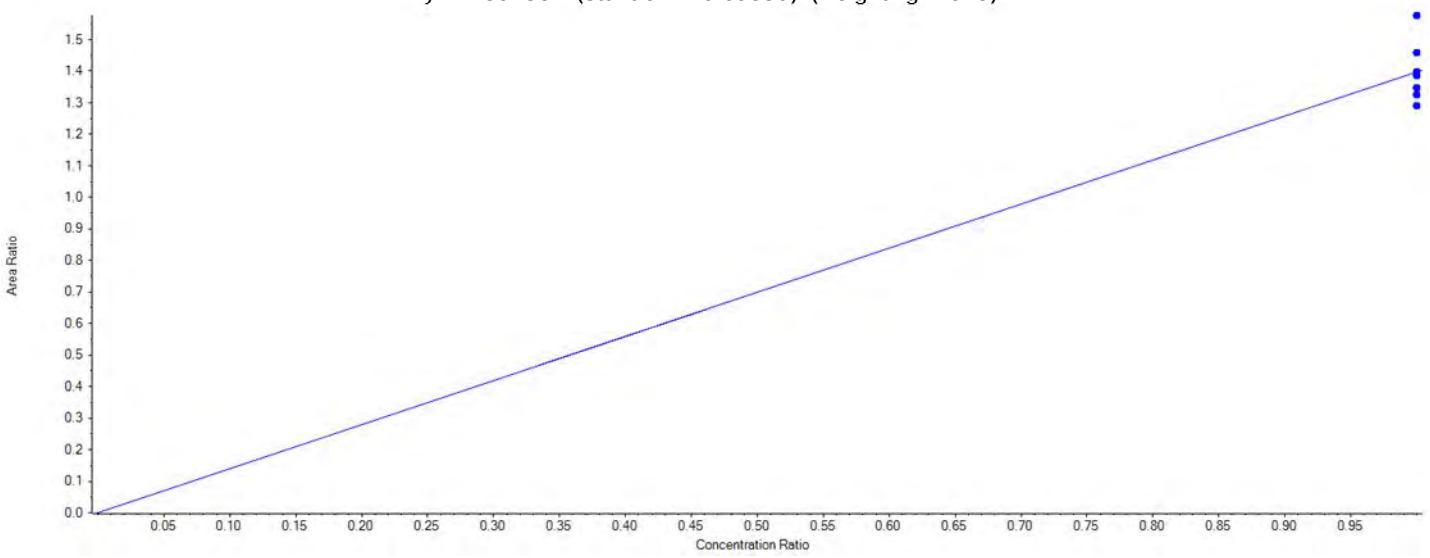
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFHxA

y = 1.39785 x (std. dev. = 0.09530) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFHxA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	748596.55	539687.50	True	5.00	1.387	4.16	0.850	5.000	4.962	-1	30	
CAL2	763341.69	523533.32	True	5.00	1.458	4.15	0.850	5.000	5.215	4	30	
CAL3	765483.52	485595.29	True	5.00	1.576	4.16	0.850	5.000	5.639	13	30	
CAL4	728009.89	521121.54	True	5.00	1.397	4.15	0.850	5.000	4.997	0	30	
CAL5	728204.42	539893.39	True	5.00	1.349	4.16	0.850	5.000	4.825	-4	30	
CAL6	702242.37	543818.83	True	5.00	1.291	4.16	0.850	5.000	4.619	-8	30	
CAL7	642893.13	484733.39	True	5.00	1.326	4.15	0.850	5.000	4.744	-5	30	

APPROVED
By MSM at 11:49 am, 12/19/18

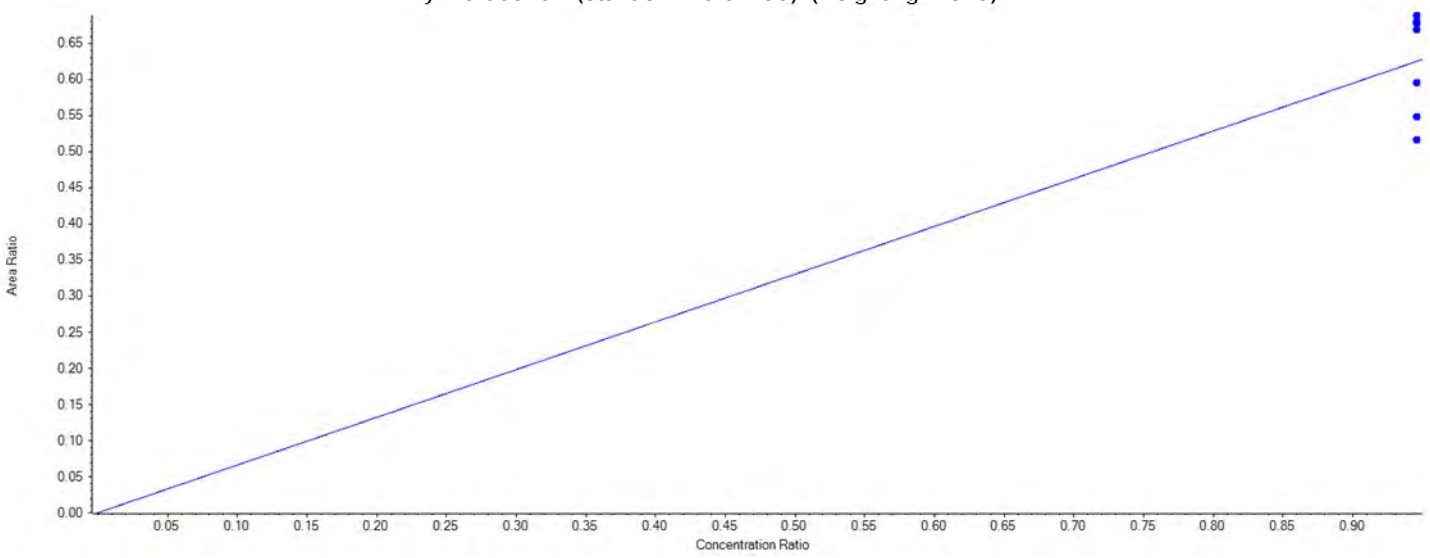
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFHxS

y = 0.66076 x (std. dev. = 0.07493) (weighting: None)



Extraction Standard Calibration Verification

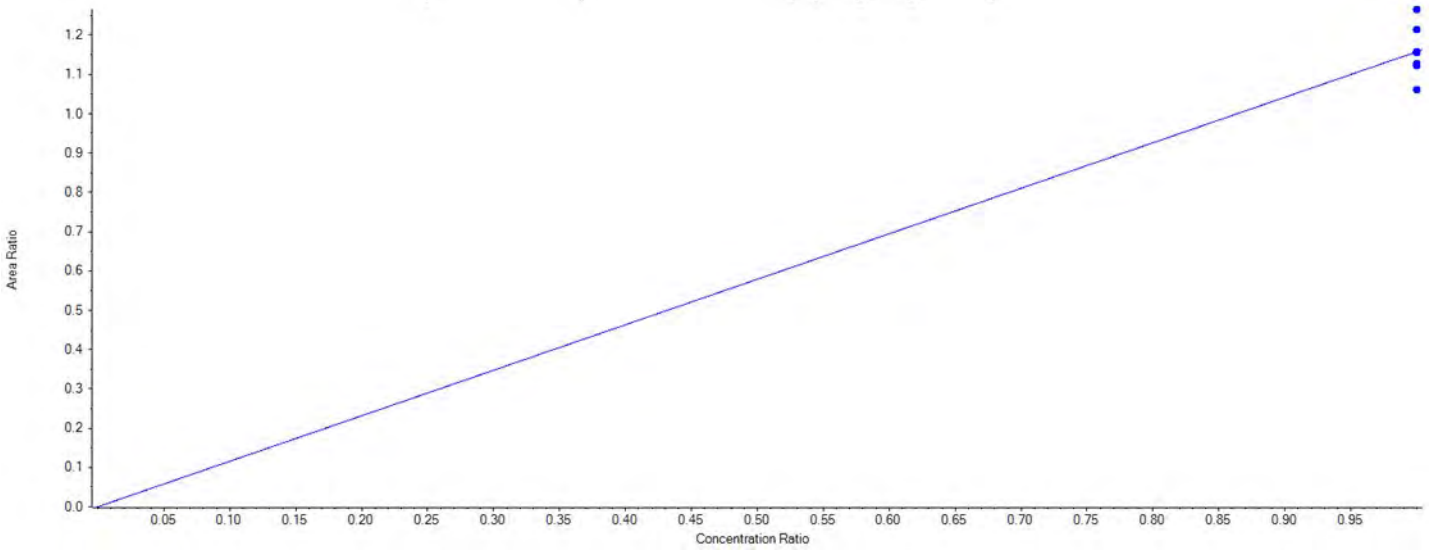
Sample Name	E13C3-PFHxS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	371572.29	539687.50	True	5.00	0.688	4.54	0.930	4.730	5.210	10	30	
CAL2	354452.88	523533.32	True	5.00	0.677	4.54	0.930	4.730	5.123	8	30	
CAL3	330322.87	485595.29	True	5.00	0.680	4.55	0.930	4.730	5.147	9	30	
CAL4	348394.91	521121.54	True	5.00	0.669	4.54	0.930	4.730	5.059	7	30	
CAL5	321862.26	539893.39	True	5.00	0.596	4.54	0.930	4.730	4.511	-5	30	
CAL6	298442.34	543818.83	True	5.00	0.549	4.55	0.930	4.730	4.153	-12	30	
CAL7	250261.05	484733.39	True	5.00	0.516	4.54	0.930	4.730	3.907	-17	30	

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFHpA

y = 1.15755 x (std. dev. = 0.06604) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFHpA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	573021.26	539687.50	True	5.00	1.062	4.54	0.930	5.000	4.586	-8	30	
CAL2	605519.18	523533.32	True	5.00	1.157	4.54	0.920	5.000	4.996	0	30	
CAL3	614238.84	485595.29	True	5.00	1.265	4.54	0.930	5.000	5.464	9	30	
CAL4	633233.30	521121.54	True	5.00	1.215	4.54	0.920	5.000	5.249	5	30	
CAL5	623382.42	539893.39	True	5.00	1.155	4.54	0.920	5.000	4.987	0	30	
CAL6	610591.63	543818.83	True	5.00	1.123	4.55	0.930	5.000	4.850	-3	30	
CAL7	546291.55	484733.39	True	5.00	1.127	4.53	0.920	5.000	4.868	-3	30	

APPROVED
By MSM at 11:49 am, 12/19/18

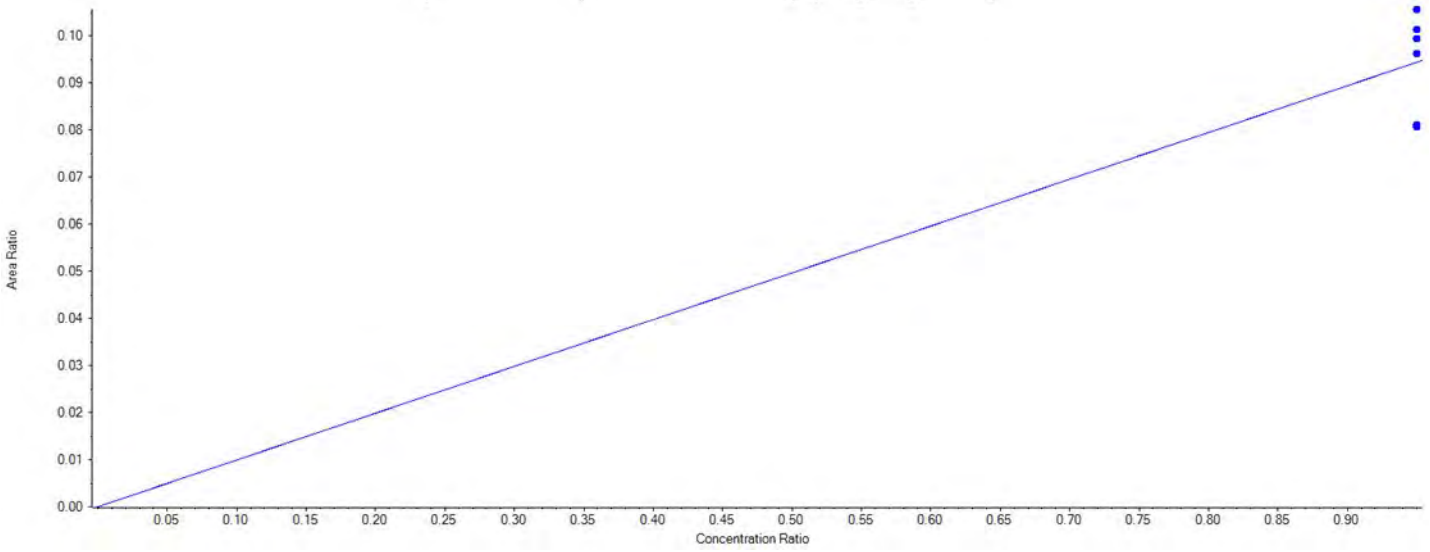
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-6:2-FTS

y = 0.09938 x (std. dev. = 0.01031) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-6:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	53697.29	539687.50	True	5.00	0.099	4.89	1.000	4.750	5.006	5	30	
CAL2	53117.91	523533.32	True	5.00	0.101	4.89	1.000	4.750	5.105	7	30	
CAL3	51288.83	485595.29	True	5.00	0.106	4.90	1.000	4.750	5.314	12	30	
CAL4	50211.12	521121.54	True	5.00	0.096	4.89	1.000	4.750	4.848	2	30	
CAL5	51944.01	539893.39	True	5.00	0.096	4.89	1.000	4.750	4.841	2	30	
CAL6	44087.72	543818.83	True	5.00	0.081	4.90	1.000	4.750	4.079	-14	30	
CAL7	39094.47	484733.39	True	5.00	0.081	4.89	1.000	4.750	4.058	-15	30	

APPROVED
By MSM at 11:49 am, 12/19/18

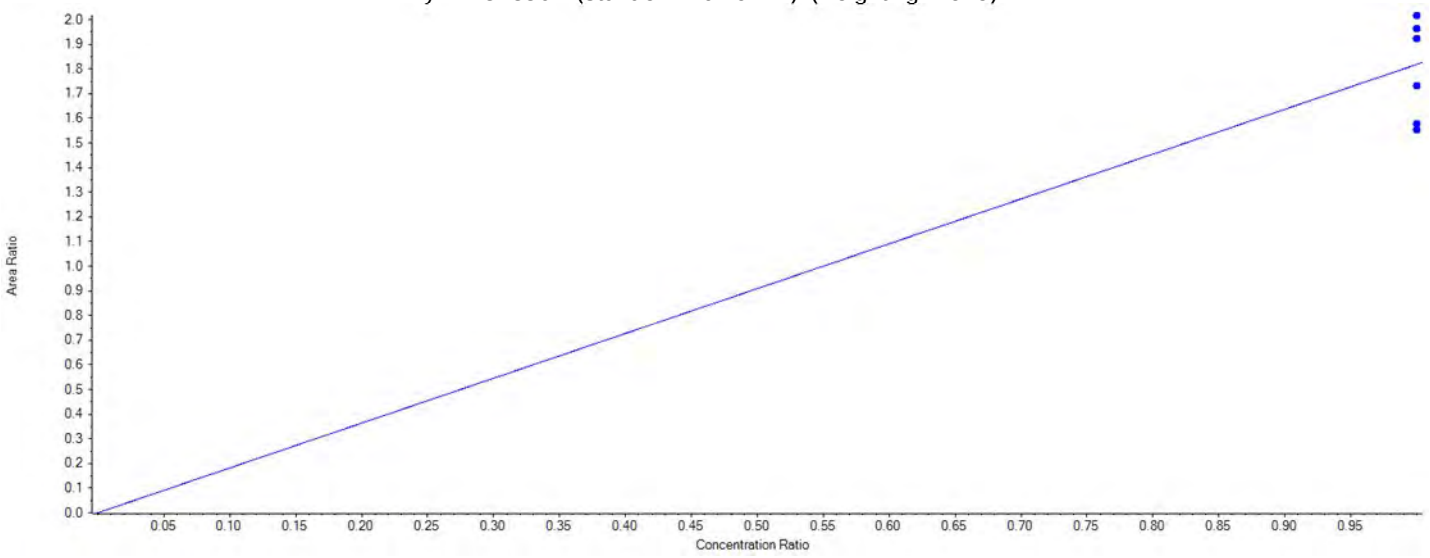
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOA

y = 1.81836 x (std. dev. = 0.19441) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1059559.49	539687.50	True	5.00	1.963	4.91	1.000	5.000	5.399	8	30	
CAL2	1027981.98	523533.32	True	5.00	1.964	4.90	1.000	5.000	5.399	8	30	
CAL3	979199.85	485595.29	True	5.00	2.016	4.91	1.000	5.000	5.545	11	30	
CAL4	1001301.47	521121.54	True	5.00	1.921	4.90	1.000	5.000	5.283	6	30	
CAL5	934414.04	539893.39	True	5.00	1.731	4.91	1.000	5.000	4.759	-5	30	
CAL6	858182.66	543818.83	True	5.00	1.578	4.92	1.000	5.000	4.339	-13	30	
CAL7	753729.04	484733.39	True	5.00	1.555	4.90	1.000	5.000	4.276	-14	30	

APPROVED
By MSM at 11:49 am, 12/19/18

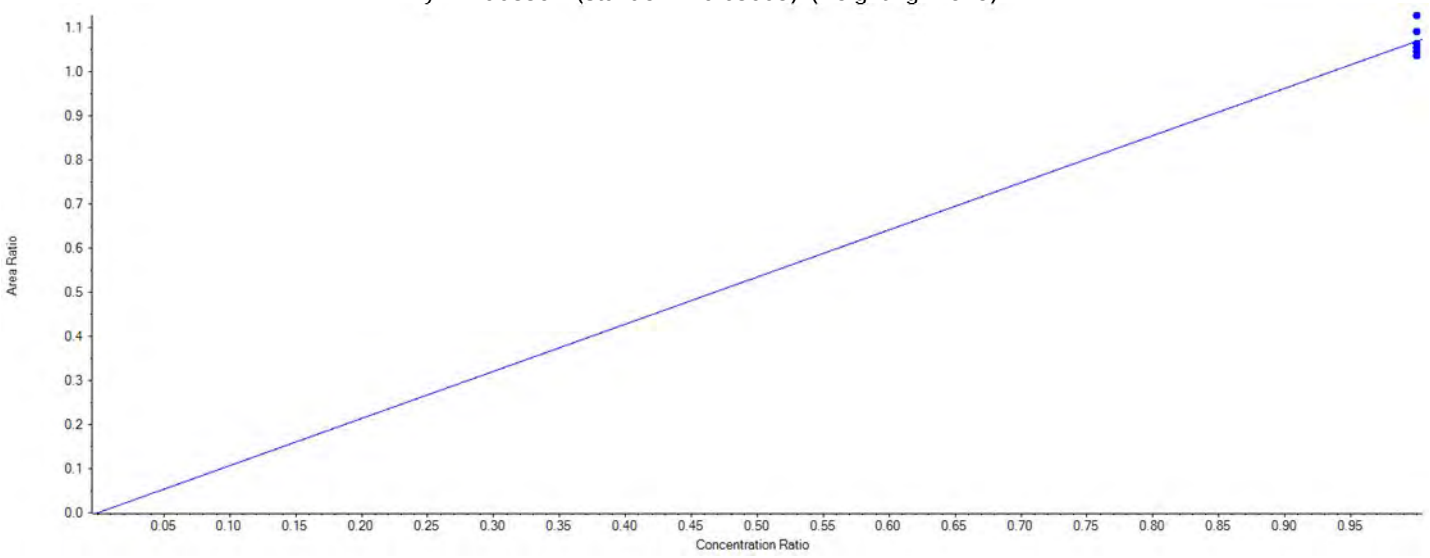
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOS

y = 1.06889 x (std. dev. = 0.03065) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOS Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	340125.34	319537.92	True	4.78	1.064	5.24	1.000	4.780	4.760	0	30	
CAL2	349492.67	310106.63	True	4.78	1.127	5.23	1.000	4.780	5.040	5	30	
CAL3	308110.34	292182.59	True	4.78	1.055	5.24	1.000	4.780	4.716	-1	30	
CAL4	334944.86	323226.96	True	4.78	1.036	5.23	1.000	4.780	4.634	-3	30	
CAL5	331539.36	311507.34	True	4.78	1.064	5.24	1.000	4.780	4.759	0	30	
CAL6	289236.33	276479.86	True	4.78	1.046	5.24	1.000	4.780	4.678	-2	30	
CAL7	268338.15	246274.53	True	4.78	1.090	5.23	1.000	4.780	4.873	2	30	

APPROVED
By MSM at 11:49 am, 12/19/18

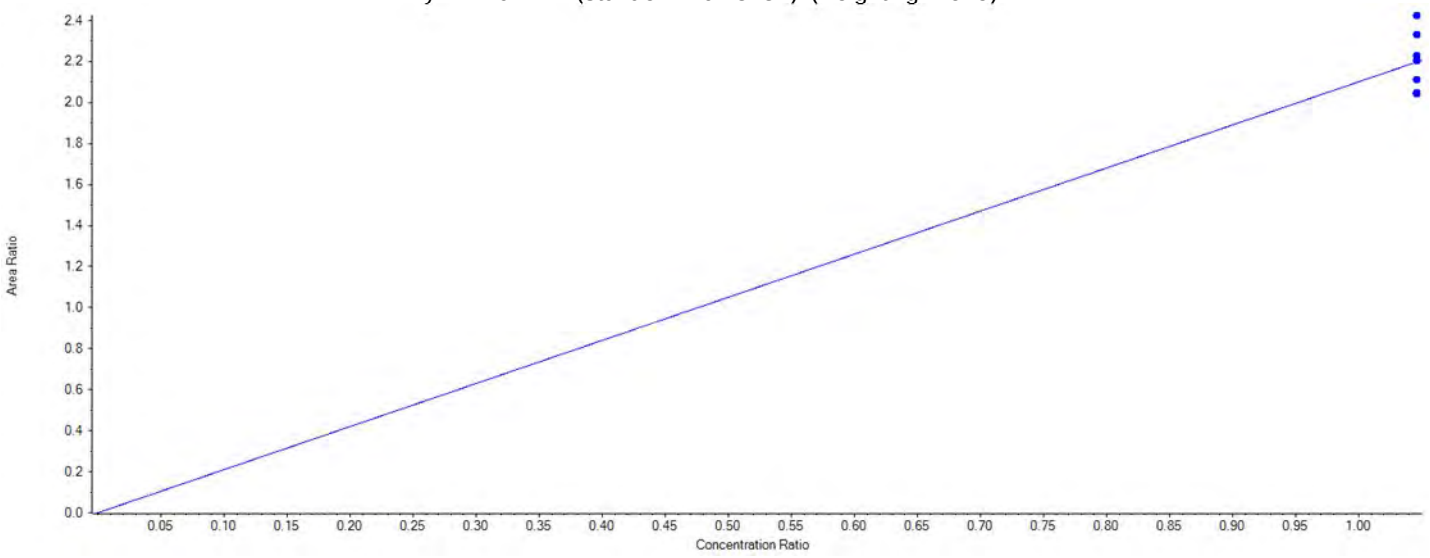
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C9-PFNA

y = 2.10117 x (std. dev. = 0.13787) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C9-PFNA Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	674406.01	319537.92	True	4.78	2.111	5.25	1.000	5.000	4.801	-4	30	
CAL2	683029.42	310106.63	True	4.78	2.203	5.25	1.000	5.000	5.011	0	30	
CAL3	651529.11	292182.59	True	4.78	2.230	5.25	1.000	5.000	5.073	1	30	
CAL4	661406.41	323226.96	True	4.78	2.046	5.25	1.000	5.000	4.655	-7	30	
CAL5	635976.18	311507.34	True	4.78	2.042	5.25	1.000	5.000	4.644	-7	30	
CAL6	644223.39	276479.86	True	4.78	2.330	5.26	1.000	5.000	5.301	6	30	
CAL7	597020.81	246274.53	True	4.78	2.424	5.25	1.000	5.000	5.515	10	30	

APPROVED
By MSM at 11:49 am, 12/19/18

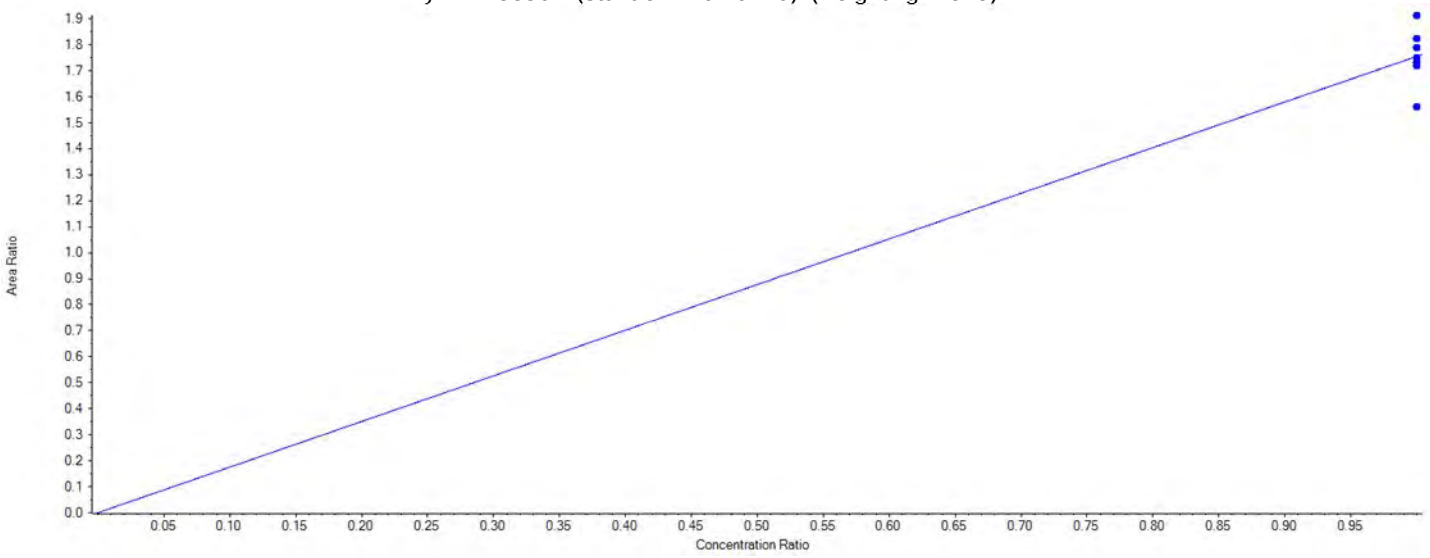
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C6-PFDA

y = 1.75530 x (std. dev. = 0.10776) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C6-PFDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	846045.46	492042.79	True	5.00	1.719	5.56	1.000	5.000	4.898	-2	30	
CAL2	929390.92	486052.71	True	5.00	1.912	5.56	1.000	5.000	5.447	9	30	
CAL3	851991.70	467216.04	True	5.00	1.824	5.56	1.000	5.000	5.194	4	30	
CAL4	880890.92	492670.33	True	5.00	1.788	5.56	1.000	5.000	5.093	2	30	
CAL5	823063.78	475016.51	True	5.00	1.733	5.56	1.000	5.000	4.936	-1	30	
CAL6	785276.61	448809.55	True	5.00	1.750	5.57	1.000	5.000	4.984	0	30	
CAL7	716919.49	459096.58	True	5.00	1.562	5.56	1.000	5.000	4.448	-11	30	

APPROVED
By MSM at 11:49 am, 12/19/18

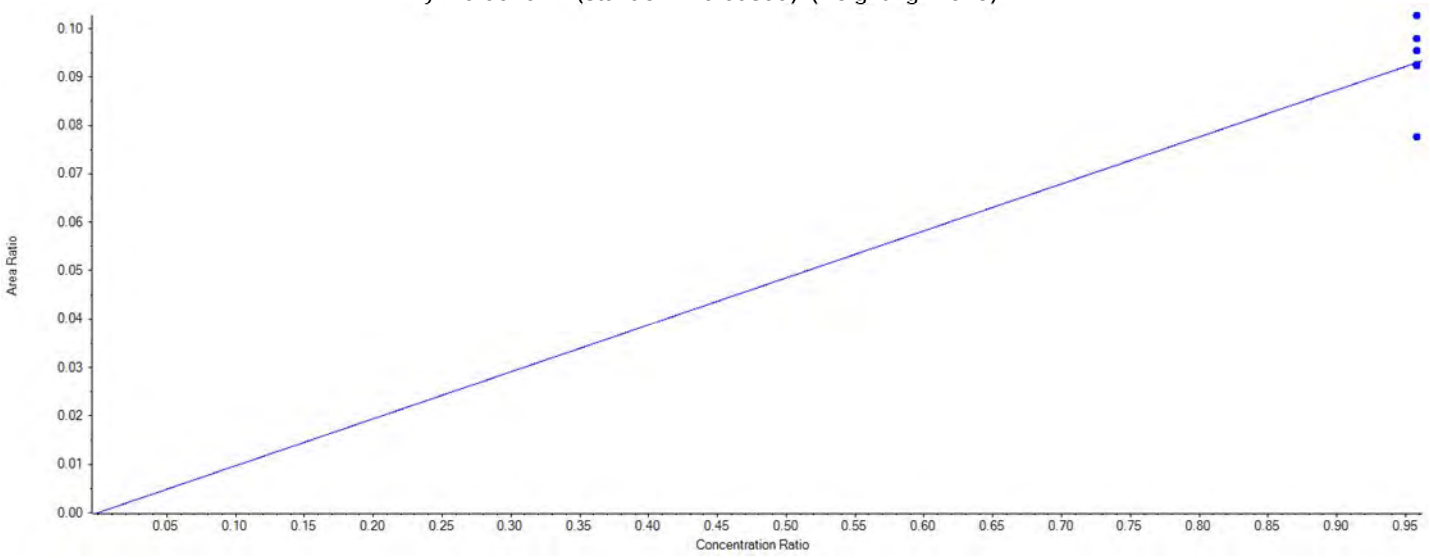
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-8:2-FTS

y = 0.09701 x (std. dev. = 0.00809) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-8:2-FTS Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	48167.71	492042.79	True	5.00	0.098	5.56	1.000	4.790	5.045	5	30	
CAL2	46390.21	486052.71	True	5.00	0.095	5.56	1.000	4.790	4.919	3	30	
CAL3	47968.92	467216.04	True	5.00	0.103	5.56	1.000	4.790	5.292	10	30	
CAL4	45542.35	492670.33	True	5.00	0.092	5.56	1.000	4.790	4.764	-1	30	
CAL5	43810.43	475016.51	True	5.00	0.092	5.57	1.000	4.790	4.754	-1	30	
CAL6	41390.64	448809.55	True	5.00	0.092	5.57	1.000	4.790	4.753	-1	30	
CAL7	35654.26	459096.58	True	5.00	0.078	5.56	1.000	4.790	4.003	-16	30	

APPROVED
By MSM at 11:49 am, 12/19/18

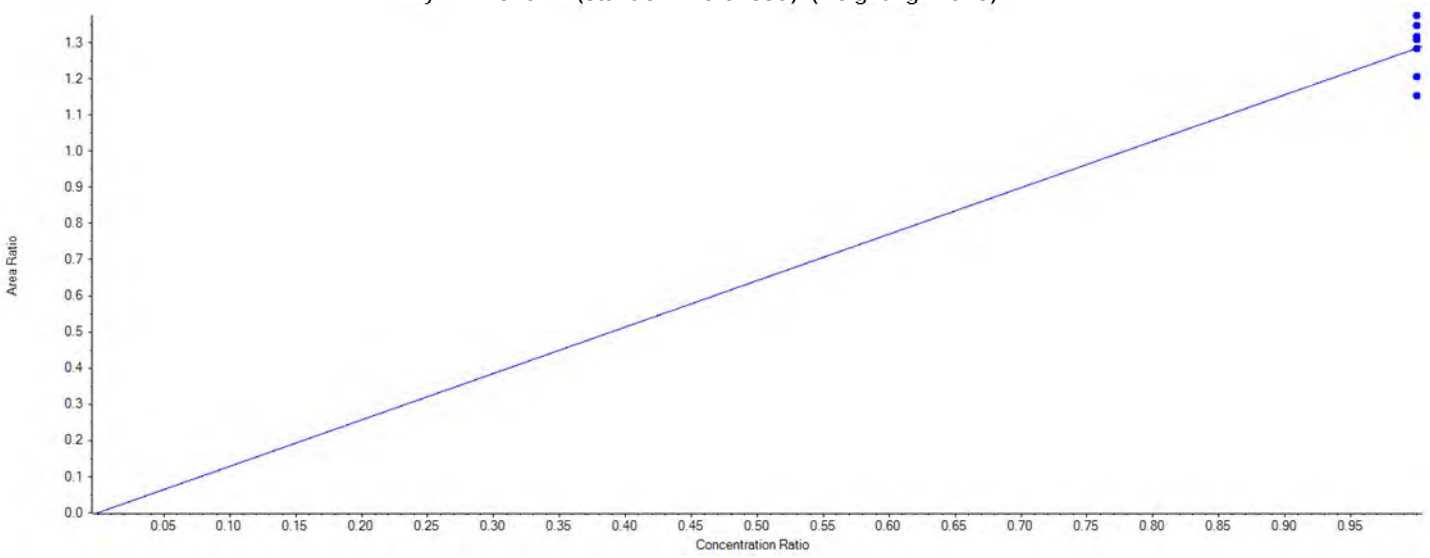
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOSA

y = 1.28401 x (std. dev. = 0.07839) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	662399.72	492042.79	True	5.00	1.346	5.65	1.020	5.000	5.242	5	30	
CAL2	636077.52	486052.71	True	5.00	1.309	5.65	1.020	5.000	5.096	2	30	
CAL3	642239.55	467216.04	True	5.00	1.375	5.65	1.020	5.000	5.353	7	30	
CAL4	648373.15	492670.33	True	5.00	1.316	5.65	1.020	5.000	5.125	2	30	
CAL5	573278.73	475016.51	True	5.00	1.207	5.65	1.020	5.000	4.700	-6	30	
CAL6	575735.32	448809.55	True	5.00	1.283	5.66	1.020	5.000	4.995	0	30	
CAL7	529267.79	459096.58	True	5.00	1.153	5.65	1.020	5.000	4.489	-10	30	

APPROVED
By MSM at 11:49 am, 12/19/18

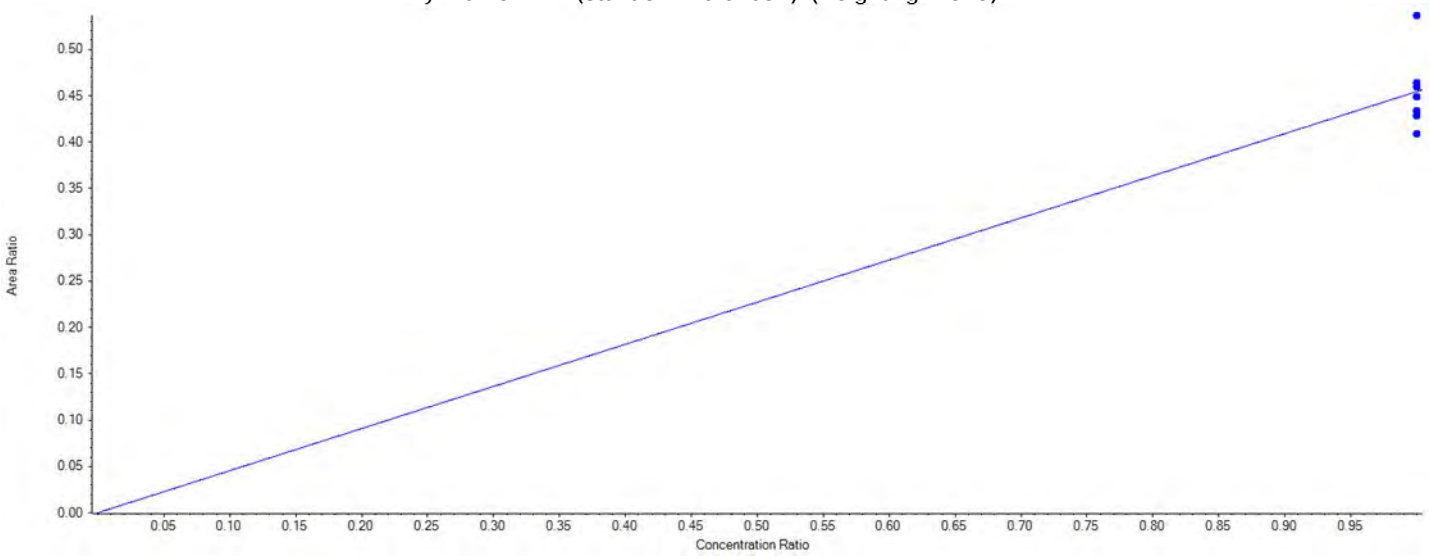
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMeFOSAA

y = 0.45447 x (std. dev. = 0.04087) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMeFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	263939.87	492042.79	True	5.00	0.536	5.70	1.030	5.000	5.902	18	30	
CAL2	218152.20	486052.71	True	5.00	0.449	5.70	1.030	5.000	4.938	-1	30	
CAL3	216983.67	467216.04	True	5.00	0.464	5.70	1.030	5.000	5.109	2	30	
CAL4	226675.05	492670.33	True	5.00	0.460	5.70	1.030	5.000	5.062	1	30	
CAL5	203504.71	475016.51	True	5.00	0.428	5.70	1.030	5.000	4.713	-6	30	
CAL6	194698.33	448809.55	True	5.00	0.434	5.71	1.030	5.000	4.773	-5	30	
CAL7	187926.13	459096.58	True	5.00	0.409	5.70	1.020	5.000	4.503	-10	30	

APPROVED
By MSM at 11:49 am, 12/19/18

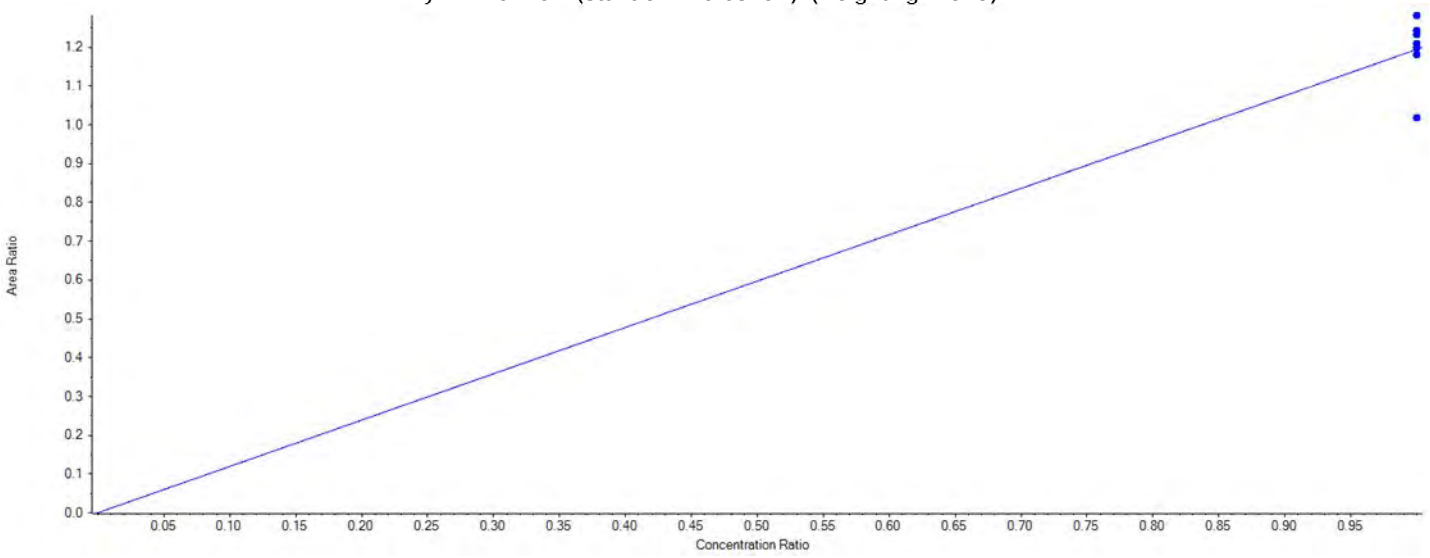
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C7-PFUnDA

y = 1.19449 x (std. dev. = 0.08492) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C7-PFUnDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	606291.55	492042.79	True	5.00	1.232	5.82	1.050	5.000	5.158	3	30	
CAL2	622971.70	486052.71	True	5.00	1.282	5.82	1.050	5.000	5.365	7	30	
CAL3	580977.27	467216.04	True	5.00	1.243	5.82	1.050	5.000	5.205	4	30	
CAL4	581922.53	492670.33	True	5.00	1.181	5.82	1.050	5.000	4.944	-1	30	
CAL5	568949.80	475016.51	True	5.00	1.198	5.83	1.050	5.000	5.014	0	30	
CAL6	542196.94	448809.55	True	5.00	1.208	5.83	1.050	5.000	5.057	1	30	
CAL7	466944.37	459096.58	True	5.00	1.017	5.82	1.050	5.000	4.257	-15	30	

APPROVED
By MSM at 11:49 am, 12/19/18

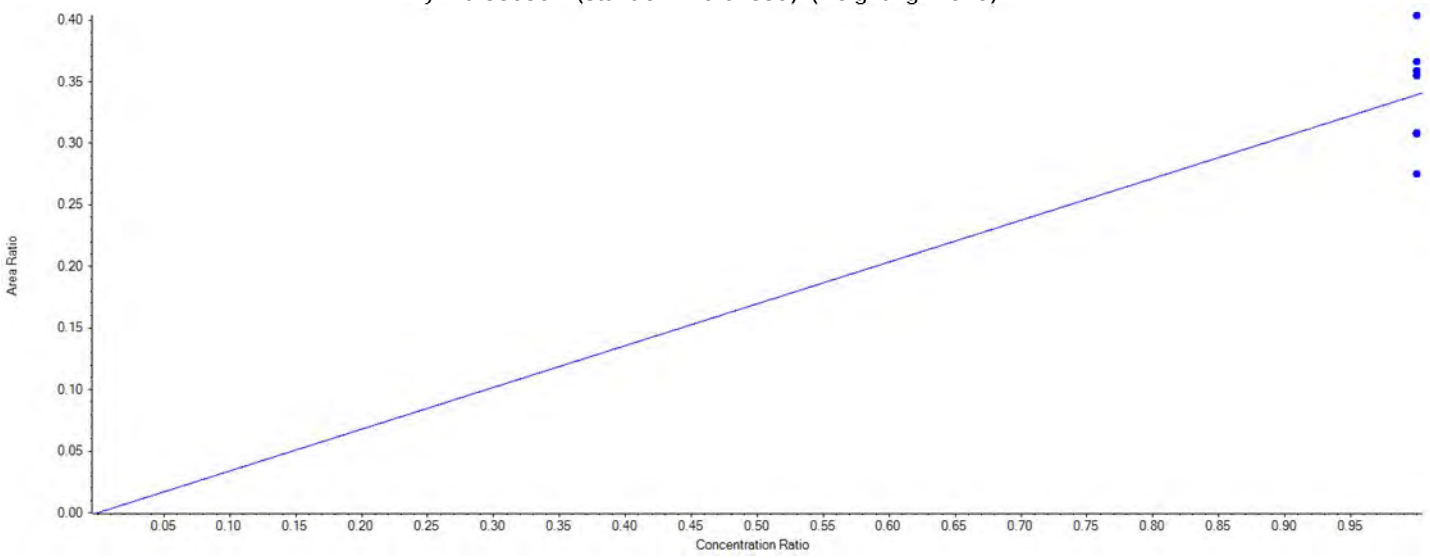
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtFOSAA

y = 0.33939 x (std. dev. = 0.04389) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	174794.14	492042.79	True	5.00	0.355	5.83	1.050	5.000	5.234	5	30	
CAL2	196235.04	486052.71	True	5.00	0.404	5.83	1.050	5.000	5.948	19	30	
CAL3	167747.38	467216.04	True	5.00	0.359	5.83	1.050	5.000	5.289	6	30	
CAL4	180280.04	492670.33	True	5.00	0.366	5.83	1.050	5.000	5.391	8	30	
CAL5	146690.55	475016.51	True	5.00	0.309	5.84	1.050	5.000	4.550	-9	30	
CAL6	138273.55	448809.55	True	5.00	0.308	5.84	1.050	5.000	4.539	-9	30	
CAL7	126195.29	459096.58	True	5.00	0.275	5.83	1.050	5.000	4.050	-19	30	

APPROVED
By MSM at 11:49 am, 12/19/18

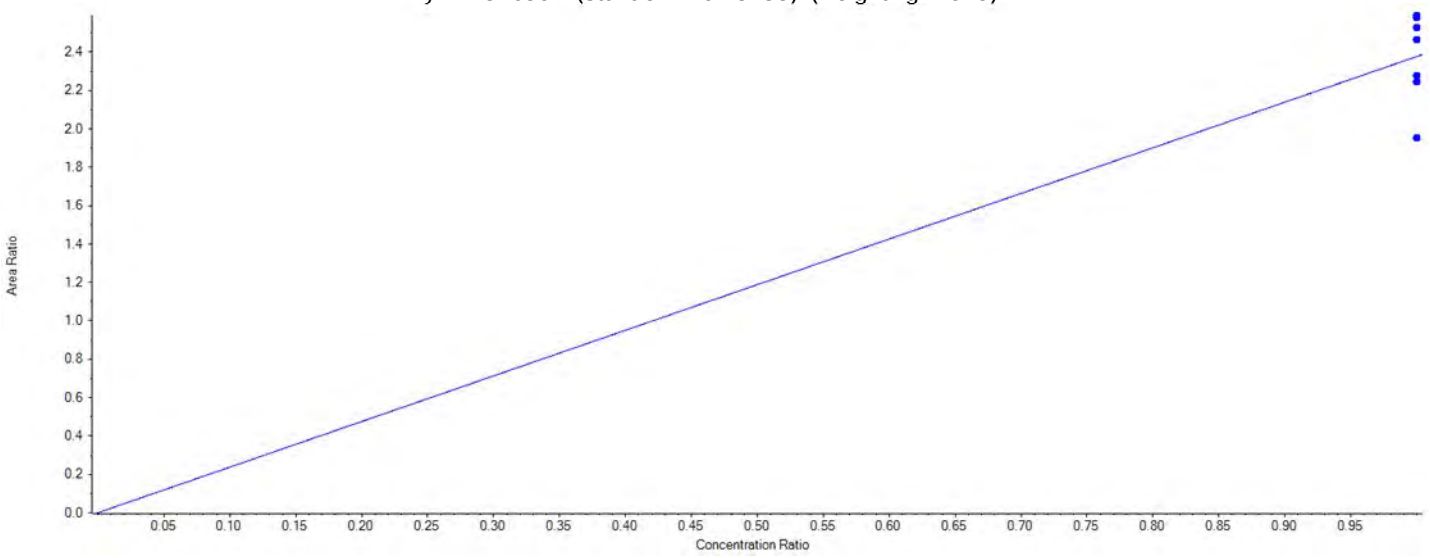
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFDoDA

y = 2.37659 x (std. dev. = 0.23283) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFDoDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1268639.50	492042.79	True	5.00	2.578	6.04	1.090	5.000	5.424	8	30	
CAL2	1229301.70	486052.71	True	5.00	2.529	6.04	1.090	5.000	5.321	6	30	
CAL3	1210049.18	467216.04	True	5.00	2.590	6.04	1.090	5.000	5.449	9	30	
CAL4	1215089.10	492670.33	True	5.00	2.466	6.04	1.090	5.000	5.189	4	30	
CAL5	1065946.99	475016.51	True	5.00	2.244	6.05	1.090	5.000	4.721	-6	30	
CAL6	1021574.81	448809.55	True	5.00	2.276	6.05	1.090	5.000	4.789	-4	30	
CAL7	896268.09	459096.58	True	5.00	1.952	6.04	1.090	5.000	4.107	-18	30	

APPROVED
By MSM at 11:49 am, 12/19/18

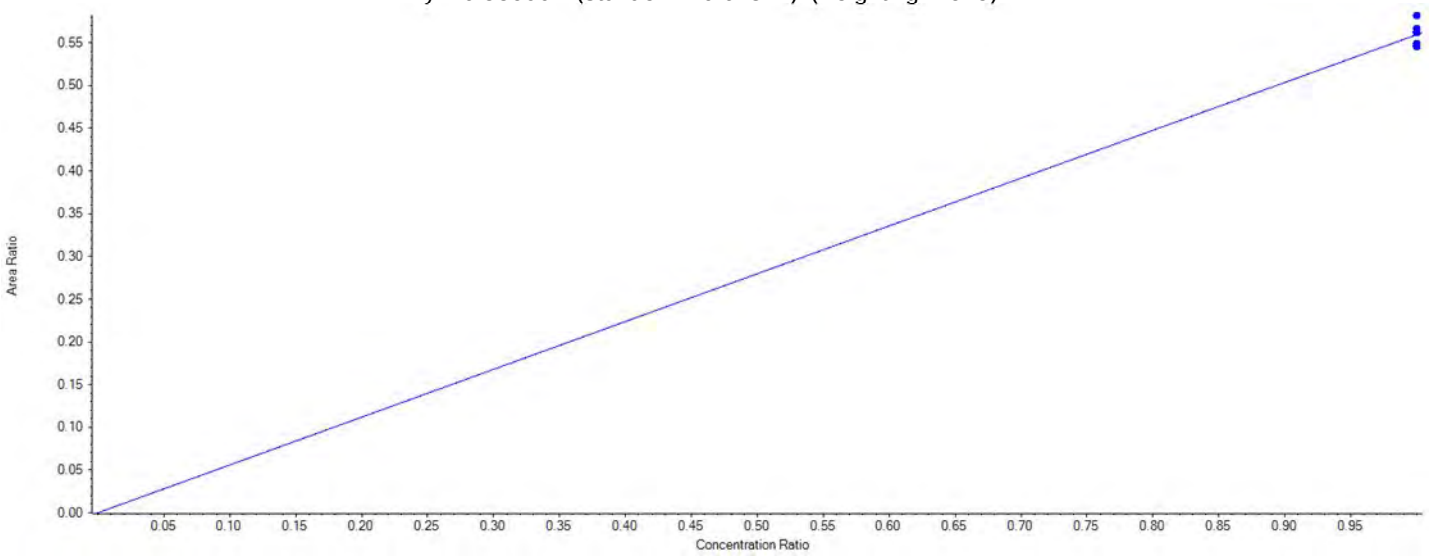
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed7-NMePFOSAE

y = 0.55960 x (std. dev. = 0.01317) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed7-NMePFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	270192.01	492042.79	True	5.00	0.549	6.08	1.090	5.000	4.906	-2	30	
CAL2	273893.92	486052.71	True	5.00	0.564	6.08	1.090	5.000	5.035	1	30	
CAL3	265025.36	467216.04	True	5.00	0.567	6.09	1.090	5.000	5.068	1	30	
CAL4	268949.18	492670.33	True	5.00	0.546	6.08	1.090	5.000	4.878	-2	30	
CAL5	259783.25	475016.51	True	5.00	0.547	6.09	1.090	5.000	4.886	-2	30	
CAL6	261182.92	448809.55	True	5.00	0.582	6.09	1.090	5.000	5.200	4	30	
CAL7	258278.14	459096.58	True	5.00	0.563	6.08	1.090	5.000	5.027	1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

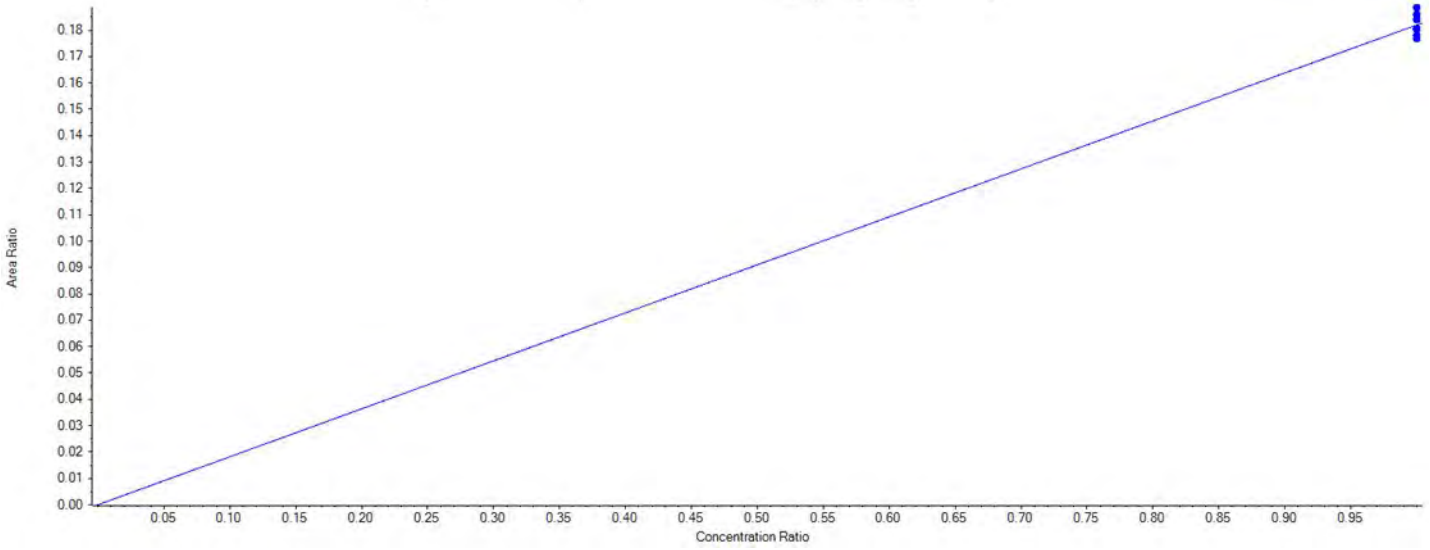
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMePFOSA

y = 0.18197 x (std. dev. = 0.00433) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMePFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	91399.47	492042.79	True	5.00	0.186	6.10	1.100	5.000	5.104	2	30	
CAL2	89487.32	486052.71	True	5.00	0.184	6.10	1.100	5.000	5.059	1	30	
CAL3	83036.40	467216.04	True	5.00	0.178	6.10	1.100	5.000	4.883	-2	30	
CAL4	88979.35	492670.33	True	5.00	0.181	6.10	1.100	5.000	4.963	-1	30	
CAL5	83956.43	475016.51	True	5.00	0.177	6.11	1.100	5.000	4.856	-3	30	
CAL6	84626.83	448809.55	True	5.00	0.189	6.11	1.100	5.000	5.181	4	30	
CAL7	82766.69	459096.58	True	5.00	0.180	6.10	1.100	5.000	4.954	-1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

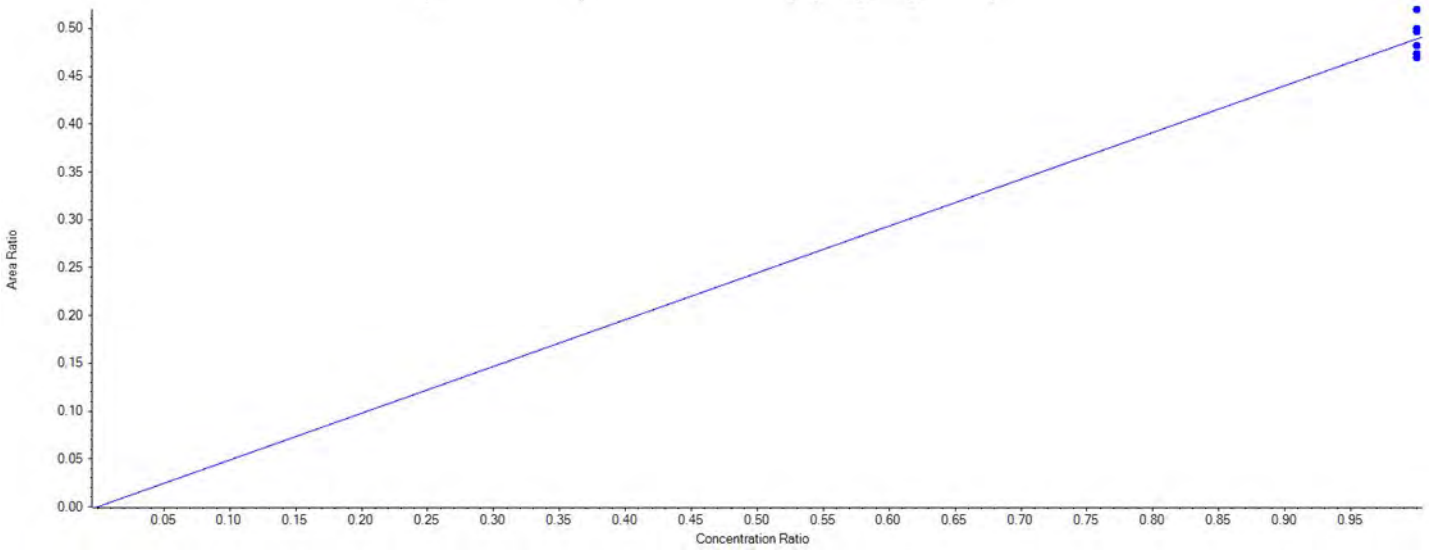
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed9-NEtPFOSAE

y = 0.48906 x (std. dev. = 0.01734) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed9-NEtPFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	245785.78	492042.79	True	5.00	0.500	6.24	1.120	5.000	5.107	2	30	
CAL2	234457.44	486052.71	True	5.00	0.482	6.23	1.120	5.000	4.932	-1	30	
CAL3	221303.40	467216.04	True	5.00	0.474	6.24	1.120	5.000	4.843	-3	30	
CAL4	237359.16	492670.33	True	5.00	0.482	6.23	1.120	5.000	4.926	-1	30	
CAL5	223224.92	475016.51	True	5.00	0.470	6.24	1.120	5.000	4.804	-4	30	
CAL6	222808.90	448809.55	True	5.00	0.496	6.24	1.120	5.000	5.075	2	30	
CAL7	238594.55	459096.58	True	5.00	0.520	6.23	1.120	5.000	5.313	6	30	

APPROVED
By MSM at 11:49 am, 12/19/18

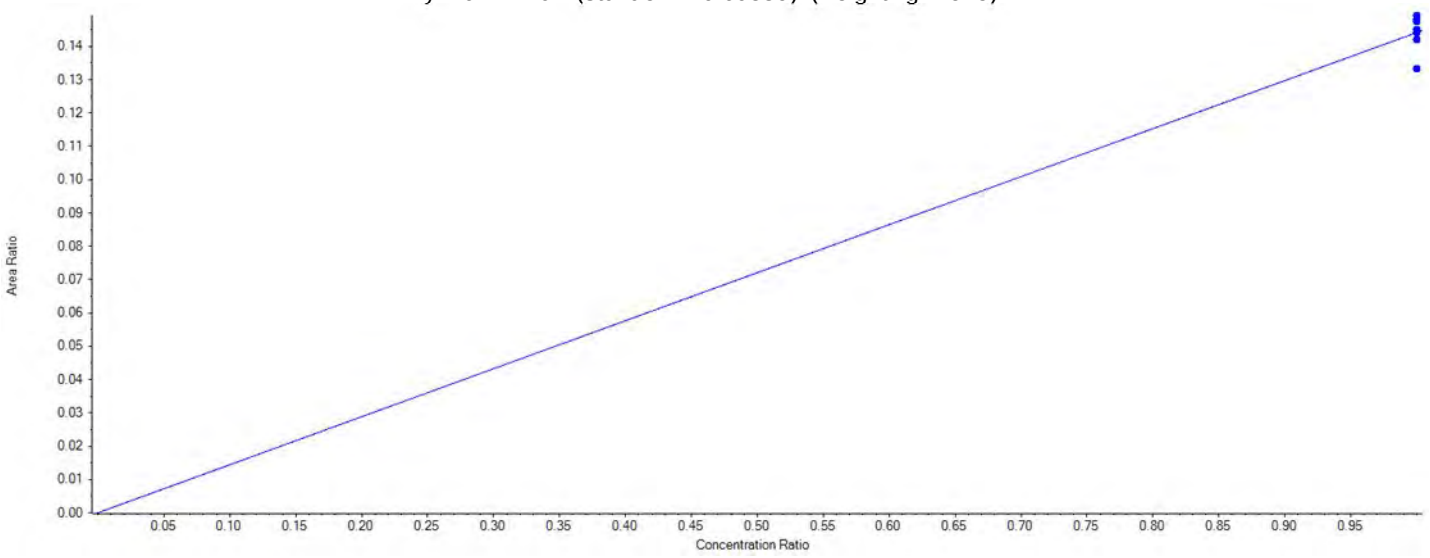
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtPFOSA

y = 0.14416 x (std. dev. = 0.00539) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtPFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	72859.50	492042.79	True	5.00	0.148	6.26	1.130	5.000	5.136	3	30	
CAL2	70003.76	486052.71	True	5.00	0.144	6.26	1.130	5.000	4.995	0	30	
CAL3	67700.56	467216.04	True	5.00	0.145	6.26	1.130	5.000	5.026	1	30	
CAL4	69985.02	492670.33	True	5.00	0.142	6.26	1.130	5.000	4.927	-1	30	
CAL5	70043.92	475016.51	True	5.00	0.147	6.26	1.130	5.000	5.114	2	30	
CAL6	66987.38	448809.55	True	5.00	0.149	6.26	1.130	5.000	5.177	4	30	
CAL7	61214.00	459096.58	True	5.00	0.133	6.26	1.130	5.000	4.625	-8	30	

APPROVED
By MSM at 11:49 am, 12/19/18

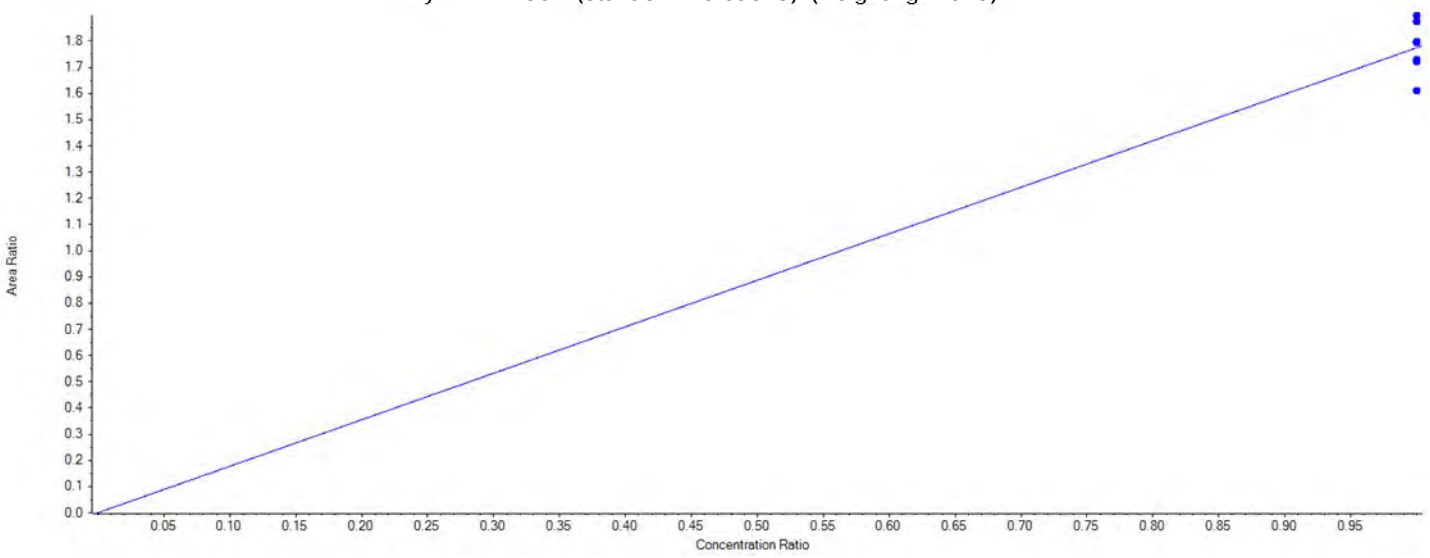
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFTeDA

y = 1.77430 x (std. dev. = 0.09873) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFTeDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	933408.92	492042.79	True	5.00	1.897	6.41	1.150	5.000	5.346	7	30	
CAL2	911481.82	486052.71	True	5.00	1.875	6.41	1.150	5.000	5.285	6	30	
CAL3	839561.71	467216.04	True	5.00	1.797	6.42	1.150	5.000	5.064	1	30	
CAL4	850800.59	492670.33	True	5.00	1.727	6.41	1.150	5.000	4.866	-3	30	
CAL5	816876.42	475016.51	True	5.00	1.720	6.42	1.150	5.000	4.846	-3	30	
CAL6	805412.88	448809.55	True	5.00	1.795	6.42	1.150	5.000	5.057	1	30	
CAL7	739019.13	459096.58	True	5.00	1.610	6.41	1.150	5.000	4.536	-9	30	

APPROVED
By MSM at 11:49 am, 12/19/18

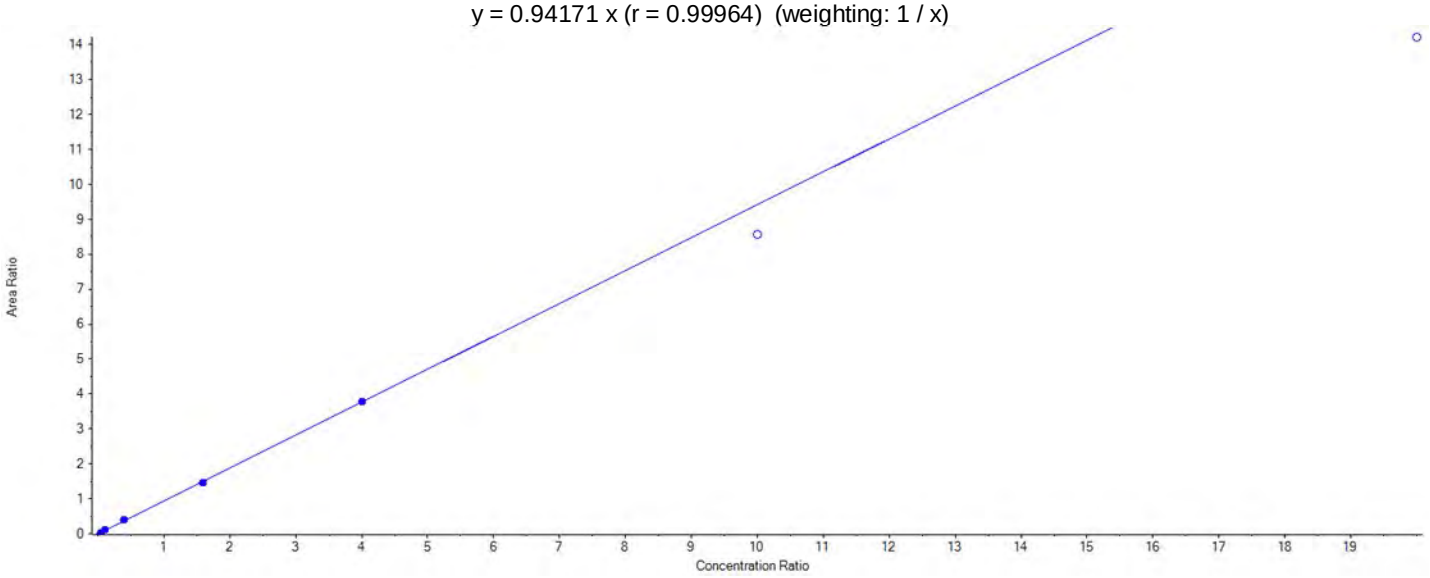
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFBA

y = 0.94171 x (r = 0.99964) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBA Area	S/N	13C4-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	45779.84	259.1	1106287.60	True	5.00	0.041	3.26	1.000	0.200	0.220	10	30	
CAL2	116635.75	386.2	1122193.95	True	5.00	0.104	3.26	1.000	0.500	0.552	10	30	
CAL3	433751.85	659.0	1064422.79	True	5.00	0.407	3.26	1.000	2.000	2.164	8	30	
CAL4	1594198.63	1247.6	1092510.85	True	5.00	1.459	3.25	1.000	8.000	7.748	-3	30	
CAL5	3880808.53	2180.8	1029366.77	True	5.00	3.770	3.26	1.000	20.000	20.017	0	30	
CAL6	8351267.12	2649.5	976240.59	False	5.00	8.555	3.26	1.000	50.000	45.420	-9	30	
CAL7	12069469.87	2622.6	849248.24	False	5.00	14.212	3.25	1.000	100.000	75.458	-25	30	

APPROVED
By MSM at 11:49 am, 12/19/18

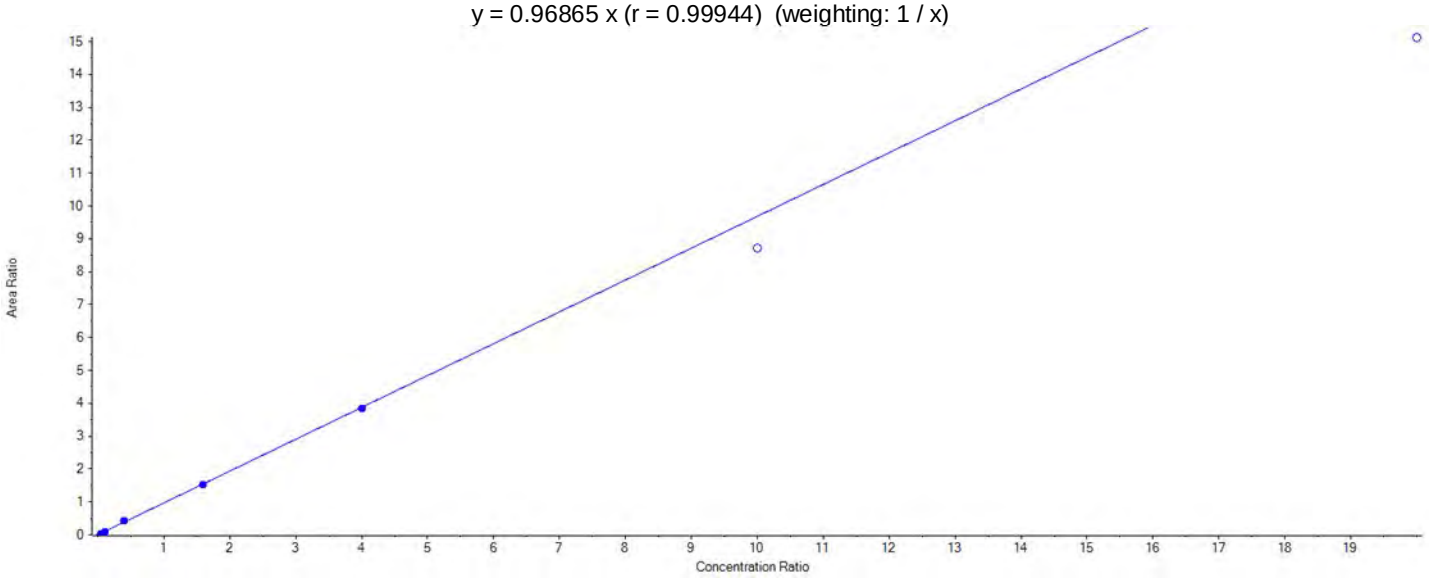
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFPeA

y = 0.96865 x (r = 0.99944) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeA Area	S/N	13C5-PFPeA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	44915.17	186.8	1046699.00	True	5.00	0.043	3.76	1.000	0.200	0.222	11	30	
CAL2	112858.39	331.6	1076428.66	True	5.00	0.105	3.76	1.000	0.500	0.541	8	30	
CAL3	436276.82	512.9	1002351.73	True	5.00	0.435	3.77	1.000	2.000	2.247	12	30	
CAL4	1560173.06	881.2	1033656.30	True	5.00	1.509	3.76	1.000	8.000	7.791	-3	30	
CAL5	3745895.47	1200.9	971672.04	True	5.00	3.855	3.76	1.000	20.000	19.899	-1	30	
CAL6	8138980.69	1456.4	931893.93	False	5.00	8.734	3.77	1.000	50.000	45.083	-10	30	
CAL7	12267933.08	2121.0	811188.96	False	5.00	15.123	3.75	1.000	100.000	78.065	-22	30	

APPROVED
By MSM at 11:49 am, 12/19/18

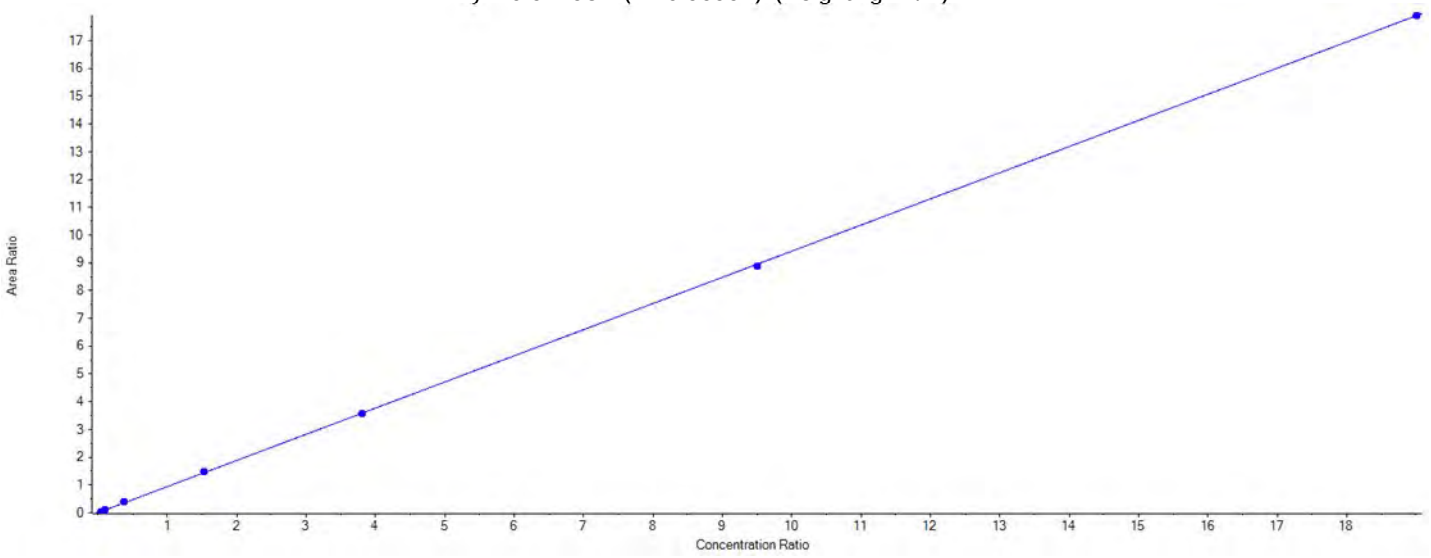
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFBS

y = 0.94195 x (r = 0.99992) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	18453.97	598.0	461605.31	True	4.65	0.040	3.81	1.000	0.177	0.197	11	30	
CAL2	45656.93	987.5	471423.14	True	4.65	0.097	3.81	1.000	0.443	0.478	8	30	
CAL3	173568.80	1760.6	437376.42	True	4.65	0.397	3.81	1.000	1.770	1.959	11	30	
CAL4	660159.83	2546.7	445696.19	True	4.65	1.481	3.81	1.000	7.080	7.312	3	30	
CAL5	1598291.60	3317.1	446207.39	True	4.65	3.582	3.81	1.000	17.700	17.683	0	30	
CAL6	3747060.81	3290.1	422799.48	True	4.65	8.863	3.81	1.000	44.200	43.750	-1	30	
CAL7	6651233.80	4578.4	371468.64	True	4.65	17.905	3.80	1.000	88.400	88.391	0	30	

APPROVED
By MSM at 11:49 am, 12/19/18

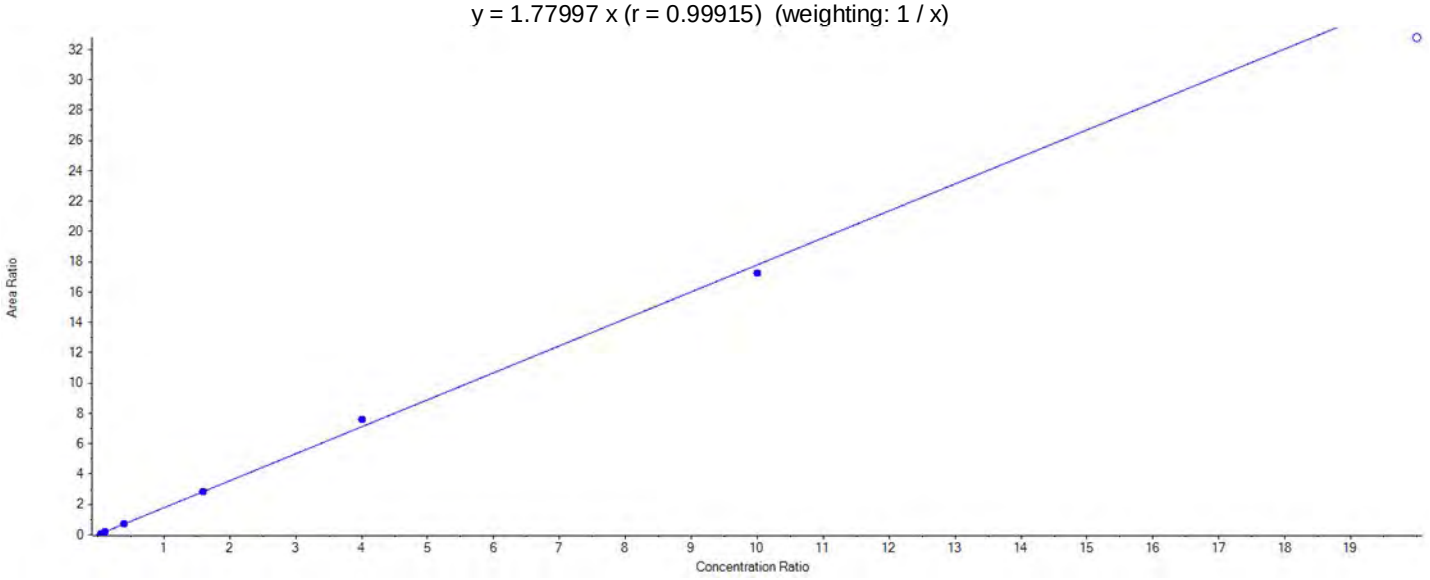
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

4:2-FTS

y = 1.77997 x (r = 0.99915) (weighting: 1 / x)



Component Calibration Verification

Sample Name	4:2-FTS Area	S/N	13C2-4:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5256.25	270.1	70576.52	True	4.67	0.074	4.12	1.000	0.187	0.195	4	30	
CAL2	13063.14	349.0	65525.79	True	4.67	0.199	4.12	1.000	0.467	0.523	12	30	
CAL3	47502.48	1259.3	64885.53	True	4.67	0.732	4.12	1.000	1.870	1.921	3	30	
CAL4	183632.08	2108.1	64261.81	True	4.67	2.858	4.12	1.000	7.470	7.497	0	30	
CAL5	457278.35	2800.9	60237.68	True	4.67	7.591	4.12	1.000	18.700	19.917	7	30	
CAL6	1050923.97	2615.9	60811.26	True	4.67	17.282	4.12	1.000	46.700	45.341	-3	30	
CAL7	1978052.53	3311.8	60332.00	False	4.67	32.786	4.11	1.000	93.400	86.019	-8	30	

APPROVED
By MSM at 11:49 am, 12/19/18

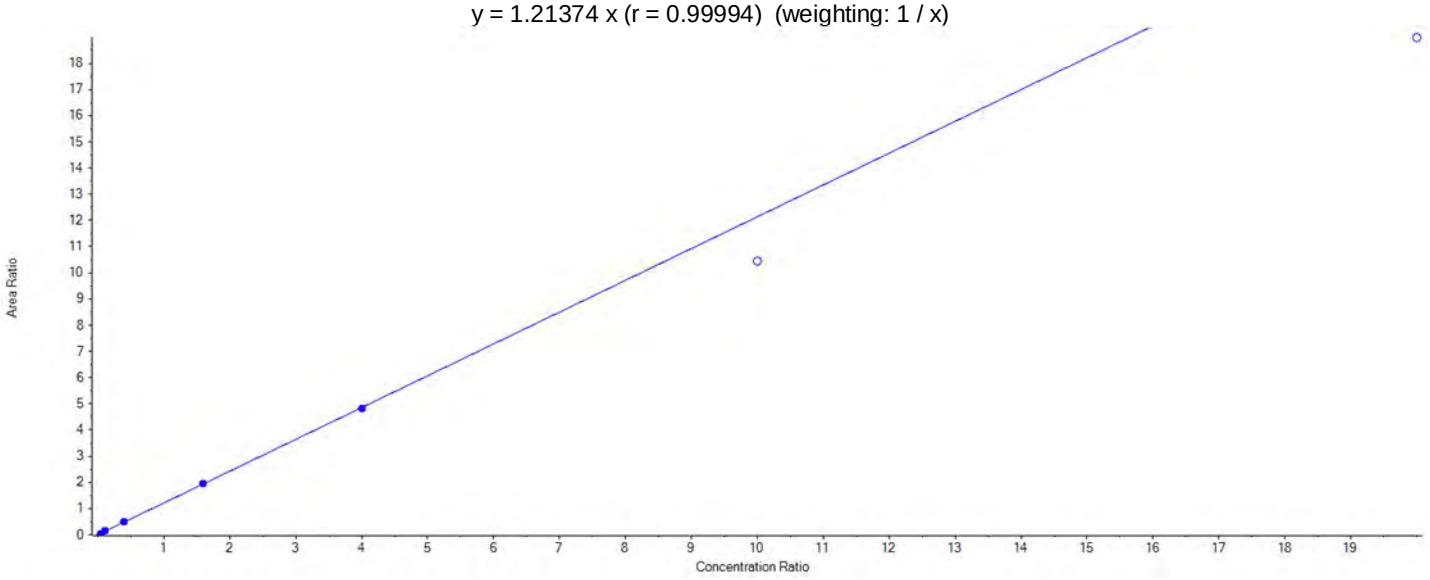
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFHxA

y = 1.21374 x (r = 0.99994) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxA Area	S/N	13C5-PFHxA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	39902.90	235.9	748596.55	True	5.00	0.053	4.15	1.000	0.200	0.220	10	30	
CAL2	103487.64	338.9	763341.69	True	5.00	0.136	4.15	1.000	0.500	0.558	12	30	
CAL3	378857.96	795.9	765483.52	True	5.00	0.495	4.16	1.000	2.000	2.039	2	30	
CAL4	1422618.69	1280.8	728009.89	True	5.00	1.954	4.15	1.000	8.000	8.050	1	30	
CAL5	3505877.05	1657.0	728204.42	True	5.00	4.814	4.16	1.000	20.000	19.833	-1	30	
CAL6	7325035.52	2172.6	702242.37	False	5.00	10.431	4.16	1.000	50.000	42.970	-14	30	
CAL7	12199404.08	2432.1	642893.13	False	5.00	18.976	4.15	1.000	100.000	78.171	-22	30	

APPROVED
By MSM at 11:49 am, 12/19/18

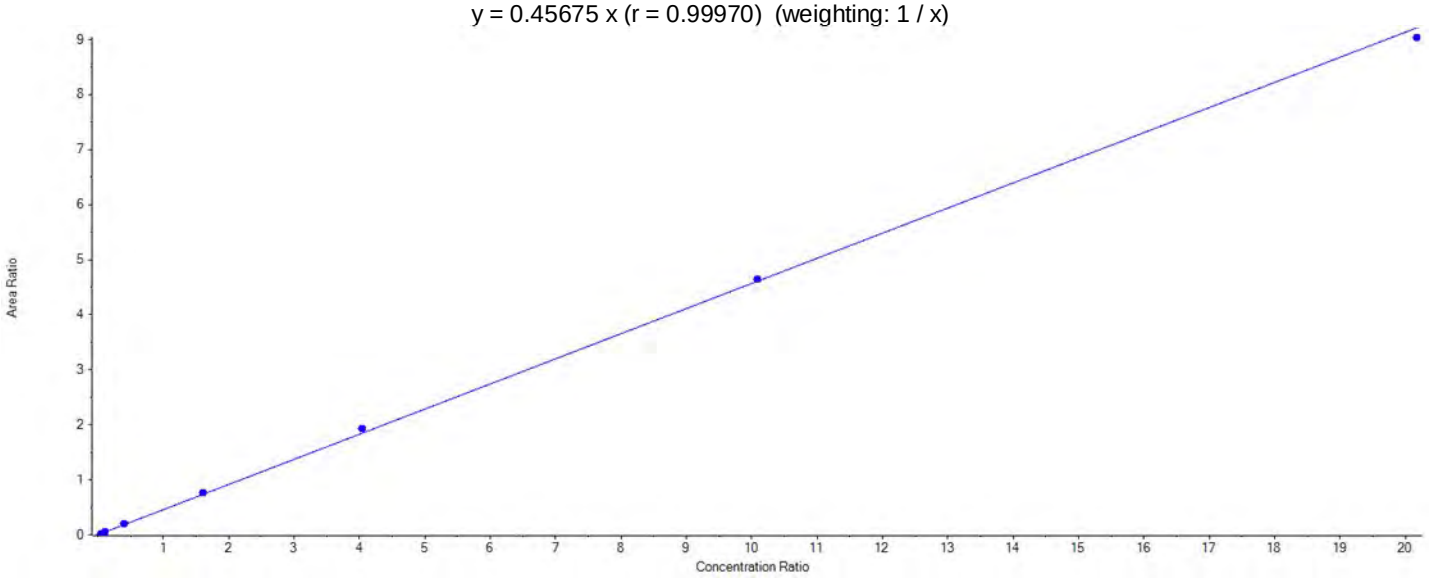
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFPeS

y = 0.45675 x (r = 0.99970) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	9547.00	377.5	461605.31	True	4.65	0.021	4.18	1.100	0.188	0.211	12	30	
CAL2	23803.26	589.7	471423.14	True	4.65	0.050	4.17	1.100	0.469	0.514	10	30	
CAL3	89858.44	1338.9	437376.42	True	4.65	0.205	4.18	1.100	1.880	2.092	11	30	
CAL4	343711.12	2166.9	445696.19	True	4.65	0.771	4.17	1.100	7.500	7.851	5	30	
CAL5	858571.61	2772.3	446207.39	True	4.65	1.924	4.18	1.100	18.800	19.589	4	30	
CAL6	1963865.79	3615.6	422799.48	True	4.65	4.645	4.18	1.100	46.900	47.288	1	30	
CAL7	3356554.18	3030.5	371468.64	True	4.65	9.036	4.17	1.100	93.800	91.992	-2	30	

APPROVED
By MSM at 11:49 am, 12/19/18

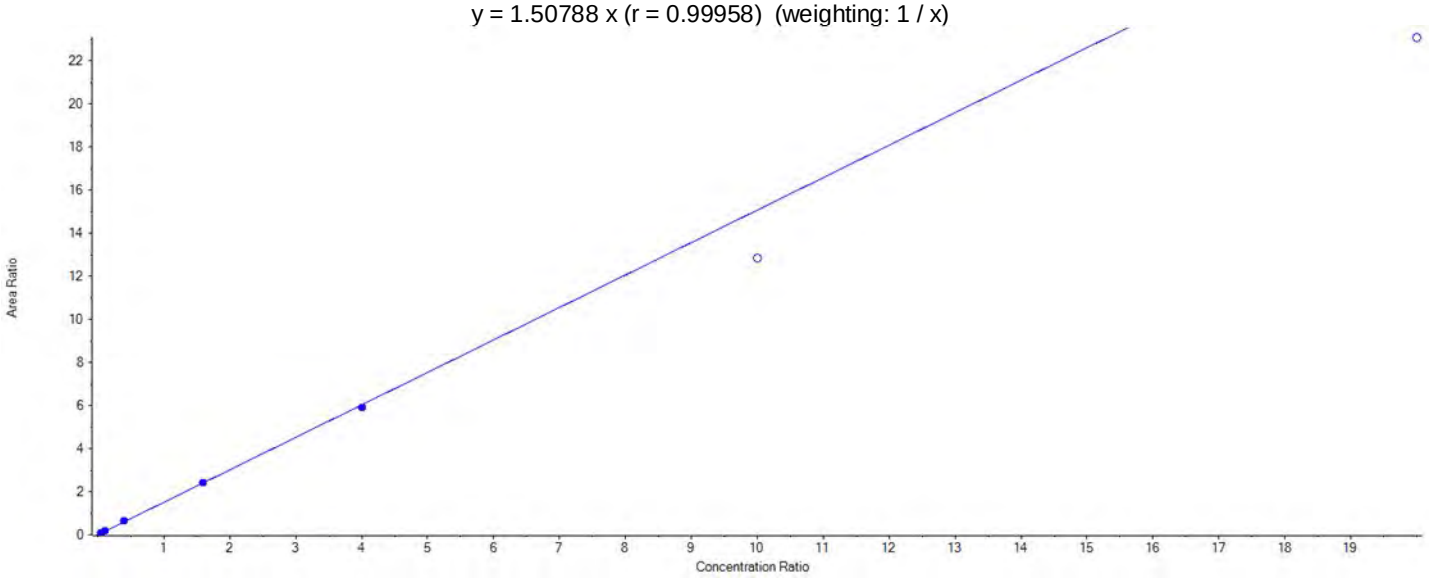
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFHpA

y = 1.50788 x (r = 0.99958) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpA Area	S/N	13C4-PFHpA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	42890.86	419.2	573021.26	True	5.00	0.075	4.54	1.000	0.200	0.248	24	30	
CAL2	106907.94	644.9	605519.18	True	5.00	0.177	4.54	1.000	0.500	0.585	17	30	
CAL3	414340.15	1239.7	614238.84	True	5.00	0.675	4.54	1.000	2.000	2.237	12	30	
CAL4	1522802.64	1683.5	633233.30	True	5.00	2.405	4.54	1.000	8.000	7.974	0	30	
CAL5	3695154.88	2565.7	623382.42	True	5.00	5.928	4.54	1.000	20.000	19.655	-2	30	
CAL6	7849138.67	3284.5	610591.63	False	5.00	12.855	4.55	1.000	50.000	42.626	-15	30	
CAL7	12613152.06	2980.5	546291.55	False	5.00	23.089	4.53	1.000	100.000	76.560	-23	30	

APPROVED
By MSM at 11:49 am, 12/19/18

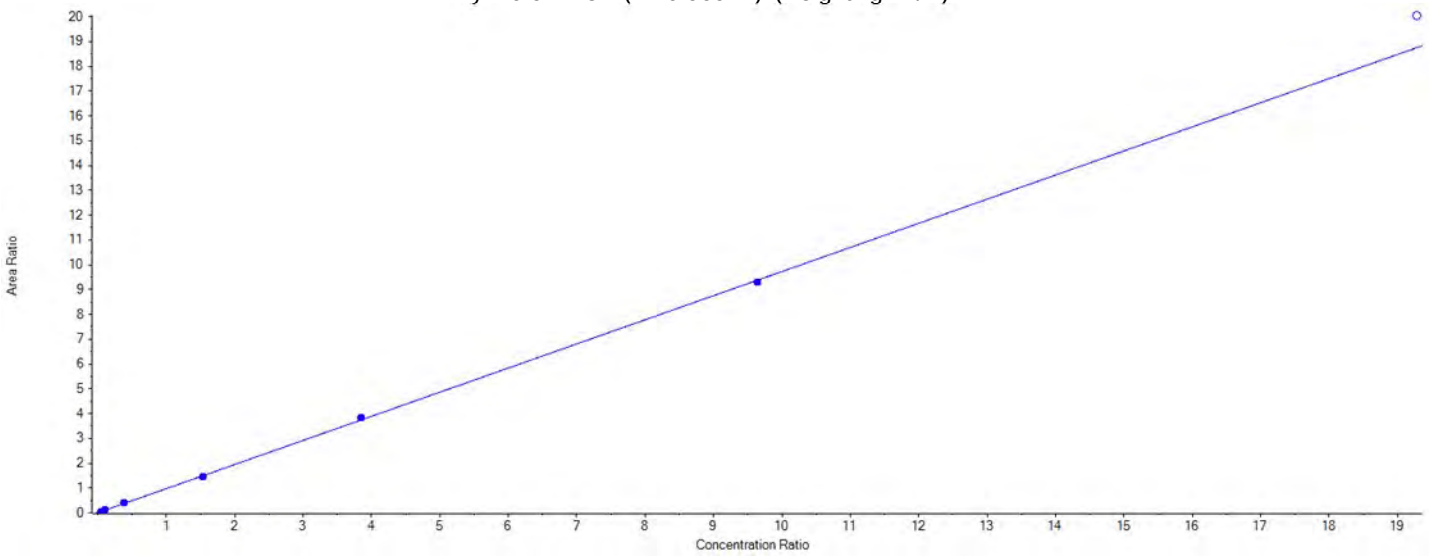
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFHxS

y = 0.97245 x (r = 0.99971) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13770.16	386.1	371572.29	True	4.73	0.037	4.55	1.000	0.182	0.180	-1	30	
CAL2	38176.07	1195.1	354452.88	True	4.73	0.108	4.54	1.000	0.474	0.524	11	30	
CAL3	134520.82	980.7	330322.87	True	4.73	0.407	4.55	1.000	1.820	1.981	9	30	
CAL4	506401.74	1205.4	348394.91	True	4.73	1.454	4.54	1.000	7.300	7.070	-3	30	
CAL5	1236035.62	1847.9	321862.26	True	4.73	3.840	4.54	1.000	18.200	18.679	3	30	
CAL6	2769777.02	1416.9	298442.34	True	4.73	9.281	4.55	1.000	45.600	45.142	-1	30	
CAL7	5016409.07	1755.5	250261.05	False	4.73	20.045	4.54	1.000	91.200	97.498	7	30	

APPROVED
By MSM at 11:49 am, 12/19/18

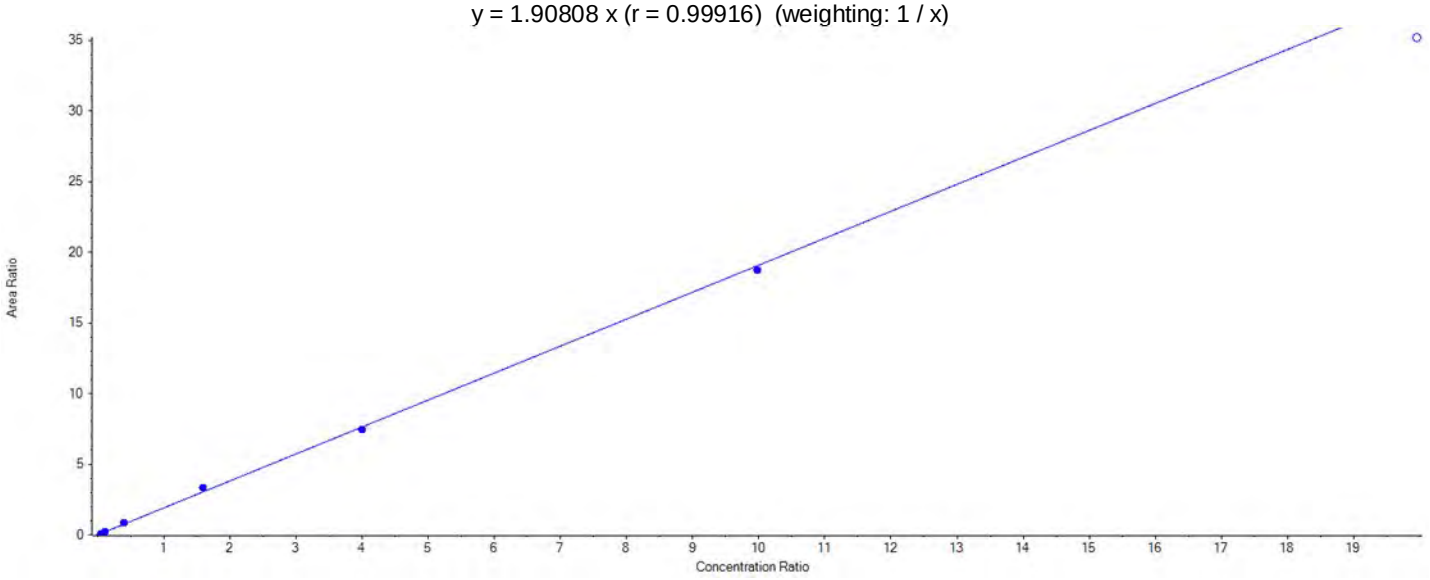
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

6:2-FTS

y = 1.90808 x (r = 0.99916) (weighting: 1 / x)



Component Calibration Verification

Sample Name	6:2-FTS Area	S/N	13C2-6:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5250.60	590.0	53697.29	True	4.75	0.098	4.89	1.000	0.190	0.243	28	30	
CAL2	12125.58	148990.6	53117.91	True	4.75	0.228	4.89	1.000	0.474	0.568	20	30	
CAL3	44576.07	2166.4	51288.83	True	4.75	0.869	4.90	1.000	1.900	2.164	14	30	
CAL4	169143.28	3870.7	50211.12	True	4.75	3.369	4.89	1.000	7.580	8.386	11	30	
CAL5	385557.32	2753.8	51944.01	True	4.75	7.423	4.89	1.000	19.000	18.478	-3	30	
CAL6	827147.20	2615.1	44087.72	True	4.75	18.761	4.90	1.000	47.400	46.705	-1	30	
CAL7	1375932.55	2488.5	39094.47	False	4.75	35.195	4.89	1.000	94.800	87.615	-8	30	

APPROVED
By MSM at 11:49 am, 12/19/18

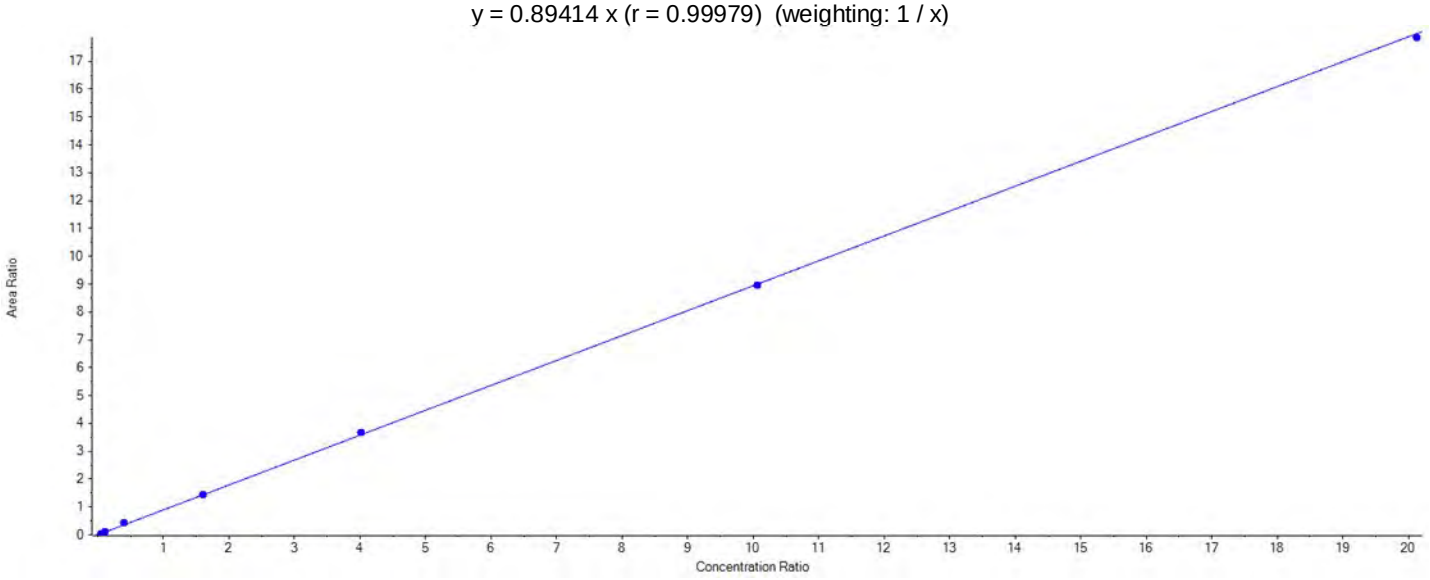
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFHpS

y = 0.89414 x (r = 0.99979) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	12616.61	89172.6	371572.29	True	4.73	0.034	4.90	1.080	0.190	0.180	-5	30	
CAL2	36201.51	3797.1	354452.88	True	4.73	0.102	4.90	1.080	0.476	0.540	14	30	
CAL3	137901.36	2122.2	330322.87	True	4.73	0.417	4.90	1.080	1.900	2.208	16	30	
CAL4	505804.63	2567.5	348394.91	True	4.73	1.452	4.90	1.080	7.610	7.680	1	30	
CAL5	1185259.61	2204.3	321862.26	True	4.73	3.683	4.90	1.080	19.000	19.481	3	30	
CAL6	2676577.94	3193.9	298442.34	True	4.73	8.968	4.91	1.080	47.600	47.444	0	30	
CAL7	4467941.35	2691.7	250261.05	True	4.73	17.853	4.89	1.080	95.200	94.443	-1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

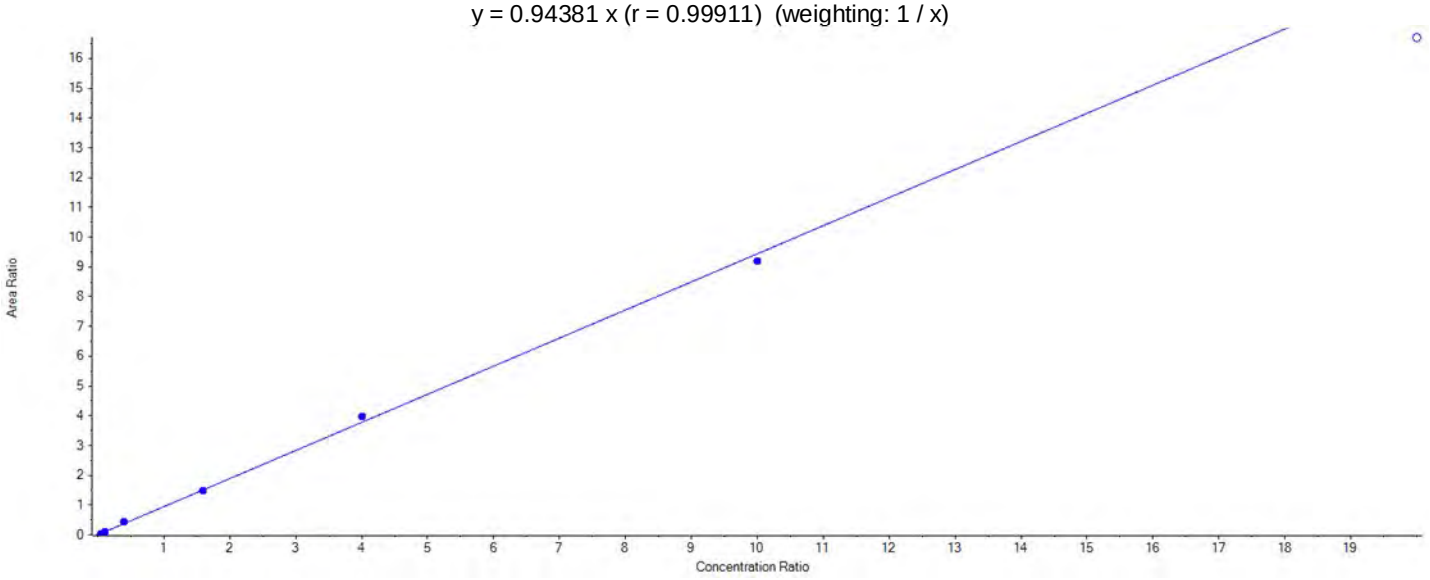
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFOA

y = 0.94381 x (r = 0.99911) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOA Area	S/N	13C8-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	45038.04	213.6	1059559.49	True	5.00	0.043	4.91	1.000	0.200	0.225	13	30	
CAL2	111923.34	301.6	1027981.98	True	5.00	0.109	4.90	1.000	0.500	0.577	15	30	
CAL3	436531.12	661.8	979199.85	True	5.00	0.446	4.91	1.000	2.000	2.362	18	30	
CAL4	1478030.41	1297.1	1001301.47	True	5.00	1.476	4.91	1.000	8.000	7.820	-2	30	
CAL5	3699938.84	1540.5	934414.04	True	5.00	3.960	4.91	1.000	20.000	20.977	5	30	
CAL6	7895459.16	2118.2	858182.66	True	5.00	9.200	4.92	1.000	50.000	48.740	-3	30	
CAL7	12588127.97	2168.7	753729.04	False	5.00	16.701	4.90	1.000	100.000	88.477	-12	30	

APPROVED
By MSM at 11:49 am, 12/19/18

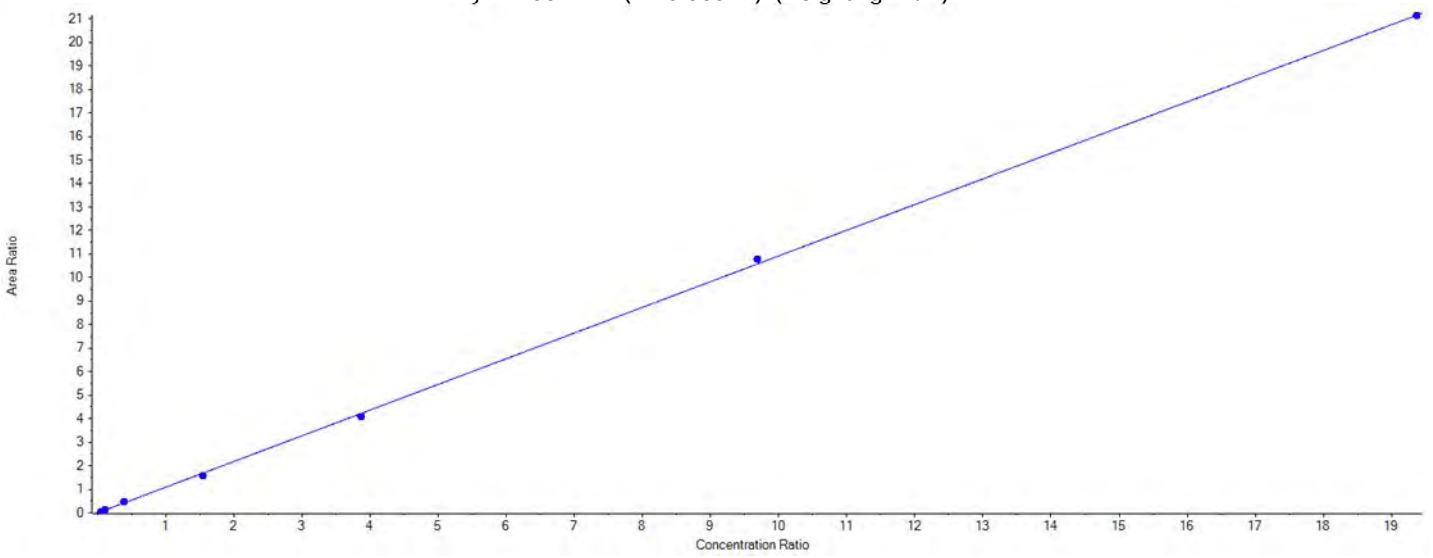
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFOS

y = 1.09177 x (r = 0.99972) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14855.83	300.4	340125.34	True	4.78	0.044	5.24	1.000	0.185	0.191	3	30	
CAL2	37634.17	1247.2	349492.67	True	4.78	0.108	5.23	1.000	0.463	0.471	2	30	
CAL3	147878.25	1317.0	308110.34	True	4.78	0.480	5.24	1.000	1.850	2.101	14	30	
CAL4	531668.87	1931.8	334944.86	True	4.78	1.587	5.23	1.000	7.400	6.950	-6	30	
CAL5	1358485.16	1870.2	331539.36	True	4.78	4.098	5.24	1.000	18.500	17.940	-3	30	
CAL6	3112288.56	1291.5	289236.33	True	4.78	10.760	5.24	1.000	46.300	47.111	2	30	
CAL7	5671288.52	972.0	268338.15	True	4.78	21.135	5.23	1.000	92.600	92.533	0	30	

APPROVED
By MSM at 11:49 am, 12/19/18

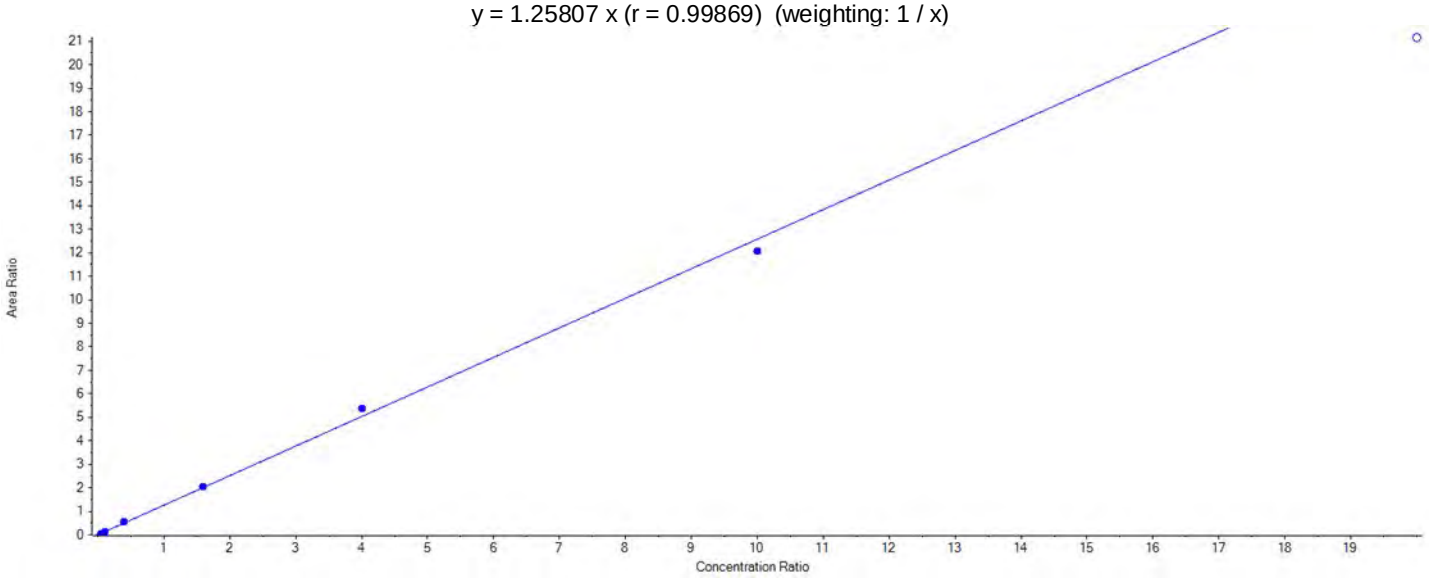
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFNA

y = 1.25807 x (r = 0.99869) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNA Area	S/N	13C9-PFNA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	41369.06	368.9	674406.01	True	5.00	0.061	5.25	1.000	0.200	0.244	22	30	
CAL2	95019.16	594.9	683029.42	True	5.00	0.139	5.25	1.000	0.500	0.553	11	30	
CAL3	367113.44	1128.7	651529.11	True	5.00	0.563	5.25	1.000	2.000	2.239	12	30	
CAL4	1365072.68	1903.9	661406.41	True	5.00	2.064	5.25	1.000	8.000	8.203	3	30	
CAL5	3431849.27	3515.6	635976.18	True	5.00	5.396	5.26	1.000	20.000	21.446	7	30	
CAL6	7783069.71	3200.6	644223.39	True	5.00	12.081	5.26	1.000	50.000	48.015	-4	30	
CAL7	12632479.09	3810.9	597020.81	False	5.00	21.159	5.25	1.000	100.000	84.094	-16	30	

APPROVED
By MSM at 11:49 am, 12/19/18

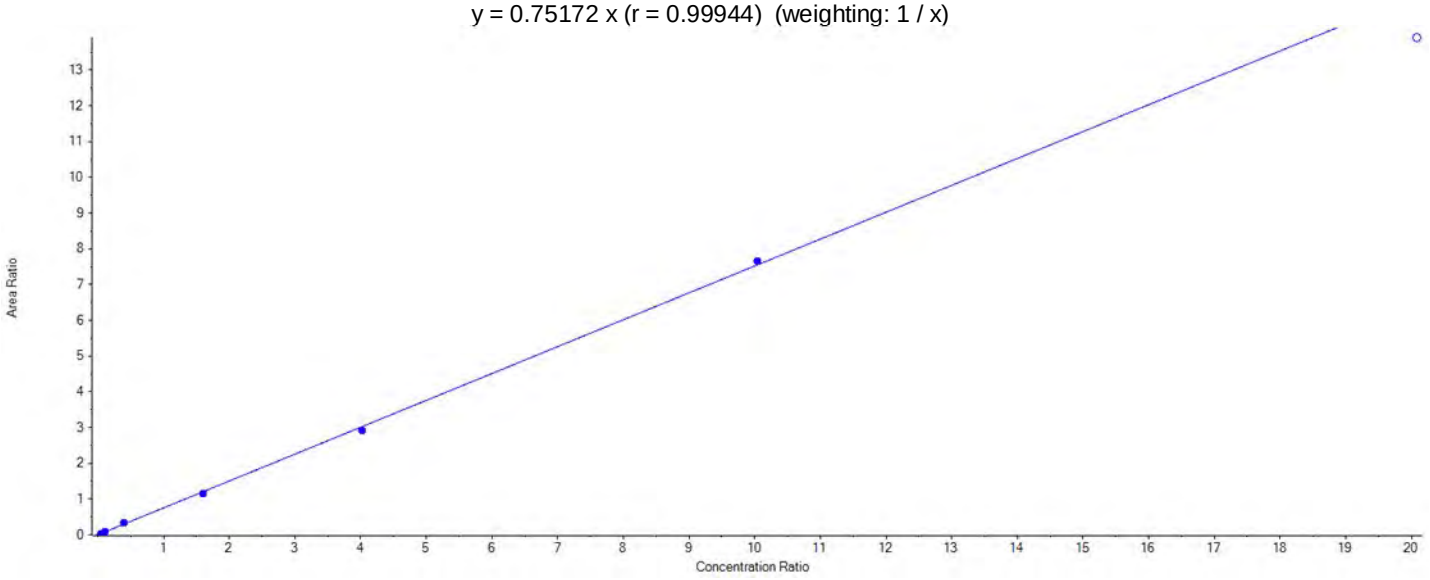
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFNS

y = 0.75172 x (r = 0.99944) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	10377.64	8376.0	340125.34	True	4.78	0.031	5.54	1.060	0.192	0.194	1	30	
CAL2	28435.11	3238973.7	349492.67	True	4.78	0.081	5.54	1.060	0.480	0.517	8	30	
CAL3	106124.41	7839.7	308110.34	True	4.78	0.344	5.54	1.060	1.920	2.190	14	30	
CAL4	388892.87	2255.7	334944.86	True	4.78	1.161	5.53	1.060	7.680	7.383	-4	30	
CAL5	965546.94	3284.8	331539.36	True	4.78	2.912	5.54	1.060	19.200	18.519	-4	30	
CAL6	2213789.57	3142.8	289236.33	True	4.78	7.654	5.54	1.060	48.000	48.669	1	30	
CAL7	3731780.57	2405.5	268338.15	False	4.78	13.907	5.53	1.060	96.000	88.431	-8	30	

APPROVED
By MSM at 11:49 am, 12/19/18

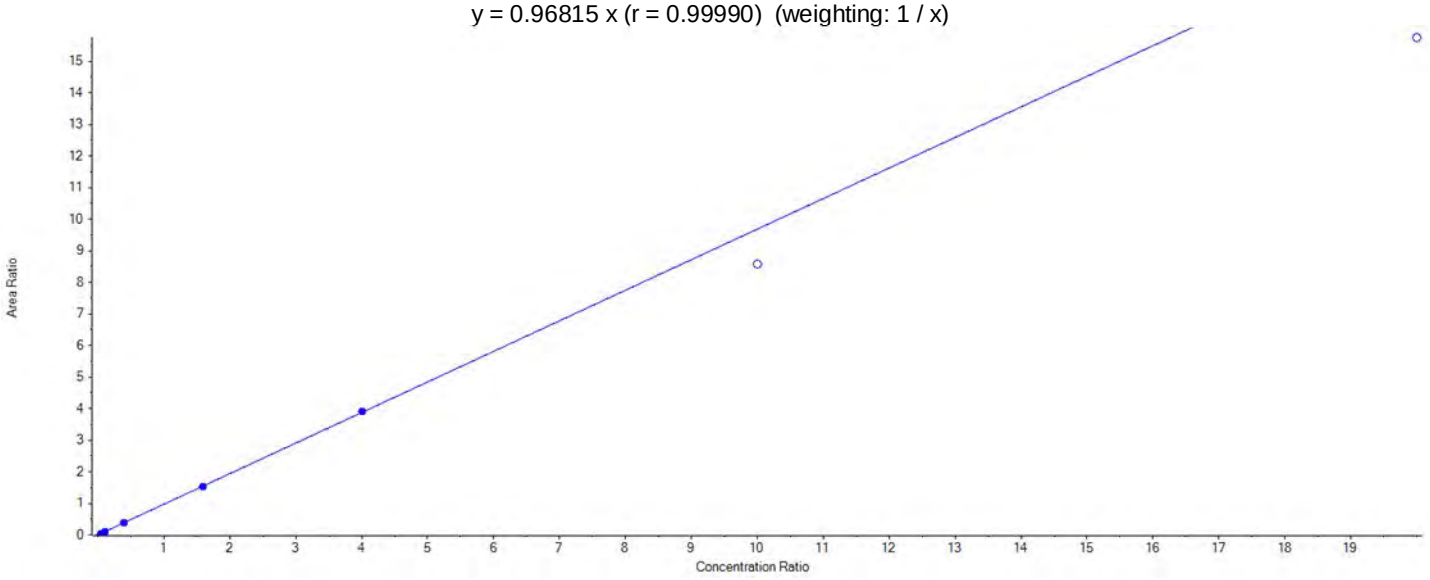
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFDA

y = 0.96815 x (r = 0.99990) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDA Area	S/N	13C6-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	38431.05	299.6	846045.46	True	5.00	0.045	5.56	1.000	0.200	0.235	17	30	
CAL2	98187.60	702.1	929390.92	True	5.00	0.106	5.56	1.000	0.500	0.546	9	30	
CAL3	331802.23	994.3	851991.70	True	5.00	0.389	5.56	1.000	2.000	2.011	1	30	
CAL4	1333153.34	1882.2	880890.92	True	5.00	1.513	5.56	1.000	8.000	7.816	-2	30	
CAL5	3202129.65	2704.0	823063.78	True	5.00	3.890	5.56	1.000	20.000	20.092	0	30	
CAL6	6722193.64	2546.2	785276.61	False	5.00	8.560	5.57	1.000	50.000	44.210	-12	30	
CAL7	11290182.13	2678.7	716919.49	False	5.00	15.748	5.56	1.000	100.000	81.331	-19	30	

APPROVED
By MSM at 11:49 am, 12/19/18

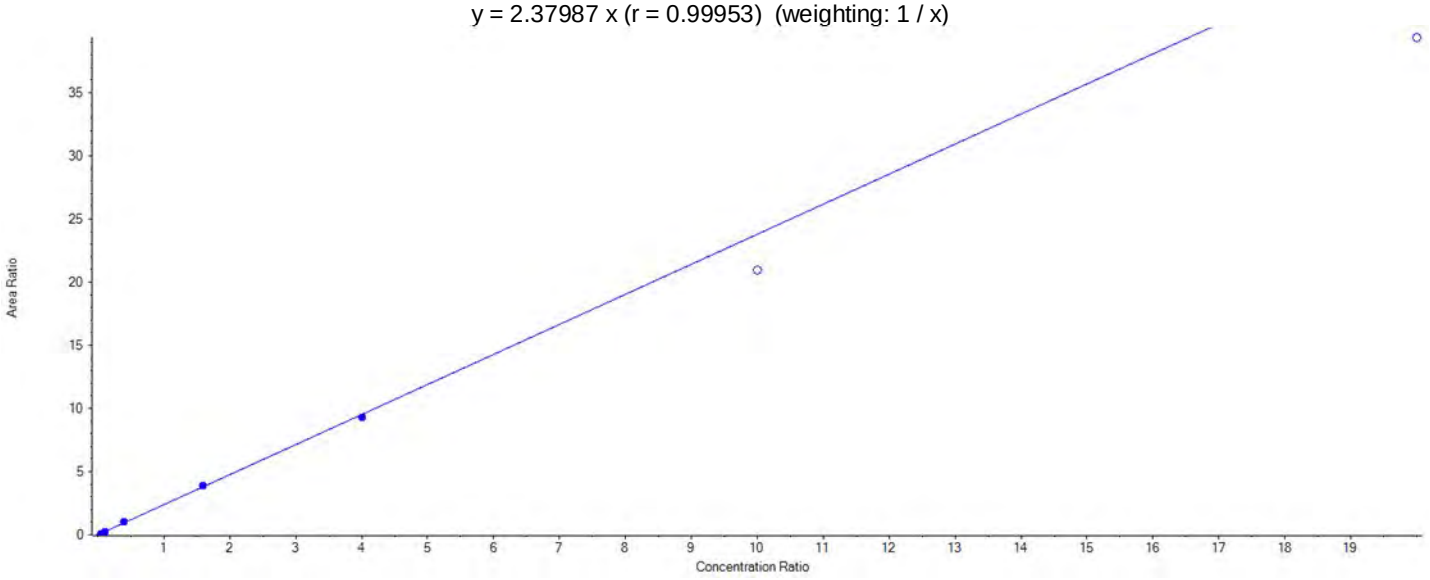
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

8:2-FTS

y = 2.37987 x (r = 0.99953) (weighting: 1 / x)



Component Calibration Verification

Sample Name	8:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5170.26	115.2	48167.71	True	4.79	0.107	5.56	1.000	0.192	0.216	13	30	
CAL2	12295.63	282.2	46390.21	True	4.79	0.265	5.56	1.000	0.479	0.533	11	30	
CAL3	49849.82	694.5	47968.92	True	4.79	1.039	5.56	1.000	1.920	2.092	9	30	
CAL4	177681.99	1313.4	45542.35	True	4.79	3.901	5.56	1.000	7.660	7.853	3	30	
CAL5	408286.41	2088.7	43810.43	True	4.79	9.319	5.56	1.000	19.200	18.757	-2	30	
CAL6	866380.45	3217.8	41390.64	False	4.79	20.932	5.57	1.000	47.900	42.130	-12	30	
CAL7	1403687.59	2266.3	35654.26	False	4.79	39.369	5.56	1.000	95.800	79.240	-17	30	

APPROVED
By MSM at 11:49 am, 12/19/18

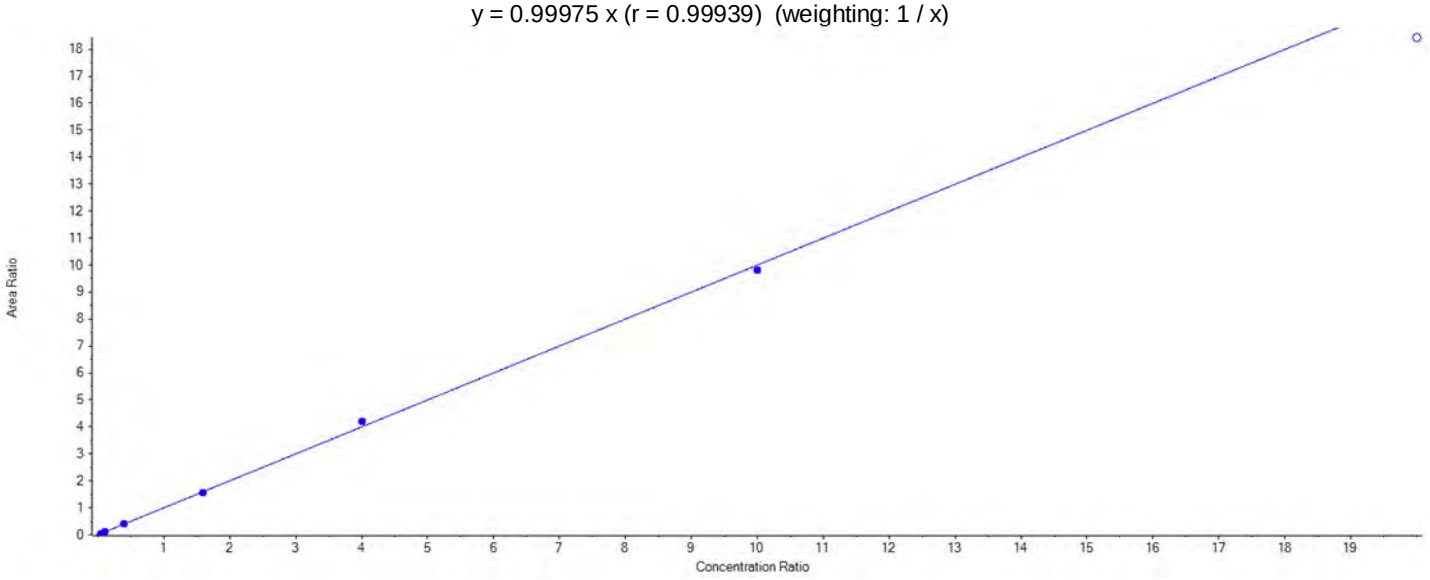
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFOSA

y = 0.99975 x (r = 0.99939) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOSA Area	S/N	13C8-PFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	28244.02	469.6	662399.72	True	5.00	0.043	5.65	1.000	0.200	0.213	7	30	
CAL2	71551.78	654.9	636077.52	True	5.00	0.112	5.65	1.000	0.500	0.563	13	30	
CAL3	269934.85	1115.9	642239.55	True	5.00	0.420	5.65	1.000	2.000	2.102	5	30	
CAL4	1003126.00	2484.2	648373.15	True	5.00	1.547	5.65	1.000	8.000	7.738	-3	30	
CAL5	2416611.44	1792.0	573278.73	True	5.00	4.215	5.65	1.000	20.000	21.082	5	30	
CAL6	5641072.47	1734.4	575735.32	True	5.00	9.798	5.66	1.000	50.000	49.002	-2	30	
CAL7	9756585.68	1632.9	529267.79	False	5.00	18.434	5.65	1.000	100.000	92.193	-8	30	

APPROVED
By MSM at 11:49 am, 12/19/18

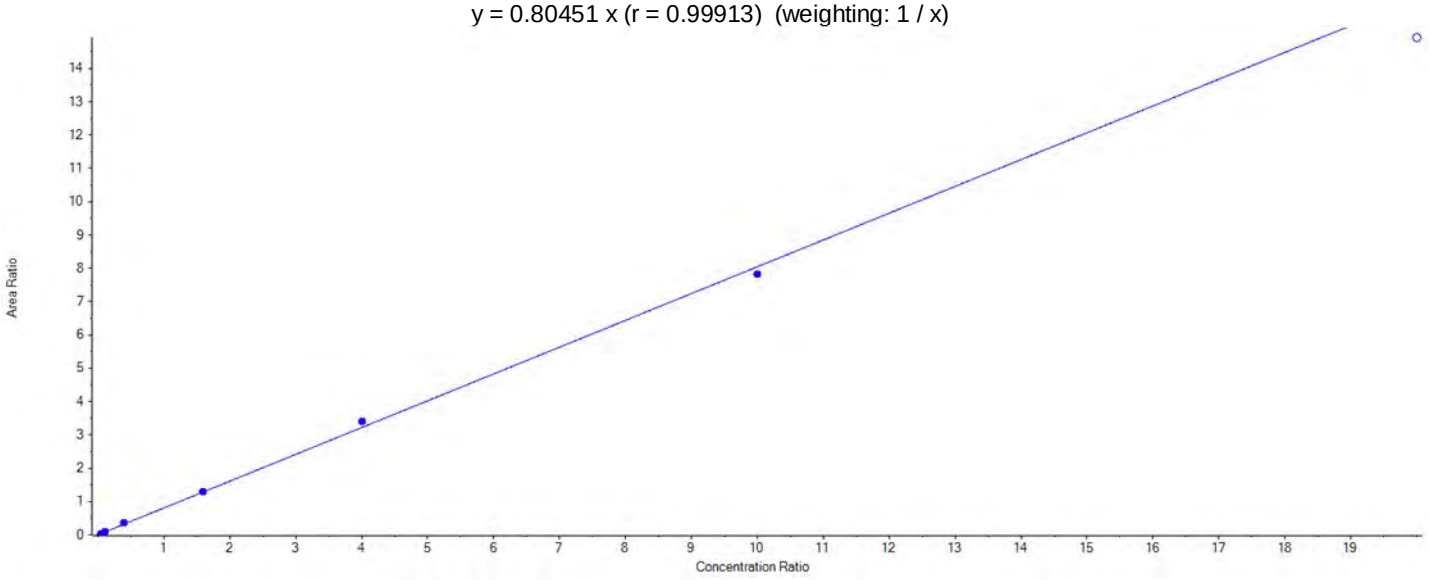
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NMeFOSAA

y = 0.80451 x (r = 0.99913) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMeFOSAA Area	S/N	d3-NMeFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	7941.11	319.1	263939.87	True	5.00	0.030	5.71	1.000	0.200	0.187	-7	30	
CAL2	19589.19	327.8	218152.20	True	5.00	0.090	5.70	1.000	0.500	0.558	12	30	
CAL3	76313.67	584.4	216983.67	True	5.00	0.352	5.71	1.000	2.000	2.186	9	30	
CAL4	290343.54	1101.9	226675.05	True	5.00	1.281	5.70	1.000	8.000	7.961	0	30	
CAL5	694349.44	1380.7	203504.71	True	5.00	3.412	5.71	1.000	20.000	21.205	6	30	
CAL6	1522626.11	1858.3	194698.33	True	5.00	7.820	5.71	1.000	50.000	48.603	-3	30	
CAL7	2804936.29	1414.7	187926.13	False	5.00	14.926	5.70	1.000	100.000	92.762	-7	30	

APPROVED
By MSM at 11:49 am, 12/19/18

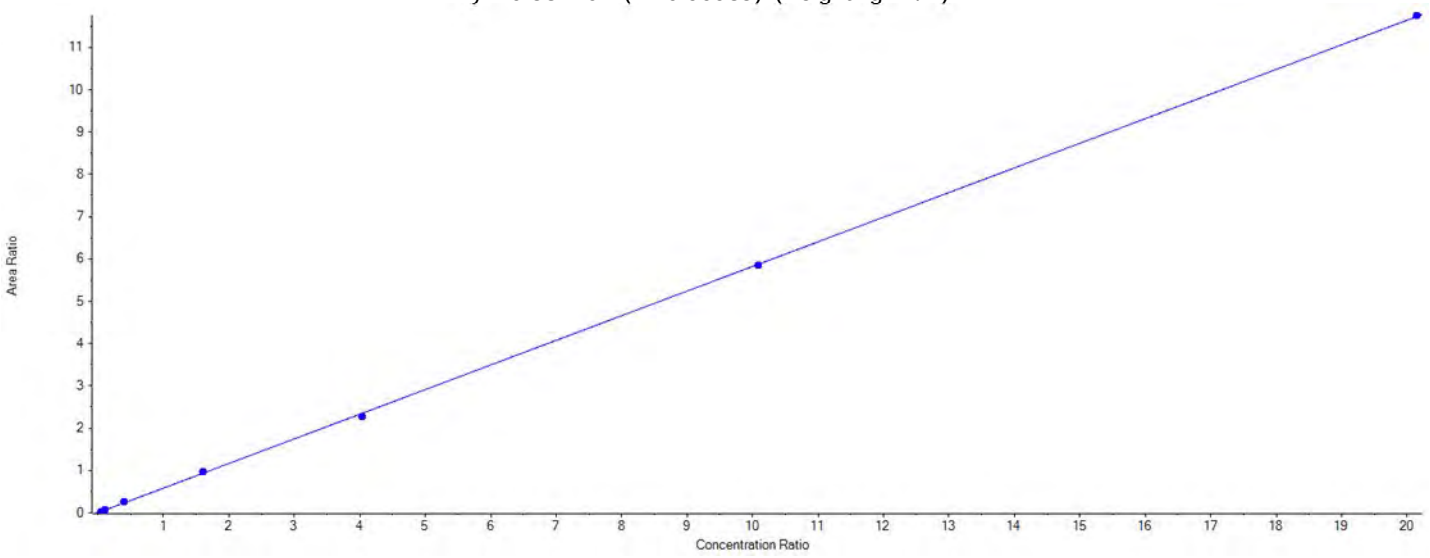
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFDS

y = 0.58226 x (r = 0.99985) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	7762.53	60755.2	340125.34	True	4.78	0.023	5.80	1.110	0.193	0.187	-3	30	
CAL2	21675.31	3227.5	349492.67	True	4.78	0.062	5.79	1.110	0.482	0.509	6	30	
CAL3	80173.41	1640.8	308110.34	True	4.78	0.260	5.80	1.110	1.930	2.136	11	30	
CAL4	327865.26	1586.4	334944.86	True	4.78	0.979	5.79	1.110	7.700	8.036	4	30	
CAL5	758022.30	2334.8	331539.36	True	4.78	2.286	5.80	1.110	19.300	18.770	-3	30	
CAL6	1690515.86	3817.0	289236.33	True	4.78	5.845	5.80	1.110	48.200	47.982	0	30	
CAL7	3153807.53	3072.9	268338.15	True	4.78	11.753	5.79	1.110	96.300	96.485	0	30	

APPROVED
By MSM at 11:49 am, 12/19/18

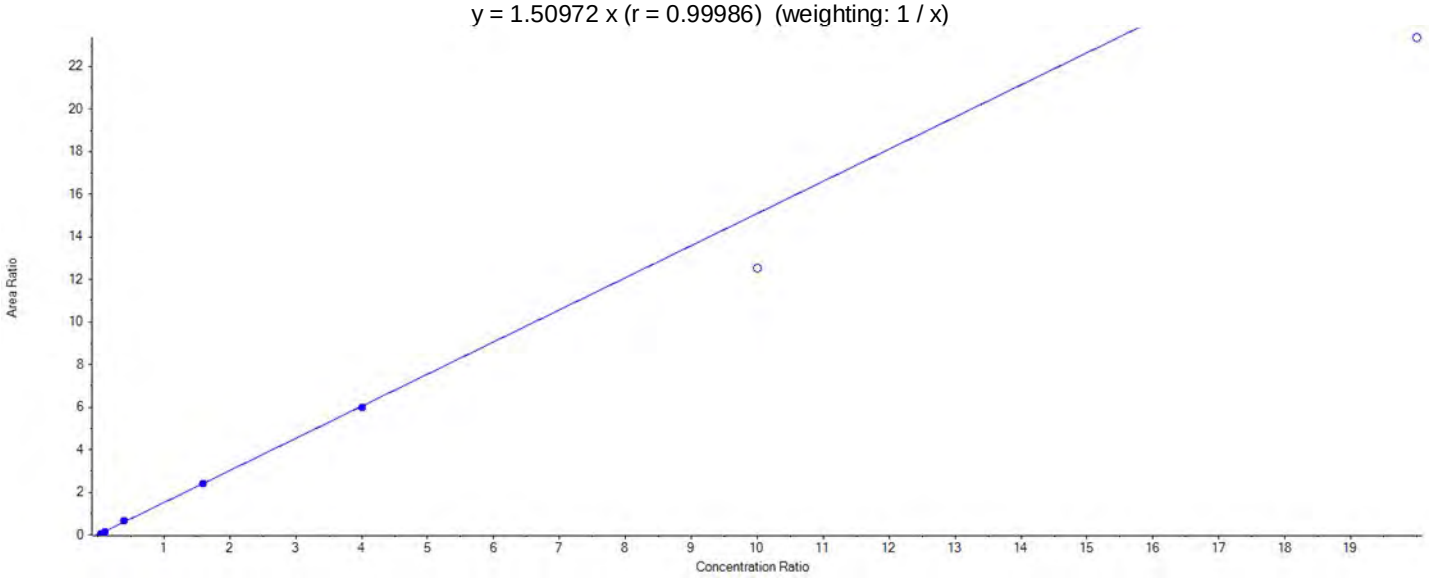
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFUnDA

y = 1.50972 x (r = 0.99986) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFUnDA Area	S/N	13C7-PFUnDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	40073.99	226.6	606291.55	True	5.00	0.066	5.82	1.000	0.200	0.219	9	30	
CAL2	99413.67	448.8	622971.70	True	5.00	0.160	5.82	1.000	0.500	0.529	6	30	
CAL3	373908.44	873.0	580977.27	True	5.00	0.644	5.82	1.000	2.000	2.131	7	30	
CAL4	1410610.16	1384.0	581922.53	True	5.00	2.424	5.82	1.000	8.000	8.028	0	30	
CAL5	3400238.12	2108.5	568949.80	True	5.00	5.976	5.82	1.000	20.000	19.793	-1	30	
CAL6	6790806.92	2859.2	542196.94	False	5.00	12.525	5.83	1.000	50.000	41.480	-17	30	
CAL7	10906838.78	3011.7	466944.37	False	5.00	23.358	5.82	1.000	100.000	77.359	-23	30	

APPROVED
By MSM at 11:49 am, 12/19/18

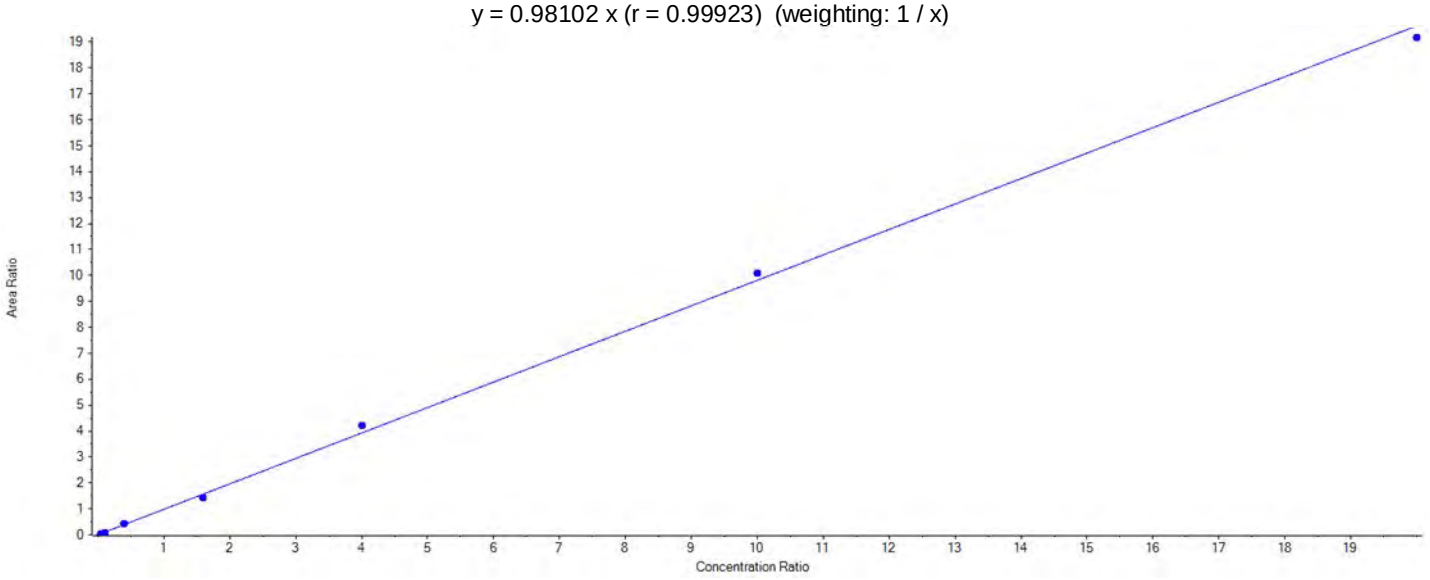
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By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NEtFOSAA

y = 0.98102 x (r = 0.99923) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtFOSAA Area	S/N	d5-NEtFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	6705.24	27395.4	174794.14	True	5.00	0.038	5.84	1.000	0.200	0.196	-2	30	
CAL2	17104.70	108814.1	196235.04	True	5.00	0.087	5.83	1.000	0.500	0.444	-11	30	
CAL3	69414.28	1442.0	167747.38	True	5.00	0.414	5.84	1.000	2.000	2.109	5	30	
CAL4	260292.73	941.0	180280.04	True	5.00	1.444	5.83	1.000	8.000	7.359	-8	30	
CAL5	619081.11	1458.8	146690.55	True	5.00	4.220	5.84	1.000	20.000	21.510	8	30	
CAL6	1393940.73	1717.0	138273.55	True	5.00	10.081	5.84	1.000	50.000	51.380	3	30	
CAL7	2419106.27	1516.2	126195.29	True	5.00	19.170	5.83	1.000	100.000	97.702	-2	30	

APPROVED
By MSM at 11:49 am, 12/19/18

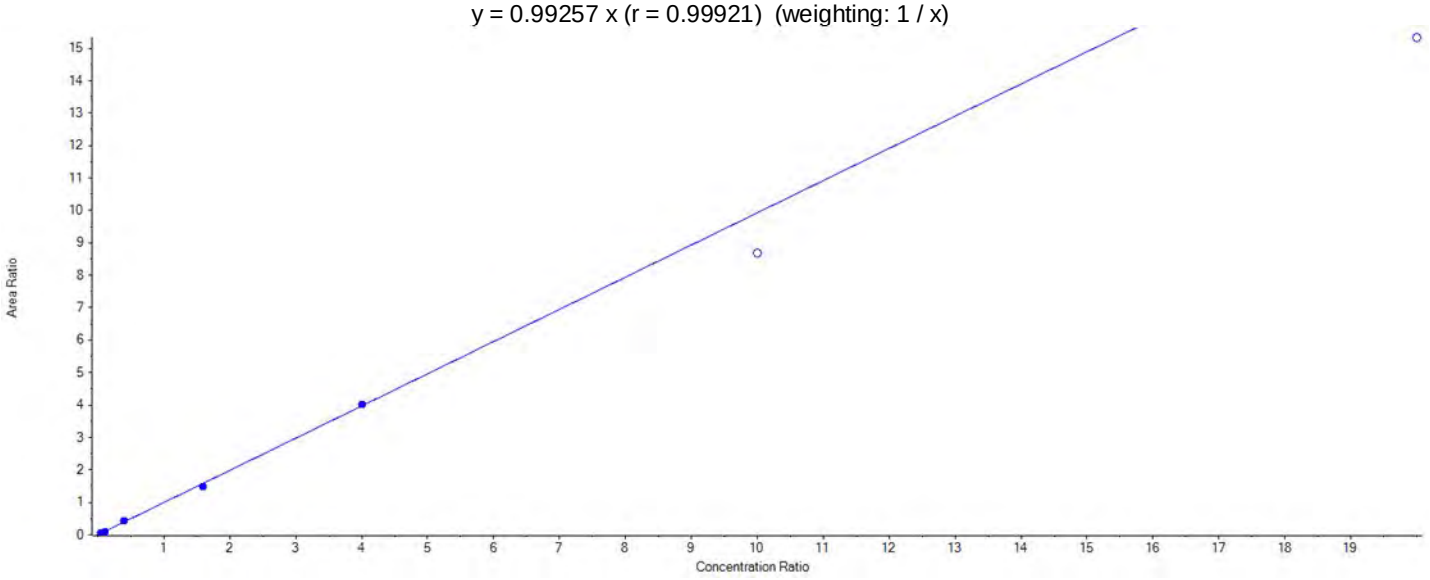
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFDoDA

y = 0.99257 x (r = 0.99921) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	61231.48	283.4	1268639.50	True	5.00	0.048	6.04	1.000	0.200	0.243	22	30	
CAL2	130434.37	553.6	1229301.70	True	5.00	0.106	6.04	1.000	0.500	0.534	7	30	
CAL3	517307.34	820.3	1210049.18	True	5.00	0.428	6.04	1.000	2.000	2.154	8	30	
CAL4	1811366.40	1643.1	1215089.10	True	5.00	1.491	6.04	1.000	8.000	7.509	-6	30	
CAL5	4286978.23	3060.1	1065946.99	True	5.00	4.022	6.05	1.000	20.000	20.259	1	30	
CAL6	8862936.24	2622.8	1021574.81	False	5.00	8.676	6.05	1.000	50.000	43.704	-13	30	
CAL7	13735940.73	2456.1	896268.09	False	5.00	15.326	6.04	1.000	100.000	77.202	-23	30	

APPROVED
By MSM at 11:49 am, 12/19/18

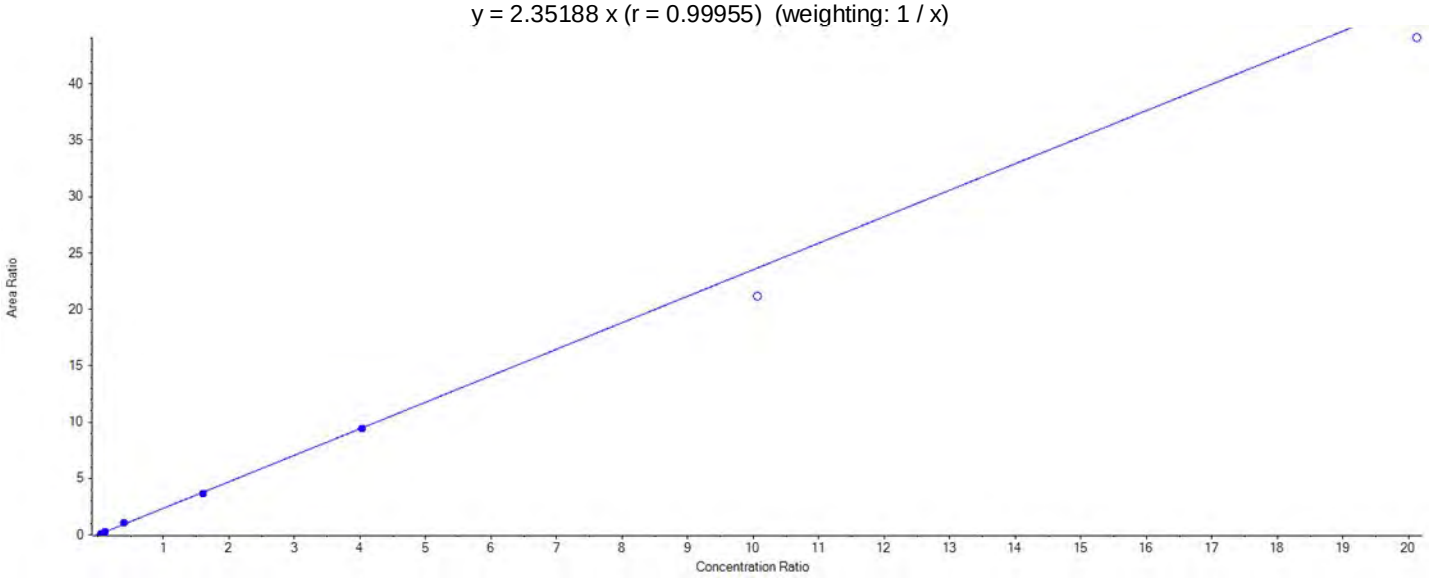
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

10:2-FTS

y = 2.35188 x (r = 0.99955) (weighting: 1 / x)



Component Calibration Verification

Sample Name	10:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5506.39	87418.0	48167.71	True	4.79	0.114	6.06	1.090	0.193	0.233	21	30	
CAL2	12341.83	743131.0	46390.21	True	4.79	0.266	6.05	1.090	0.482	0.542	12	30	
CAL3	50421.15	1630.5	47968.92	True	4.79	1.051	6.06	1.090	1.930	2.141	11	30	
CAL4	167061.25	7359.4	45542.35	True	4.79	3.668	6.05	1.090	7.710	7.471	-3	30	
CAL5	413620.67	14069.4	43810.43	True	4.79	9.441	6.06	1.090	19.300	19.229	0	30	
CAL6	875761.61	2524.2	41390.64	False	4.79	21.158	6.06	1.090	48.200	43.093	-11	30	
CAL7	1572726.66	1555.5	35654.26	False	4.79	44.110	6.05	1.090	96.400	89.839	-7	30	

APPROVED
By MSM at 11:49 am, 12/19/18

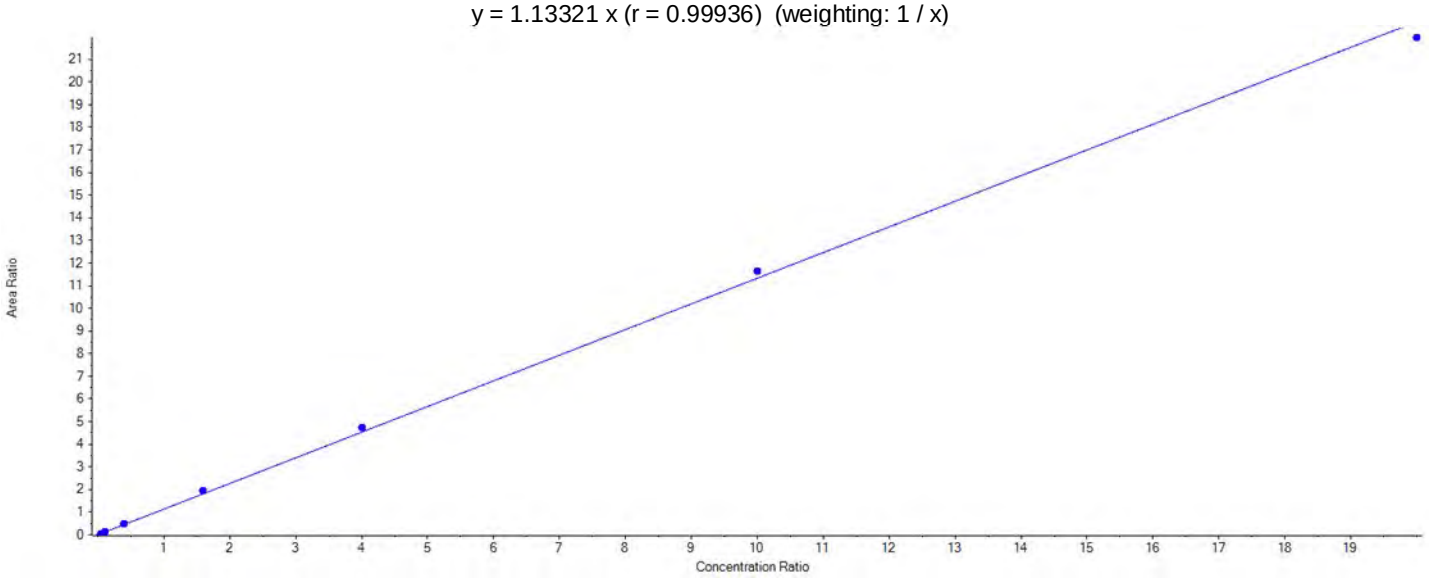
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSAE

y = 1.13321 x (r = 0.99936) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSAE Area	S/N	d7-NMePFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	12784.09	173.2	270192.01	True	5.00	0.047	6.09	1.000	0.200	0.209	4	30	
CAL2	36519.57	327.3	273893.92	True	5.00	0.133	6.09	1.000	0.500	0.588	18	30	
CAL3	133428.31	701.6	265025.36	True	5.00	0.503	6.10	1.000	2.000	2.221	11	30	
CAL4	519484.42	855.7	268949.18	True	5.00	1.932	6.09	1.000	8.000	8.522	7	30	
CAL5	1228026.61	1209.5	259783.25	True	5.00	4.727	6.10	1.000	20.000	20.857	4	30	
CAL6	3042548.56	1276.7	261182.92	True	5.00	11.649	6.10	1.000	50.000	51.399	3	30	
CAL7	5672407.27	1228.4	258278.14	True	5.00	21.962	6.09	1.000	100.000	96.903	-3	30	

APPROVED
By MSM at 11:49 am, 12/19/18

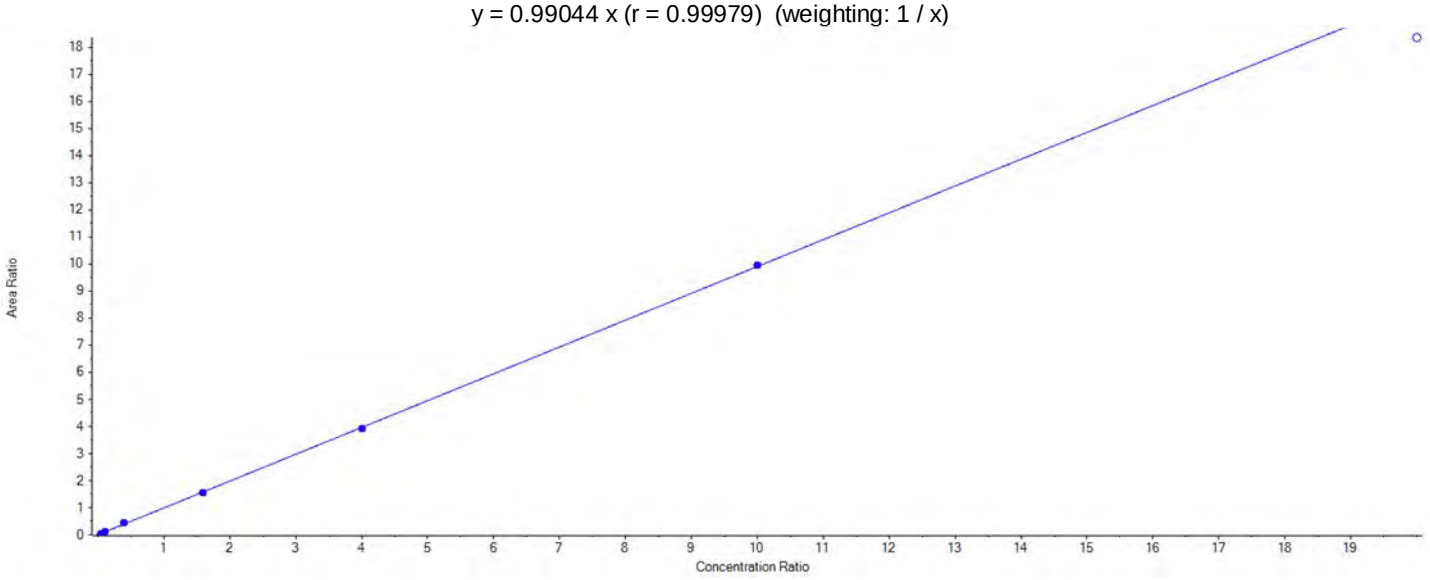
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSA

y = 0.99044 x (r = 0.99979) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSA Area	S/N	d3-NMePFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3587.64	126.9	91399.47	True	5.00	0.039	6.11	1.000	0.200	0.198	-1	30	
CAL2	10321.79	277.4	89487.32	True	5.00	0.115	6.10	1.000	0.500	0.582	16	30	
CAL3	35694.83	630.4	83036.40	True	5.00	0.430	6.11	1.000	2.000	2.170	9	30	
CAL4	136742.04	858.9	88979.35	True	5.00	1.537	6.10	1.000	8.000	7.758	-3	30	
CAL5	329483.70	927.4	83956.43	True	5.00	3.924	6.11	1.000	20.000	19.812	-1	30	
CAL6	841191.12	1152.2	84626.83	True	5.00	9.940	6.11	1.000	50.000	50.180	0	30	
CAL7	1519310.58	1031.3	82766.69	False	5.00	18.357	6.10	1.000	100.000	92.669	-7	30	

APPROVED
By MSM at 11:49 am, 12/19/18

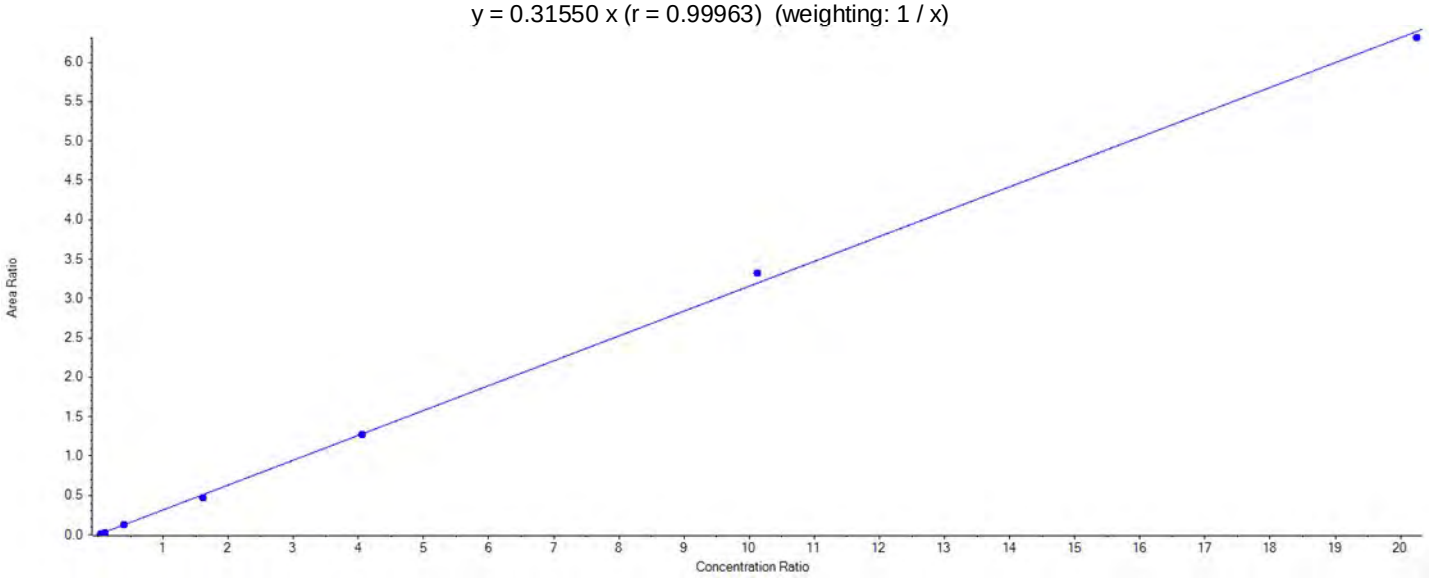
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFDoS

y = 0.31550 x (r = 0.99963) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4129.83	5450.6	340125.34	True	4.78	0.012	6.20	1.180	0.194	0.184	-5	30	
CAL2	10760.91	11716.2	349492.67	True	4.78	0.031	6.20	1.190	0.482	0.466	-3	30	
CAL3	39644.87	5374.9	308110.34	True	4.78	0.129	6.21	1.190	1.940	1.949	0	30	
CAL4	159190.74	2485.4	334944.86	True	4.78	0.475	6.20	1.180	7.740	7.201	-7	30	
CAL5	421406.91	2132.8	331539.36	True	4.78	1.271	6.21	1.190	19.400	19.257	-1	30	
CAL6	959645.69	2762.6	289236.33	True	4.78	3.318	6.21	1.180	48.400	50.267	4	30	
CAL7	1693764.81	3112.7	268338.15	True	4.78	6.312	6.20	1.190	96.800	95.631	-1	30	

APPROVED
By MSM at 11:49 am, 12/19/18

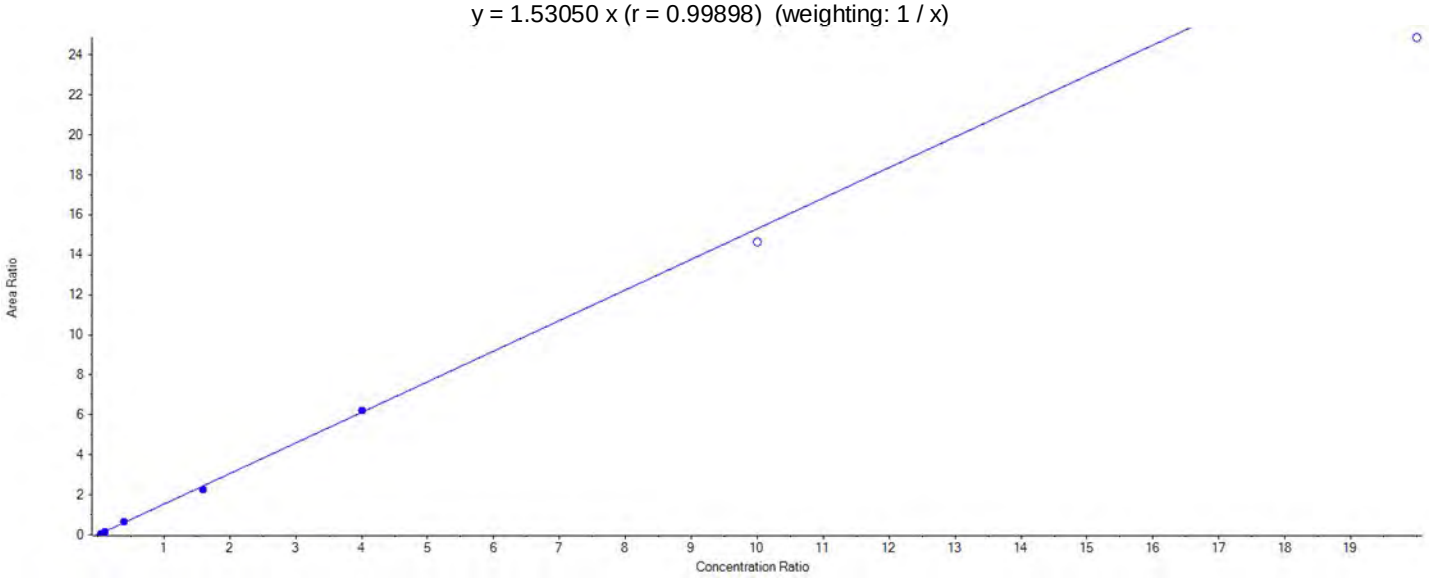
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSAE

y = 1.53050 x (r = 0.99898) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSAE Area	S/N	d9-NEtPFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	16977.68	186.6	245785.78	True	5.00	0.069	6.25	1.000	0.200	0.226	13	30	
CAL2	40704.64	274.3	234457.44	True	5.00	0.174	6.24	1.000	0.500	0.567	13	30	
CAL3	142578.14	498.8	221303.40	True	5.00	0.644	6.25	1.000	2.000	2.105	5	30	
CAL4	539839.78	904.3	237359.16	True	5.00	2.274	6.24	1.000	8.000	7.430	-7	30	
CAL5	1392018.87	1088.1	223224.92	True	5.00	6.236	6.25	1.000	20.000	20.372	2	30	
CAL6	3257504.34	1117.8	222808.90	False	5.00	14.620	6.25	1.000	50.000	47.763	-4	30	
CAL7	5932510.36	1347.8	238594.55	False	5.00	24.864	6.24	1.000	100.000	81.230	-19	30	

APPROVED
By MSM at 11:49 am, 12/19/18

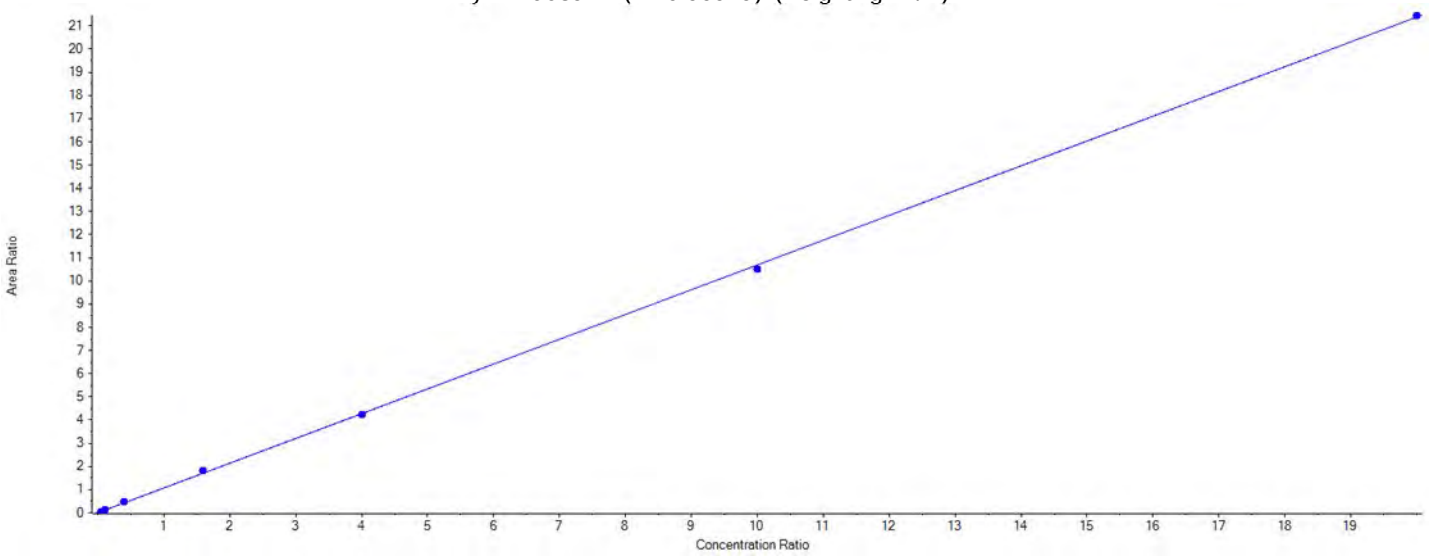
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSA

y = 1.06894 x (r = 0.99979) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSA Area	S/N	d5-NEtPFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3003.59	95.2	72859.50	True	5.00	0.041	6.26	1.000	0.200	0.193	-4	30	
CAL2	7692.89	218.8	70003.76	True	5.00	0.110	6.26	1.000	0.500	0.514	3	30	
CAL3	32089.85	543.7	67700.56	True	5.00	0.474	6.27	1.000	2.000	2.217	11	30	
CAL4	127321.10	600.7	69985.02	True	5.00	1.819	6.26	1.000	8.000	8.510	6	30	
CAL5	297273.14	1244.5	70043.92	True	5.00	4.244	6.27	1.000	20.000	19.852	-1	30	
CAL6	703178.95	1096.4	66987.38	True	5.00	10.497	6.27	1.000	50.000	49.101	-2	30	
CAL7	1312776.75	1166.5	61214.00	True	5.00	21.446	6.26	1.000	100.000	100.313	0	30	

APPROVED
By MSM at 11:49 am, 12/19/18

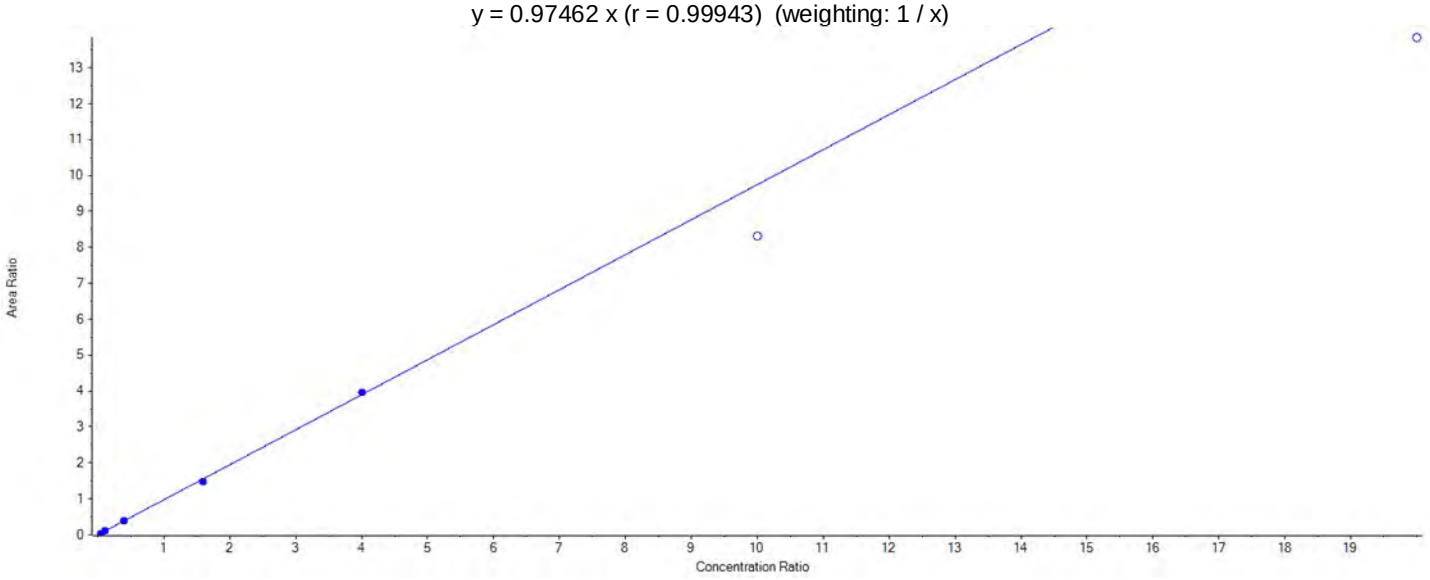
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFTrDA

y = 0.97462 x (r = 0.99943) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTrDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	52549.49	431.8	1268639.50	True	5.00	0.041	6.23	1.030	0.200	0.213	6	30	
CAL2	129882.05	691.2	1229301.70	True	5.00	0.106	6.23	1.030	0.500	0.542	8	30	
CAL3	481635.82	1133.1	1210049.18	True	5.00	0.398	6.24	1.030	2.000	2.042	2	30	
CAL4	1793581.56	1729.4	1215089.10	True	5.00	1.476	6.23	1.030	8.000	7.573	-5	30	
CAL5	4224307.46	1950.2	1065946.99	True	5.00	3.963	6.24	1.030	20.000	20.331	2	30	
CAL6	8498735.48	2545.3	1021574.81	False	5.00	8.319	6.24	1.030	50.000	42.680	-15	30	
CAL7	12403653.15	2424.0	896268.09	False	5.00	13.839	6.23	1.030	100.000	70.998	-29	30	

APPROVED
By MSM at 11:49 am, 12/19/18

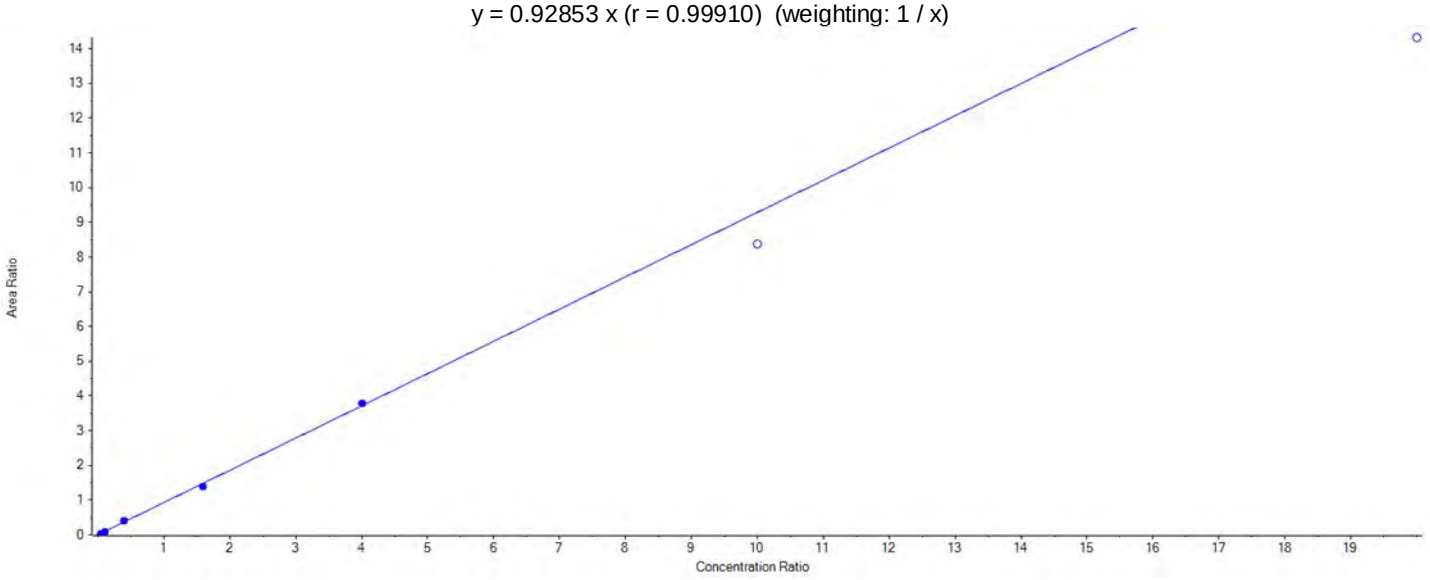
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFTeDA

y = 0.92853 x (r = 0.99910) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTeDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37886.50	327.2	933408.92	True	5.00	0.041	6.41	1.000	0.200	0.219	9	30	
CAL2	87023.98	499.2	911481.82	True	5.00	0.095	6.41	1.000	0.500	0.514	3	30	
CAL3	333217.04	1206.0	839561.71	True	5.00	0.397	6.42	1.000	2.000	2.137	7	30	
CAL4	1181484.10	1898.4	850800.59	True	5.00	1.389	6.41	1.000	8.000	7.478	-7	30	
CAL5	3087435.92	2401.8	816876.42	True	5.00	3.780	6.42	1.000	20.000	20.352	2	30	
CAL6	6745639.52	2794.8	805412.88	False	5.00	8.375	6.42	1.000	50.000	45.100	-10	30	
CAL7	10584696.41	2534.1	739019.13	False	5.00	14.323	6.41	1.000	100.000	77.125	-23	30	

APPROVED
By MSM at 11:49 am, 12/19/18

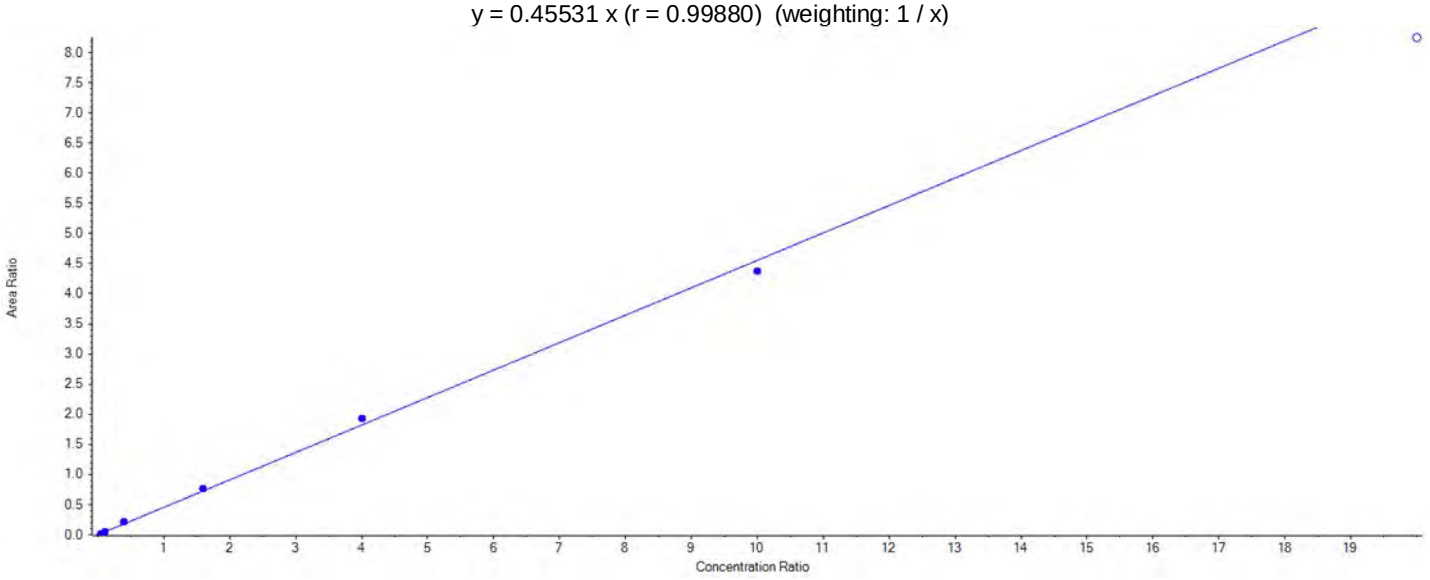
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFHxDA

y = 0.45531 x (r = 0.99880) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	20158.26	565.3	933408.92	True	5.00	0.022	6.71	1.050	0.200	0.237	19	30	
CAL2	43591.46	1082.4	911481.82	True	5.00	0.048	6.71	1.050	0.500	0.525	5	30	
CAL3	174998.14	1831.9	839561.71	True	5.00	0.208	6.72	1.050	2.000	2.289	14	30	
CAL4	651302.63	2343.1	850800.59	True	5.00	0.766	6.71	1.050	8.000	8.406	5	30	
CAL5	1573324.99	3081.1	816876.42	True	5.00	1.926	6.71	1.050	20.000	21.151	6	30	
CAL6	3527192.44	4277.9	805412.88	True	5.00	4.379	6.72	1.050	50.000	48.092	-4	30	
CAL7	6096567.97	3546.9	739019.13	False	5.00	8.250	6.71	1.050	100.000	90.592	-9	30	

APPROVED
By MSM at 11:49 am, 12/19/18

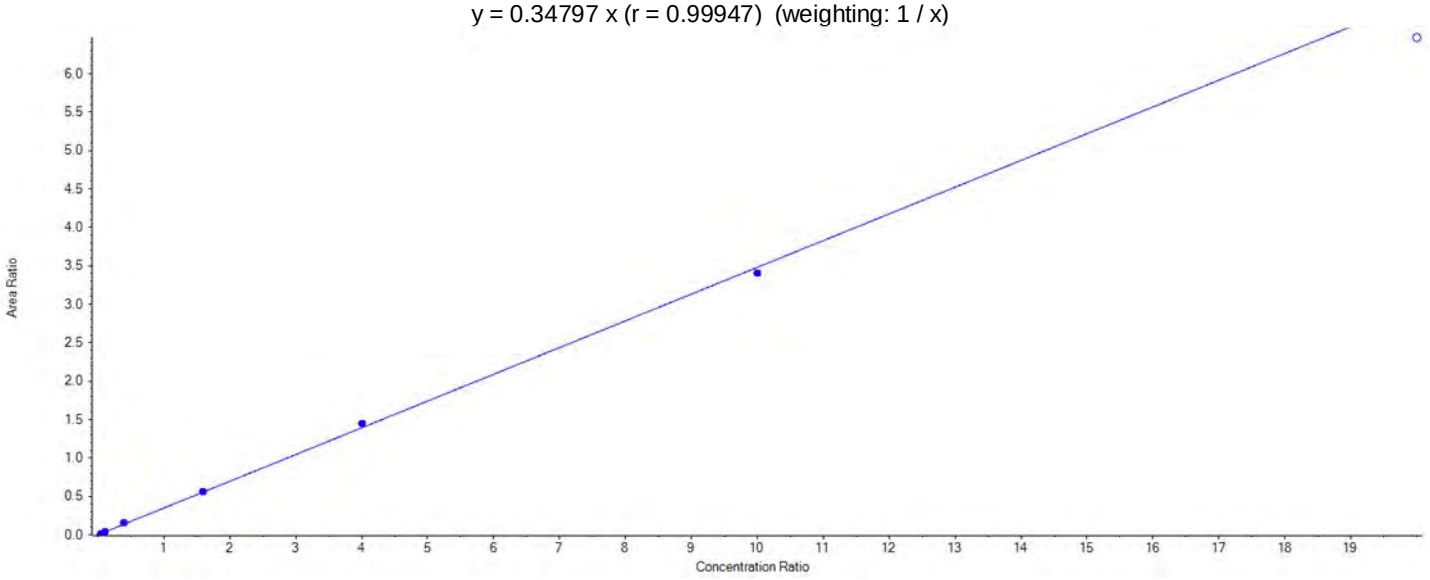
REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

PFODA

y = 0.34797 x (r = 0.99947) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFODA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13384.23	917.5	933408.92	True	5.00	0.014	6.98	1.090	0.200	0.206	3	30	
CAL2	32232.07	1449.5	911481.82	True	5.00	0.035	6.97	1.090	0.500	0.508	2	30	
CAL3	129704.78	2655.1	839561.71	True	5.00	0.154	6.98	1.090	2.000	2.220	11	30	
CAL4	481905.32	3886.6	850800.59	True	5.00	0.566	6.97	1.090	8.000	8.139	2	30	
CAL5	1181984.36	5048.1	816876.42	True	5.00	1.447	6.98	1.090	20.000	20.791	4	30	
CAL6	2737389.49	4569.3	805412.88	True	5.00	3.399	6.98	1.090	50.000	48.836	-2	30	
CAL7	4781425.10	3708.0	739019.13	False	5.00	6.470	6.97	1.090	100.000	92.966	-7	30	

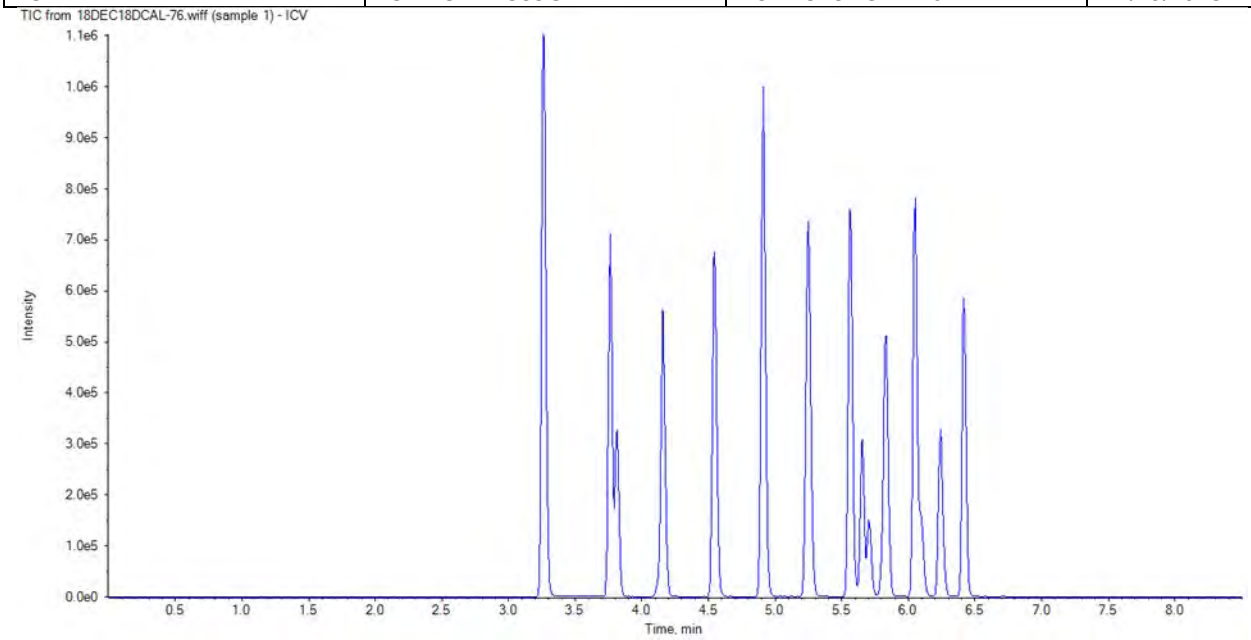
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC18DCAL-76.wiff	12/19/2018 12:46:59 AM



Injection Standard Name	Inj Std Conc	Injection Std Peak Area	CAL3 Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.000	1001581.53	941251.6	6.4	50	
13C2-PFOA	5.000	545957.83	485595.3	12.4	50	
13C4-PFOS	4.780	314888.73	292182.6	7.8	50	
13C2-PFDA	5.000	489223.17	467216.0	4.7	50	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC18DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC18DCAL12/19/2018 9:34:01 AM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC18DCAL-76.wiff	12/19/2018 12:46:59 AM

Analyte Name	Analyte Area	Ext Std Name	Ext Std Area	Ext Std Con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	412745.70	13C4-PFBA	1094642.35	5.00	0.377	3.26	1.00	2.000	2.002	0	30	
PFPeA	395897.35	13C5-PFPeA	1008730.09	5.00	0.392	3.77	1.00	2.000	2.026	1	30	
PFBS	169696.97	13C3-PFBS	449153.37	4.65	0.378	3.81	1.00	1.769	1.865	5	30	
4:2-FTS	N/A	13C2-4:2-FTS	61415.72	4.67	N/A	N/A	N/A	0.000	N/A		30	
PFHxA	384443.42	13C5-PFHxA	791700.97	5.00	0.486	4.16	1.00	2.000	2.000	0	30	
PFPeS	N/A	13C3-PFBS	449153.37	4.65	N/A	N/A	N/A	0.000	N/A		30	
PFHpA	403375.85	13C4-PFHpA	592781.99	5.00	0.680	4.55	1.00	2.000	2.256	13	30	
PFHxS	130829.50	13C3-PFHxS	346627.14	4.73	0.377	4.55	1.00	1.890	1.836	-3	30	
6:2-FTS	N/A	13C2-6:2-FTS	51799.61	4.75	N/A	N/A	N/A	0.000	N/A		30	
PFHpS	129646.75	13C3-PFHxS	346627.14	4.73	0.374	4.90	1.08	1.900	1.979	4	30	
PFOA	398236.05	13C8-PFOA	993017.04	5.00	0.401	4.91	1.00	2.000	2.125	6	30	
PFOS	133872.01	13C8-PFOS	334311.48	4.78	0.400	5.24	1.00	1.910	1.753	-8	30	
PFNA	367059.53	13C9-PFNA	671215.93	5.00	0.547	5.26	1.00	2.000	2.173	9	30	
PFNS	N/A	13C8-PFOS	334311.48	4.78	N/A	N/A	N/A	0.000	N/A		30	
PFDA	331197.86	13C6-PFDA	872771.75	5.00	0.379	5.56	1.00	2.000	1.960	-2	30	
8:2-FTS	N/A	13C2-8:2-FTS	45316.10	4.79	N/A	N/A	N/A	0.000	N/A		30	
PFOSA	N/A	13C8-PFOSA	654848.92	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMeFOSAA	83098.34	d3-NMeFOSAA	223608.66	5.00	0.372	5.71	1.00	2.000	2.310	15	30	
PFDS	81048.38	13C8-PFOS	334311.48	4.78	0.242	5.80	1.11	1.930	1.990	3	30	
PFUnDA	328698.42	13C7-PFUnDA	587076.91	5.00	0.560	5.83	1.00	2.000	1.854	-7	30	
NEtFOSAA	73598.96	d5-NEtFOSAA	178505.14	5.00	0.412	5.84	1.00	2.000	2.101	5	30	
PFDoDA	471885.24	13C2-PFDoDA	1224073.92	5.00	0.386	6.05	1.00	2.000	1.942	-3	30	
10:2-FTS	N/A	13C2-8:2-FTS	45316.10	4.79	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSAE	N/A	d7-NMePFOSAE	269917.68	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSA	N/A	d3-NMePFOSA	88738.22	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFDoS	N/A	13C8-PFOS	334311.48	4.78	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSAE	N/A	d9-NEtPFOSAE	231171.37	5.00	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSA	N/A	d5-NEtPFOSA	70087.35	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFTrDA	463980.11	13C2-PFDoDA	1224073.92	5.00	0.379	6.24	1.03	2.000	1.945	-3	30	
PFTeDA	335133.74	13C2-PFTeDA	902755.25	5.00	0.371	6.42	1.00	2.000	1.999	0	30	
PFHxDA	N/A	13C2-PFTeDA	902755.25	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFODA	N/A	13C2-PFTeDA	902755.25	5.00	N/A	N/A	N/A	0.000	N/A		30	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL1			**Data File:**		18DEC18DCAL-68.wiff
Sample ID:	CALBRN11833C			**Acquis Date:**		2018-12-18T23:34:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	3			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	996186.0	941251.6	6	50	
13C2-PFOA	5.0	539687.5	485595.3	11	50	
13C4-PFOS	4.8	319537.9	292182.6	9	50	
13C2-PFDA	5.0	492042.8	467216.0	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1106287.6	13C3-PFBA	996186.0	1.111	5.000	4.918	98	70-130	
E13C5-PFPeA	1046699.0	13C3-PFBA	996186.0	1.051	5.000	4.900	98	70-130	
E13C3-PFBS	461605.3	13C3-PFBA	996186.0	0.463	4.650	4.512	97	70-130	
E13C2-4:2-FTS	70576.5	13C2-PFOA	539687.5	0.131	4.670	4.967	106	70-130	
E13C5-PFHxA	748596.6	13C2-PFOA	539687.5	1.387	5.000	4.962	99	70-130	
E13C3-PFHxS	371572.3	13C2-PFOA	539687.5	0.688	4.730	5.210	110	70-130	
E13C4-PFHpA	573021.3	13C2-PFOA	539687.5	1.062	5.000	4.586	92	70-130	
E13C2-6:2-FTS	53697.3	13C2-PFOA	539687.5	0.099	4.750	5.006	105	70-130	
E13C8-PFOA	1059559.5	13C2-PFOA	539687.5	1.963	5.000	5.399	108	70-130	
E13C8-PFOS	340125.3	13C4-PFOS	319537.9	1.064	4.780	4.760	100	70-130	
E13C9-PFNA	674406.0	13C4-PFOS	319537.9	2.111	5.000	4.801	96	70-130	
E13C6-PFDA	846045.5	13C2-PFDA	492042.8	1.719	5.000	4.898	98	70-130	
E13C2-8:2-FTS	48167.7	13C2-PFDA	492042.8	0.098	4.790	5.045	105	70-130	
E13C8-PFOSA	662399.7	13C2-PFDA	492042.8	1.346	5.000	5.242	105	70-130	
Ed3-NMeFOSAA	263939.9	13C2-PFDA	492042.8	0.536	5.000	5.902	118	70-130	
E13C7-PFUnDA	606291.6	13C2-PFDA	492042.8	1.232	5.000	5.158	103	70-130	
Ed5-NEtFOSAA	174794.1	13C2-PFDA	492042.8	0.355	5.000	5.234	105	70-130	
E13C2-PFDoDA	1268639.5	13C2-PFDA	492042.8	2.578	5.000	5.424	108	70-130	
Ed7-NMePFOSAE	270192.0	13C2-PFDA	492042.8	0.549	5.000	4.906	98	70-130	
Ed3-NMePFOSA	91399.5	13C2-PFDA	492042.8	0.186	5.000	5.104	102	70-130	
Ed9-NEtPFOSAE	245785.8	13C2-PFDA	492042.8	0.500	5.000	5.107	102	70-130	
Ed5-NEtPFOSA	72859.5	13C2-PFDA	492042.8	0.148	5.000	5.136	103	70-130	
E13C2-PFTeDA	933408.9	13C2-PFDA	492042.8	1.897	5.000	5.346	107	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

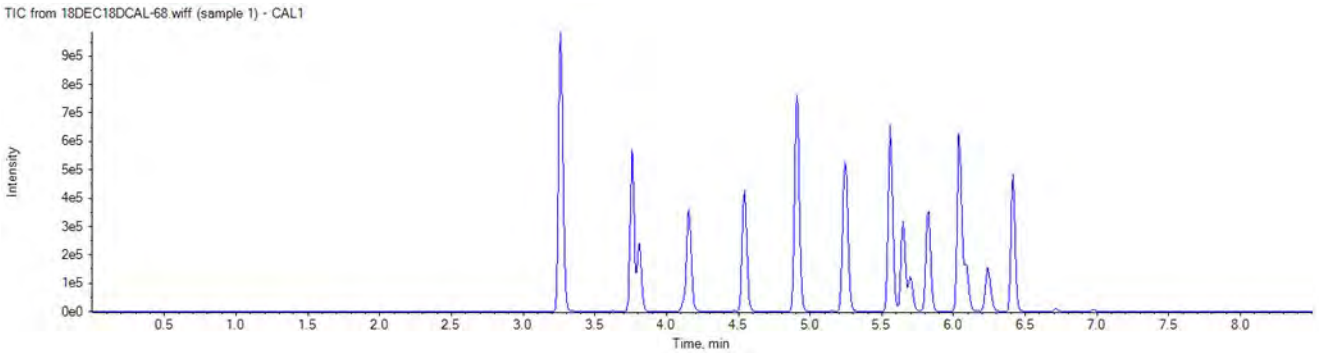
Analyte Quantitation Peak Table

Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-68.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	45779.8		A	13C4-PFBA	3.26	1106287.6	0.041	0.220
PFPeA	3.76	1.000	44915.2		A	13C5-PFPeA	3.76	1046699.0	0.043	0.222
PFBS	3.81	1.000	18454.0		A	13C3-PFBS	3.81	461605.3	0.040	0.197
4:2-FTS	4.12	1.000	5256.3		A	13C2-4:2-FTS	4.12	70576.5	0.074	0.195
PFHxA	4.15	1.000	39902.9		A	13C5-PFHxA	4.16	748596.6	0.053	0.220
PFPeS	4.18	1.100	9547.0		A	13C3-PFBS	3.81	461605.3	0.021	0.211
PFHpA	4.54	1.000	42890.9		A	13C4-PFHpA	4.54	573021.3	0.075	0.248
PFHxS	4.55	1.000	13770.2		M	13C3-PFHxS	4.54	371572.3	0.037	0.180
6:2-FTS	4.89	1.000	5250.6		A	13C2-6:2-FTS	4.89	53697.3	0.098	0.243
PFHpS	4.90	1.080	12616.6		A	13C3-PFHxS	4.54	371572.3	0.034	0.180
PFOA	4.91	1.000	45038.0		A	13C8-PFOA	4.91	1059559.5	0.043	0.225
PFOS	5.24	1.000	14855.8		M	13C8-PFOS	5.24	340125.3	0.044	0.191
PFNA	5.25	1.000	41369.1		A	13C9-PFNA	5.25	674406.0	0.061	0.244
PFNS	5.54	1.060	10377.6		A	13C8-PFOS	5.24	340125.3	0.031	0.194
PFDA	5.56	1.000	38431.1		A	13C6-PFDA	5.56	846045.5	0.045	0.235
8:2-FTS	5.56	1.000	5170.3		A	13C2-8:2-FTS	5.56	48167.7	0.107	0.216
PFOSA	5.65	1.000	28244.0		A	13C8-PFOSA	5.65	662399.7	0.043	0.213
NMeFOSAA	5.71	1.000	7941.1		M	d3-NMeFOSAA	5.70	263939.9	0.030	0.187
PFDS	5.80	1.110	7762.5		A	13C8-PFOS	5.24	340125.3	0.023	0.187
PFUnDA	5.82	1.000	40074.0		A	13C7-PFUnDA	5.82	606291.6	0.066	0.219
NEtFOSAA	5.84	1.000	6705.2		M	d5-NEtFOSAA	5.83	174794.1	0.038	0.196
PFDoDA	6.04	1.000	61231.5		A	13C2-PFDoDA	6.04	1268639.5	0.048	0.243
10:2-FTS	6.06	1.090	5506.4		A	13C2-8:2-FTS	5.56	48167.7	0.114	0.233
NMePFOSAE	6.09	1.000	12784.1		A	d7-NMePFOSAE	6.08	270192.0	0.047	0.209
NMePFOSA	6.11	1.000	3587.6		A	d3-NMePFOSA	6.10	91399.5	0.039	0.198
PFDoS	6.20	1.180	4129.8		A	13C8-PFOS	5.24	340125.3	0.012	0.184
NEtPFOSAE	6.25	1.000	16977.7		A	d9-NEtPFOSAE	6.24	245785.8	0.069	0.226
NEtPFOSA	6.26	1.000	3003.6		A	d5-NEtPFOSA	6.26	72859.5	0.041	0.193
PFTrDA	6.23	1.030	52549.5		A	13C2-PFDoDA	6.04	1268639.5	0.041	0.213
PFTeDA	6.41	1.000	37886.5		A	13C2-PFTeDA	6.41	933408.9	0.041	0.219
PFHxDA	6.71	1.050	20158.3		A	13C2-PFTeDA	6.41	933408.9	0.022	0.237
PFODA	6.98	1.090	13384.2		A	13C2-PFTeDA	6.41	933408.9	0.014	0.206

Total Ion Chromatogram

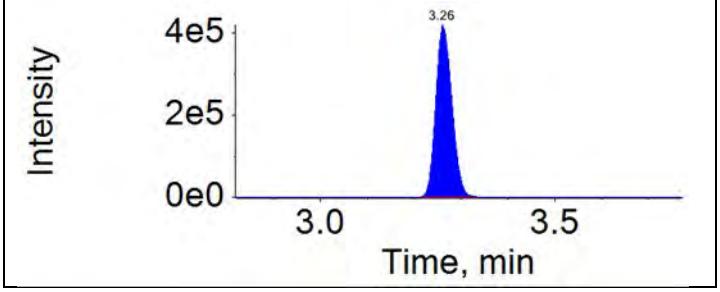


APPROVED
By MSM at 11:49 am, 12/19/18

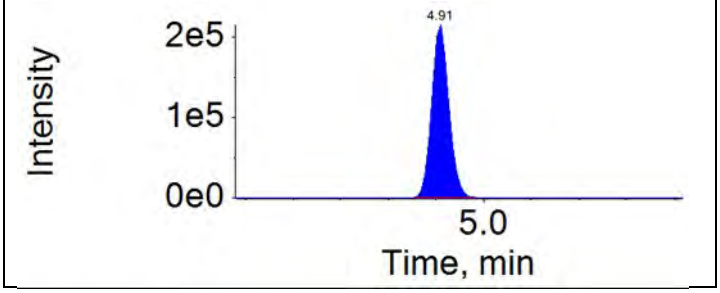
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

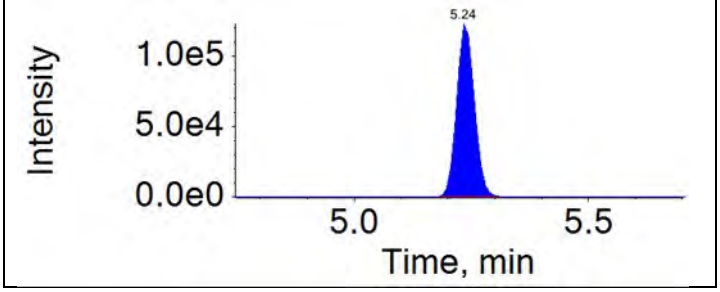
Injection Standard: 13C3-PFBA
216.0 / 172.0



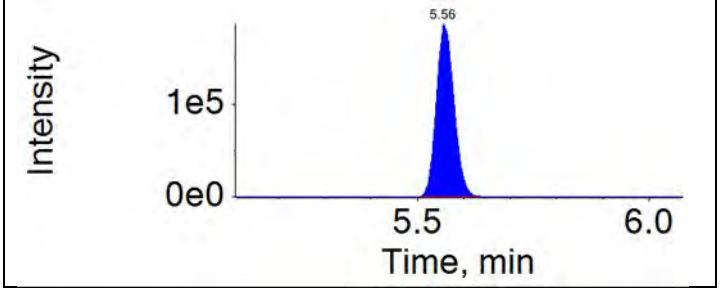
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

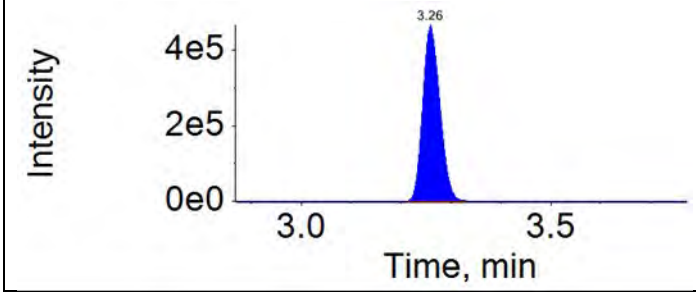


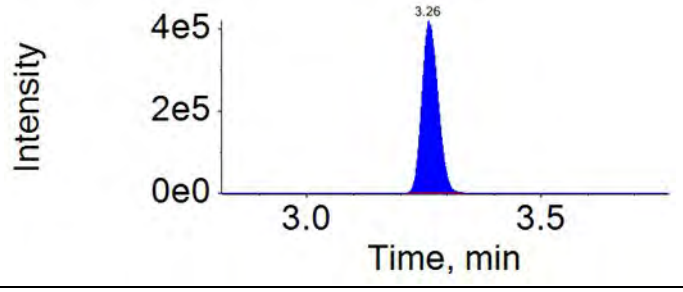
Injection Standard: 13C2-PFDA
515.0 / 470.0



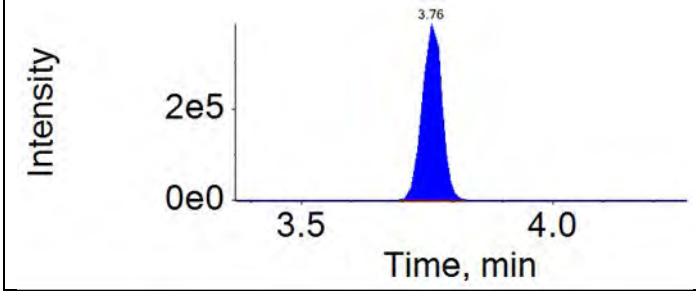
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

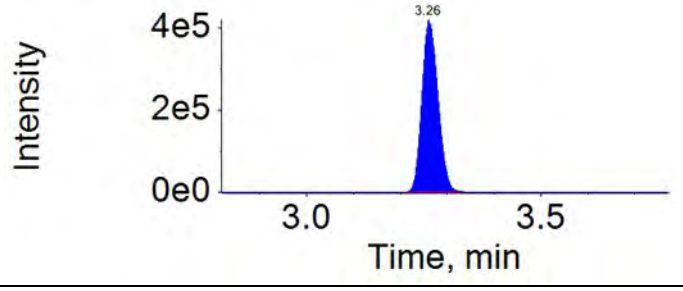
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



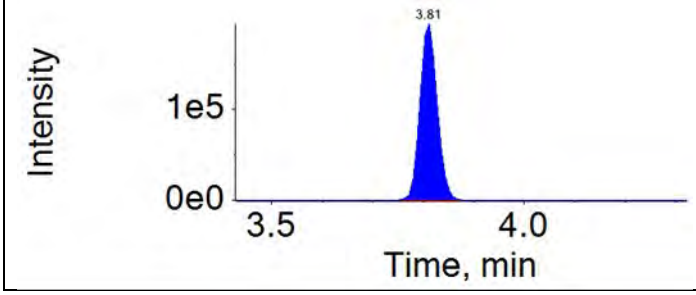


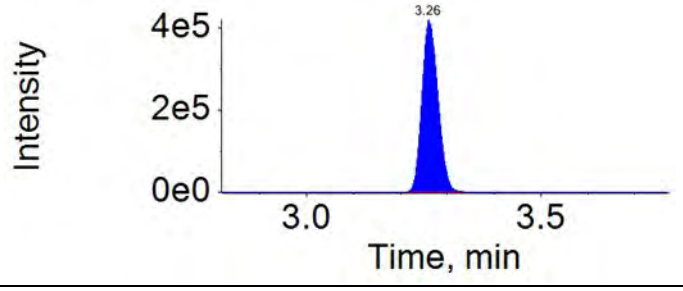
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



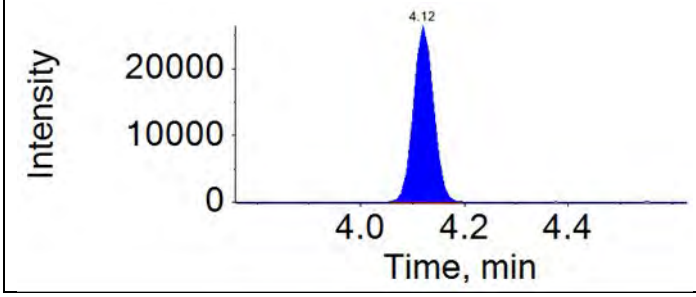


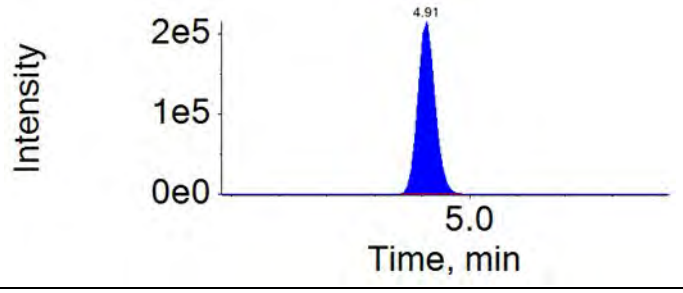
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



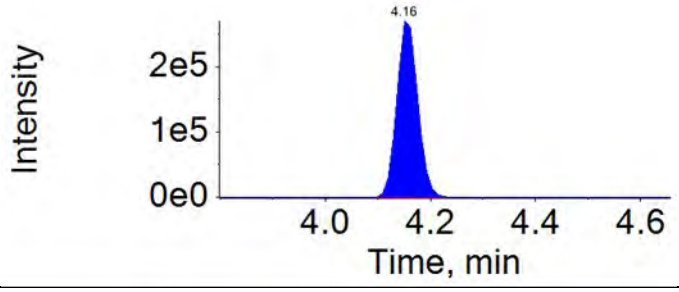


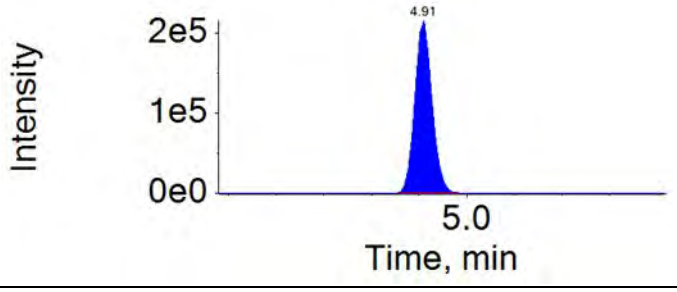
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

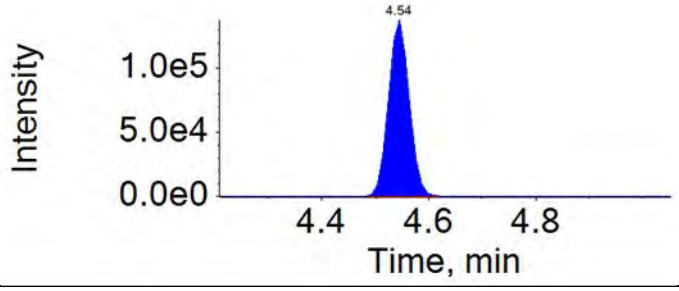
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

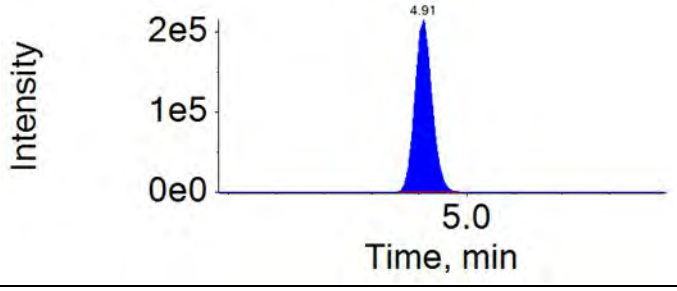
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



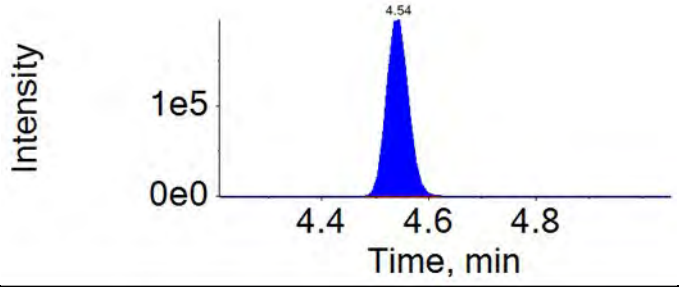


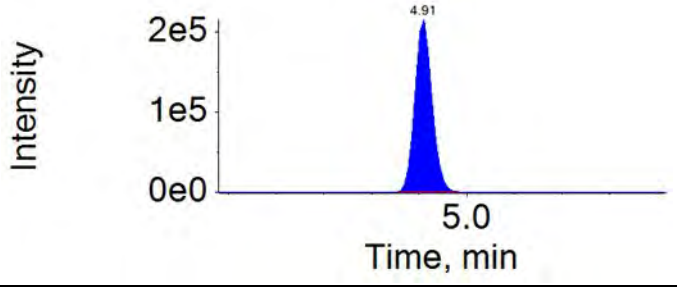
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



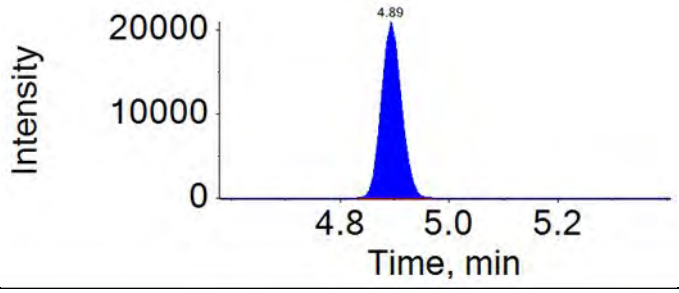


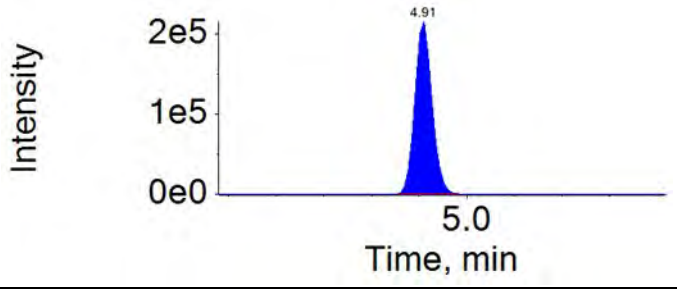
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

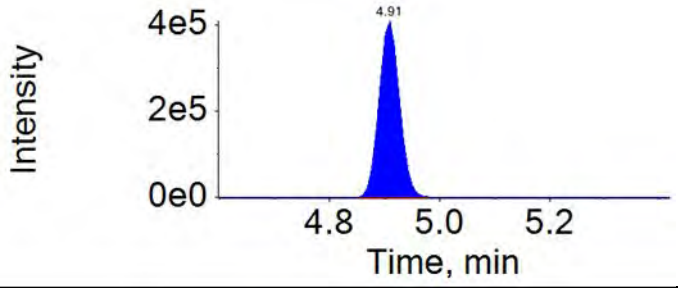
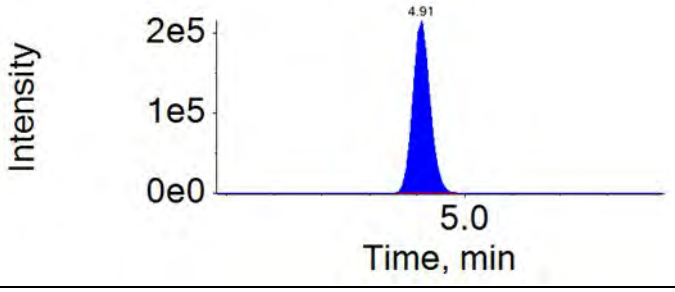


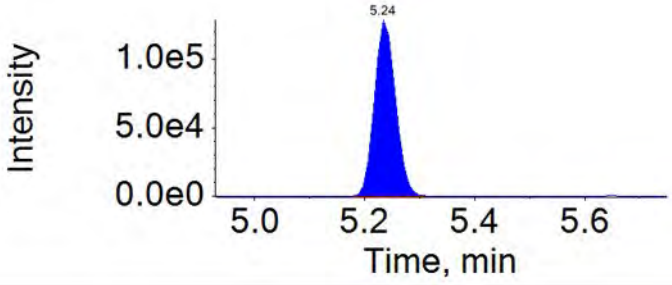
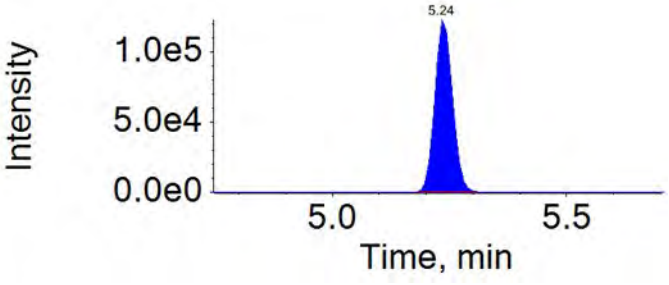


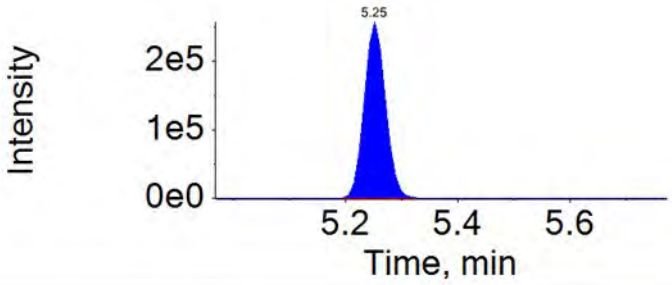
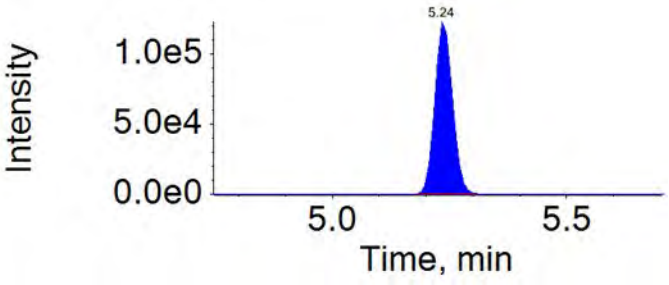
APPROVED
By MSM at 11:49 am, 12/19/18

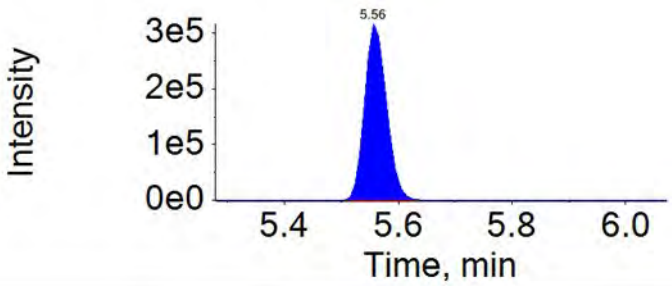
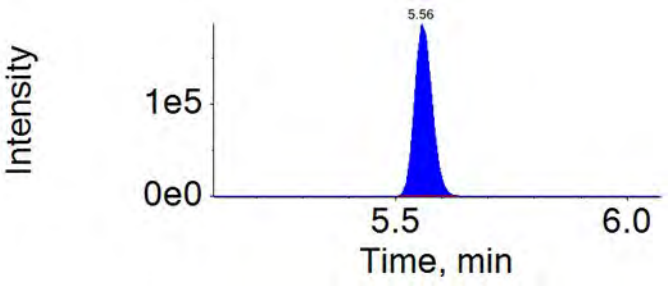
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

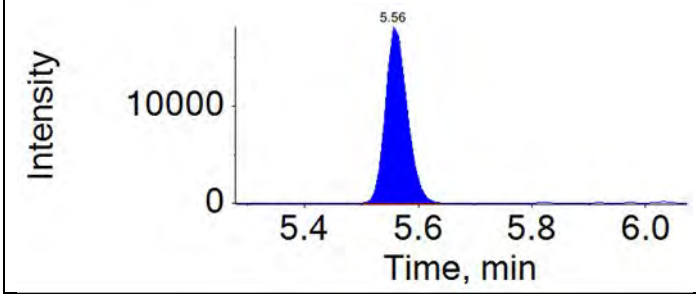
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

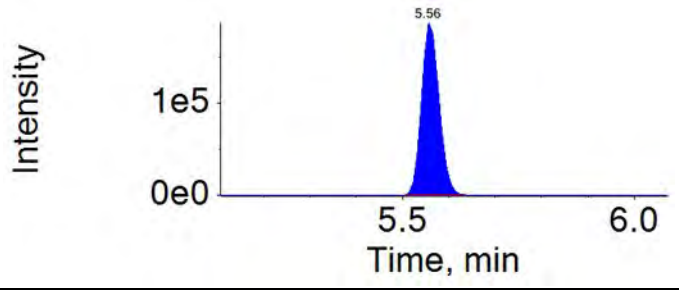
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

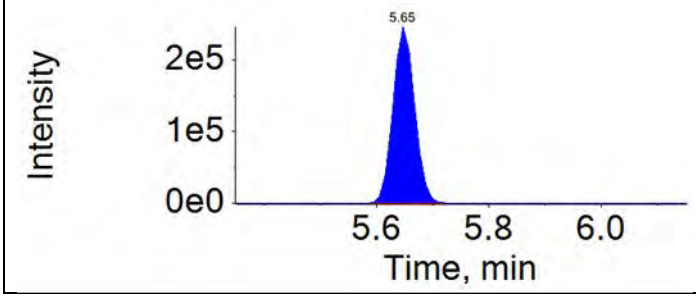
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

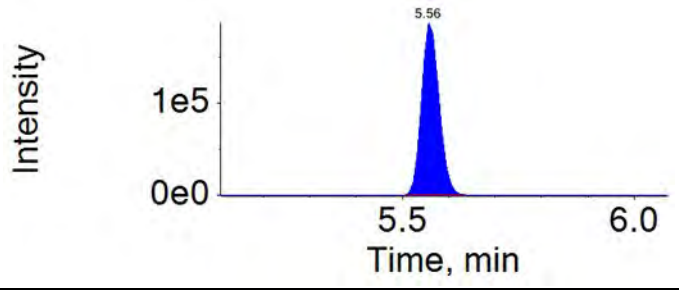
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



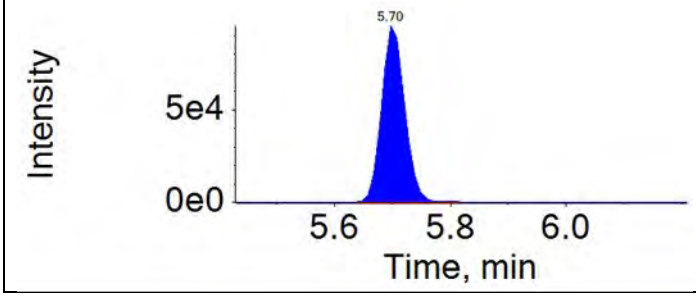


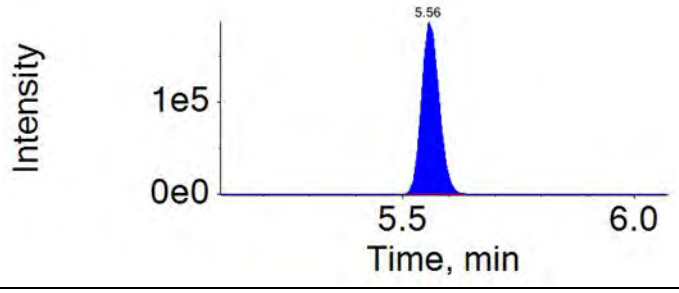
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



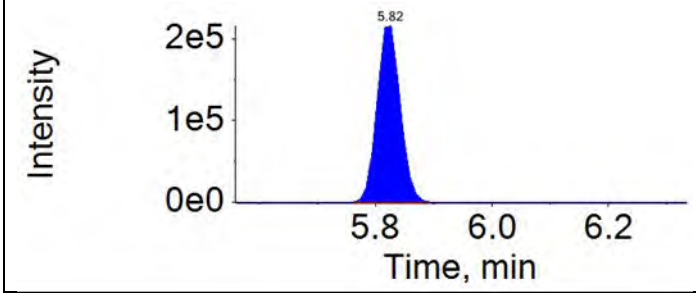


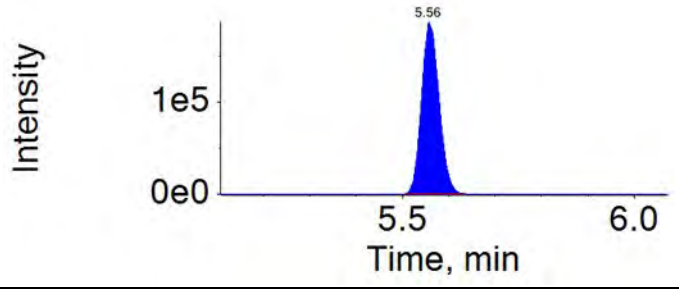
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





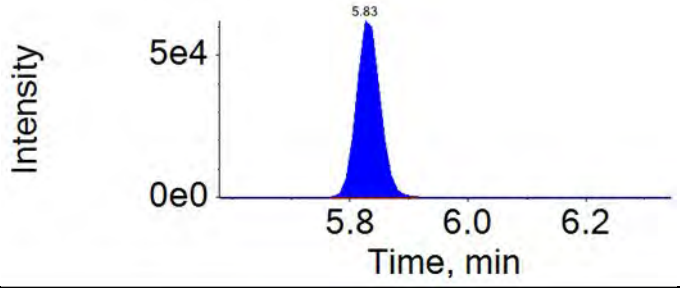
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

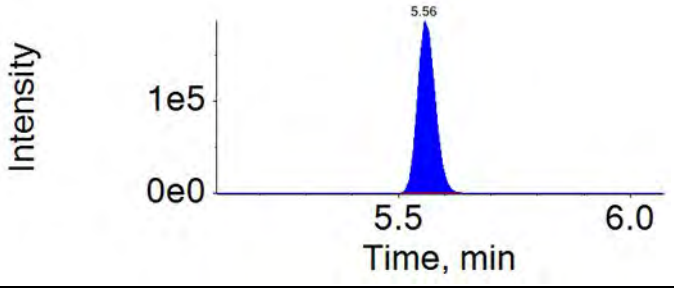




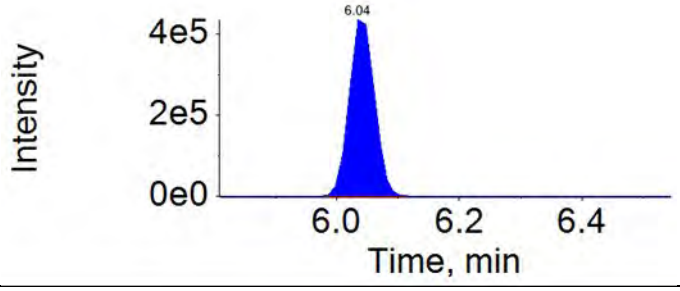
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

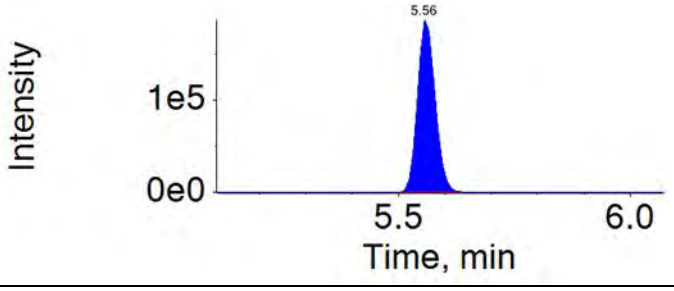
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



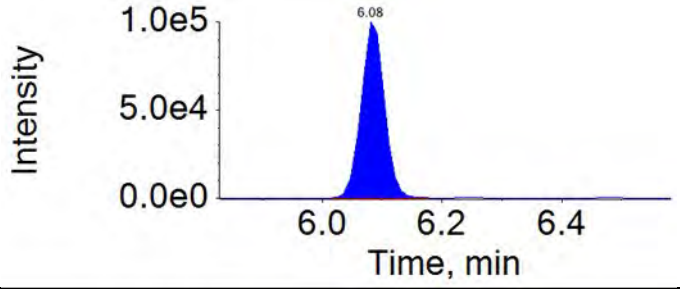


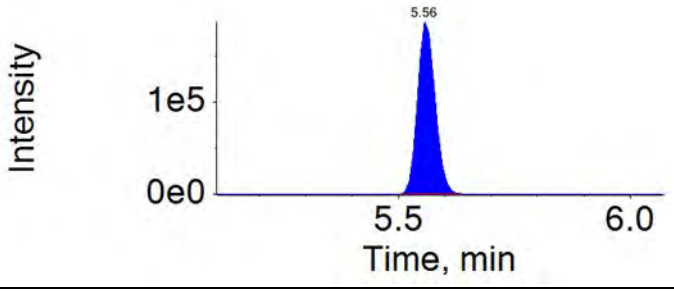
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



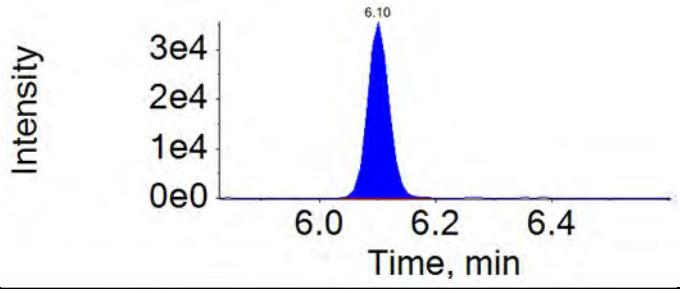


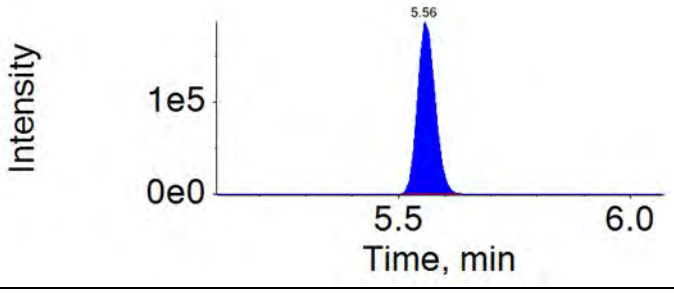
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



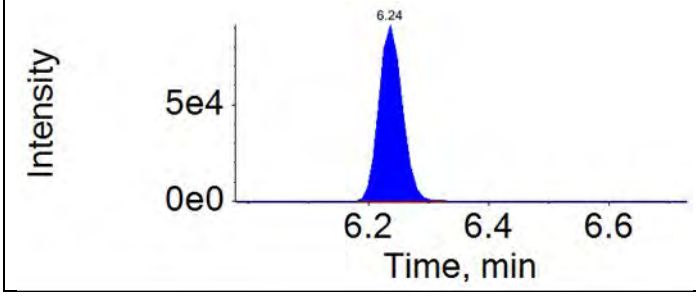


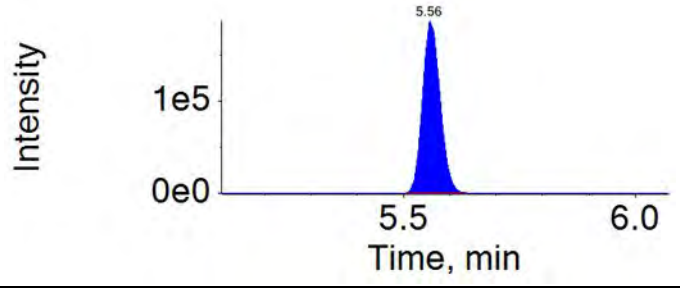
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

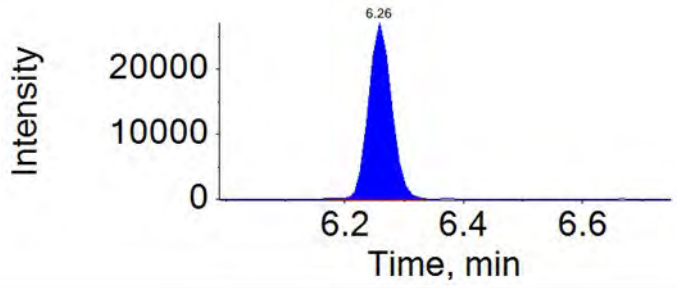
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

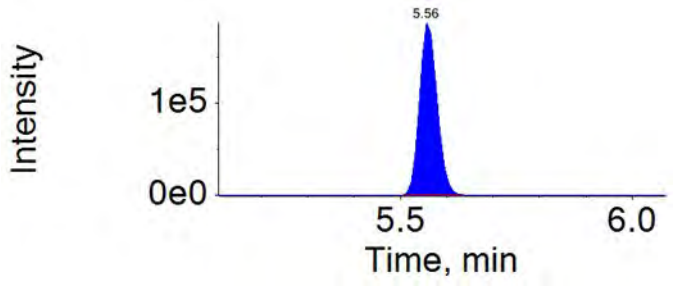
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



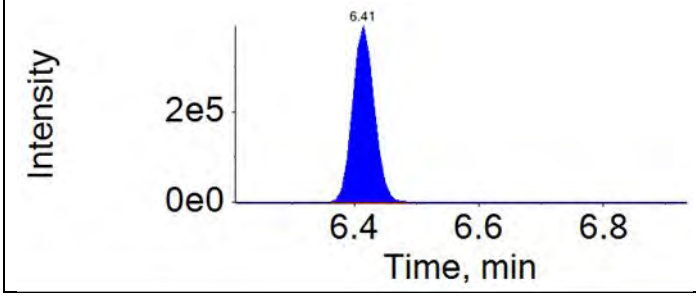


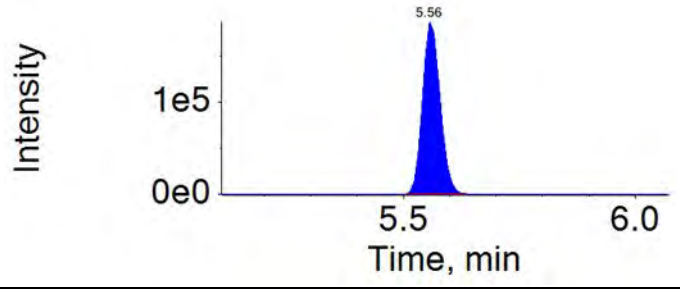
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



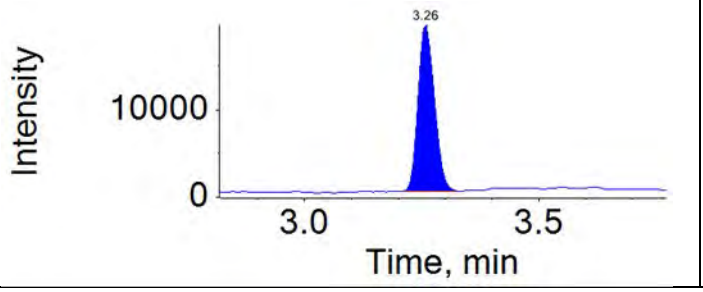


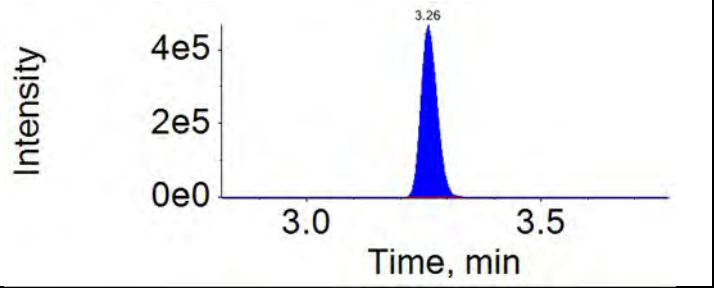
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

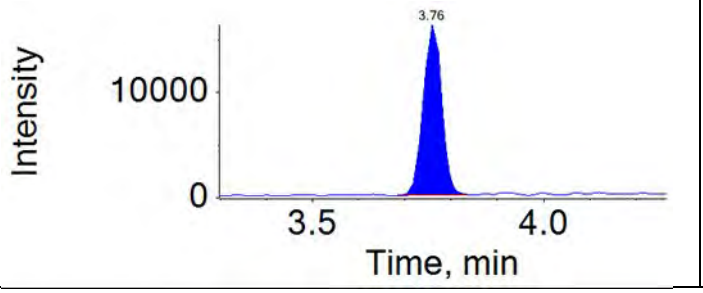
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

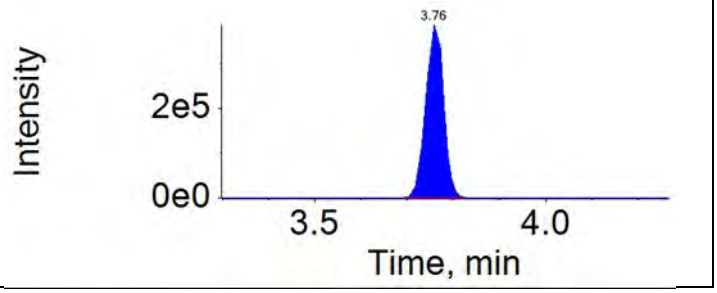
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



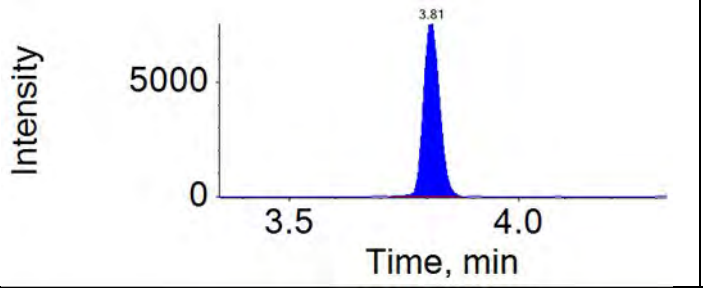


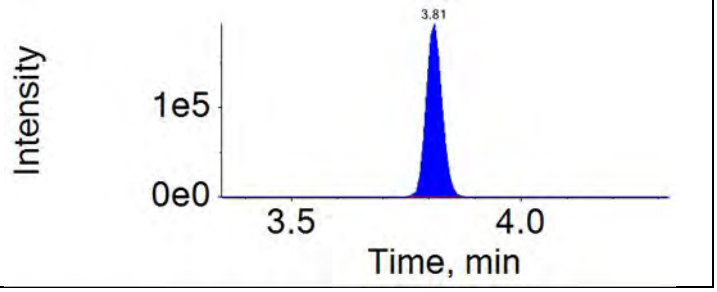
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



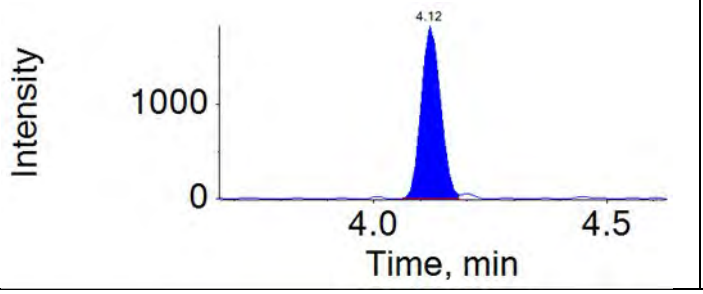


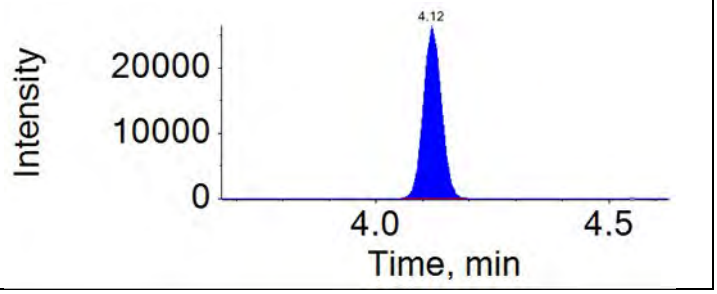
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



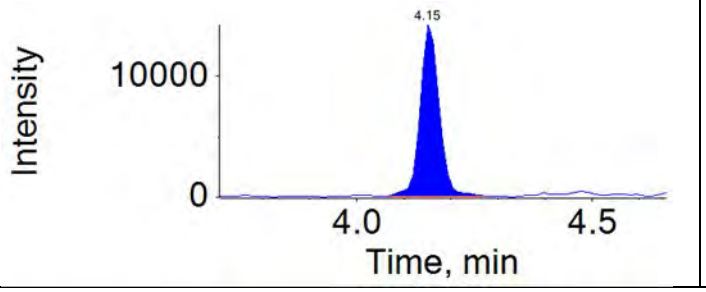


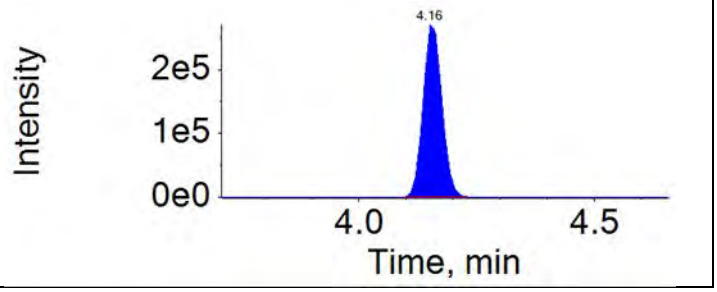
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

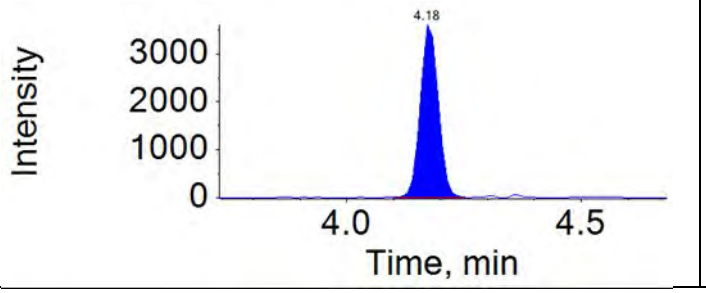
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

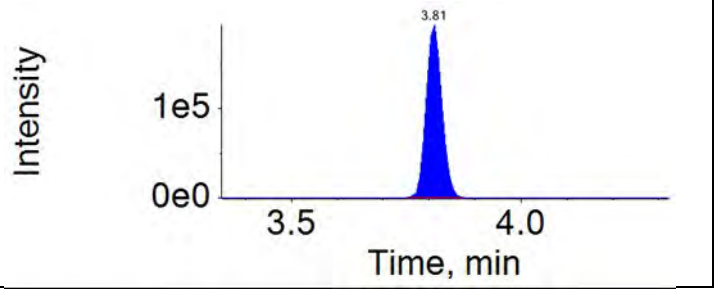
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



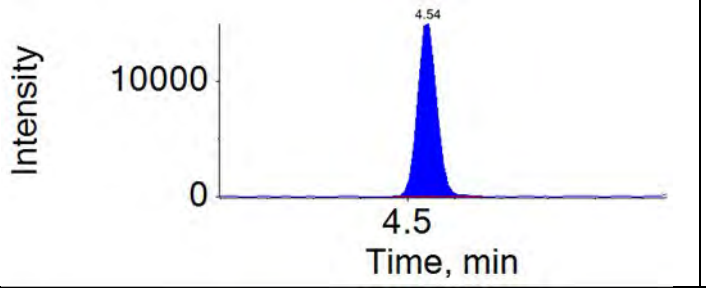


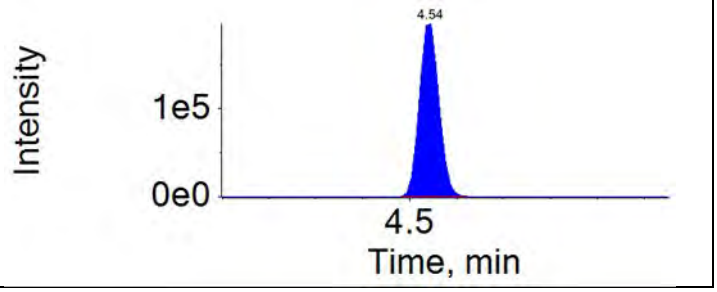
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



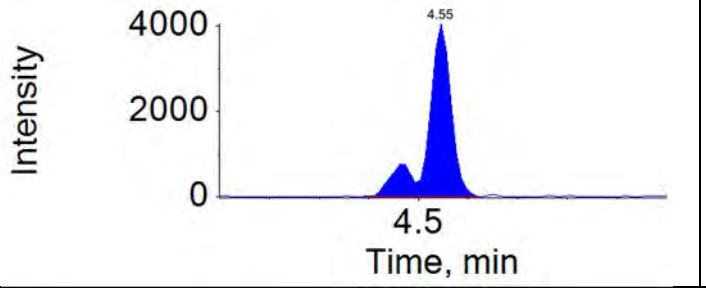


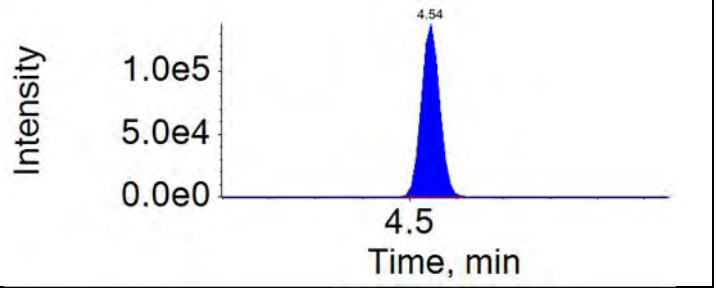
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

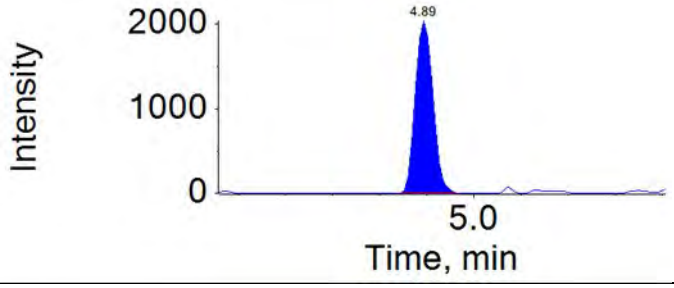
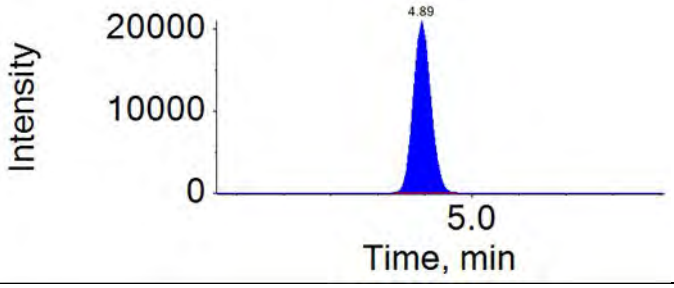


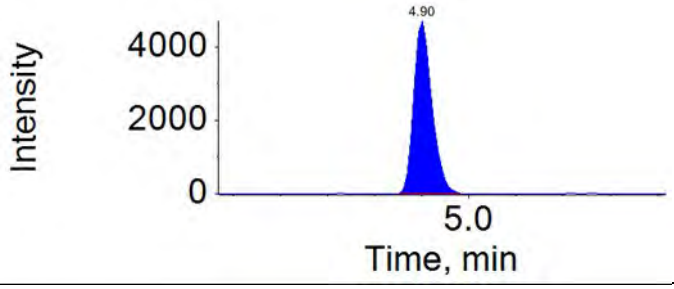
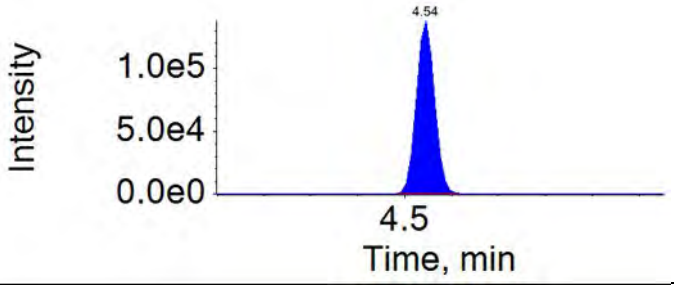


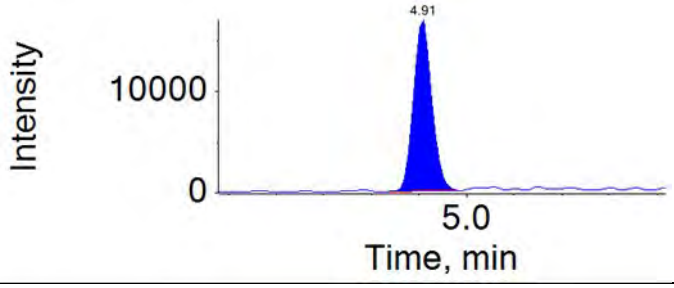
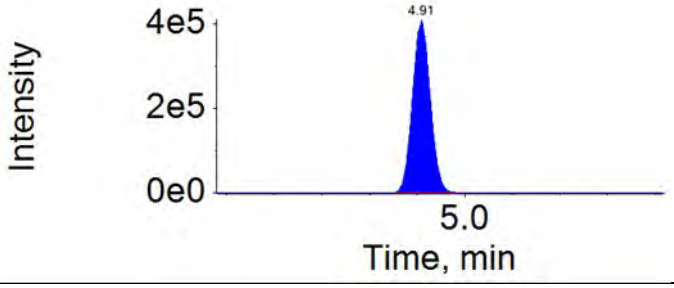
APPROVED
By MSM at 11:49 am, 12/19/18

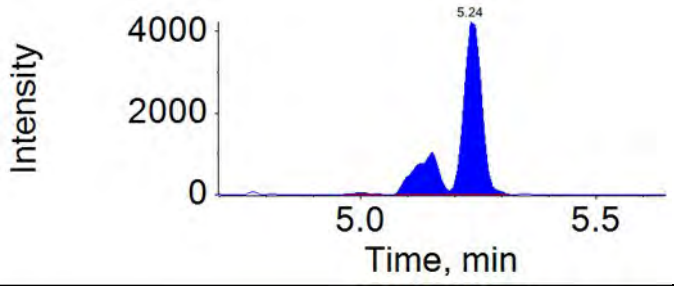
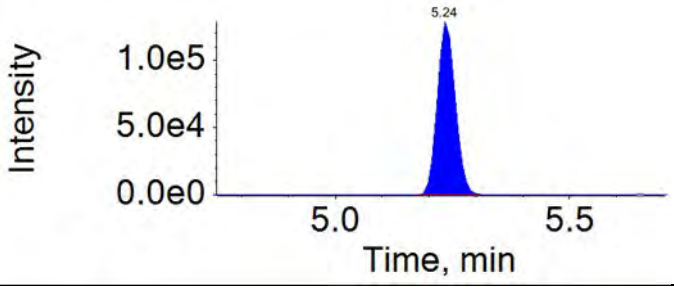
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

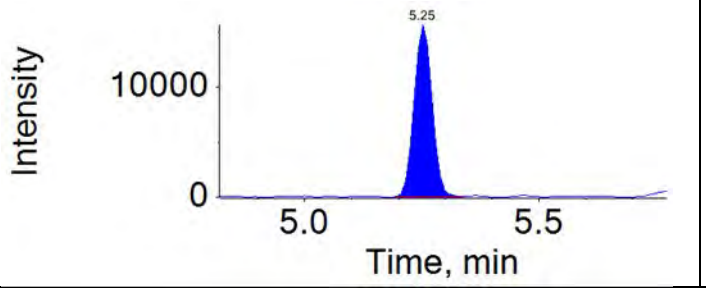
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

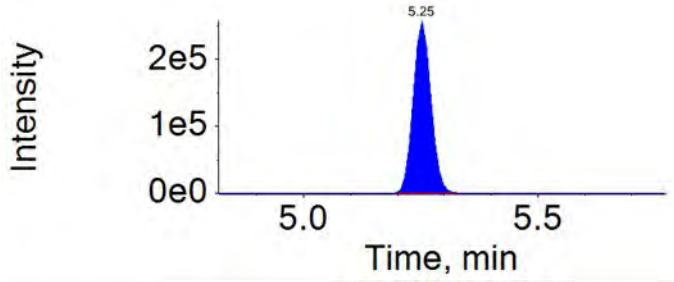
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

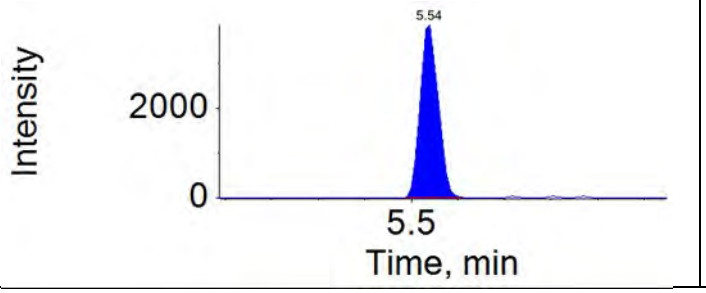
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

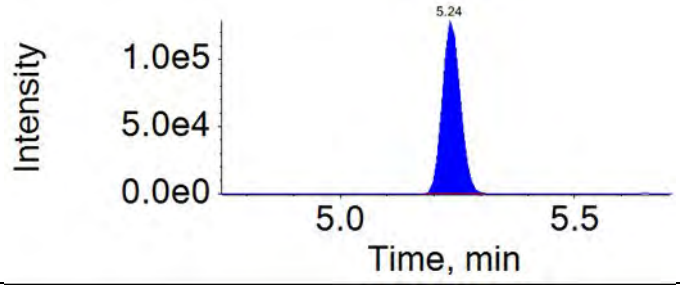
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



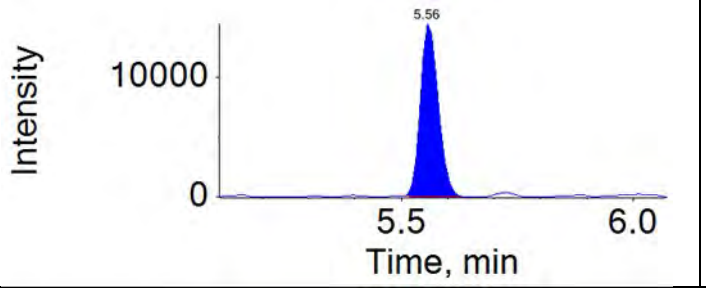


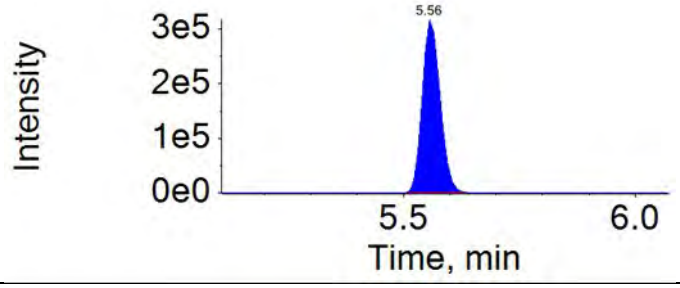
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



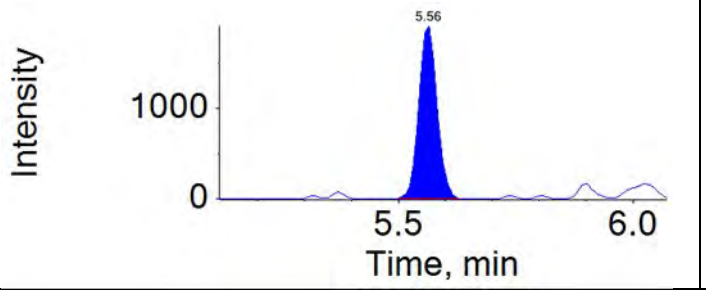


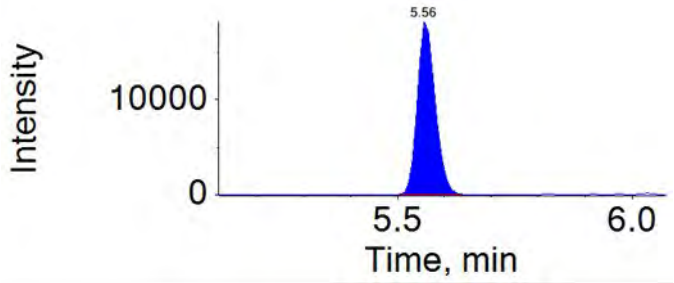
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



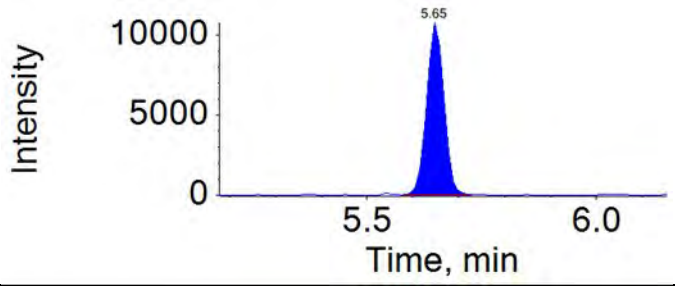


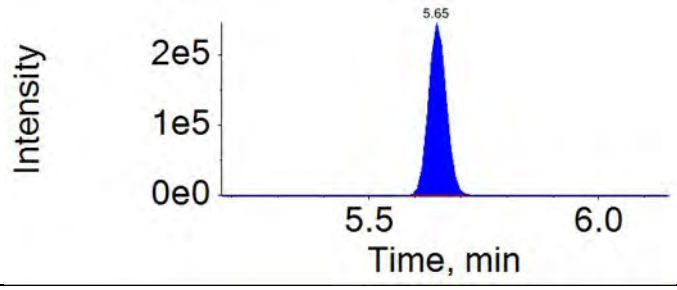
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

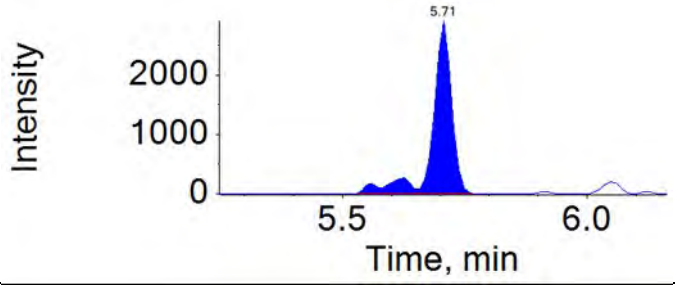
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

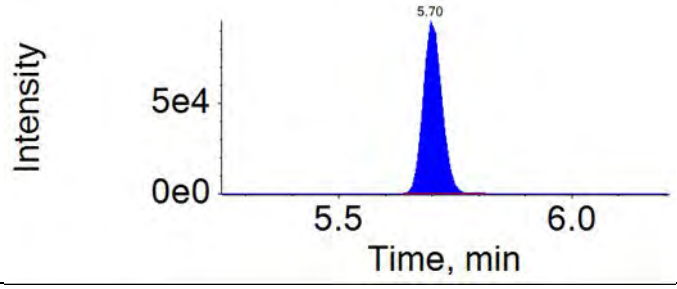
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



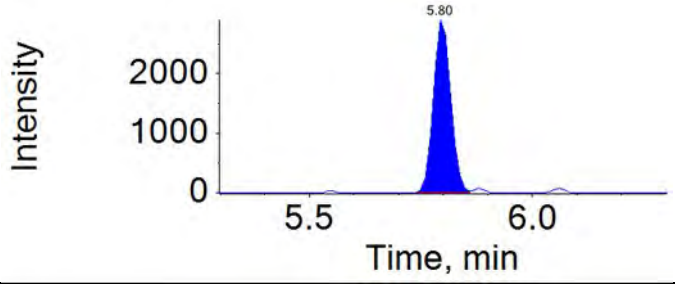


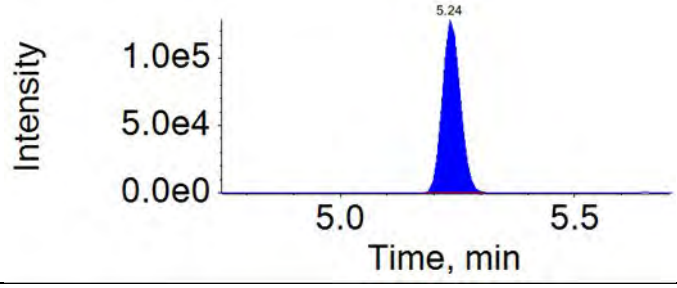
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



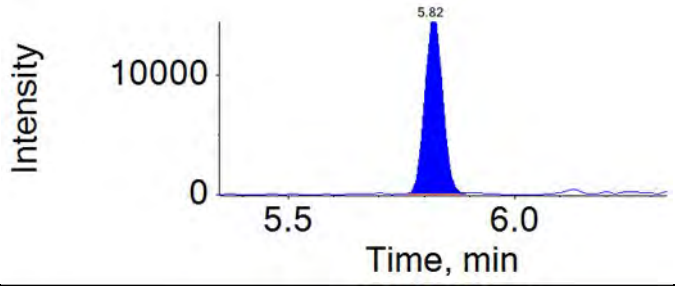


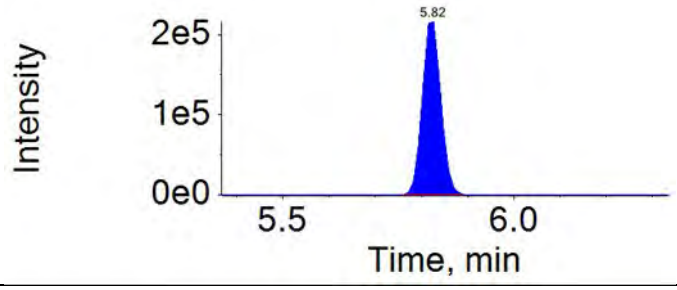
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



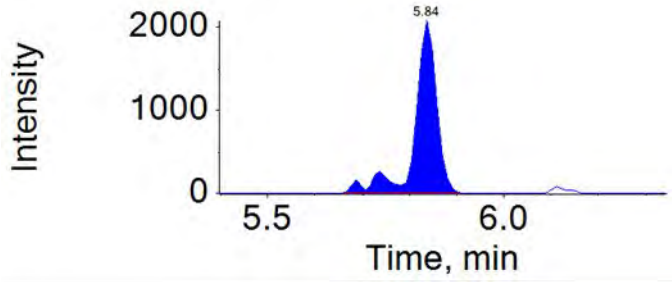


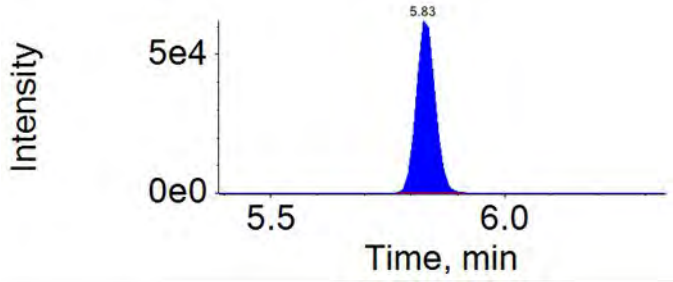
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

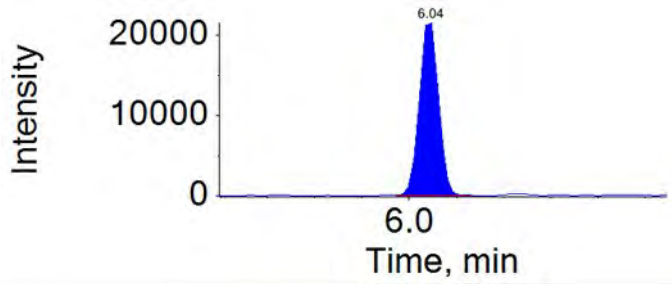
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

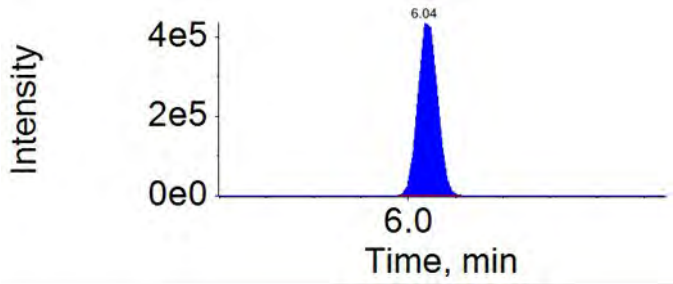
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



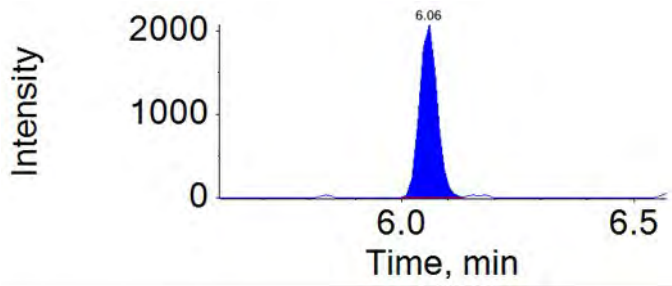


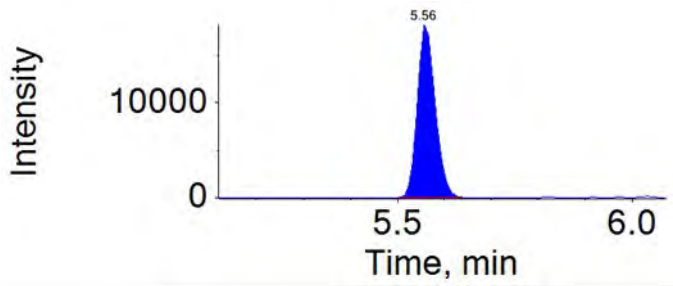
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



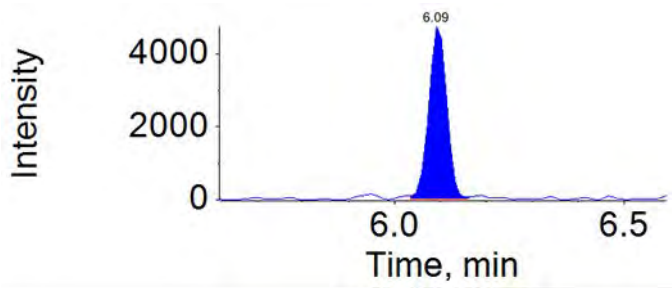


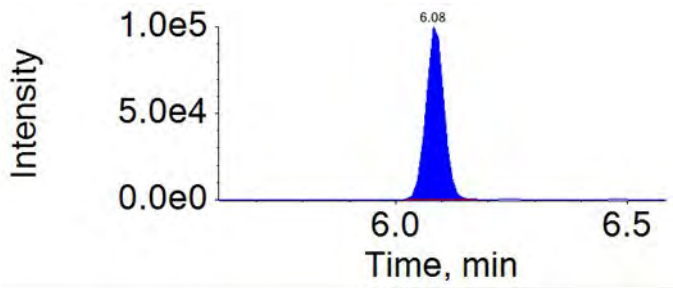
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





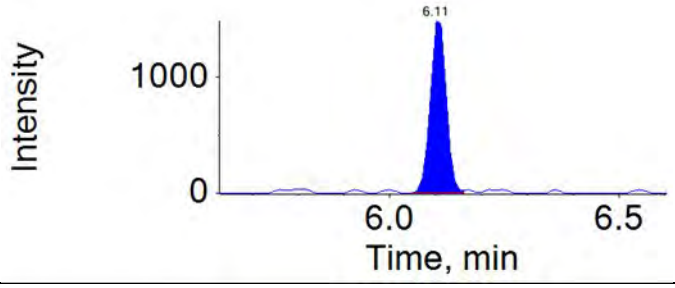
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

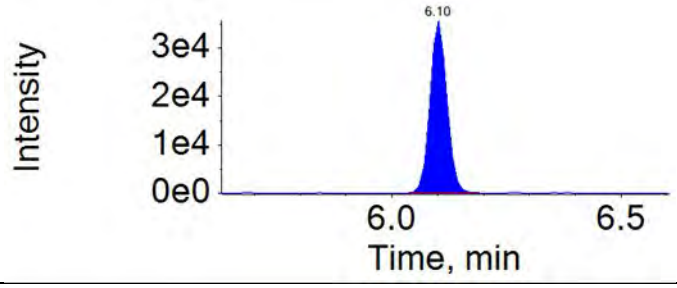




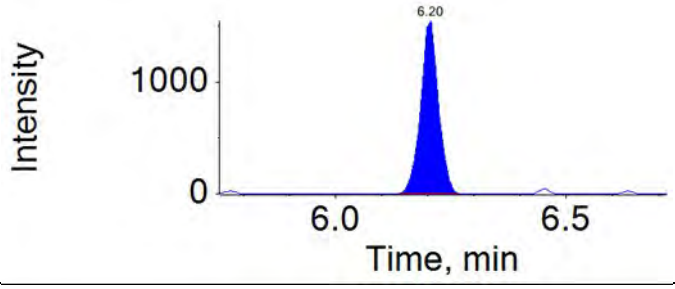
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

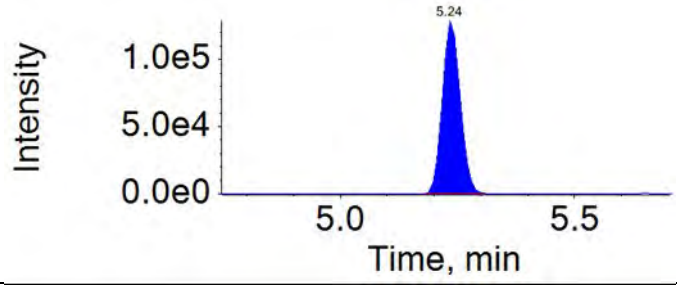
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



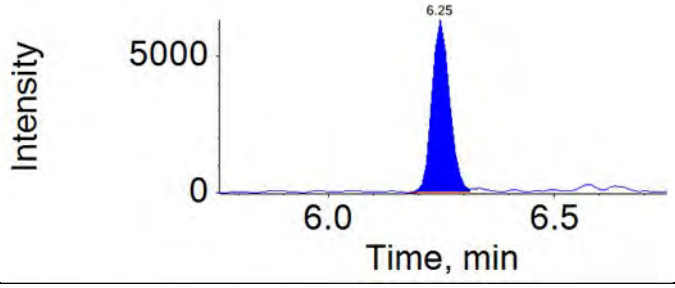


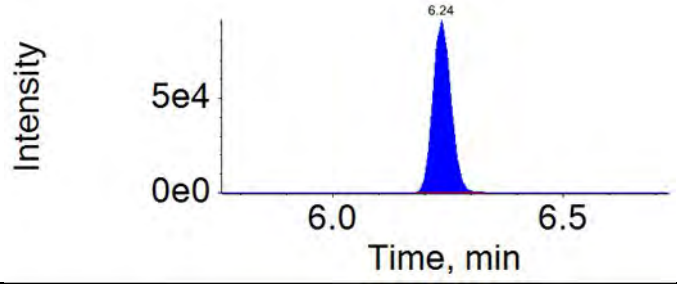
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



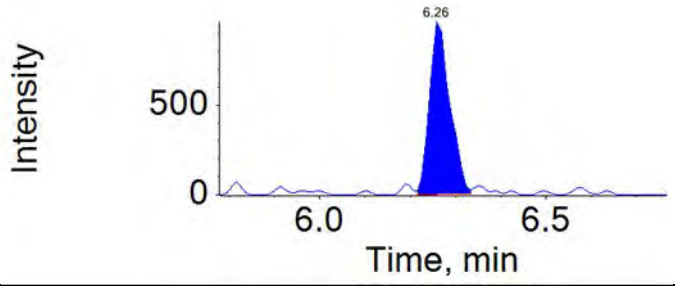


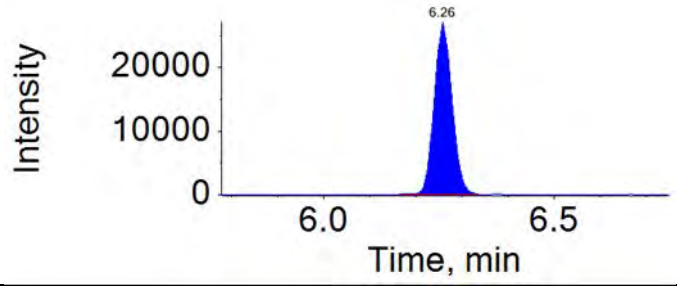
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



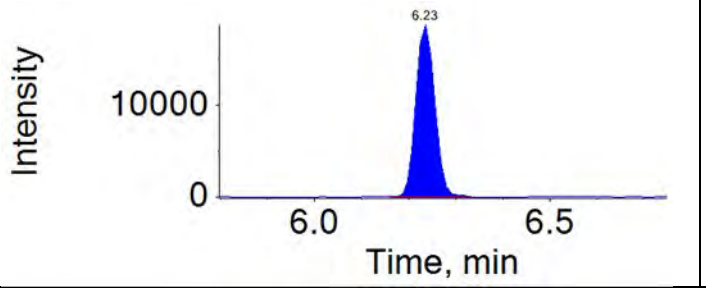


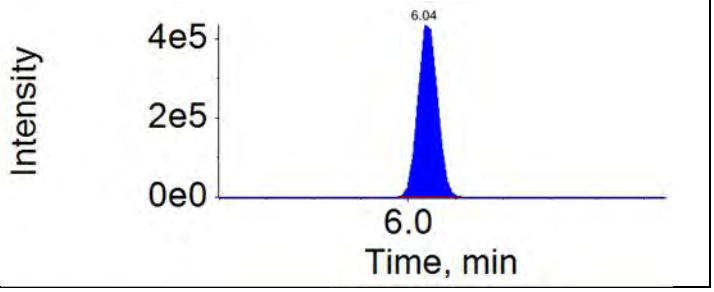
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

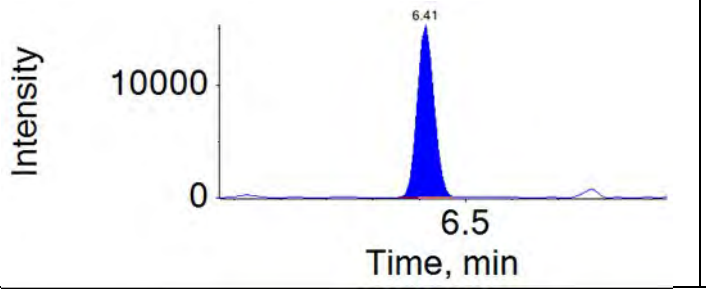
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

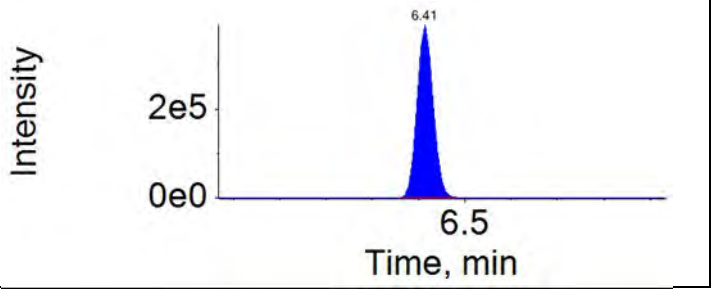
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



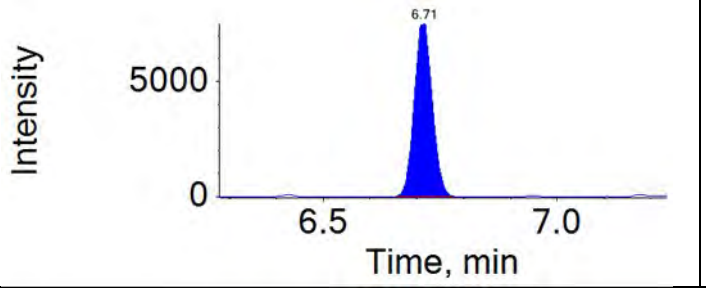


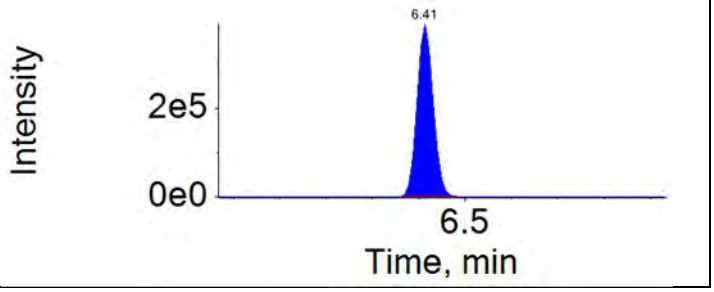
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



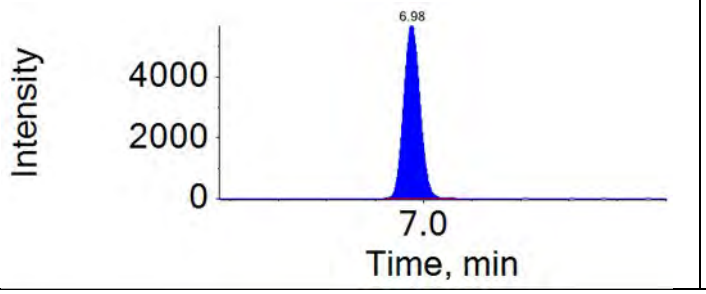


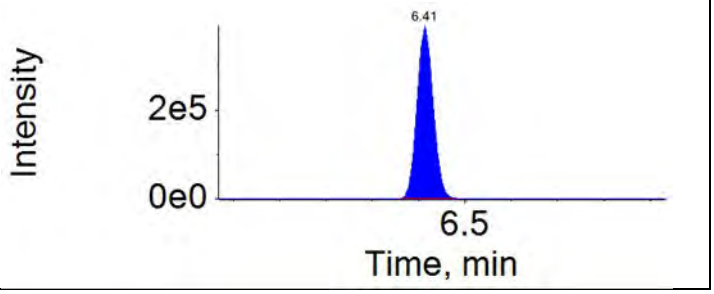
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



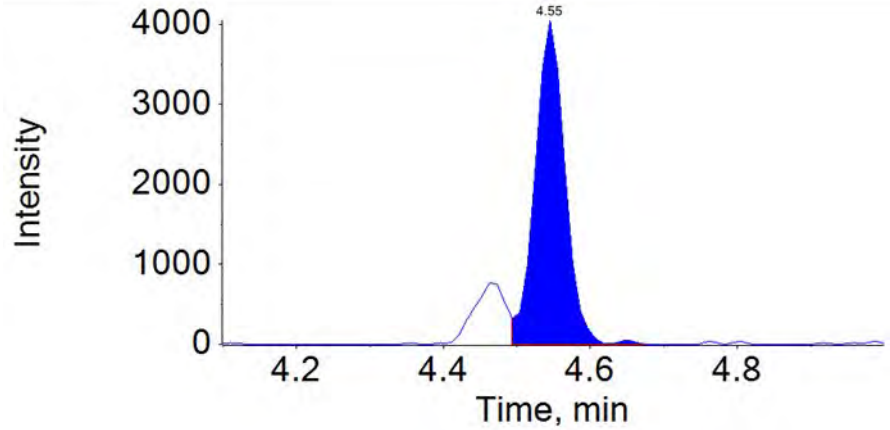


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By MSM at 11:49 am, 12/19/18

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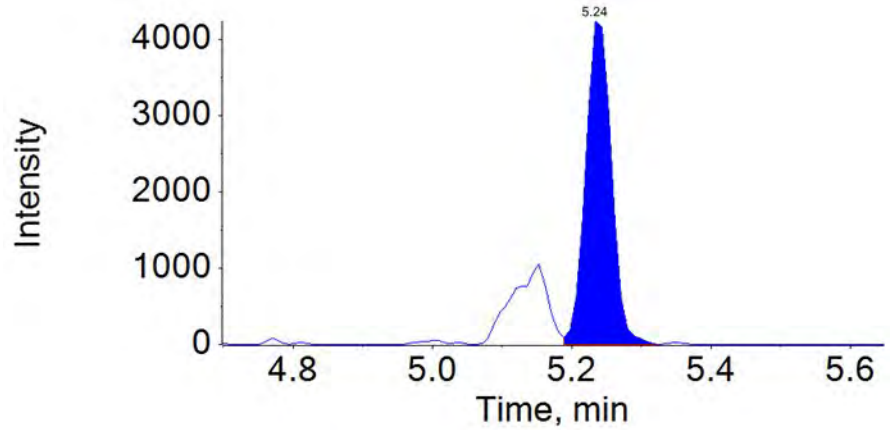
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
11522.89
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



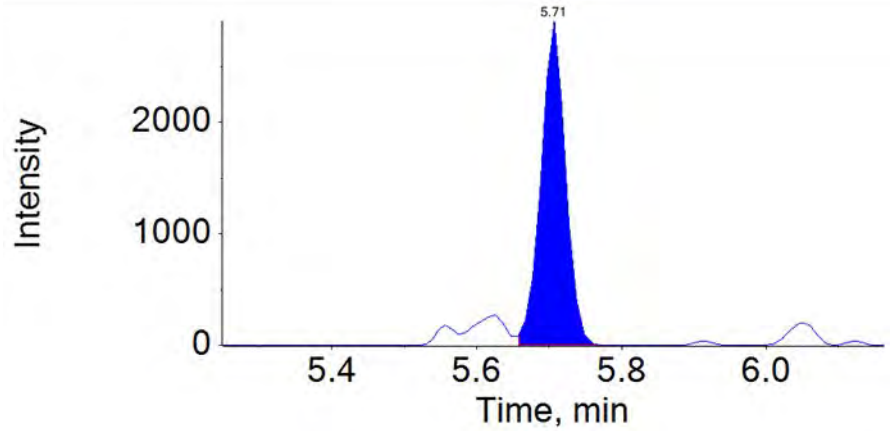
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
10917.77
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
6810.83
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



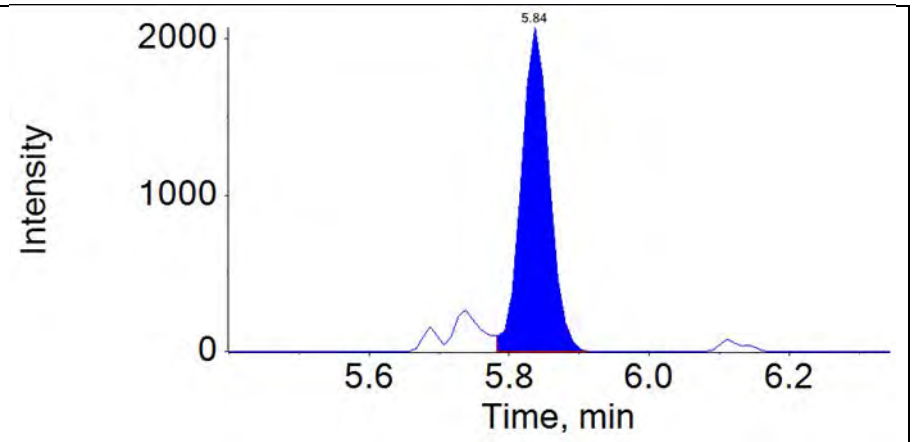
Integration Comment: incorrect integration

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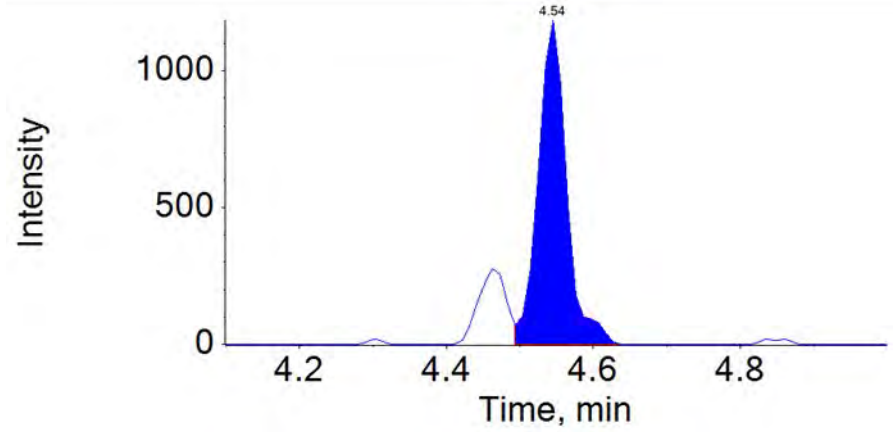
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
5755.78
Mass Range:
584.0 / 419.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



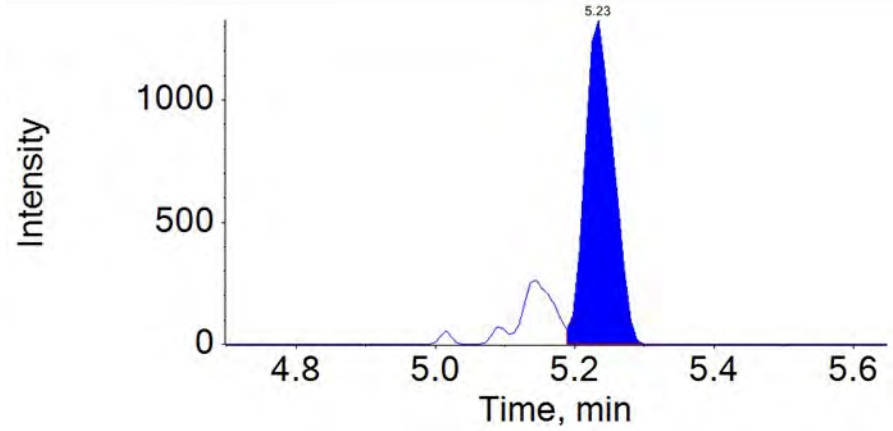
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
3208.04
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
3798.99
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



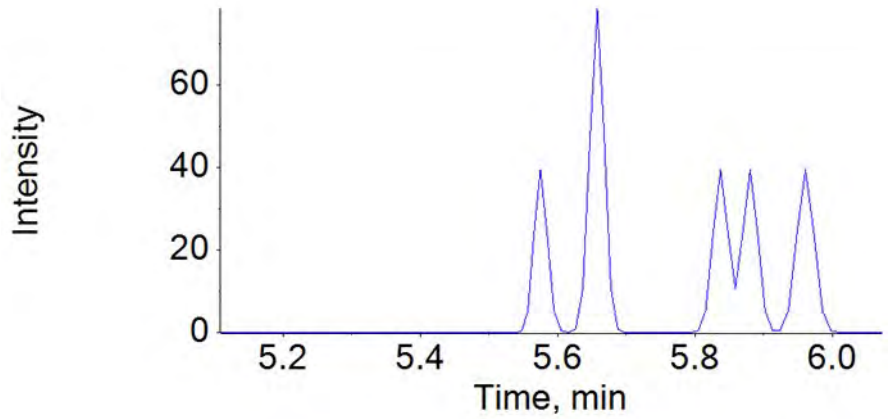
Integration Comment: incorrect integration

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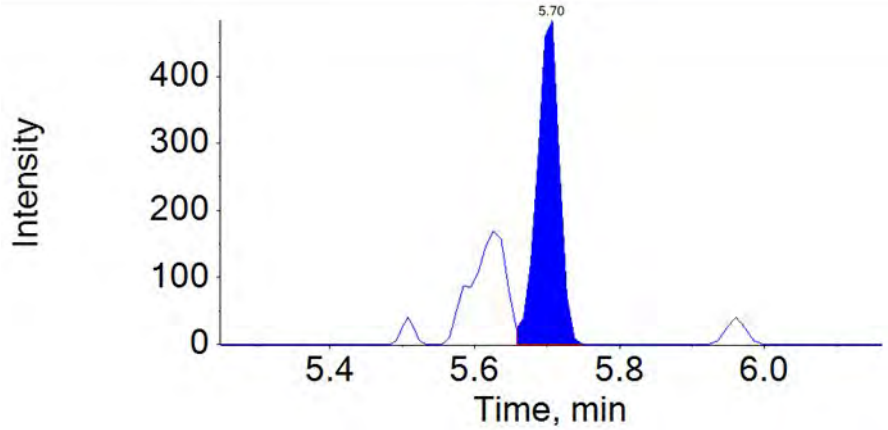
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
513.0 / 169.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



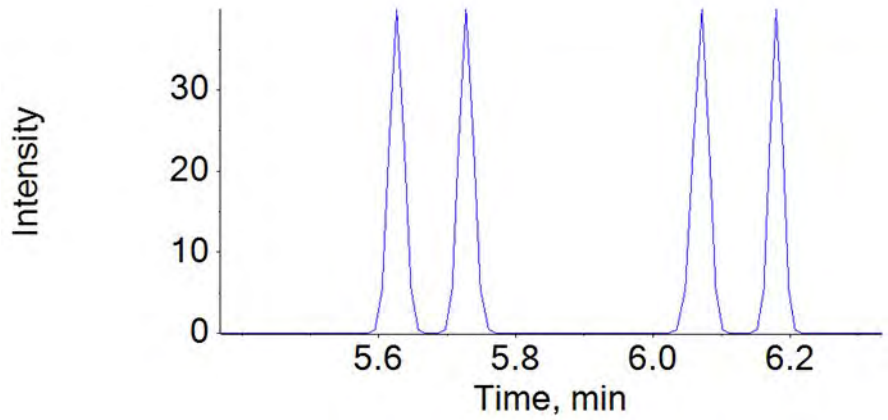
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
1034.15
Mass Range:
570.0 / 483.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

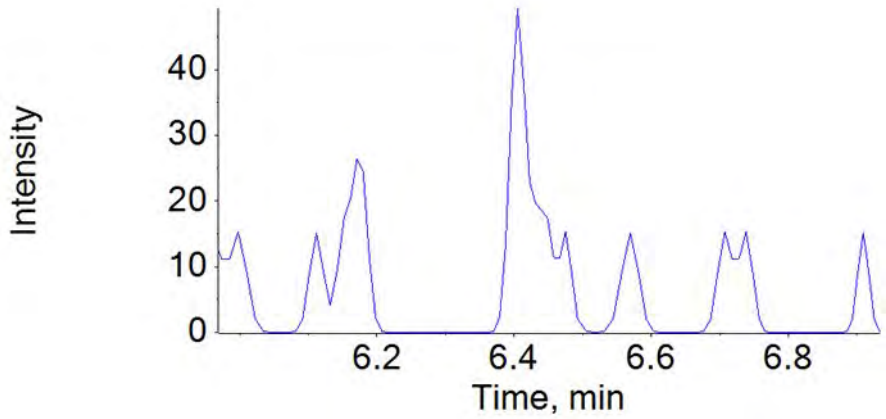
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By MSM at 11:49 am, 12/19/18

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Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC18DCAL-68.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

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By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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Ion Ratio Report

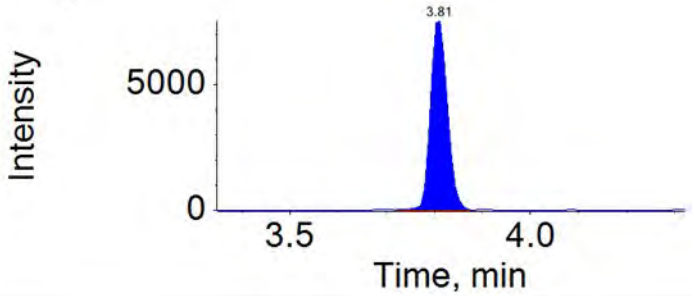
Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-68.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	18453.97	A	1.0000	1.0000			
PFBS_2	3.81	1.00	6770.16	A	0.3686	0.3669	0	50	
4:2-FTS	4.12	1.00	5256.25	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	3555.75	A	0.6123	0.6765	10	50	
PFHxA	4.15	1.00	39902.90	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	446.47	A	0.0115	0.0112	-2	50	
PFPeS	4.18	1.10	9547.00	A	1.0000	1.0000			
PFPeS_2	4.17	1.10	5471.39	A	0.5256	0.5731	9	50	
PFHpA	4.54	1.00	42890.86	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	2444.76	A	0.0547	0.0570	4	50	
PFHxS	4.55	1.00	13770.16	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	3938.04	M	0.3359	0.2860	-15	50	
6:2-FTS	4.89	1.00	5250.60	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	3056.87	A	0.6344	0.5822	-8	50	
PFHpS	4.90	1.08	12616.61	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	6590.32	A	0.4110	0.5224	27	50	
PFOA	4.91	1.00	45038.04	A	1.0000	1.0000			
PFOA_2	4.90	1.00	2973.34	A	0.0590	0.0660	12	50	
PFOS	5.24	1.00	14855.83	M	1.0000	1.0000			
PFOS_2	5.23	1.00	4748.77	M	0.2980	0.3197	7	50	
PFNA	5.25	1.00	41369.06	A	1.0000	1.0000			
PFNA_2	5.25	1.00	899.69	A	0.0214	0.0217	1	50	
PFNS	5.54	1.06	10377.64	A	1.0000	1.0000			
PFNS_2	5.54	1.06	5788.90	A	0.4608	0.5578	21	50	
PFDA	5.56	1.00	38431.05	A	1.0000	1.0000			
PFDA_2	5.57	1.00	55.91	M	0.0064	0.0015	-77	50	OOS
8:2-FTS	5.56	1.00	5170.26	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	3090.85	A	0.5879	0.5978	2	50	
NMeFOSAA	5.71	1.00	7941.11	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	1598.82	M	0.2625	0.2013	-23	50	
PFDS	5.80	1.11	7762.53	A	1.0000	1.0000			
PFDS_2	5.80	1.11	4089.69	A	0.4962	0.5269	6	50	
PFUnDA	5.82	1.00	40073.99	A	1.0000	1.0000			
PFUnDA_2	5.73	0.98	61.65	M	0.0035	0.0015	-57	50	OOS
NEtFOSAA	5.84	1.00	6705.24	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	4870.36	A	0.6883	0.7264	6	50	
PFDoDA	6.04	1.00	61231.48	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	815.08	A	0.0134	0.0133	-1	50	
10:2-FTS	6.06	1.09	5506.39	A	1.0000	1.0000			
10:2-FTS_2	6.05	1.09	4345.65	A	0.7018	0.7892	12	50	
PFTrDA	6.23	1.03	52549.49	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	321.50	A	0.0093	0.0061	-35	50	
PFTeDA	6.41	1.00	37886.50	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	140.12	M	0.0058	0.0037	-37	50	
PFHxDA	6.71	1.05	20158.26	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	1366.33	A	0.0656	0.0678	3	50	
PFODA	6.98	1.09	13384.23	A	1.0000	1.0000			
PFODA_2	6.97	1.09	379.88	A	0.0273	0.0284	4	50	

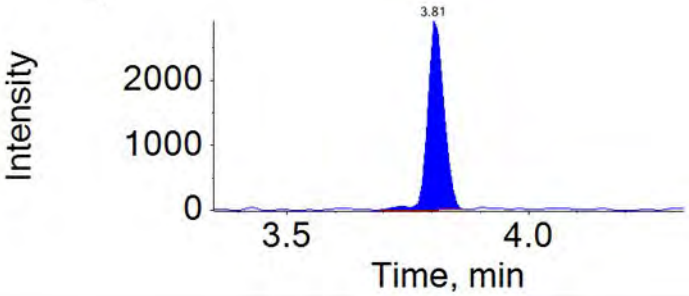
APPROVED
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By HMK at 11:53 am, 12/21/18

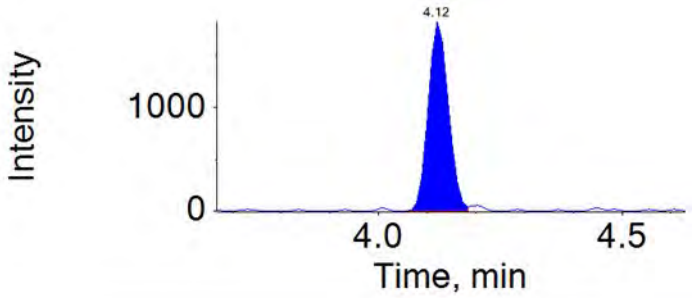
Component: PFBS
Primary Mass: 299.0 / 80.0



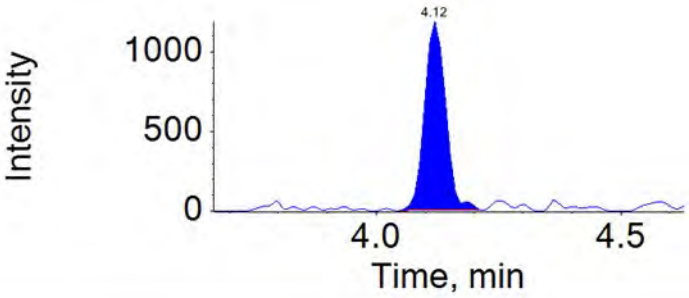
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



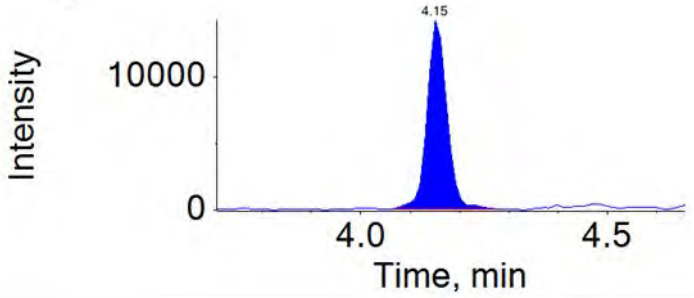
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



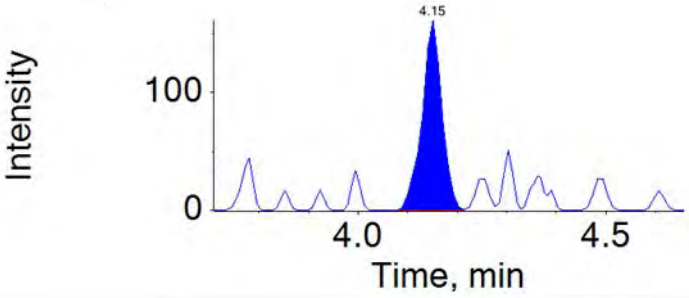
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



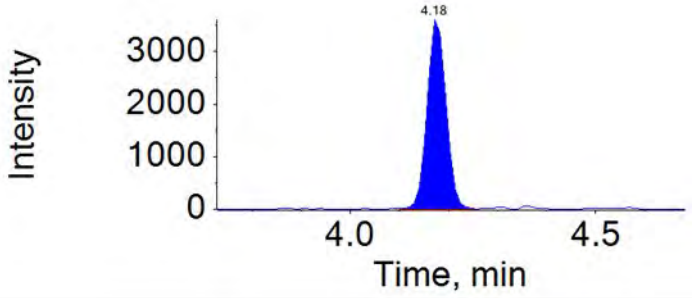
Component: PFHxA
Primary Mass: 313.0 / 269.0



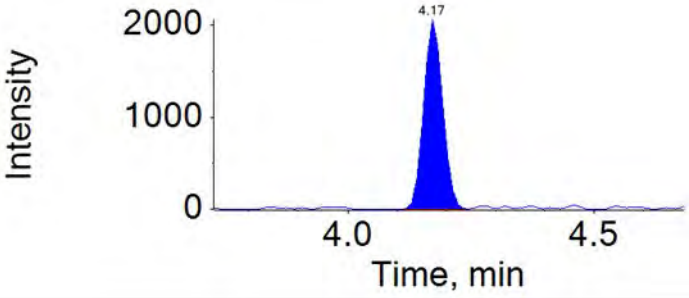
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



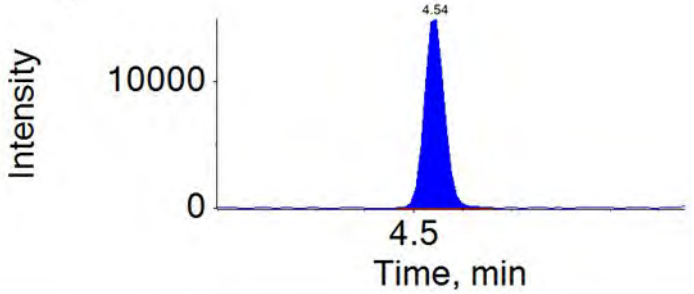
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



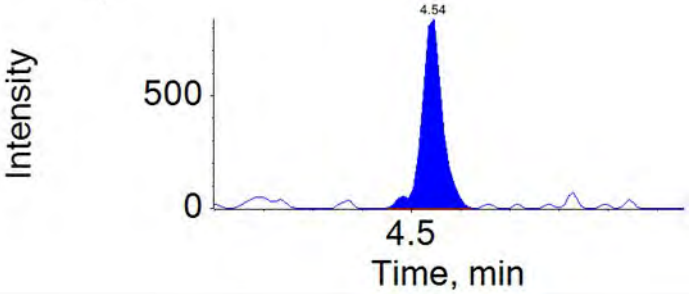
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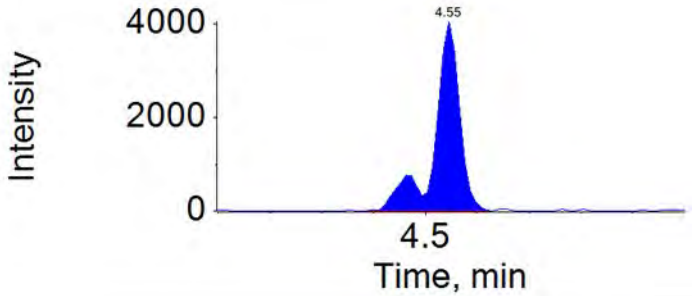
Component: PFHpA
Primary Mass: 363.0 / 319.0



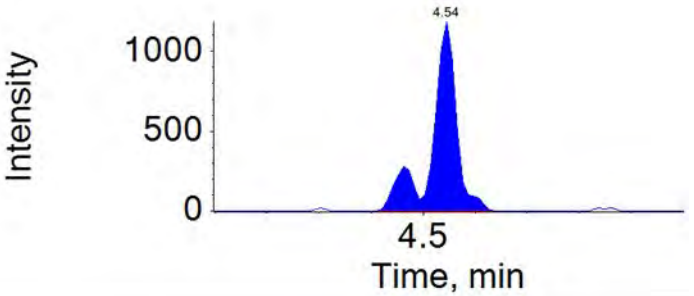
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



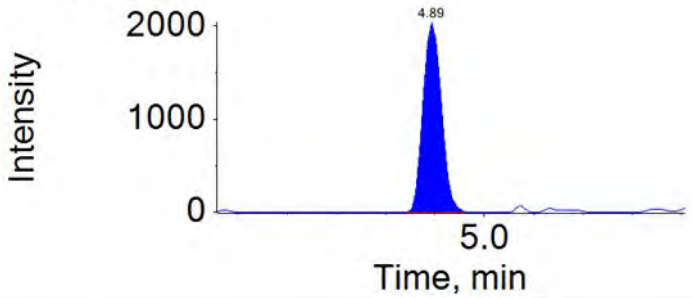
Component: PFHxS
Primary Mass: 399.0 / 80.0



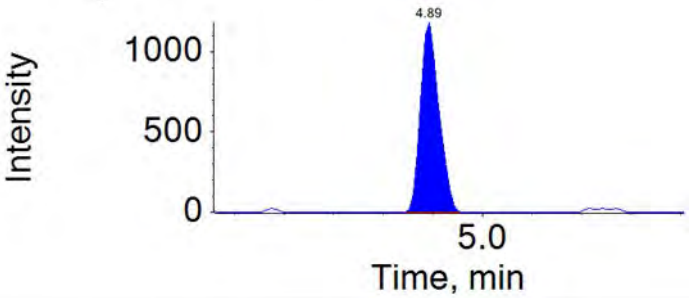
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



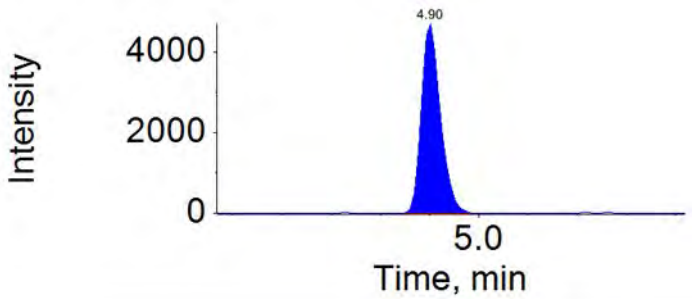
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



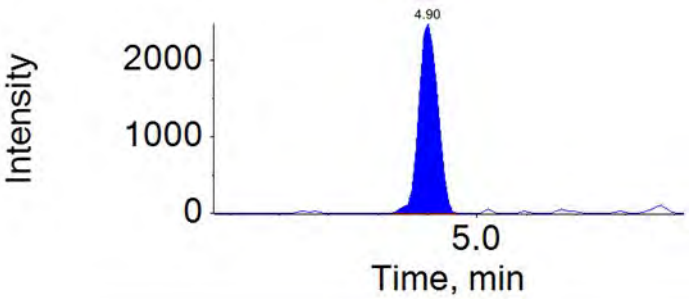
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



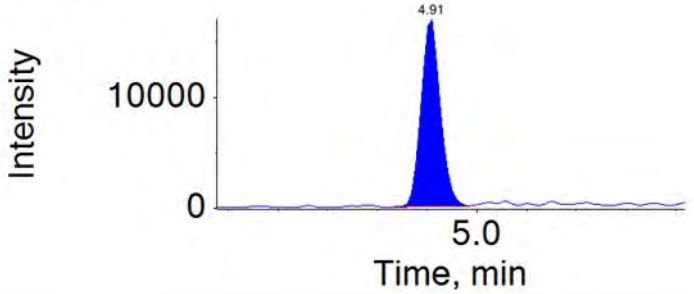
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



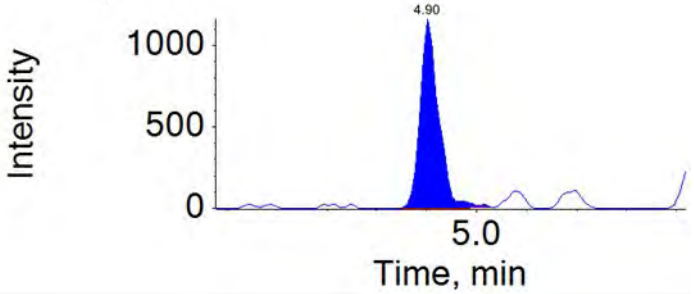
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

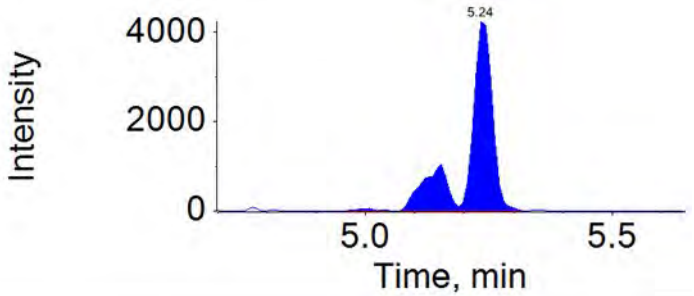
Component: PFOA
Primary Mass: 413.0 / 369.0



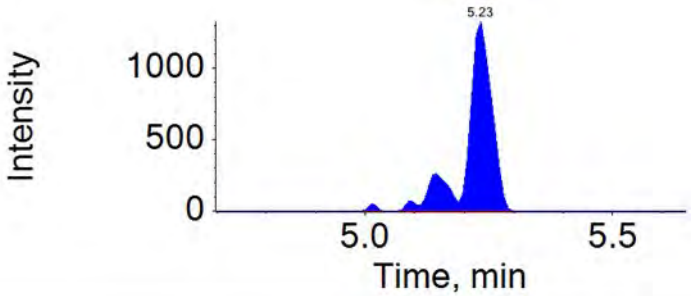
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



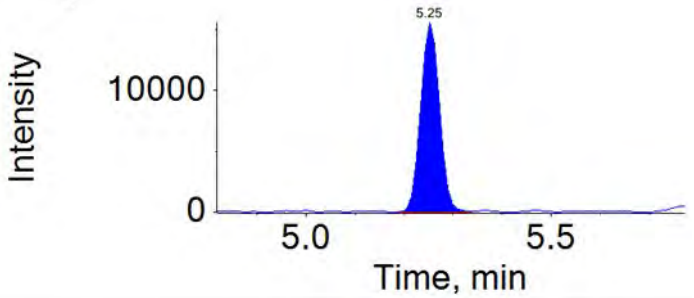
Component: PFOS
Primary Mass: 499.0 / 80.0



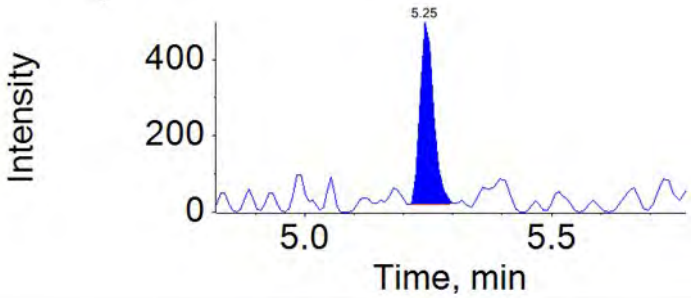
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



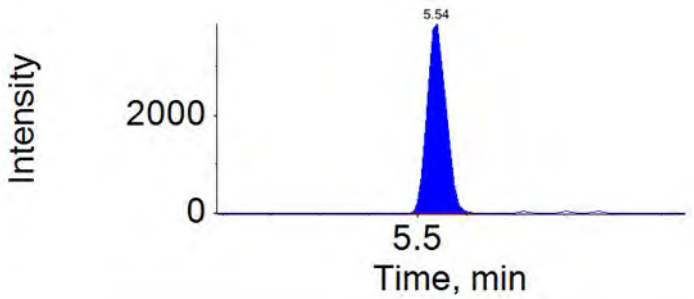
Component: PFNA
Primary Mass: 463.0 / 419.0



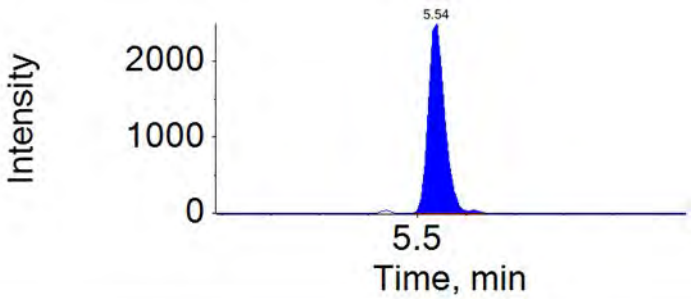
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



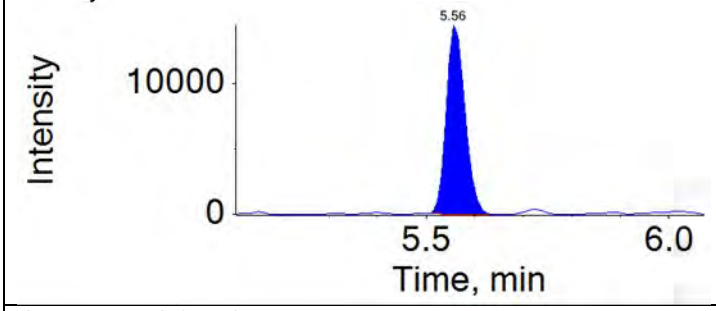
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



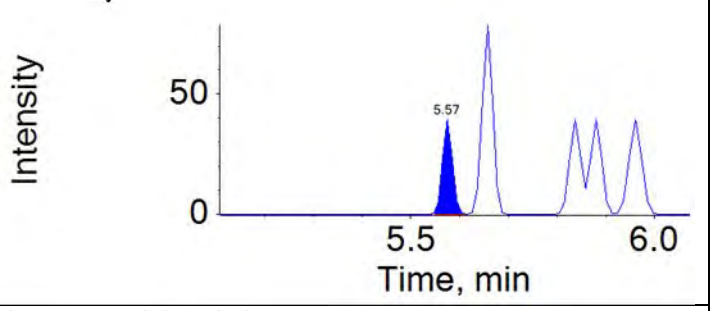
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

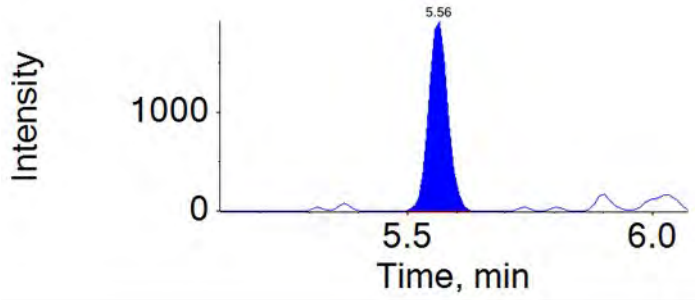
Component: PFDA
Primary Mass: 513.0 / 469.0



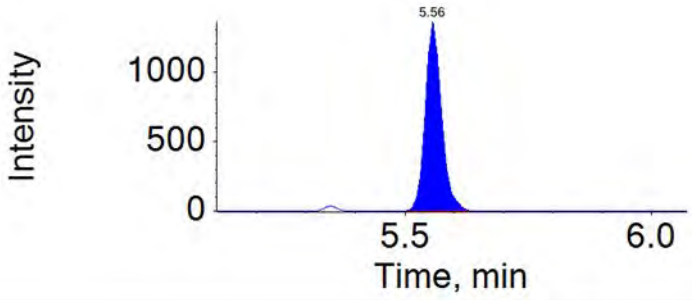
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



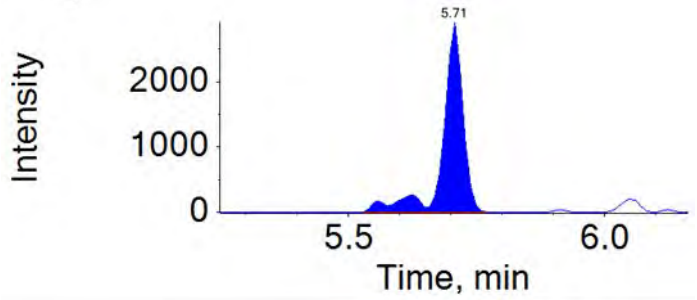
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



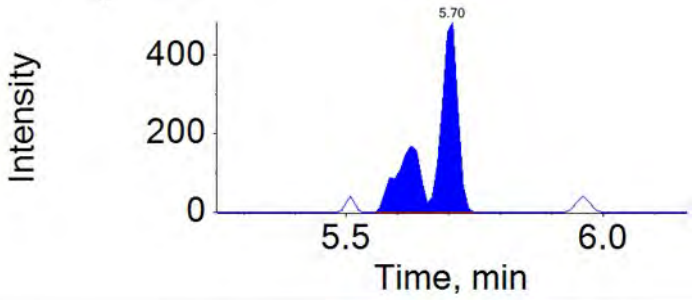
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



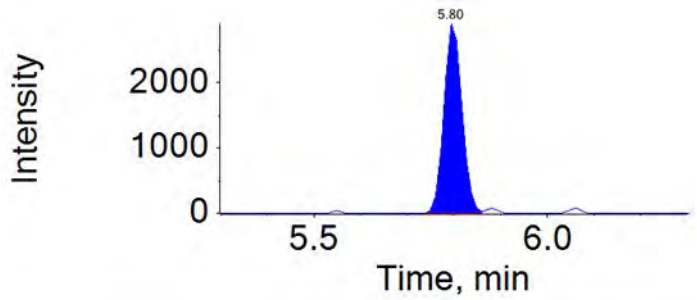
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



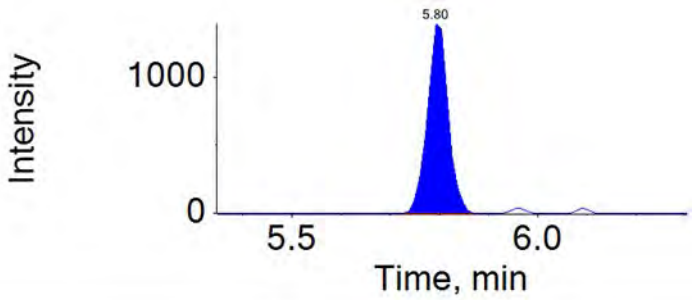
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



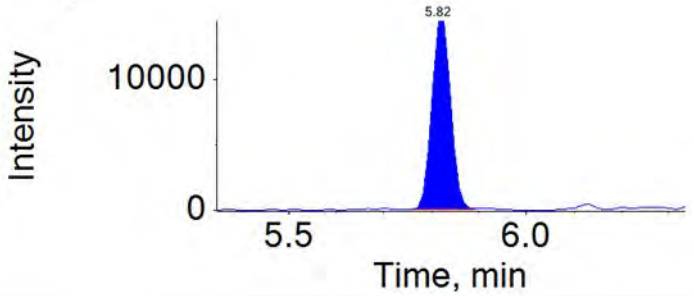
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



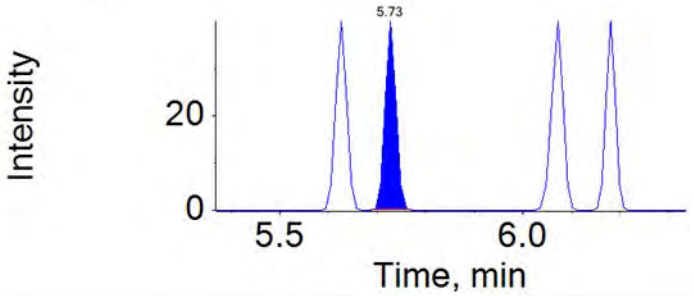
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

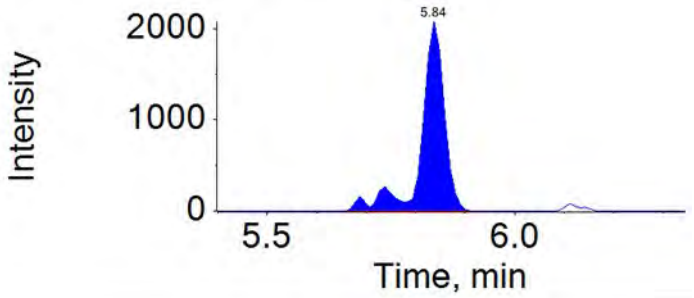
Component: PFUnDA
Primary Mass: 563.0 / 519.0



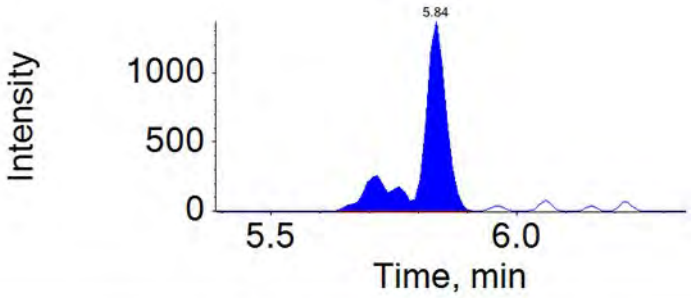
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



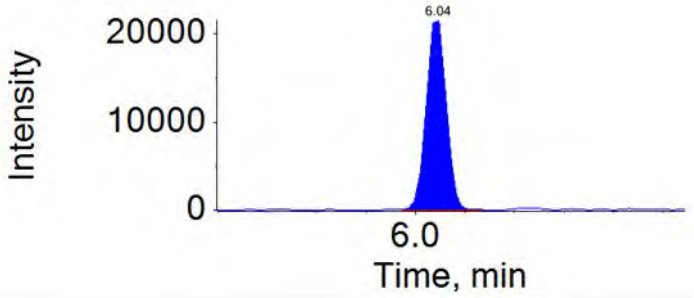
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



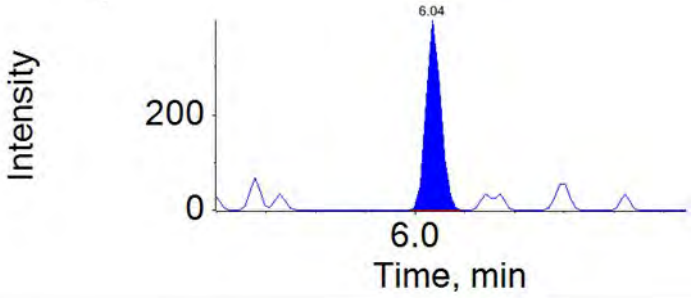
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



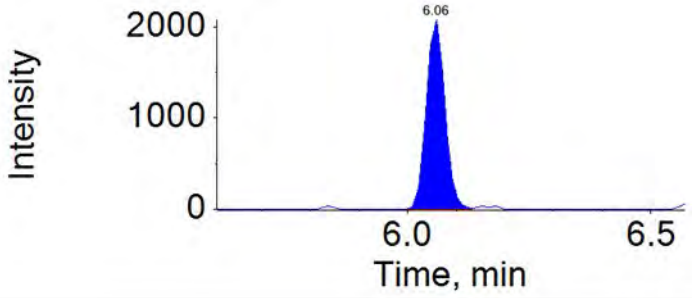
Component: PFDoDA
Primary Mass: 613.0 / 569.0



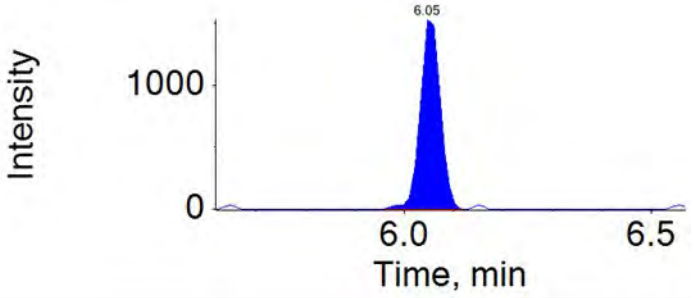
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



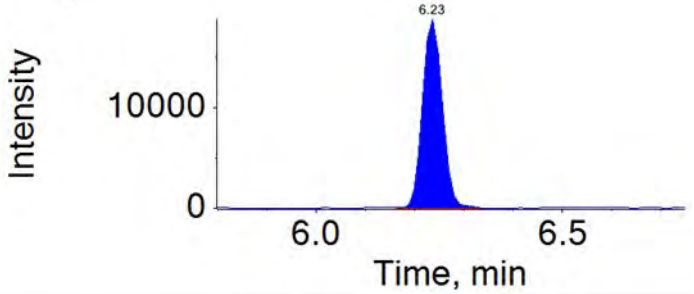
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



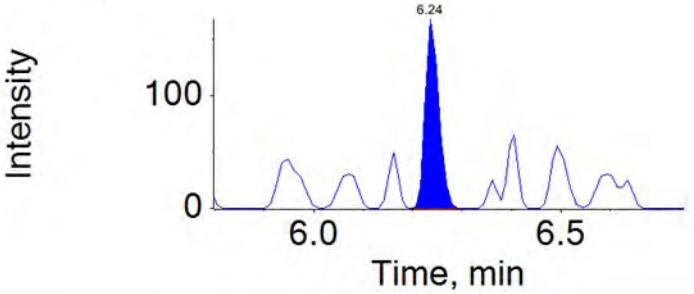
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

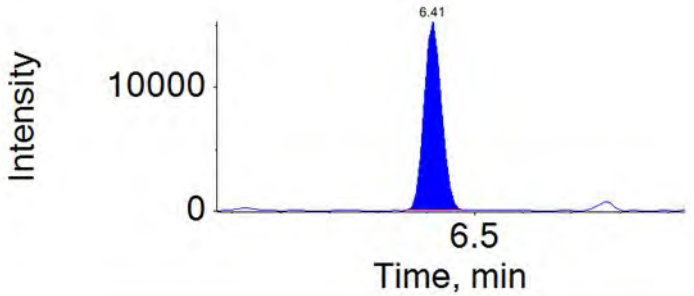
Component: PFTrDA
Primary Mass: 663.0 / 619.0



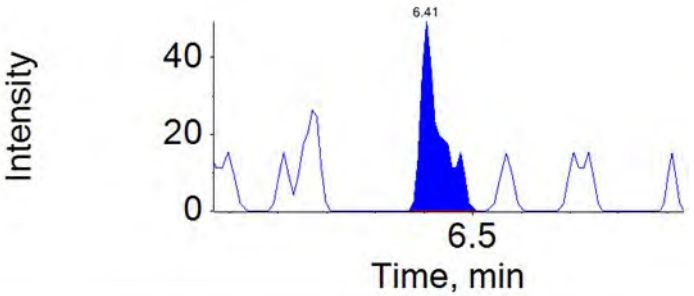
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



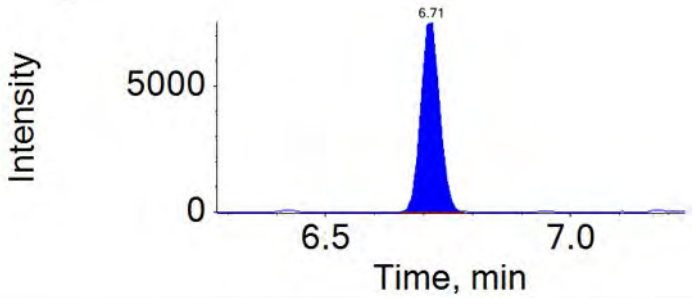
Component: PFTeDA
Primary Mass: 713.0 / 669.0



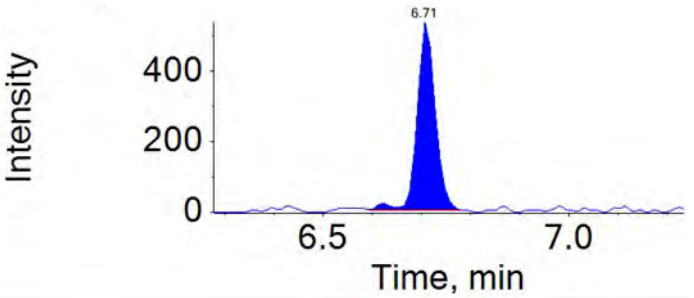
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



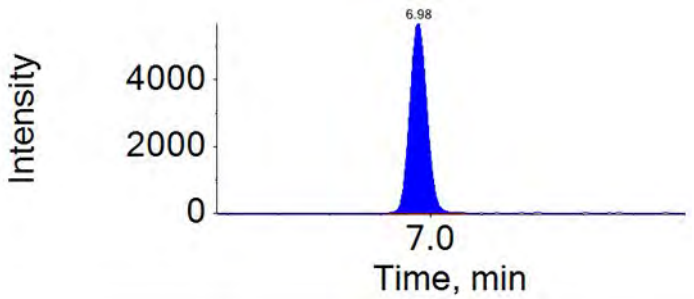
Component: PFHxDA
Primary Mass: 813.0 / 769.0



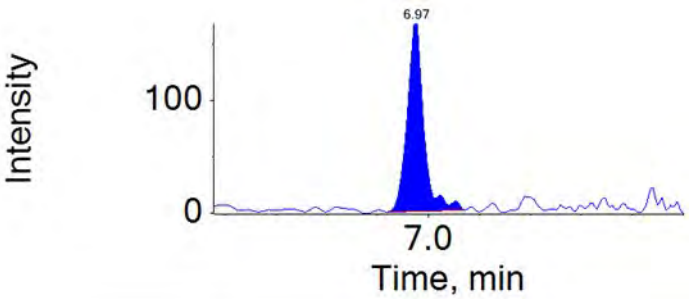
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL2			**Data File:**		18DEC18DCAL-69.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-18T23:43:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	964316.7	941251.6	2	50	
13C2-PFOA	5.0	523533.3	485595.3	8	50	
13C4-PFOS	4.8	310106.6	292182.6	6	50	
13C2-PFDA	5.0	486052.7	467216.0	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1122194.0	13C3-PFBA	964316.7	1.164	5.000	5.153	103	70-130	
E13C5-PFPeA	1076428.7	13C3-PFBA	964316.7	1.116	5.000	5.205	104	70-130	
E13C3-PFBS	471423.1	13C3-PFBA	964316.7	0.489	4.650	4.760	102	70-130	
E13C2-4:2-FTS	65525.8	13C2-PFOA	523533.3	0.125	4.670	4.754	102	70-130	
E13C5-PFHxA	763341.7	13C2-PFOA	523533.3	1.458	5.000	5.215	104	70-130	
E13C3-PFHxS	354452.9	13C2-PFOA	523533.3	0.677	4.730	5.123	108	70-130	
E13C4-PFHpA	605519.2	13C2-PFOA	523533.3	1.157	5.000	4.996	100	70-130	
E13C2-6:2-FTS	53117.9	13C2-PFOA	523533.3	0.101	4.750	5.105	107	70-130	
E13C8-PFOA	1027982.0	13C2-PFOA	523533.3	1.964	5.000	5.399	108	70-130	
E13C8-PFOS	349492.7	13C4-PFOS	310106.6	1.127	4.780	5.040	105	70-130	
E13C9-PFNA	683029.4	13C4-PFOS	310106.6	2.203	5.000	5.011	100	70-130	
E13C6-PFDA	929390.9	13C2-PFDA	486052.7	1.912	5.000	5.447	109	70-130	
E13C2-8:2-FTS	46390.2	13C2-PFDA	486052.7	0.095	4.790	4.919	103	70-130	
E13C8-PFOSA	636077.5	13C2-PFDA	486052.7	1.309	5.000	5.096	102	70-130	
Ed3-NMeFOSAA	218152.2	13C2-PFDA	486052.7	0.449	5.000	4.938	99	70-130	
E13C7-PFUnDA	622971.7	13C2-PFDA	486052.7	1.282	5.000	5.365	107	70-130	
Ed5-NEtFOSAA	196235.0	13C2-PFDA	486052.7	0.404	5.000	5.948	119	70-130	
E13C2-PFDoDA	1229301.7	13C2-PFDA	486052.7	2.529	5.000	5.321	106	70-130	
Ed7-NMePFOSAE	273893.9	13C2-PFDA	486052.7	0.564	5.000	5.035	101	70-130	
Ed3-NMePFOSA	89487.3	13C2-PFDA	486052.7	0.184	5.000	5.059	101	70-130	
Ed9-NEtPFOSAE	234457.4	13C2-PFDA	486052.7	0.482	5.000	4.932	99	70-130	
Ed5-NEtPFOSA	70003.8	13C2-PFDA	486052.7	0.144	5.000	4.995	100	70-130	
E13C2-PFTeDA	911481.8	13C2-PFDA	486052.7	1.875	5.000	5.285	106	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

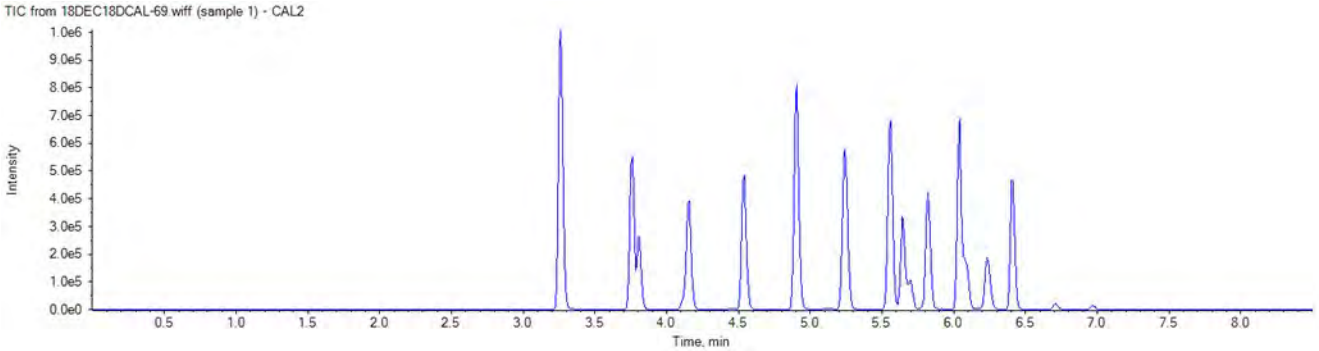
Analyte Quantitation Peak Table

Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-69.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	116635.8		A	13C4-PFBA	3.26	1122194.0	0.104	0.552
PFPeA	3.76	1.000	112858.4		A	13C5-PFPeA	3.76	1076428.7	0.105	0.541
PFBS	3.81	1.000	45656.9		A	13C3-PFBS	3.81	471423.1	0.097	0.478
4:2-FTS	4.12	1.000	13063.1		A	13C2-4:2-FTS	4.12	65525.8	0.199	0.523
PFHxA	4.15	1.000	103487.6		A	13C5-PFHxA	4.15	763341.7	0.136	0.558
PFPeS	4.17	1.100	23803.3		A	13C3-PFBS	3.81	471423.1	0.050	0.514
PFHpA	4.54	1.000	106907.9		A	13C4-PFHpA	4.54	605519.2	0.177	0.585
PFHxS	4.54	1.000	38176.1		M	13C3-PFHxS	4.54	354452.9	0.108	0.524
6:2-FTS	4.89	1.000	12125.6		A	13C2-6:2-FTS	4.89	53117.9	0.228	0.568
PFHpS	4.90	1.080	36201.5		A	13C3-PFHxS	4.54	354452.9	0.102	0.540
PFOA	4.90	1.000	111923.3		A	13C8-PFOA	4.90	1027982.0	0.109	0.577
PFOS	5.23	1.000	37634.2		M	13C8-PFOS	5.23	349492.7	0.108	0.471
PFNA	5.25	1.000	95019.2		A	13C9-PFNA	5.25	683029.4	0.139	0.553
PFNS	5.54	1.060	28435.1		A	13C8-PFOS	5.23	349492.7	0.081	0.517
PFDA	5.56	1.000	98187.6		A	13C6-PFDA	5.56	929390.9	0.106	0.546
8:2-FTS	5.56	1.000	12295.6		A	13C2-8:2-FTS	5.56	46390.2	0.265	0.533
PFOSA	5.65	1.000	71551.8		A	13C8-PFOSA	5.65	636077.5	0.112	0.563
NMeFOSAA	5.70	1.000	19589.2		M	d3-NMeFOSAA	5.70	218152.2	0.090	0.558
PFDS	5.79	1.110	21675.3		A	13C8-PFOS	5.23	349492.7	0.062	0.509
PFUnDA	5.82	1.000	99413.7		A	13C7-PFUnDA	5.82	622971.7	0.160	0.529
NEtFOSAA	5.83	1.000	17104.7		A	d5-NEtFOSAA	5.83	196235.0	0.087	0.444
PFDoDA	6.04	1.000	130434.4		A	13C2-PFDoDA	6.04	1229301.7	0.106	0.534
10:2-FTS	6.05	1.090	12341.8		A	13C2-8:2-FTS	5.56	46390.2	0.266	0.542
NMePFOSAE	6.09	1.000	36519.6		A	d7-NMePFOSAE	6.08	273893.9	0.133	0.588
NMePFOSA	6.10	1.000	10321.8		A	d3-NMePFOSA	6.10	89487.3	0.115	0.582
PFDoS	6.20	1.190	10760.9		A	13C8-PFOS	5.23	349492.7	0.031	0.466
NEtPFOSAE	6.24	1.000	40704.6		A	d9-NEtPFOSAE	6.23	234457.4	0.174	0.567
NEtPFOSA	6.26	1.000	7692.9		A	d5-NEtPFOSA	6.26	70003.8	0.110	0.514
PFTrDA	6.23	1.030	129882.1		A	13C2-PFDoDA	6.04	1229301.7	0.106	0.542
PFTeDA	6.41	1.000	87024.0		A	13C2-PFTeDA	6.41	911481.8	0.095	0.514
PFHxDA	6.71	1.050	43591.5		A	13C2-PFTeDA	6.41	911481.8	0.048	0.525
PFODA	6.97	1.090	32232.1		A	13C2-PFTeDA	6.41	911481.8	0.035	0.508

Total Ion Chromatogram

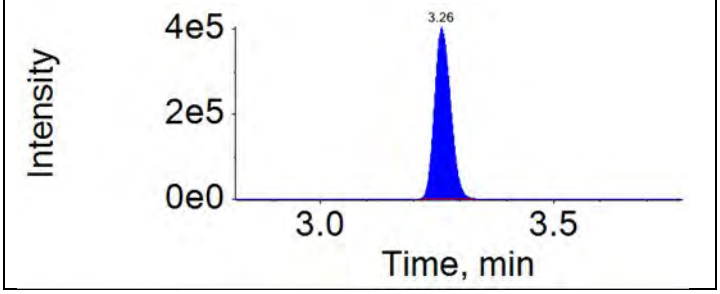


APPROVED
By MSM at 11:49 am, 12/19/18

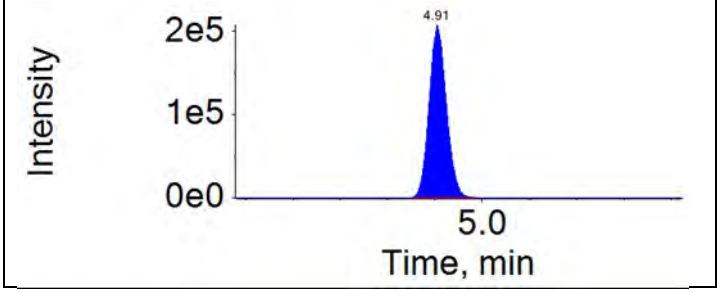
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

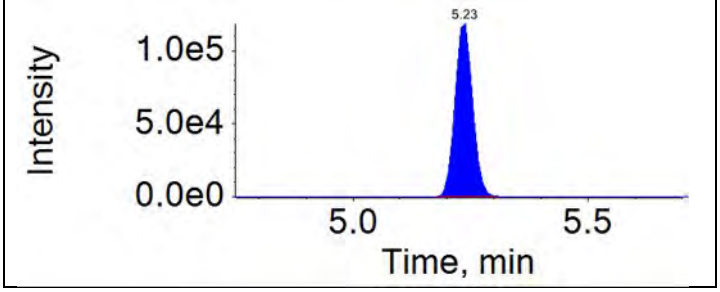
Injection Standard: 13C3-PFBA
216.0 / 172.0



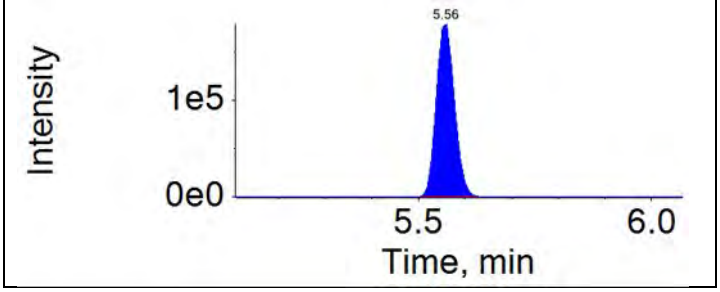
Injection Standard: 13C2-PFOA
415.0 / 370.0



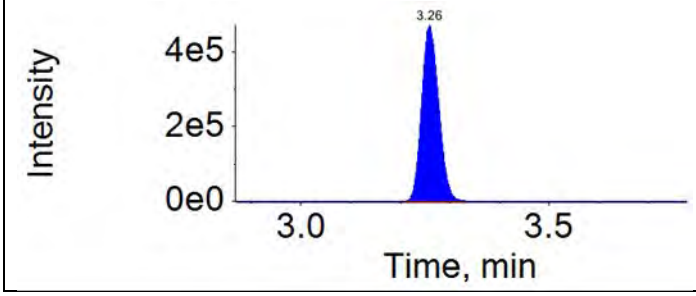
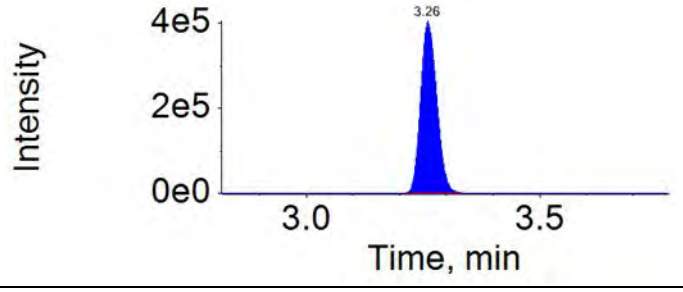
Injection Standard: 13C4-PFOS
503.0 / 80.0

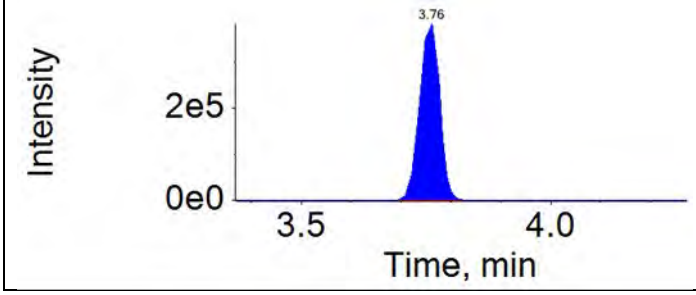
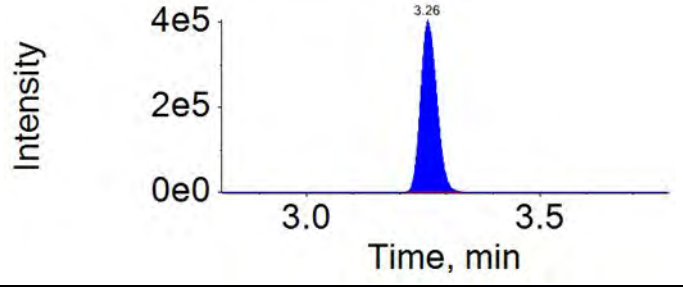


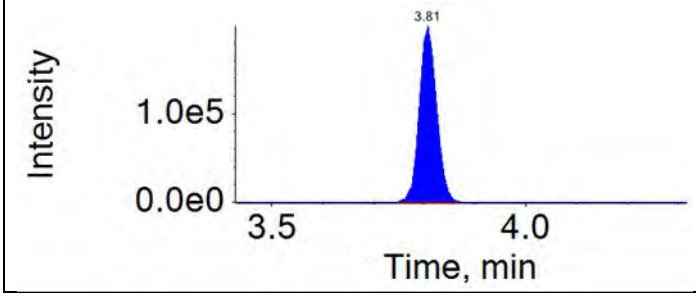
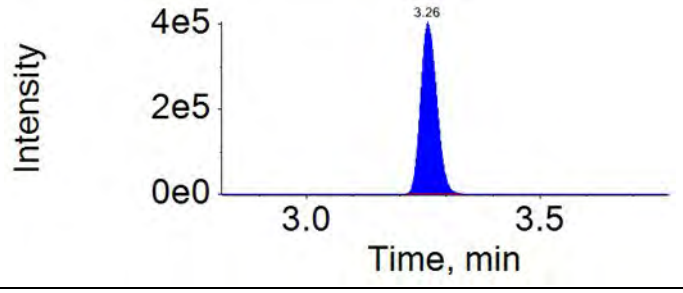
Injection Standard: 13C2-PFDA
515.0 / 470.0

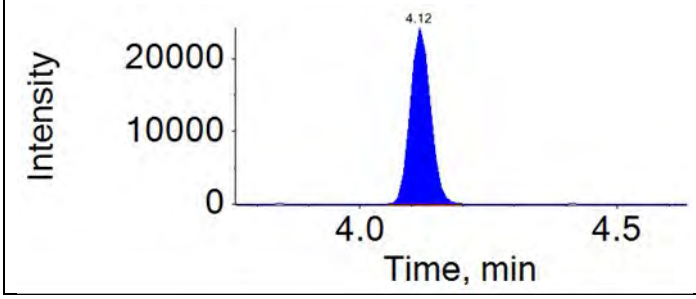
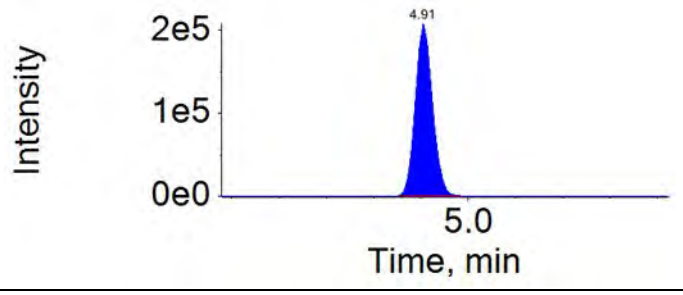


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

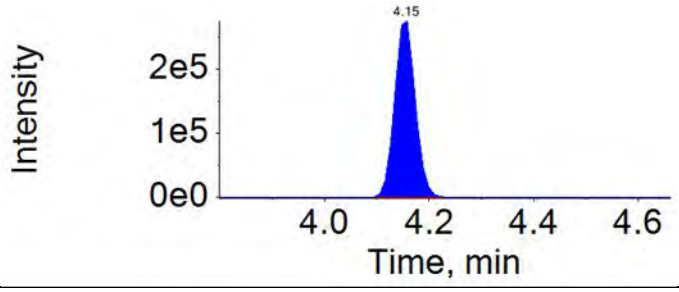
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

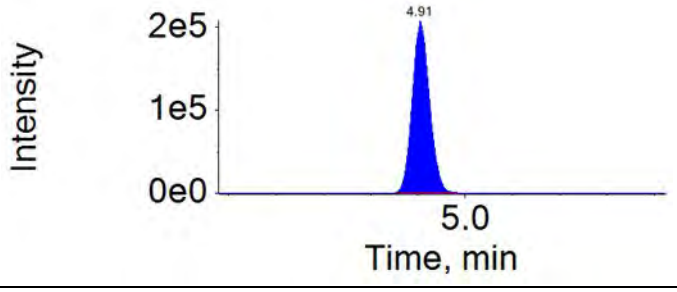
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

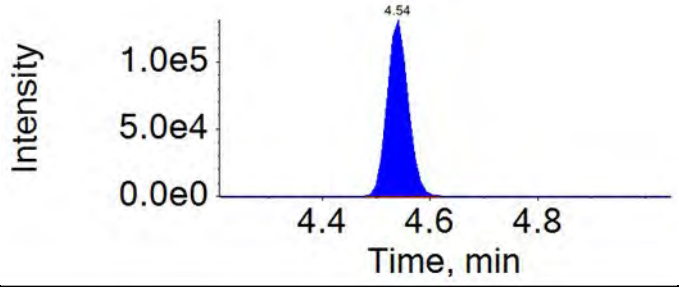
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

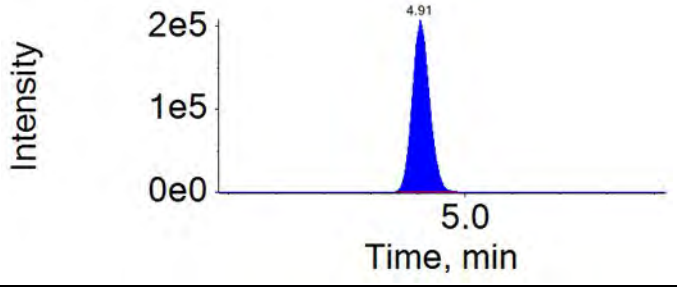
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



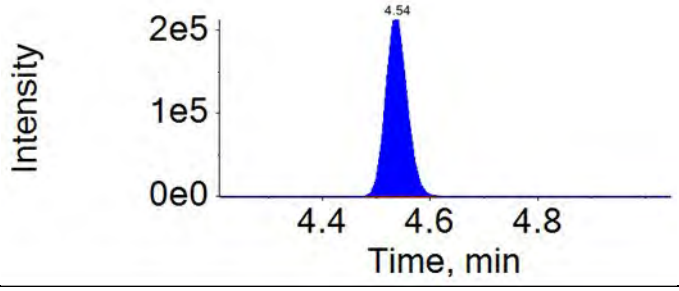


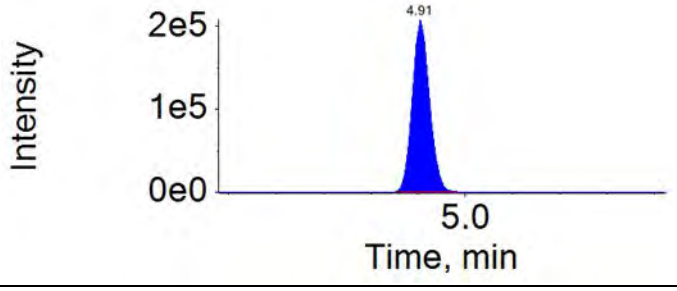
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



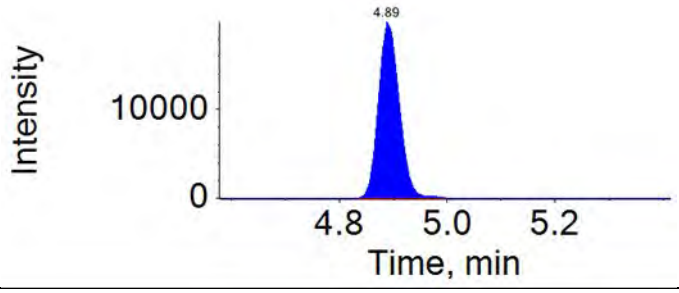


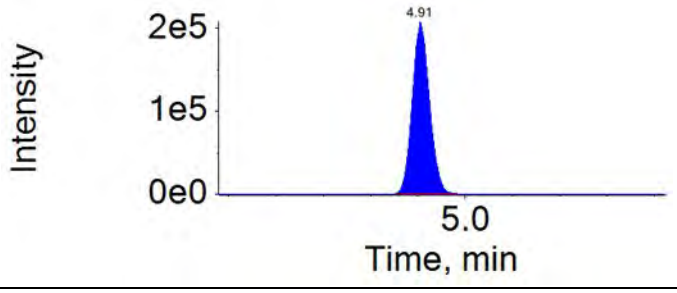
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

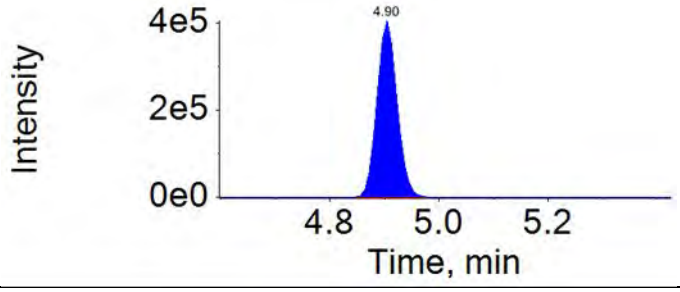
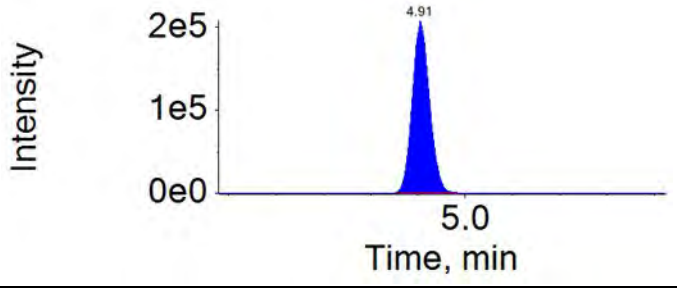


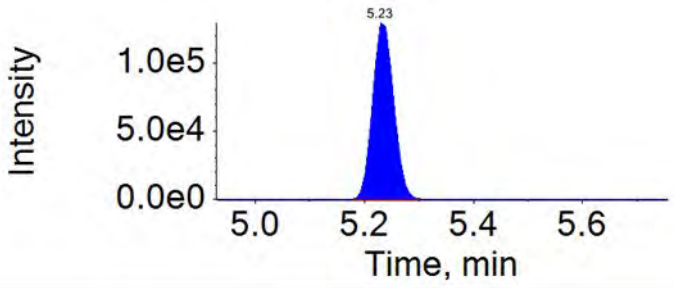
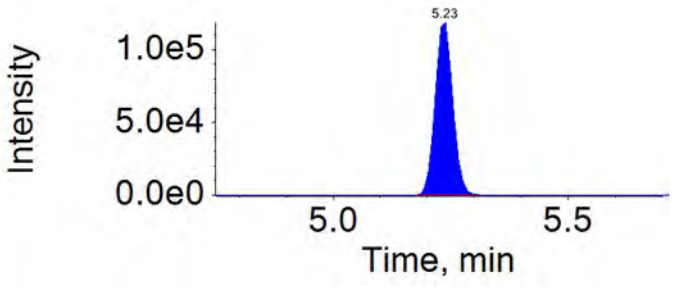


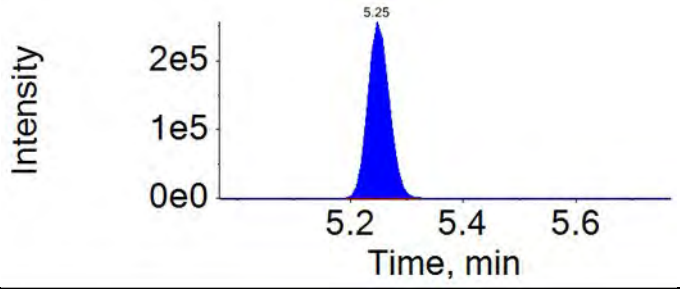
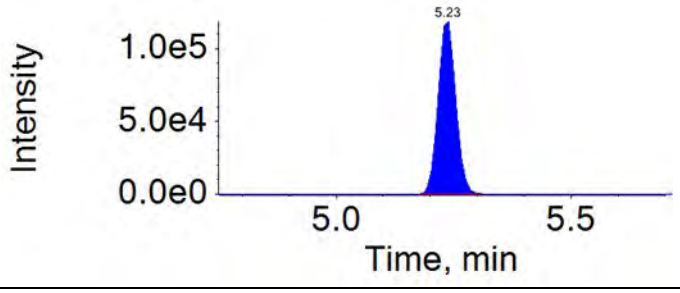
APPROVED
By MSM at 11:49 am, 12/19/18

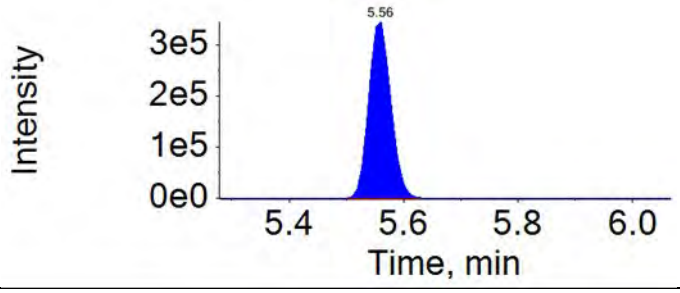
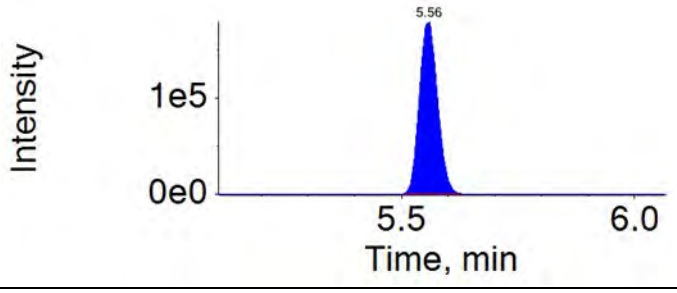
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

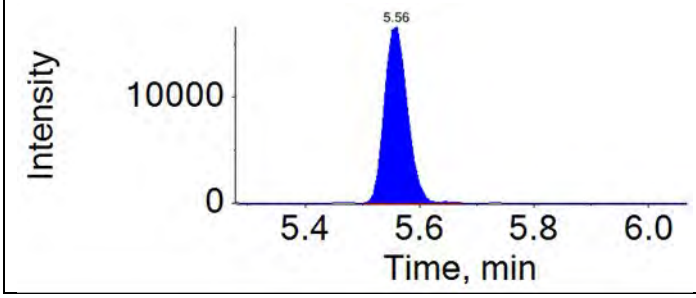
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

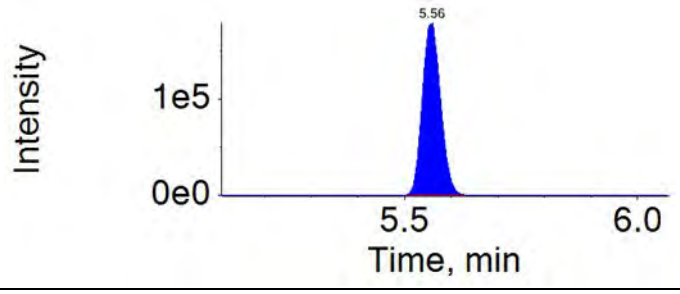
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

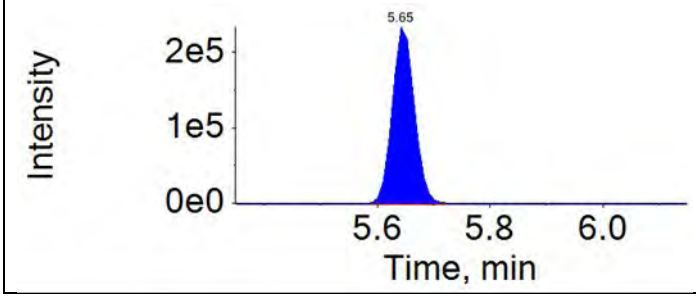
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

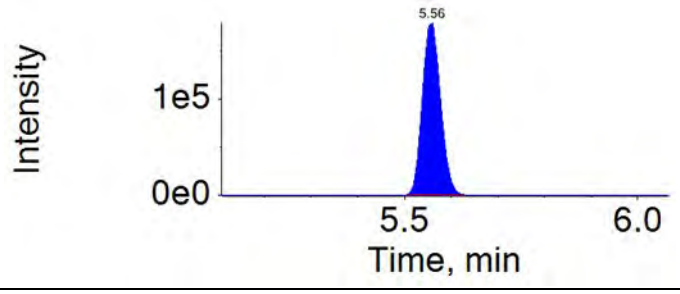
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



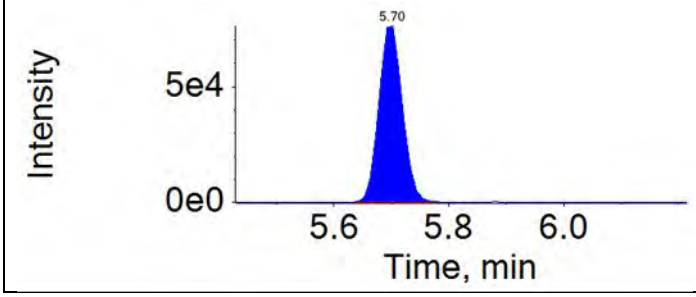


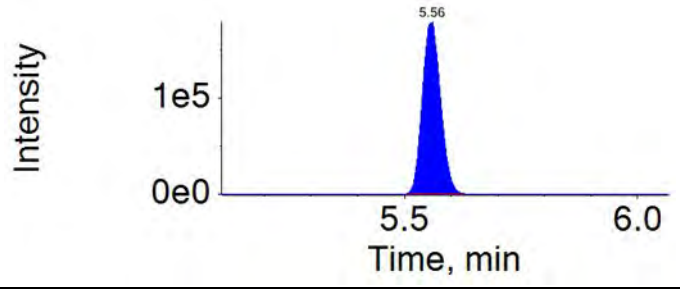
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



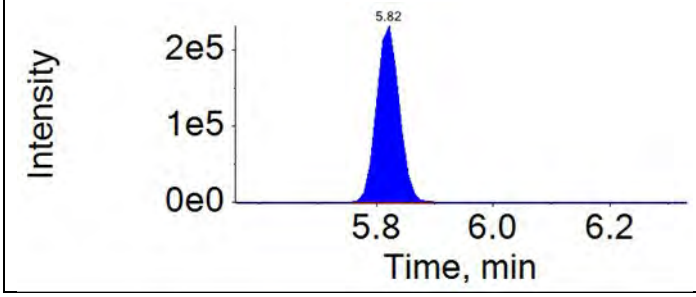


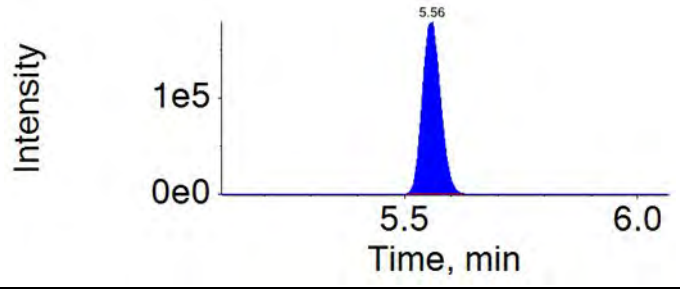
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



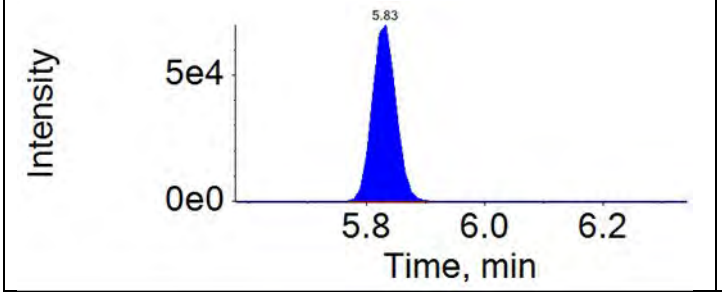


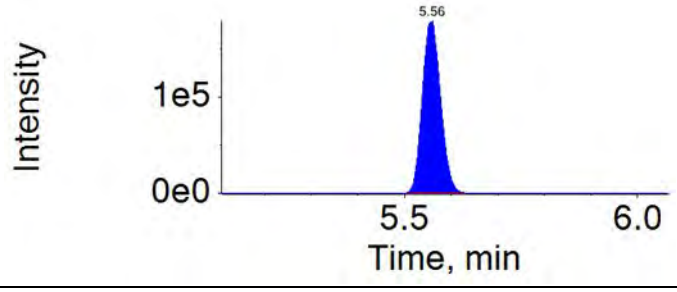
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

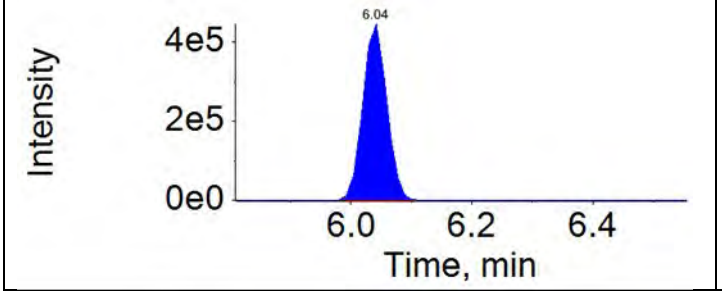
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

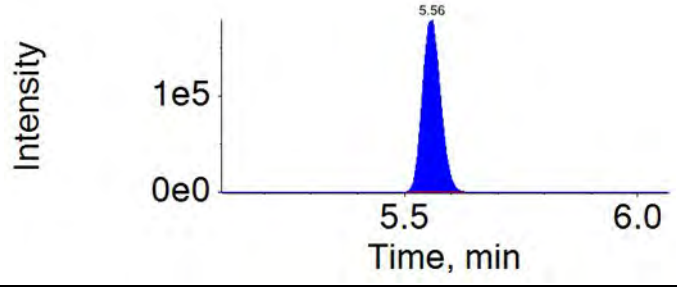
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



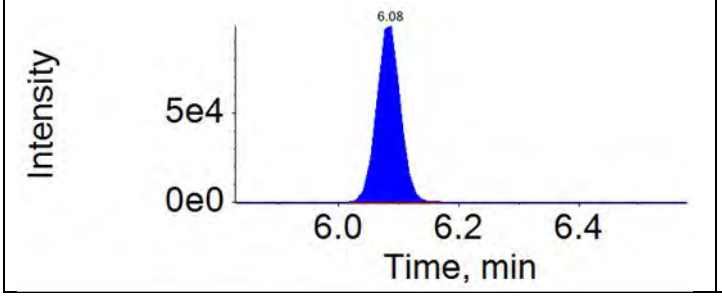


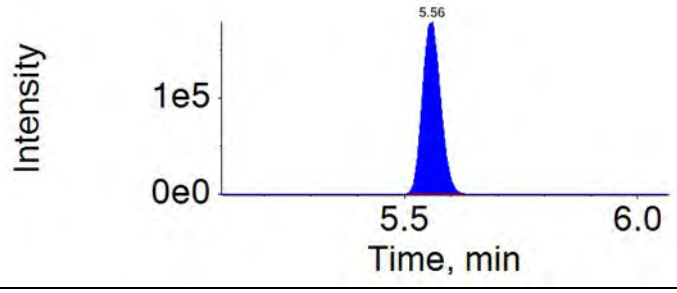
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



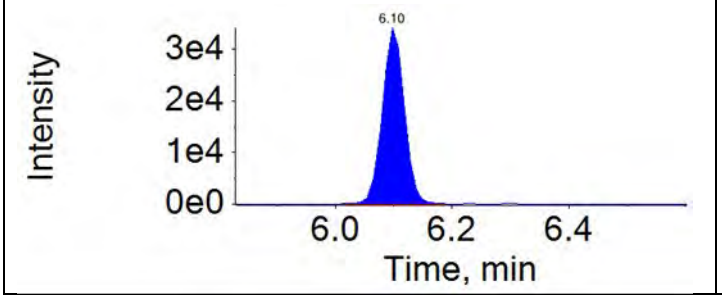


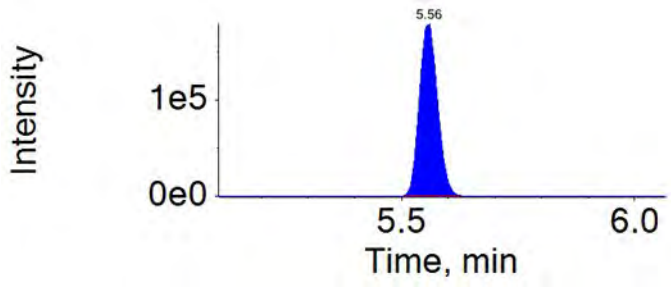
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



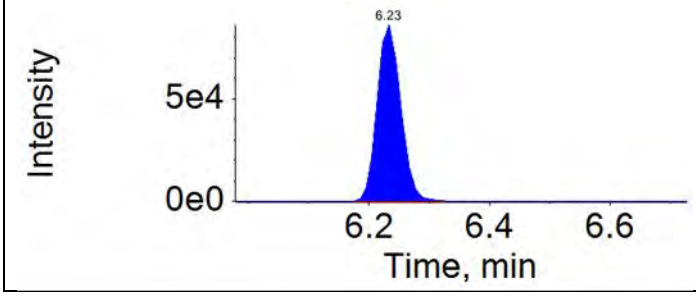


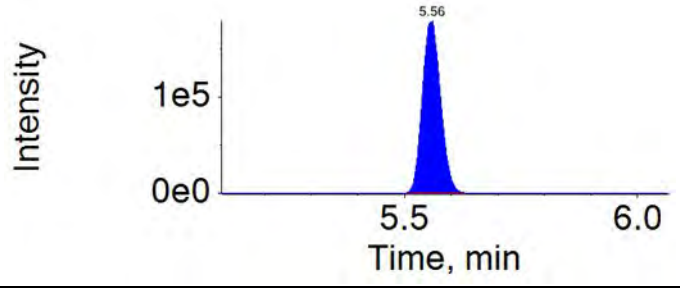
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

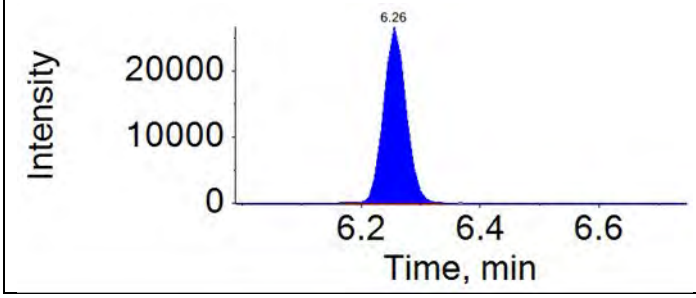
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

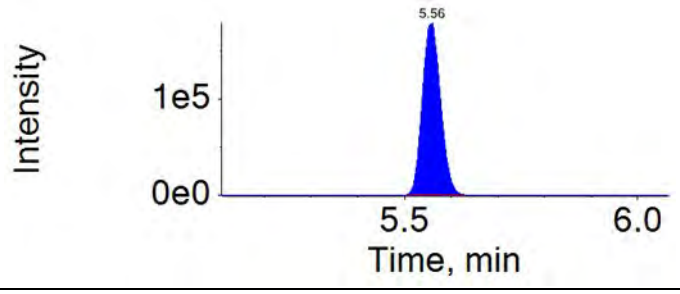
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



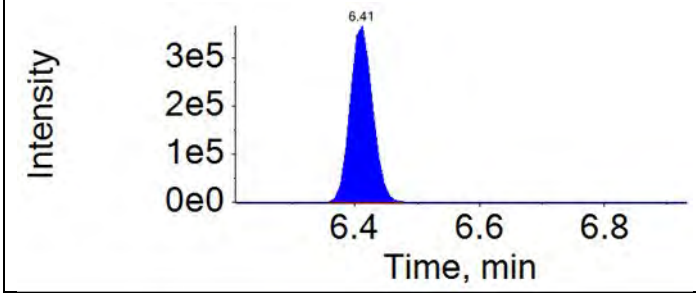


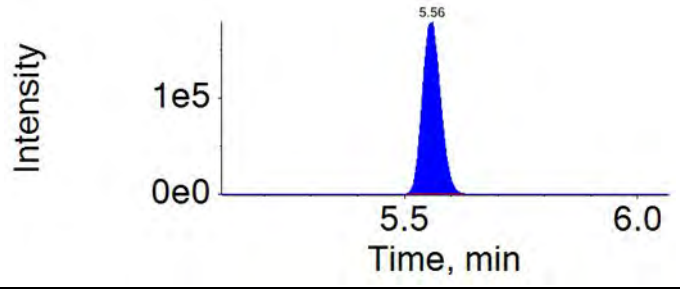
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



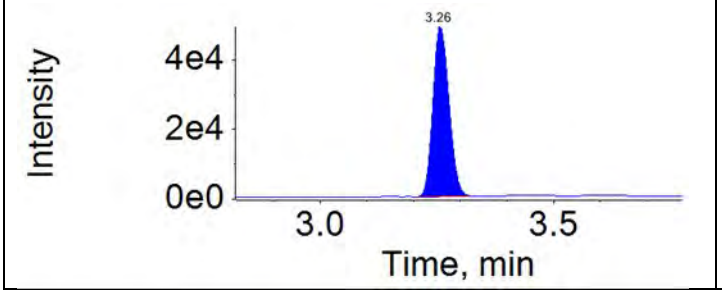


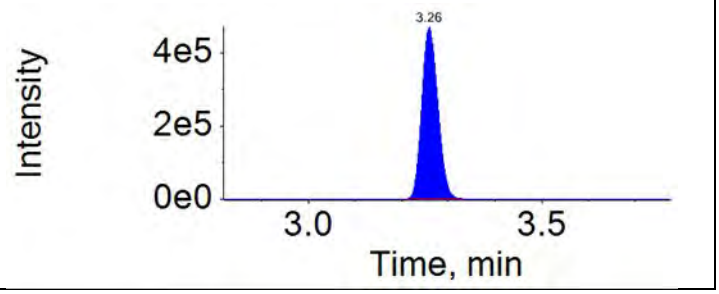
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

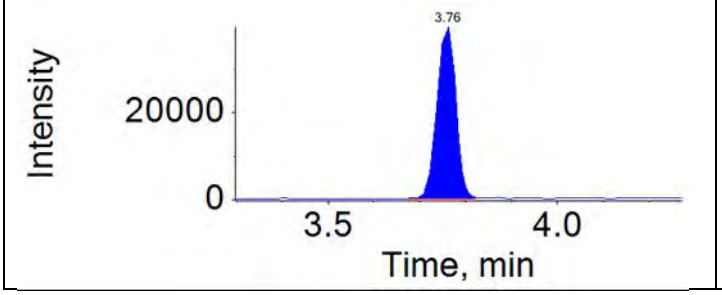
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

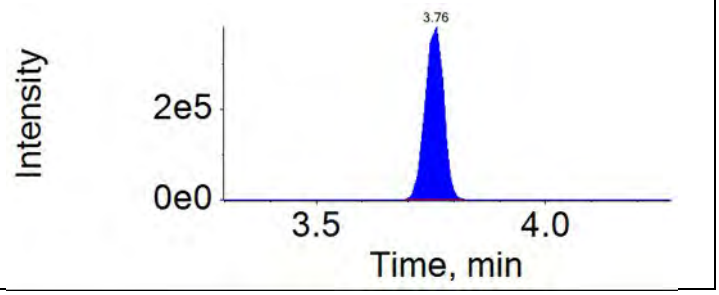
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



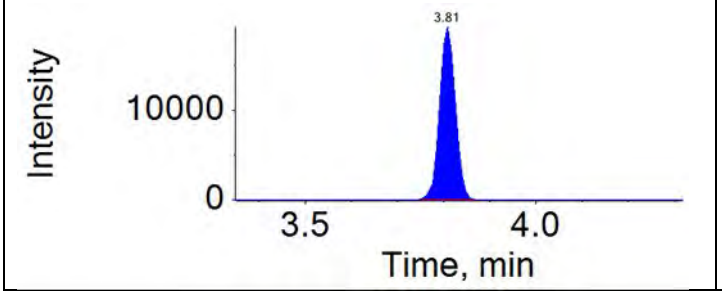


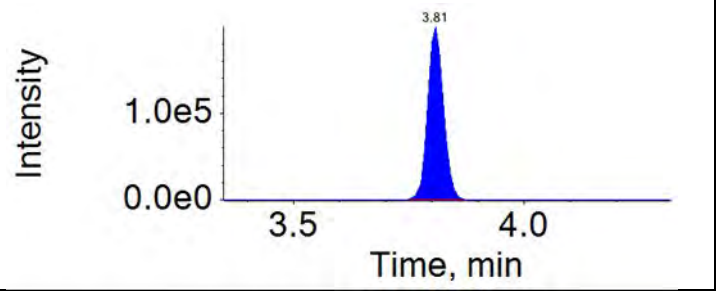
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



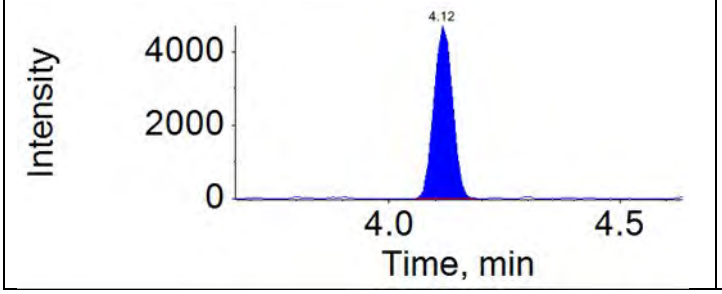


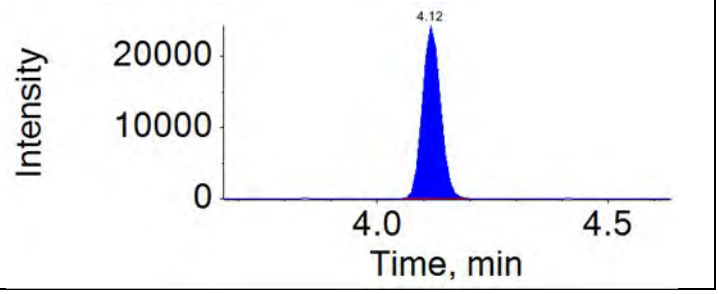
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



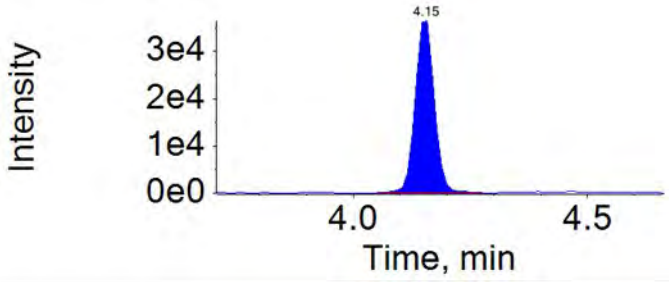


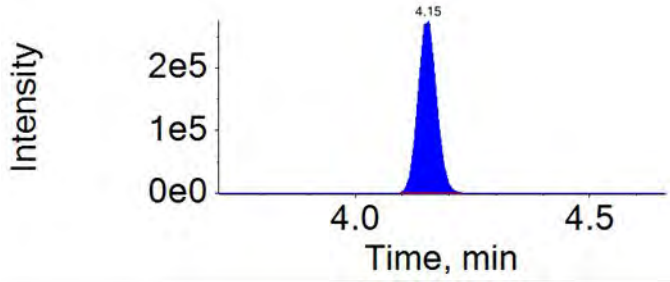
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

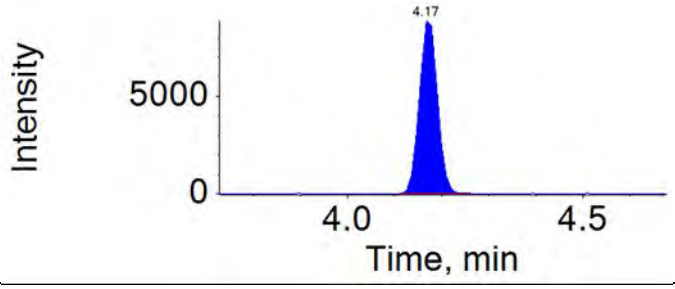
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

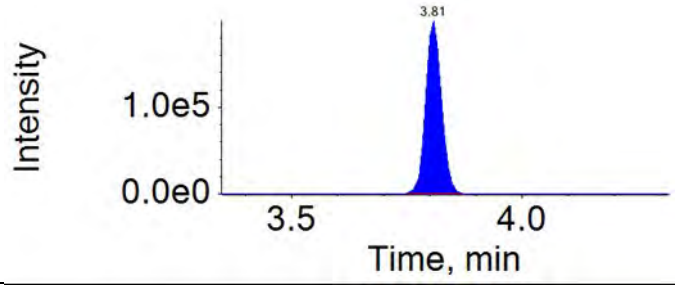
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



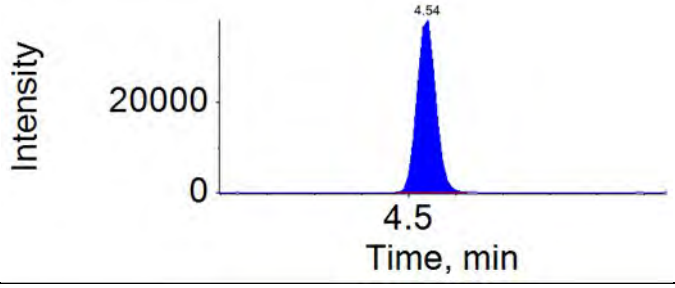


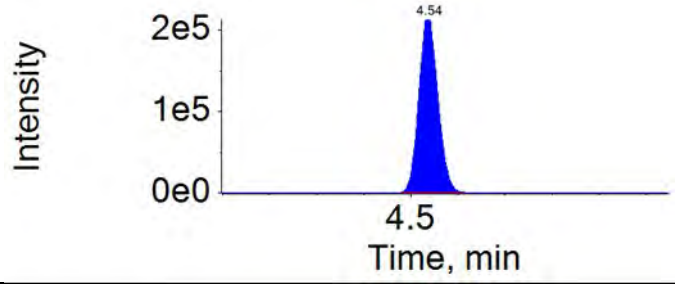
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



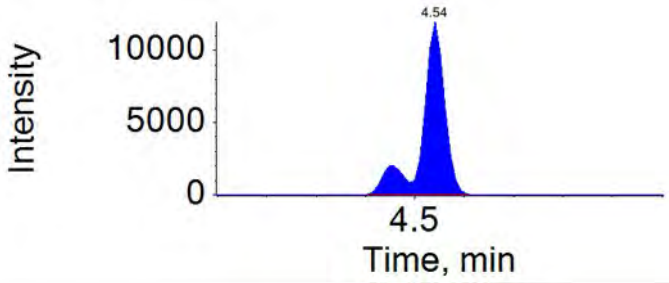


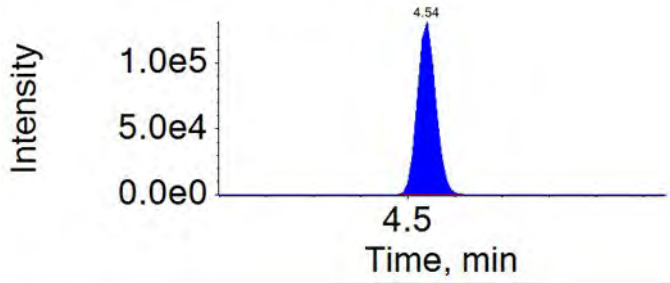
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

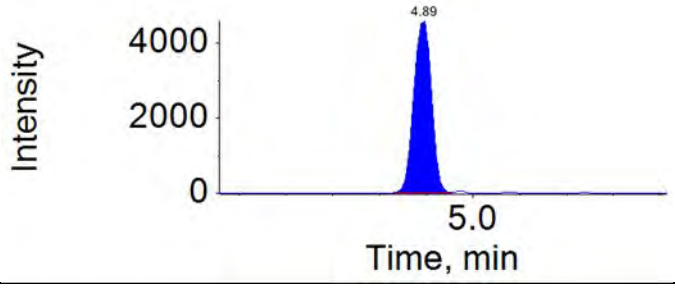
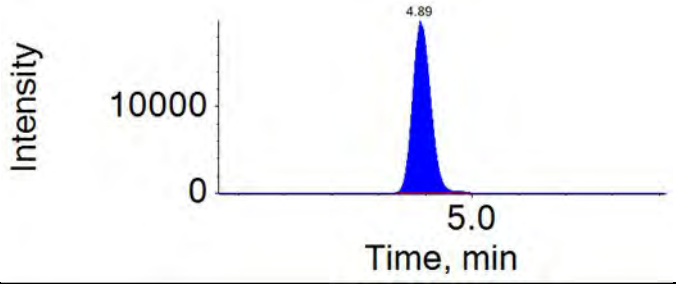


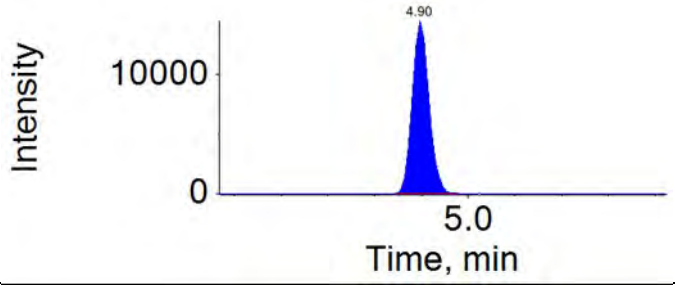
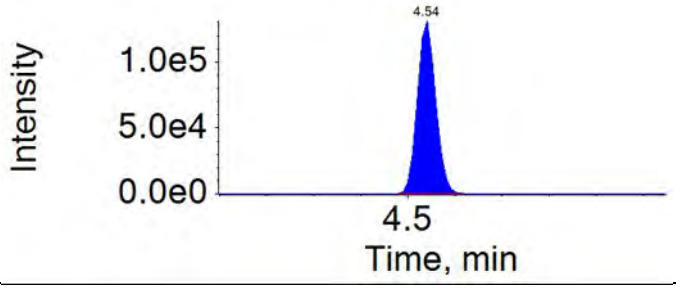


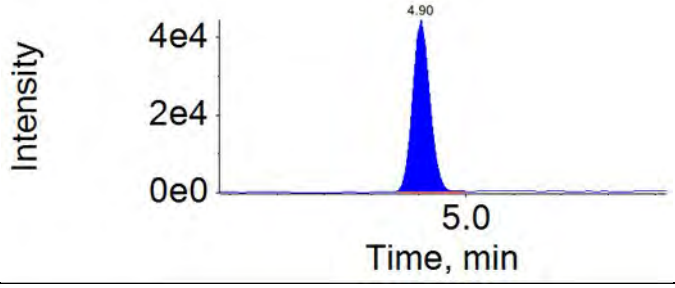
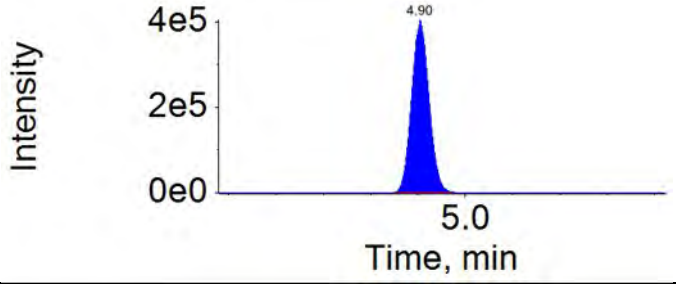
APPROVED
By MSM at 11:49 am, 12/19/18

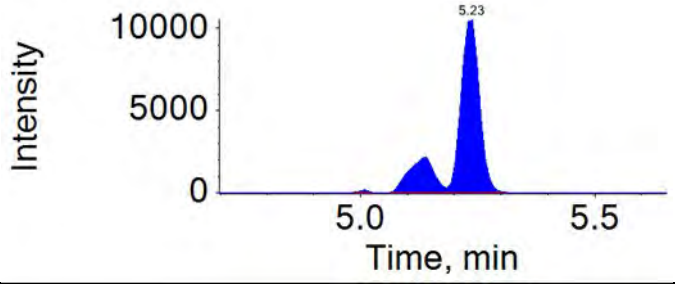
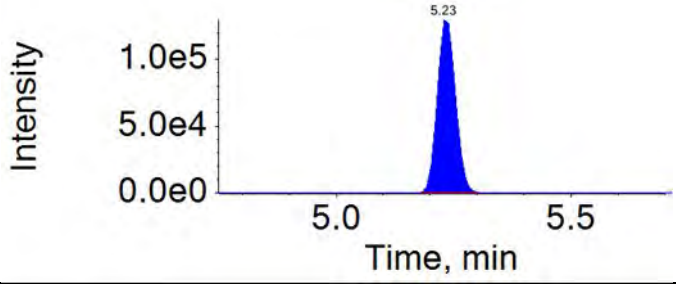
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

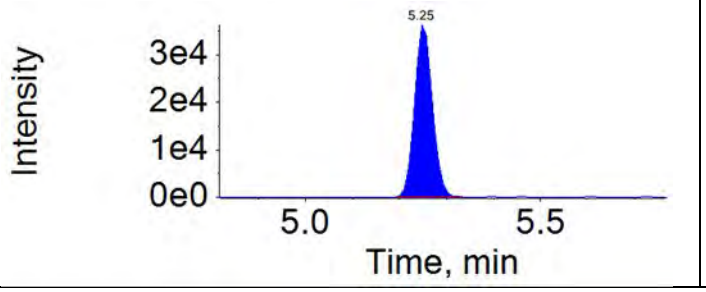
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

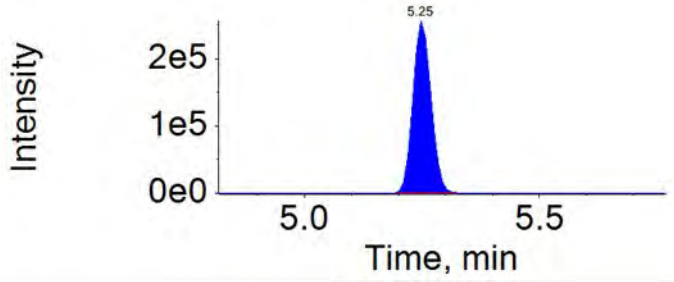
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

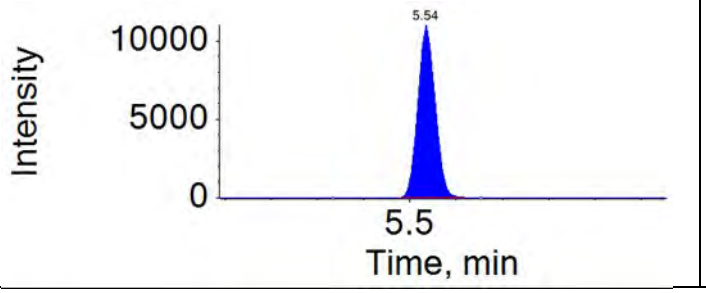
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

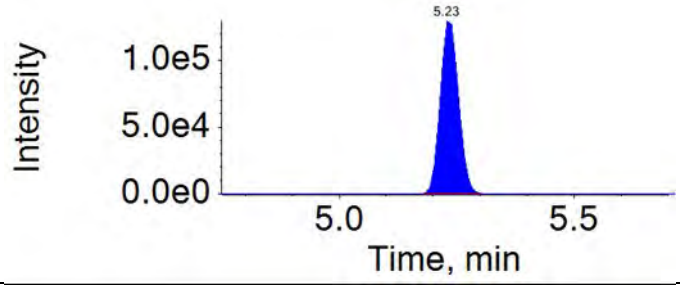
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



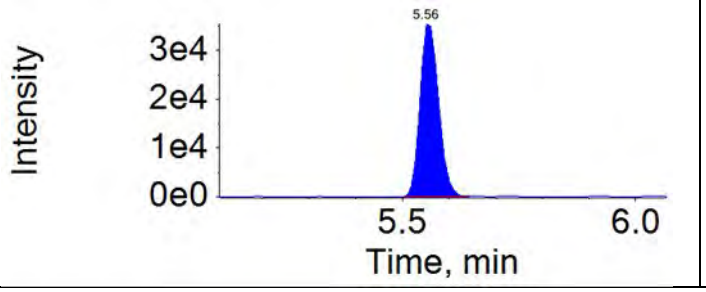


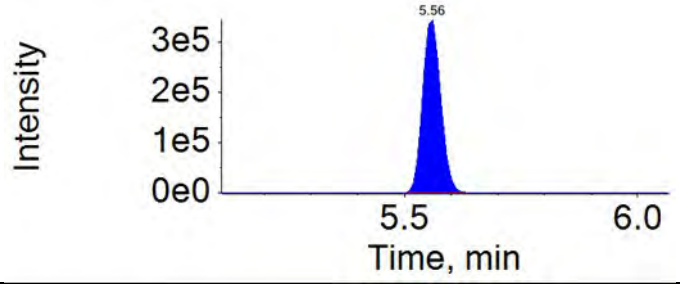
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



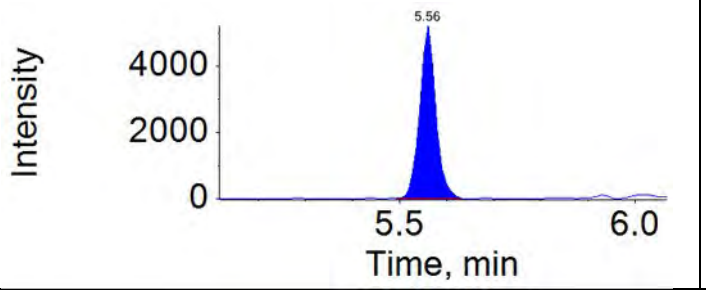


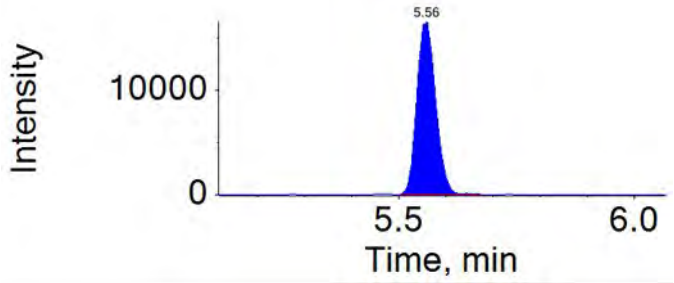
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



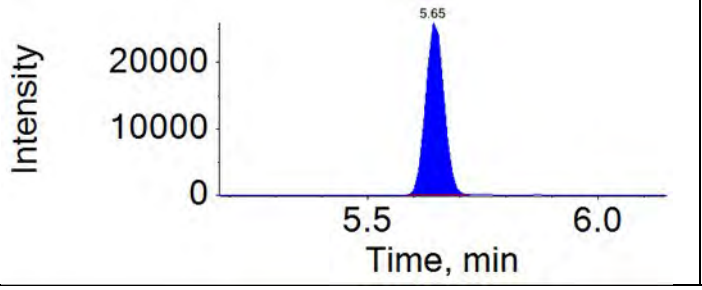


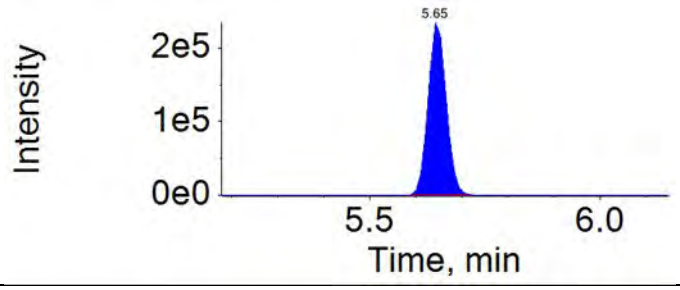
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

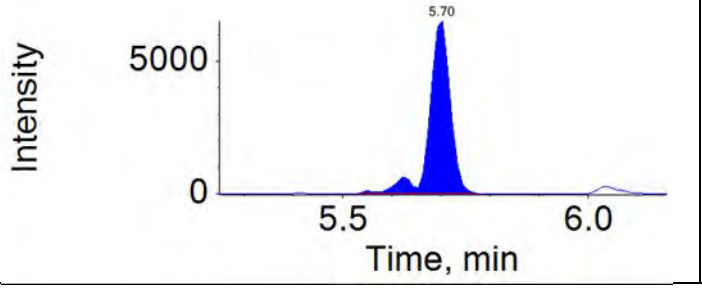
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

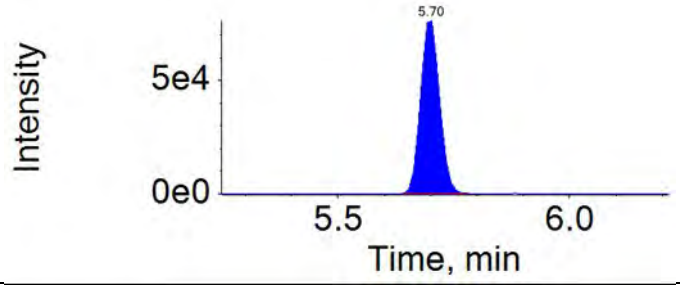
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



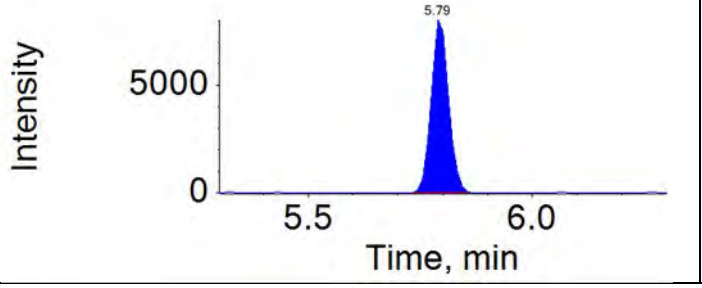


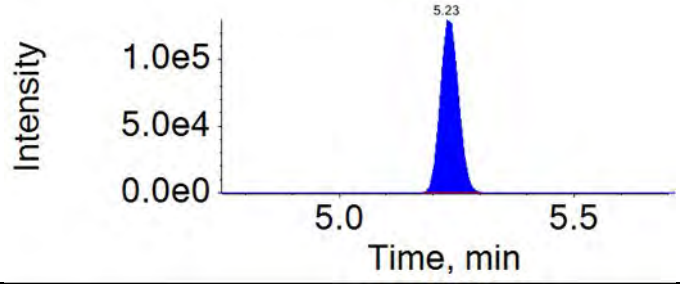
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



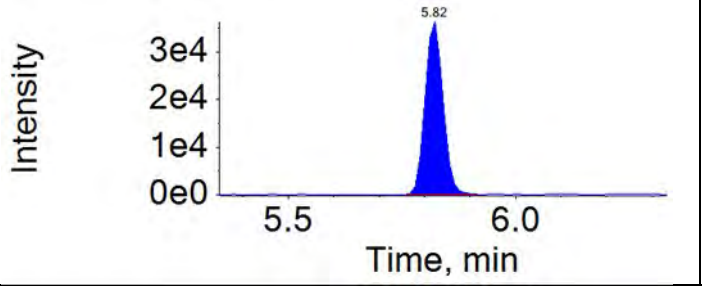


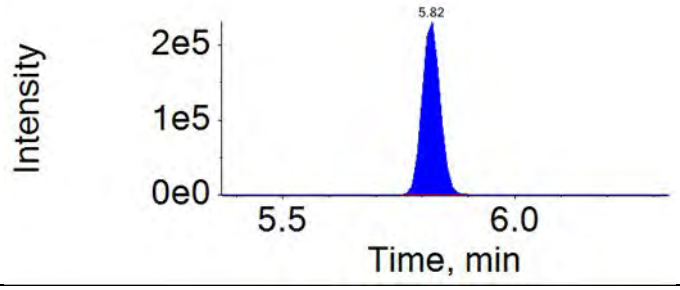
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



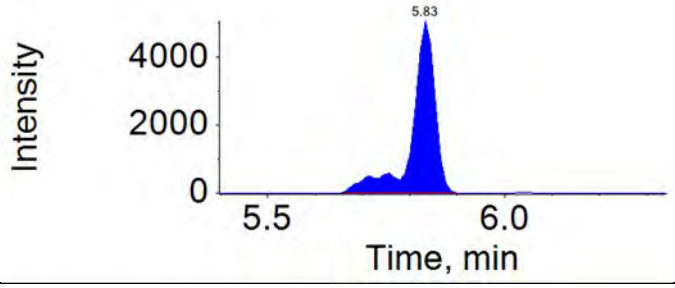


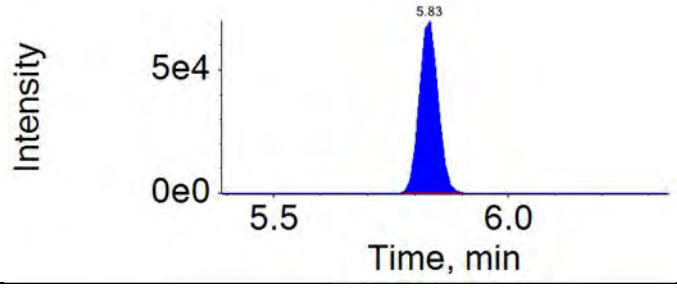
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

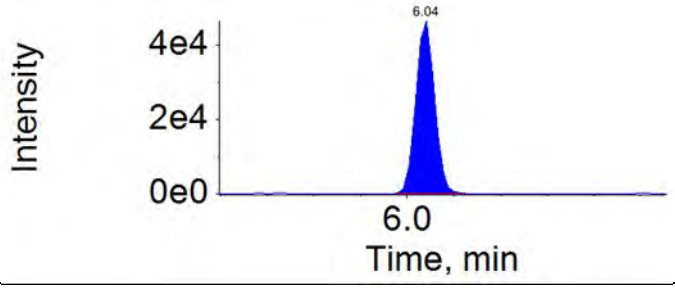
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

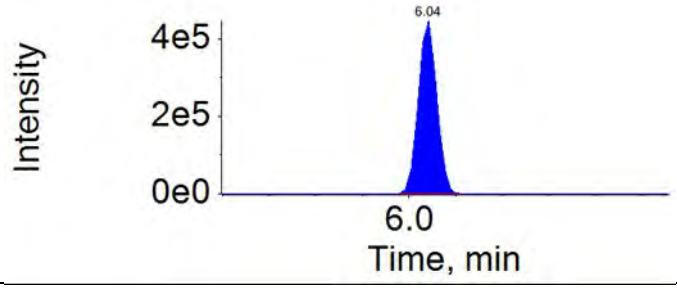
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



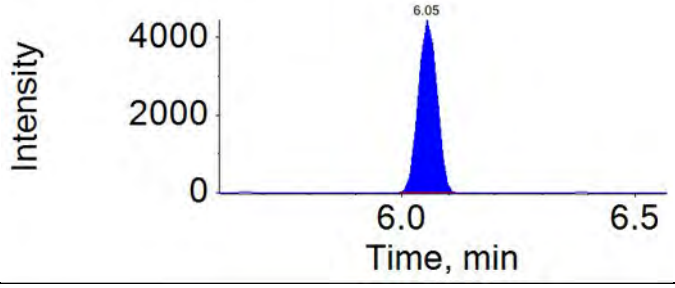


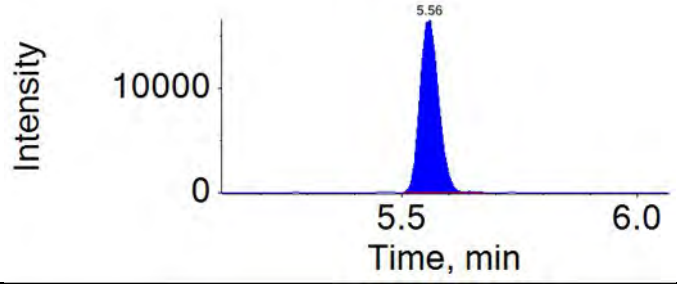
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



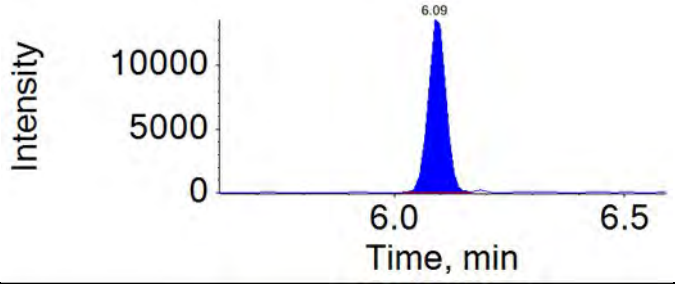


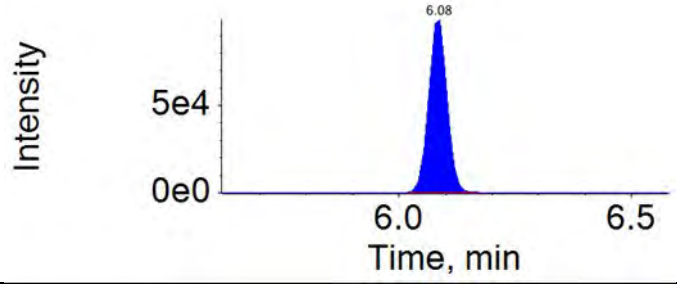
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





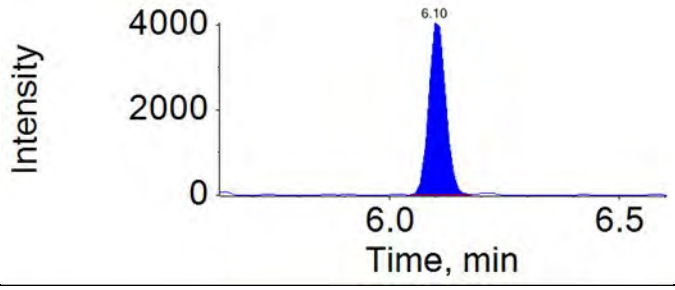
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

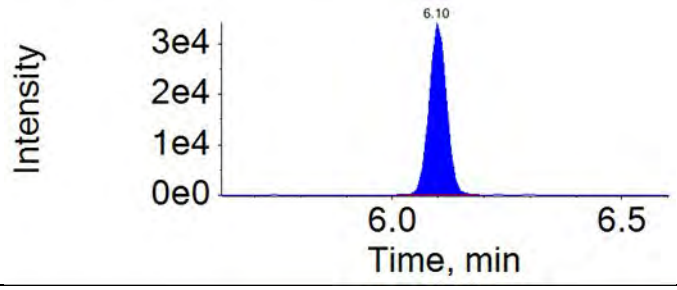




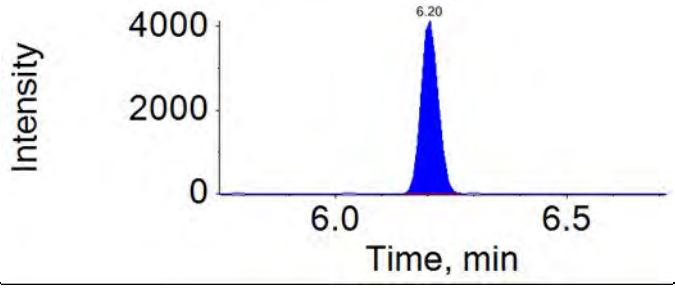
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

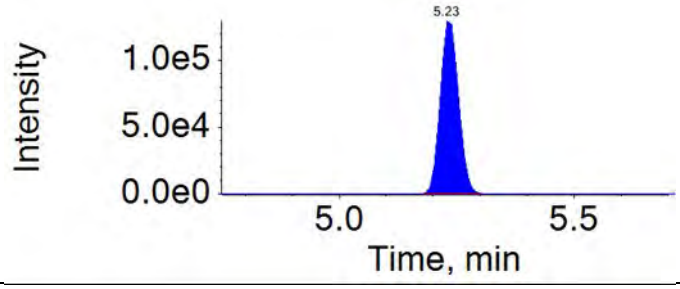
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



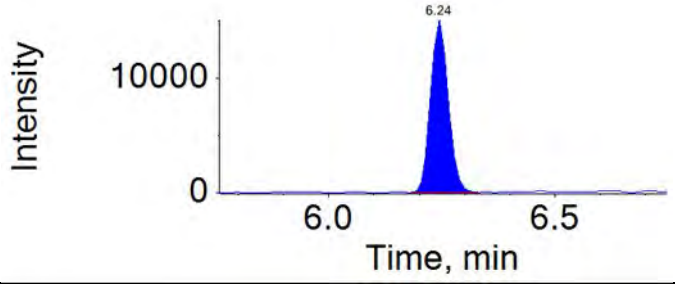


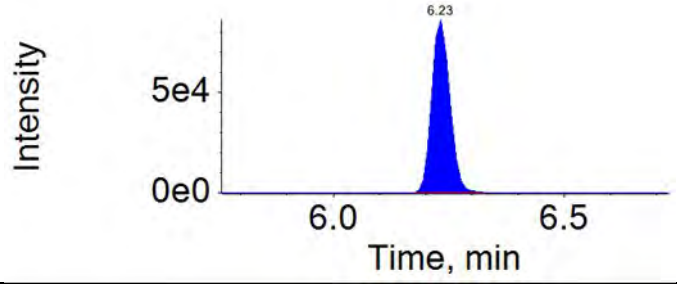
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



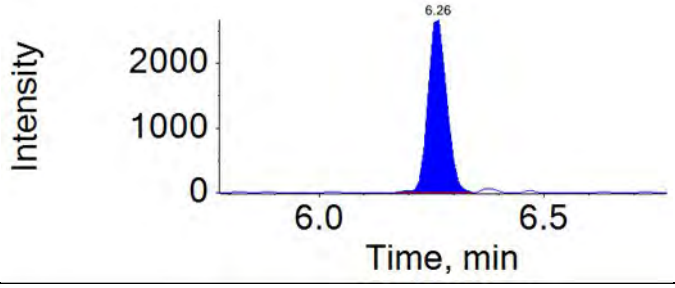


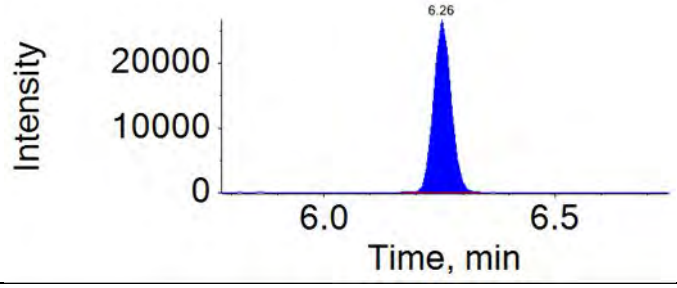
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



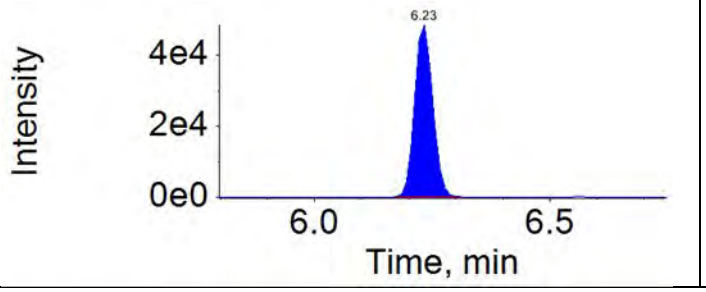


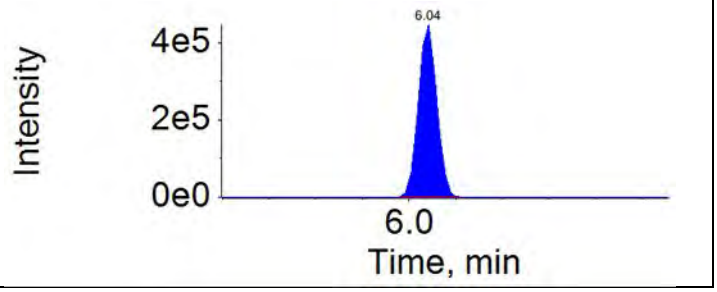
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

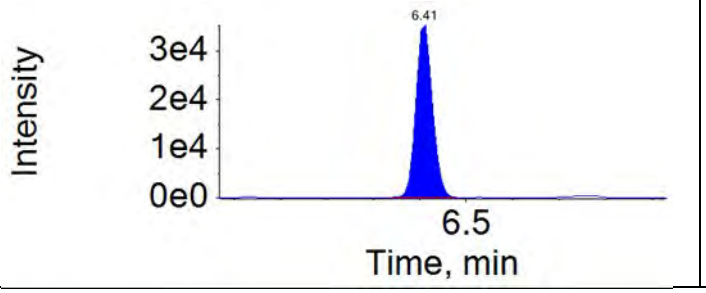
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

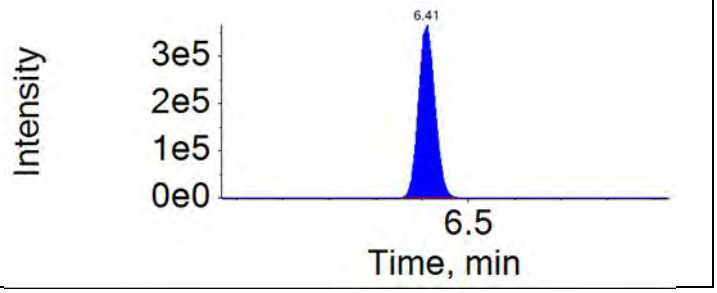
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



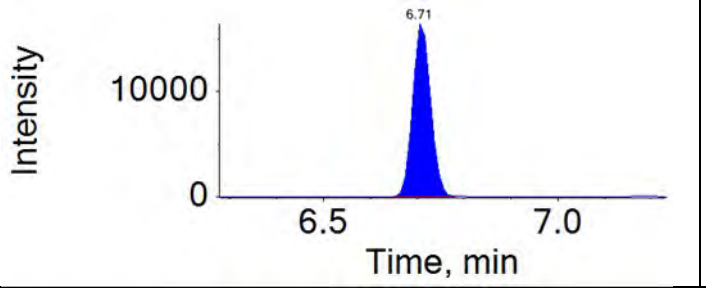


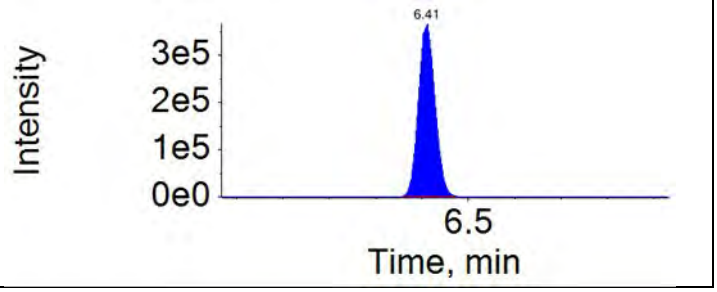
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



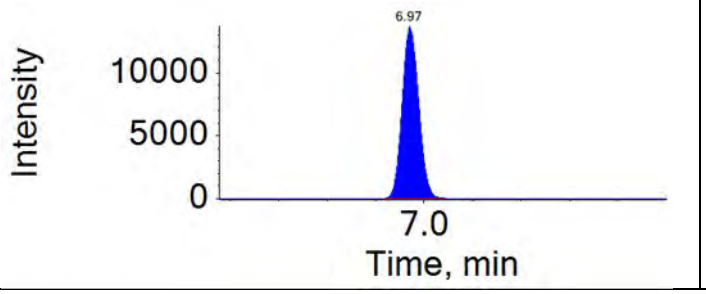


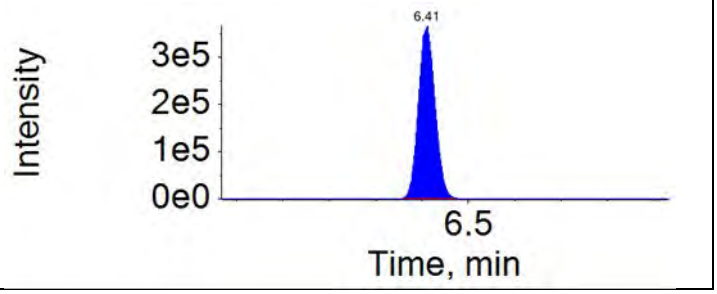
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



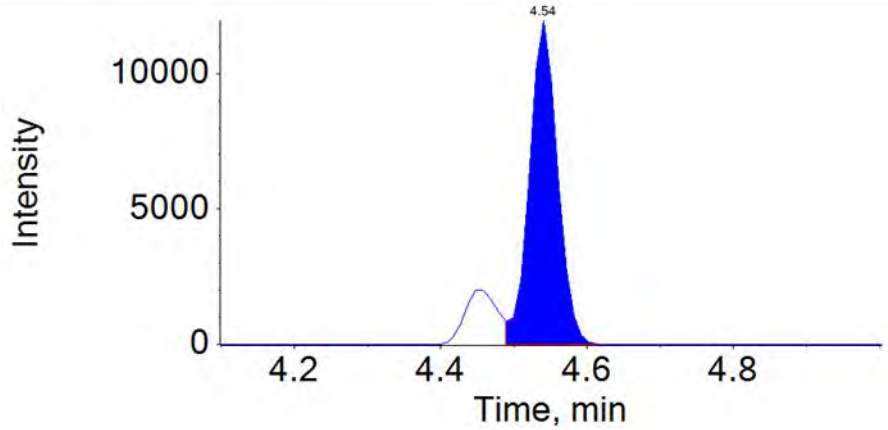


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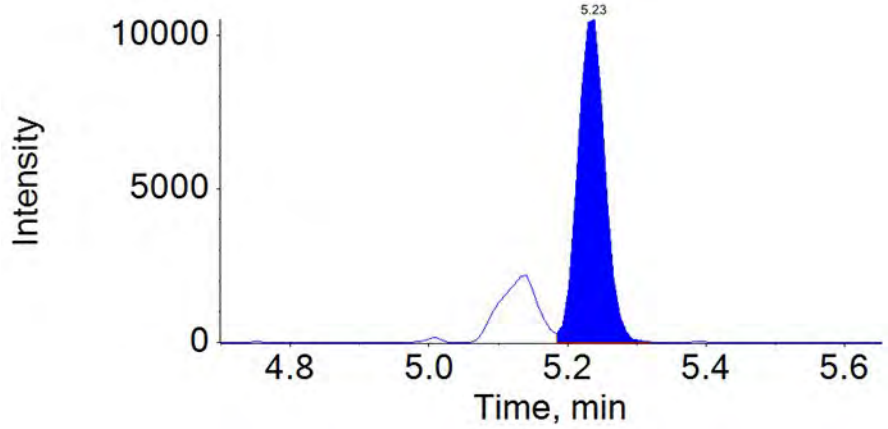
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
32072.40
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



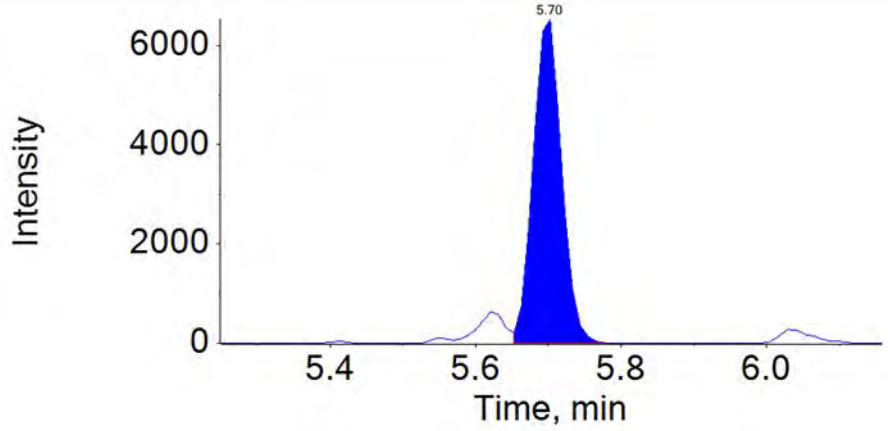
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
28973.00
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
17749.12
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



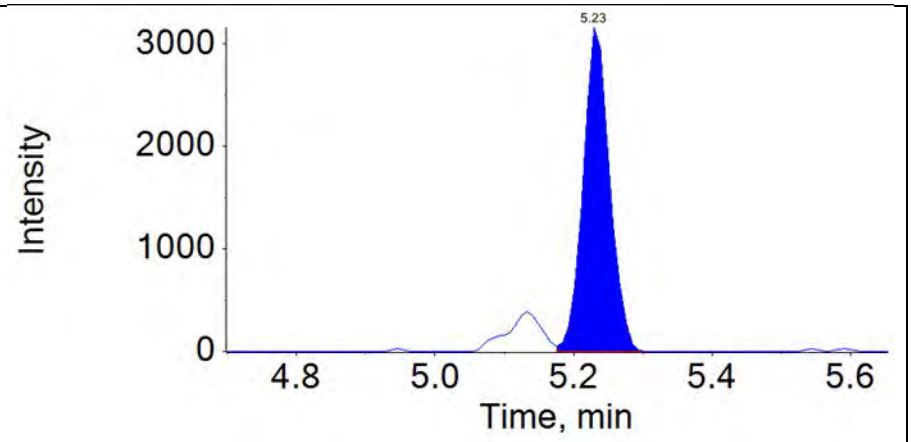
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

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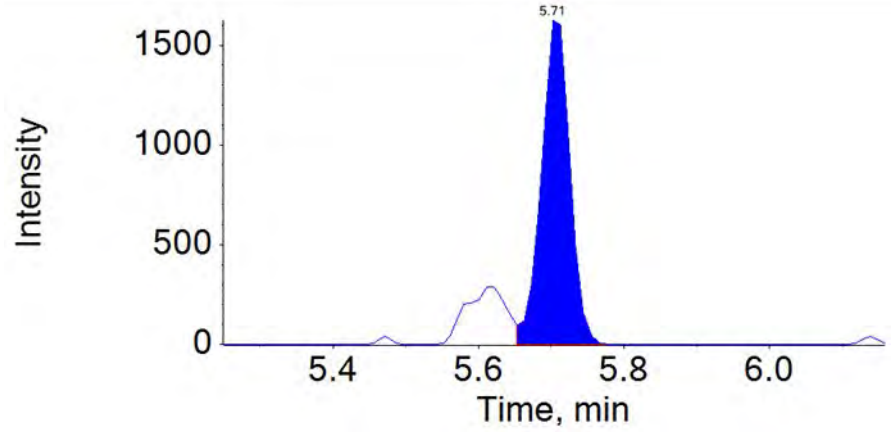
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
8412.26
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



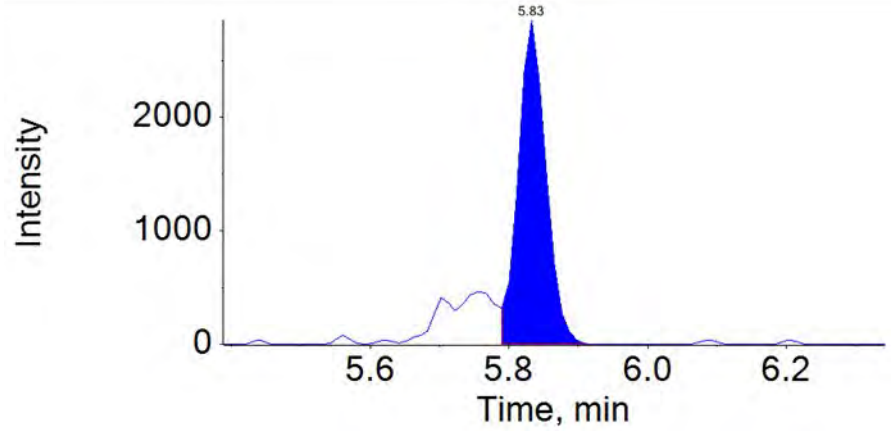
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
4442.03
Mass Range:
570.0 / 483.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
7910.43
Mass Range:
584.0 / 526.0
File Name:
18DEC18DCAL-69.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

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REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

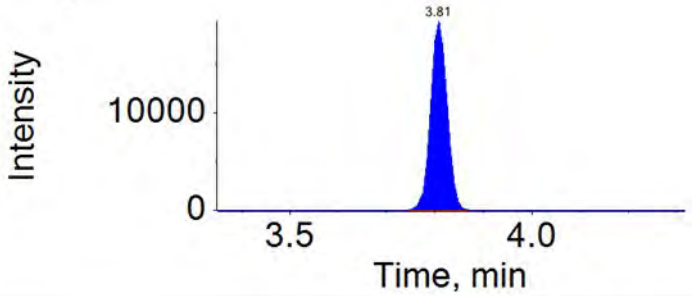
Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-69.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	45656.93	A	1.0000	1.0000			
PFBS_2	3.81	1.00	16423.19	A	0.3686	0.3597	-2	50	
4:2-FTS	4.12	1.00	13063.14	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	7526.86	A	0.6123	0.5762	-6	50	
PFHxA	4.15	1.00	103487.64	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	972.61	A	0.0115	0.0094	-18	50	
PFPeS	4.17	1.10	23803.26	A	1.0000	1.0000			
PFPeS_2	4.17	1.10	12419.32	A	0.5256	0.5217	-1	50	
PFHpA	4.54	1.00	106907.94	A	1.0000	1.0000			
PFHpA_2	4.53	1.00	4682.16	A	0.0547	0.0438	-20	50	
PFHxS	4.54	1.00	38176.07	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	11538.55	A	0.3359	0.3022	-10	50	
6:2-FTS	4.89	1.00	12125.58	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	8046.02	A	0.6344	0.6636	5	50	
PFHpS	4.90	1.08	36201.51	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	13046.44	A	0.4110	0.3604	-12	50	
PFOA	4.90	1.00	111923.34	A	1.0000	1.0000			
PFOA_2	4.90	1.00	5537.82	A	0.0590	0.0495	-16	50	
PFOS	5.23	1.00	37634.17	M	1.0000	1.0000			
PFOS_2	5.23	1.00	9750.99	M	0.2980	0.2591	-13	50	
PFNA	5.25	1.00	95019.16	A	1.0000	1.0000			
PFNA_2	5.25	1.00	2020.68	A	0.0214	0.0213	-1	50	
PFNS	5.54	1.06	28435.11	A	1.0000	1.0000			
PFNS_2	5.54	1.06	11402.60	A	0.4608	0.4010	-13	50	
PFDA	5.56	1.00	98187.60	A	1.0000	1.0000			
PFDA_2	5.55	1.00	521.35	A	0.0064	0.0053	-17	50	
8:2-FTS	5.56	1.00	12295.63	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	6743.12	A	0.5879	0.5484	-7	50	
NMeFOSAA	5.70	1.00	19589.19	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	5562.20	M	0.2625	0.2839	8	50	
PFDS	5.79	1.11	21675.31	A	1.0000	1.0000			
PFDS_2	5.79	1.11	10462.41	A	0.4962	0.4827	-3	50	
PFUnDA	5.82	1.00	99413.67	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	258.22	A	0.0035	0.0026	-27	50	
NEtFOSAA	5.83	1.00	17104.70	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	10373.21	M	0.6883	0.6065	-12	50	
PFDoDA	6.04	1.00	130434.37	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	1718.19	A	0.0134	0.0132	-2	50	
10:2-FTS	6.05	1.09	12341.83	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	7632.34	A	0.7018	0.6184	-12	50	
PFTrDA	6.23	1.03	129882.05	A	1.0000	1.0000			
PFTrDA_2	6.23	1.03	1724.69	A	0.0093	0.0133	42	50	
PFTeDA	6.41	1.00	87023.98	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	391.80	A	0.0058	0.0045	-23	50	
PFHxDA	6.71	1.05	43591.46	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	3125.05	A	0.0656	0.0717	9	50	
PFODA	6.97	1.09	32232.07	A	1.0000	1.0000			
PFODA_2	6.97	1.09	913.18	A	0.0273	0.0283	4	50	

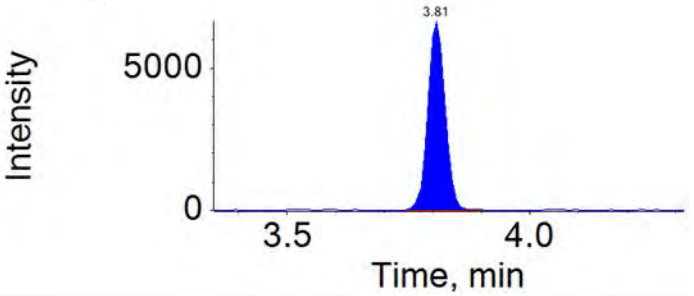
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

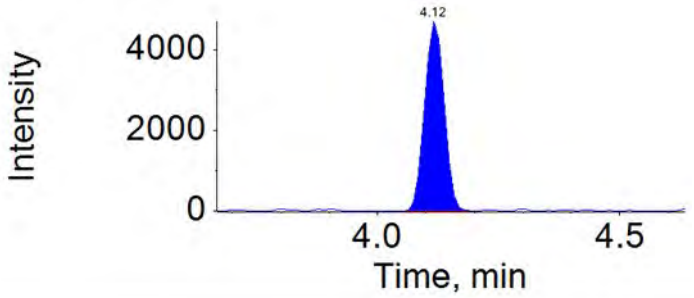
Component: PFBS
Primary Mass: 299.0 / 80.0



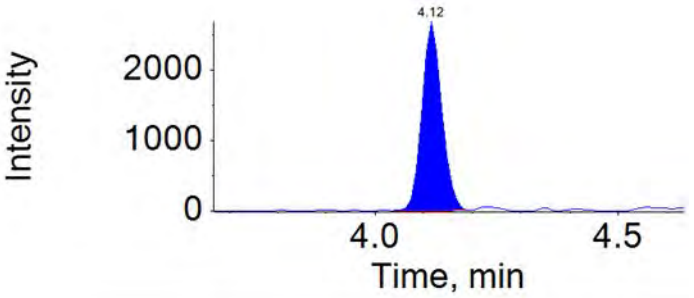
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



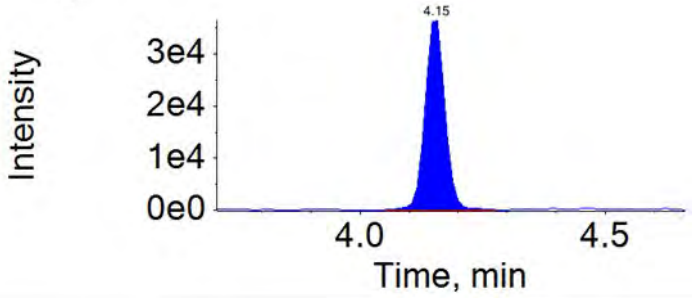
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



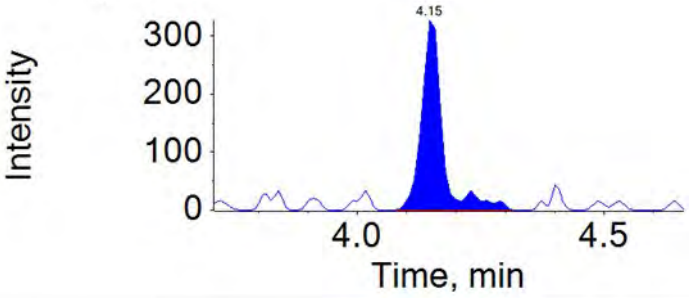
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



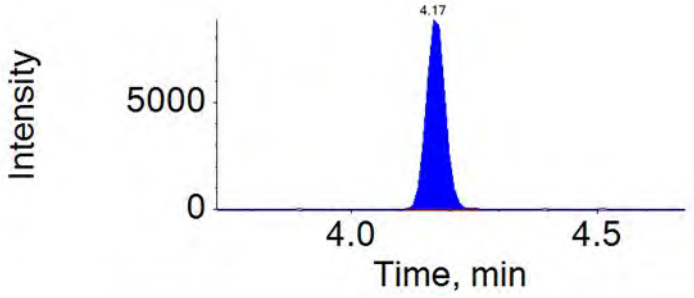
Component: PFHxA
Primary Mass: 313.0 / 269.0



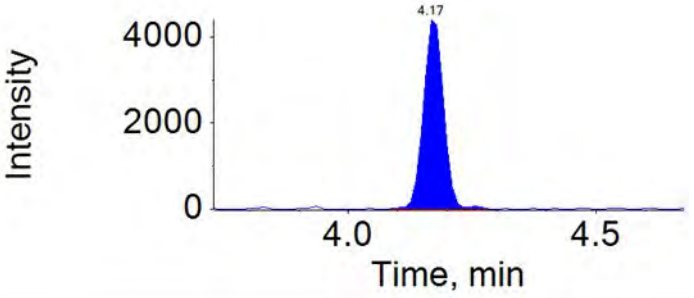
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



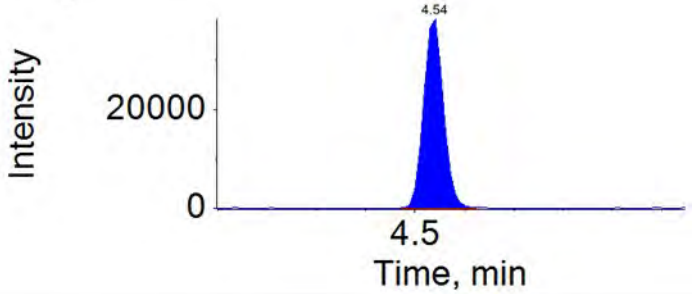
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



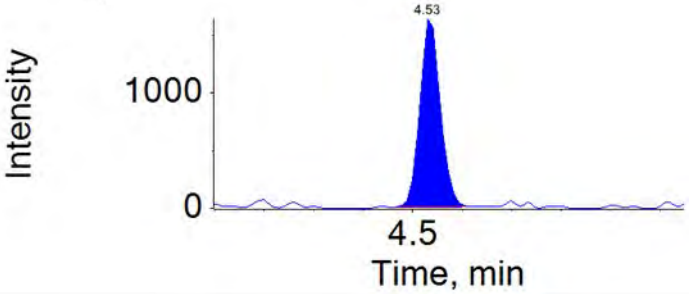
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

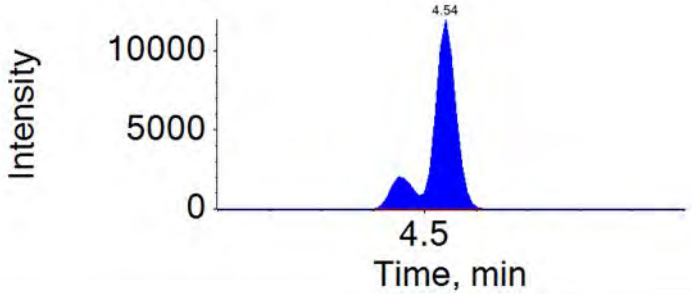
Component: PFHpA
Primary Mass: 363.0 / 319.0



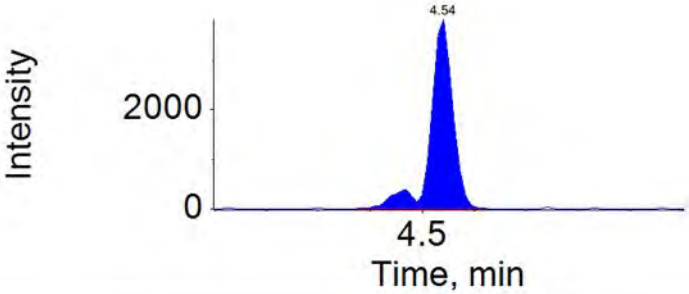
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



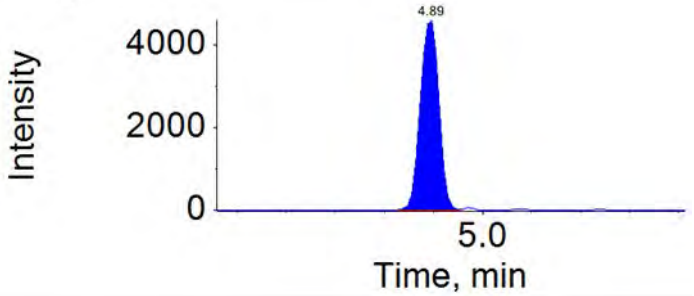
Component: PFHxS
Primary Mass: 399.0 / 80.0



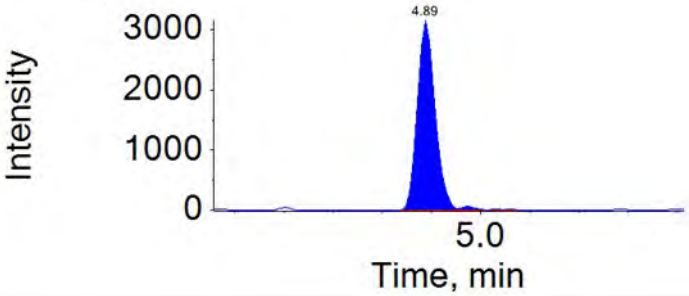
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



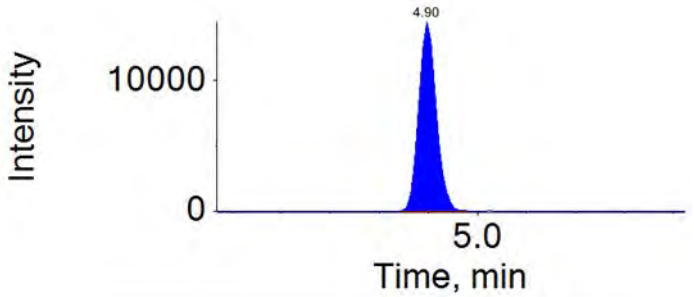
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



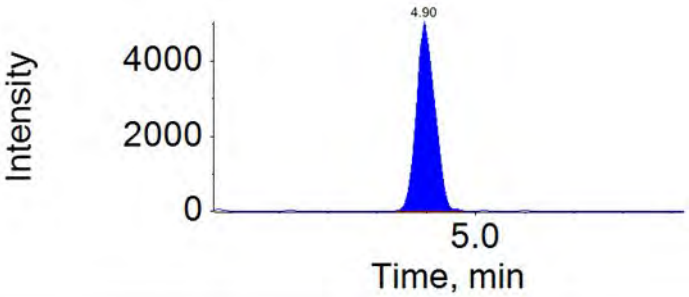
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



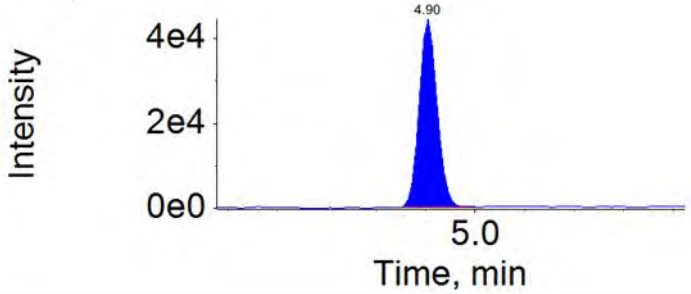
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



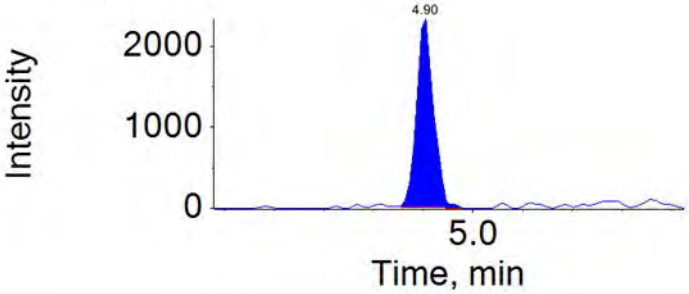
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By HMK at 11:53 am, 12/21/18

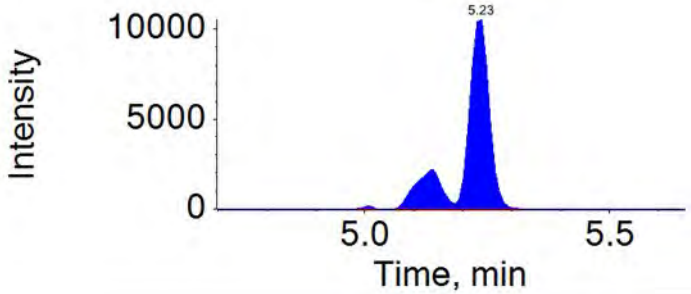
Component: PFOA
Primary Mass: 413.0 / 369.0



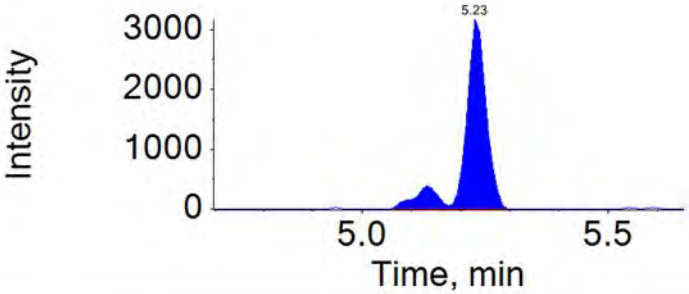
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



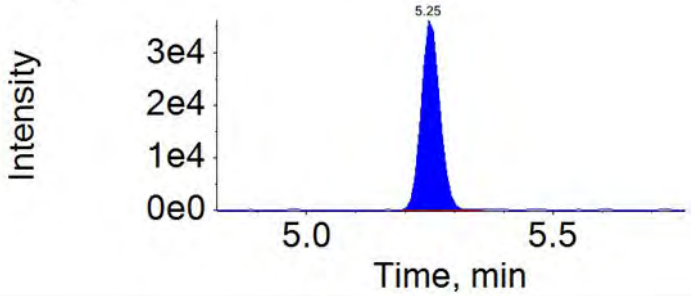
Component: PFOS
Primary Mass: 499.0 / 80.0



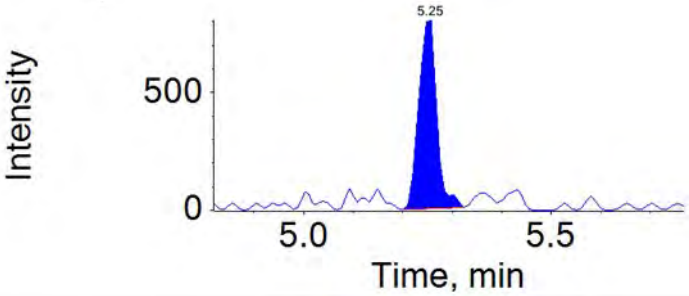
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



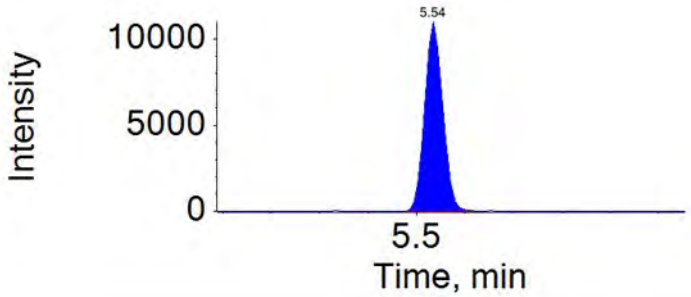
Component: PFNA
Primary Mass: 463.0 / 419.0



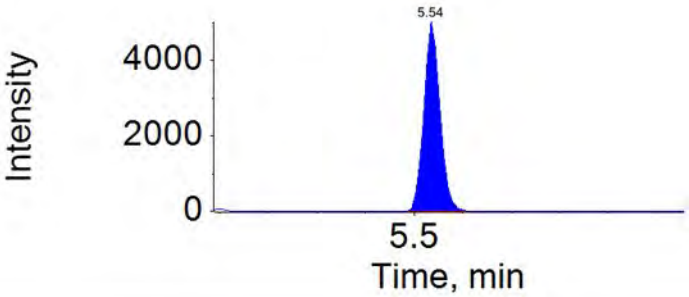
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



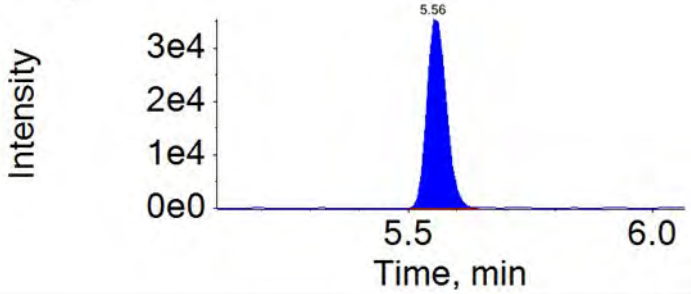
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



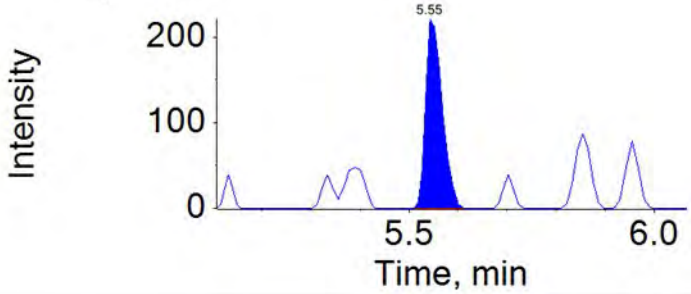
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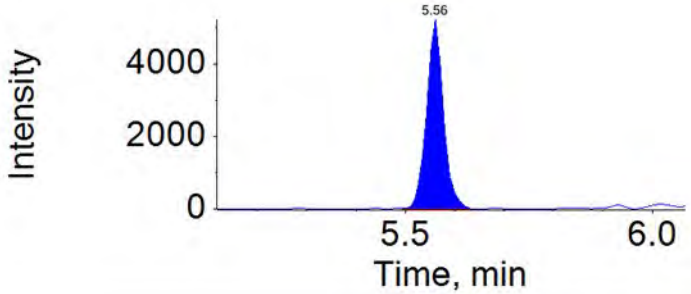
Component: PFDA
Primary Mass: 513.0 / 469.0



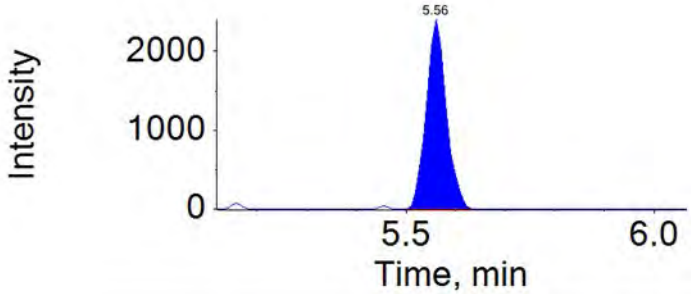
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



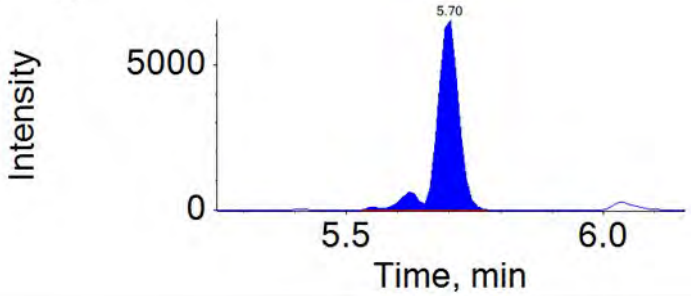
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



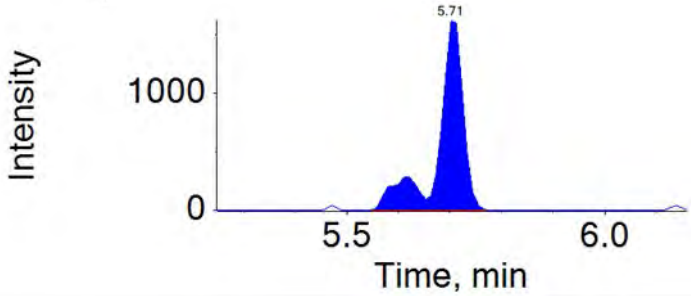
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



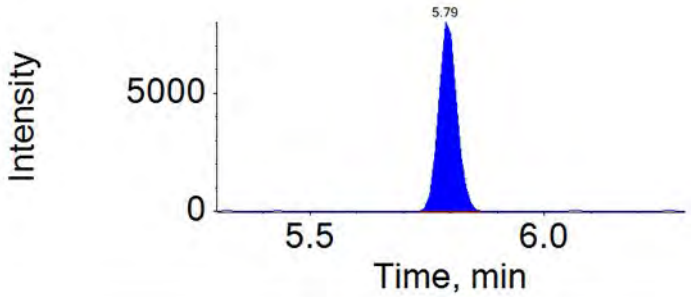
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



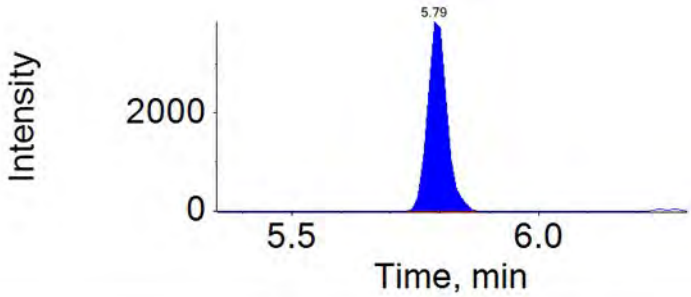
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



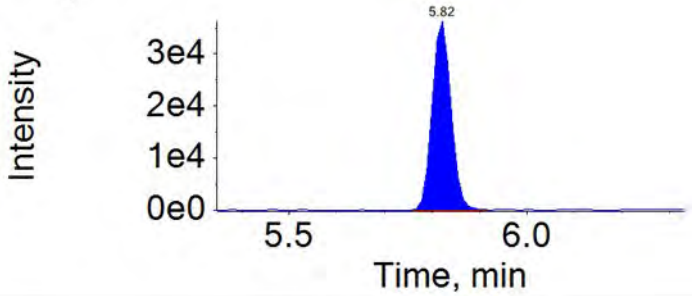
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



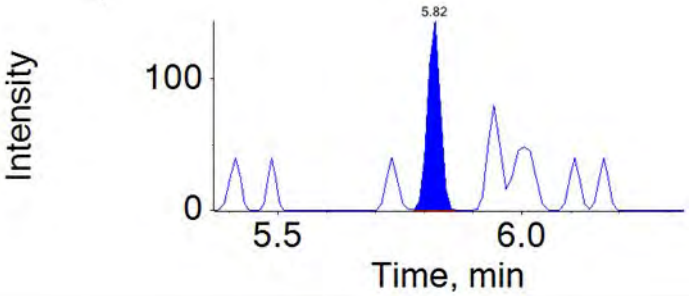
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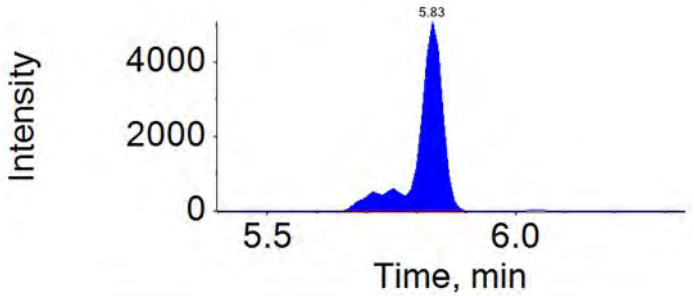
Component: PFUnDA
Primary Mass: 563.0 / 519.0



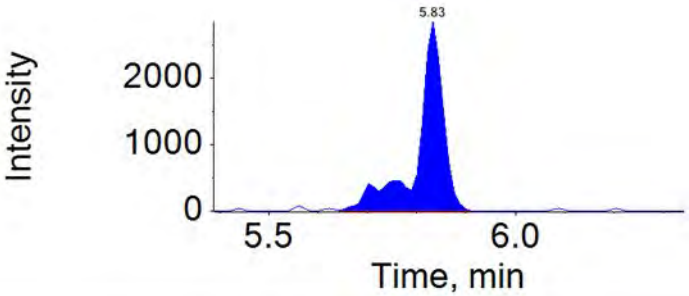
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



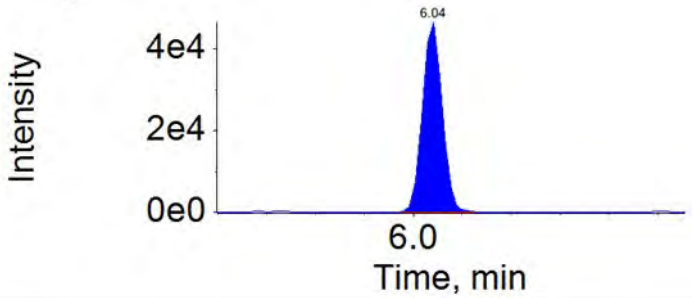
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



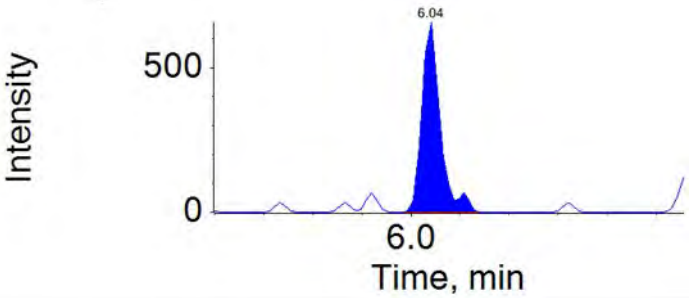
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



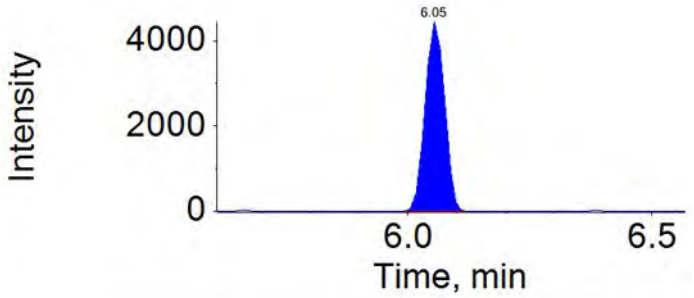
Component: PFDoDA
Primary Mass: 613.0 / 569.0



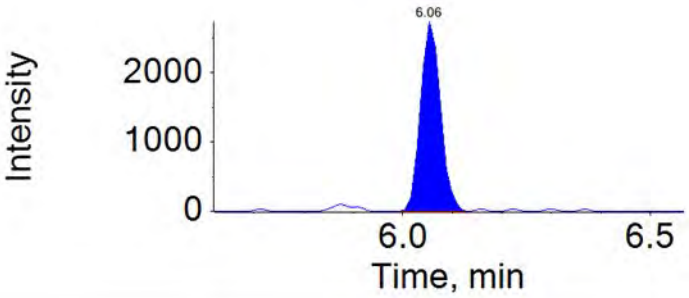
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



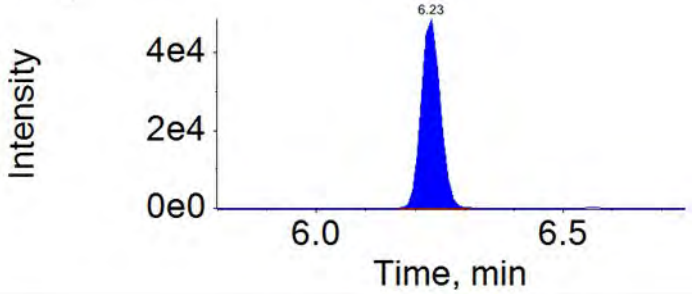
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



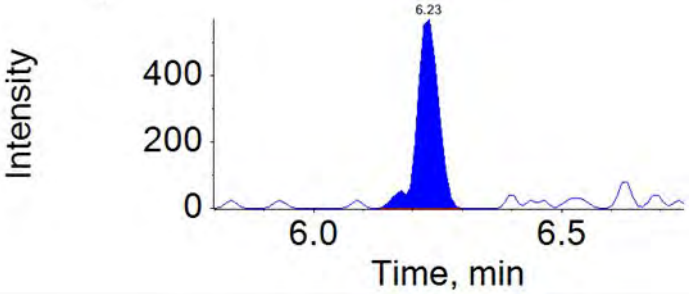
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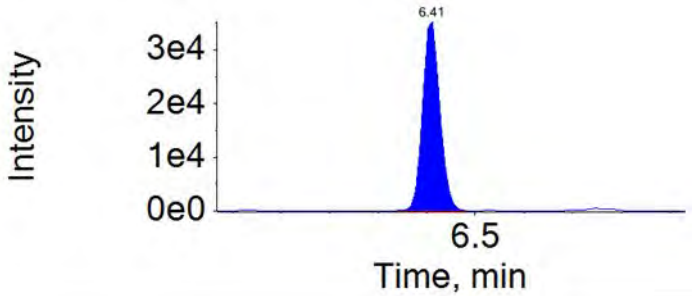
Component: PFTrDA
Primary Mass: 663.0 / 619.0



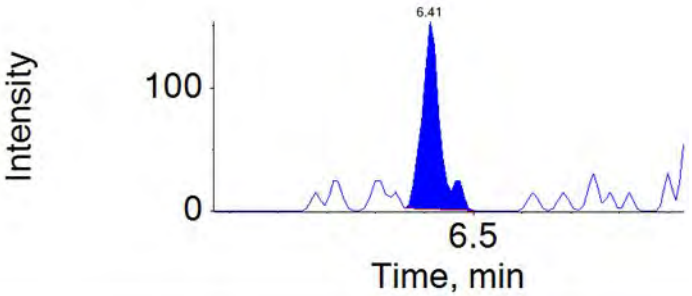
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



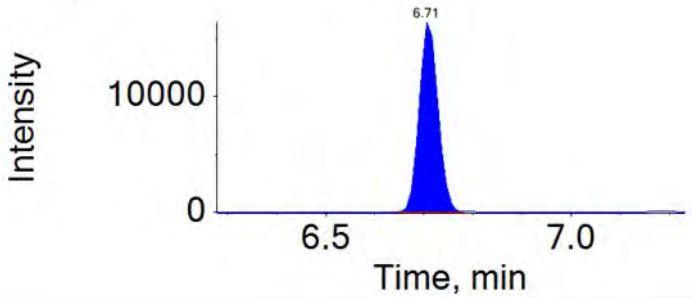
Component: PFTeDA
Primary Mass: 713.0 / 669.0



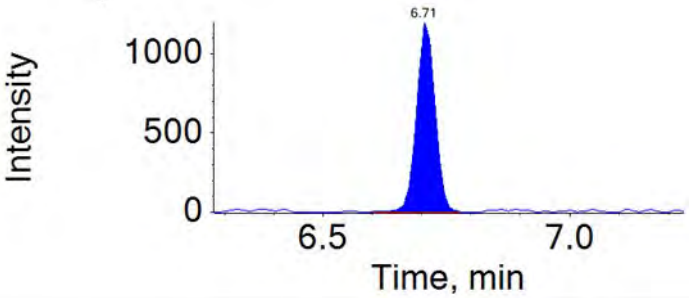
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



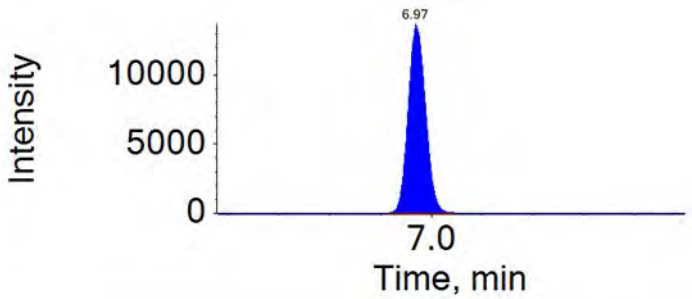
Component: PFHxDA
Primary Mass: 813.0 / 769.0



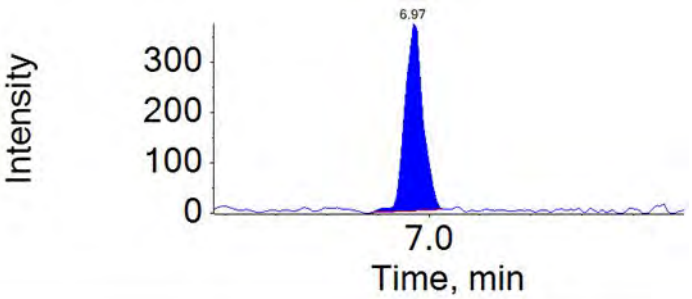
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL3			**Data File:**		18DEC18DCAL-70.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-18T23:52:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	941251.6	941251.6	0	50	
13C2-PFOA	5.0	485595.3	485595.3	0	50	
13C4-PFOS	4.8	292182.6	292182.6	0	50	
13C2-PFDA	5.0	467216.0	467216.0	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1064422.8	13C3-PFBA	941251.6	1.131	5.000	5.008	100	70-130	
E13C5-PFPeA	1002351.7	13C3-PFBA	941251.6	1.065	5.000	4.966	99	70-130	
E13C3-PFBS	437376.4	13C3-PFBA	941251.6	0.465	4.650	4.525	97	70-130	
E13C2-4:2-FTS	64885.5	13C2-PFOA	485595.3	0.134	4.670	5.075	109	70-130	
E13C5-PFHxA	765483.5	13C2-PFOA	485595.3	1.576	5.000	5.639	113	70-130	
E13C3-PFHxS	330322.9	13C2-PFOA	485595.3	0.680	4.730	5.147	109	70-130	
E13C4-PFHpA	614238.8	13C2-PFOA	485595.3	1.265	5.000	5.464	109	70-130	
E13C2-6:2-FTS	51288.8	13C2-PFOA	485595.3	0.106	4.750	5.314	112	70-130	
E13C8-PFOA	979199.9	13C2-PFOA	485595.3	2.016	5.000	5.545	111	70-130	
E13C8-PFOS	308110.3	13C4-PFOS	292182.6	1.055	4.780	4.716	99	70-130	
E13C9-PFNA	651529.1	13C4-PFOS	292182.6	2.230	5.000	5.073	101	70-130	
E13C6-PFDA	851991.7	13C2-PFDA	467216.0	1.824	5.000	5.194	104	70-130	
E13C2-8:2-FTS	47968.9	13C2-PFDA	467216.0	0.103	4.790	5.292	110	70-130	
E13C8-PFOSA	642239.6	13C2-PFDA	467216.0	1.375	5.000	5.353	107	70-130	
Ed3-NMeFOSAA	216983.7	13C2-PFDA	467216.0	0.464	5.000	5.109	102	70-130	
E13C7-PFUnDA	580977.3	13C2-PFDA	467216.0	1.243	5.000	5.205	104	70-130	
Ed5-NEtFOSAA	167747.4	13C2-PFDA	467216.0	0.359	5.000	5.289	106	70-130	
E13C2-PFDoDA	1210049.2	13C2-PFDA	467216.0	2.590	5.000	5.449	109	70-130	
Ed7-NMePFOSAE	265025.4	13C2-PFDA	467216.0	0.567	5.000	5.068	101	70-130	
Ed3-NMePFOSA	83036.4	13C2-PFDA	467216.0	0.178	5.000	4.883	98	70-130	
Ed9-NEtPFOSAE	221303.4	13C2-PFDA	467216.0	0.474	5.000	4.843	97	70-130	
Ed5-NEtPFOSA	67700.6	13C2-PFDA	467216.0	0.145	5.000	5.026	101	70-130	
E13C2-PFTeDA	839561.7	13C2-PFDA	467216.0	1.797	5.000	5.064	101	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

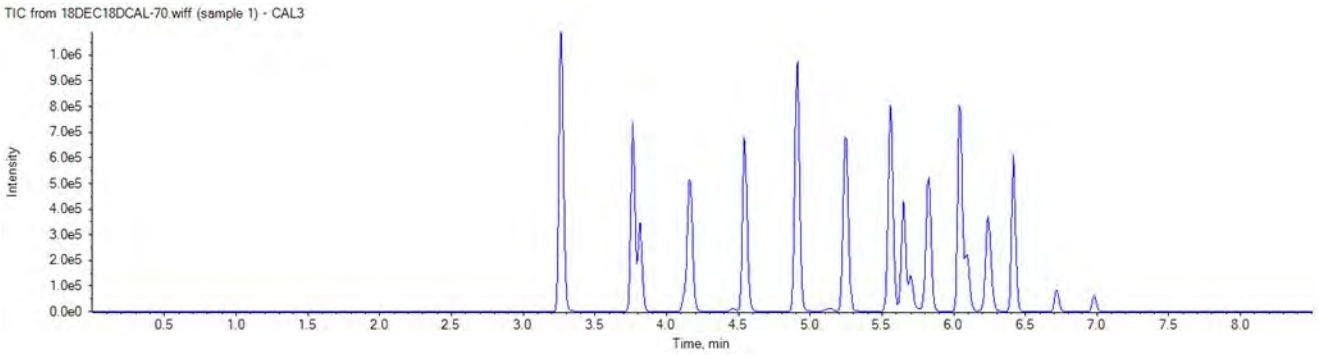
Analyte Quantitation Peak Table

Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-70.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	433751.9		A	13C4-PFBA	3.26	1064422.8	0.407	2.164
PFPeA	3.77	1.000	436276.8		A	13C5-PFPeA	3.77	1002351.7	0.435	2.247
PFBS	3.81	1.000	173568.8		A	13C3-PFBS	3.82	437376.4	0.397	1.959
4:2-FTS	4.12	1.000	47502.5		A	13C2-4:2-FTS	4.13	64885.5	0.732	1.921
PFHxA	4.16	1.000	378858.0		A	13C5-PFHxA	4.16	765483.5	0.495	2.039
PFPeS	4.18	1.100	89858.4		A	13C3-PFBS	3.82	437376.4	0.205	2.092
PFHpA	4.54	1.000	414340.2		A	13C4-PFHpA	4.54	614238.8	0.675	2.237
PFHxS	4.55	1.000	134520.8		M	13C3-PFHxS	4.55	330322.9	0.407	1.981
6:2-FTS	4.90	1.000	44576.1		A	13C2-6:2-FTS	4.90	51288.8	0.869	2.164
PFHpS	4.90	1.080	137901.4		A	13C3-PFHxS	4.55	330322.9	0.417	2.208
PFOA	4.91	1.000	436531.1		A	13C8-PFOA	4.91	979199.9	0.446	2.362
PFOS	5.24	1.000	147878.3		M	13C8-PFOS	5.24	308110.3	0.480	2.101
PFNA	5.25	1.000	367113.4		A	13C9-PFNA	5.25	651529.1	0.563	2.239
PFNS	5.54	1.060	106124.4		A	13C8-PFOS	5.24	308110.3	0.344	2.190
PFDA	5.56	1.000	331802.2		A	13C6-PFDA	5.56	851991.7	0.389	2.011
8:2-FTS	5.56	1.000	49849.8		A	13C2-8:2-FTS	5.56	47968.9	1.039	2.092
PFOSA	5.65	1.000	269934.9		A	13C8-PFOSA	5.65	642239.6	0.420	2.102
NMeFOSAA	5.71	1.000	76313.7		M	d3-NMeFOSAA	5.70	216983.7	0.352	2.186
PFDS	5.80	1.110	80173.4		A	13C8-PFOS	5.24	308110.3	0.260	2.136
PFUnDA	5.82	1.000	373908.4		A	13C7-PFUnDA	5.82	580977.3	0.644	2.131
NEtFOSAA	5.84	1.000	69414.3		M	d5-NEtFOSAA	5.83	167747.4	0.414	2.109
PFDoDA	6.04	1.000	517307.3		A	13C2-PFDoDA	6.04	1210049.2	0.428	2.154
10:2-FTS	6.06	1.090	50421.2		A	13C2-8:2-FTS	5.56	47968.9	1.051	2.141
NMePFOSAE	6.10	1.000	133428.3		A	d7-NMePFOSAE	6.09	265025.4	0.503	2.221
NMePFOSA	6.11	1.000	35694.8		A	d3-NMePFOSA	6.10	83036.4	0.430	2.170
PFDoS	6.21	1.190	39644.9		A	13C8-PFOS	5.24	308110.3	0.129	1.949
NEtPFOSAE	6.25	1.000	142578.1		A	d9-NEtPFOSAE	6.24	221303.4	0.644	2.105
NEtPFOSA	6.27	1.000	32089.9		A	d5-NEtPFOSA	6.26	67700.6	0.474	2.217
PFTrDA	6.24	1.030	481635.8		A	13C2-PFDoDA	6.04	1210049.2	0.398	2.042
PFTeDA	6.42	1.000	333217.0		A	13C2-PFTeDA	6.42	839561.7	0.397	2.137
PFHxDA	6.72	1.050	174998.1		A	13C2-PFTeDA	6.42	839561.7	0.208	2.289
PFODA	6.98	1.090	129704.8		A	13C2-PFTeDA	6.42	839561.7	0.154	2.220

Total Ion Chromatogram

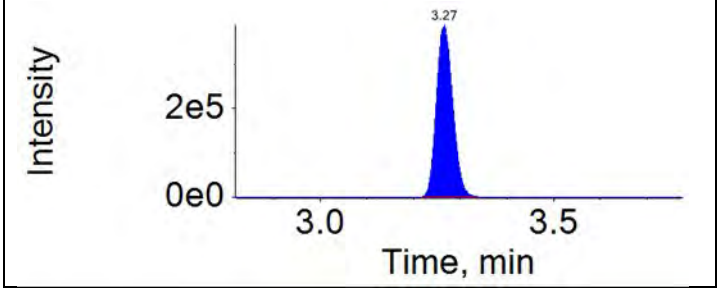


APPROVED
By MSM at 11:49 am, 12/19/18

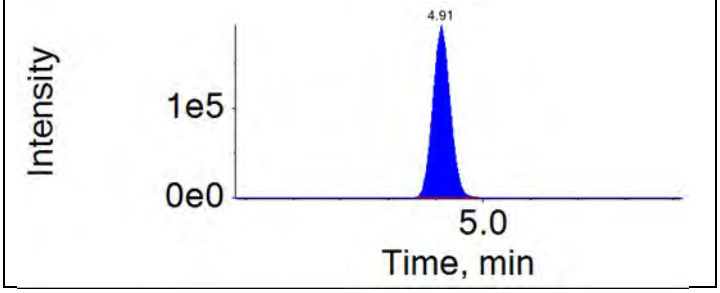
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

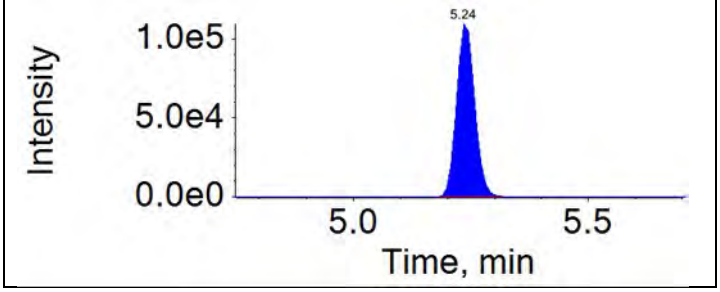
Injection Standard: 13C3-PFBA
216.0 / 172.0



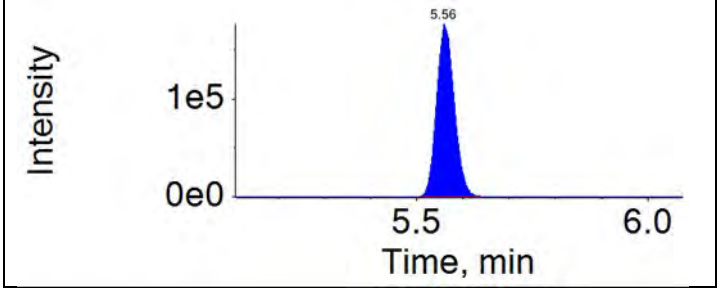
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

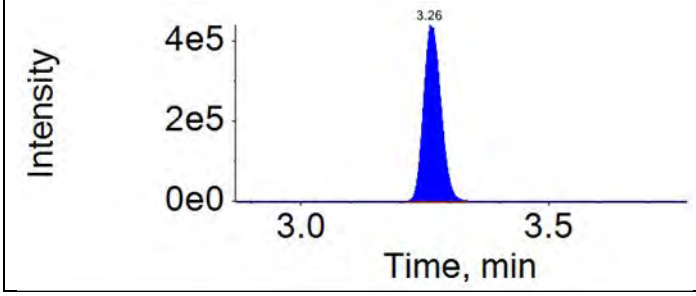


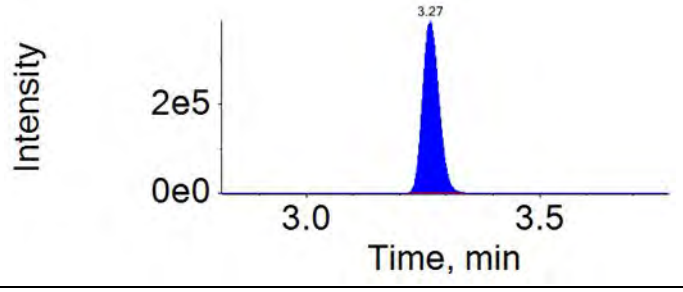
Injection Standard: 13C2-PFDA
515.0 / 470.0



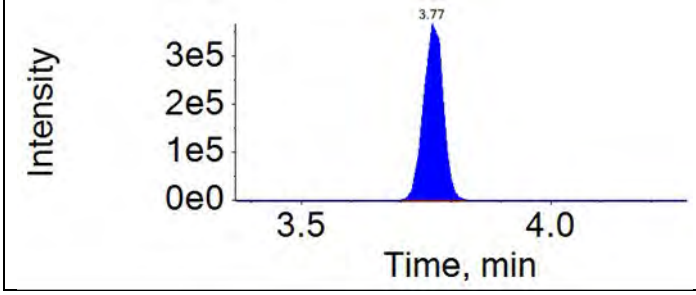
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

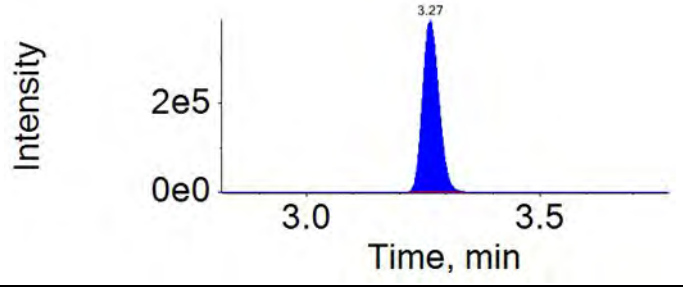
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



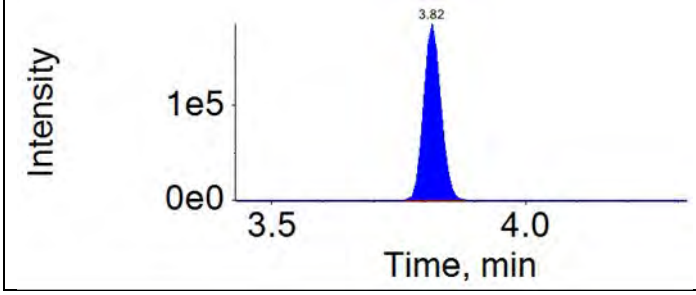


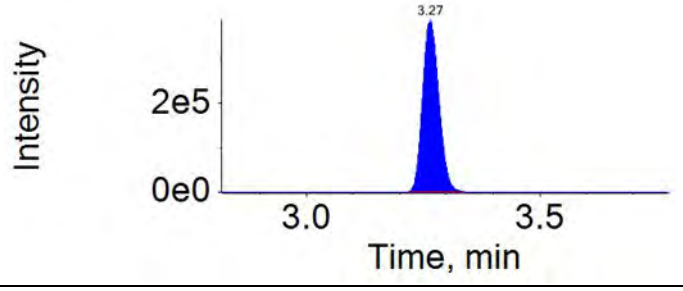
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



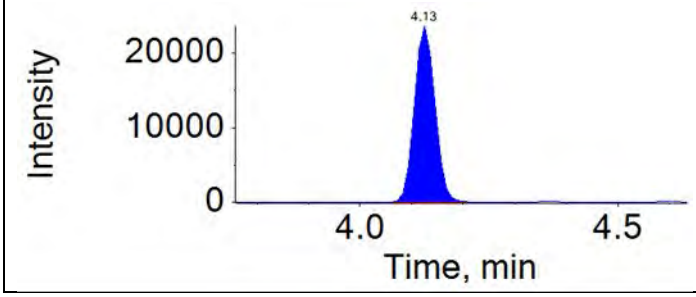


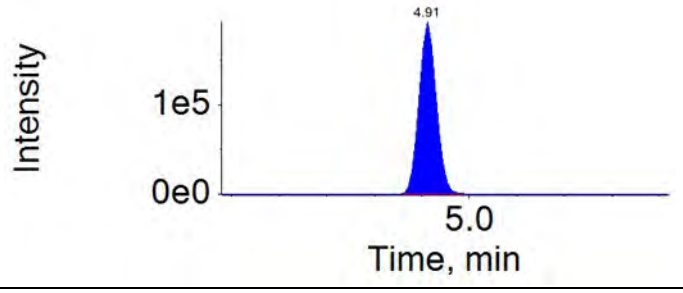
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



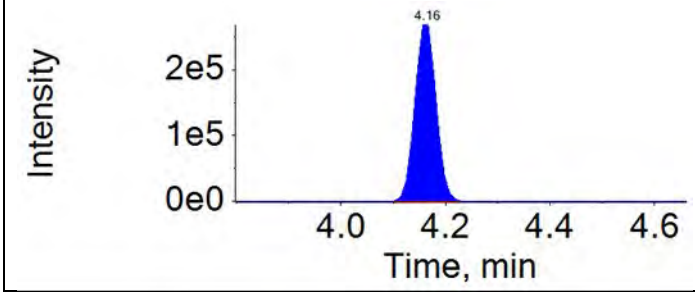


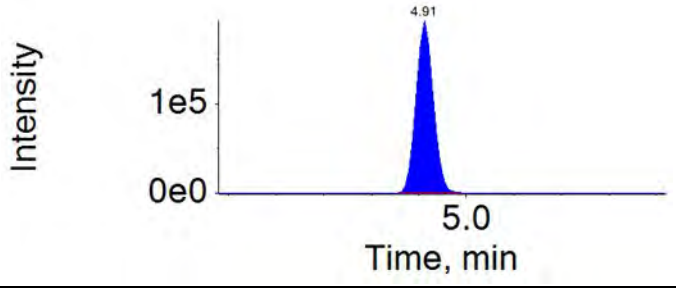
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

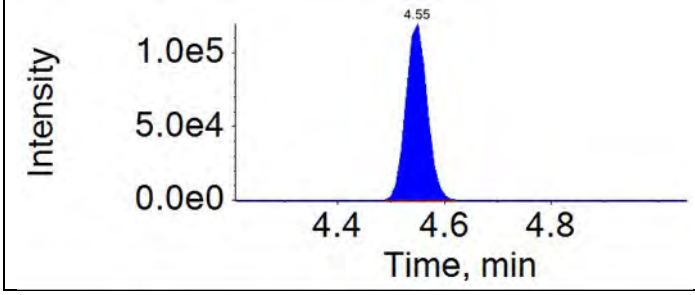
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

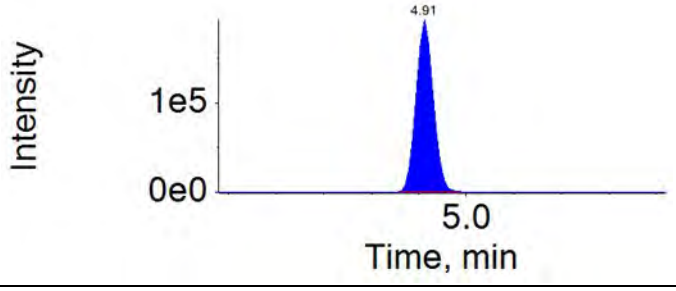
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



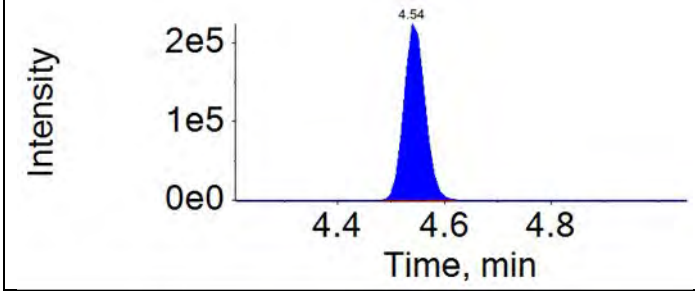


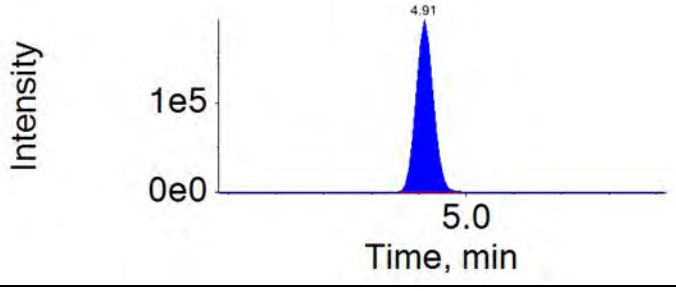
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



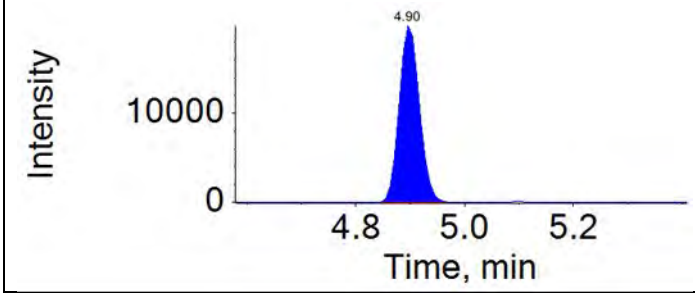


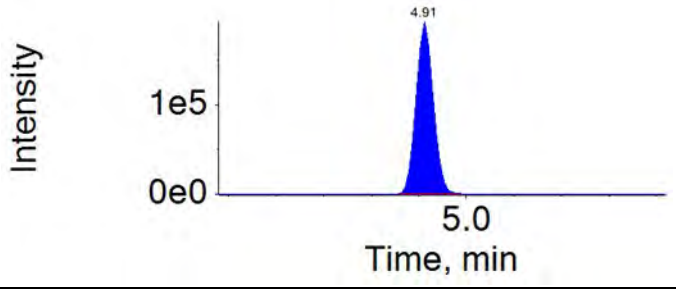
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



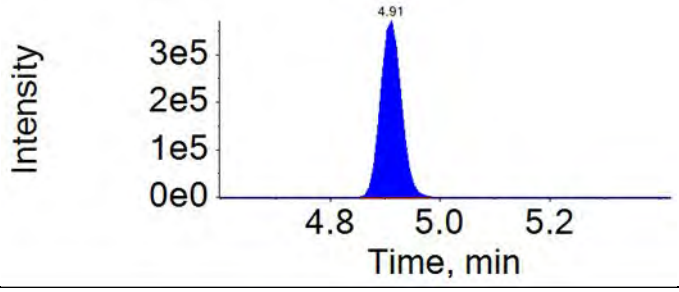


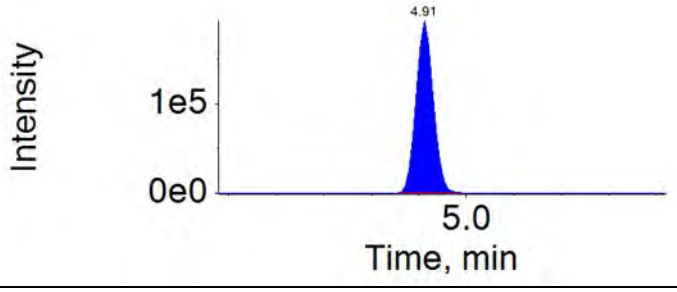
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

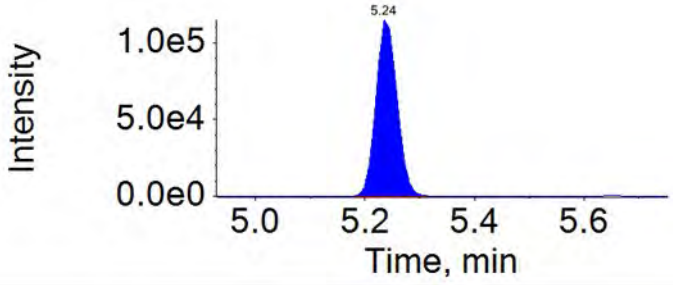
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

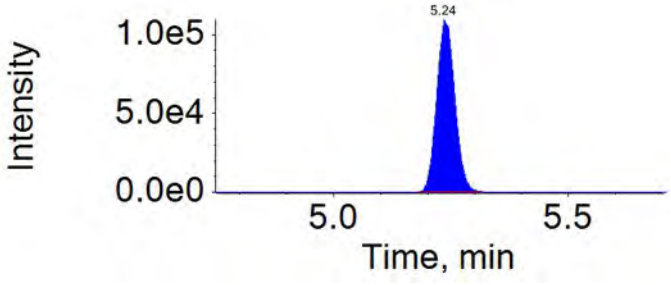
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



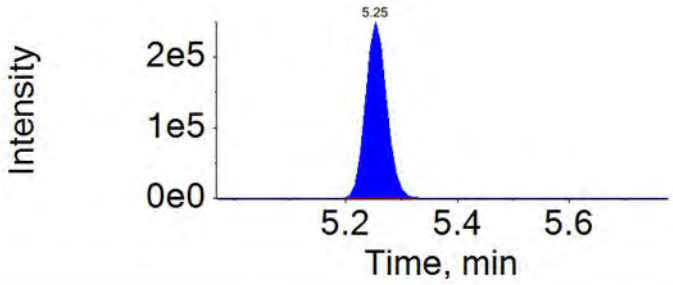


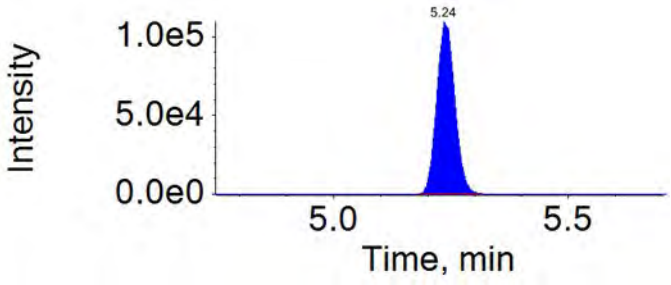
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



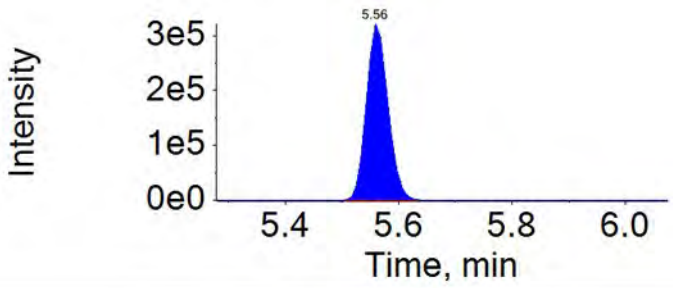


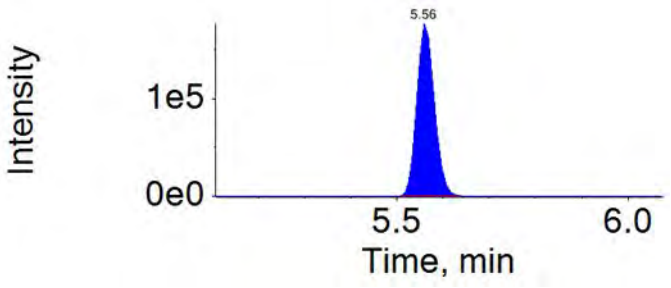
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



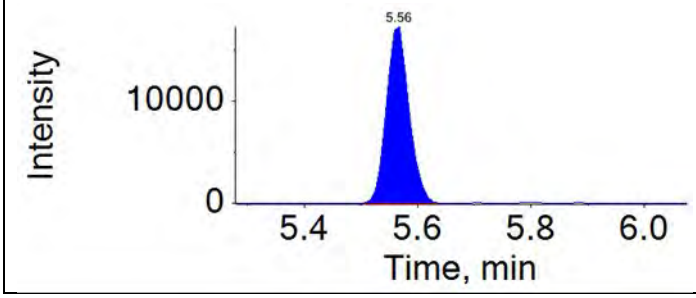


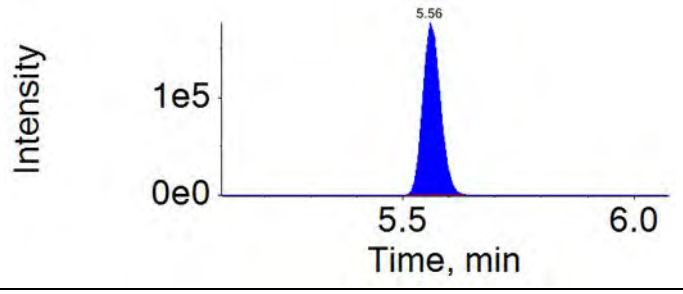
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

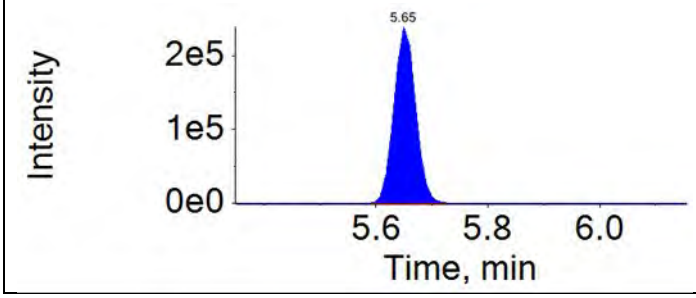
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

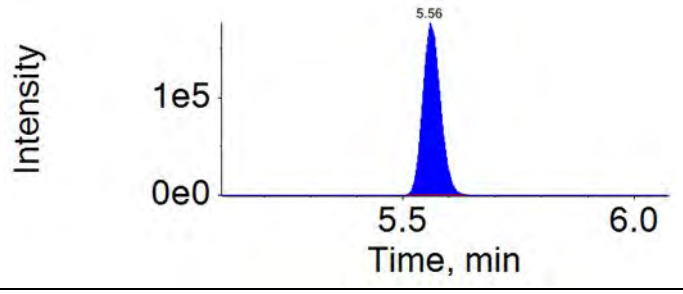
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



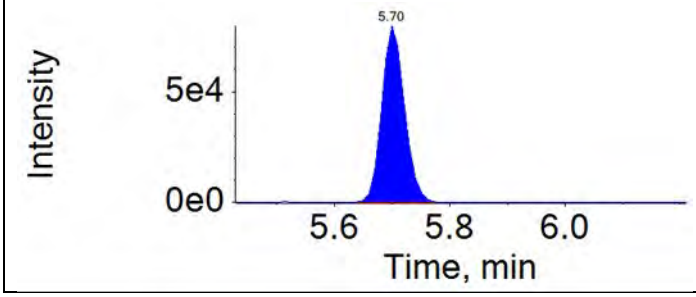


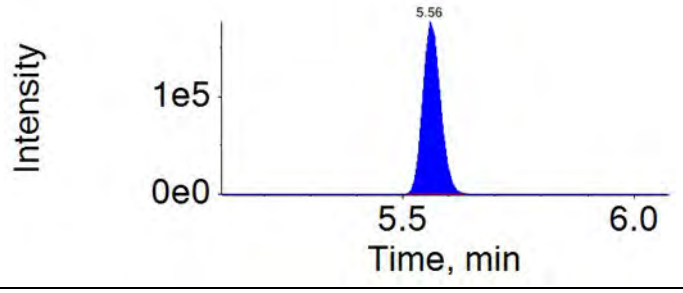
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



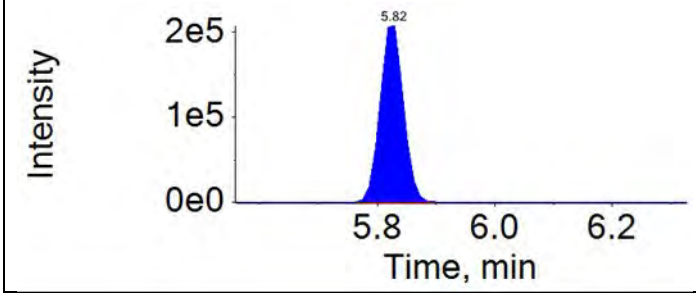


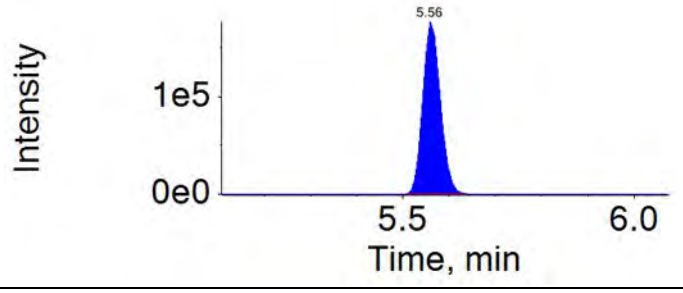
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



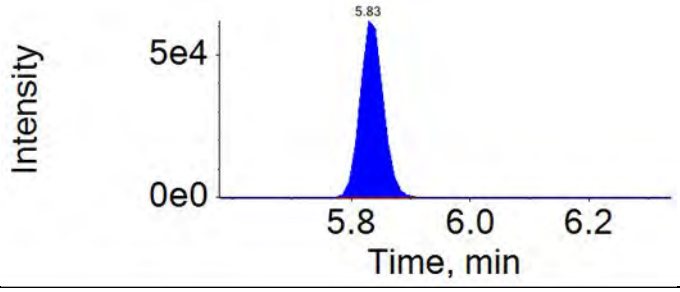


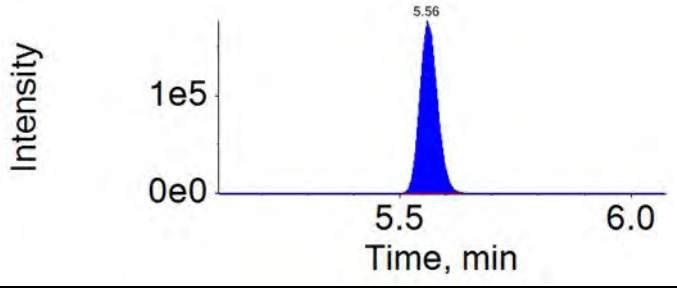
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

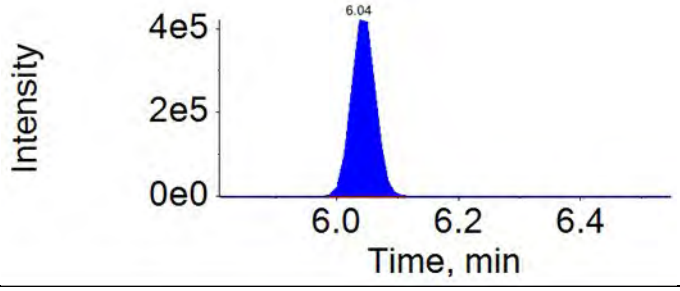
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

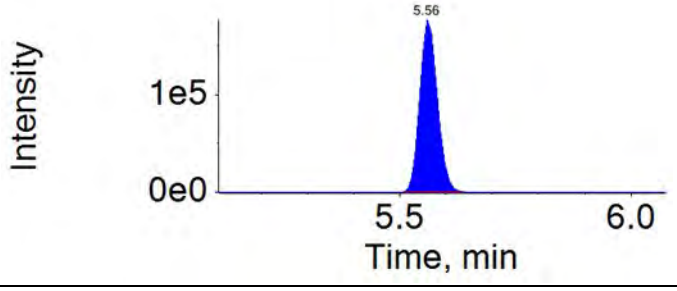
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



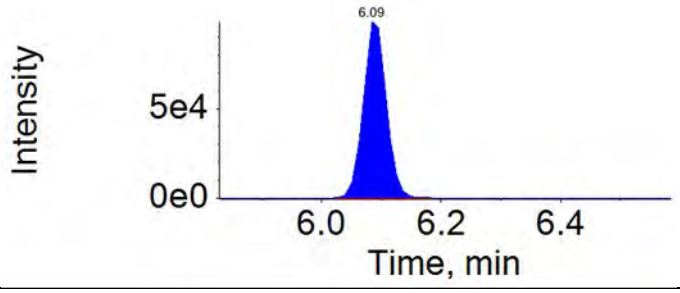


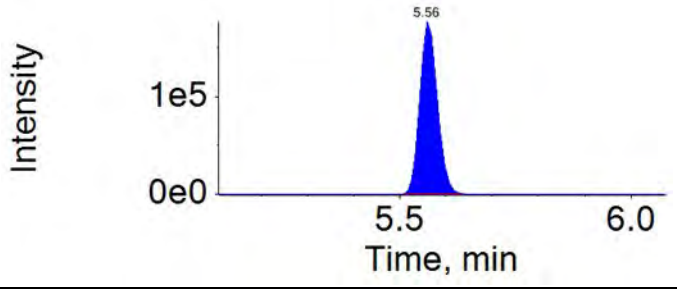
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



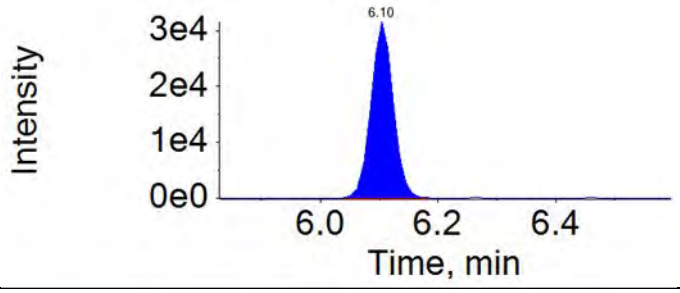


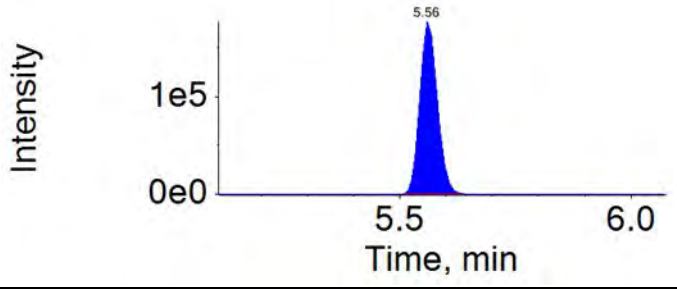
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



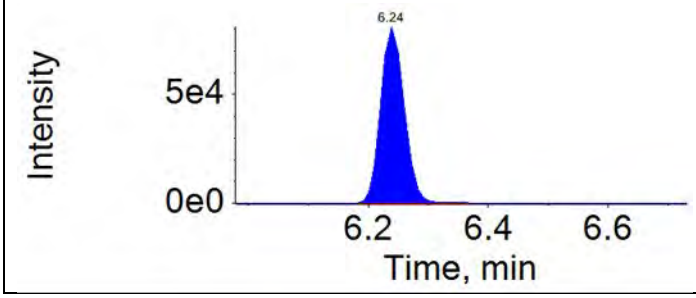


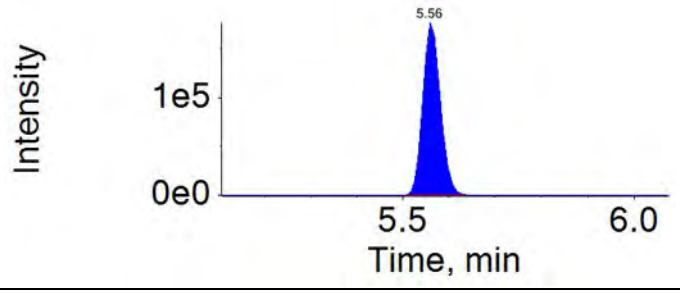
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

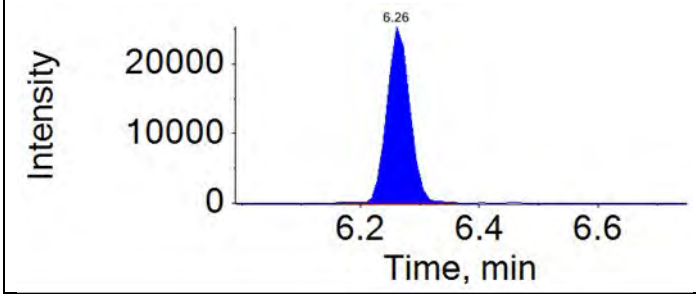
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

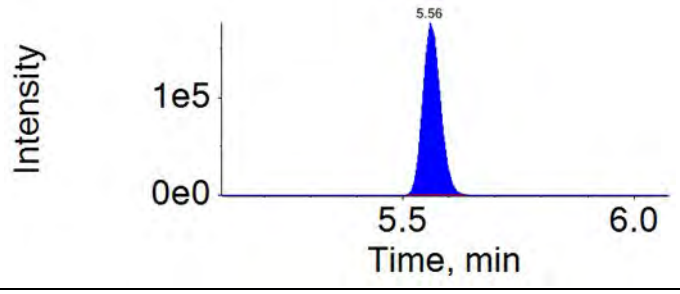
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



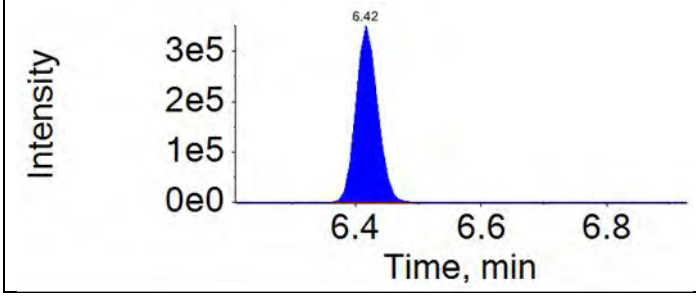


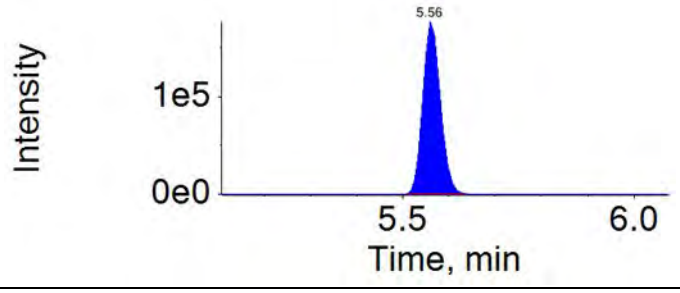
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



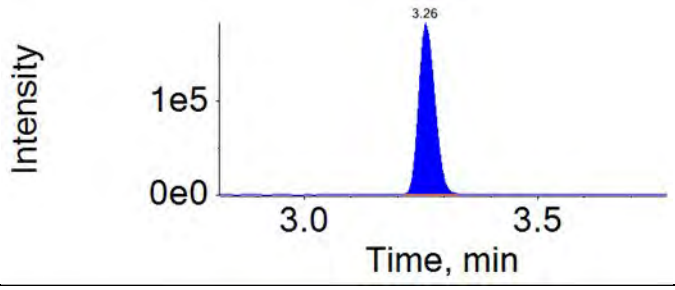


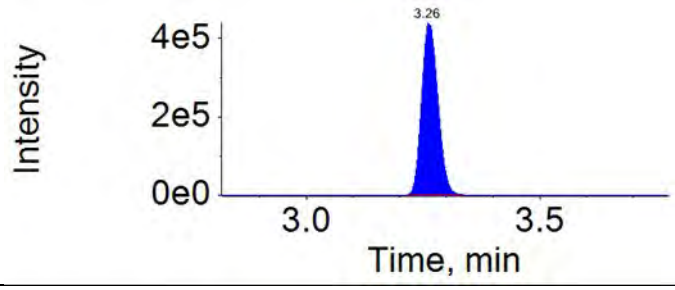
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

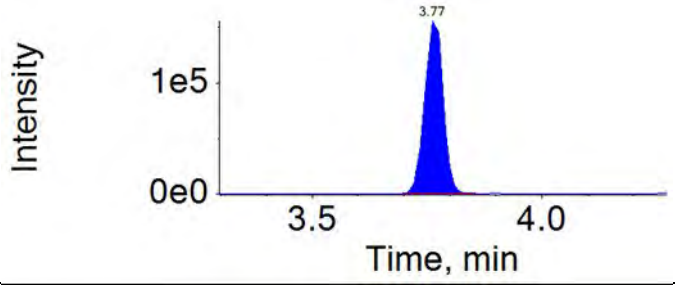
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

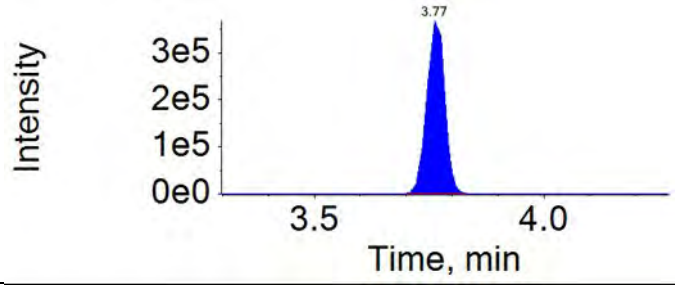
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



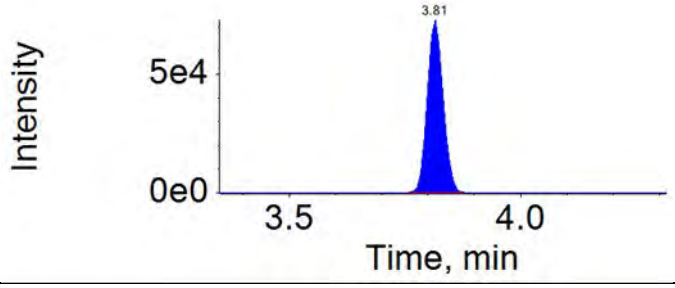


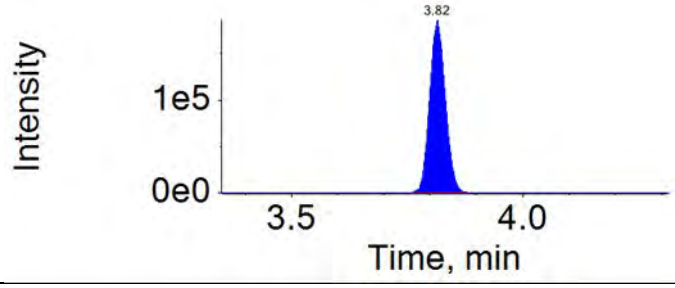
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



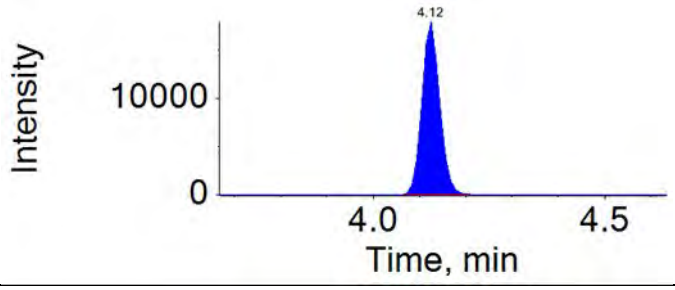


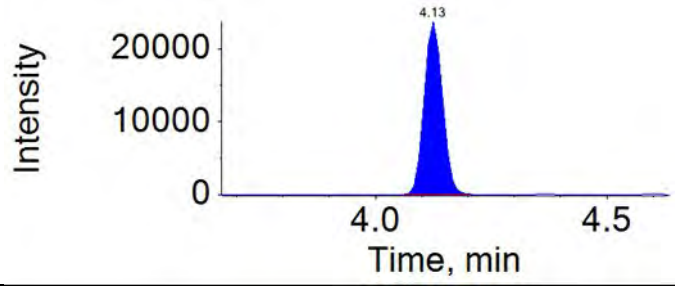
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



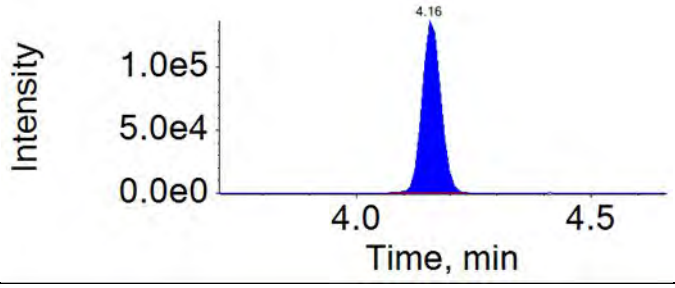


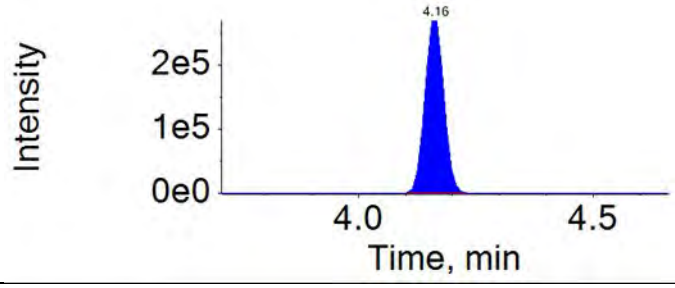
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

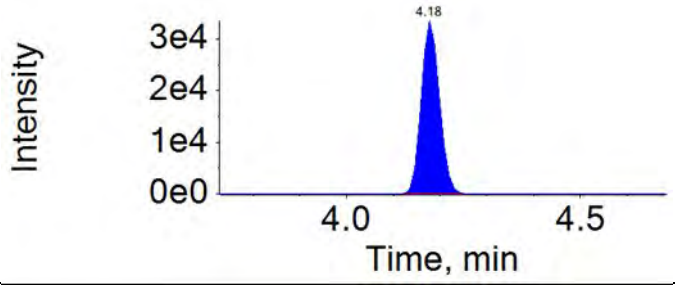
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

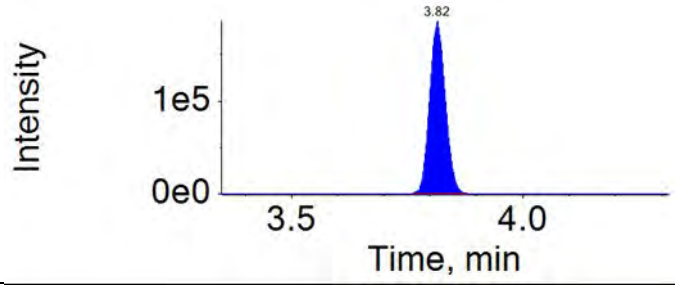
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



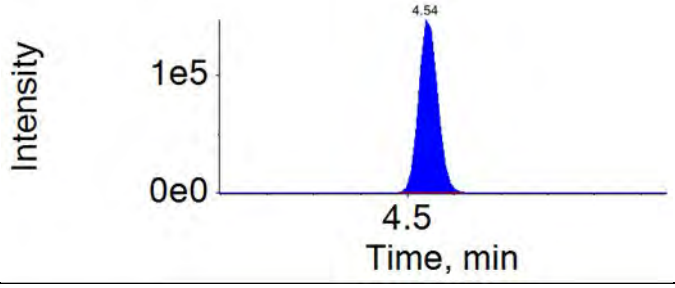


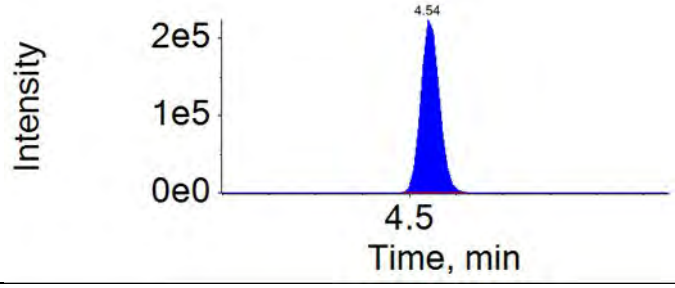
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



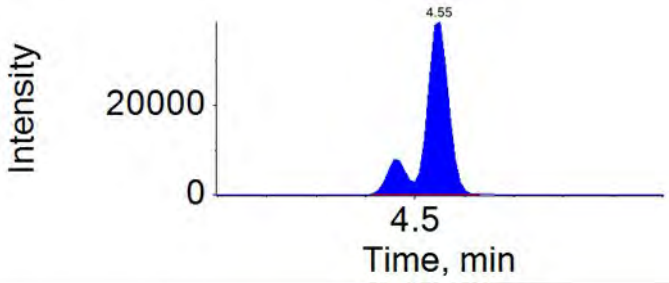


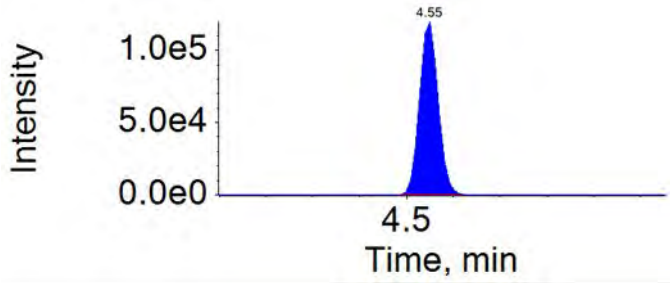
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0



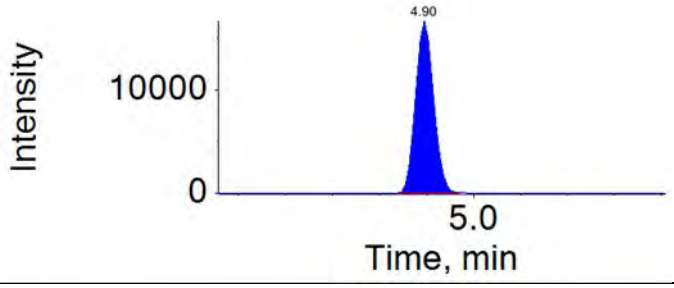
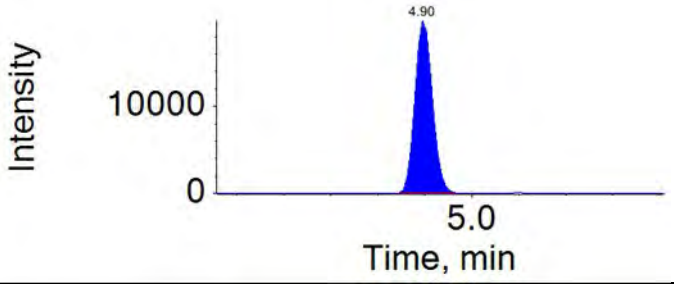


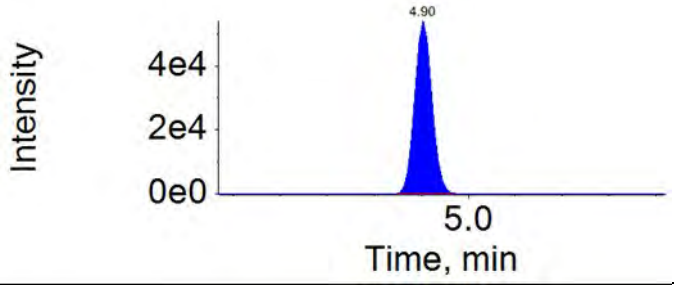
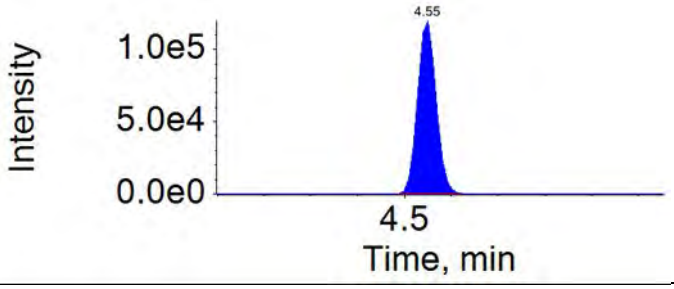
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

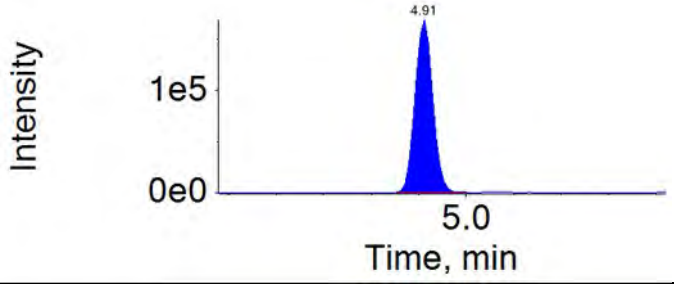
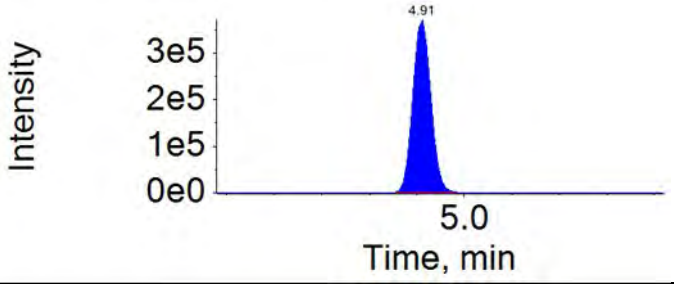


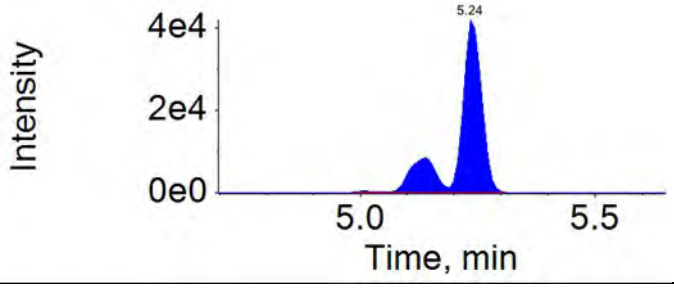
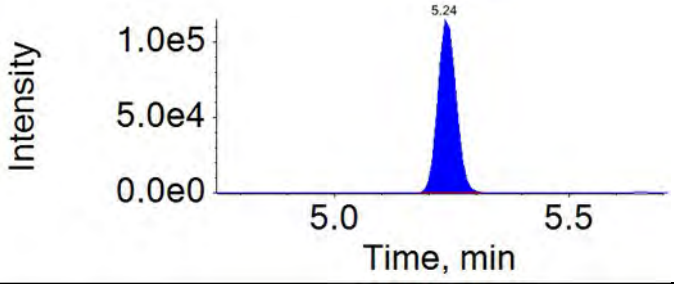


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

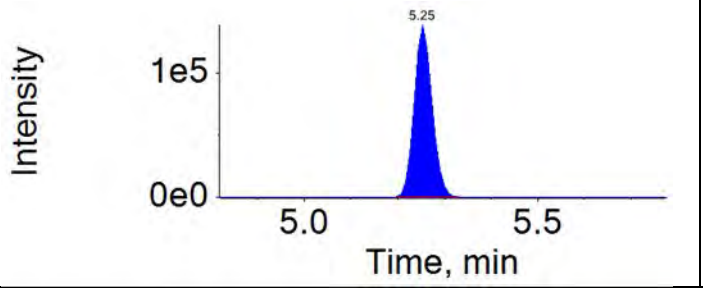
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

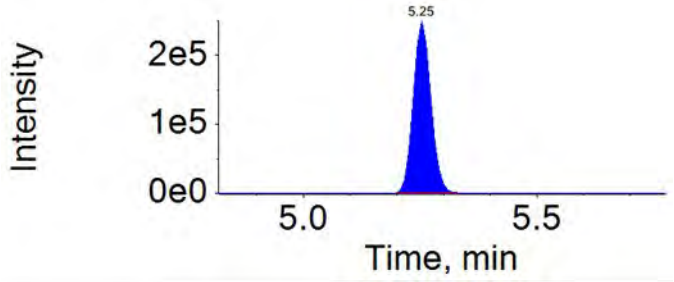
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

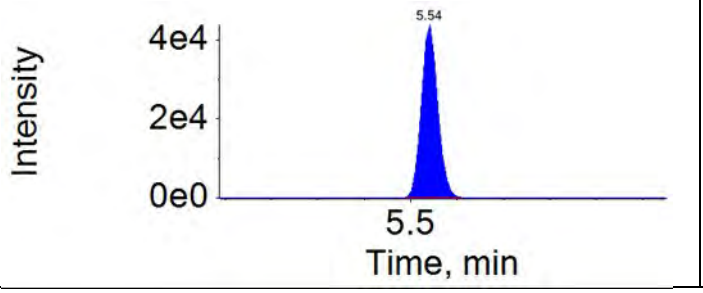
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

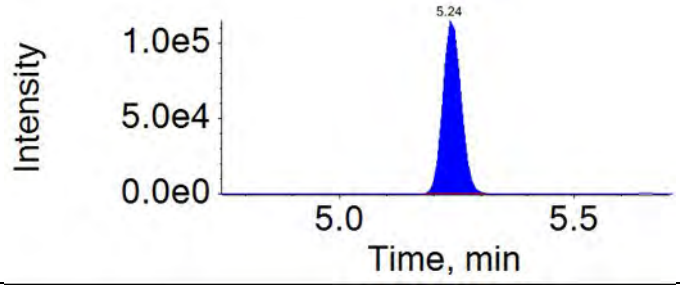
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



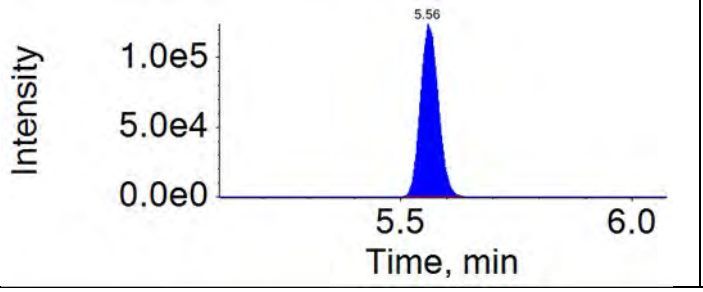


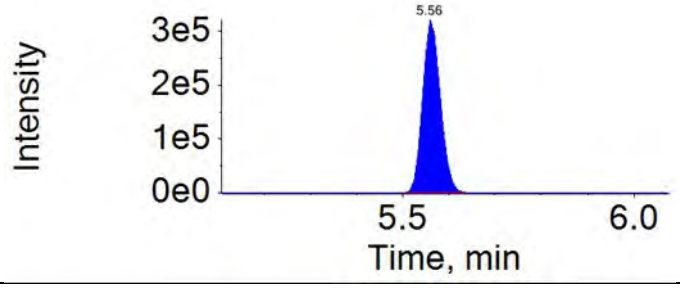
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



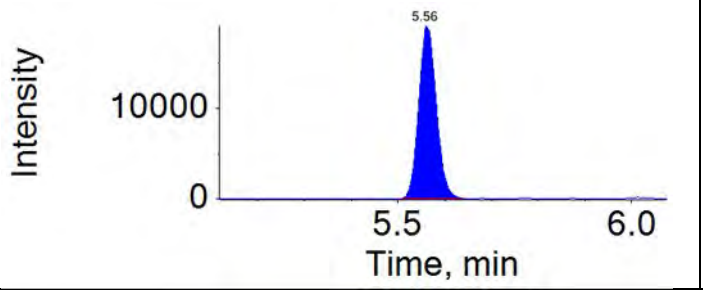


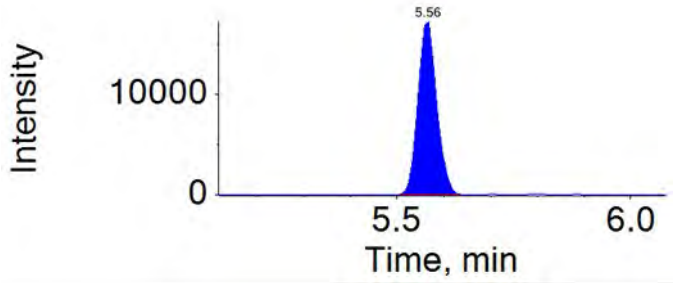
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





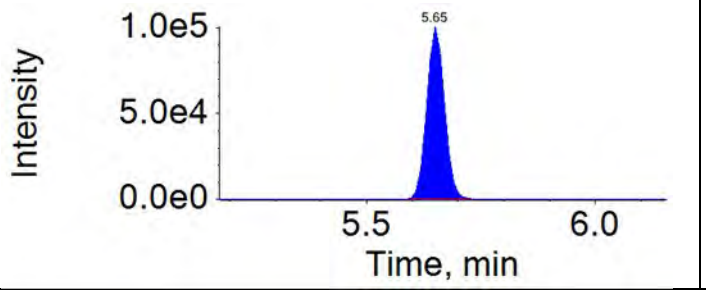
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

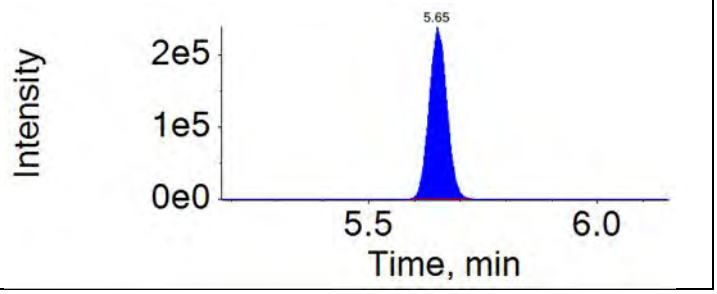




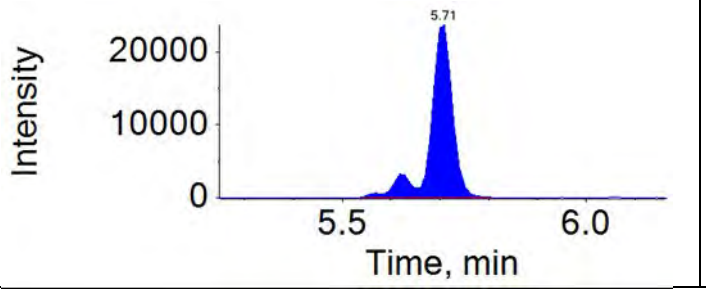
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

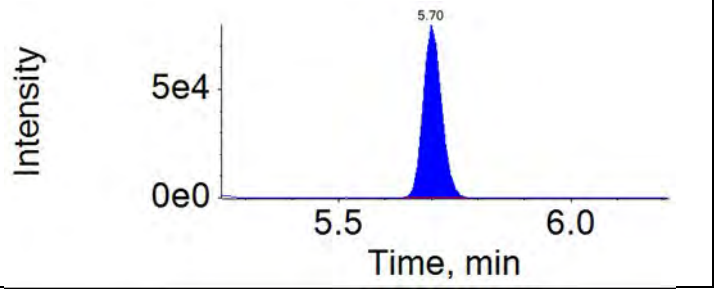
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



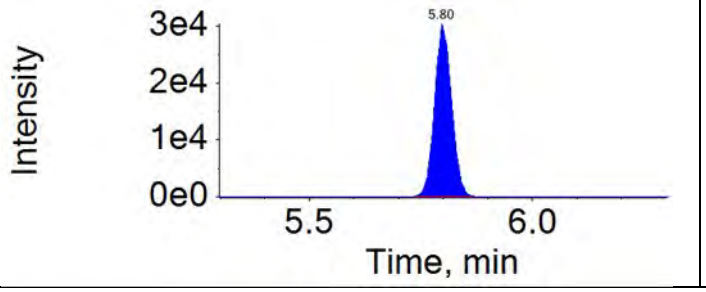


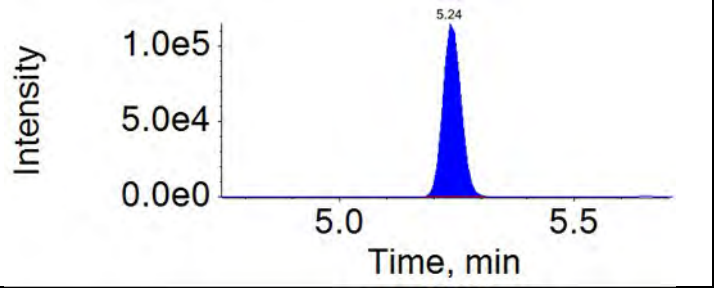
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



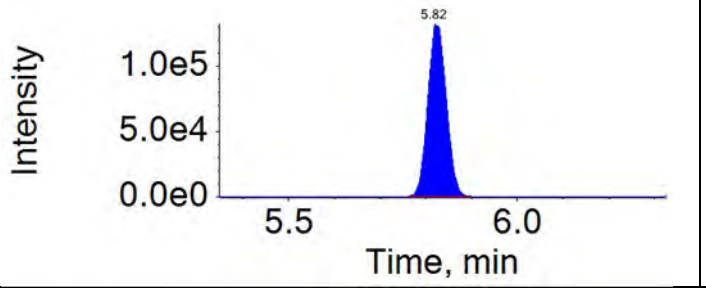


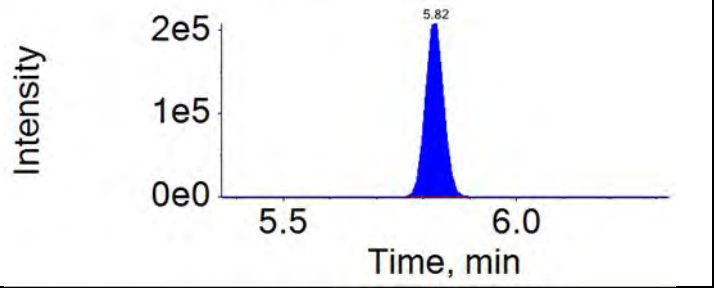
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



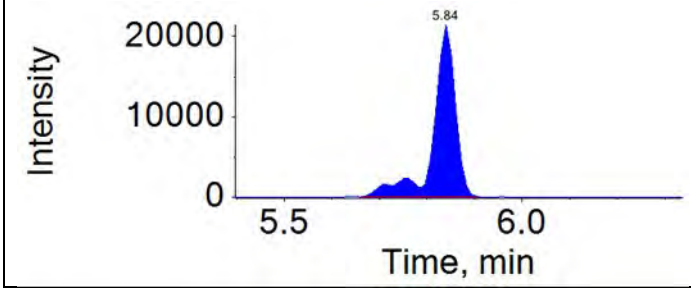


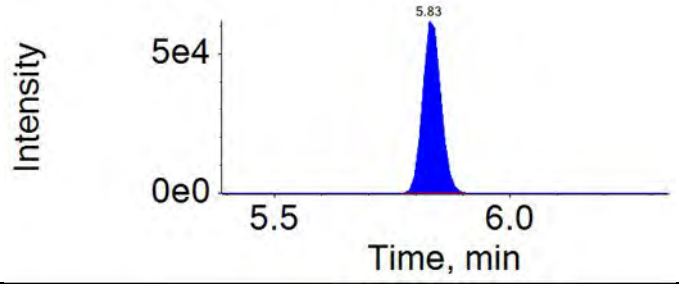
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

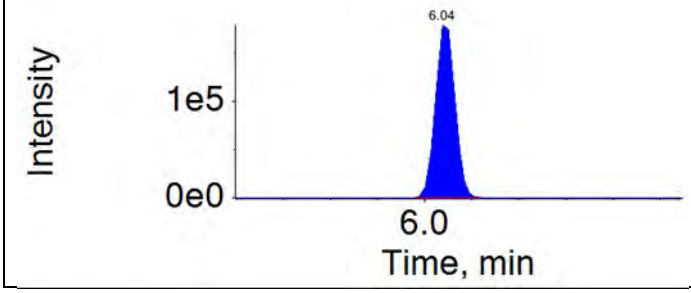
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

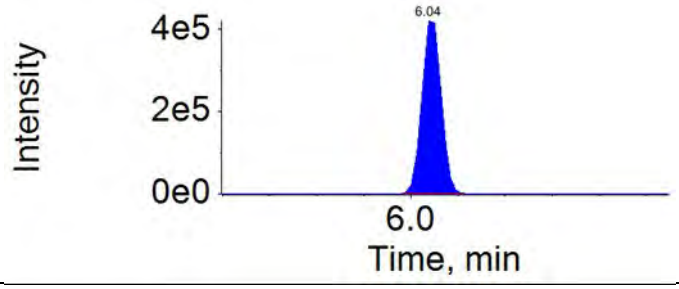
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



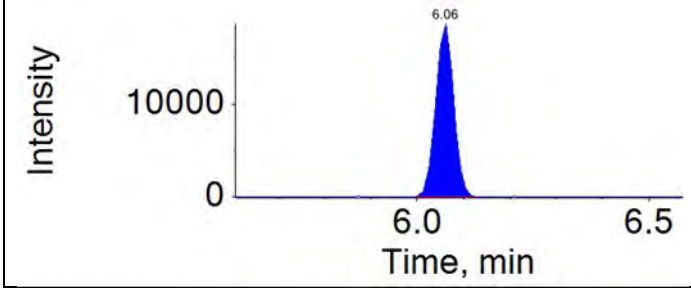


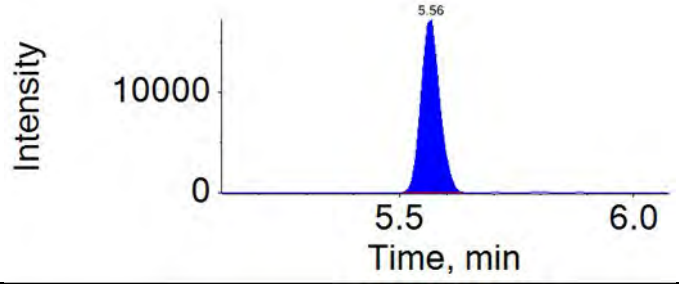
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



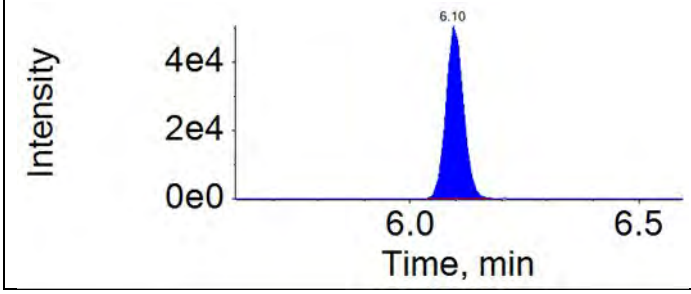


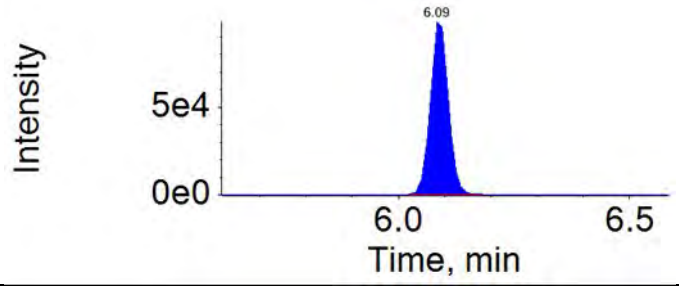
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



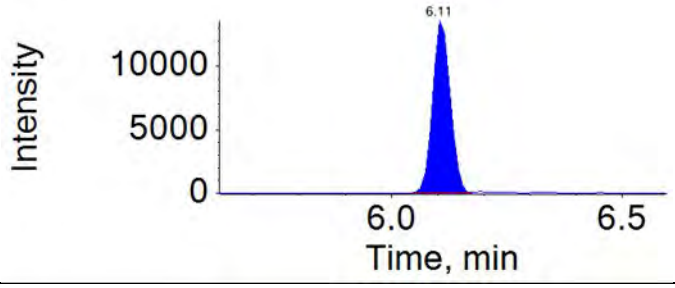


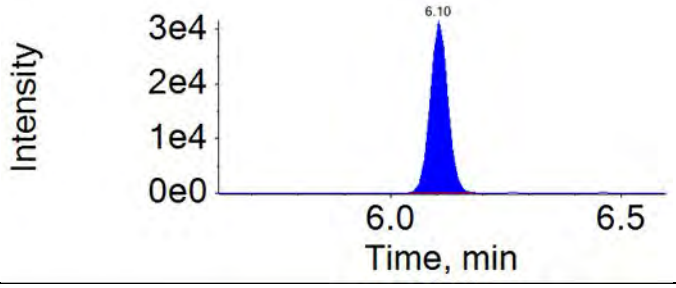
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

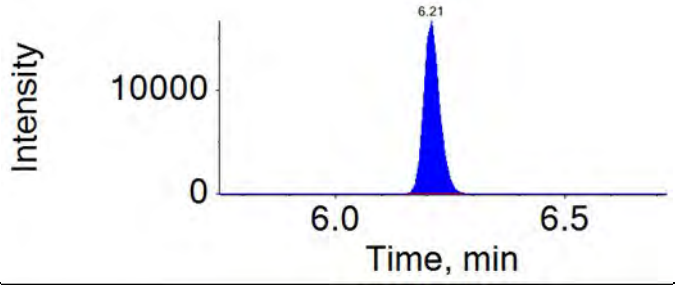
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

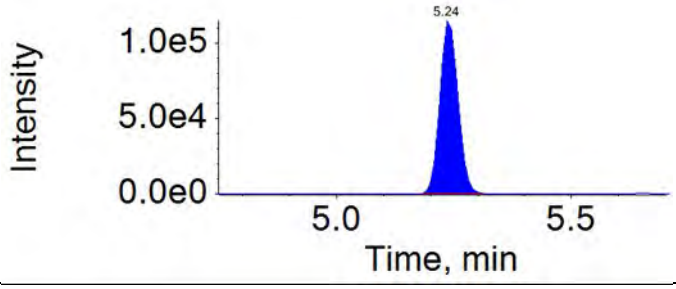
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



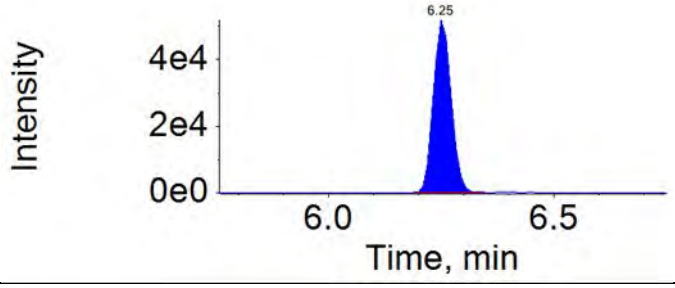


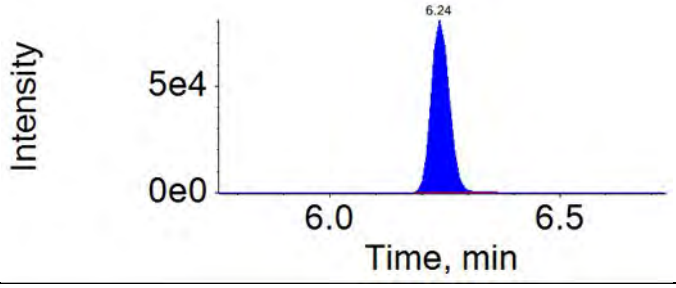
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



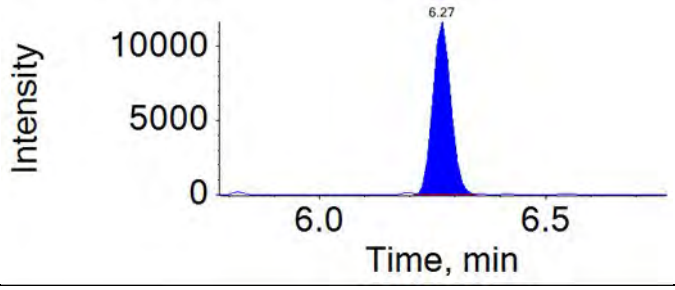


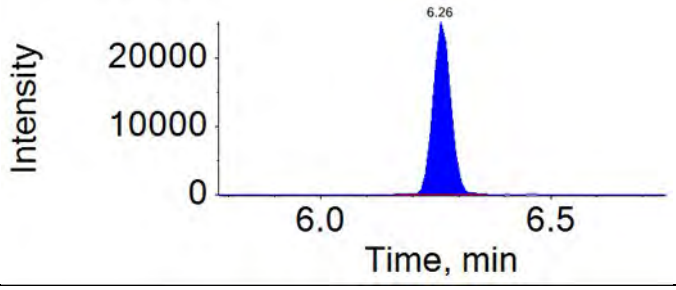
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



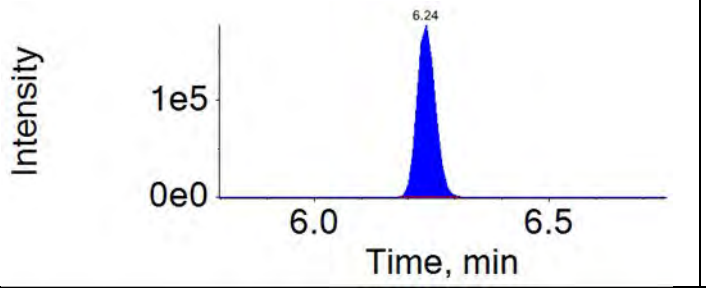


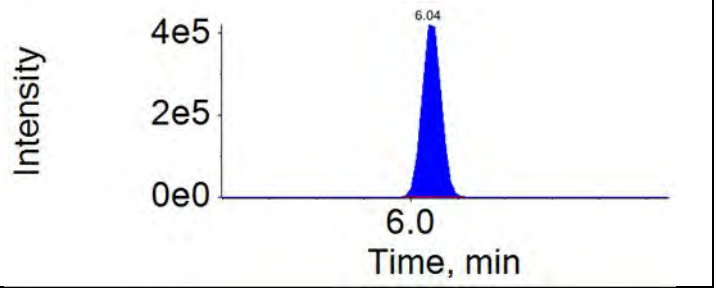
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

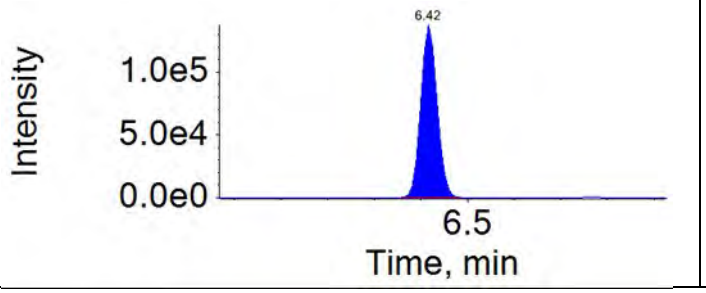
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

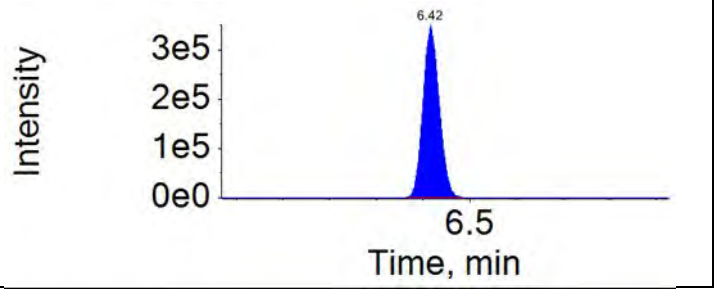
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



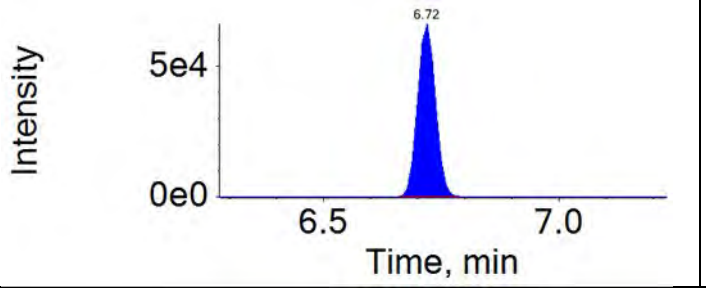


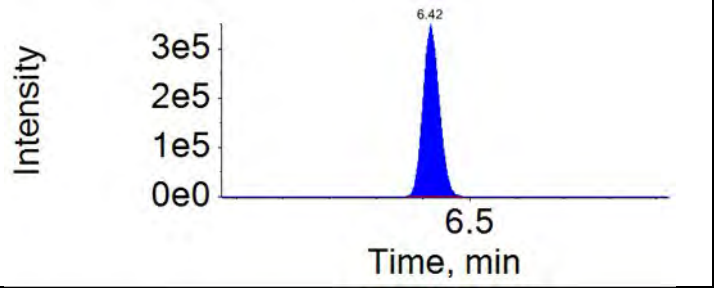
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



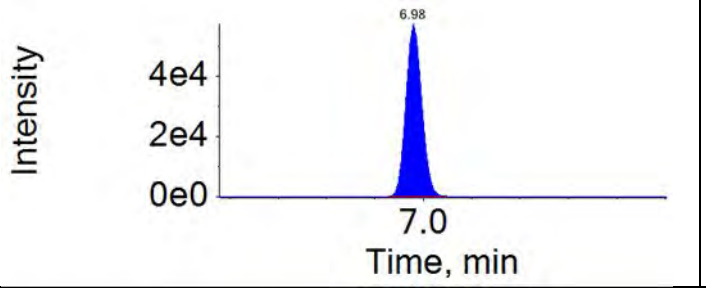


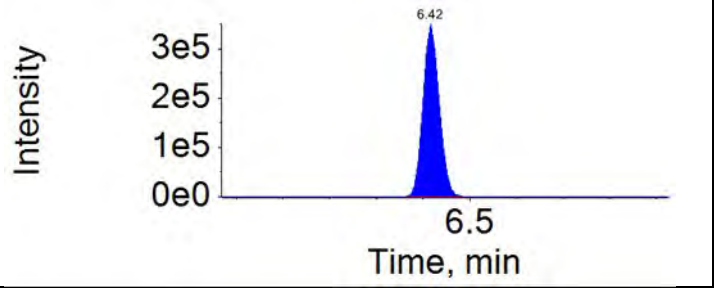
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0

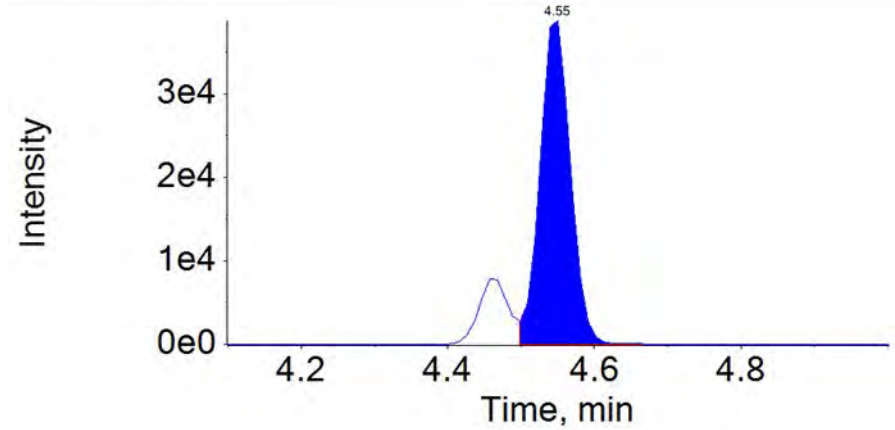


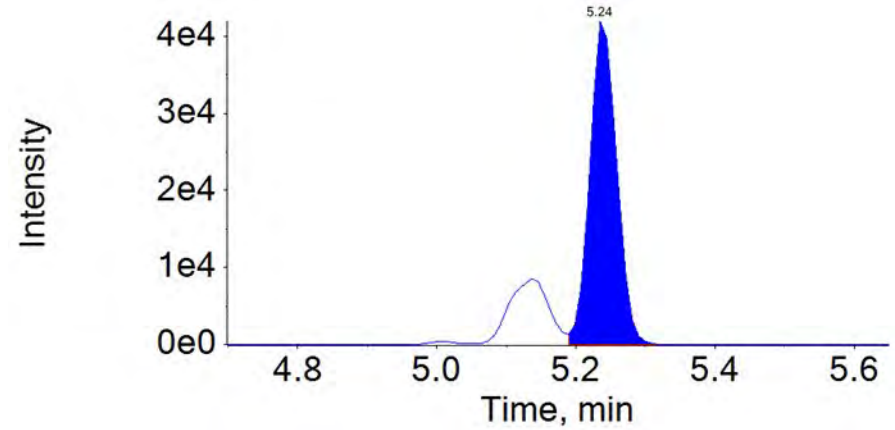


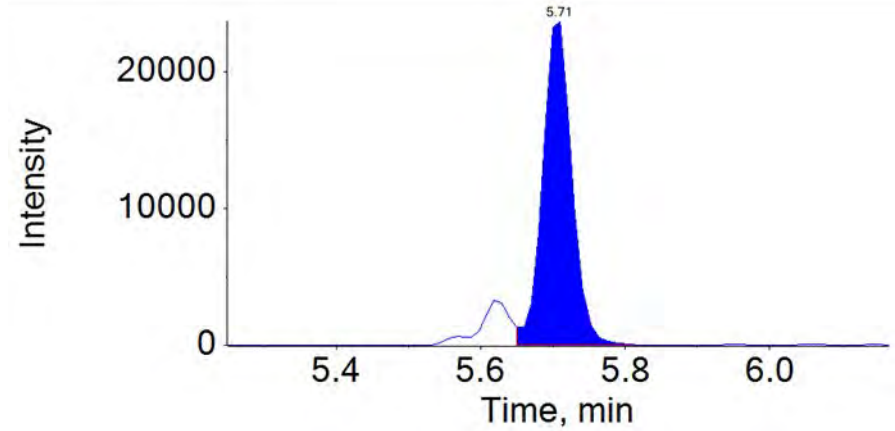
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxS **RT (min.):** 4.55 **Peak Area:** 112511.65 **Mass Range:** 399.0 / 80.0 **File Name:** 18DEC18DCAL-70.wiff **Sample Name:** CAL3	 **Integration Comment:** incorrect integration

Component Name: PFOS **RT (min.):** 5.24 **Peak Area:** 112851.22 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC18DCAL-70.wiff **Sample Name:** CAL3	 **Integration Comment:** incorrect integration

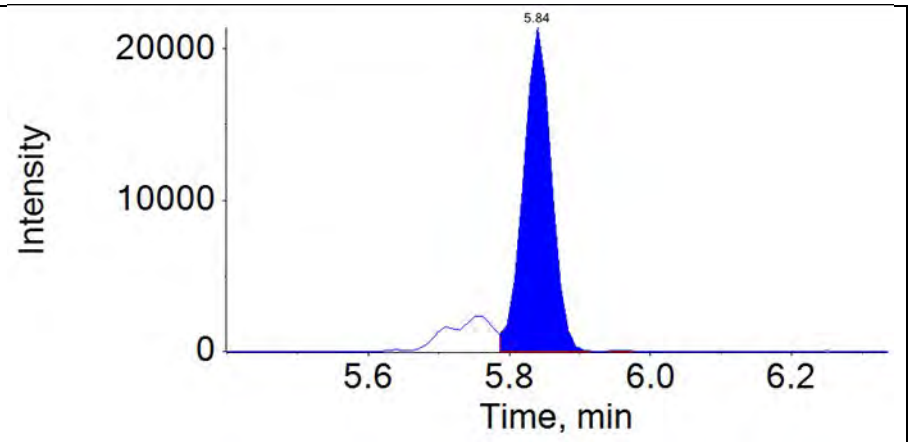
Component Name: NMeFOSAA **RT (min.):** 5.71 **Peak Area:** 66896.68 **Mass Range:** 570.0 / 419.0 **File Name:** 18DEC18DCAL-70.wiff **Sample Name:** CAL3	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

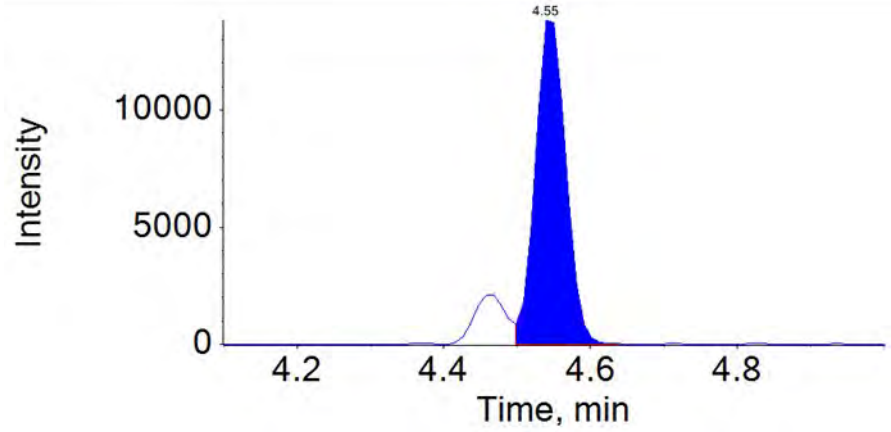
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
59234.67
Mass Range:
584.0 / 419.0
File Name:
18DEC18DCAL-70.wiff
Sample Name:
CAL3



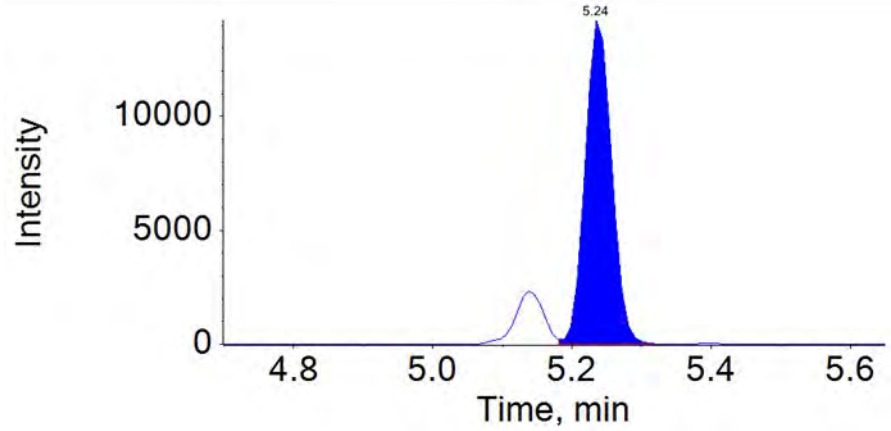
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
40350.27
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-70.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
37704.28
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-70.wiff
Sample Name:
CAL3

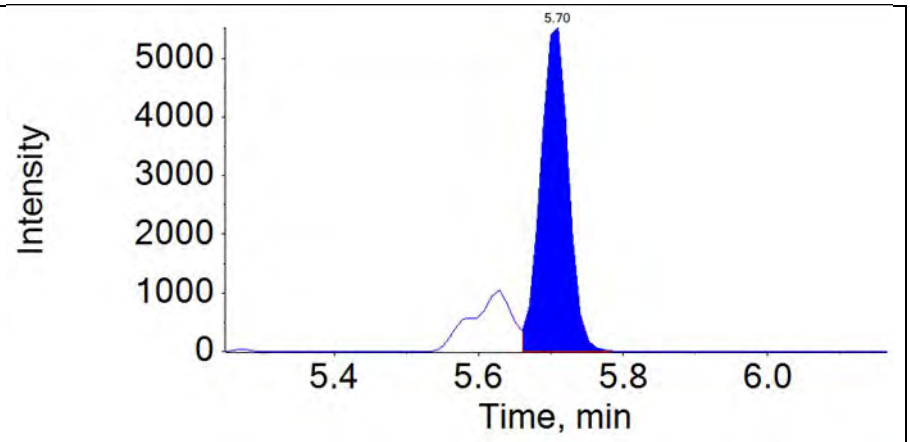


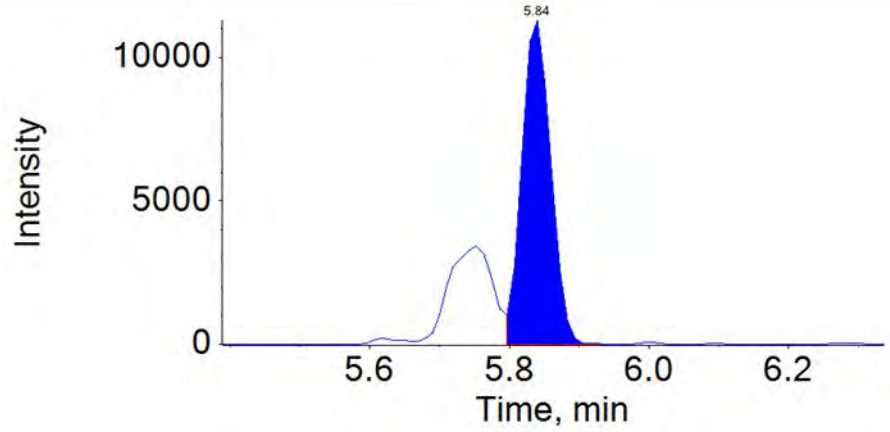
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NMeFOSAA_2 **RT (min.):** 5.70 **Peak Area:** 14870.73 **Mass Range:** 570.0 / 483.0 **File Name:** 18DEC18DCAL-70.wiff **Sample Name:** CAL3	 **Integration Comment:** incorrect integration

Component Name: NEtFOSAA_2 **RT (min.):** 5.84 **Peak Area:** 32634.22 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC18DCAL-70.wiff **Sample Name:** CAL3	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

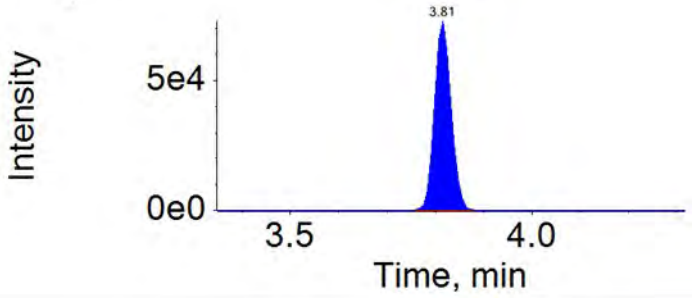
Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-70.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	173568.80	A	1.0000	1.0000			
PFBS_2	3.81	1.00	63729.24	A	0.3686	0.3672	0	50	
4:2-FTS	4.12	1.00	47502.48	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	29162.61	A	0.6123	0.6139	0	50	
PFHxA	4.16	1.00	378857.96	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	4095.90	A	0.0115	0.0108	-6	50	
PFPeS	4.18	1.10	89858.44	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	45277.46	A	0.5256	0.5039	-4	50	
PFHpA	4.54	1.00	414340.15	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	22599.64	A	0.0547	0.0545	0	50	
PFHxS	4.55	1.00	134520.82	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	46787.20	M	0.3359	0.3478	4	50	
6:2-FTS	4.90	1.00	44576.07	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	29339.34	A	0.6344	0.6582	4	50	
PFHpS	4.90	1.08	137901.36	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	53458.81	A	0.4110	0.3877	-6	50	
PFOA	4.91	1.00	436531.12	A	1.0000	1.0000			
PFOA_2	4.91	1.00	22587.19	A	0.0590	0.0517	-12	50	
PFOS	5.24	1.00	147878.25	M	1.0000	1.0000			
PFOS_2	5.24	1.00	44254.31	M	0.2980	0.2993	0	50	
PFNA	5.25	1.00	367113.44	A	1.0000	1.0000			
PFNA_2	5.26	1.00	6777.99	A	0.0214	0.0185	-14	50	
PFNS	5.54	1.06	106124.41	A	1.0000	1.0000			
PFNS_2	5.54	1.06	46569.17	A	0.4608	0.4388	-5	50	
PFDA	5.56	1.00	331802.23	A	1.0000	1.0000			
PFDA_2	5.57	1.00	2868.29	A	0.0064	0.0086	36	50	
8:2-FTS	5.56	1.00	49849.82	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	28426.47	A	0.5879	0.5702	-3	50	
NMeFOSAA	5.71	1.00	76313.67	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	18935.22	M	0.2625	0.2481	-5	50	
PFDS	5.80	1.11	80173.41	A	1.0000	1.0000			
PFDS_2	5.80	1.11	39595.57	A	0.4962	0.4939	0	50	
PFUnDA	5.82	1.00	373908.44	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	1627.77	A	0.0035	0.0044	23	50	
NEtFOSAA	5.84	1.00	69414.28	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	47742.33	M	0.6883	0.6878	0	50	
PFDoDA	6.04	1.00	517307.34	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	6769.50	A	0.0134	0.0131	-3	50	
10:2-FTS	6.06	1.09	50421.15	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	32910.94	A	0.7018	0.6527	-7	50	
PFTrDA	6.24	1.03	481635.82	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	3790.76	A	0.0093	0.0079	-16	50	
PFTeDA	6.42	1.00	333217.04	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	1970.27	A	0.0058	0.0059	1	50	
PFHxDA	6.72	1.05	174998.14	A	1.0000	1.0000			
PFHxDA_2	6.72	1.05	11233.99	A	0.0656	0.0642	-2	50	
PFODA	6.98	1.09	129704.78	A	1.0000	1.0000			
PFODA_2	6.98	1.09	3327.71	A	0.0273	0.0257	-6	50	

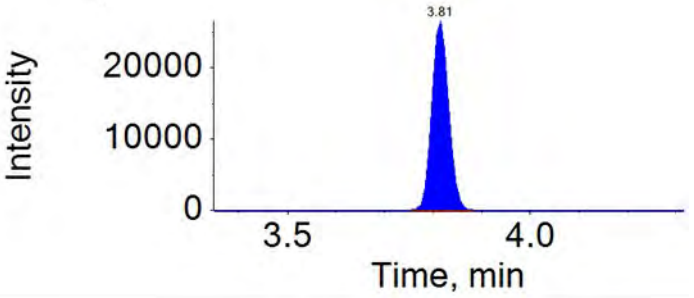
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By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

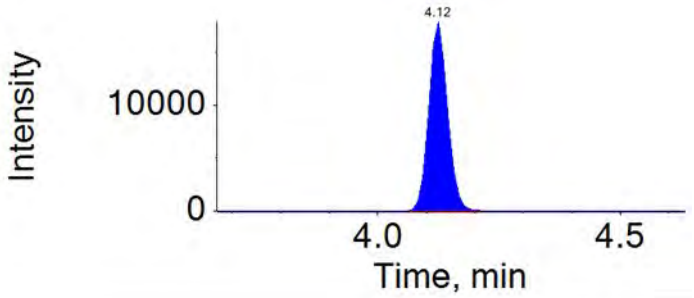
Component: PFBS
Primary Mass: 299.0 / 80.0



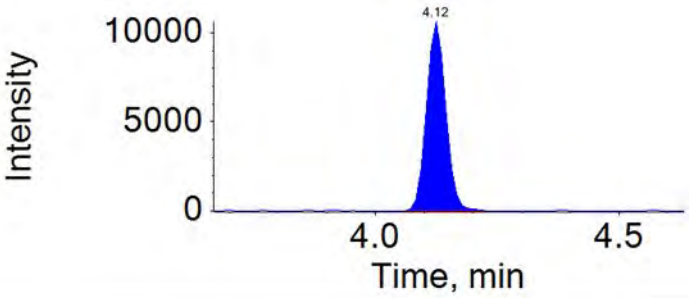
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



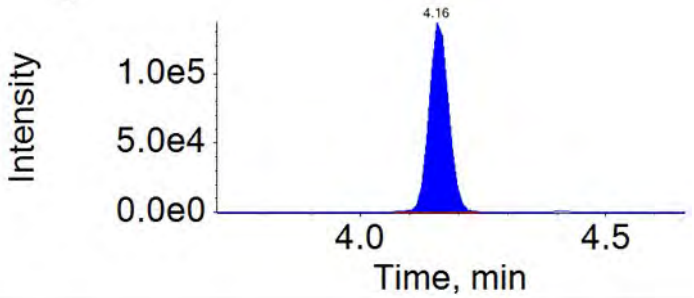
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



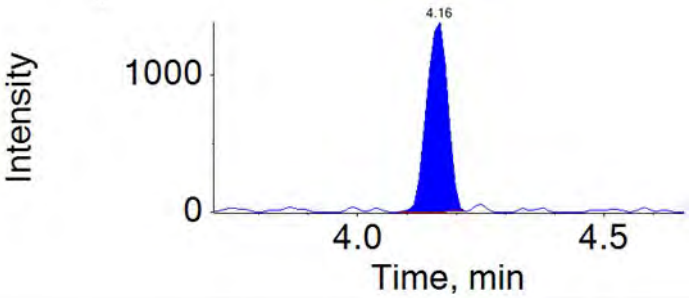
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



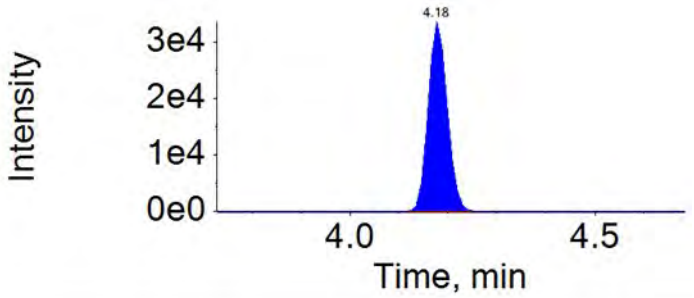
Component: PFHxA
Primary Mass: 313.0 / 269.0



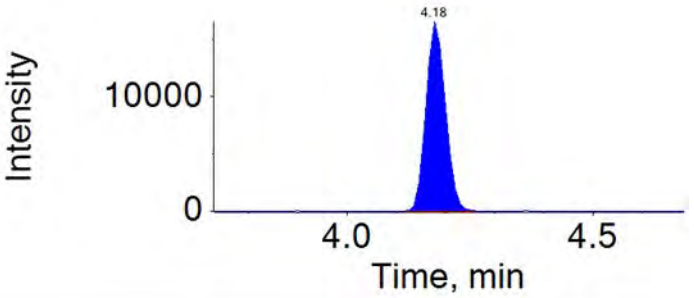
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



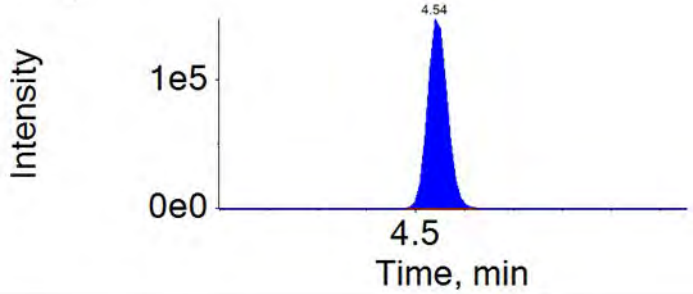
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



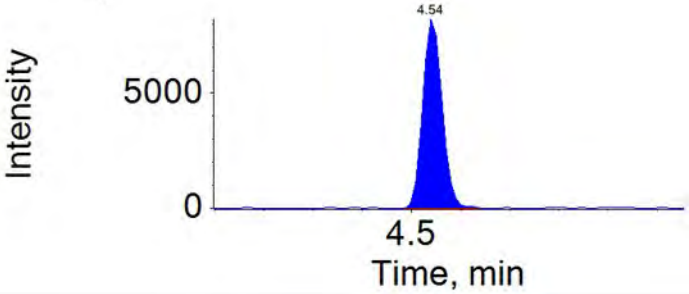
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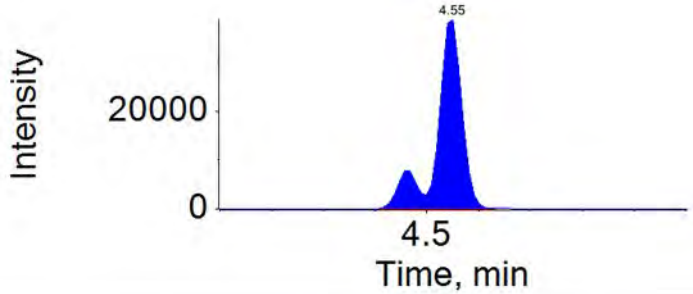
Component: PFHpA
Primary Mass: 363.0 / 319.0



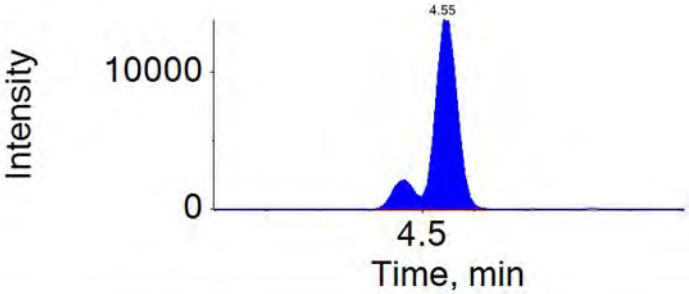
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



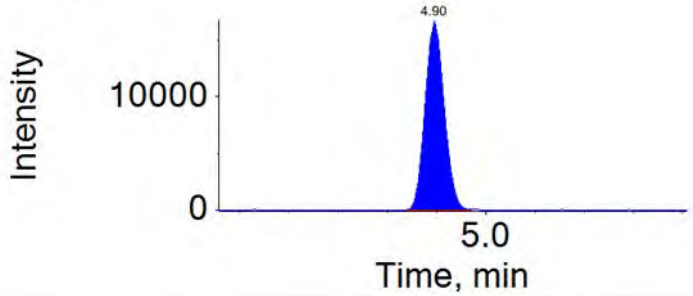
Component: PFHxS
Primary Mass: 399.0 / 80.0



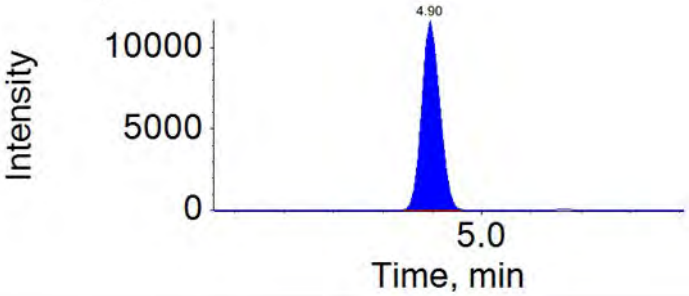
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



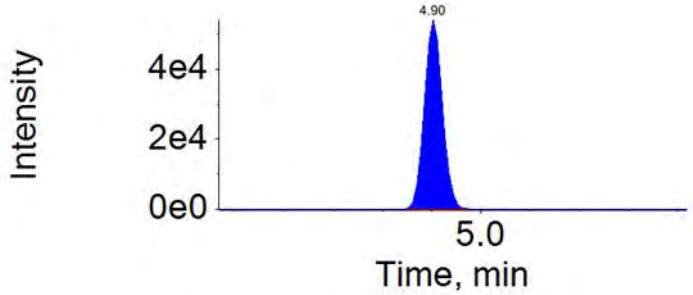
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



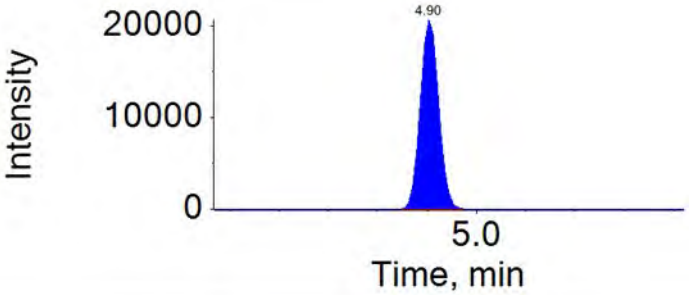
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



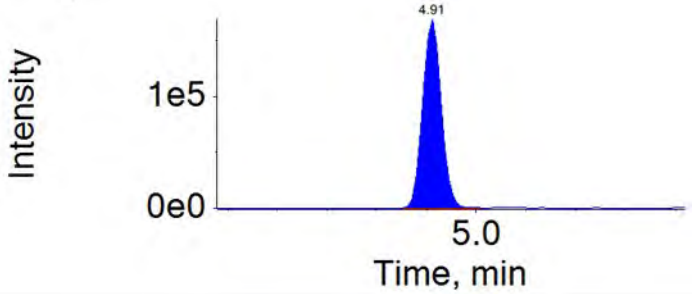
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



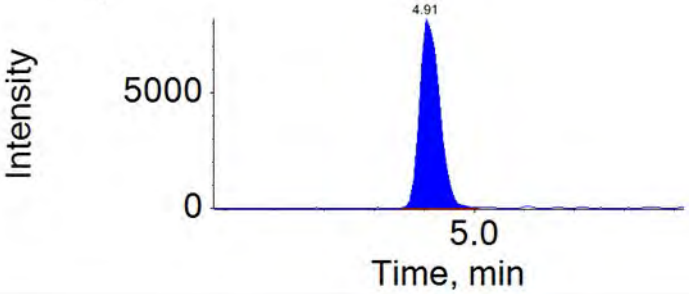
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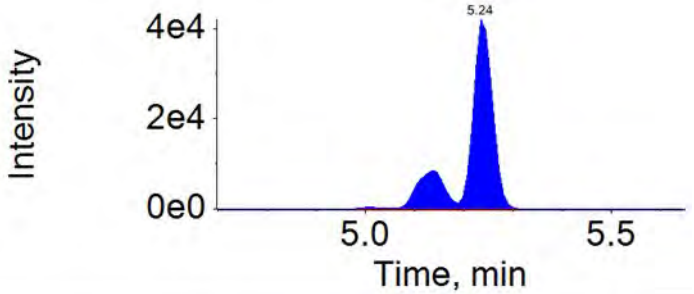
Component: PFOA
Primary Mass: 413.0 / 369.0



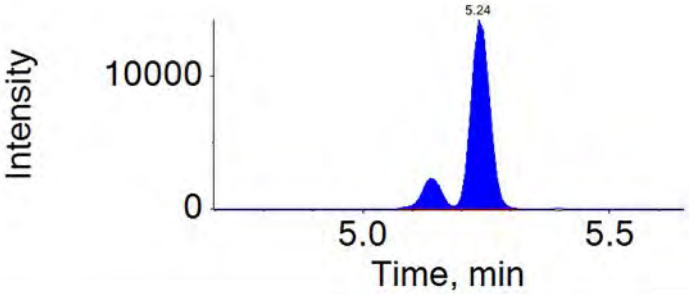
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



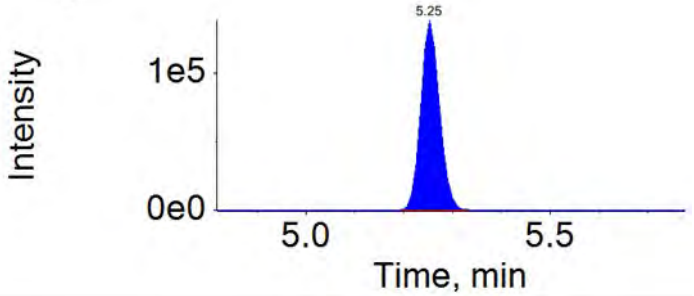
Component: PFOS
Primary Mass: 499.0 / 80.0



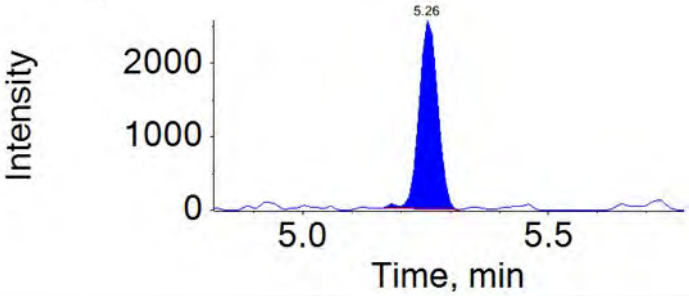
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



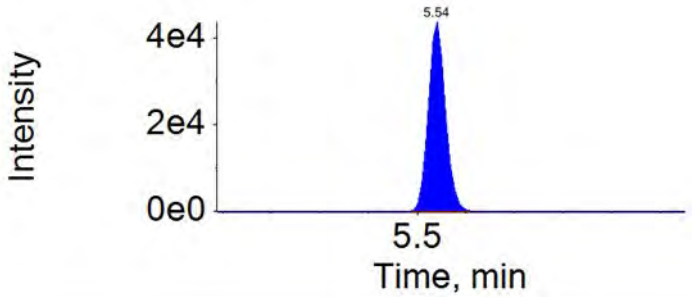
Component: PFNA
Primary Mass: 463.0 / 419.0



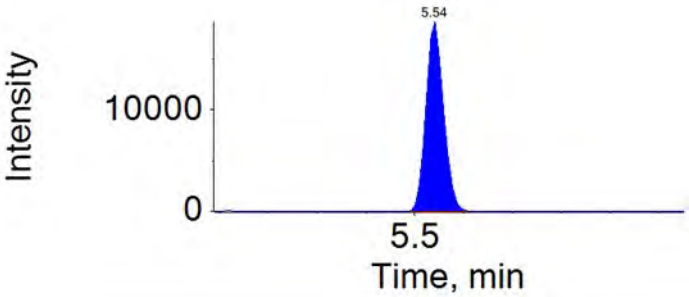
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



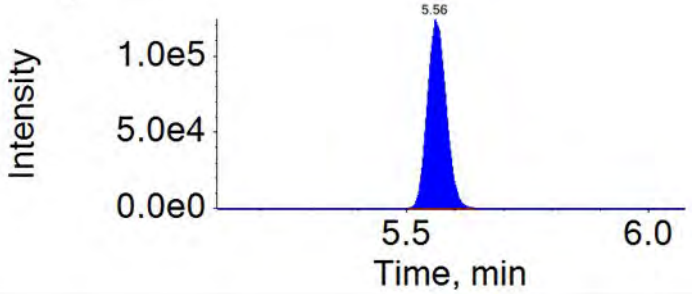
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



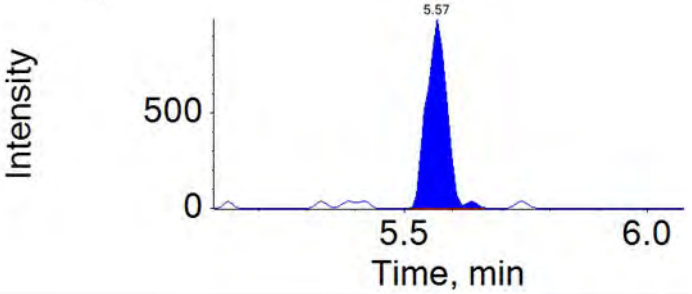
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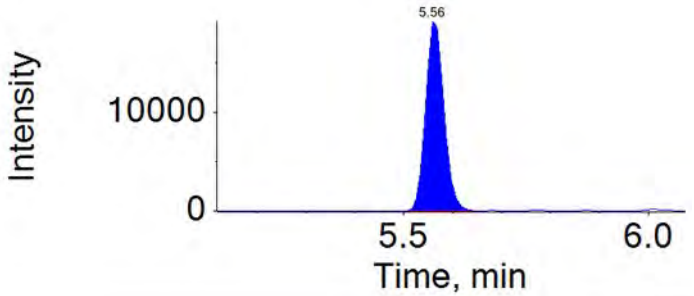
Component: PFDA
Primary Mass: 513.0 / 469.0



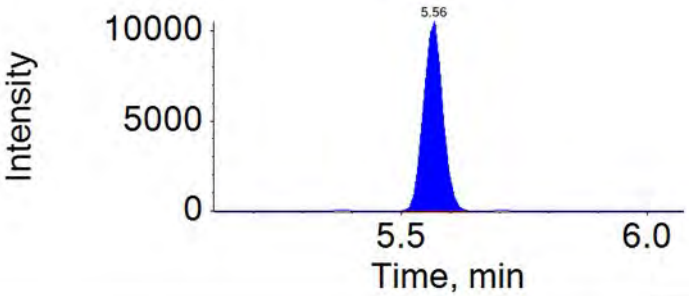
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



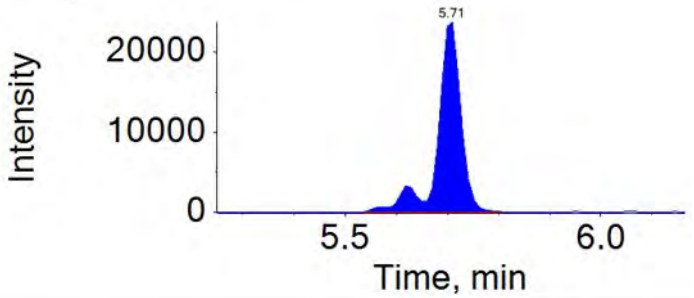
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



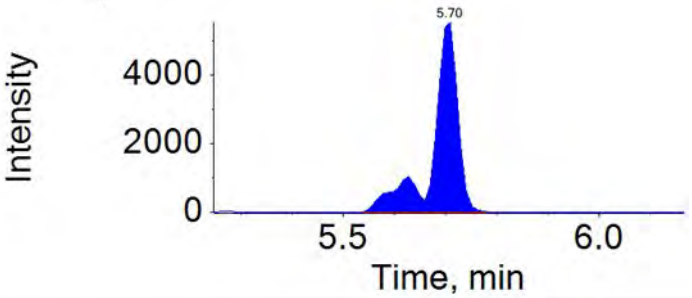
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



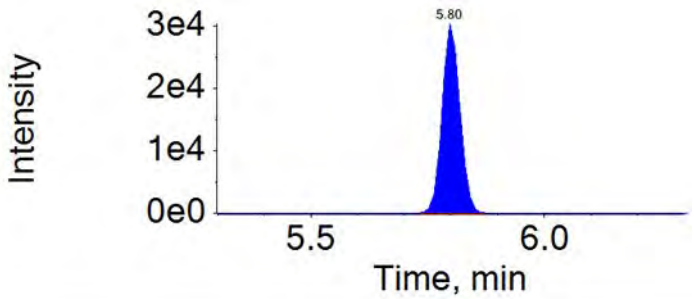
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



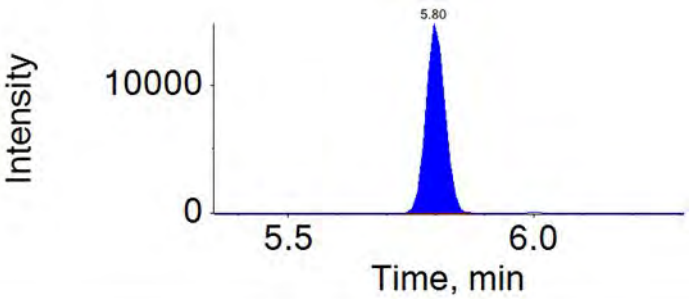
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



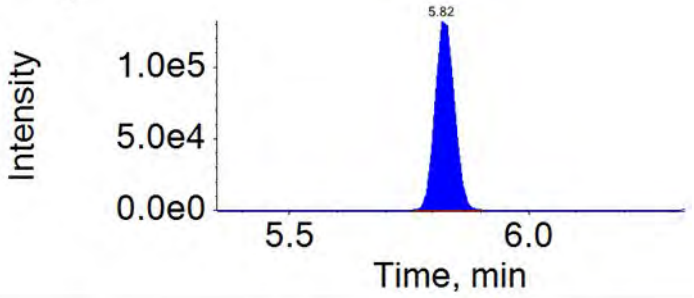
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



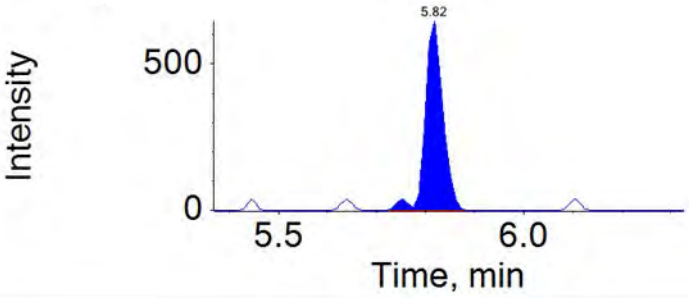
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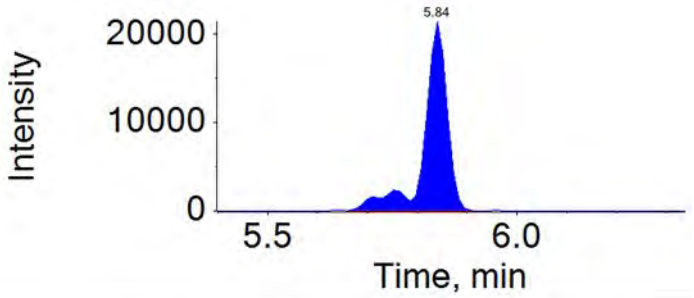
Component: PFUnDA
Primary Mass: 563.0 / 519.0



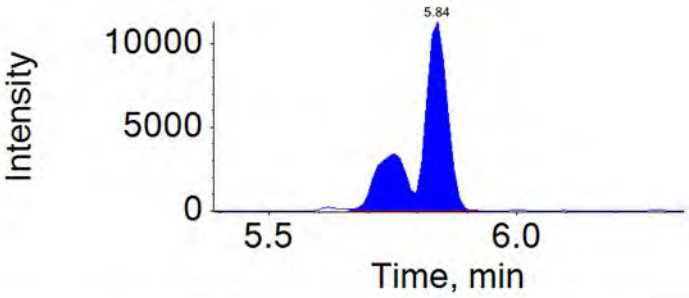
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



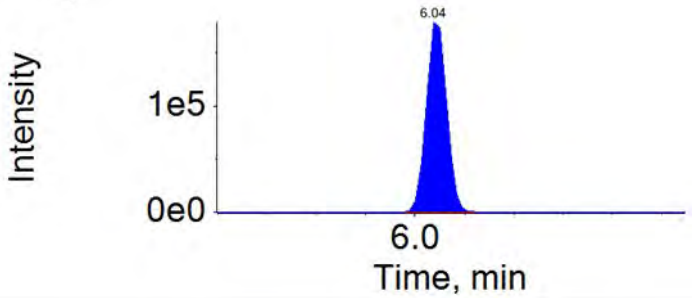
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



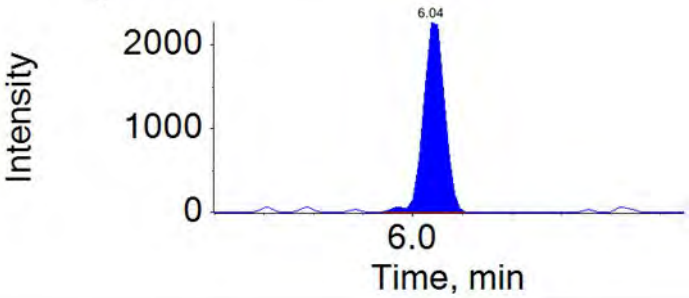
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



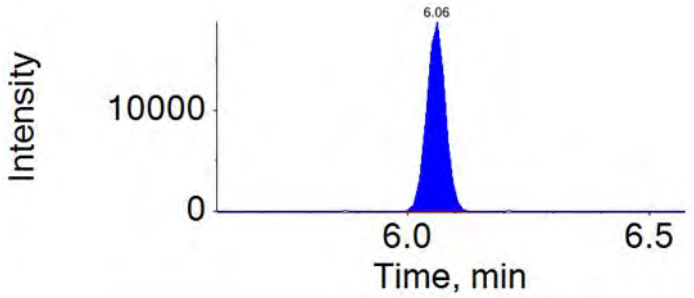
Component: PFDoDA
Primary Mass: 613.0 / 569.0



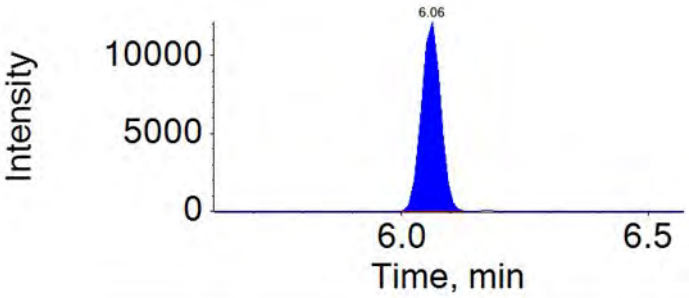
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



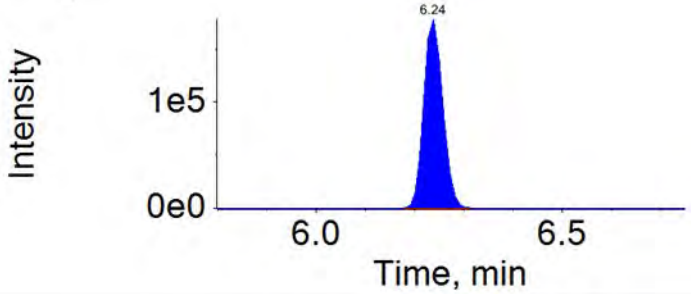
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



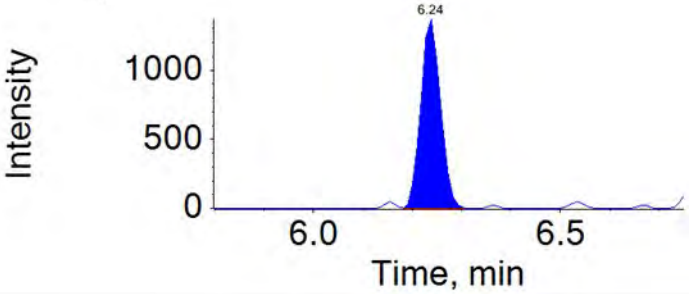
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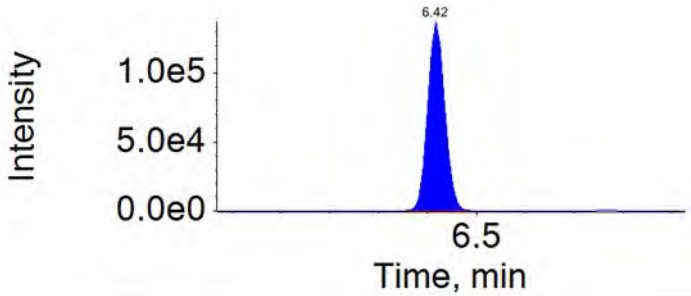
Component: PFTrDA
Primary Mass: 663.0 / 619.0



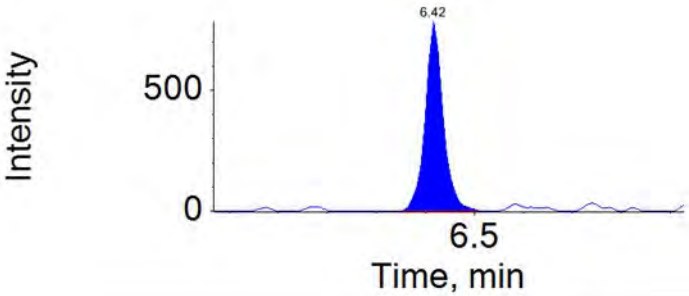
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



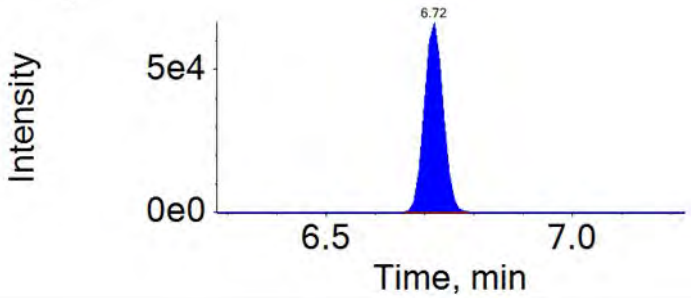
Component: PFTeDA
Primary Mass: 713.0 / 669.0



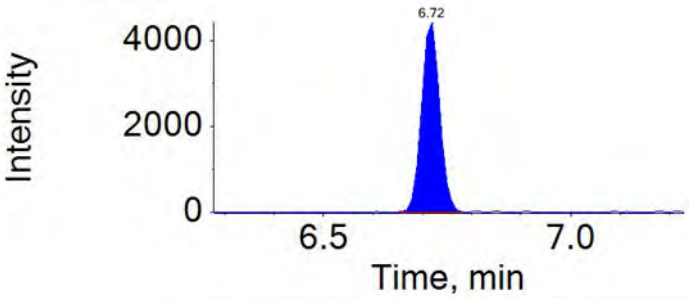
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



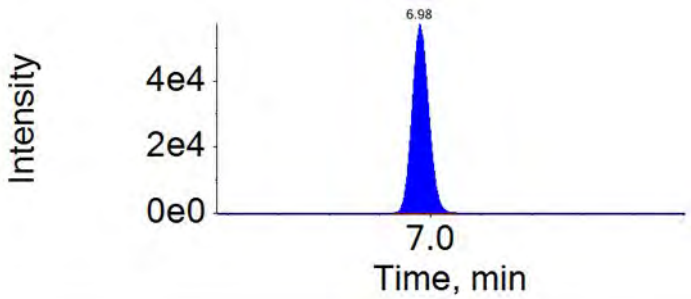
Component: PFHxDA
Primary Mass: 813.0 / 769.0



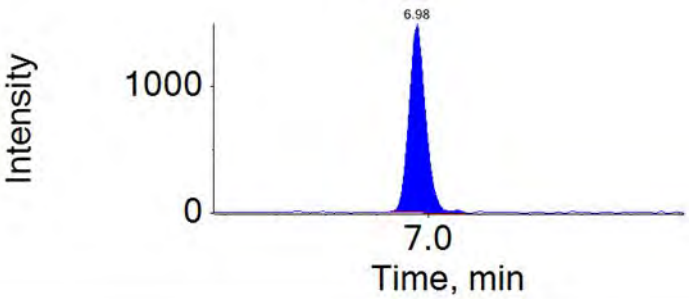
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL4			**Data File:**		18DEC18DCAL-71.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-19T00:01:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	994245.8	941251.6	6	50	
13C2-PFOA	5.0	521121.5	485595.3	7	50	
13C4-PFOS	4.8	323227.0	292182.6	11	50	
13C2-PFDA	5.0	492670.3	467216.0	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1092510.9	13C3-PFBA	994245.8	1.099	5.000	4.866	97	70-130	
E13C5-PFPeA	1033656.3	13C3-PFBA	994245.8	1.040	5.000	4.848	97	70-130	
E13C3-PFBS	445696.2	13C3-PFBA	994245.8	0.448	4.650	4.365	94	70-130	
E13C2-4:2-FTS	64261.8	13C2-PFOA	521121.5	0.123	4.670	4.683	100	70-130	
E13C5-PFHxA	728009.9	13C2-PFOA	521121.5	1.397	5.000	4.997	100	70-130	
E13C3-PFHxS	348394.9	13C2-PFOA	521121.5	0.669	4.730	5.059	107	70-130	
E13C4-PFHpA	633233.3	13C2-PFOA	521121.5	1.215	5.000	5.249	105	70-130	
E13C2-6:2-FTS	50211.1	13C2-PFOA	521121.5	0.096	4.750	4.848	102	70-130	
E13C8-PFOA	1001301.5	13C2-PFOA	521121.5	1.921	5.000	5.283	106	70-130	
E13C8-PFOS	334944.9	13C4-PFOS	323227.0	1.036	4.780	4.634	97	70-130	
E13C9-PFNA	661406.4	13C4-PFOS	323227.0	2.046	5.000	4.655	93	70-130	
E13C6-PFDA	880890.9	13C2-PFDA	492670.3	1.788	5.000	5.093	102	70-130	
E13C2-8:2-FTS	45542.4	13C2-PFDA	492670.3	0.092	4.790	4.764	99	70-130	
E13C8-PFOSA	648373.2	13C2-PFDA	492670.3	1.316	5.000	5.125	102	70-130	
Ed3-NMeFOSAA	226675.1	13C2-PFDA	492670.3	0.460	5.000	5.062	101	70-130	
E13C7-PFUnDA	581922.5	13C2-PFDA	492670.3	1.181	5.000	4.944	99	70-130	
Ed5-NEtFOSAA	180280.0	13C2-PFDA	492670.3	0.366	5.000	5.391	108	70-130	
E13C2-PFDoDA	1215089.1	13C2-PFDA	492670.3	2.466	5.000	5.189	104	70-130	
Ed7-NMePFOSAE	268949.2	13C2-PFDA	492670.3	0.546	5.000	4.878	98	70-130	
Ed3-NMePFOSA	88979.4	13C2-PFDA	492670.3	0.181	5.000	4.963	99	70-130	
Ed9-NEtPFOSAE	237359.2	13C2-PFDA	492670.3	0.482	5.000	4.926	99	70-130	
Ed5-NEtPFOSA	69985.0	13C2-PFDA	492670.3	0.142	5.000	4.927	99	70-130	
E13C2-PFTeDA	850800.6	13C2-PFDA	492670.3	1.727	5.000	4.866	97	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

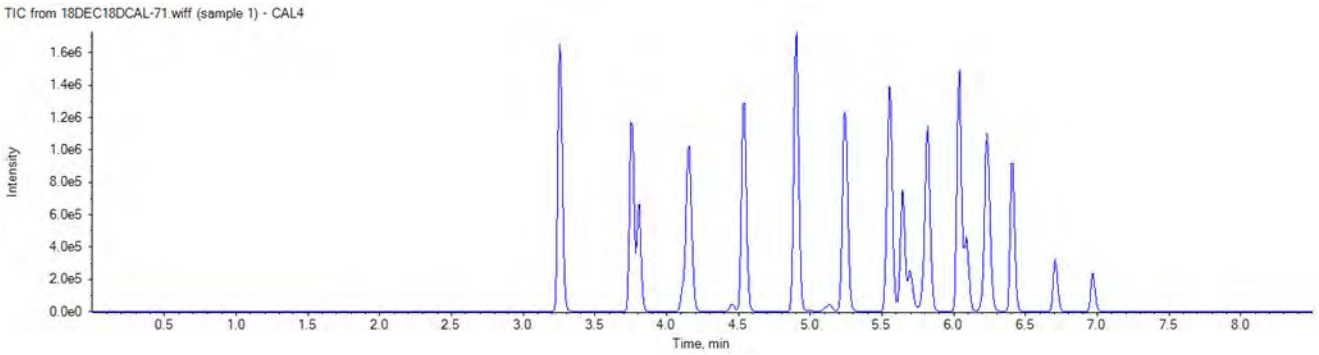
Analyte Quantitation Peak Table

Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-71.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.25	1.000	1594198.6		A	13C4-PFBA	3.26	1092510.9	1.459	7.748
PFPeA	3.76	1.000	1560173.1		A	13C5-PFPeA	3.76	1033656.3	1.509	7.791
PFBS	3.81	1.000	660159.8		A	13C3-PFBS	3.81	445696.2	1.481	7.312
4:2-FTS	4.12	1.000	183632.1		A	13C2-4:2-FTS	4.12	64261.8	2.858	7.497
PFHxA	4.15	1.000	1422618.7		A	13C5-PFHxA	4.15	728009.9	1.954	8.050
PFPeS	4.17	1.100	343711.1		A	13C3-PFBS	3.81	445696.2	0.771	7.851
PFHpA	4.54	1.000	1522802.6		A	13C4-PFHpA	4.54	633233.3	2.405	7.974
PFHxS	4.54	1.000	506401.7		M	13C3-PFHxS	4.54	348394.9	1.454	7.070
6:2-FTS	4.89	1.000	169143.3		A	13C2-6:2-FTS	4.89	50211.1	3.369	8.386
PFHpS	4.90	1.080	505804.6		A	13C3-PFHxS	4.54	348394.9	1.452	7.680
PFOA	4.91	1.000	1478030.4		A	13C8-PFOA	4.90	1001301.5	1.476	7.820
PFOS	5.23	1.000	531668.9		M	13C8-PFOS	5.23	334944.9	1.587	6.950
PFNA	5.25	1.000	1365072.7		A	13C9-PFNA	5.25	661406.4	2.064	8.203
PFNS	5.53	1.060	388892.9		A	13C8-PFOS	5.23	334944.9	1.161	7.383
PFDA	5.56	1.000	1333153.3		A	13C6-PFDA	5.56	880890.9	1.513	7.816
8:2-FTS	5.56	1.000	177682.0		A	13C2-8:2-FTS	5.56	45542.4	3.901	7.853
PFOSA	5.65	1.000	1003126.0		A	13C8-PFOSA	5.65	648373.2	1.547	7.738
NMeFOSAA	5.70	1.000	290343.5		M	d3-NMeFOSAA	5.70	226675.1	1.281	7.961
PFDS	5.79	1.110	327865.3		A	13C8-PFOS	5.23	334944.9	0.979	8.036
PFUnDA	5.82	1.000	1410610.2		A	13C7-PFUnDA	5.82	581922.5	2.424	8.028
NEtFOSAA	5.83	1.000	260292.7		A	d5-NEtFOSAA	5.83	180280.0	1.444	7.359
PFDoDA	6.04	1.000	1811366.4		A	13C2-PFDoDA	6.04	1215089.1	1.491	7.509
10:2-FTS	6.05	1.090	167061.3		A	13C2-8:2-FTS	5.56	45542.4	3.668	7.471
NMePFOSAE	6.09	1.000	519484.4		A	d7-NMePFOSAE	6.08	268949.2	1.932	8.522
NMePFOSA	6.10	1.000	136742.0		A	d3-NMePFOSA	6.10	88979.4	1.537	7.758
PFDoS	6.20	1.180	159190.7		A	13C8-PFOS	5.23	334944.9	0.475	7.201
NEtPFOSAE	6.24	1.000	539839.8		A	d9-NEtPFOSAE	6.23	237359.2	2.274	7.430
NEtPFOSA	6.26	1.000	127321.1		A	d5-NEtPFOSA	6.26	69985.0	1.819	8.510
PFTrDA	6.23	1.030	1793581.6		A	13C2-PFDoDA	6.04	1215089.1	1.476	7.573
PFTeDA	6.41	1.000	1181484.1		A	13C2-PFTeDA	6.41	850800.6	1.389	7.478
PFHxDA	6.71	1.050	651302.6		A	13C2-PFTeDA	6.41	850800.6	0.766	8.406
PFODA	6.97	1.090	481905.3		A	13C2-PFTeDA	6.41	850800.6	0.566	8.139

Total Ion Chromatogram

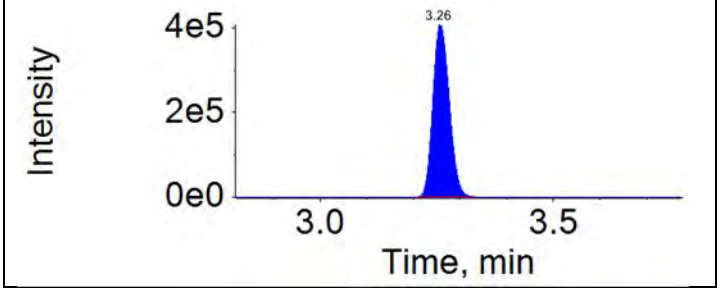


APPROVED
By MSM at 11:49 am, 12/19/18

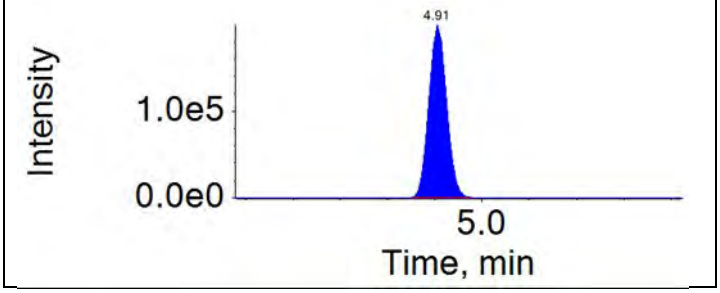
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

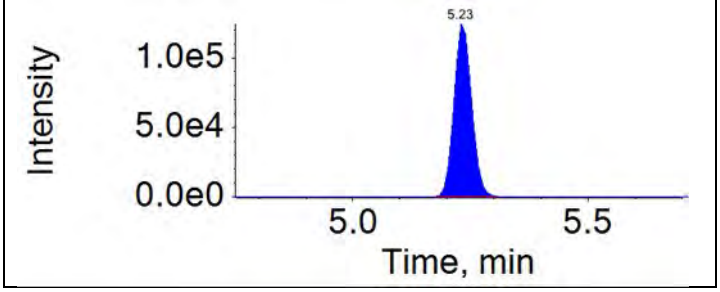
Injection Standard: 13C3-PFBA
216.0 / 172.0



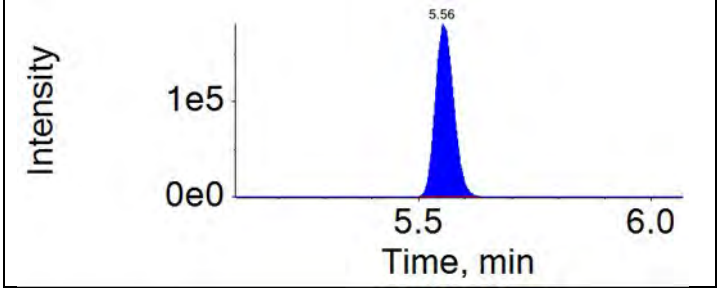
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

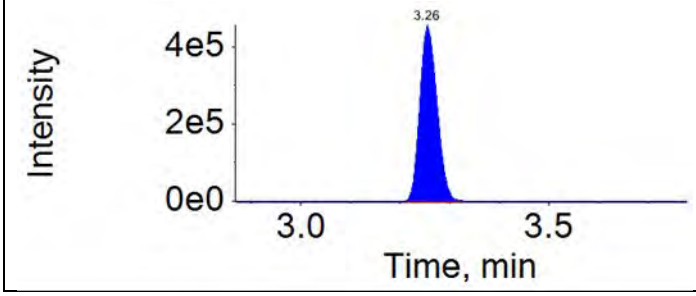


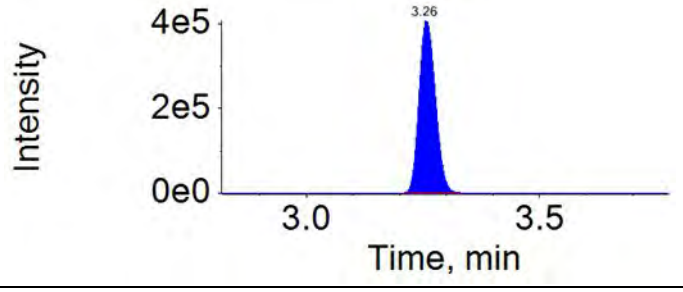
Injection Standard: 13C2-PFDA
515.0 / 470.0



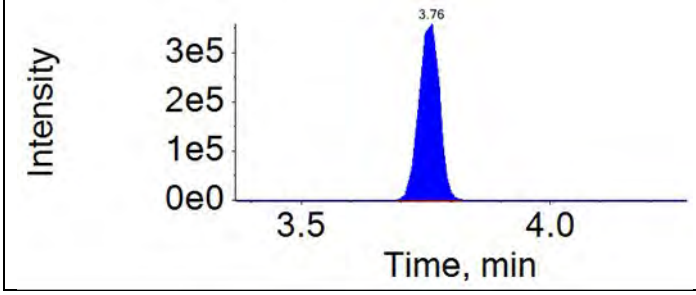
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

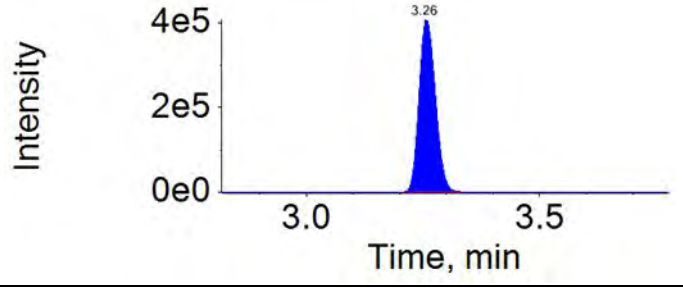
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



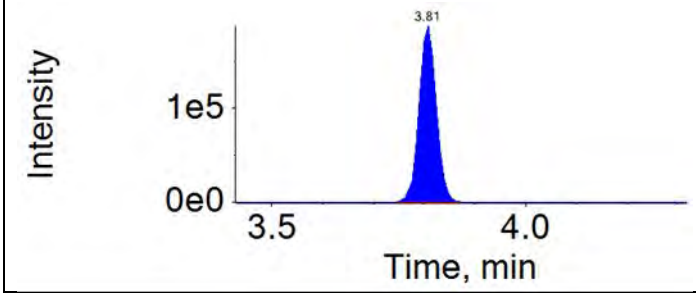


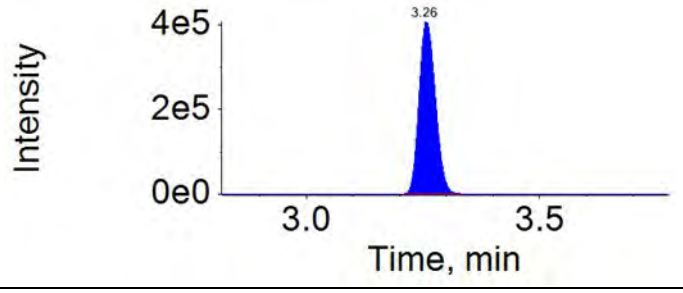
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



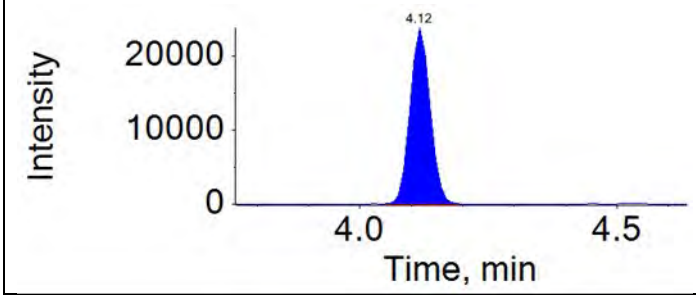


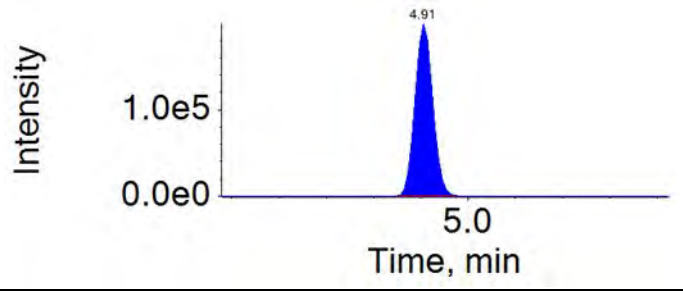
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



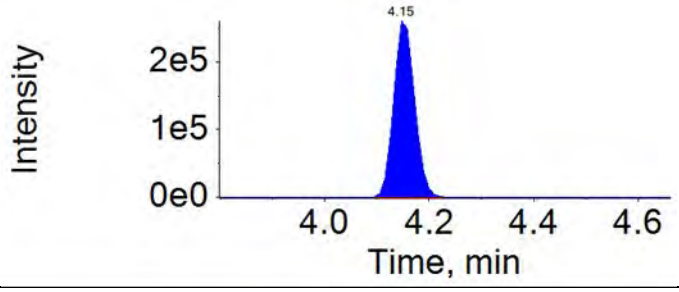


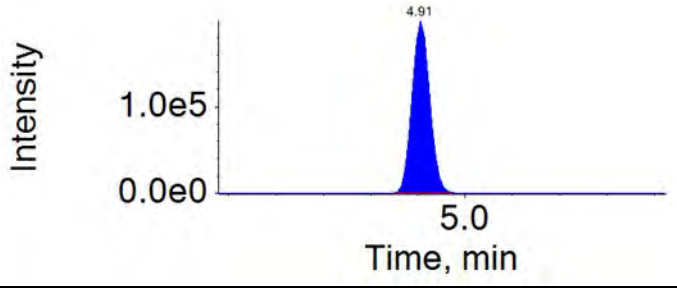
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

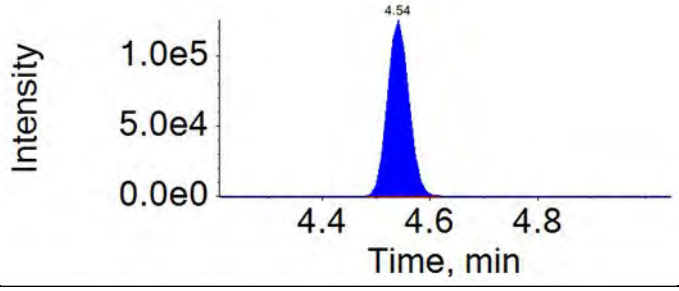
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

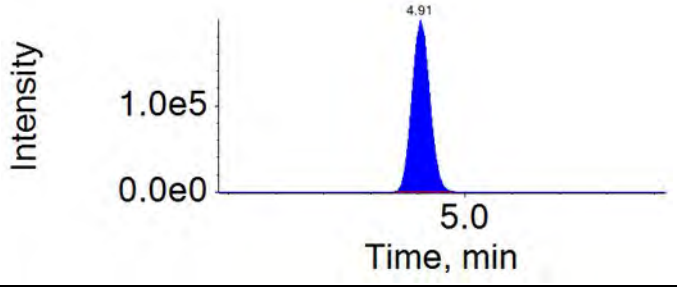
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



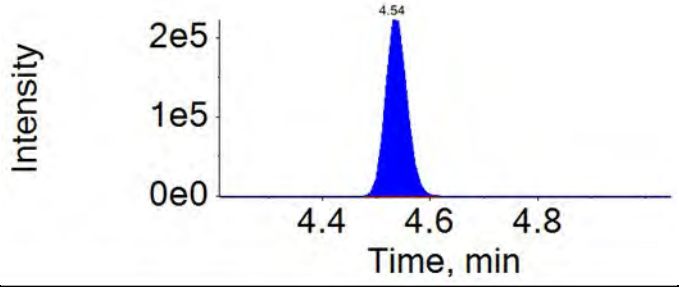


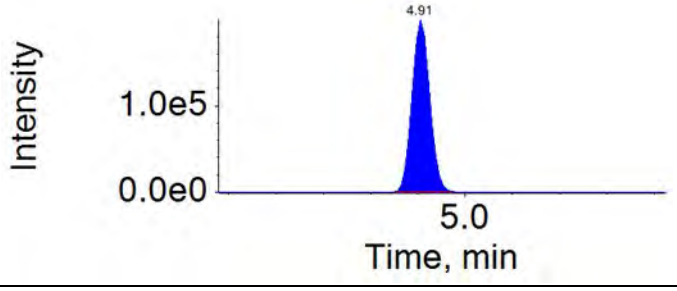
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



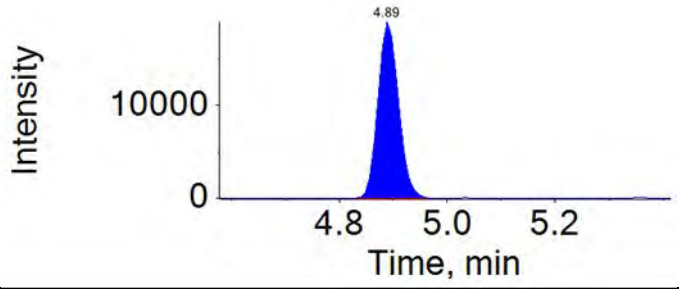


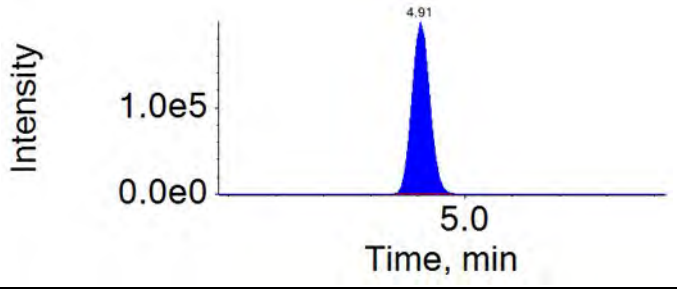
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

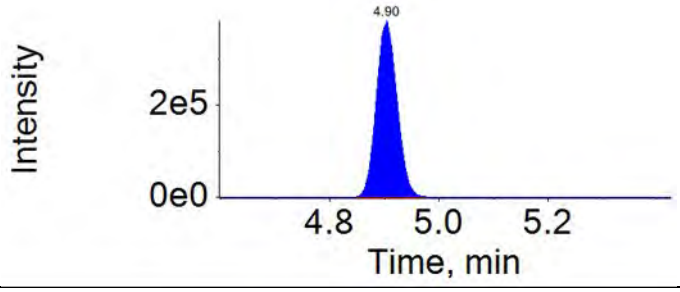
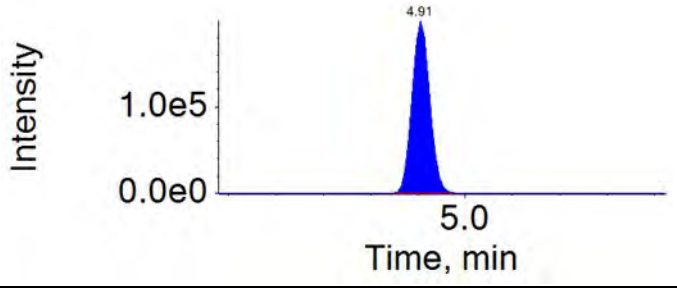


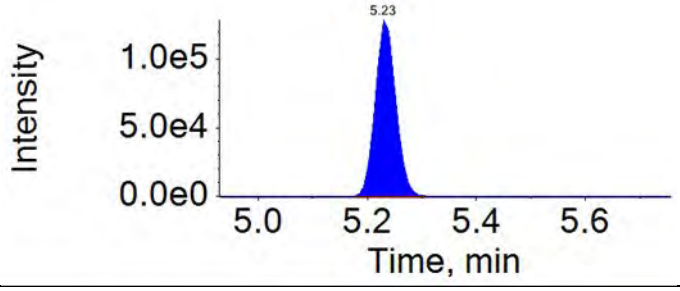
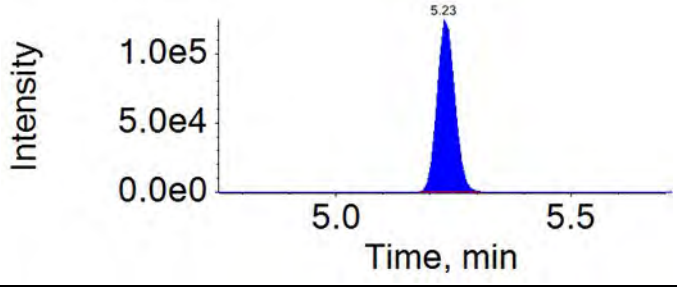


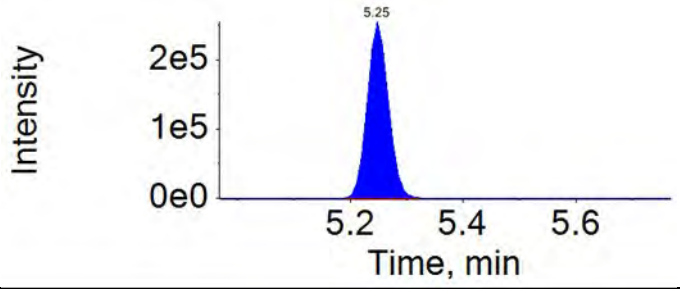
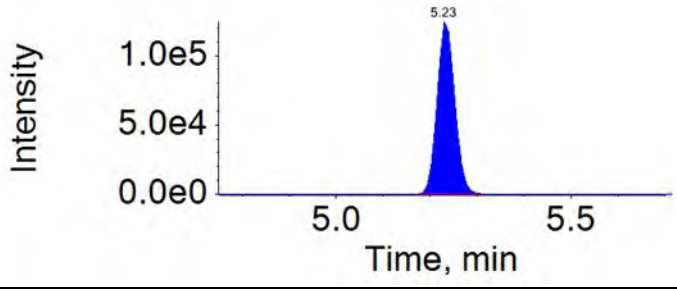
APPROVED
By MSM at 11:49 am, 12/19/18

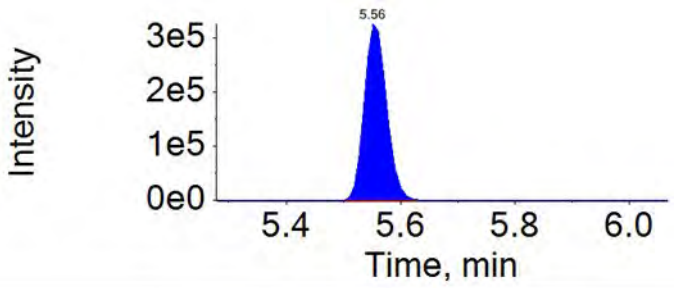
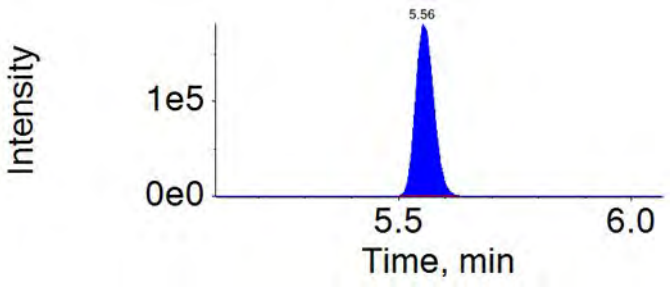
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

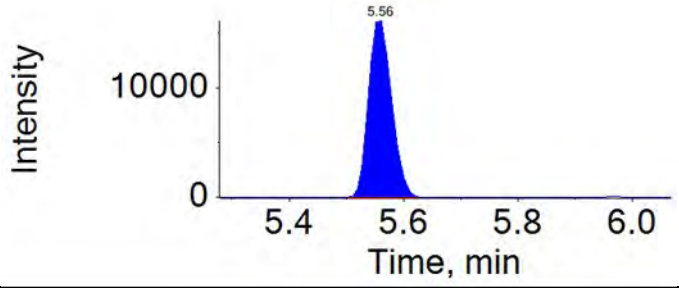
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

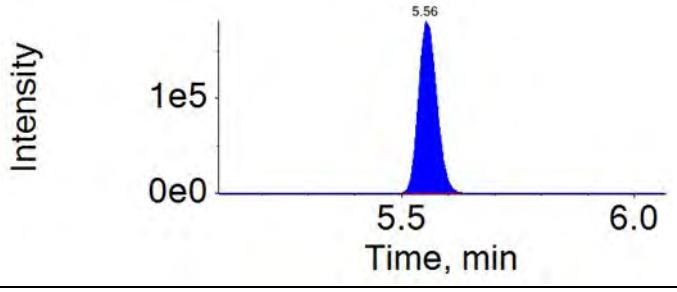
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

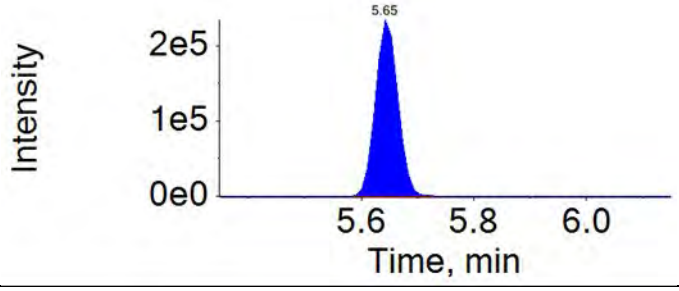
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

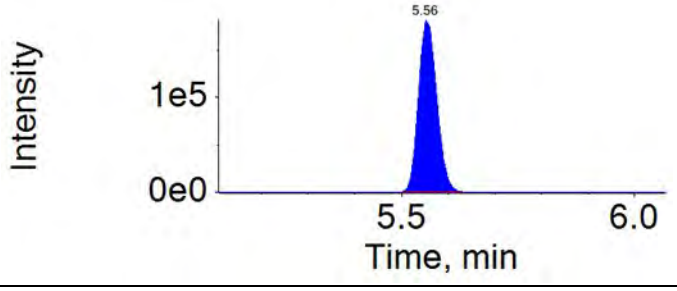
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



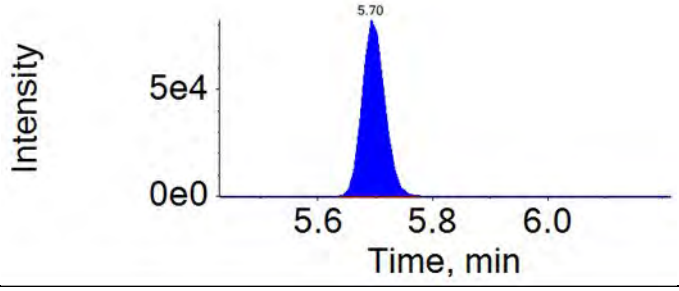


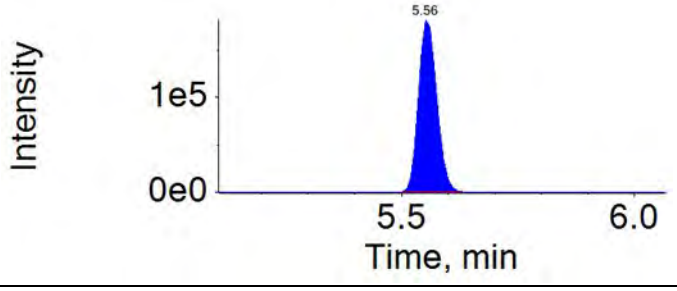
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



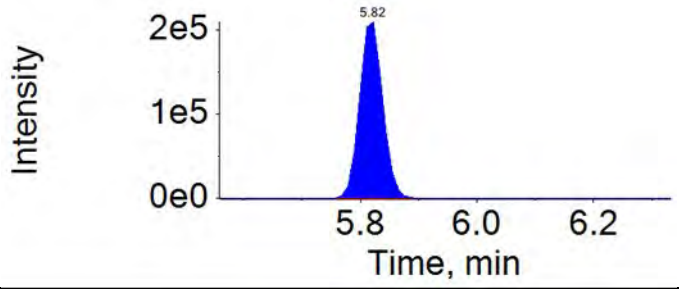


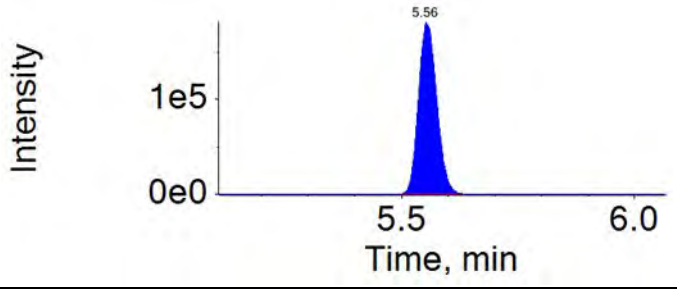
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



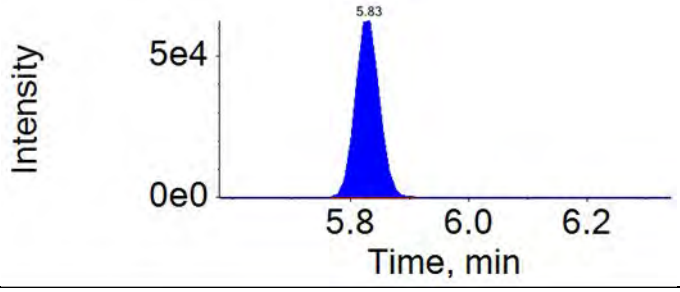


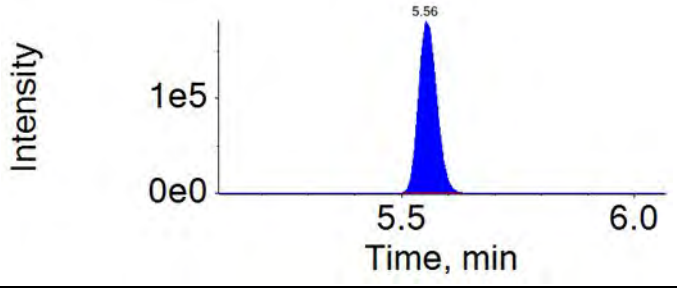
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

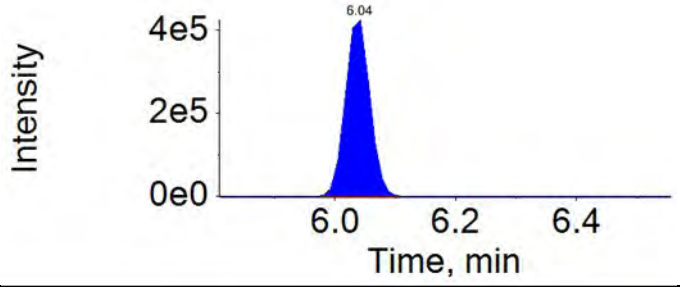
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

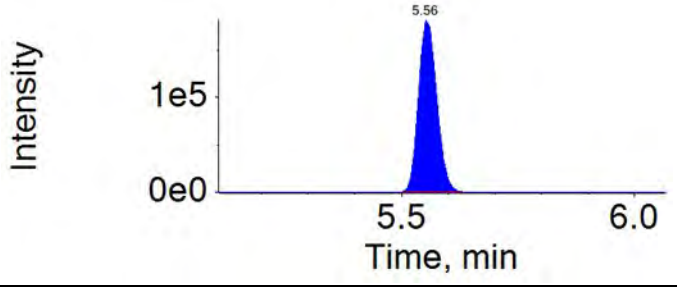
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



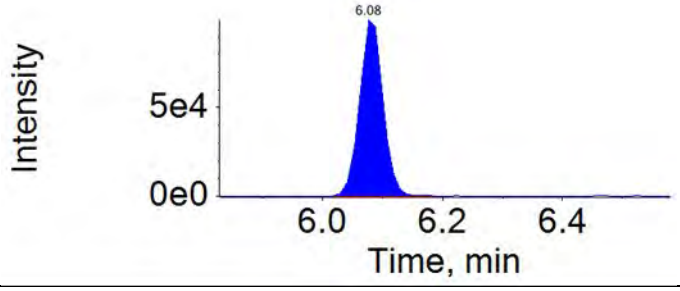


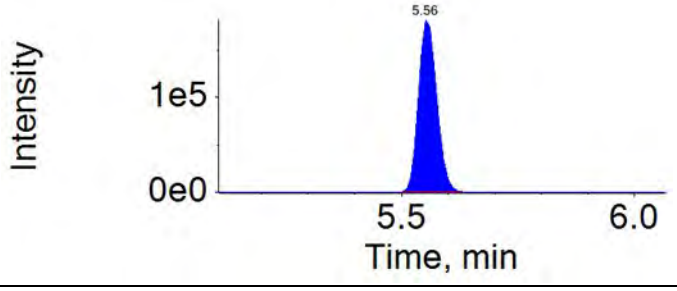
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



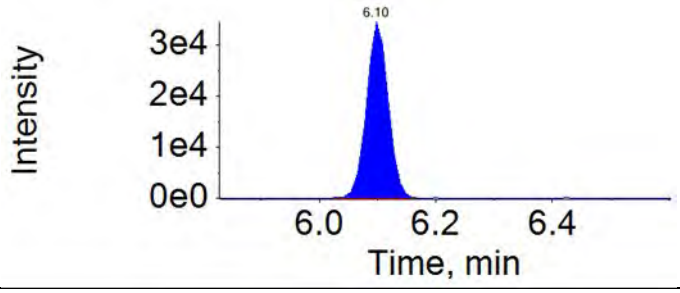


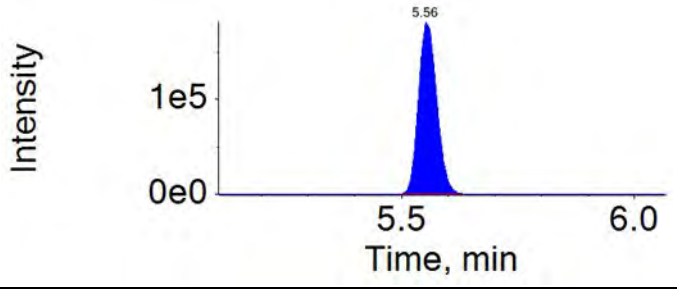
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





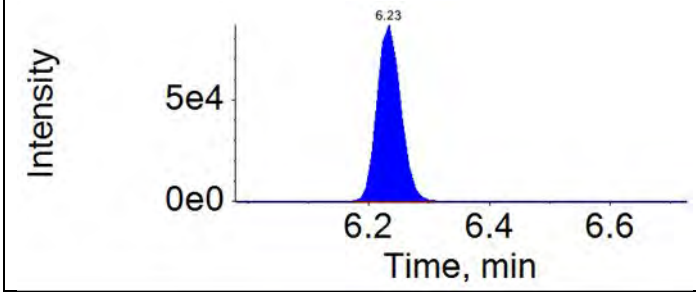
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

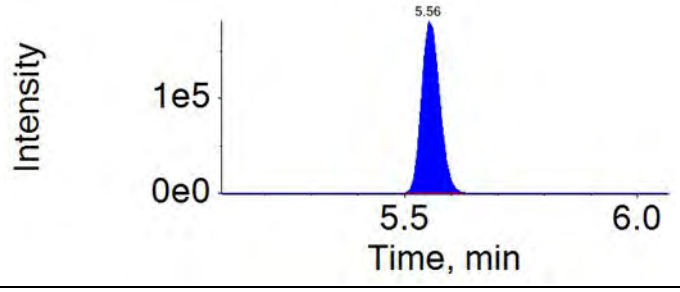




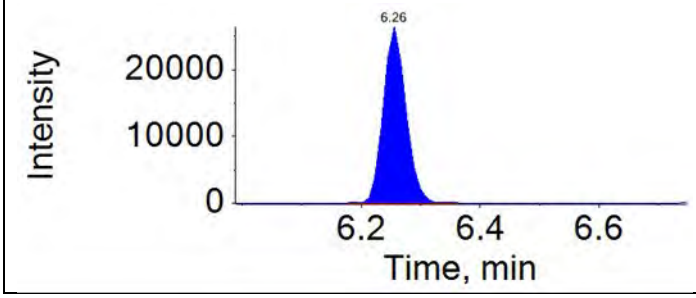
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

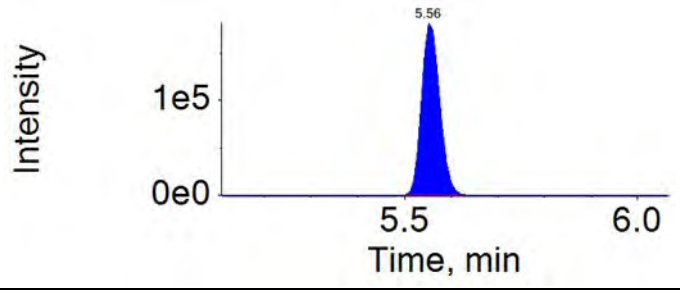
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



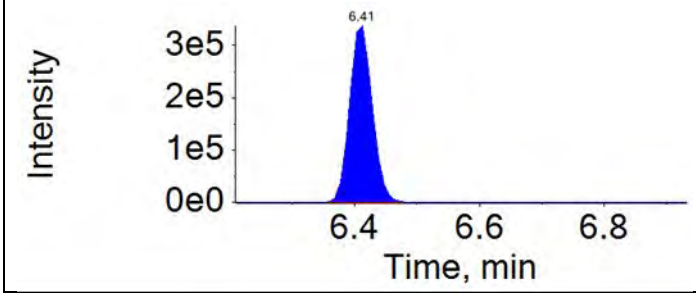


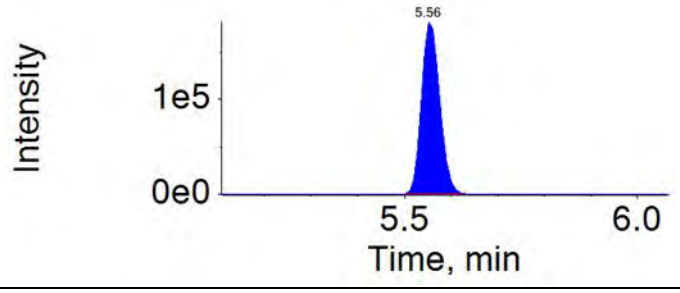
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



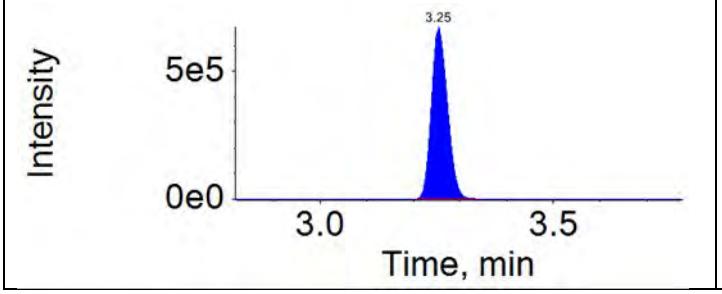


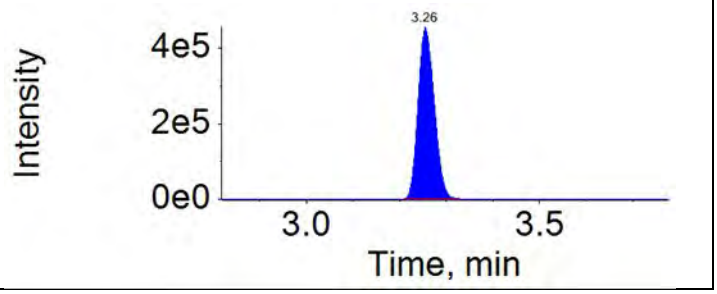
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

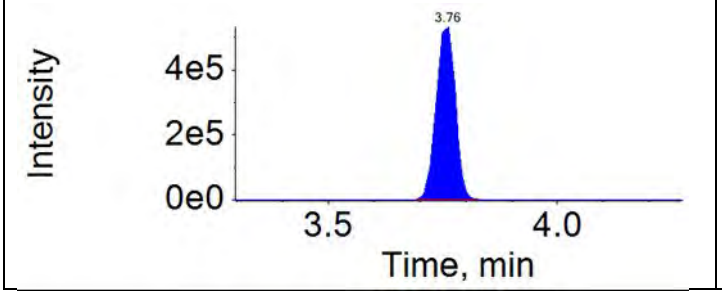
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

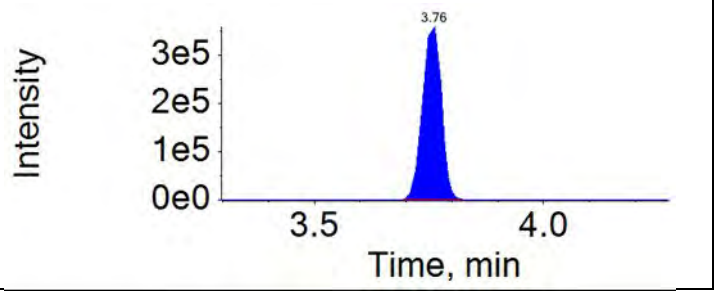
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



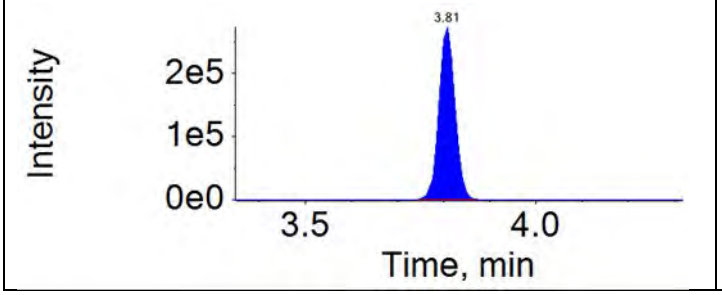


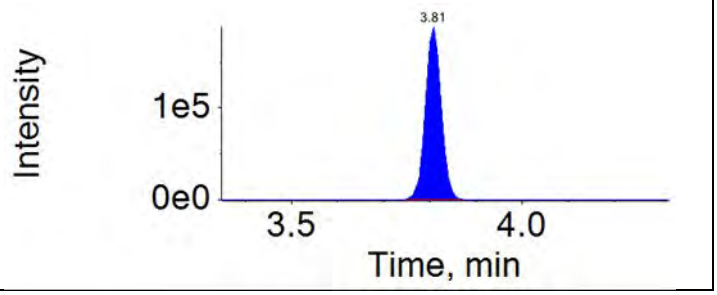
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



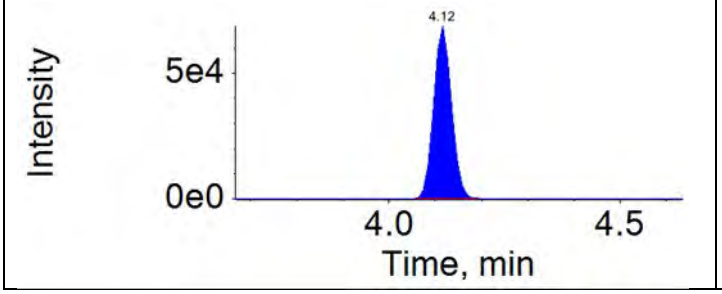


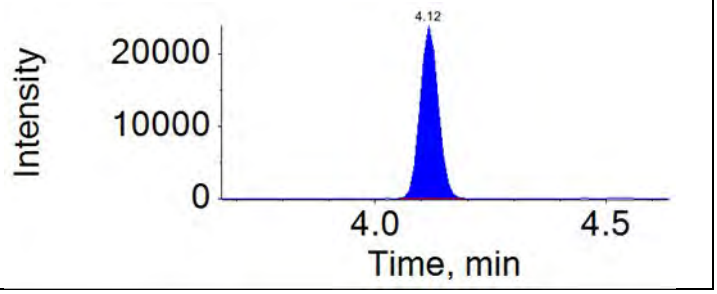
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



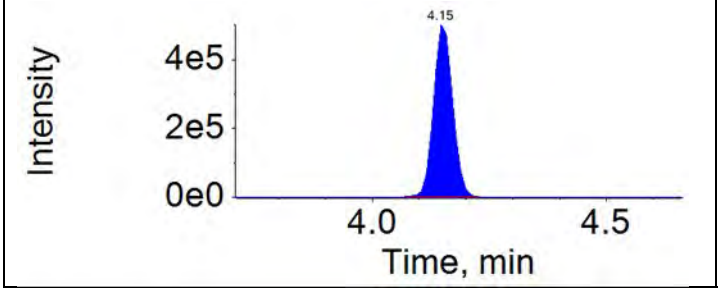


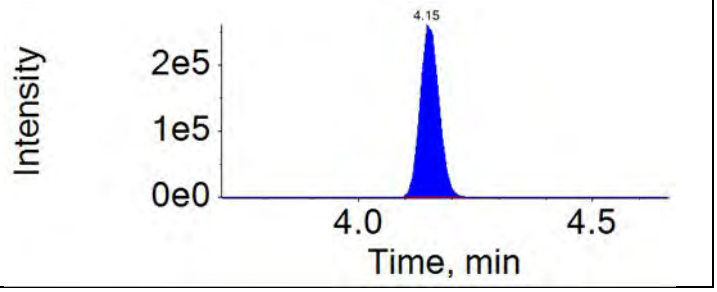
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

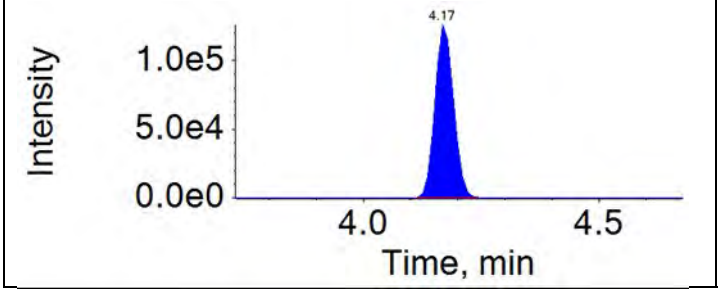
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

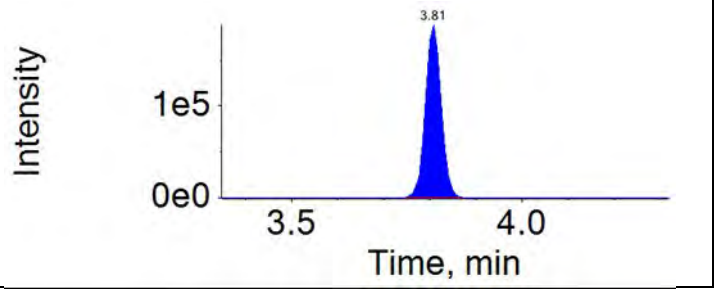
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



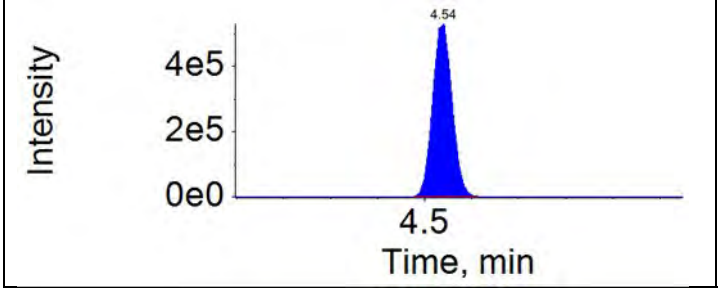


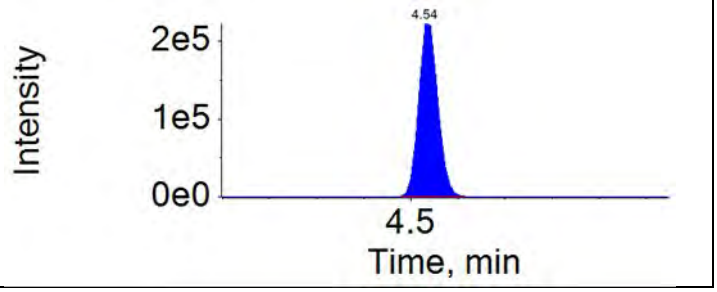
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



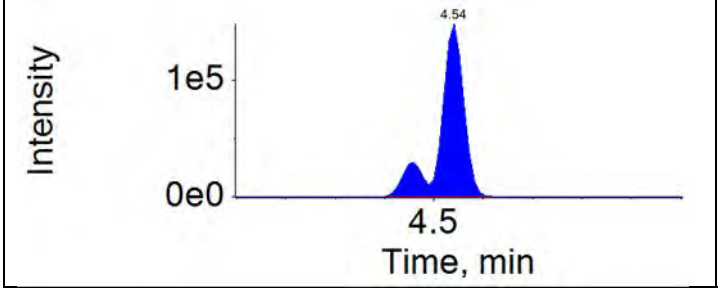


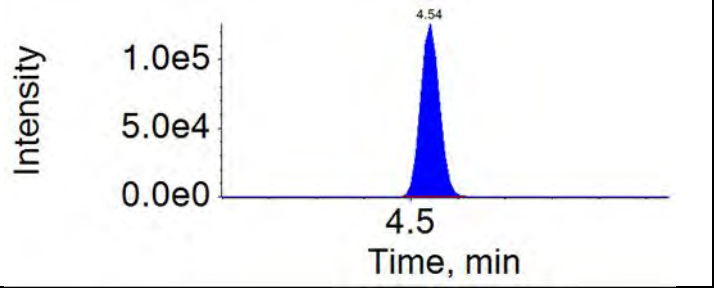
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

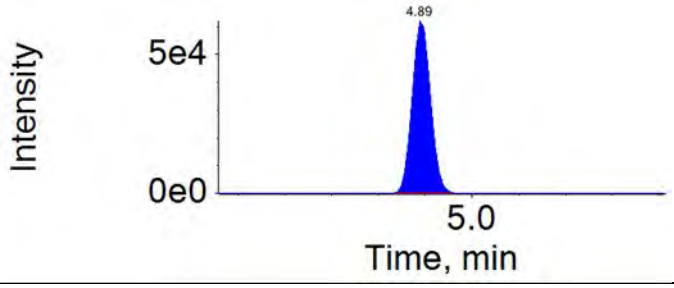
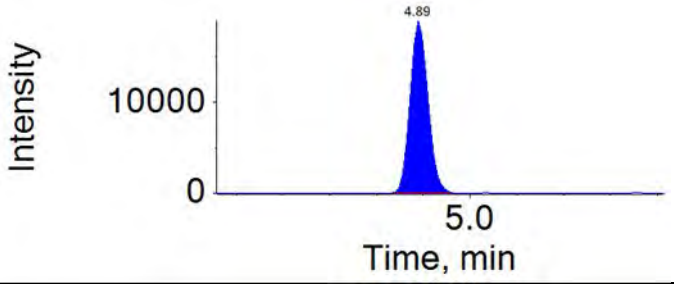


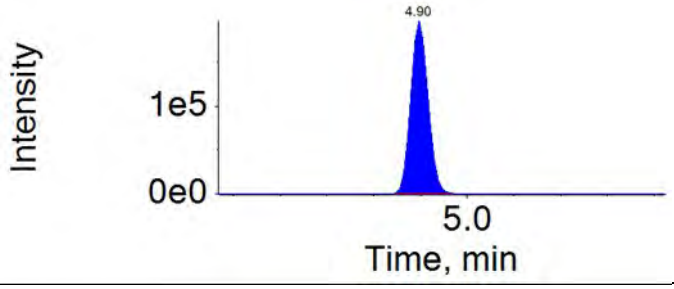
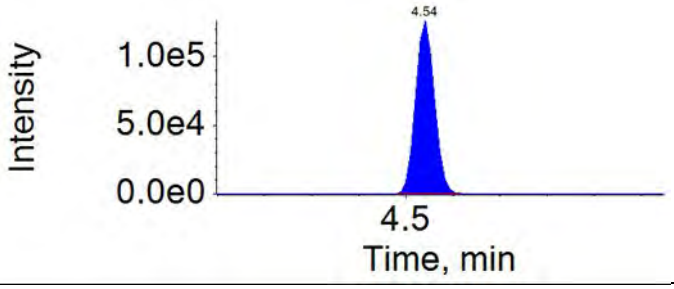


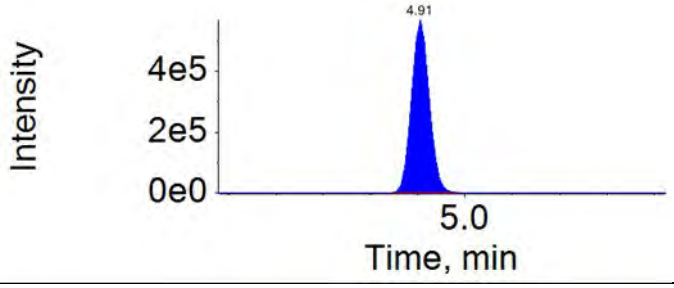
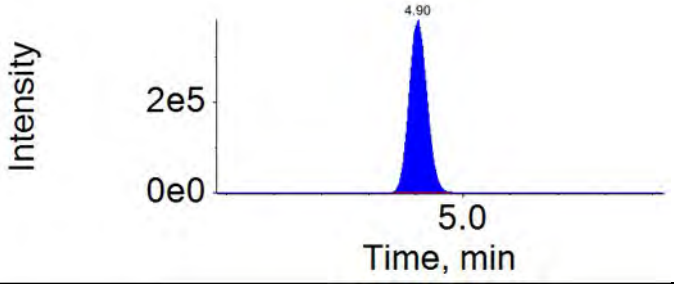
APPROVED
By MSM at 11:49 am, 12/19/18

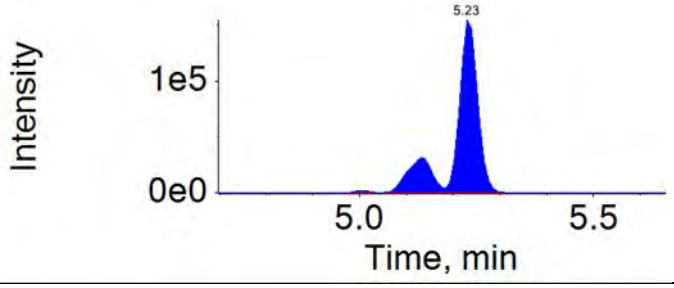
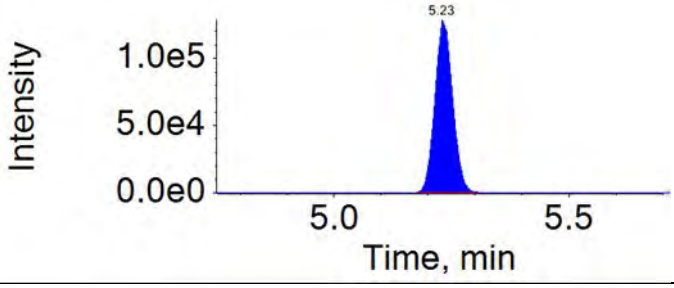
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

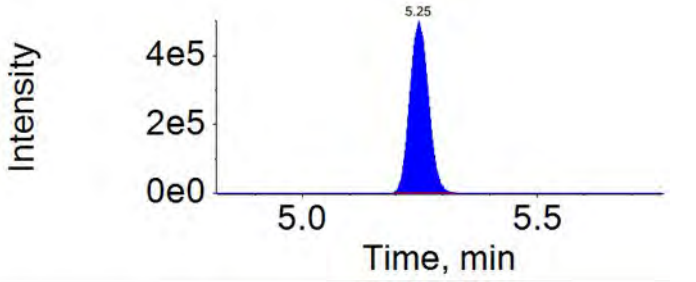
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

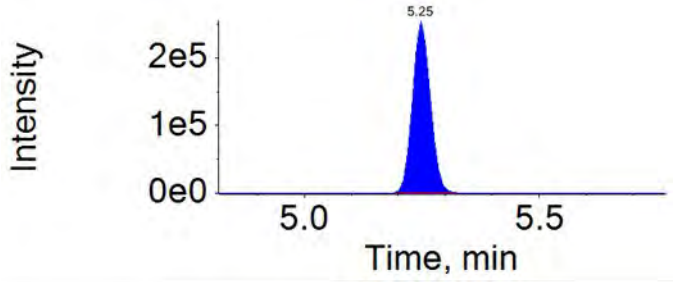
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

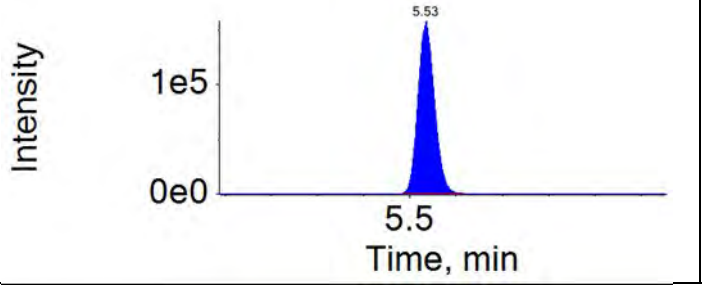
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

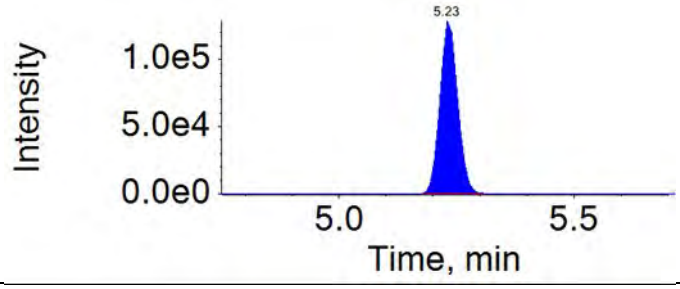
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



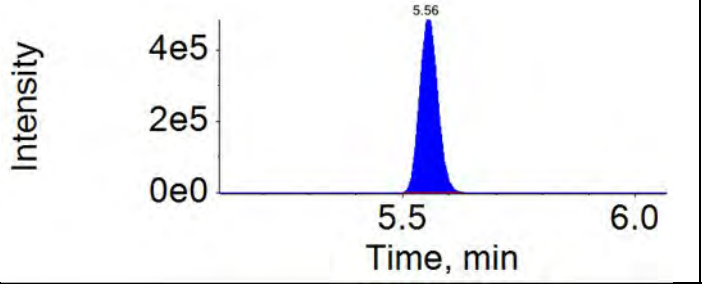


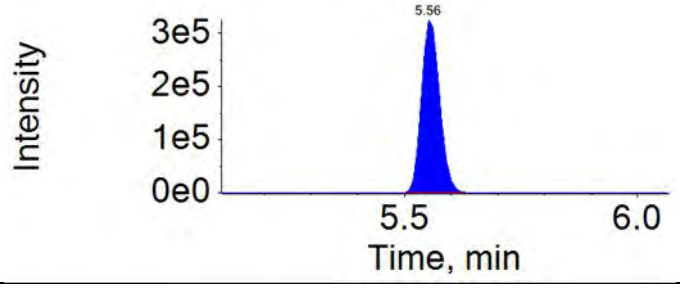
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



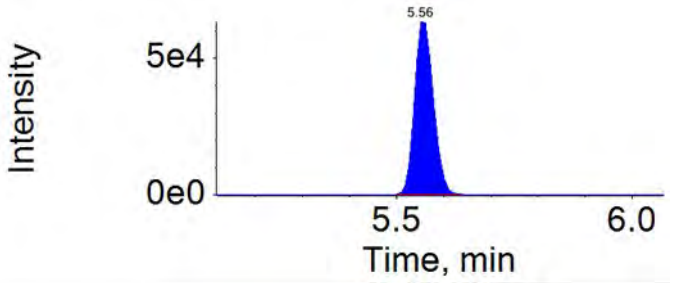


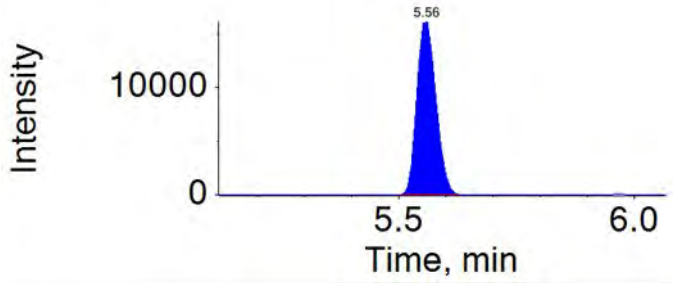
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



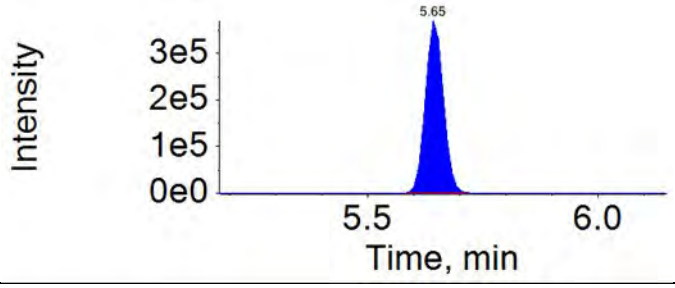


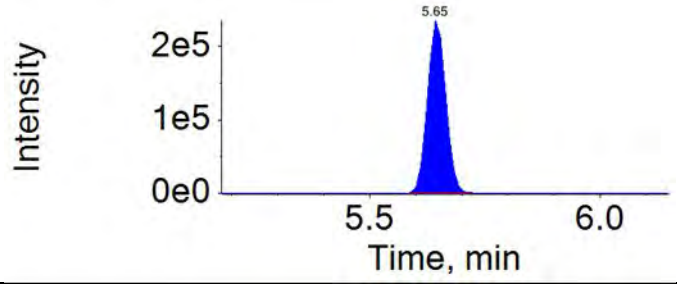
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

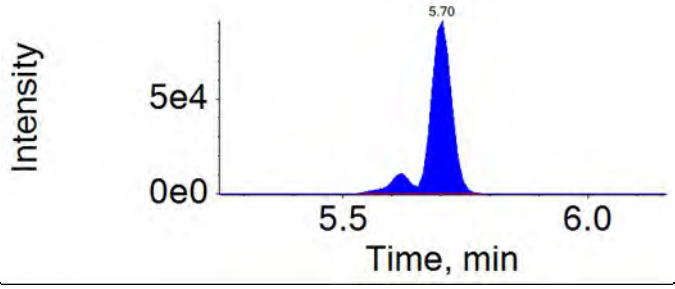
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

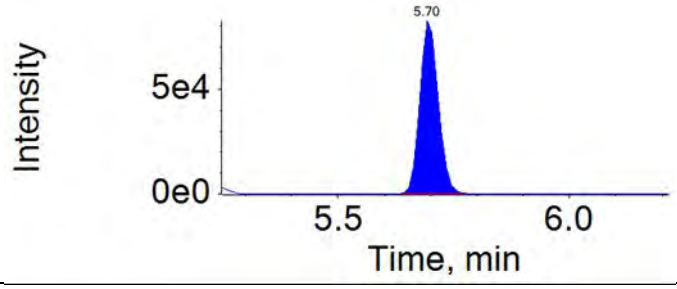
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



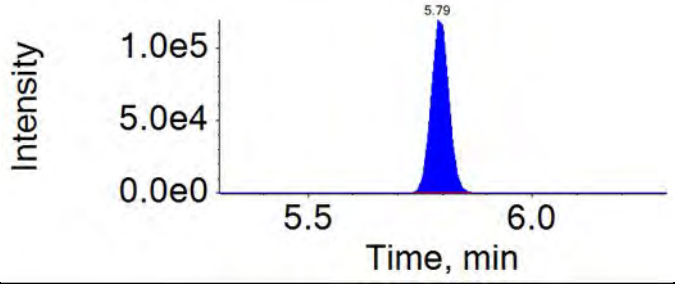


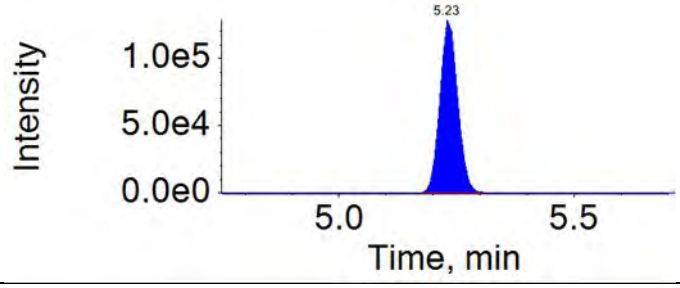
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



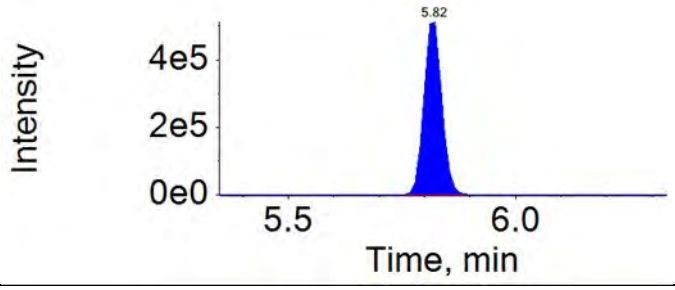


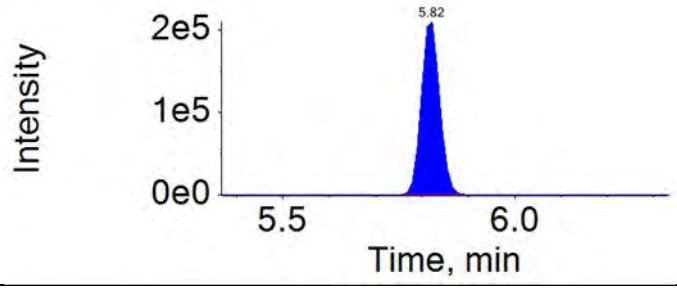
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



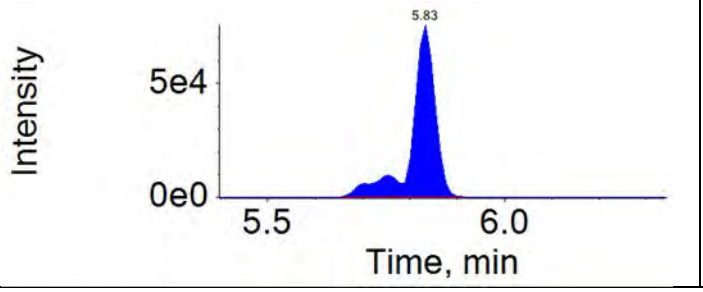


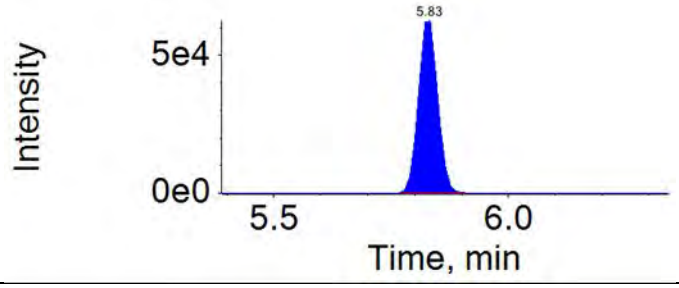
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

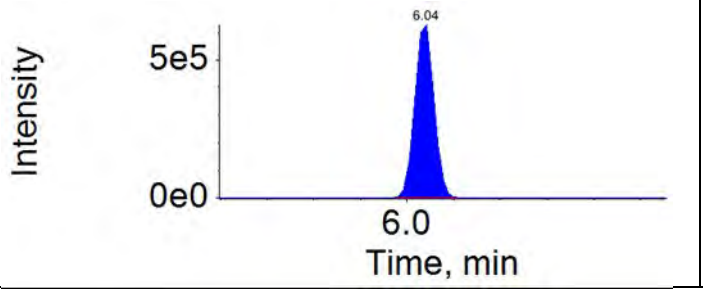
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

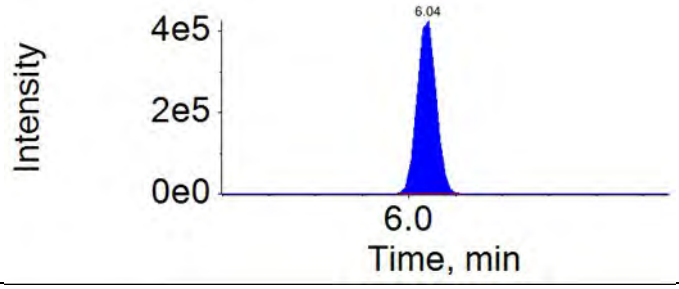
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



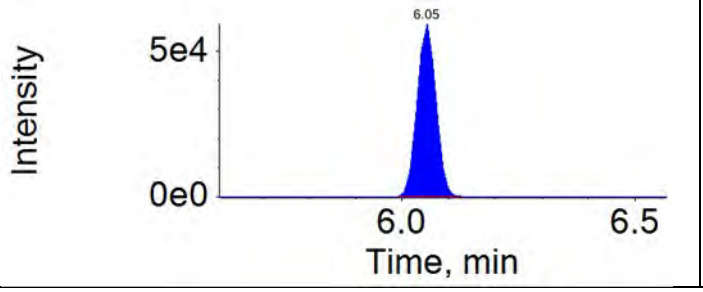


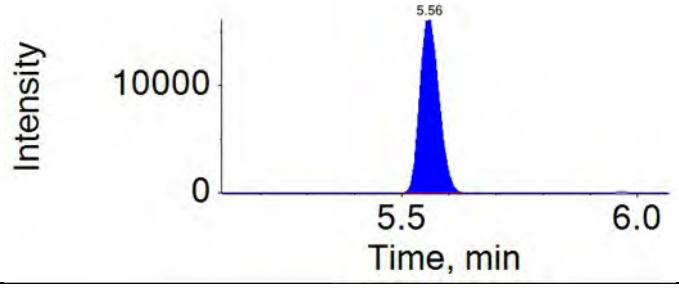
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



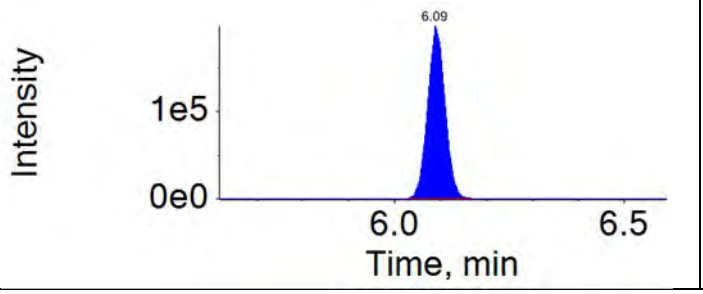


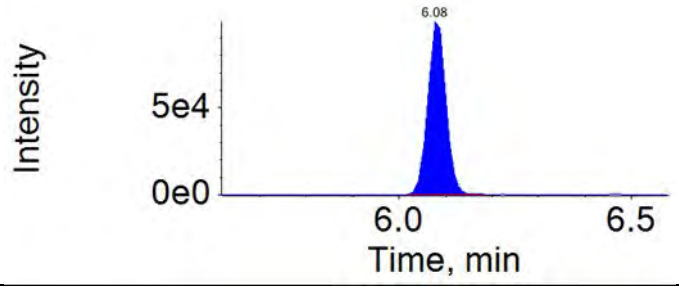
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



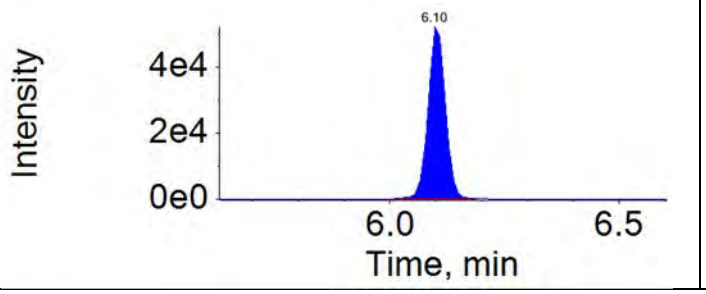


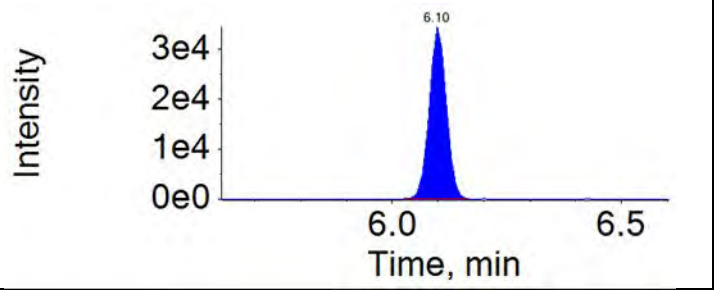
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

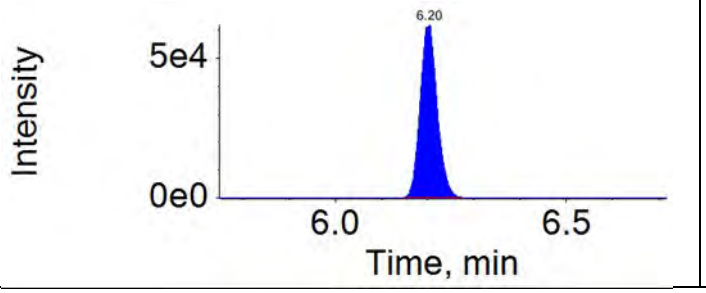
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

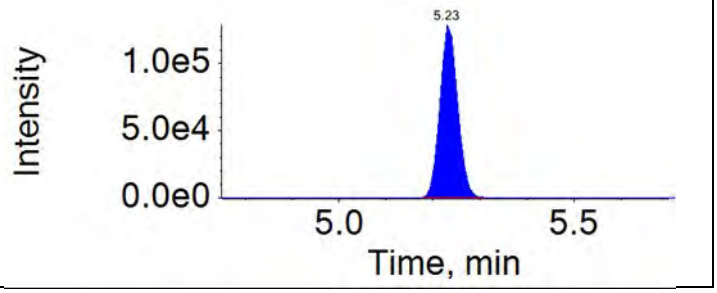
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



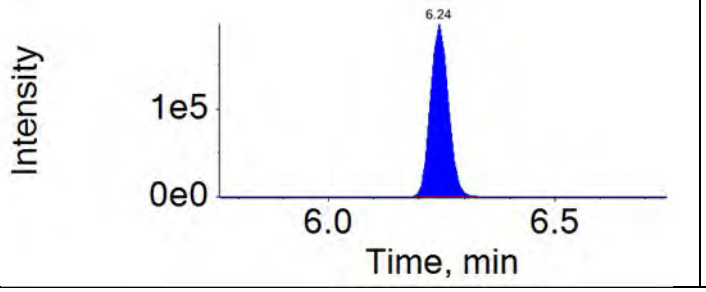


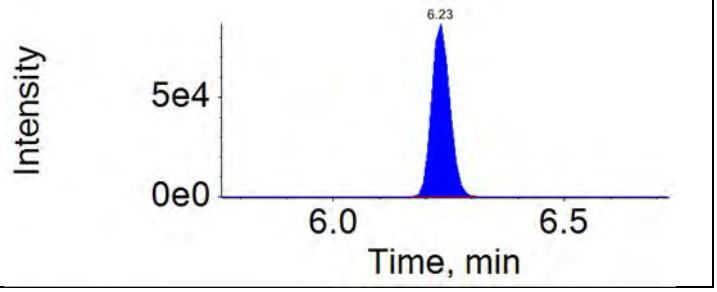
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



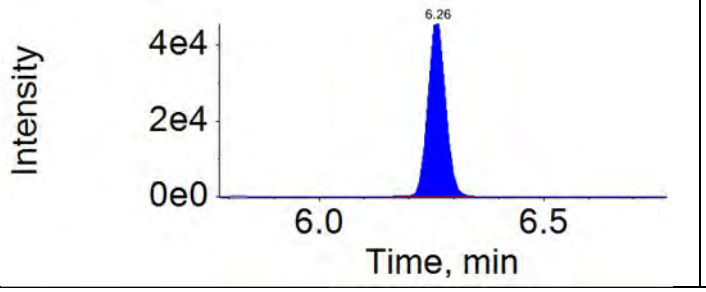


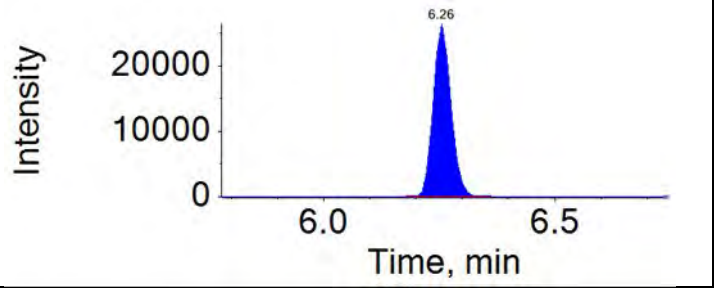
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



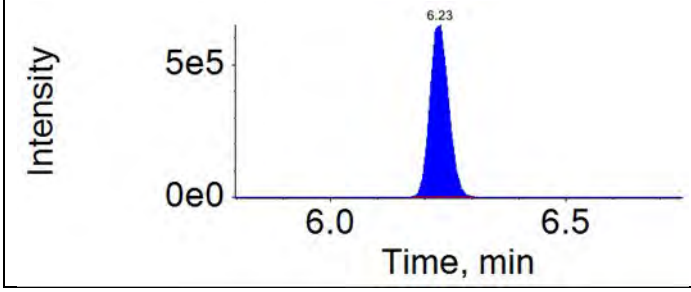


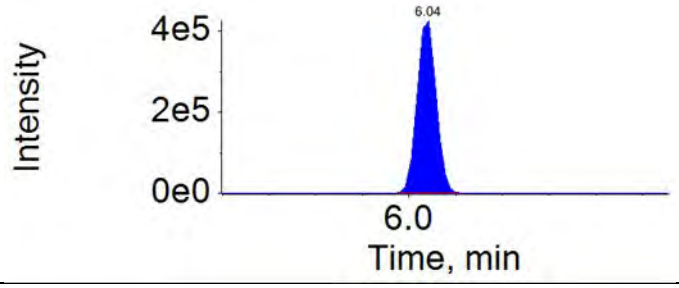
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

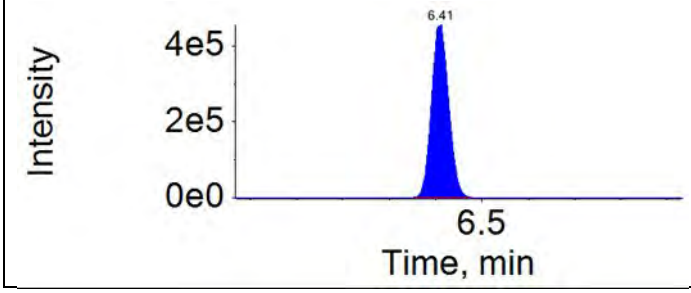
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

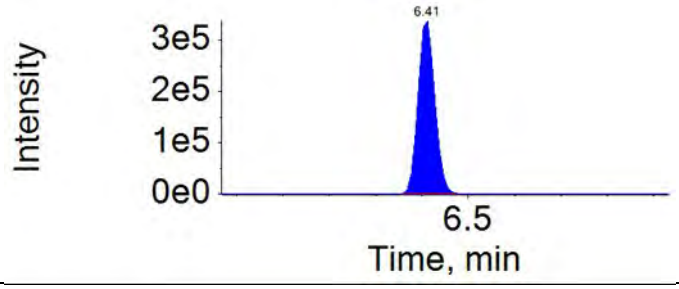
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



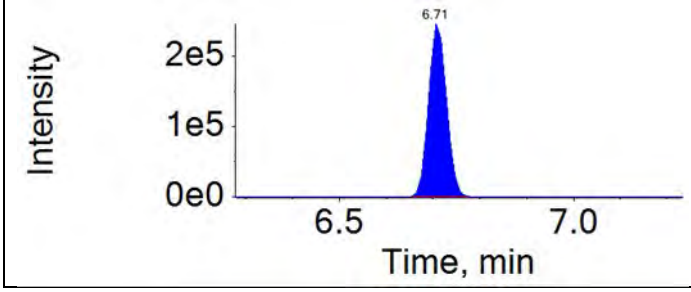


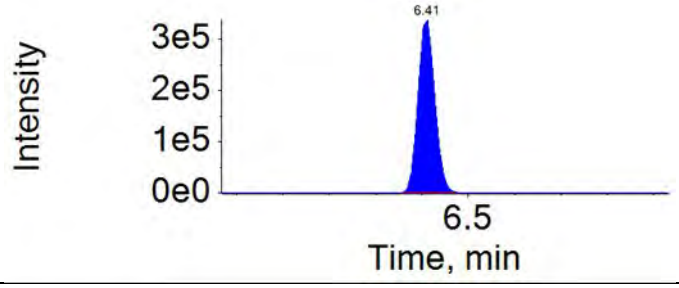
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



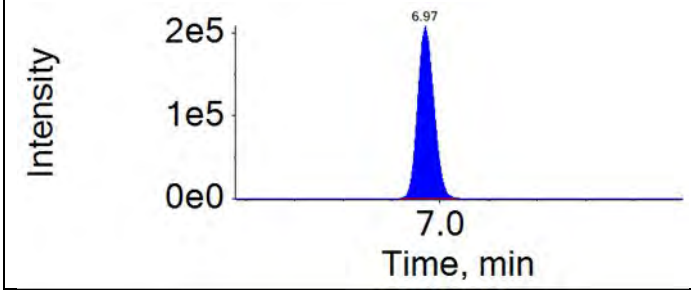


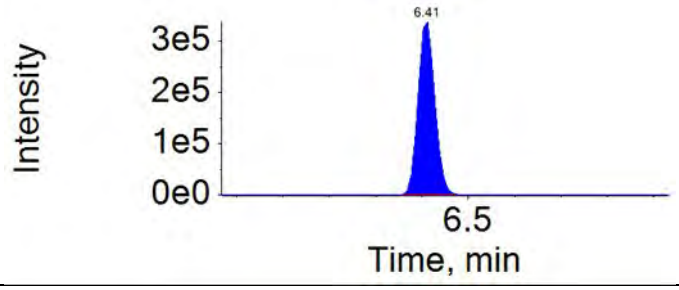
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



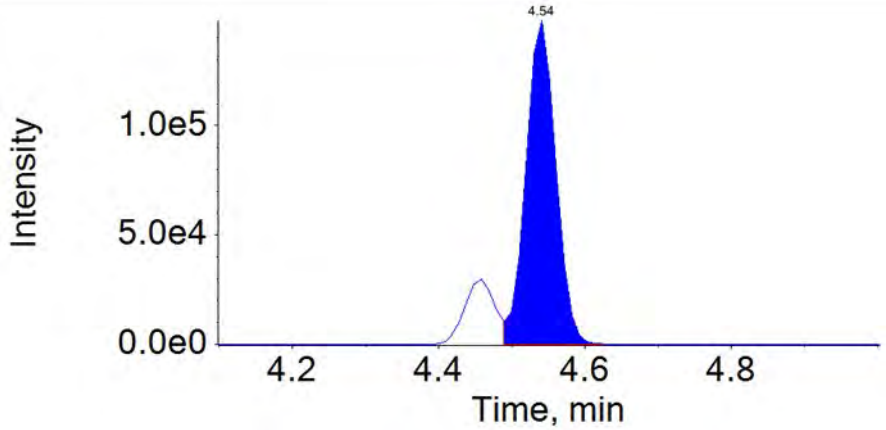


APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

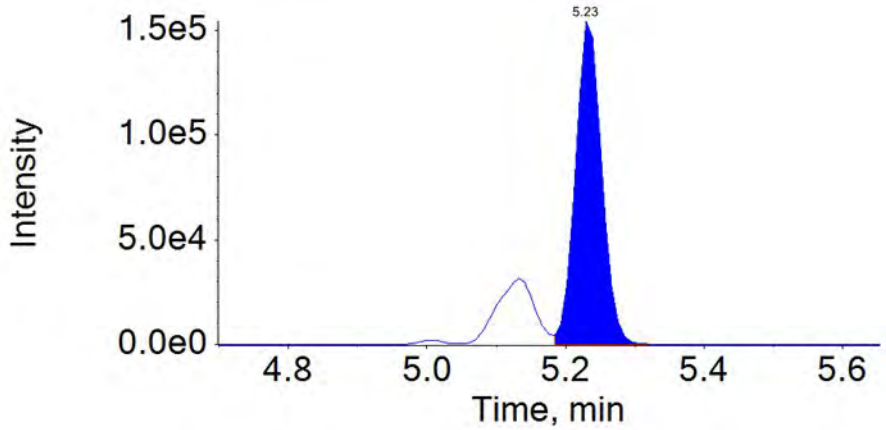
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
421244.88
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



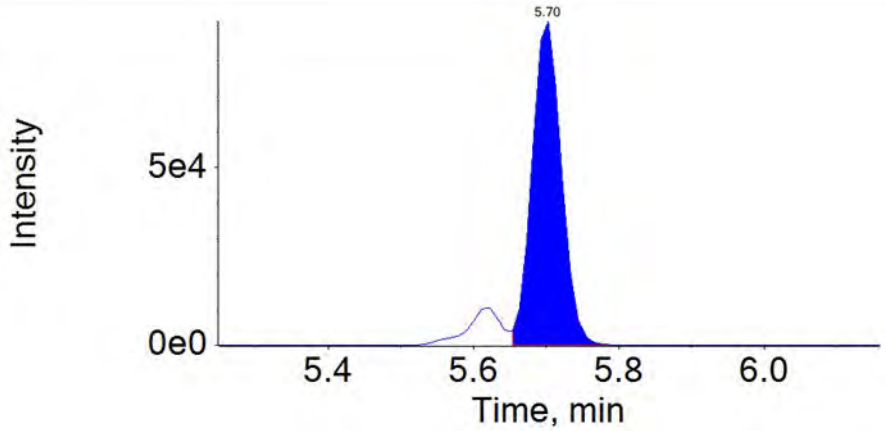
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
407033.72
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
256425.30
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



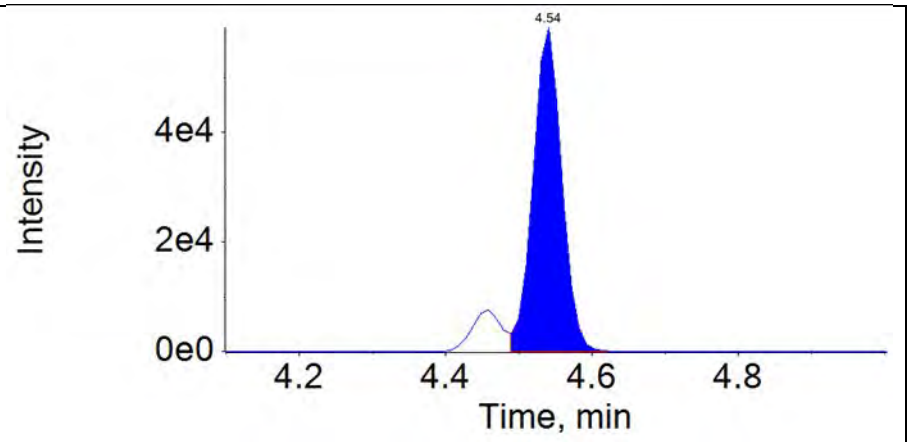
Integration Comment: incorrect integration

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By MSM at 11:49 am, 12/19/18

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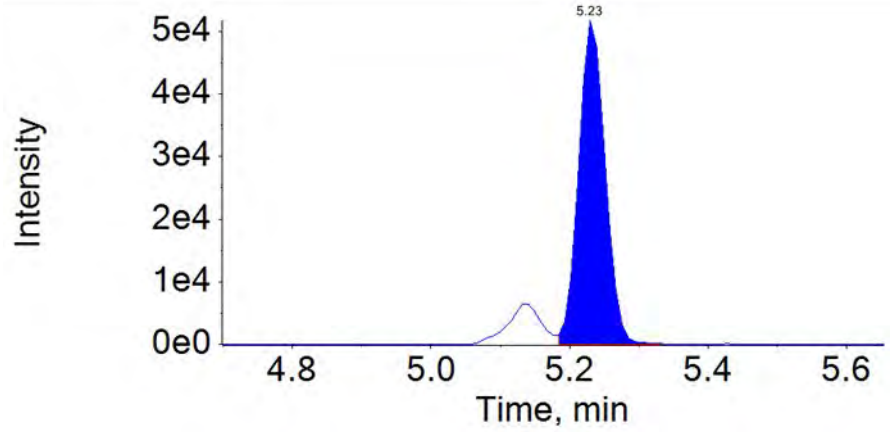
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
161005.02
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



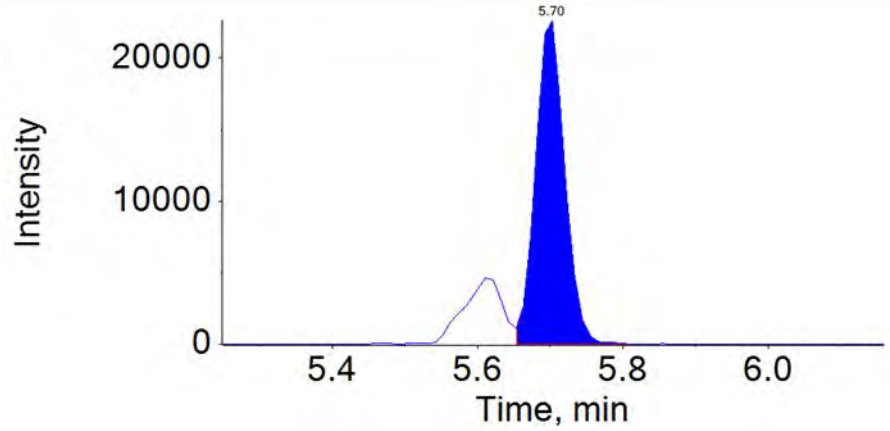
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
137804.45
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
63483.41
Mass Range:
570.0 / 483.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

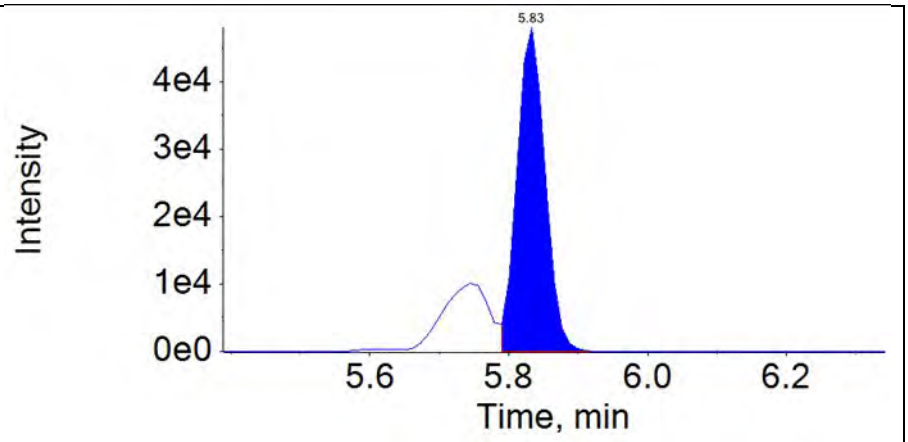
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By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
135009.13
Mass Range:
584.0 / 526.0
File Name:
18DEC18DCAL-71.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

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By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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Ion Ratio Report

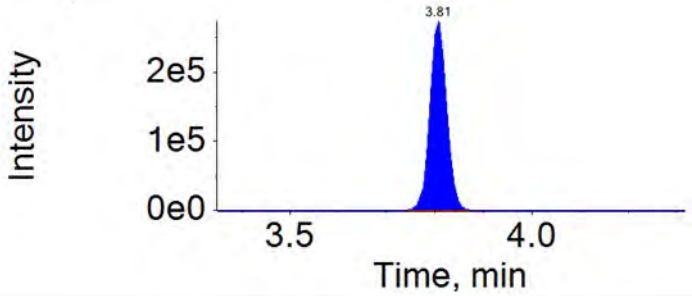
Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-71.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	660159.83	A	1.0000	1.0000			
PFBS_2	3.81	1.00	248735.76	A	0.3686	0.3768	2	50	
4:2-FTS	4.12	1.00	183632.08	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	106167.60	A	0.6123	0.5782	-6	50	
PFHxA	4.15	1.00	1422618.69	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	16437.18	A	0.0115	0.0116	1	50	
PFPeS	4.17	1.10	343711.12	A	1.0000	1.0000			
PFPeS_2	4.17	1.10	180169.26	A	0.5256	0.5242	0	50	
PFHpA	4.54	1.00	1522802.64	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	83499.68	A	0.0547	0.0548	0	50	
PFHxS	4.54	1.00	506401.74	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	182447.96	M	0.3359	0.3603	7	50	
6:2-FTS	4.89	1.00	169143.28	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	108454.12	A	0.6344	0.6412	1	50	
PFHpS	4.90	1.08	505804.63	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	194362.78	A	0.4110	0.3843	-7	50	
PFOA	4.91	1.00	1478030.41	A	1.0000	1.0000			
PFOA_2	4.90	1.00	87662.18	A	0.0590	0.0593	1	50	
PFOS	5.23	1.00	531668.87	M	1.0000	1.0000			
PFOS_2	5.23	1.00	159861.70	M	0.2980	0.3007	1	50	
PFNA	5.25	1.00	1365072.68	A	1.0000	1.0000			
PFNA_2	5.25	1.00	31550.94	A	0.0214	0.0231	8	50	
PFNS	5.53	1.06	388892.87	A	1.0000	1.0000			
PFNS_2	5.53	1.06	178083.63	A	0.4608	0.4579	-1	50	
PFDA	5.56	1.00	1333153.34	A	1.0000	1.0000			
PFDA_2	5.55	1.00	10106.22	A	0.0064	0.0076	19	50	
8:2-FTS	5.56	1.00	177681.99	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	105688.42	A	0.5879	0.5948	1	50	
NMeFOSAA	5.70	1.00	290343.54	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	80754.48	M	0.2625	0.2781	6	50	
PFDS	5.79	1.11	327865.26	A	1.0000	1.0000			
PFDS_2	5.79	1.11	150578.90	A	0.4962	0.4593	-7	50	
PFUnDA	5.82	1.00	1410610.16	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	4880.61	A	0.0035	0.0035	-2	50	
NEtFOSAA	5.83	1.00	260292.73	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	181923.74	M	0.6883	0.6989	2	50	
PFDoDA	6.04	1.00	1811366.40	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	18150.78	A	0.0134	0.0100	-25	50	
10:2-FTS	6.05	1.09	167061.25	A	1.0000	1.0000			
10:2-FTS_2	6.05	1.09	121860.49	A	0.7018	0.7294	4	50	
PFTrDA	6.23	1.03	1793581.56	A	1.0000	1.0000			
PFTrDA_2	6.23	1.03	15099.28	A	0.0093	0.0084	-10	50	
PFTeDA	6.41	1.00	1181484.10	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	8312.40	A	0.0058	0.0070	21	50	
PFHxDA	6.71	1.05	651302.63	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	41500.36	A	0.0656	0.0637	-3	50	
PFODA	6.97	1.09	481905.32	A	1.0000	1.0000			
PFODA_2	6.97	1.09	13114.49	A	0.0273	0.0272	0	50	

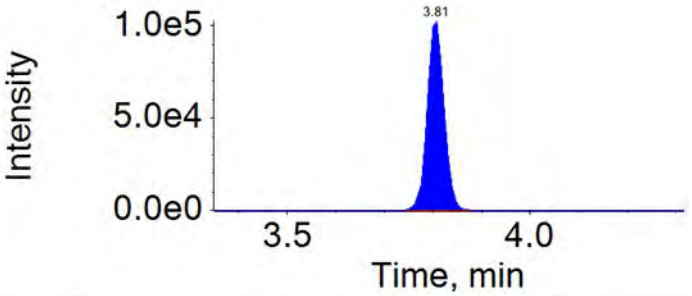
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By MSM at 11:49 am, 12/19/18

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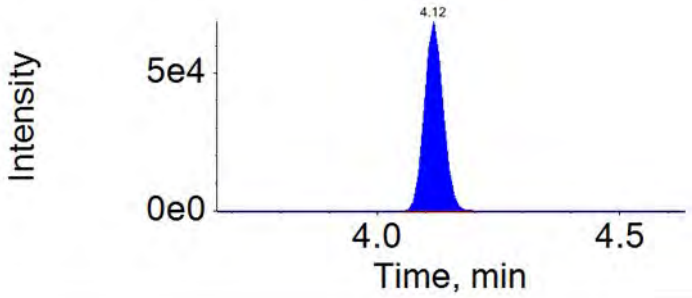
Component: PFBS
Primary Mass: 299.0 / 80.0



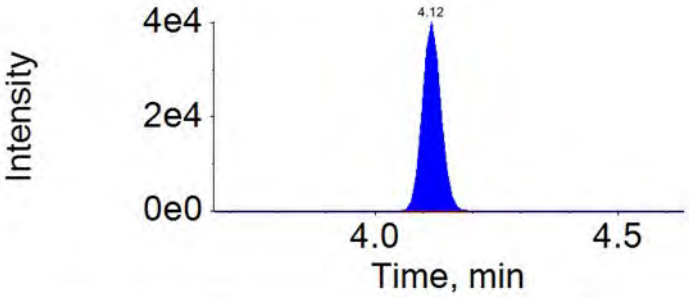
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



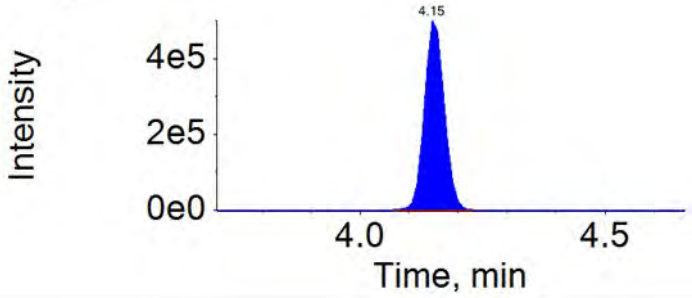
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



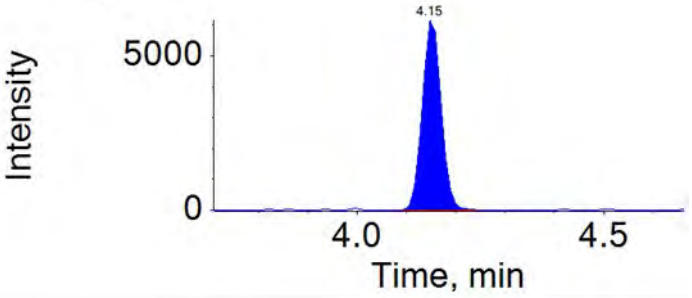
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



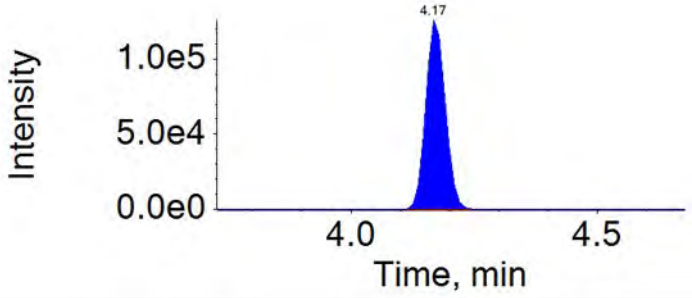
Component: PFHxA
Primary Mass: 313.0 / 269.0



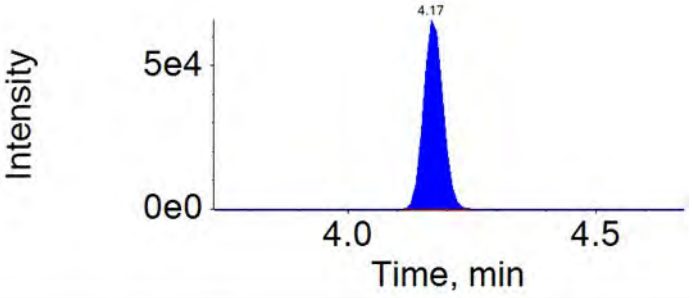
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



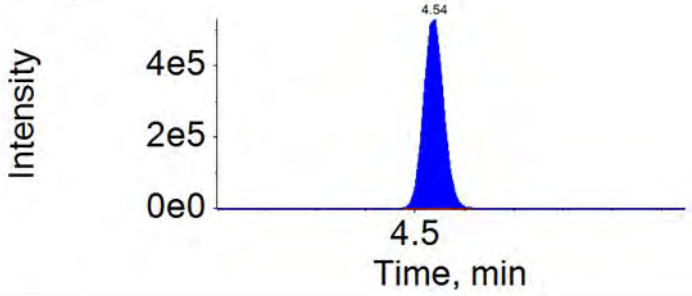
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



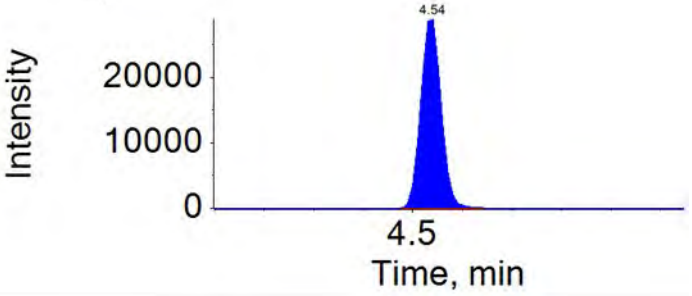
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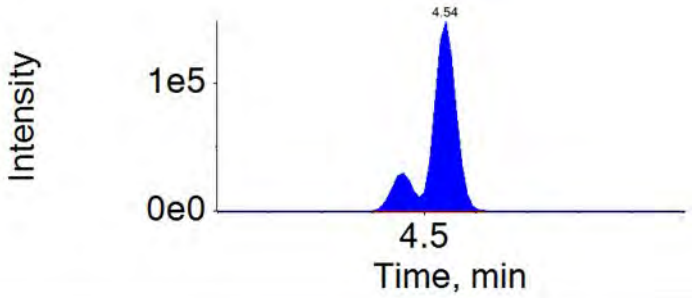
Component: PFHpA
Primary Mass: 363.0 / 319.0



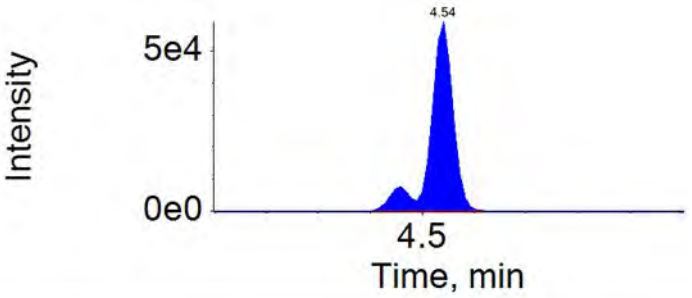
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



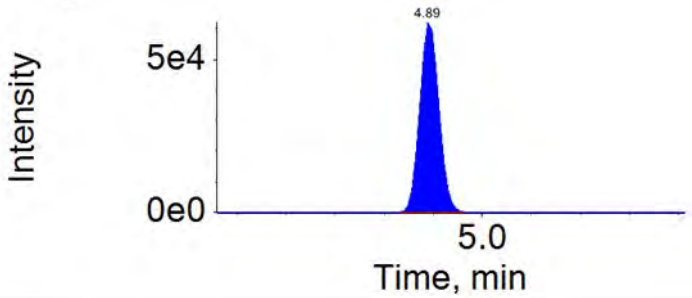
Component: PFHxS
Primary Mass: 399.0 / 80.0



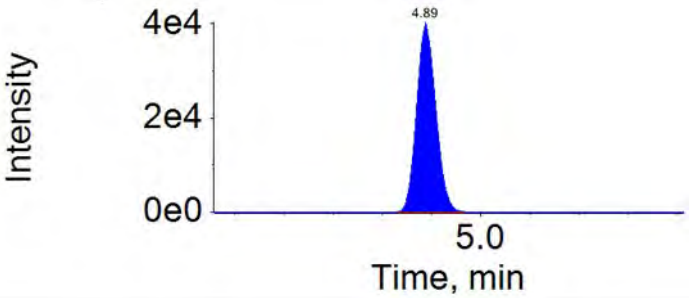
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



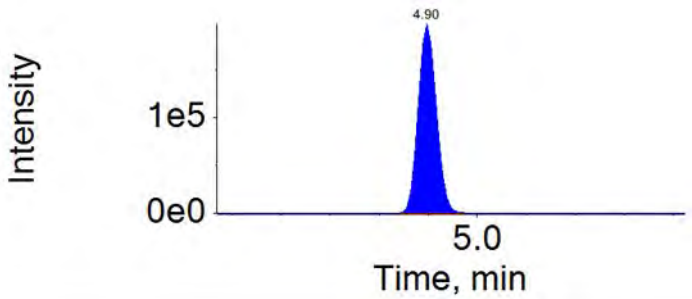
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



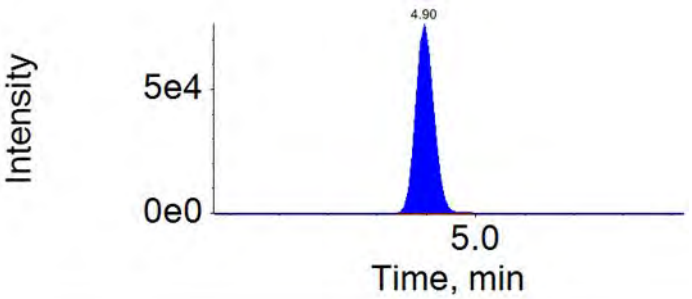
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



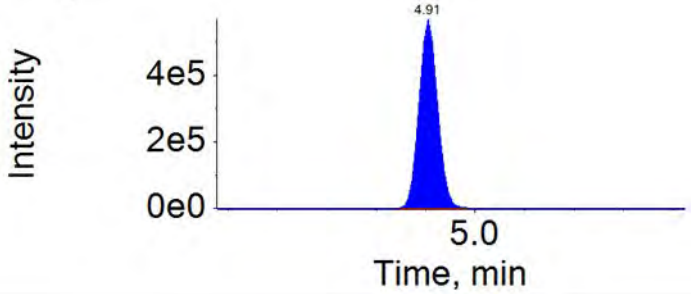
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



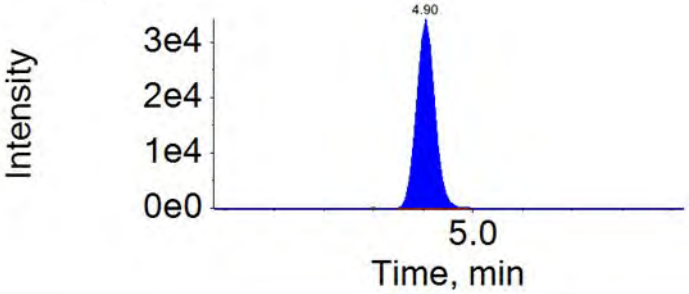
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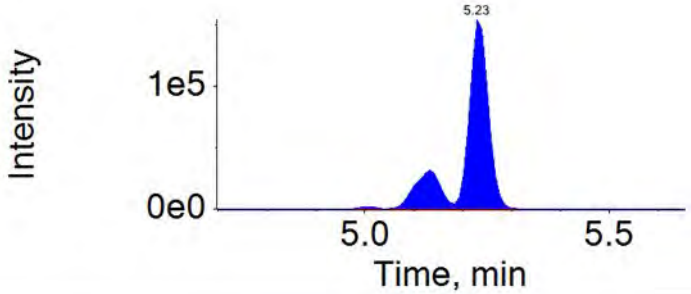
Component: PFOA
Primary Mass: 413.0 / 369.0



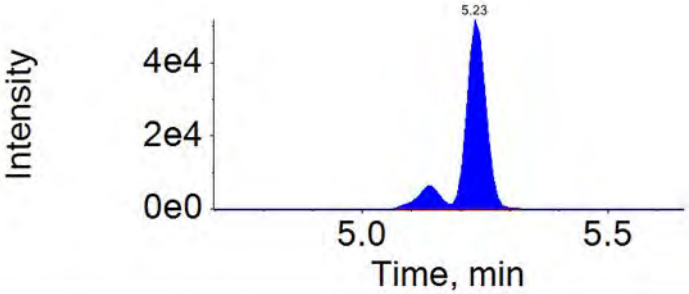
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



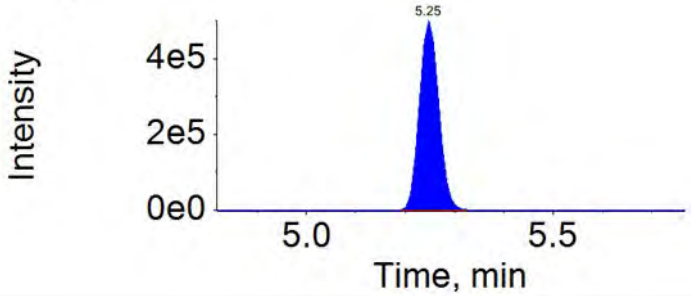
Component: PFOS
Primary Mass: 499.0 / 80.0



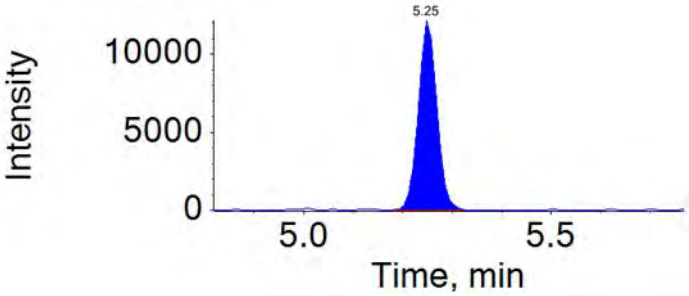
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



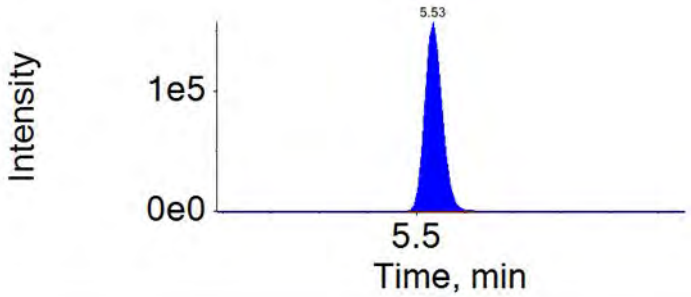
Component: PFNA
Primary Mass: 463.0 / 419.0



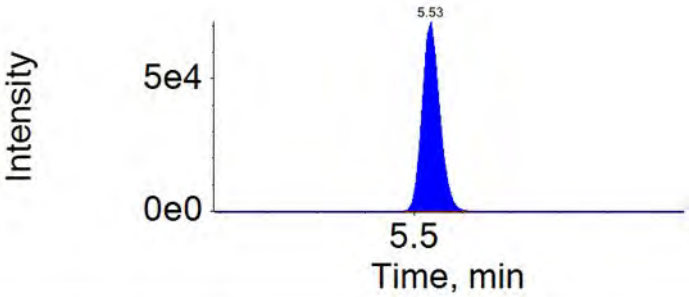
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



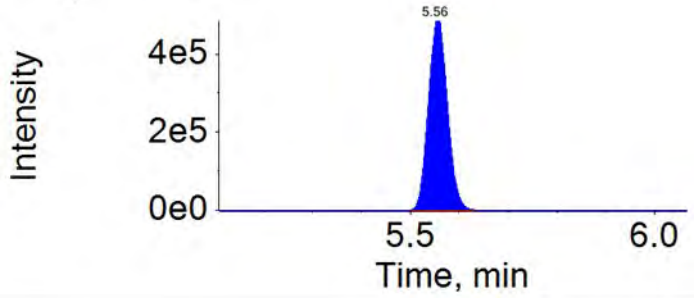
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



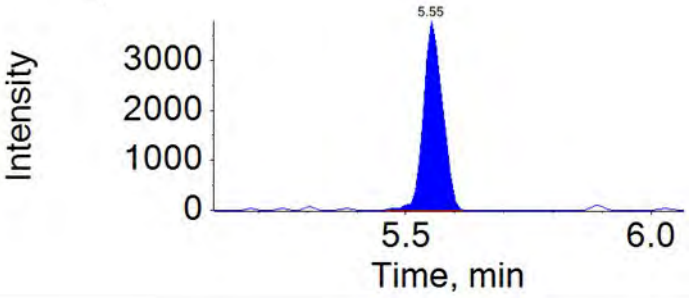
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By HMK at 11:53 am, 12/21/18

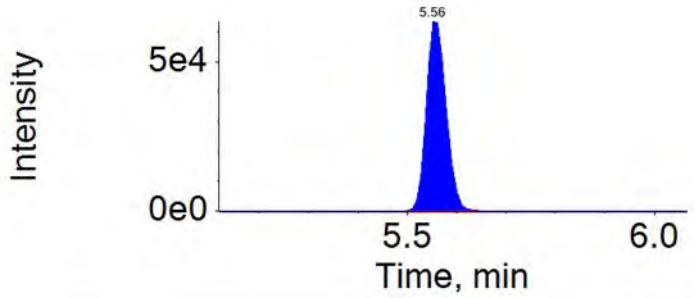
Component: PFDA
Primary Mass: 513.0 / 469.0



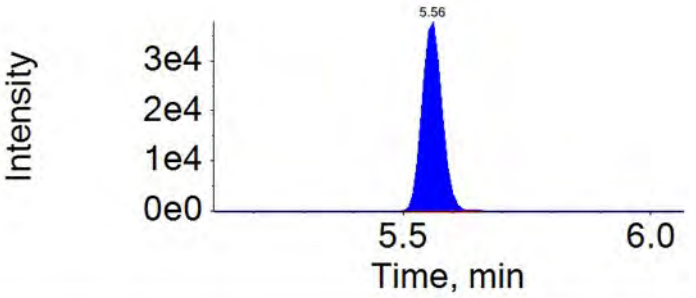
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



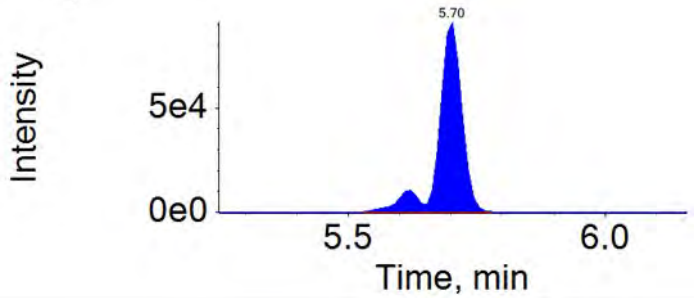
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



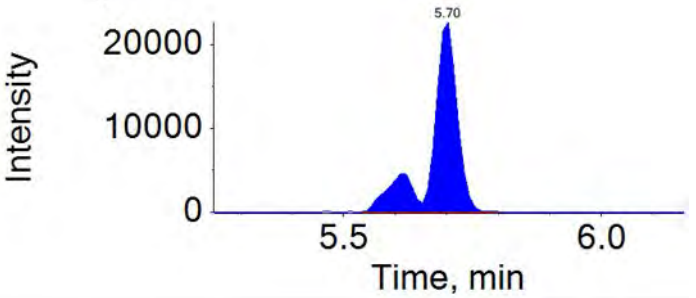
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



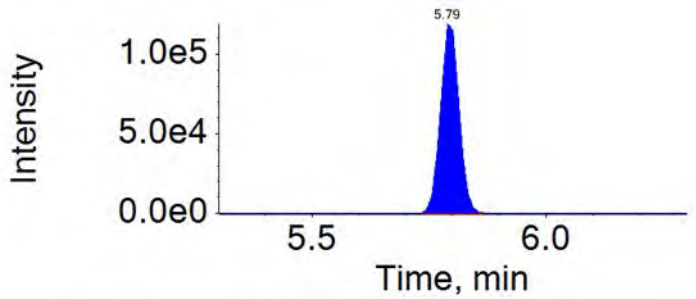
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



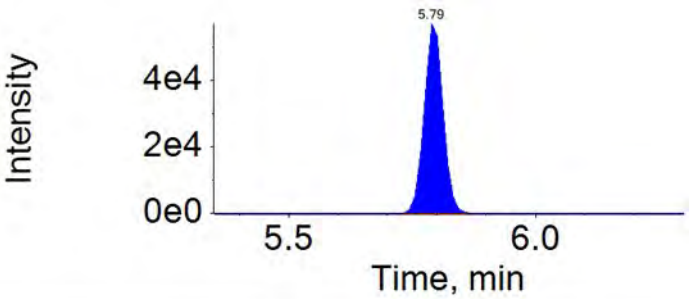
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



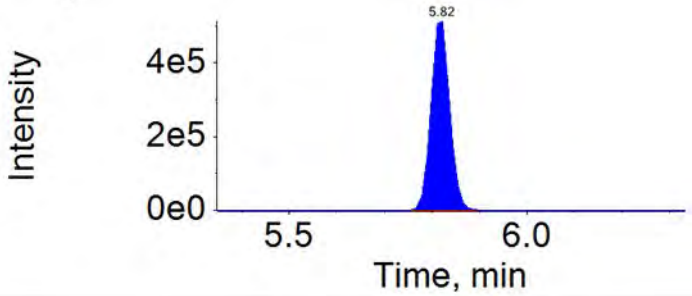
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



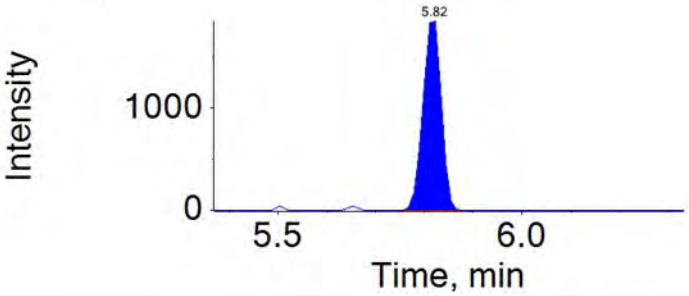
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

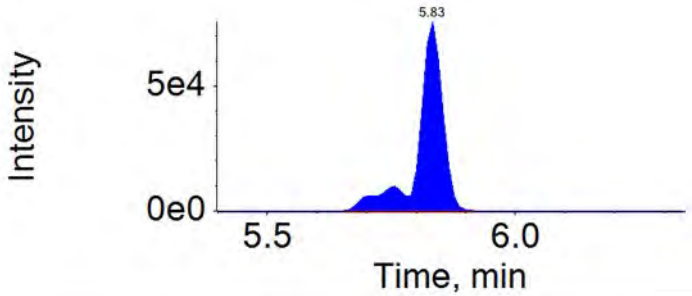
Component: PFUnDA
Primary Mass: 563.0 / 519.0



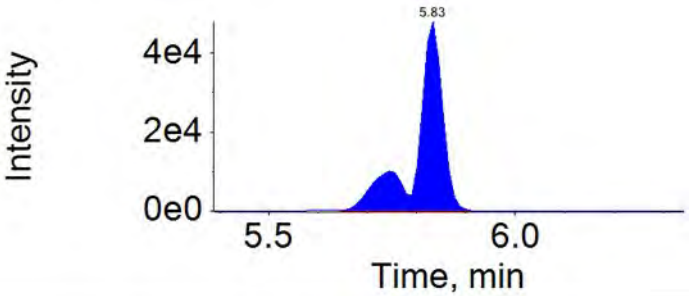
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



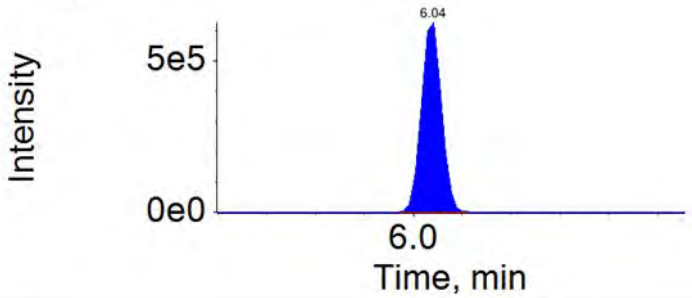
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



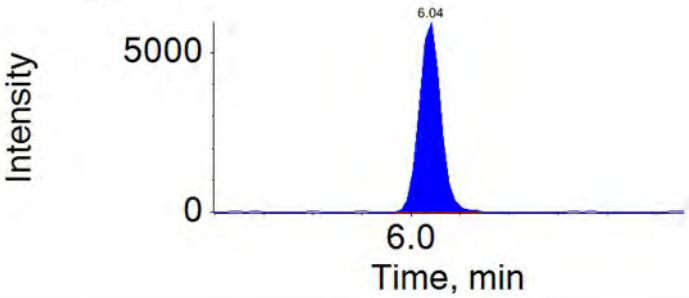
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Secondary Mass: 584.0 / 526.0



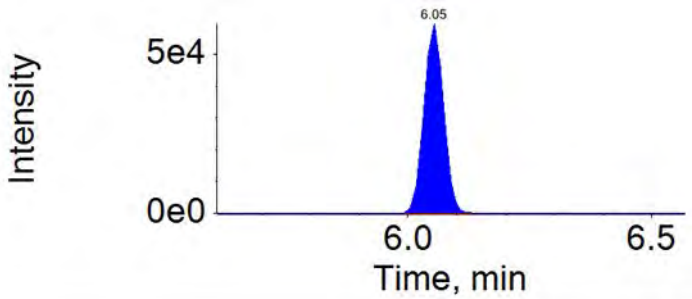
Component: PFDoDA
Primary Mass: 613.0 / 569.0



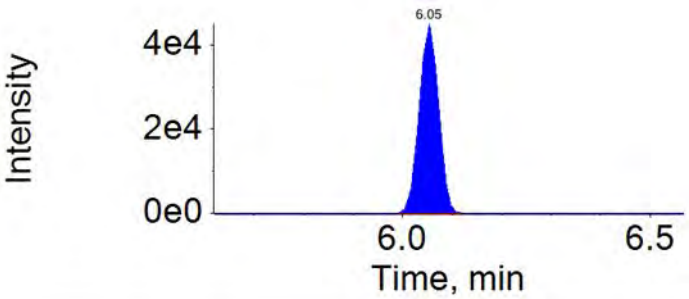
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



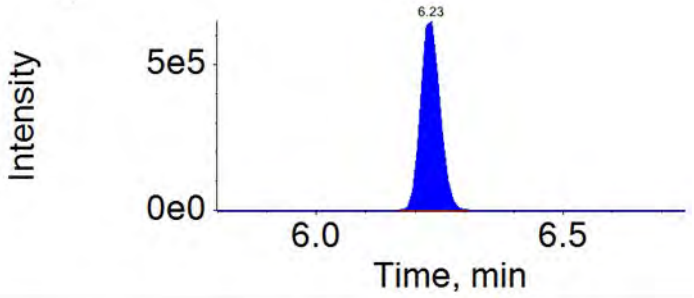
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



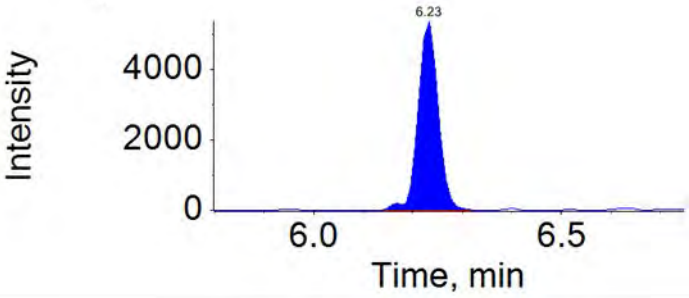
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



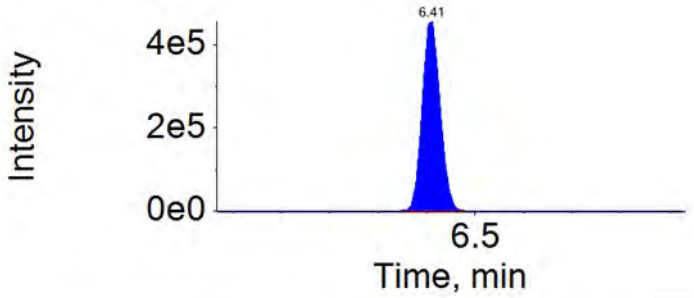
Component: PFTrDA
Primary Mass: 663.0 / 619.0



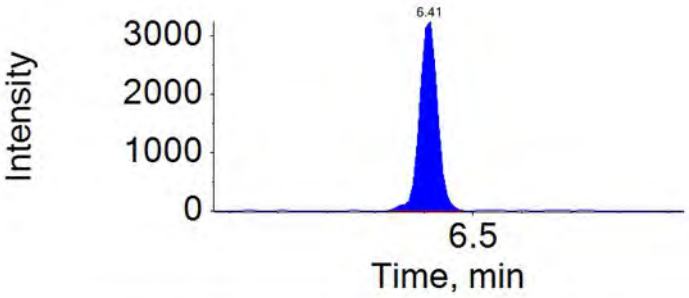
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



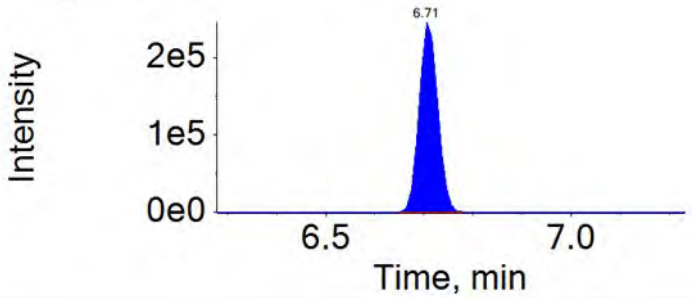
Component: PFTeDA
Primary Mass: 713.0 / 669.0



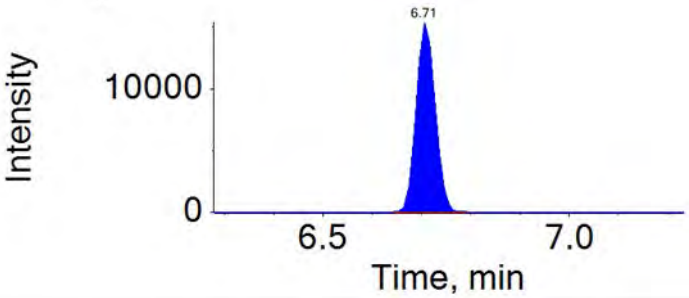
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



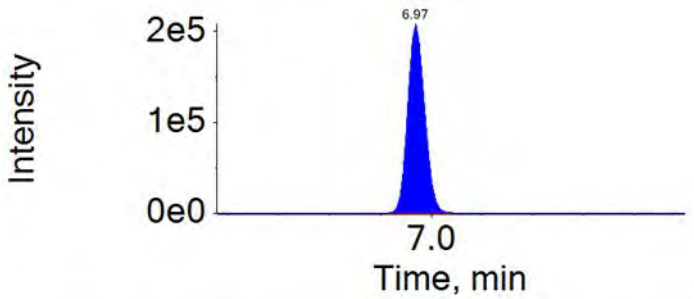
Component: PFHxDA
Primary Mass: 813.0 / 769.0



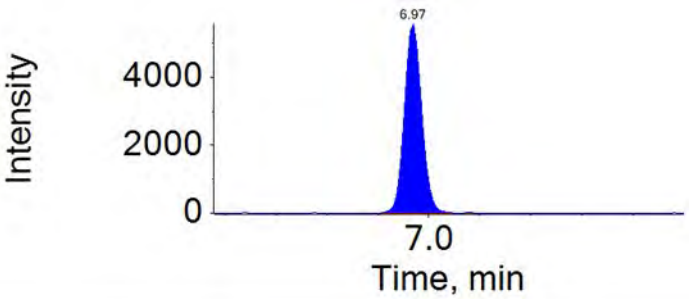
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL5			**Data File:**		18DEC18DCAL-72.wiff
Sample ID:	CALBRN51833B			**Acquis Date:**		2018-12-19T00:10:55
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	7			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	913001.0	941251.6	-3	50	
13C2-PFOA	5.0	539893.4	485595.3	11	50	
13C4-PFOS	4.8	311507.3	292182.6	7	50	
13C2-PFDA	5.0	475016.5	467216.0	2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1029366.8	13C3-PFBA	913001.0	1.127	5.000	4.993	100	70-130	
E13C5-PFPeA	971672.0	13C3-PFBA	913001.0	1.064	5.000	4.963	99	70-130	
E13C3-PFBS	446207.4	13C3-PFBA	913001.0	0.489	4.650	4.759	102	70-130	
E13C2-4:2-FTS	60237.7	13C2-PFOA	539893.4	0.112	4.670	4.237	91	70-130	
E13C5-PFHxA	728204.4	13C2-PFOA	539893.4	1.349	5.000	4.825	96	70-130	
E13C3-PFHxS	321862.3	13C2-PFOA	539893.4	0.596	4.730	4.511	95	70-130	
E13C4-PFHpA	623382.4	13C2-PFOA	539893.4	1.155	5.000	4.987	100	70-130	
E13C2-6:2-FTS	51944.0	13C2-PFOA	539893.4	0.096	4.750	4.841	102	70-130	
E13C8-PFOA	934414.0	13C2-PFOA	539893.4	1.731	5.000	4.759	95	70-130	
E13C8-PFOS	331539.4	13C4-PFOS	311507.3	1.064	4.780	4.759	100	70-130	
E13C9-PFNA	635976.2	13C4-PFOS	311507.3	2.042	5.000	4.644	93	70-130	
E13C6-PFDA	823063.8	13C2-PFDA	475016.5	1.733	5.000	4.936	99	70-130	
E13C2-8:2-FTS	43810.4	13C2-PFDA	475016.5	0.092	4.790	4.754	99	70-130	
E13C8-PFOSA	573278.7	13C2-PFDA	475016.5	1.207	5.000	4.700	94	70-130	
Ed3-NMeFOSAA	203504.7	13C2-PFDA	475016.5	0.428	5.000	4.713	94	70-130	
E13C7-PFUnDA	568949.8	13C2-PFDA	475016.5	1.198	5.000	5.014	100	70-130	
Ed5-NEtFOSAA	146690.6	13C2-PFDA	475016.5	0.309	5.000	4.550	91	70-130	
E13C2-PFDoDA	1065947.0	13C2-PFDA	475016.5	2.244	5.000	4.721	94	70-130	
Ed7-NMePFOSAE	259783.3	13C2-PFDA	475016.5	0.547	5.000	4.886	98	70-130	
Ed3-NMePFOSA	83956.4	13C2-PFDA	475016.5	0.177	5.000	4.856	97	70-130	
Ed9-NEtPFOSAE	223224.9	13C2-PFDA	475016.5	0.470	5.000	4.804	96	70-130	
Ed5-NEtPFOSA	70043.9	13C2-PFDA	475016.5	0.147	5.000	5.114	102	70-130	
E13C2-PFTeDA	816876.4	13C2-PFDA	475016.5	1.720	5.000	4.846	97	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

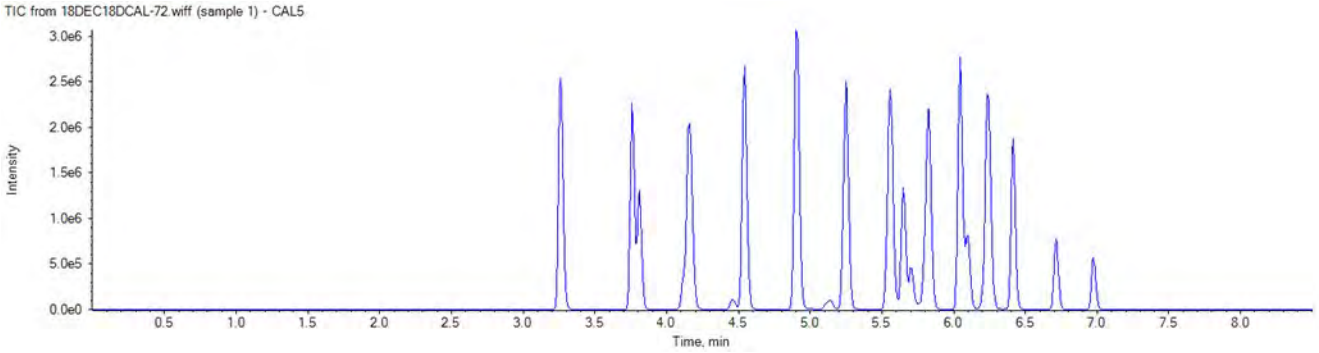
Analyte Quantitation Peak Table

Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-72.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	3880808.5		A	13C4-PFBA	3.26	1029366.8	3.770	20.017
PFPeA	3.76	1.000	3745895.5		A	13C5-PFPeA	3.76	971672.0	3.855	19.899
PFBS	3.81	1.000	1598291.6		A	13C3-PFBS	3.81	446207.4	3.582	17.683
4:2-FTS	4.12	1.000	457278.4		A	13C2-4:2-FTS	4.12	60237.7	7.591	19.917
PFHxA	4.16	1.000	3505877.1		A	13C5-PFHxA	4.16	728204.4	4.814	19.833
PFPeS	4.18	1.100	858571.6		A	13C3-PFBS	3.81	446207.4	1.924	19.589
PFHpA	4.54	1.000	3695154.9		A	13C4-PFHpA	4.54	623382.4	5.928	19.655
PFHxS	4.54	1.000	1236035.6		M	13C3-PFHxS	4.54	321862.3	3.840	18.679
6:2-FTS	4.89	1.000	385557.3		A	13C2-6:2-FTS	4.89	51944.0	7.423	18.478
PFHpS	4.90	1.080	1185259.6		A	13C3-PFHxS	4.54	321862.3	3.683	19.481
PFOA	4.91	1.000	3699938.8		A	13C8-PFOA	4.91	934414.0	3.960	20.977
PFOS	5.24	1.000	1358485.2		M	13C8-PFOS	5.24	331539.4	4.098	17.940
PFNA	5.26	1.000	3431849.3		A	13C9-PFNA	5.25	635976.2	5.396	21.446
PFNS	5.54	1.060	965546.9		A	13C8-PFOS	5.24	331539.4	2.912	18.519
PFDA	5.56	1.000	3202129.7		A	13C6-PFDA	5.56	823063.8	3.890	20.092
8:2-FTS	5.56	1.000	408286.4		A	13C2-8:2-FTS	5.57	43810.4	9.319	18.757
PFOSA	5.65	1.000	2416611.4		A	13C8-PFOSA	5.65	573278.7	4.215	21.082
NMeFOSAA	5.71	1.000	694349.4		M	d3-NMeFOSAA	5.70	203504.7	3.412	21.205
PFDS	5.80	1.110	758022.3		A	13C8-PFOS	5.24	331539.4	2.286	18.770
PFUnDA	5.82	1.000	3400238.1		A	13C7-PFUnDA	5.83	568949.8	5.976	19.793
NEtFOSAA	5.84	1.000	619081.1		M	d5-NEtFOSAA	5.84	146690.6	4.220	21.510
PFDoDA	6.05	1.000	4286978.2		A	13C2-PFDoDA	6.05	1065947.0	4.022	20.259
10:2-FTS	6.06	1.090	413620.7		A	13C2-8:2-FTS	5.57	43810.4	9.441	19.229
NMePFOSAE	6.10	1.000	1228026.6		A	d7-NMePFOSAE	6.09	259783.3	4.727	20.857
NMePFOSA	6.11	1.000	329483.7		A	d3-NMePFOSA	6.11	83956.4	3.924	19.812
PFDoS	6.21	1.190	421406.9		A	13C8-PFOS	5.24	331539.4	1.271	19.257
NEtPFOSAE	6.25	1.000	1392018.9		A	d9-NEtPFOSAE	6.24	223224.9	6.236	20.372
NEtPFOSA	6.27	1.000	297273.1		A	d5-NEtPFOSA	6.26	70043.9	4.244	19.852
PFTrDA	6.24	1.030	4224307.5		A	13C2-PFDoDA	6.05	1065947.0	3.963	20.331
PFTeDA	6.42	1.000	3087435.9		A	13C2-PFTeDA	6.42	816876.4	3.780	20.352
PFHxDA	6.71	1.050	1573325.0		A	13C2-PFTeDA	6.42	816876.4	1.926	21.151
PFODA	6.98	1.090	1181984.4		A	13C2-PFTeDA	6.42	816876.4	1.447	20.791

Total Ion Chromatogram

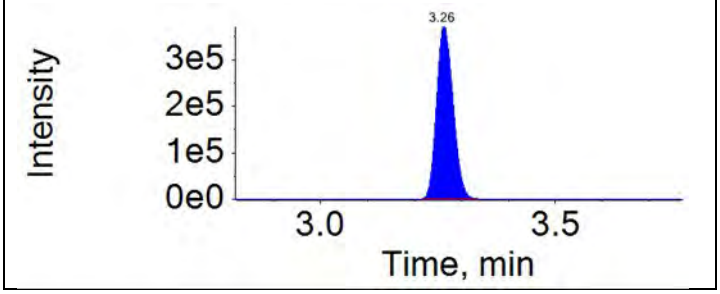


APPROVED
By MSM at 11:49 am, 12/19/18

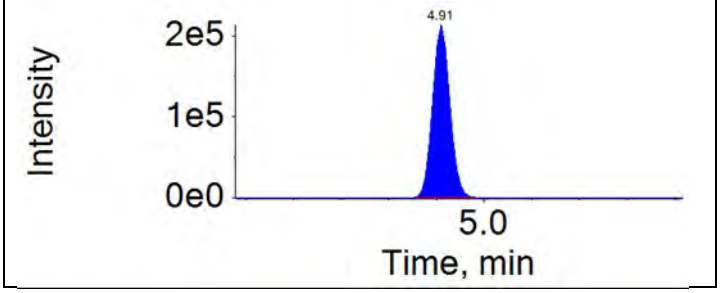
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

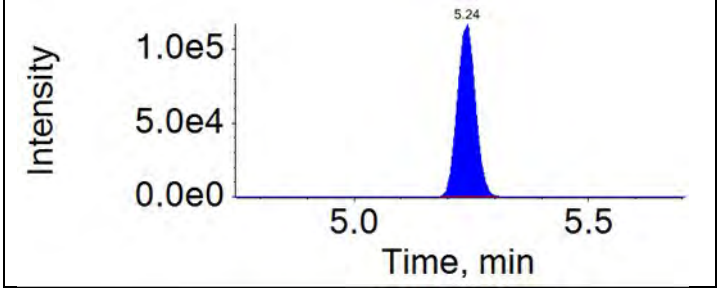
Injection Standard: 13C3-PFBA
216.0 / 172.0



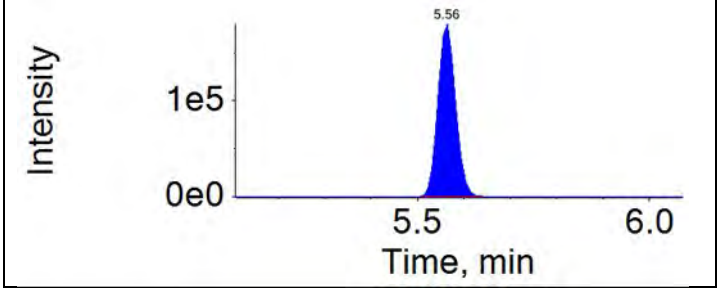
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

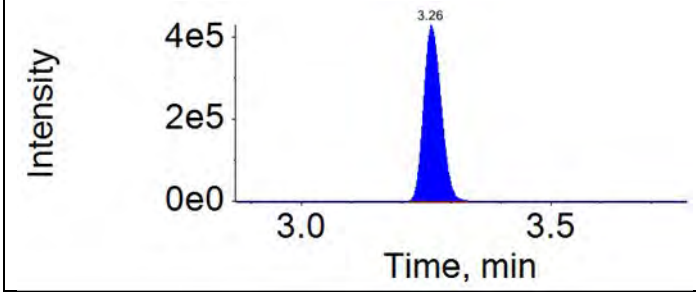


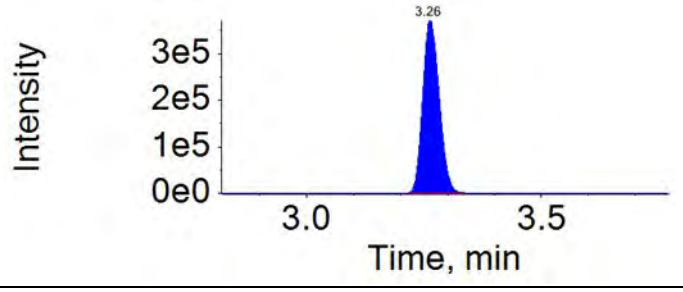
Injection Standard: 13C2-PFDA
515.0 / 470.0



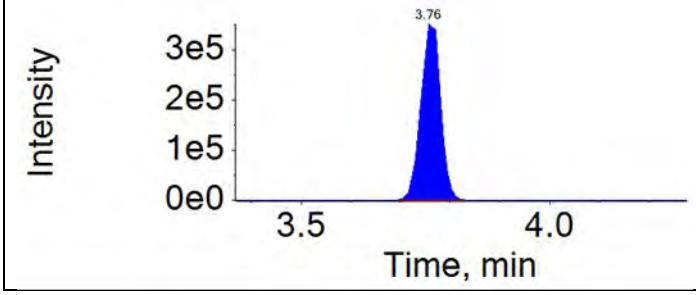
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

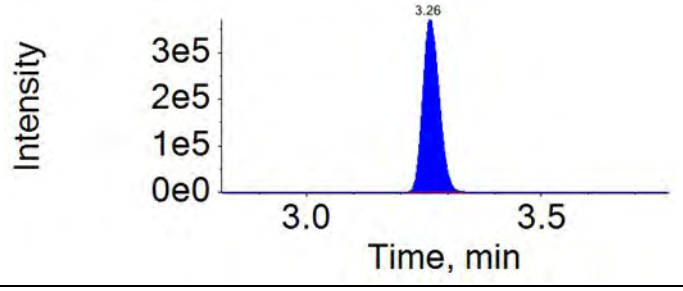
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



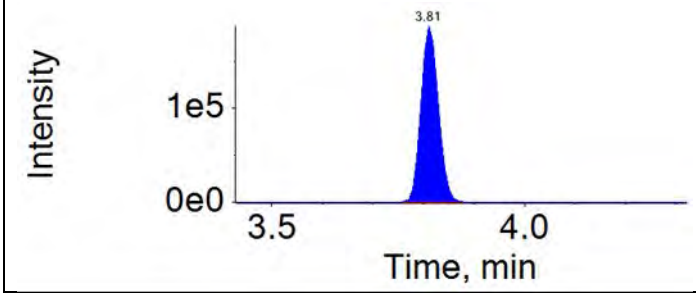


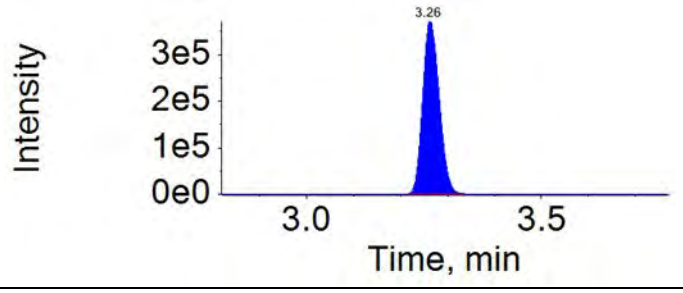
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



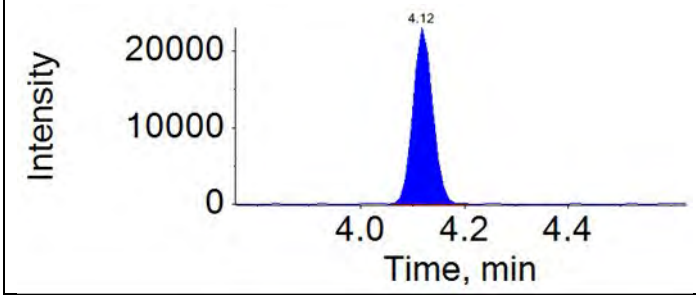


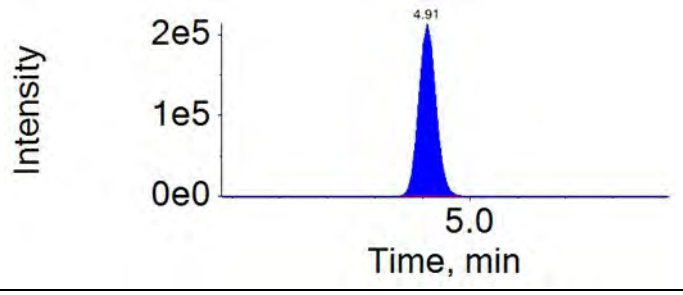
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





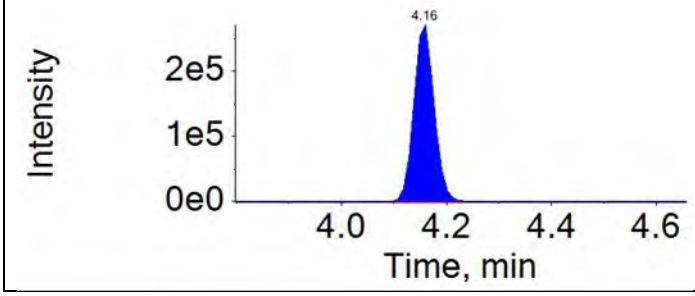
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

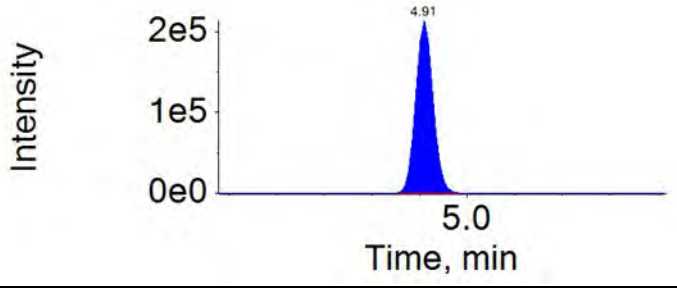




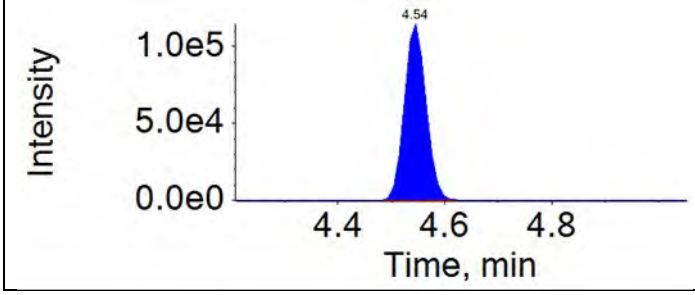
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

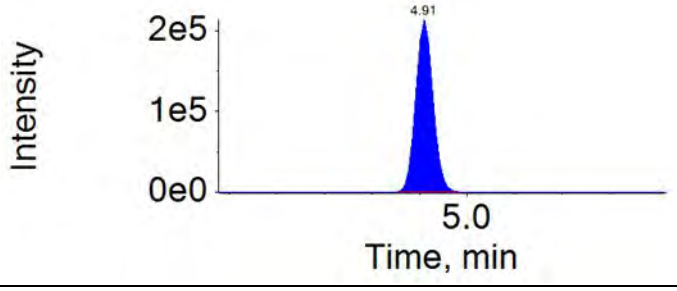
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



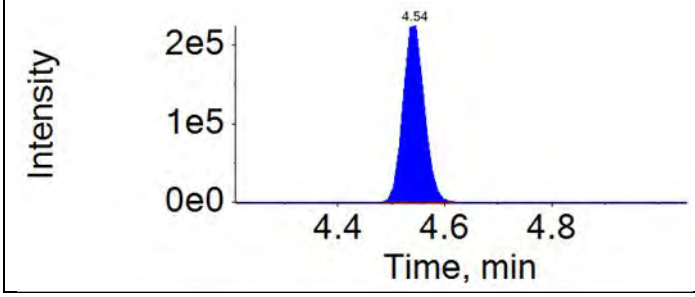


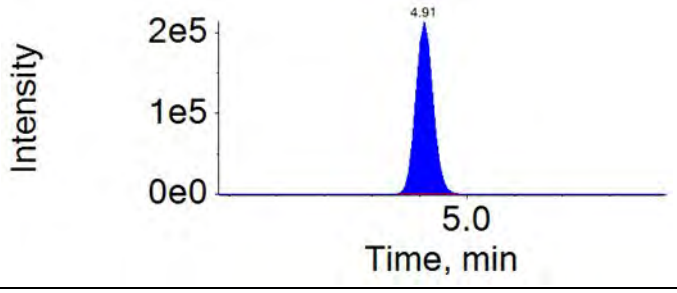
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



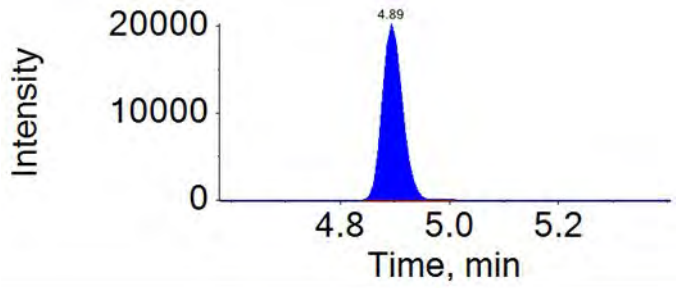


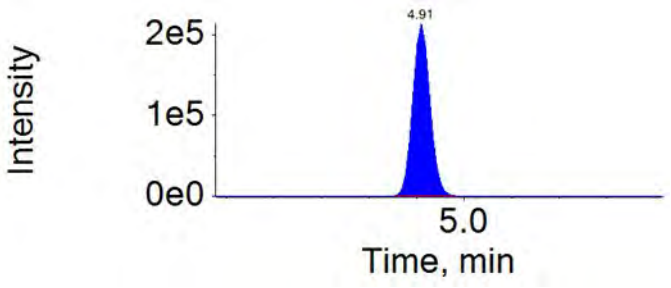
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

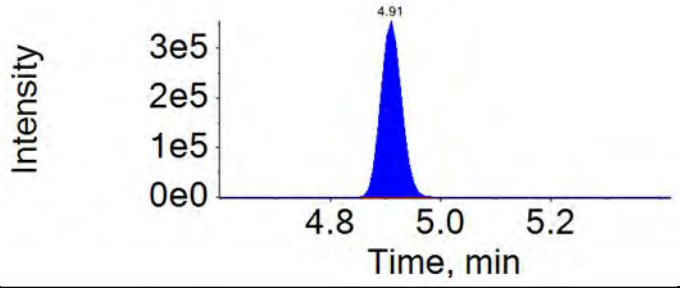
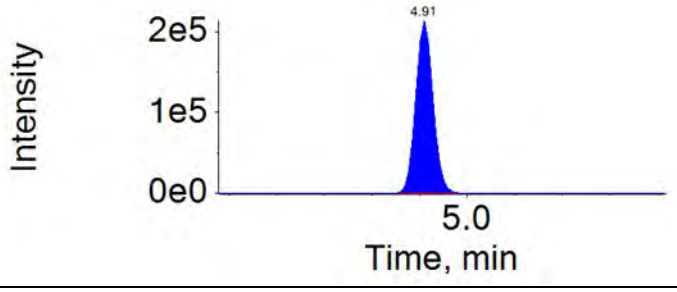


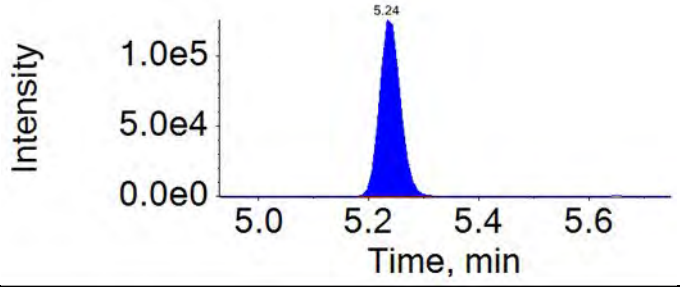
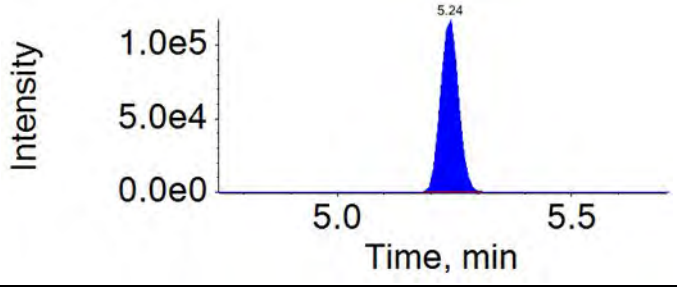


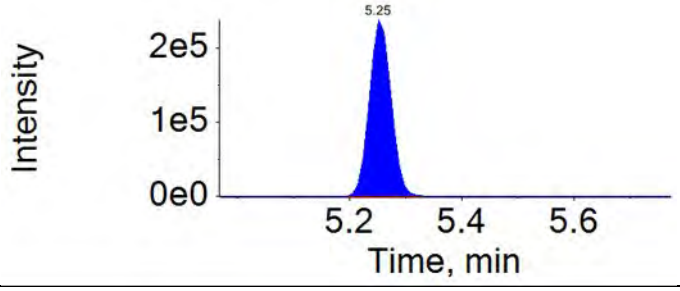
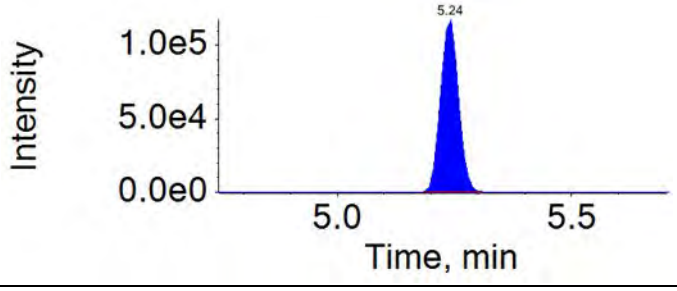
APPROVED
By MSM at 11:49 am, 12/19/18

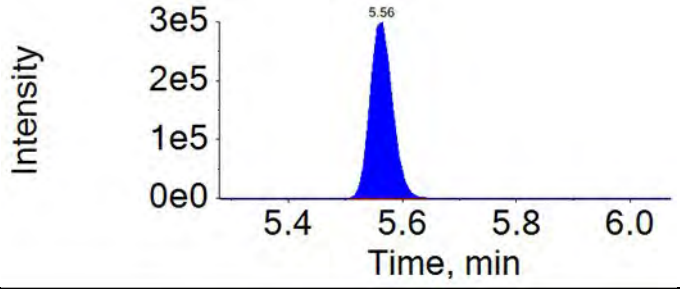
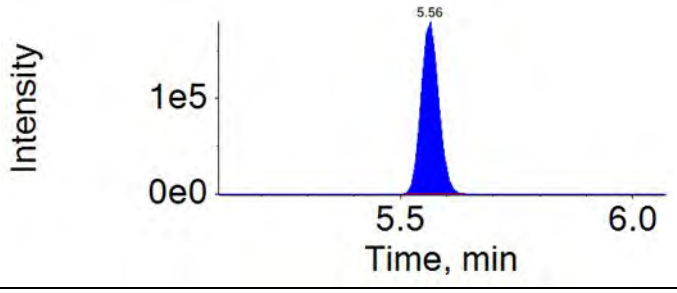
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

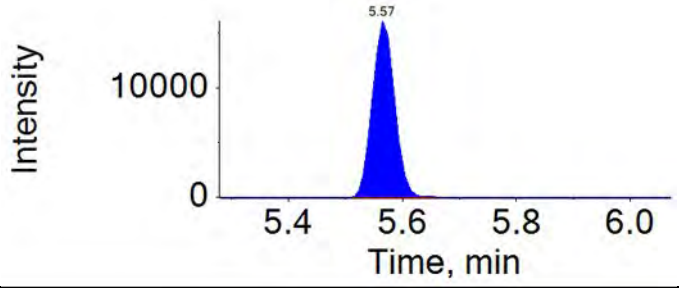
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

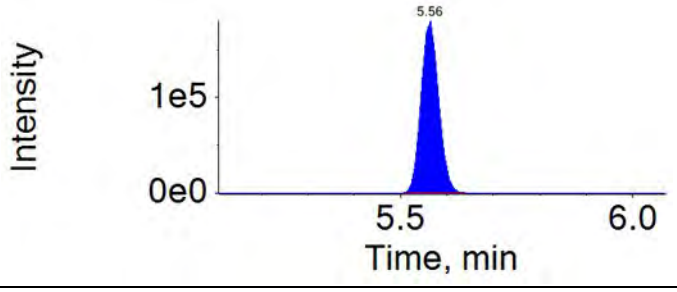
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

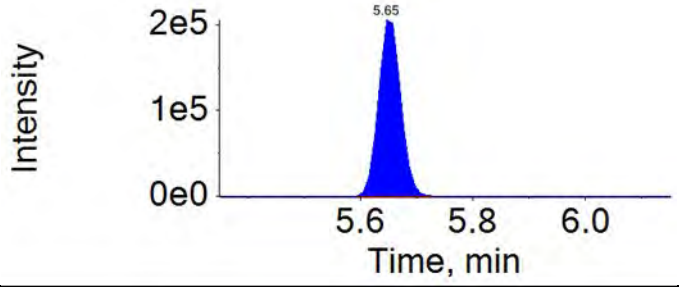
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

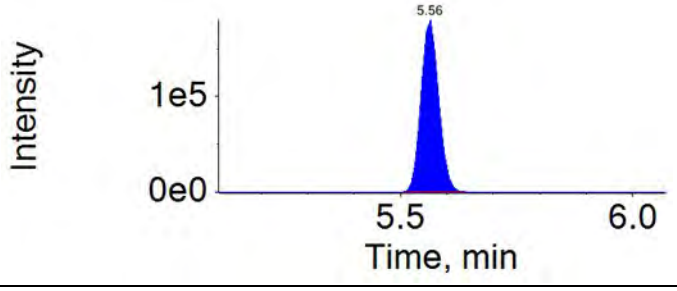
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



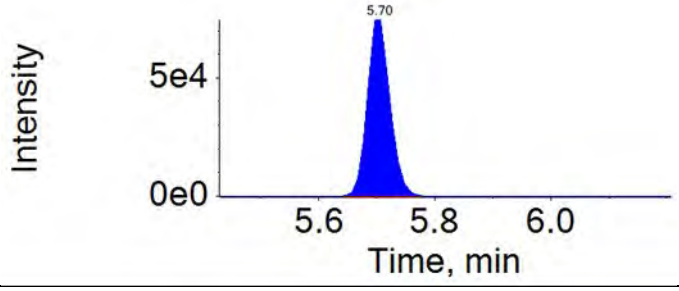


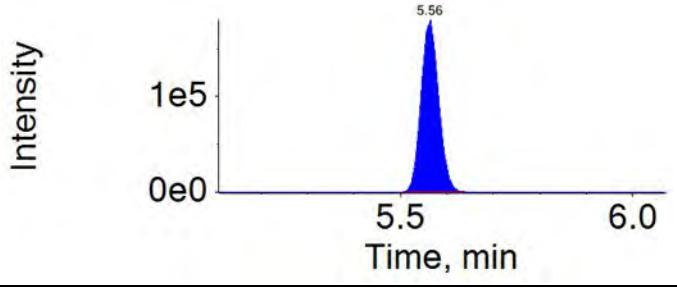
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



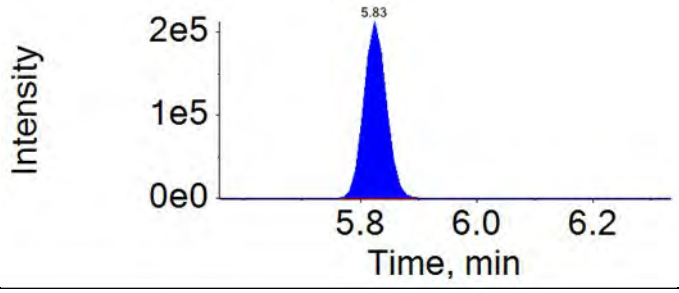


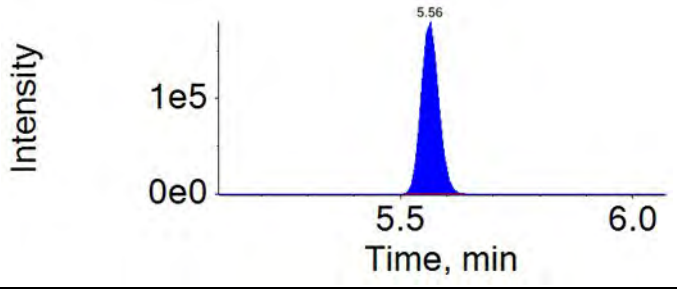
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



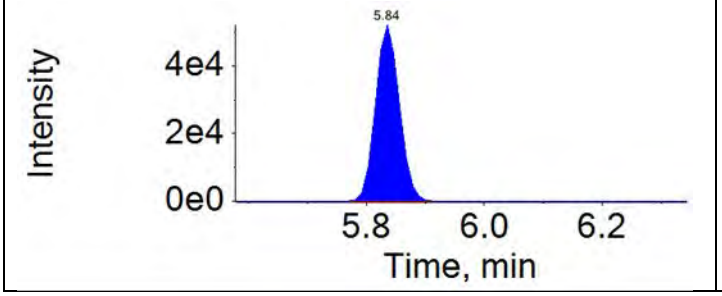


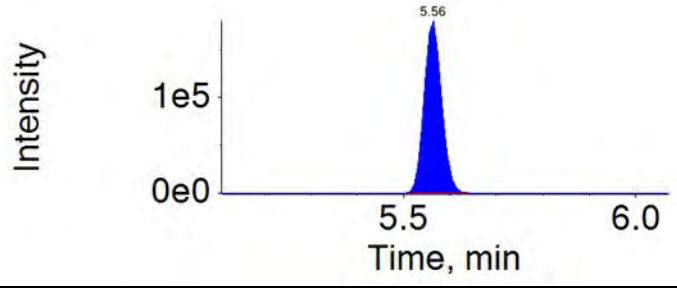
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

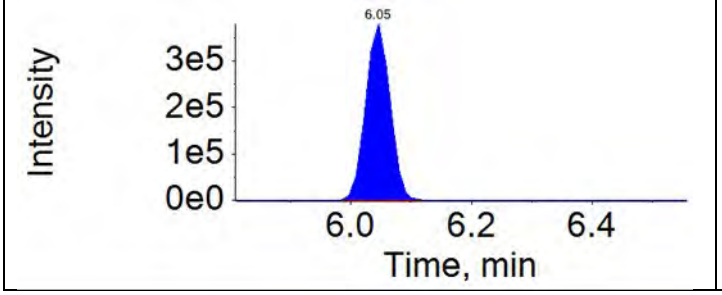
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

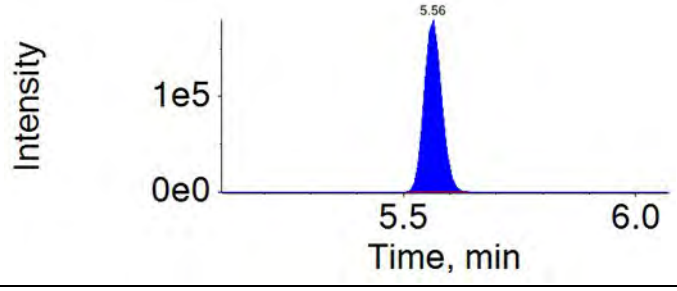
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



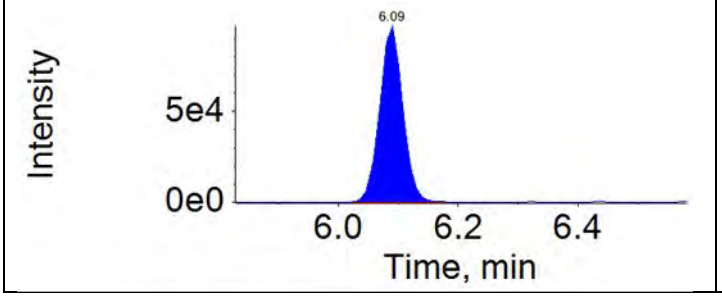


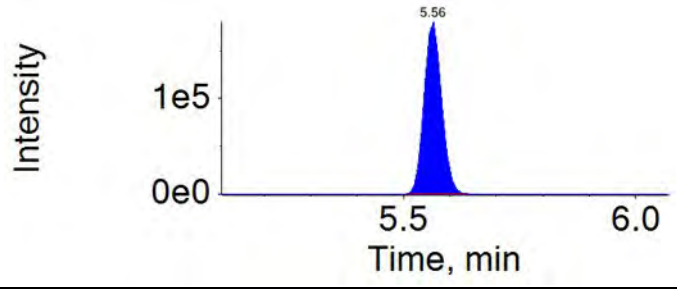
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



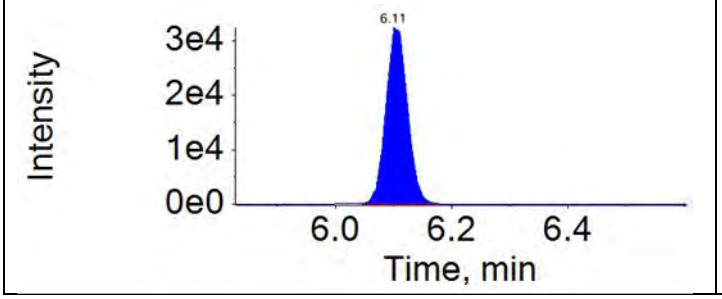


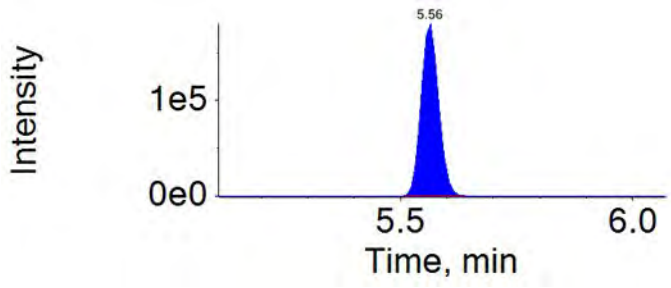
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



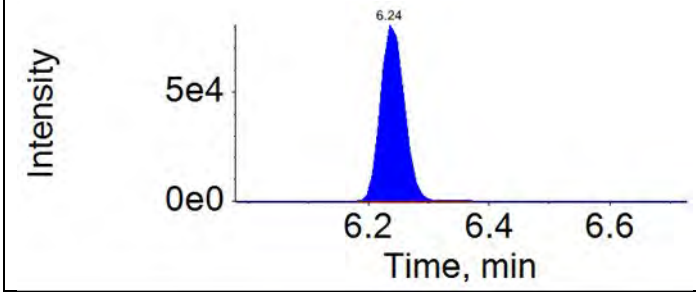


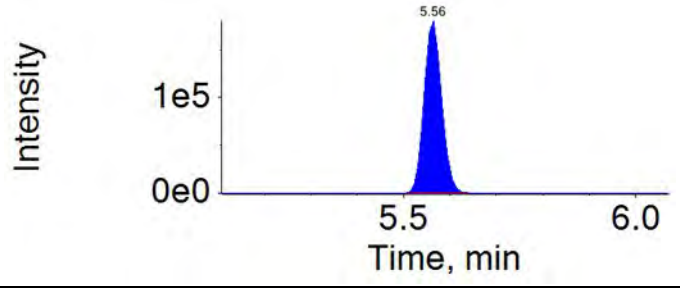
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

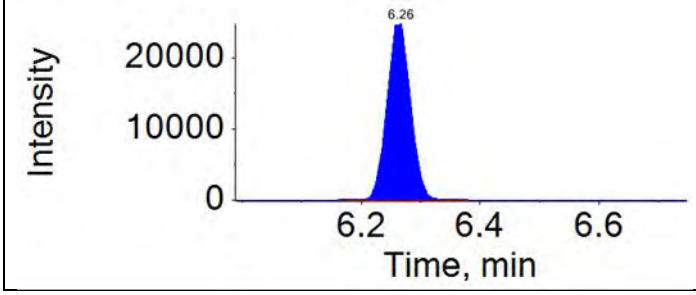
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

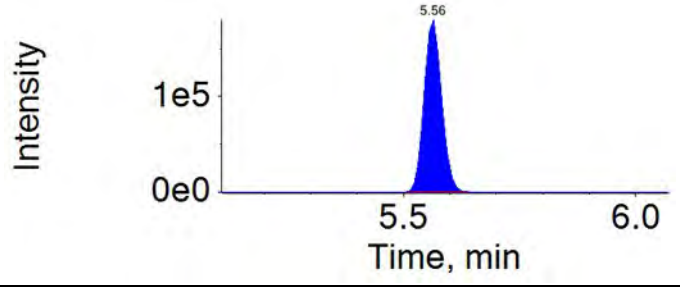
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



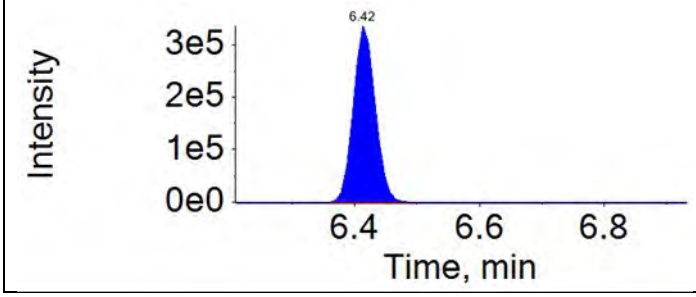


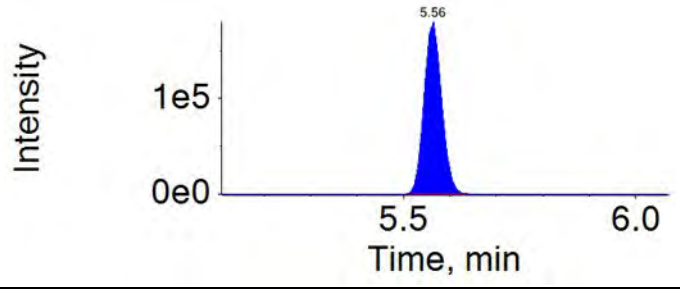
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



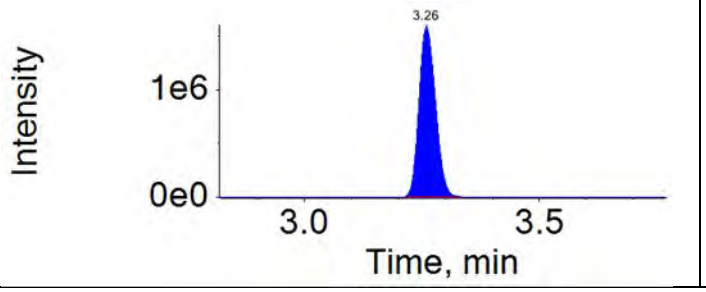


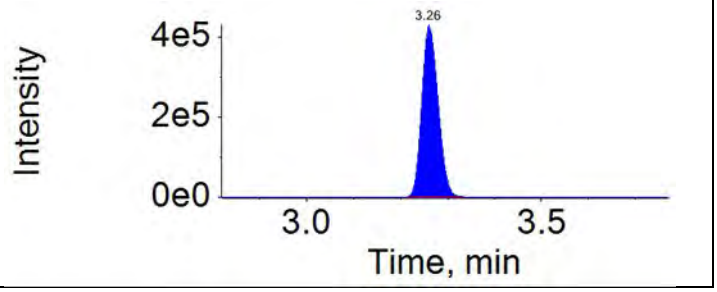
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

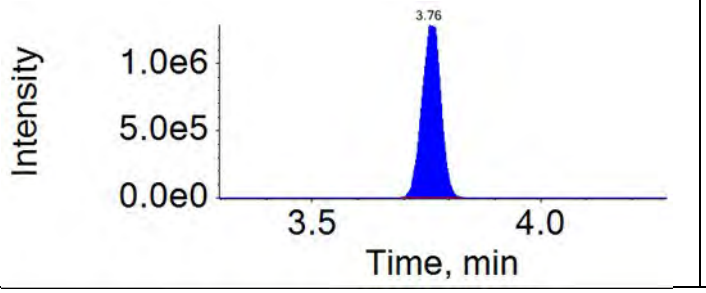
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

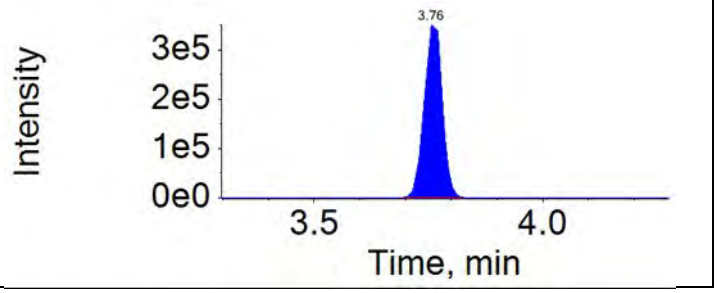
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



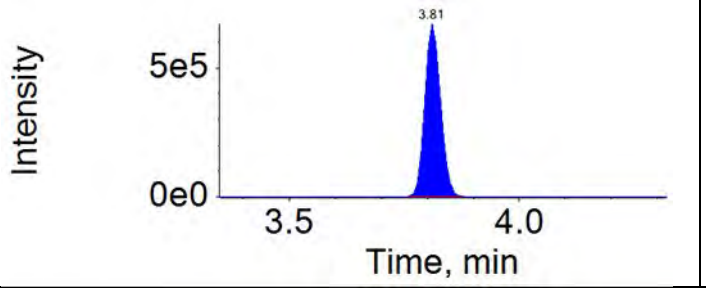


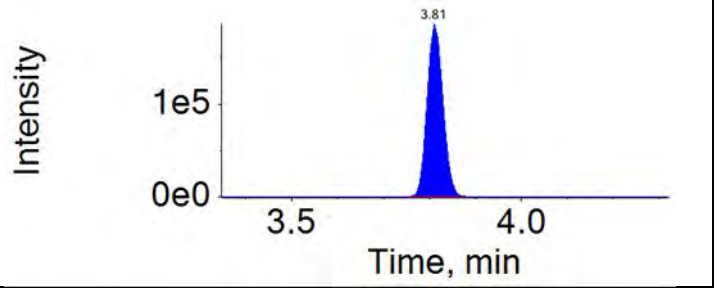
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



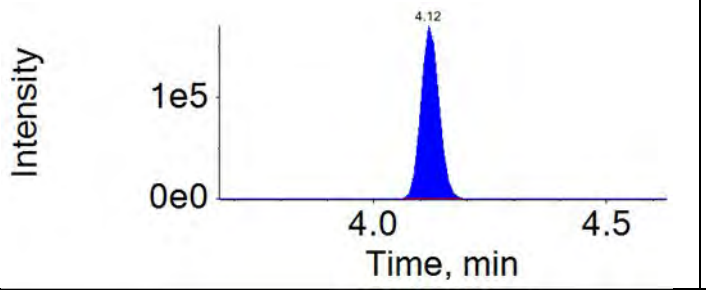


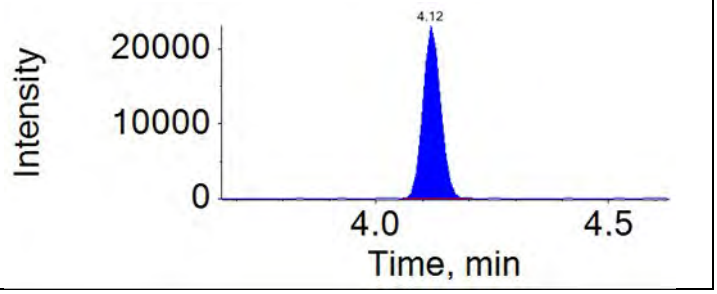
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



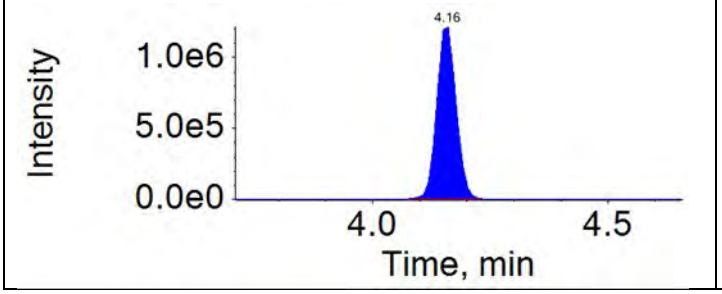


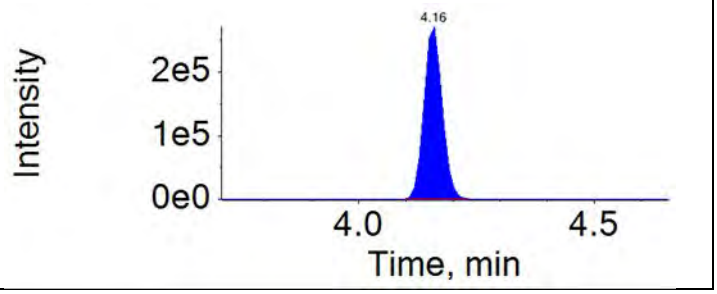
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

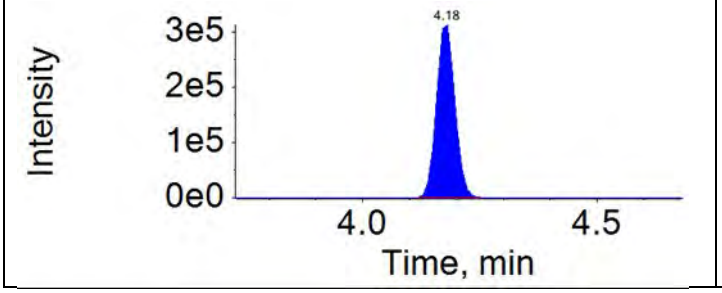
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

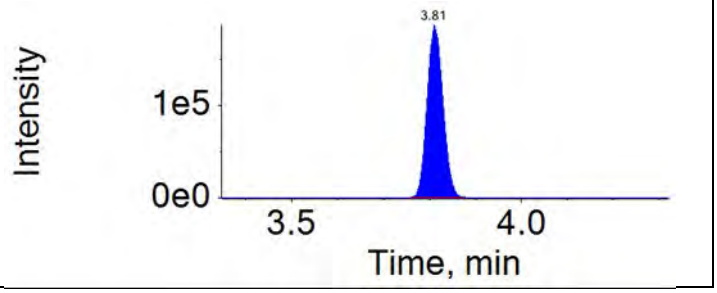
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



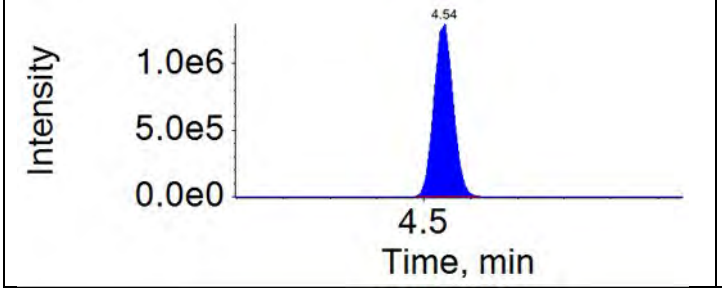


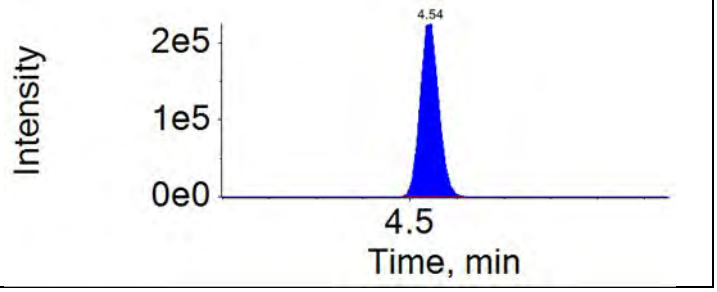
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



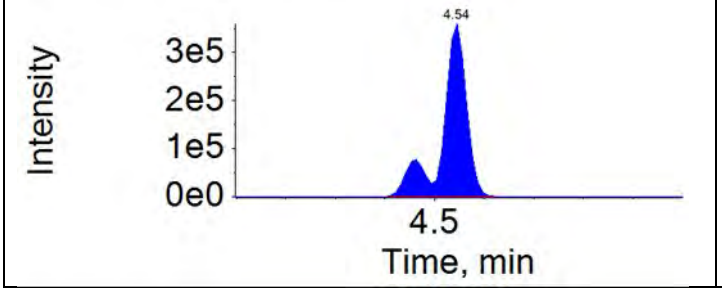


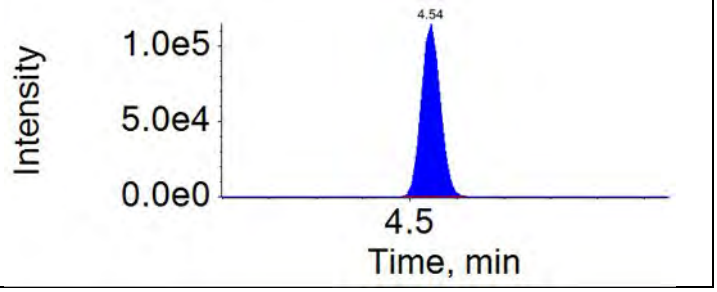
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



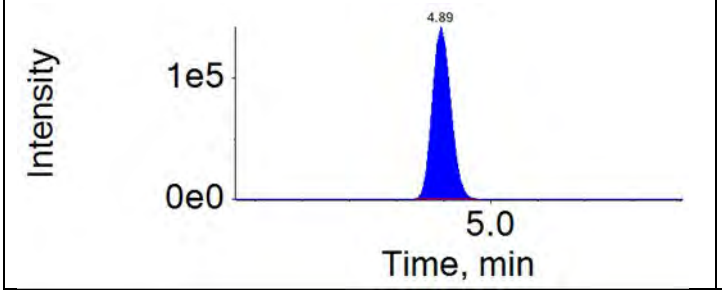


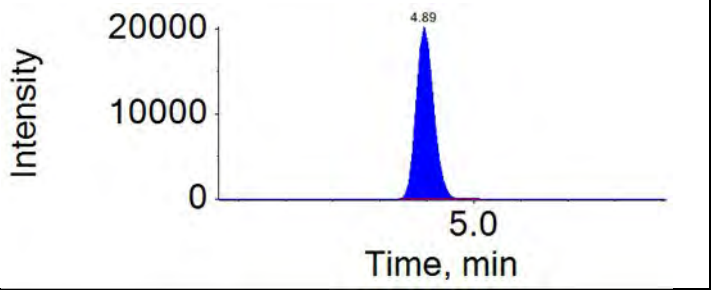
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

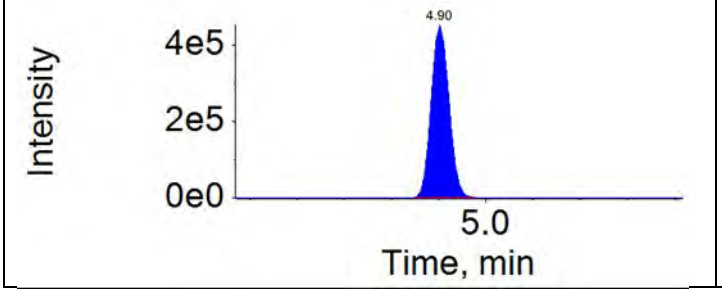
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

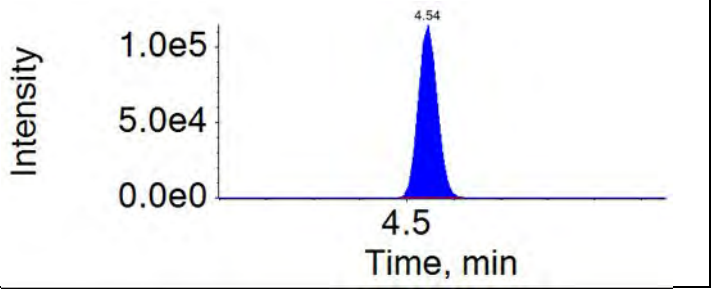
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



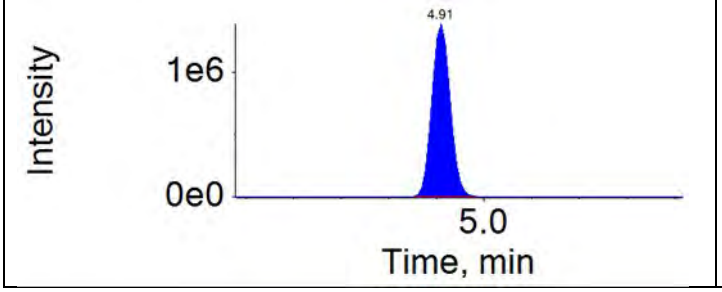


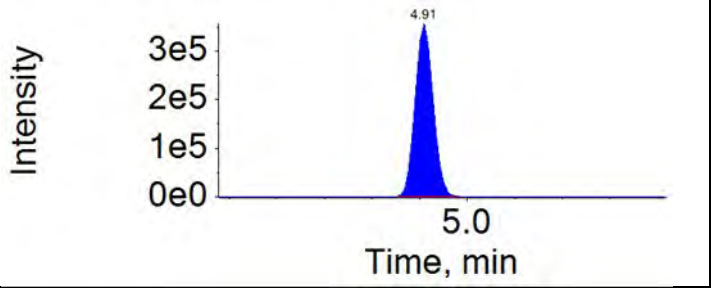
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



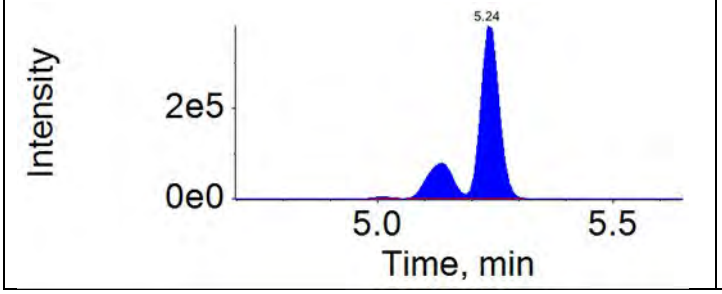


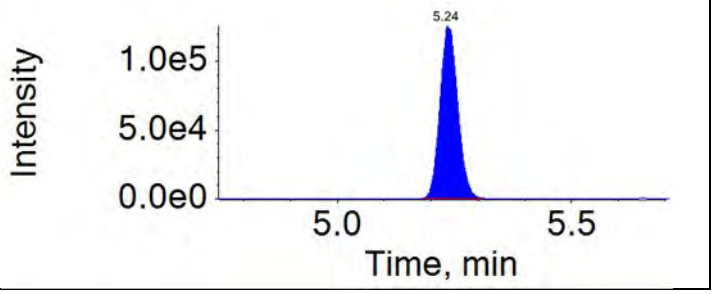
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



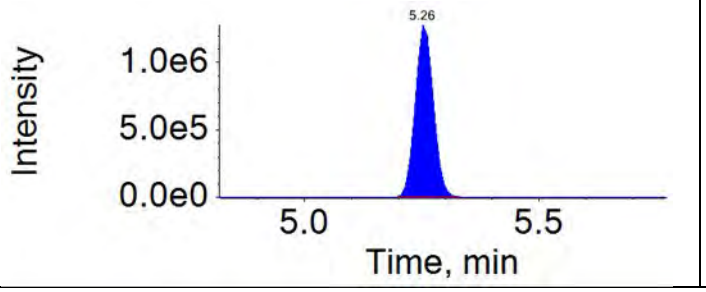


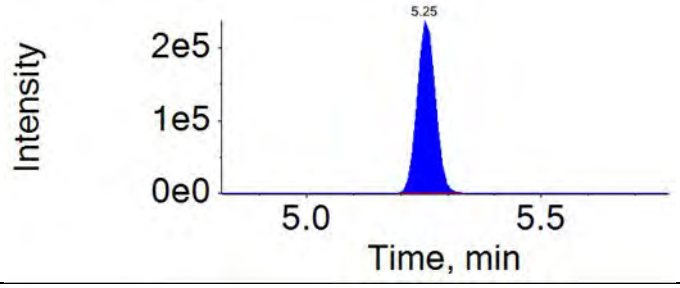
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

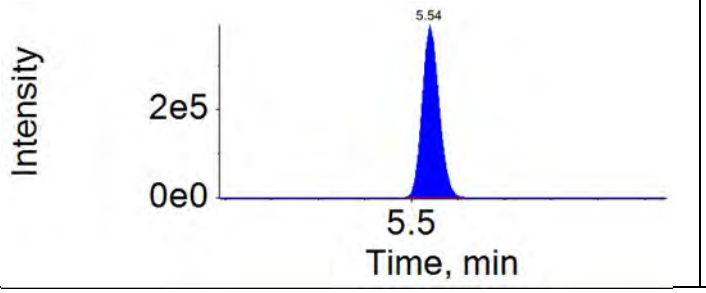
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

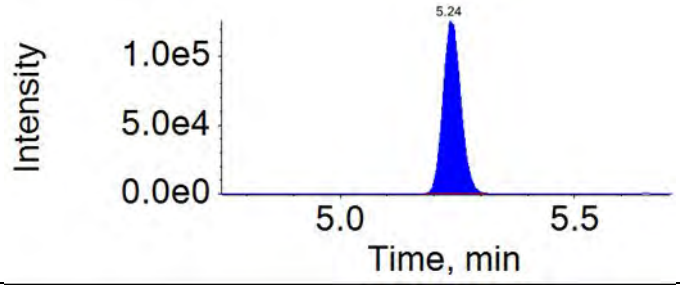
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



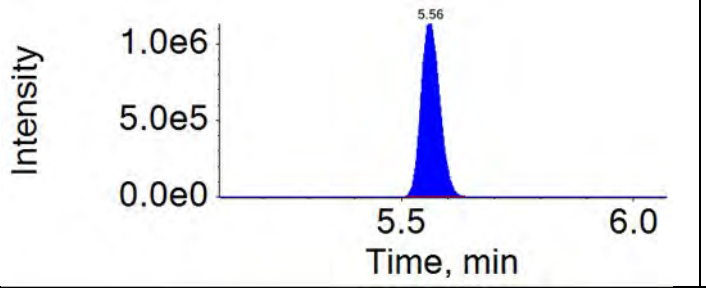


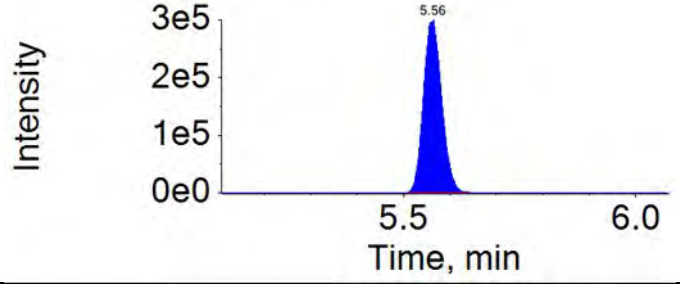
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



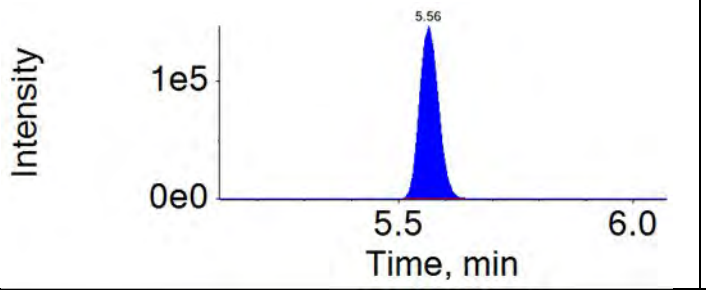


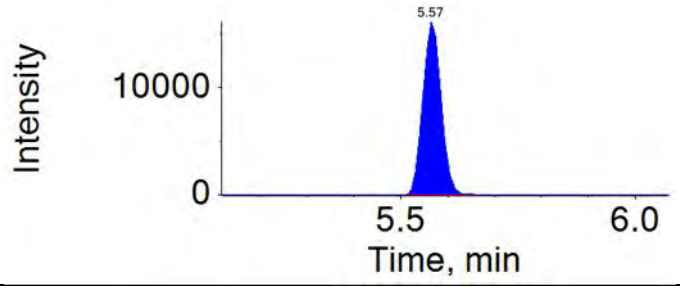
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



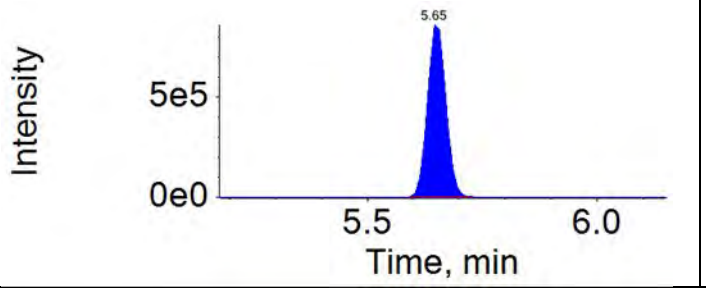


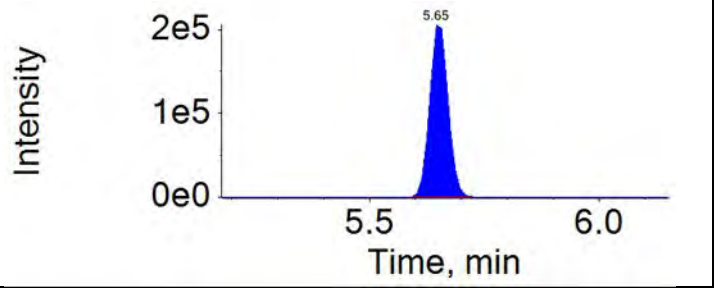
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

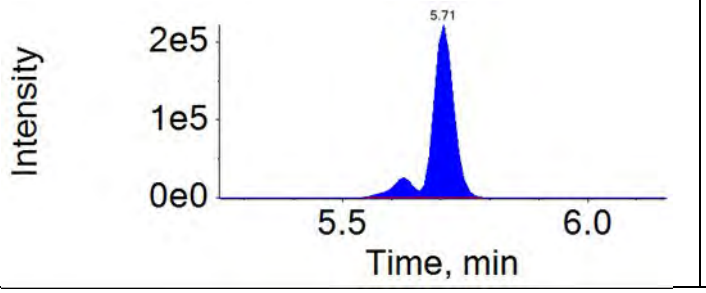
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

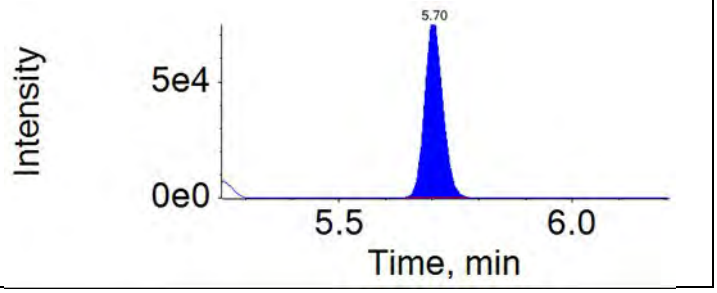
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



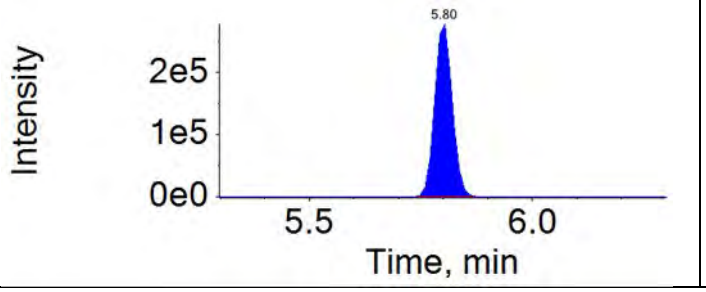


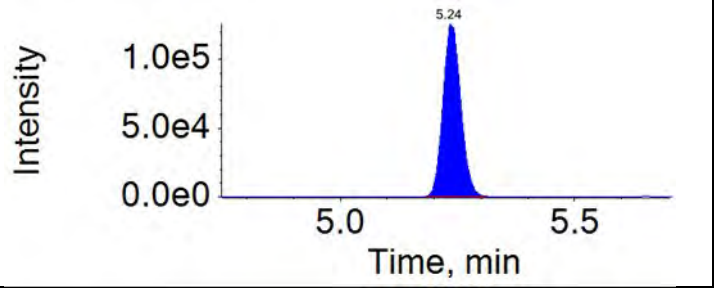
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



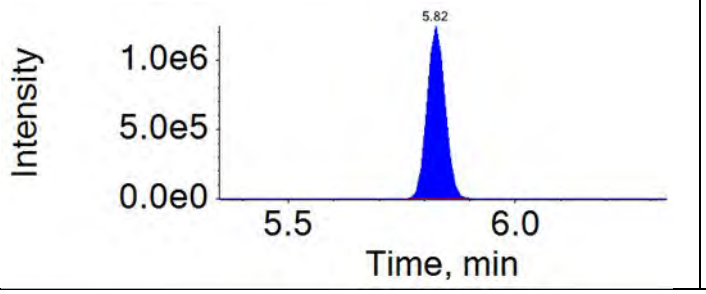


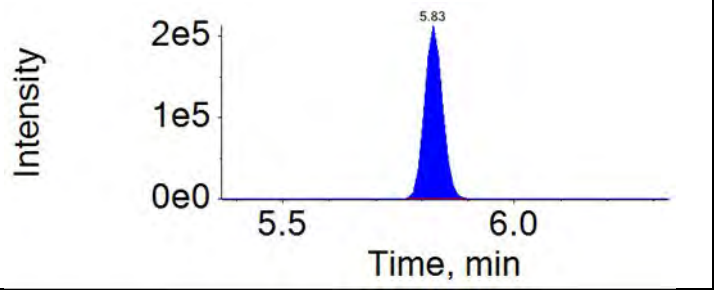
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



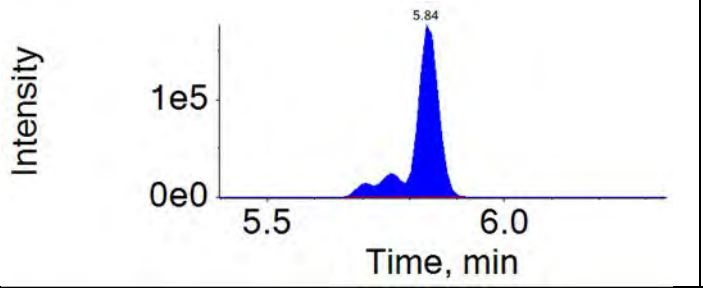


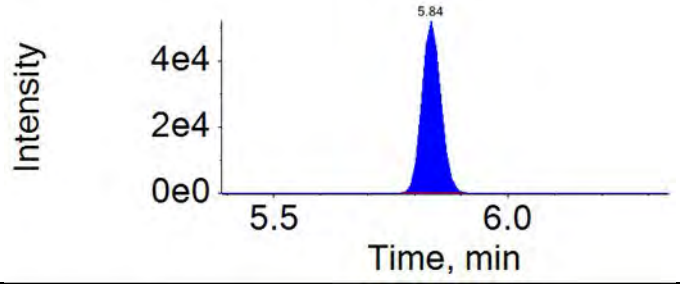
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

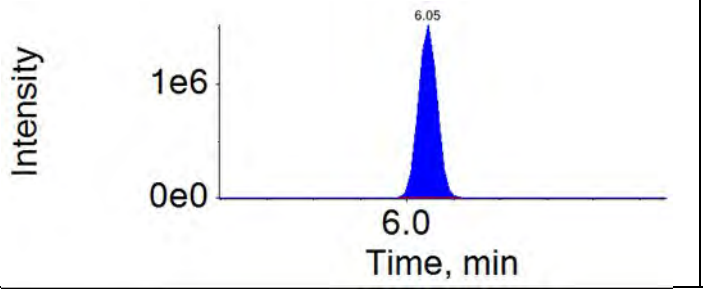
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

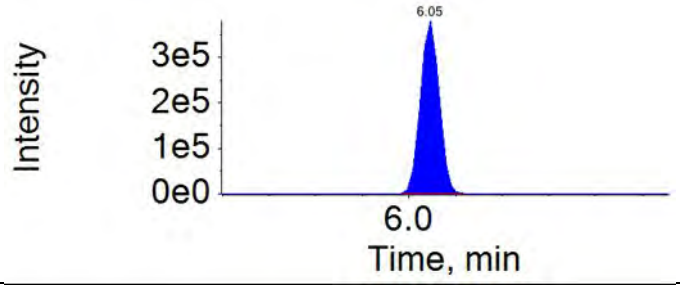
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



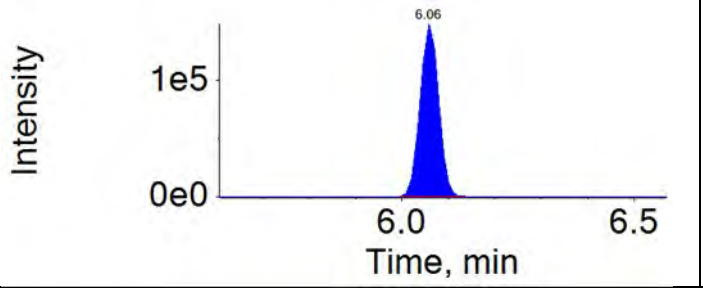


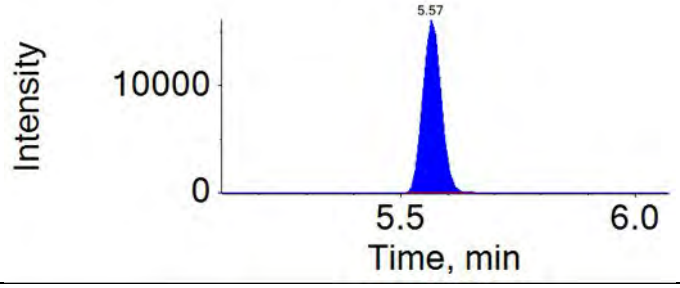
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



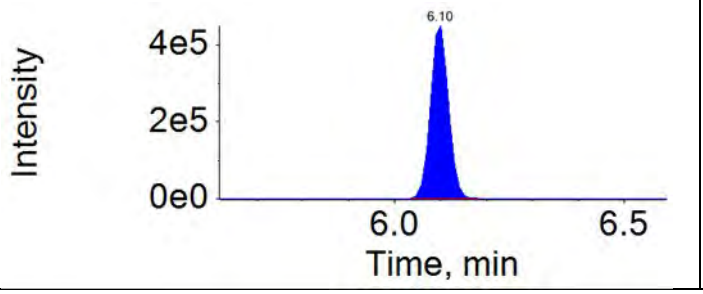


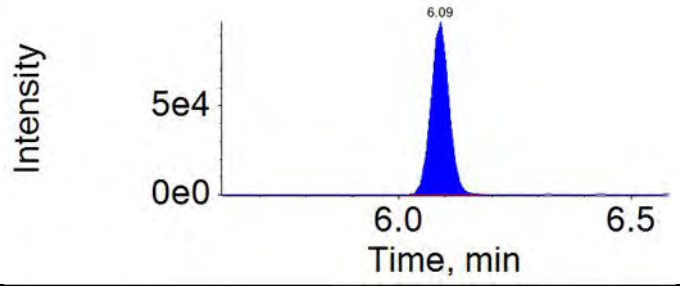
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



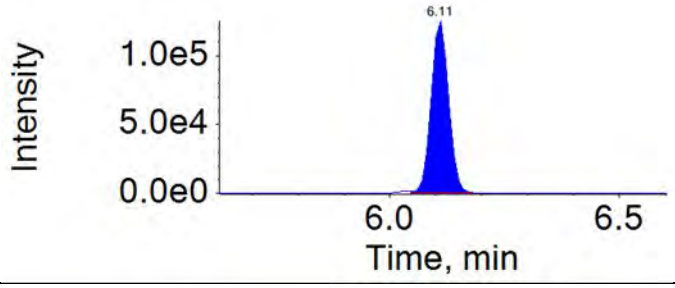


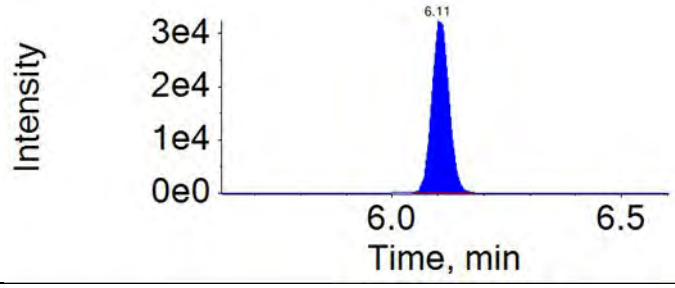
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

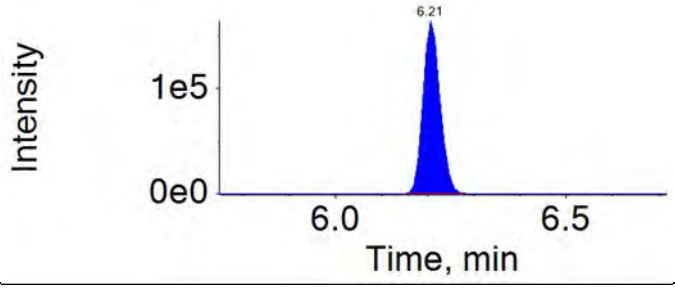
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

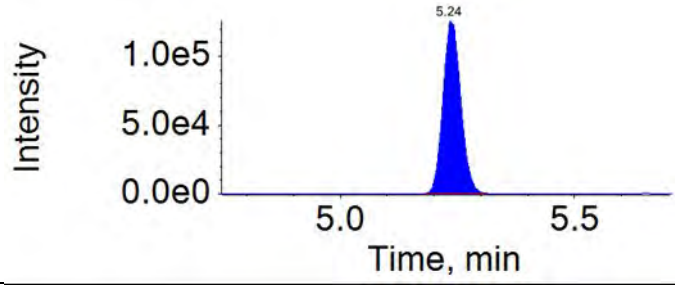
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



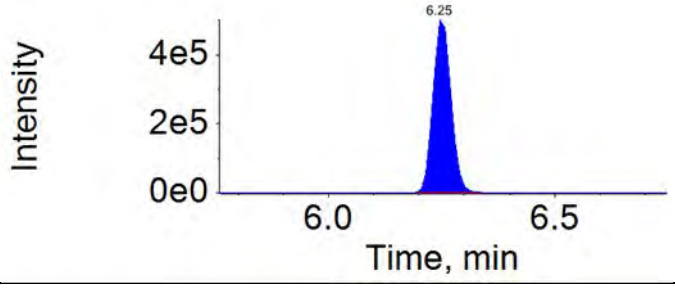


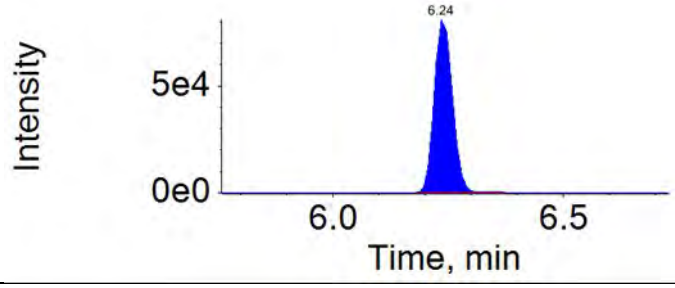
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



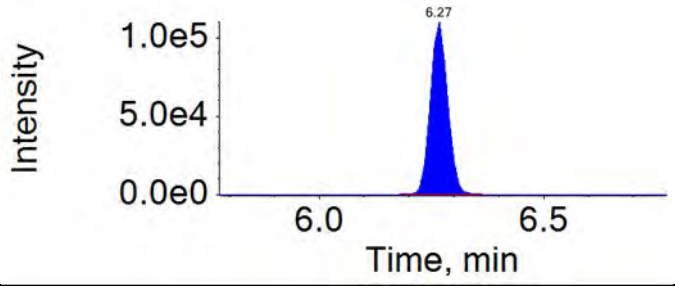


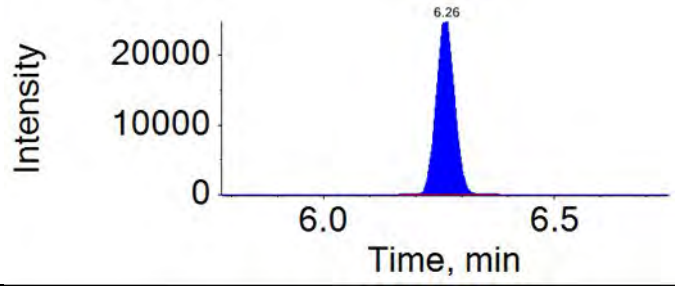
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



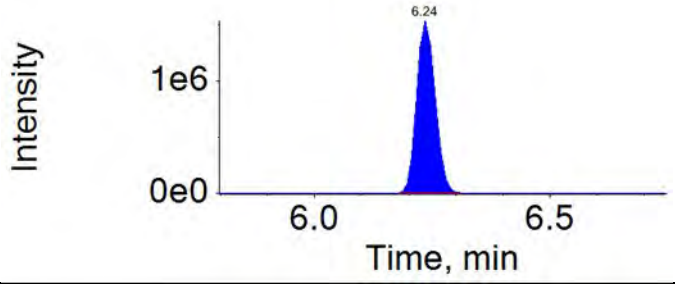


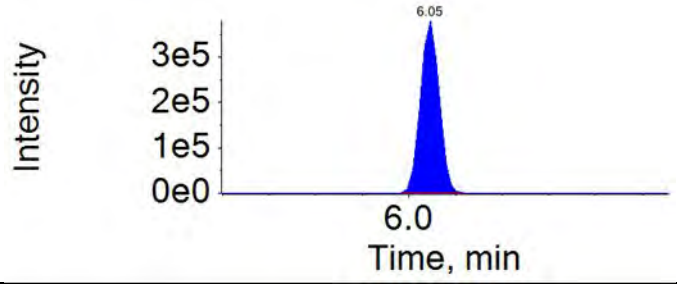
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

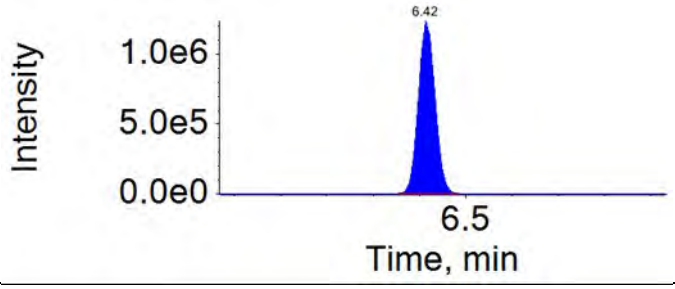
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

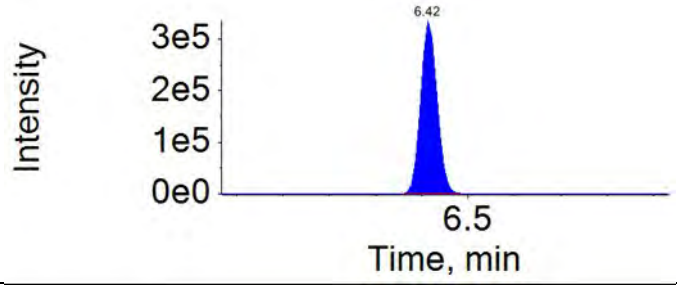
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



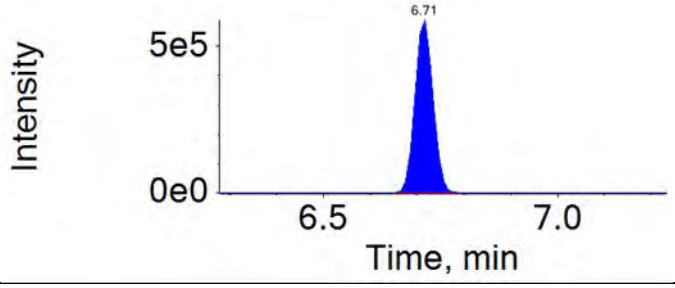


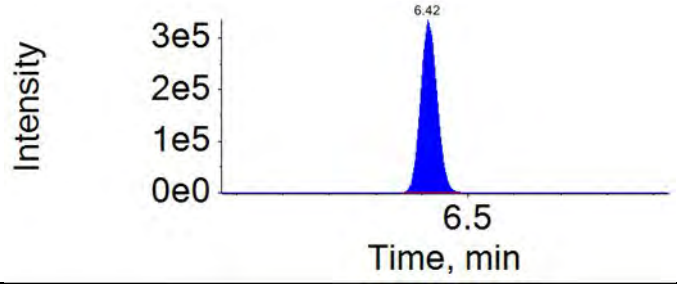
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



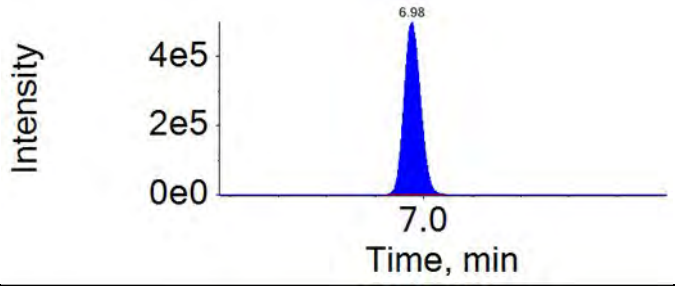


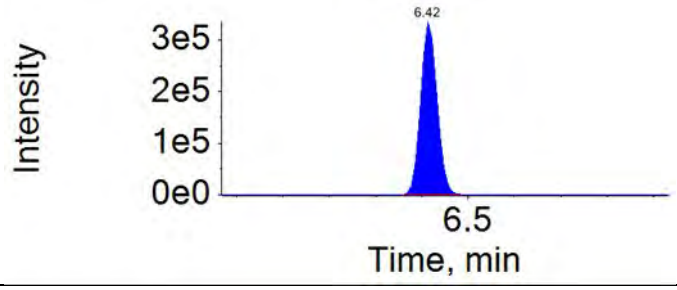
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



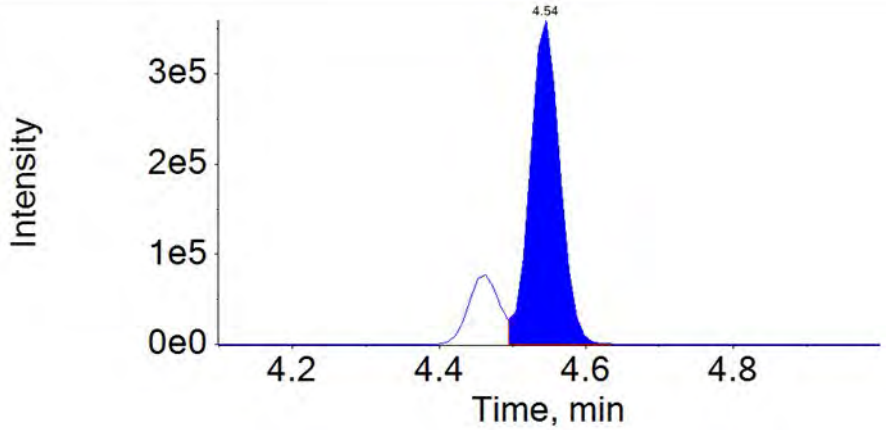


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By HMK at 11:53 am, 12/21/18

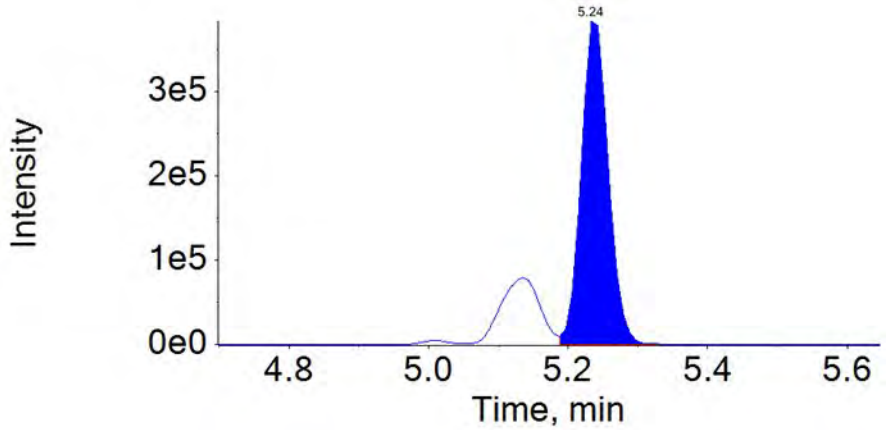
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
1013802.32
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5



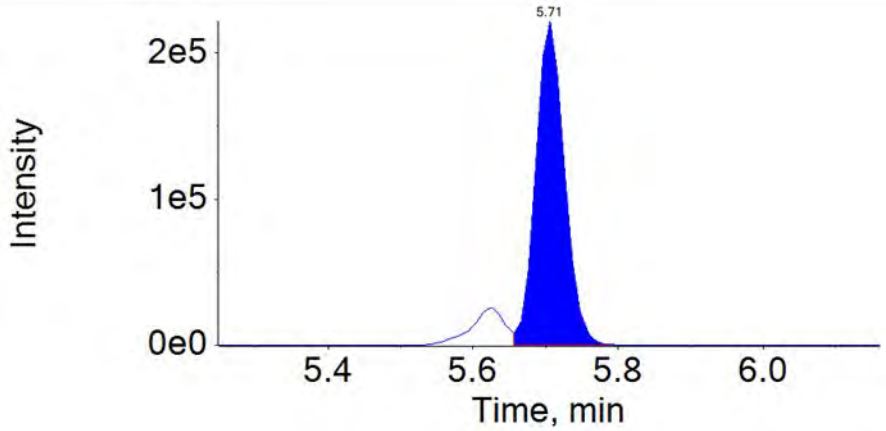
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
1038391.62
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
611867.01
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5



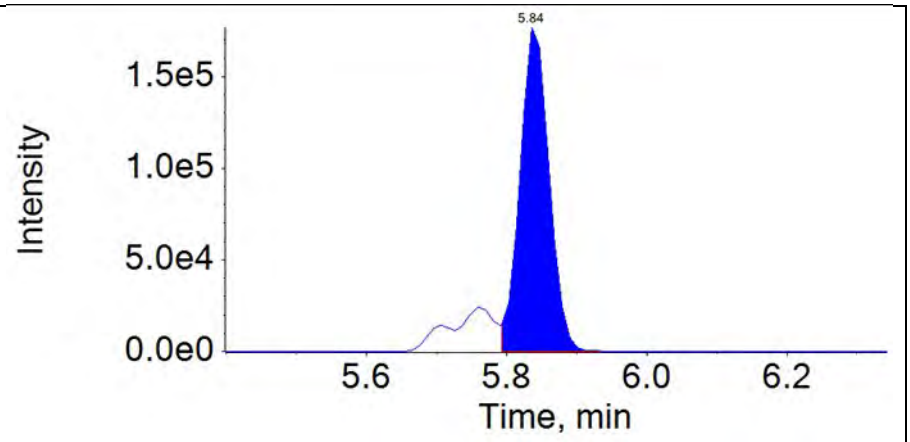
Integration Comment: incorrect integration

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By MSM at 11:49 am, 12/19/18

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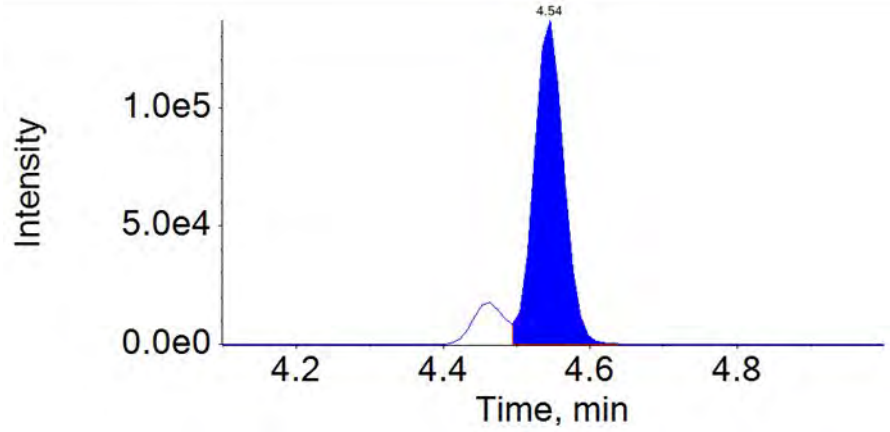
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
510729.31
Mass Range:
584.0 / 419.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5



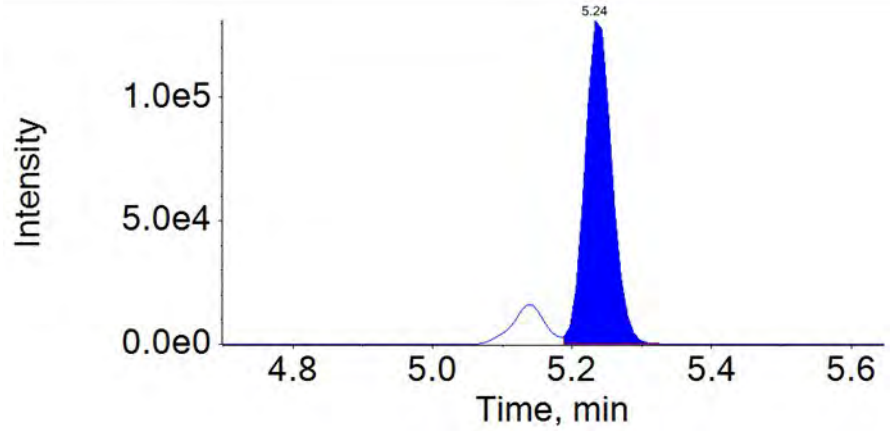
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
387629.88
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
354959.82
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-72.wiff
Sample Name:
CAL5

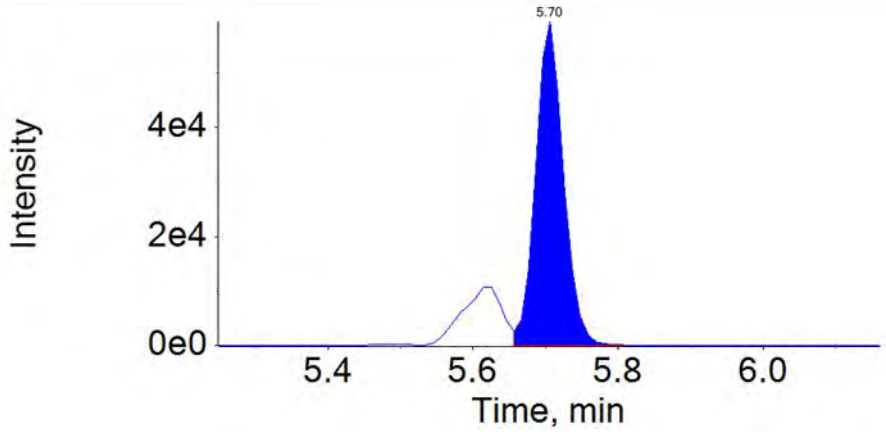


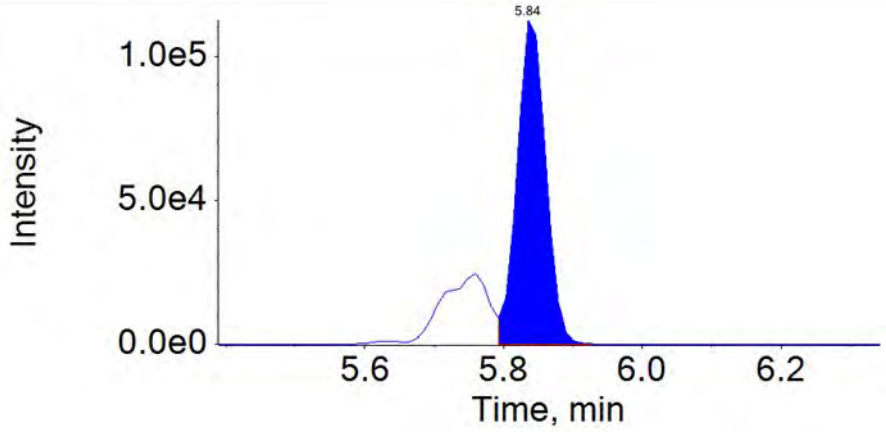
Integration Comment: incorrect integration

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By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NMeFOSAA_2 **RT (min.):** 5.70 **Peak Area:** 158285.15 **Mass Range:** 570.0 / 483.0 **File Name:** 18DEC18DCAL-72.wiff **Sample Name:** CAL5	 **Integration Comment:** incorrect integration

Component Name: NEtFOSAA_2 **RT (min.):** 5.84 **Peak Area:** 324702.81 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC18DCAL-72.wiff **Sample Name:** CAL5	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

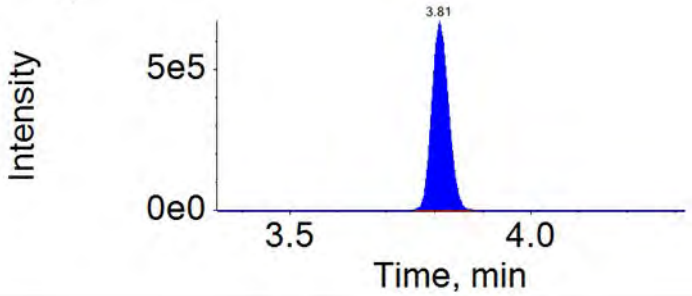
Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-72.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	1598291.60	A	1.0000	1.0000			
PFBS_2	3.81	1.00	575589.76	A	0.3686	0.3601	-2	50	
4:2-FTS	4.12	1.00	457278.35	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	272172.68	A	0.6123	0.5952	-3	50	
PFHxA	4.16	1.00	3505877.05	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	40861.77	A	0.0115	0.0117	2	50	
PFPeS	4.18	1.10	858571.61	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	437909.50	A	0.5256	0.5100	-3	50	
PFHpA	4.54	1.00	3695154.88	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	193179.04	A	0.0547	0.0523	-4	50	
PFHxS	4.54	1.00	1236035.62	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	440072.09	M	0.3359	0.3560	6	50	
6:2-FTS	4.89	1.00	385557.32	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	242669.64	A	0.6344	0.6294	-1	50	
PFHpS	4.90	1.08	1185259.61	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	487879.76	A	0.4110	0.4116	0	50	
PFOA	4.91	1.00	3699938.84	A	1.0000	1.0000			
PFOA_2	4.91	1.00	207838.53	A	0.0590	0.0562	-5	50	
PFOS	5.24	1.00	1358485.16	M	1.0000	1.0000			
PFOS_2	5.24	1.00	408017.58	M	0.2980	0.3003	1	50	
PFNA	5.26	1.00	3431849.27	A	1.0000	1.0000			
PFNA_2	5.25	1.00	72022.81	A	0.0214	0.0210	-2	50	
PFNS	5.54	1.06	965546.94	A	1.0000	1.0000			
PFNS_2	5.54	1.06	433085.21	A	0.4608	0.4485	-3	50	
PFDA	5.56	1.00	3202129.65	A	1.0000	1.0000			
PFDA_2	5.56	1.00	21720.79	A	0.0064	0.0068	7	50	
8:2-FTS	5.56	1.00	408286.41	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	247366.44	A	0.5879	0.6059	3	50	
NMeFOSAA	5.71	1.00	694349.44	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	199581.03	M	0.2625	0.2874	10	50	
PFDS	5.80	1.11	758022.30	A	1.0000	1.0000			
PFDS_2	5.80	1.11	393562.41	A	0.4962	0.5192	5	50	
PFUnDA	5.82	1.00	3400238.12	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	13457.71	A	0.0035	0.0040	12	50	
NEtFOSAA	5.84	1.00	619081.11	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	436515.35	M	0.6883	0.7051	2	50	
PFDoDA	6.05	1.00	4286978.23	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	55302.04	A	0.0134	0.0129	-4	50	
10:2-FTS	6.06	1.09	413620.67	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	291452.08	A	0.7018	0.7046	0	50	
PFTrDA	6.24	1.03	4224307.46	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	35867.35	A	0.0093	0.0085	-9	50	
PFTeDA	6.42	1.00	3087435.92	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	18534.24	A	0.0058	0.0060	3	50	
PFHxDA	6.71	1.05	1573324.99	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	96519.73	A	0.0656	0.0613	-7	50	
PFODA	6.98	1.09	1181984.36	A	1.0000	1.0000			
PFODA_2	6.97	1.09	31954.76	A	0.0273	0.0270	-1	50	

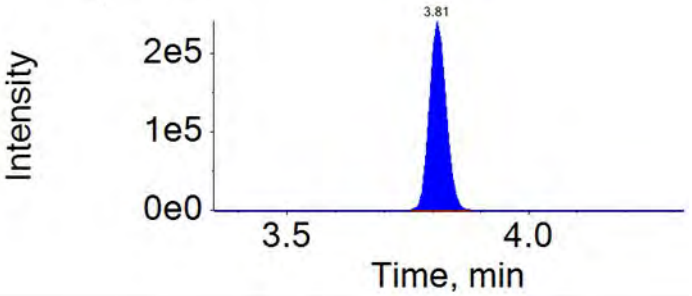
APPROVED
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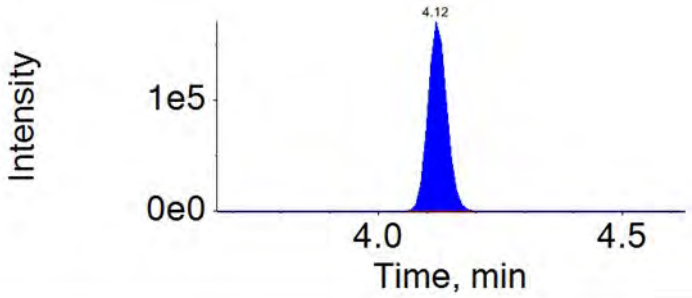
Component: PFBS
Primary Mass: 299.0 / 80.0



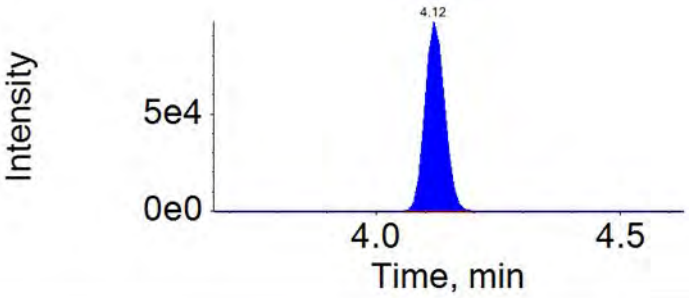
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



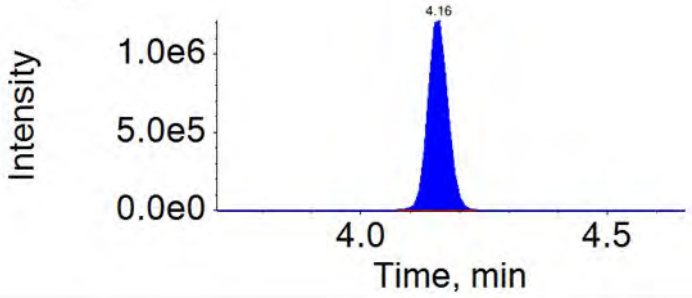
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



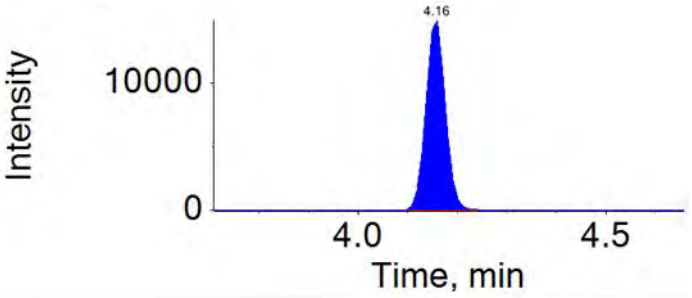
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



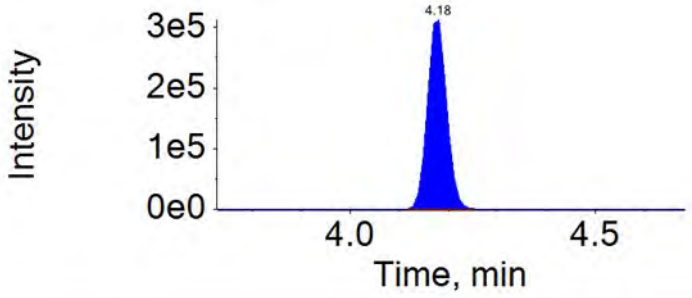
Component: PFHxA
Primary Mass: 313.0 / 269.0



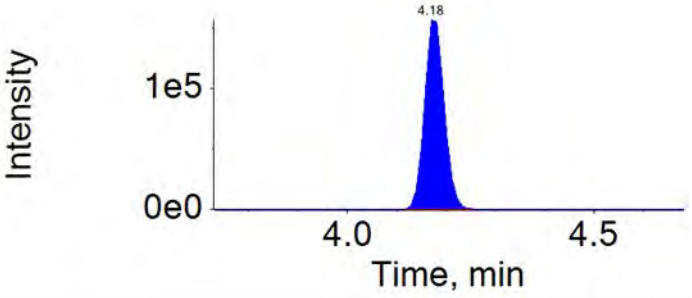
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



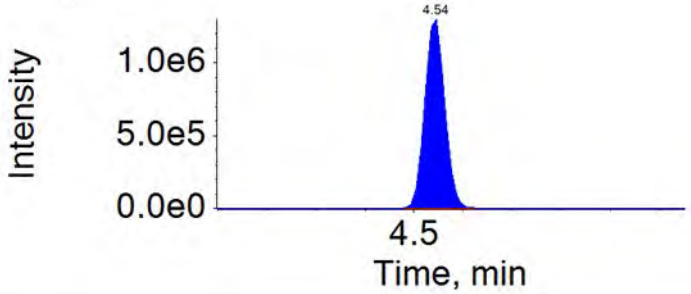
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



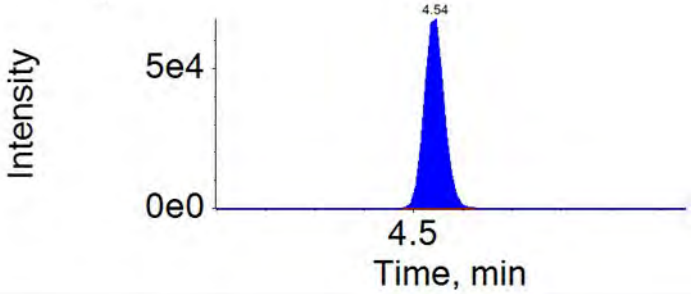
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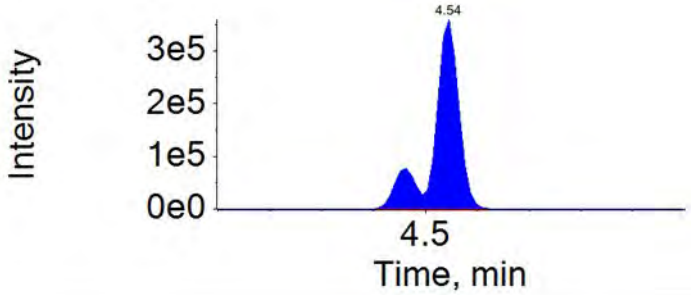
Component: PFHpA
Primary Mass: 363.0 / 319.0



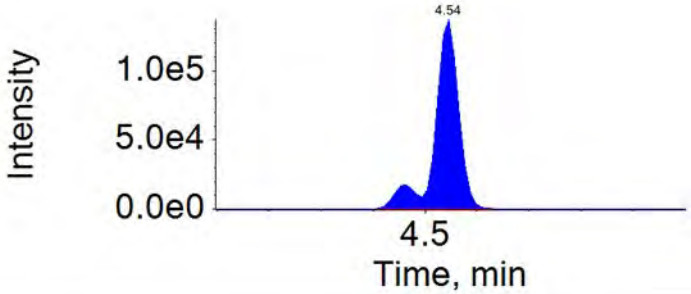
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



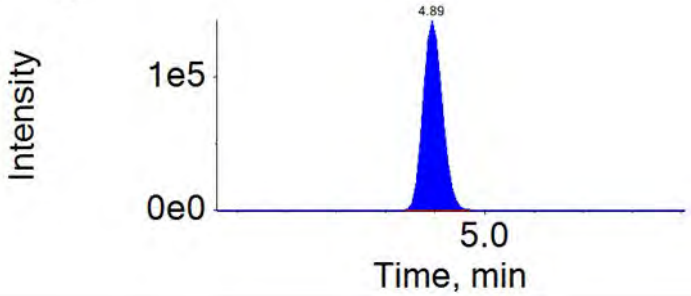
Component: PFHxS
Primary Mass: 399.0 / 80.0



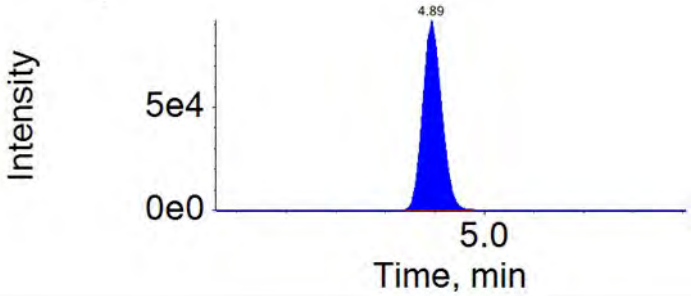
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



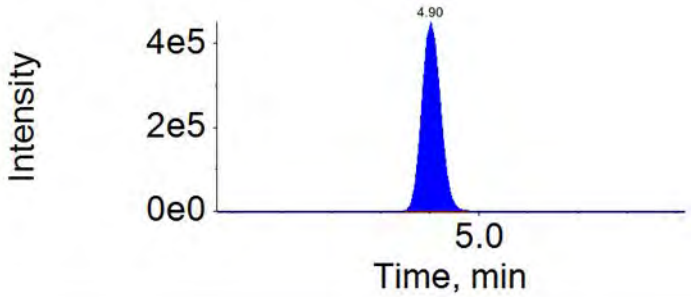
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



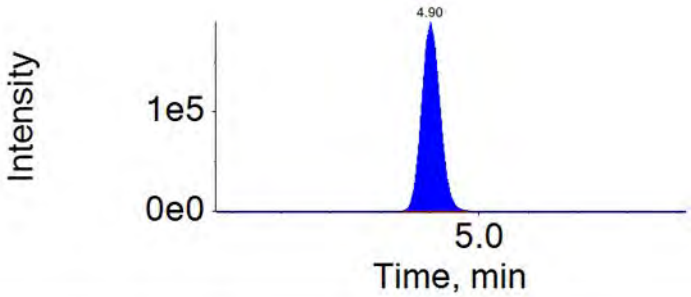
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



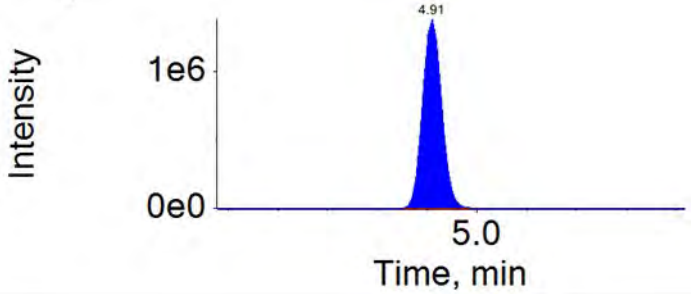
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



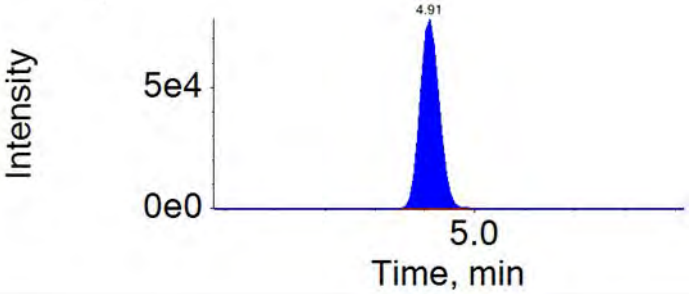
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

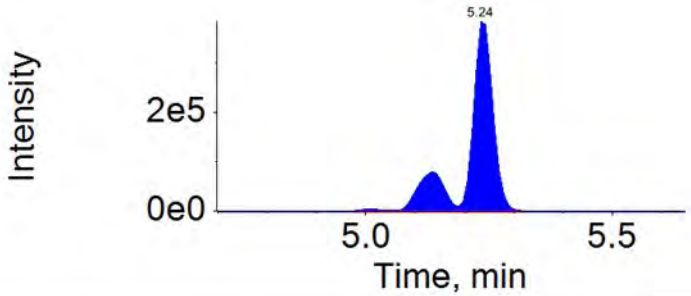
Component: PFOA
Primary Mass: 413.0 / 369.0



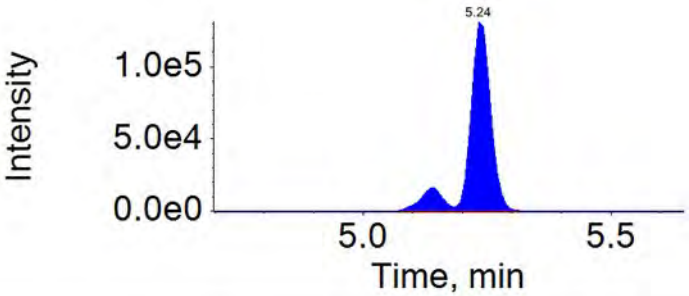
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



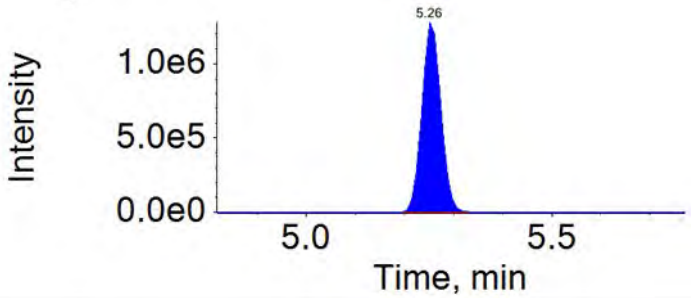
Component: PFOS
Primary Mass: 499.0 / 80.0



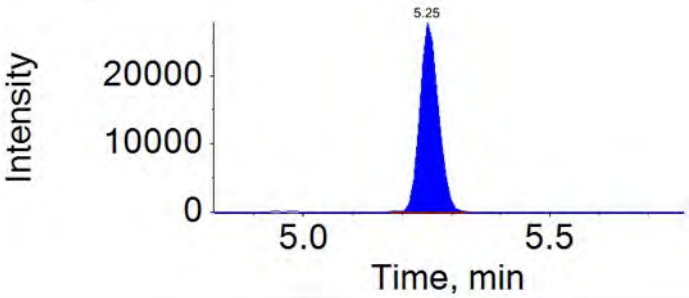
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



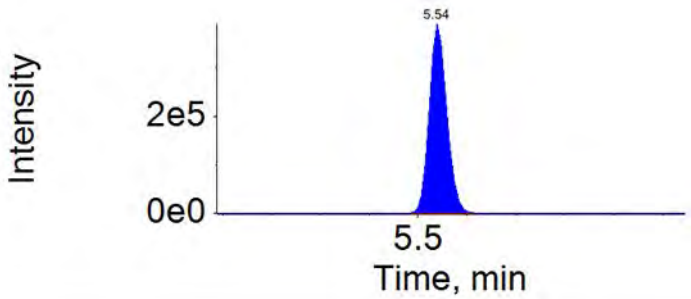
Component: PFNA
Primary Mass: 463.0 / 419.0



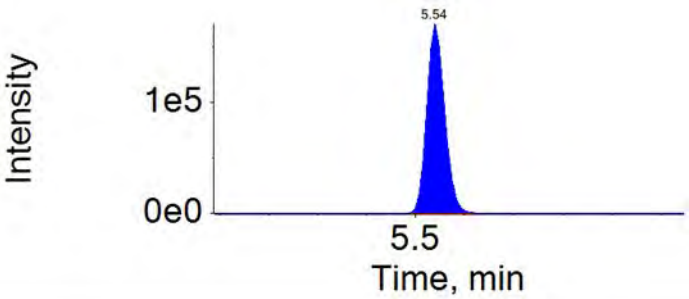
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



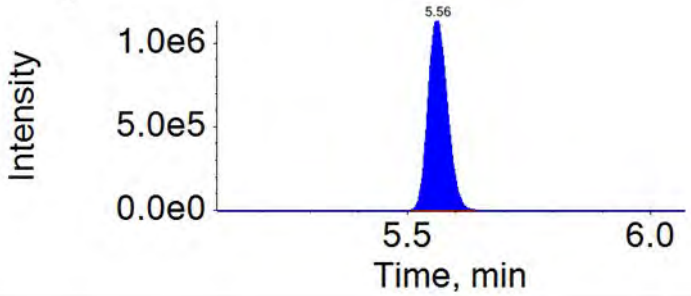
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



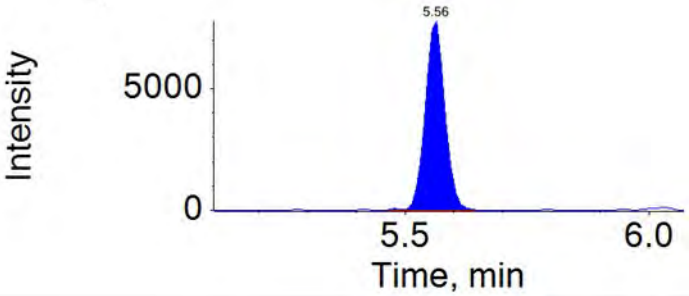
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

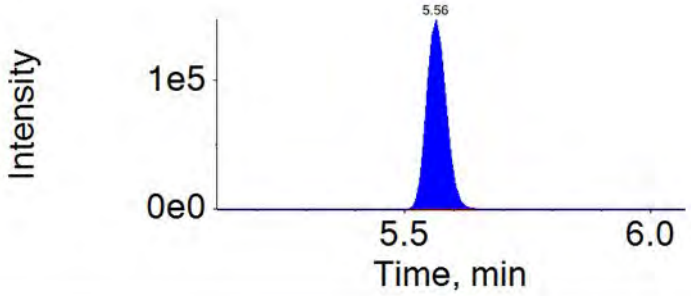
Component: PFDA
Primary Mass: 513.0 / 469.0



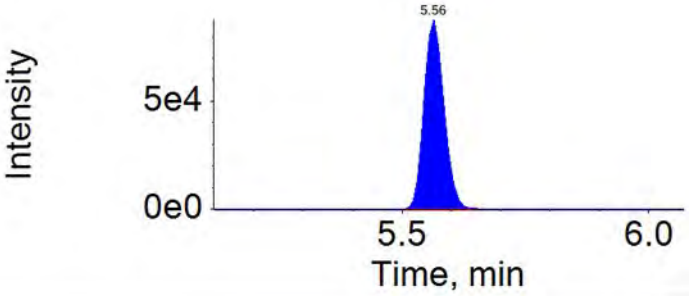
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



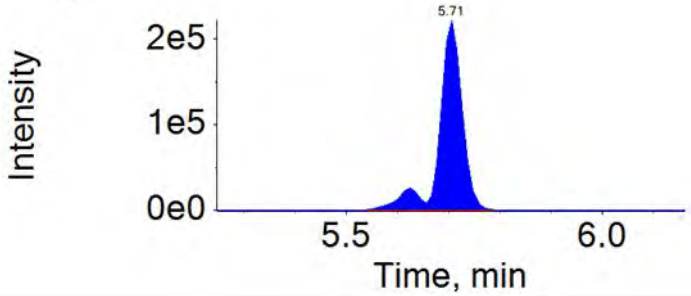
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



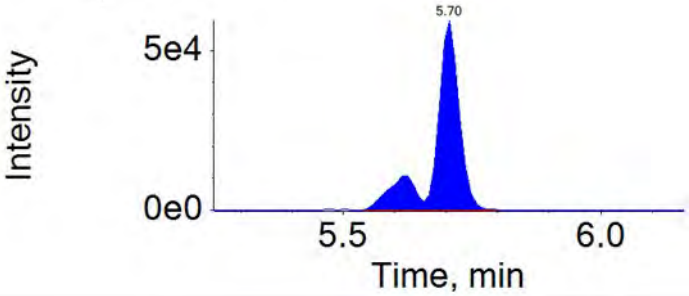
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



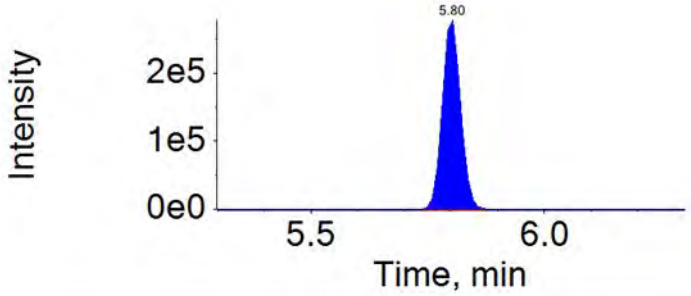
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



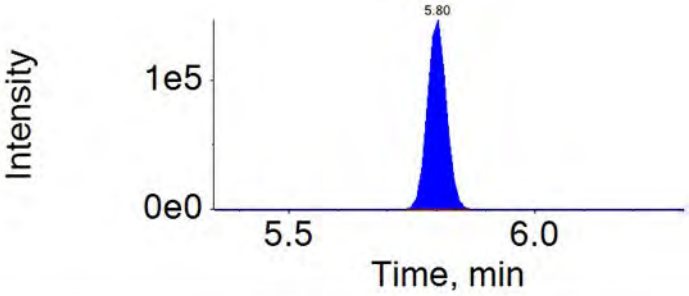
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



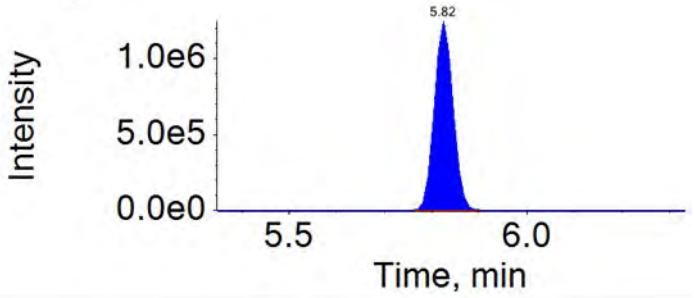
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



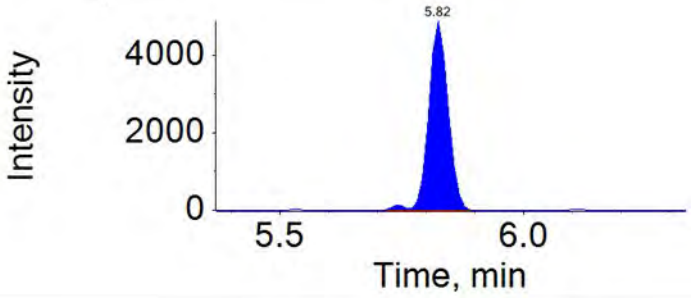
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

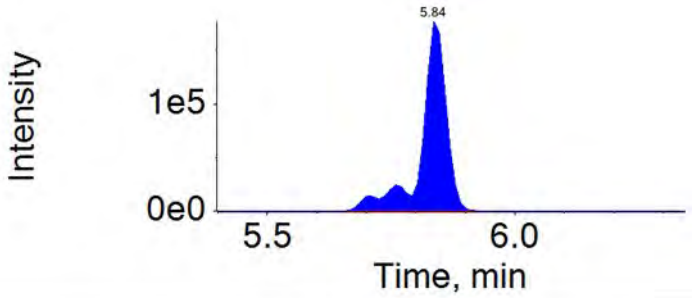
Component: PFUnDA
Primary Mass: 563.0 / 519.0



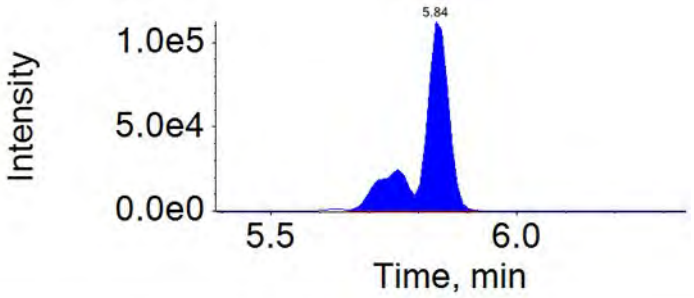
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



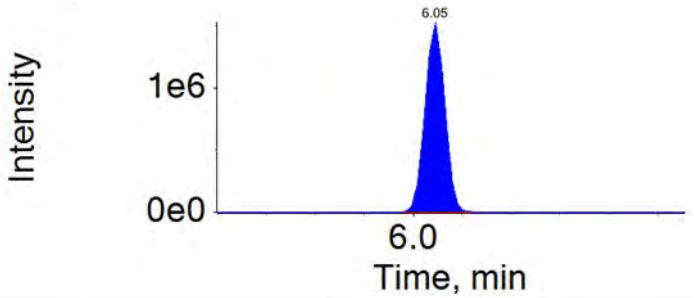
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



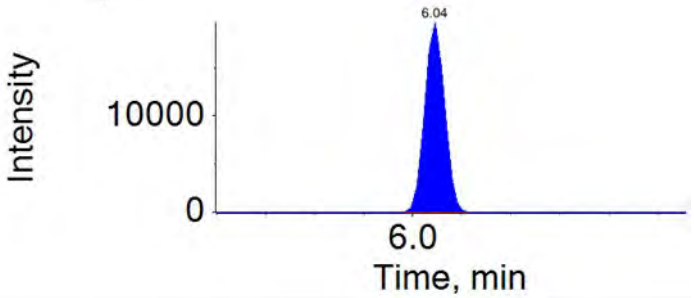
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



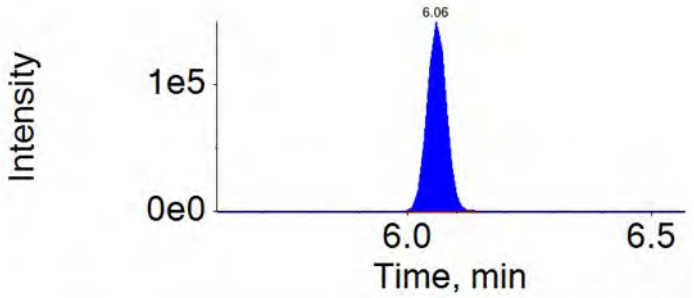
Component: PFDoDA
Primary Mass: 613.0 / 569.0



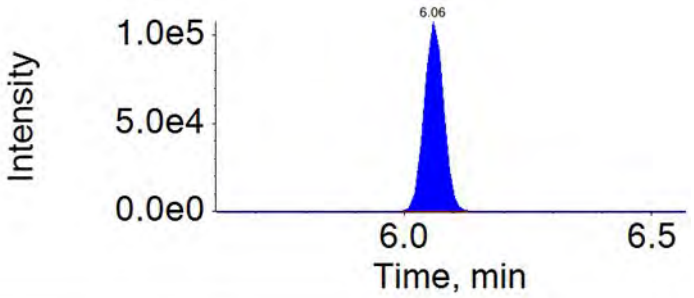
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



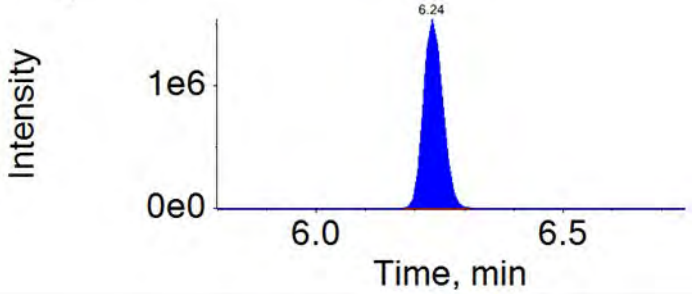
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



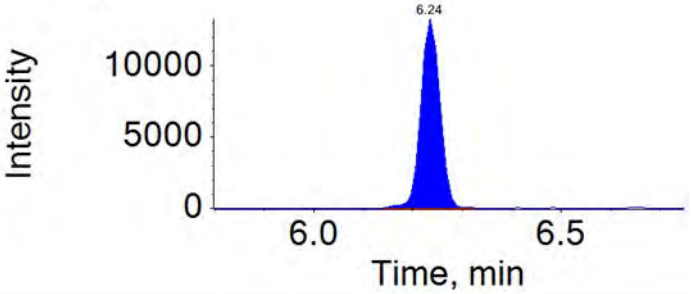
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

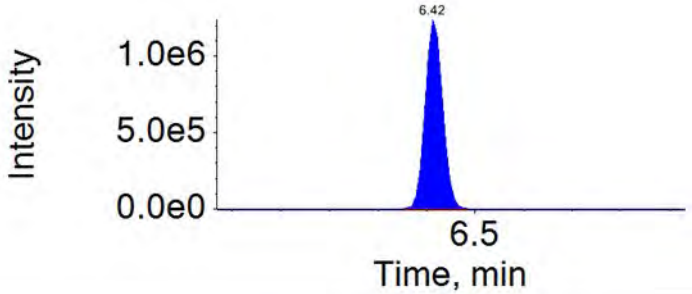
Component: PFTrDA
Primary Mass: 663.0 / 619.0



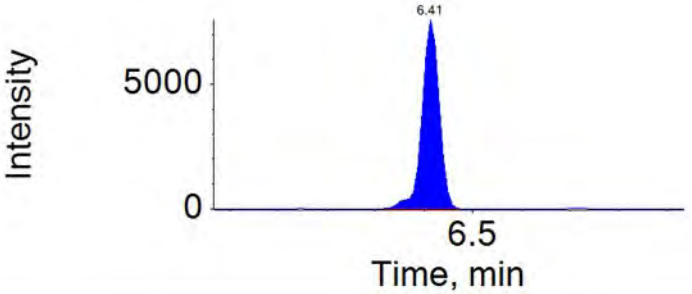
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



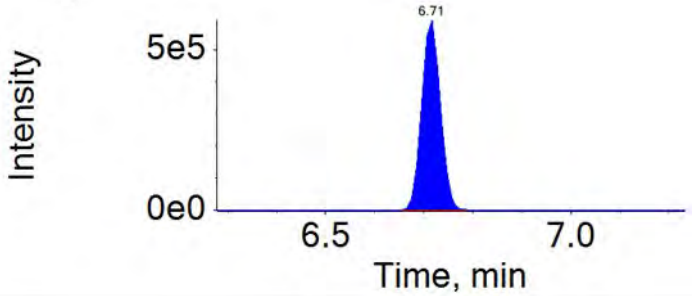
Component: PFTeDA
Primary Mass: 713.0 / 669.0



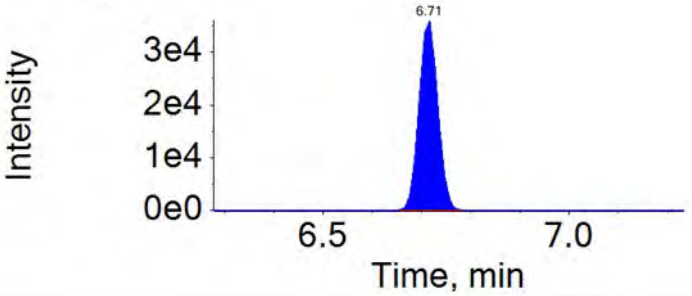
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



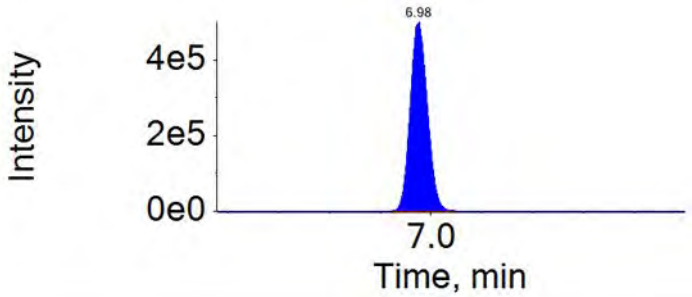
Component: PFHxDA
Primary Mass: 813.0 / 769.0



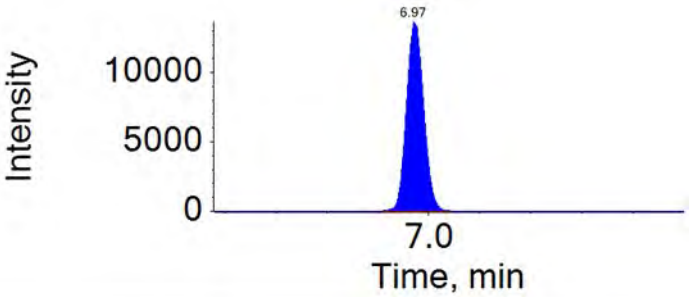
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL6			**Data File:**		18DEC18DCAL-73.wiff
Sample ID:	CALBRN61833B			**Acquis Date:**		2018-12-19T00:19:55
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	8			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	841816.9	941251.6	-11	50	
13C2-PFOA	5.0	543818.8	485595.3	12	50	
13C4-PFOS	4.8	276479.9	292182.6	-5	50	
13C2-PFDA	5.0	448809.6	467216.0	-4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	976240.6	13C3-PFBA	841816.9	1.160	5.000	5.135	103	70-130	
E13C5-PFPeA	931893.9	13C3-PFBA	841816.9	1.107	5.000	5.162	103	70-130	
E13C3-PFBS	422799.5	13C3-PFBA	841816.9	0.502	4.650	4.890	105	70-130	
E13C2-4:2-FTS	60811.3	13C2-PFOA	543818.8	0.112	4.670	4.247	91	70-130	
E13C5-PFHxA	702242.4	13C2-PFOA	543818.8	1.291	5.000	4.619	92	70-130	
E13C3-PFHxS	298442.3	13C2-PFOA	543818.8	0.549	4.730	4.153	88	70-130	
E13C4-PFHpA	610591.6	13C2-PFOA	543818.8	1.123	5.000	4.850	97	70-130	
E13C2-6:2-FTS	44087.7	13C2-PFOA	543818.8	0.081	4.750	4.079	86	70-130	
E13C8-PFOA	858182.7	13C2-PFOA	543818.8	1.578	5.000	4.339	87	70-130	
E13C8-PFOS	289236.3	13C4-PFOS	276479.9	1.046	4.780	4.678	98	70-130	
E13C9-PFNA	644223.4	13C4-PFOS	276479.9	2.330	5.000	5.301	106	70-130	
E13C6-PFDA	785276.6	13C2-PFDA	448809.6	1.750	5.000	4.984	100	70-130	
E13C2-8:2-FTS	41390.6	13C2-PFDA	448809.6	0.092	4.790	4.753	99	70-130	
E13C8-PFOSA	575735.3	13C2-PFDA	448809.6	1.283	5.000	4.995	100	70-130	
Ed3-NMeFOSAA	194698.3	13C2-PFDA	448809.6	0.434	5.000	4.773	95	70-130	
E13C7-PFUnDA	542196.9	13C2-PFDA	448809.6	1.208	5.000	5.057	101	70-130	
Ed5-NEtFOSAA	138273.6	13C2-PFDA	448809.6	0.308	5.000	4.539	91	70-130	
E13C2-PFDoDA	1021574.8	13C2-PFDA	448809.6	2.276	5.000	4.789	96	70-130	
Ed7-NMePFOSAE	261182.9	13C2-PFDA	448809.6	0.582	5.000	5.200	104	70-130	
Ed3-NMePFOSA	84626.8	13C2-PFDA	448809.6	0.189	5.000	5.181	104	70-130	
Ed9-NEtPFOSAE	222808.9	13C2-PFDA	448809.6	0.496	5.000	5.075	102	70-130	
Ed5-NEtPFOSA	66987.4	13C2-PFDA	448809.6	0.149	5.000	5.177	104	70-130	
E13C2-PFTeDA	805412.9	13C2-PFDA	448809.6	1.795	5.000	5.057	101	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

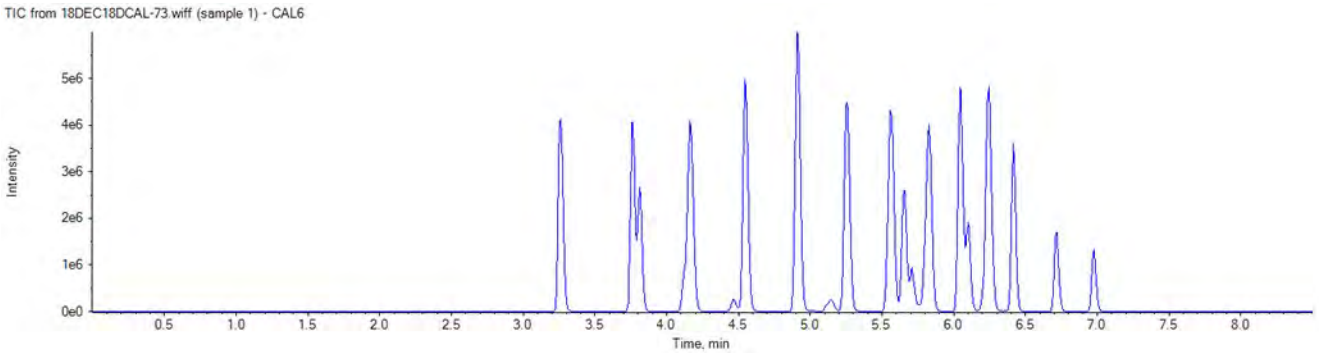
Analyte Quantitation Peak Table

Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-73.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	8351267.1		A	13C4-PFBA	3.26	976240.6	8.555	45.420
PFPeA	3.77	1.000	8138980.7		A	13C5-PFPeA	3.76	931893.9	8.734	45.083
PFBS	3.81	1.000	3747060.8		A	13C3-PFBS	3.81	422799.5	8.863	43.750
4:2-FTS	4.12	1.000	1050924.0		A	13C2-4:2-FTS	4.12	60811.3	17.282	45.341
PFHxA	4.16	1.000	7325035.5		A	13C5-PFHxA	4.16	702242.4	10.431	42.970
PFPeS	4.18	1.100	1963865.8		A	13C3-PFBS	3.81	422799.5	4.645	47.288
PFHpA	4.55	1.000	7849138.7		A	13C4-PFHpA	4.55	610591.6	12.855	42.626
PFHxS	4.55	1.000	2769777.0		M	13C3-PFHxS	4.55	298442.3	9.281	45.142
6:2-FTS	4.90	1.000	827147.2		A	13C2-6:2-FTS	4.90	44087.7	18.761	46.705
PFHpS	4.91	1.080	2676577.9		A	13C3-PFHxS	4.55	298442.3	8.968	47.444
PFOA	4.92	1.000	7895459.2		A	13C8-PFOA	4.92	858182.7	9.200	48.740
PFOS	5.24	1.000	3112288.6		M	13C8-PFOS	5.24	289236.3	10.760	47.111
PFNA	5.26	1.000	7783069.7		A	13C9-PFNA	5.26	644223.4	12.081	48.015
PFNS	5.54	1.060	2213789.6		A	13C8-PFOS	5.24	289236.3	7.654	48.669
PFDA	5.57	1.000	6722193.6		A	13C6-PFDA	5.57	785276.6	8.560	44.210
8:2-FTS	5.57	1.000	866380.5		A	13C2-8:2-FTS	5.57	41390.6	20.932	42.130
PFOSA	5.66	1.000	5641072.5		A	13C8-PFOSA	5.66	575735.3	9.798	49.002
NMeFOSAA	5.71	1.000	1522626.1		M	d3-NMeFOSAA	5.71	194698.3	7.820	48.603
PFDS	5.80	1.110	1690515.9		A	13C8-PFOS	5.24	289236.3	5.845	47.982
PFUnDA	5.83	1.000	6790806.9		A	13C7-PFUnDA	5.83	542196.9	12.525	41.480
NEtFOSAA	5.84	1.000	1393940.7		M	d5-NEtFOSAA	5.84	138273.6	10.081	51.380
PFDoDA	6.05	1.000	8862936.2		A	13C2-PFDoDA	6.05	1021574.8	8.676	43.704
10:2-FTS	6.06	1.090	875761.6		A	13C2-8:2-FTS	5.57	41390.6	21.158	43.093
NMePFOSAE	6.10	1.000	3042548.6		A	d7-NMePFOSAE	6.09	261182.9	11.649	51.399
NMePFOSA	6.11	1.000	841191.1		A	d3-NMePFOSA	6.11	84626.8	9.940	50.180
PFDoS	6.21	1.180	959645.7		A	13C8-PFOS	5.24	289236.3	3.318	50.267
NEtPFOSAE	6.25	1.000	3257504.3		A	d9-NEtPFOSAE	6.24	222808.9	14.620	47.763
NEtPFOSA	6.27	1.000	703179.0		A	d5-NEtPFOSA	6.26	66987.4	10.497	49.101
PFTrDA	6.24	1.030	8498735.5		A	13C2-PFDoDA	6.05	1021574.8	8.319	42.680
PFTeDA	6.42	1.000	6745639.5		A	13C2-PFTeDA	6.42	805412.9	8.375	45.100
PFHxDA	6.72	1.050	3527192.4		A	13C2-PFTeDA	6.42	805412.9	4.379	48.092
PFODA	6.98	1.090	2737389.5		A	13C2-PFTeDA	6.42	805412.9	3.399	48.836

Total Ion Chromatogram

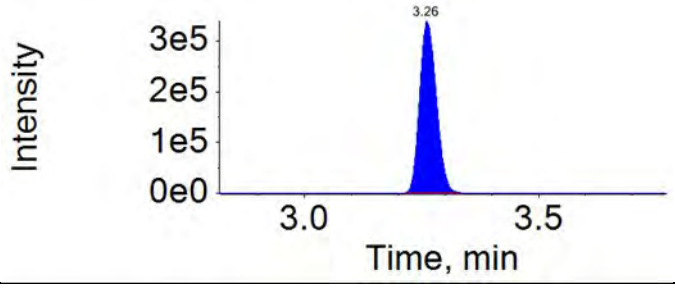


APPROVED
By MSM at 11:49 am, 12/19/18

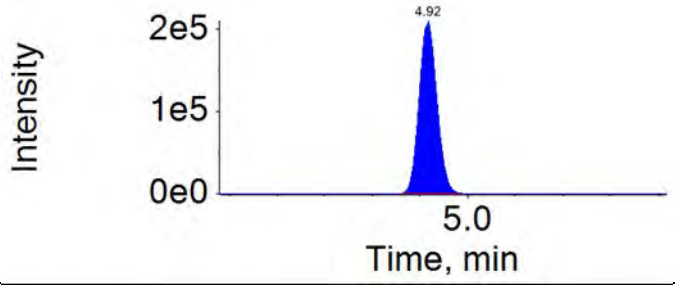
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

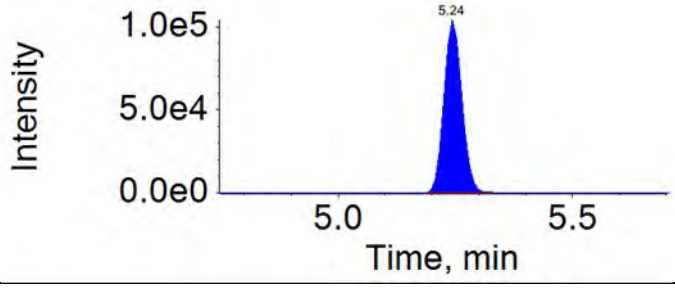
Injection Standard: 13C3-PFBA
216.0 / 172.0



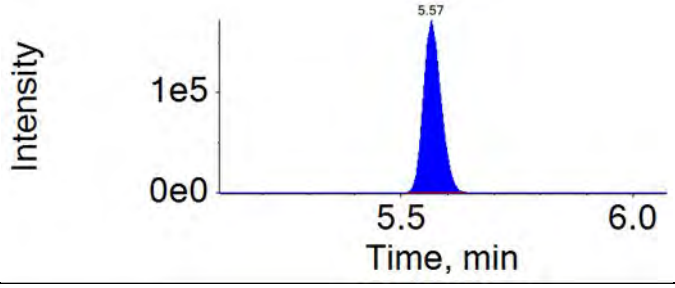
Injection Standard: 13C2-PFOA
415.0 / 370.0



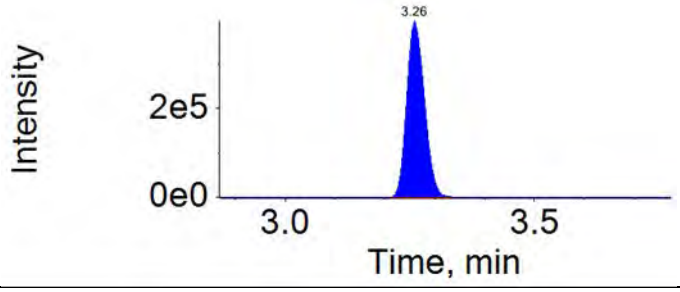
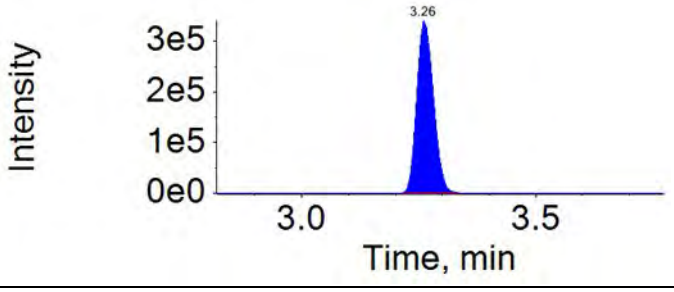
Injection Standard: 13C4-PFOS
503.0 / 80.0

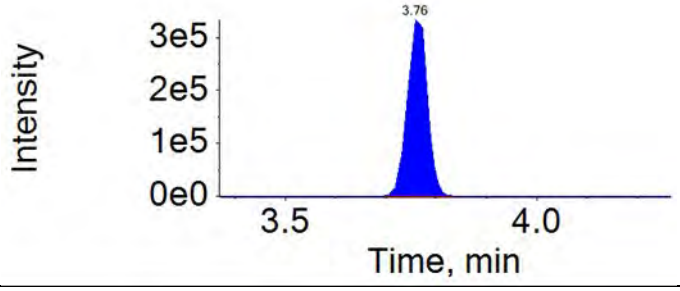
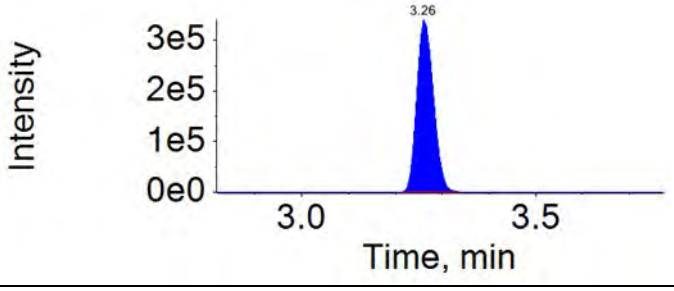


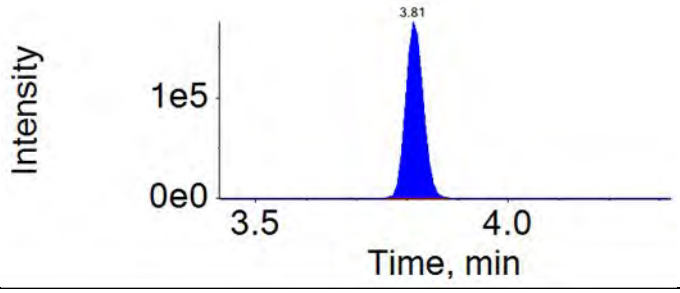
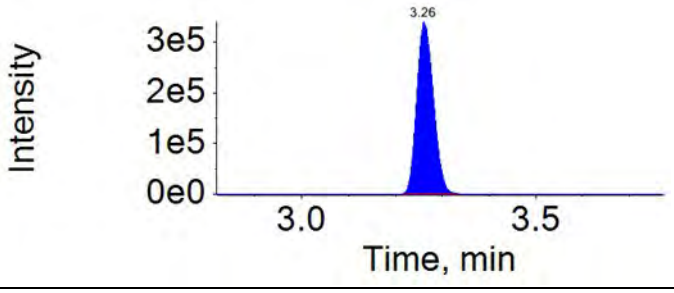
Injection Standard: 13C2-PFDA
515.0 / 470.0

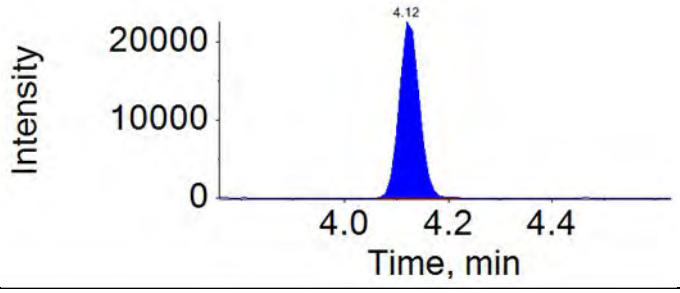
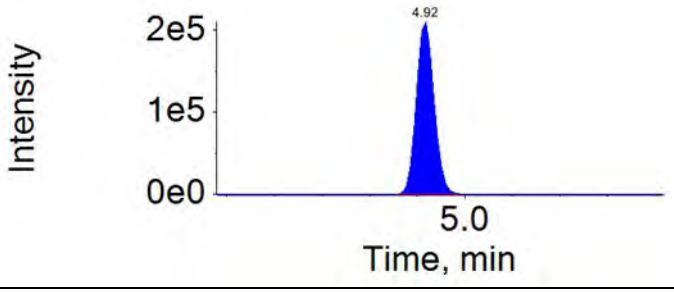


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

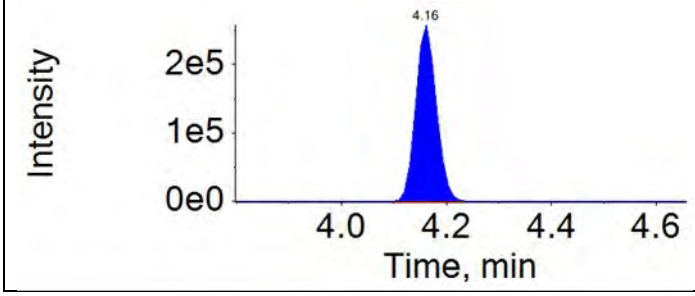
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

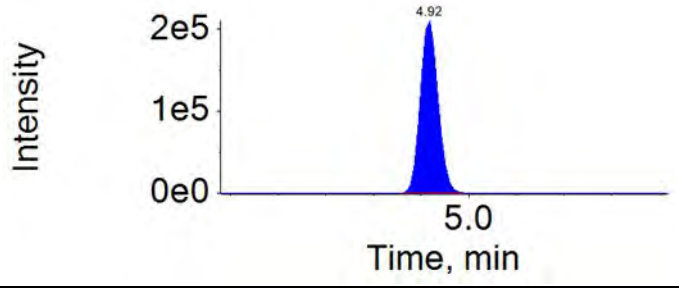
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

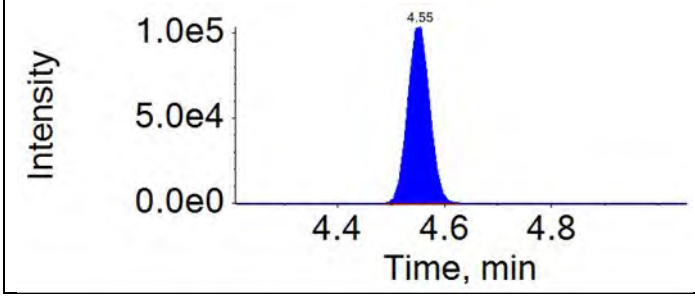
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

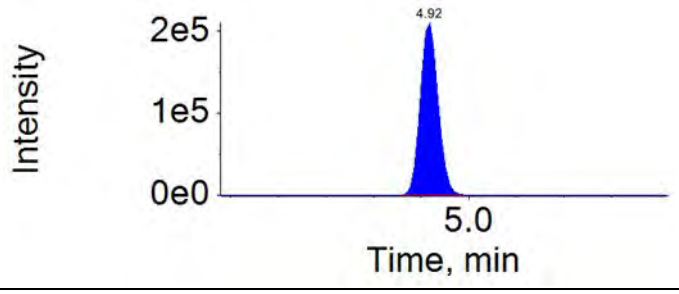
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



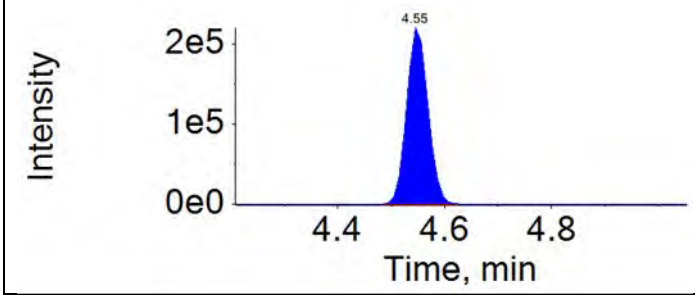


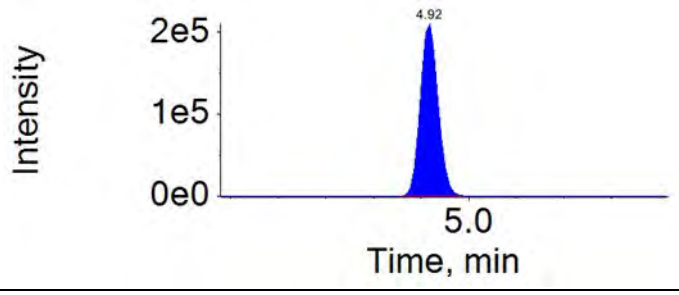
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



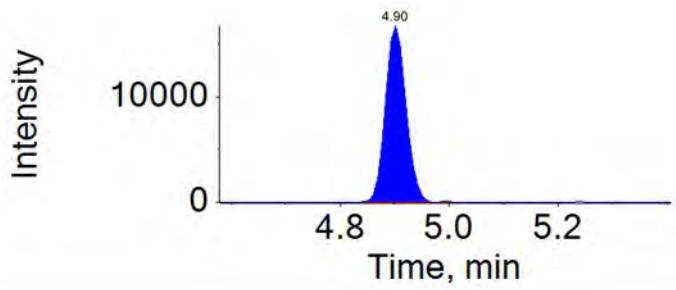


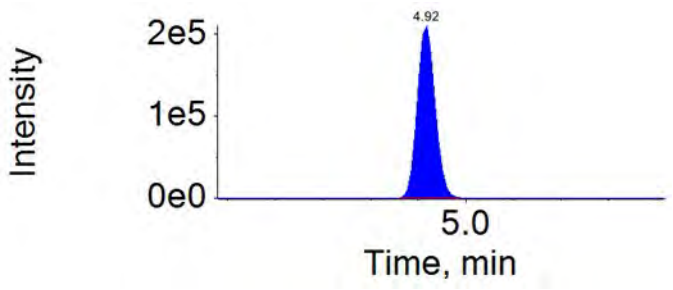
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

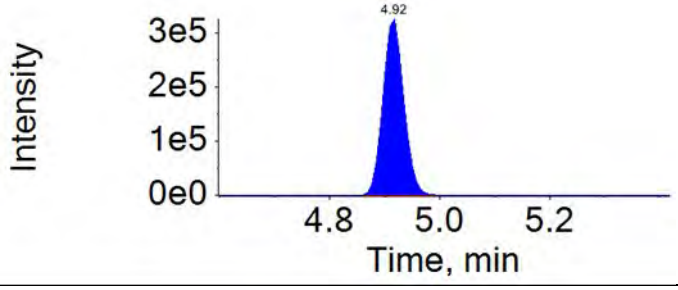
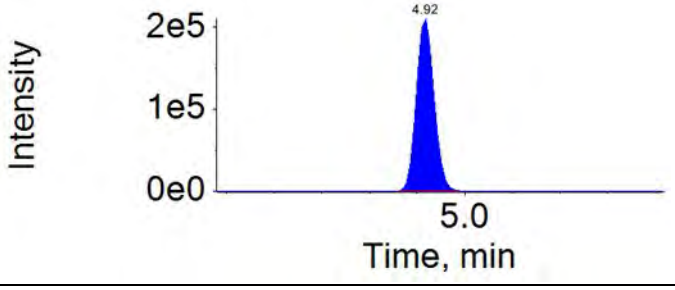


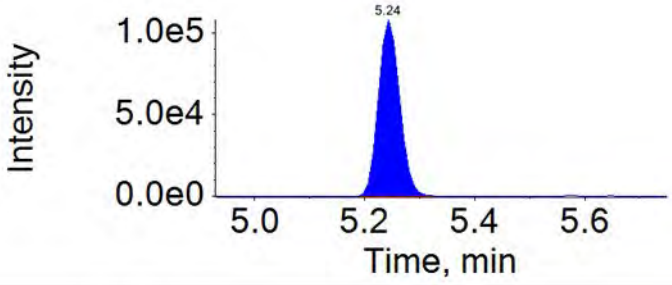
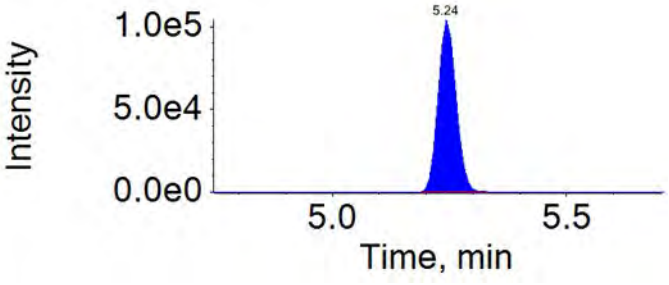


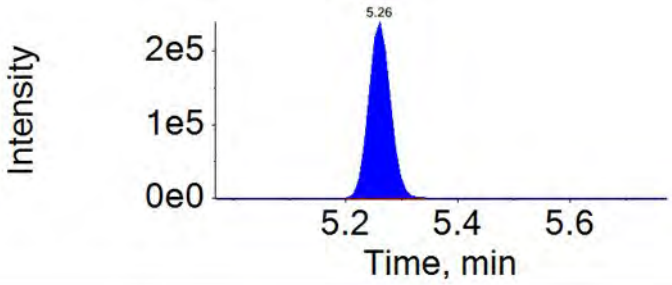
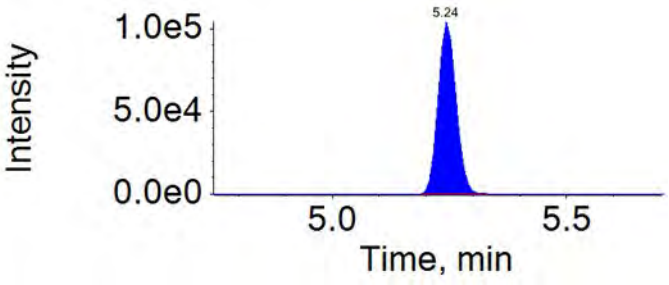
APPROVED
By MSM at 11:49 am, 12/19/18

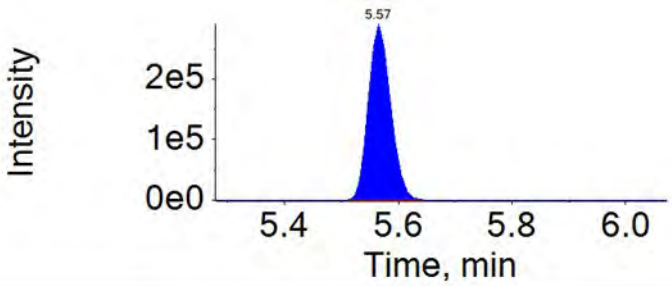
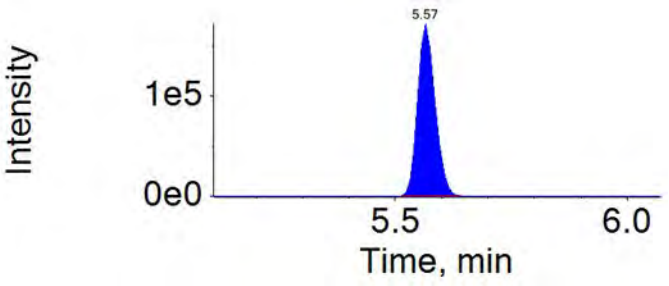
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

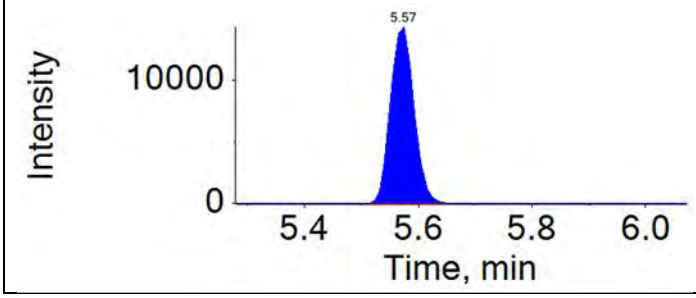
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

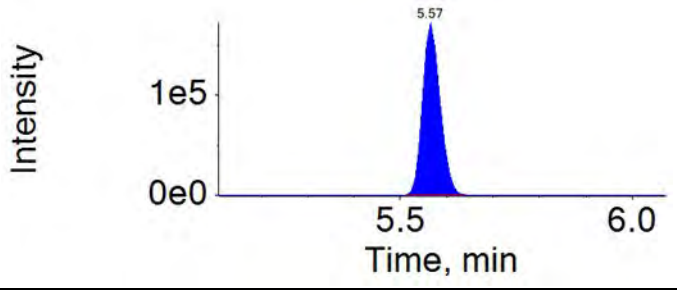
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

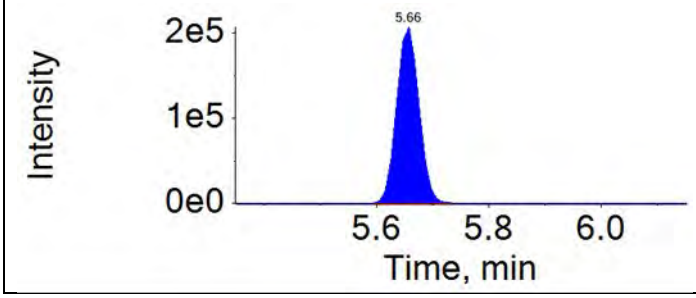
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

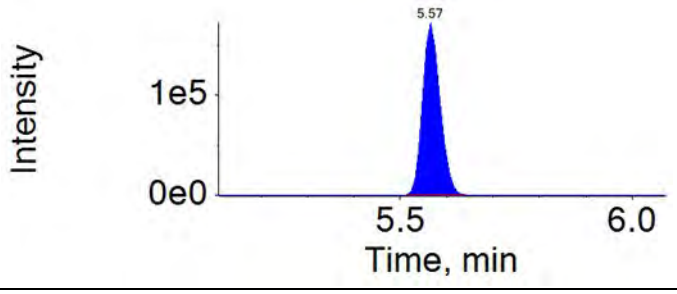
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



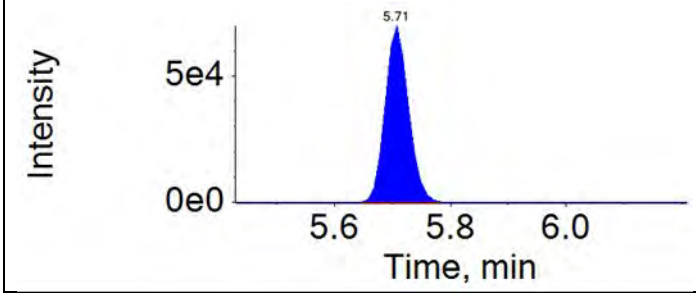


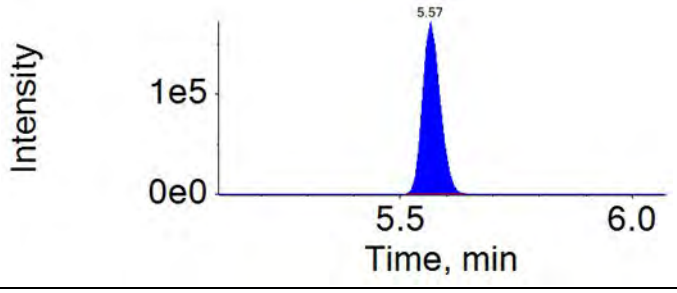
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



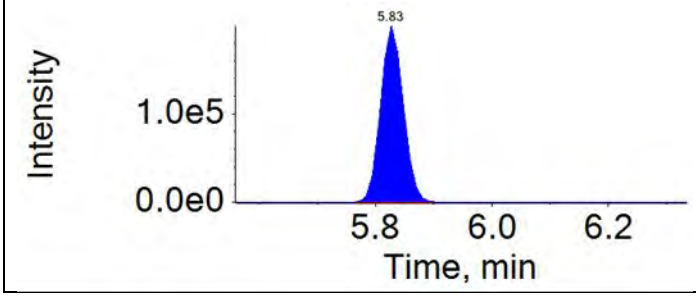


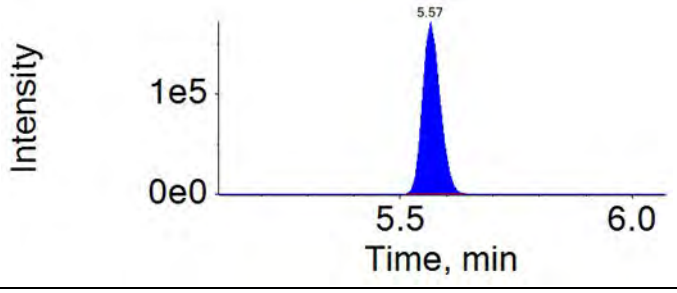
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



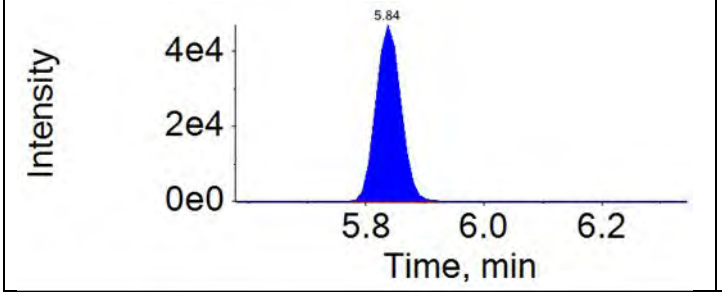


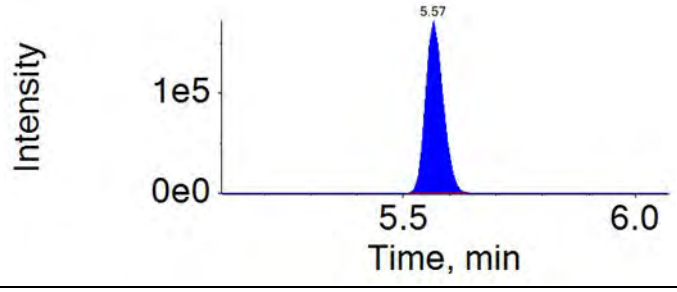
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

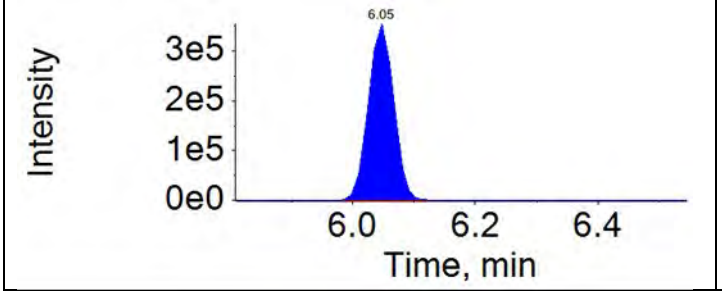
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

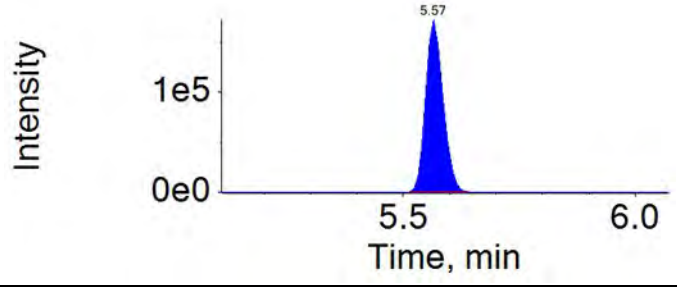
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



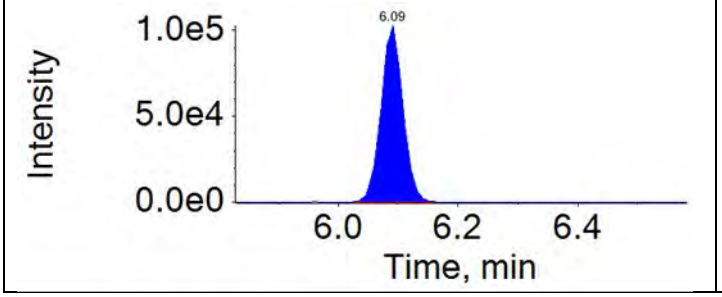


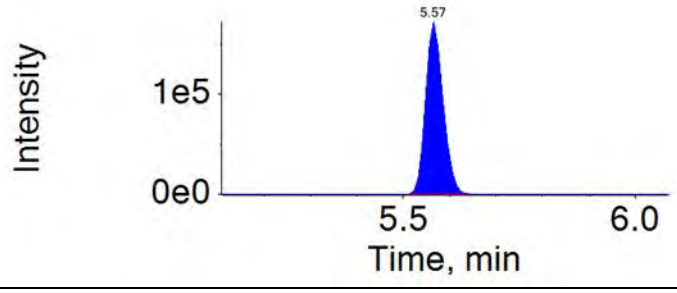
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



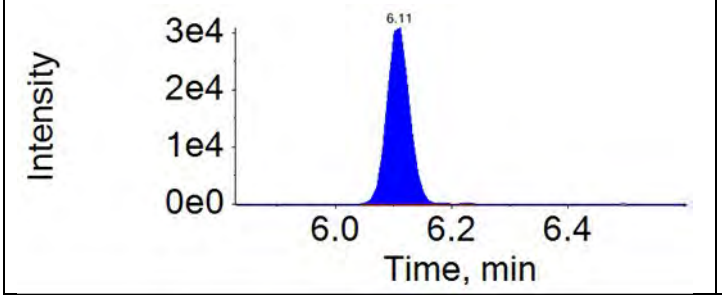


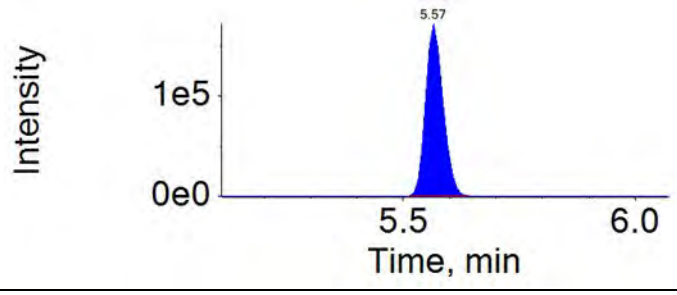
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



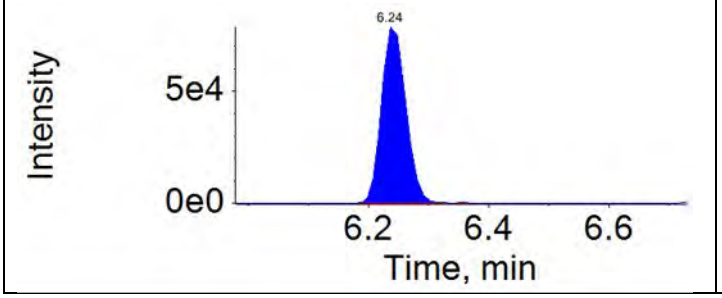


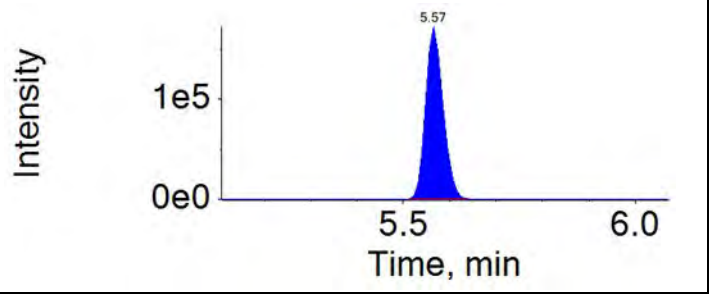
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

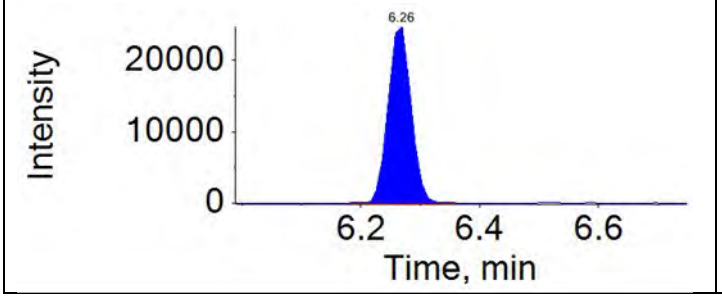
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

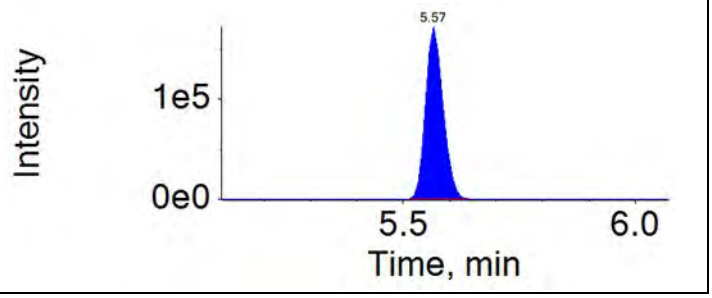
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



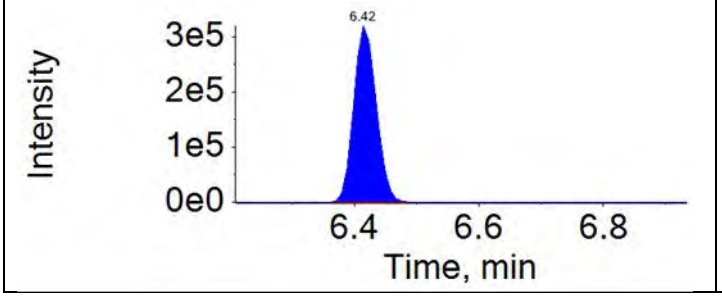


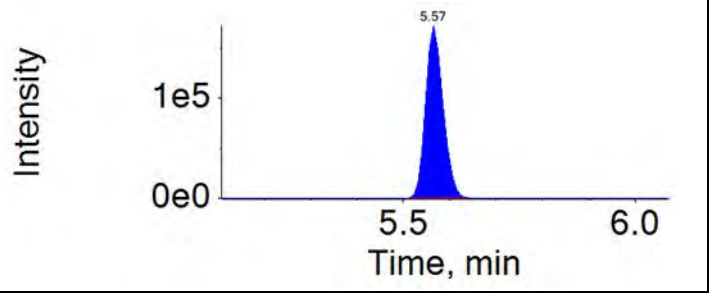
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



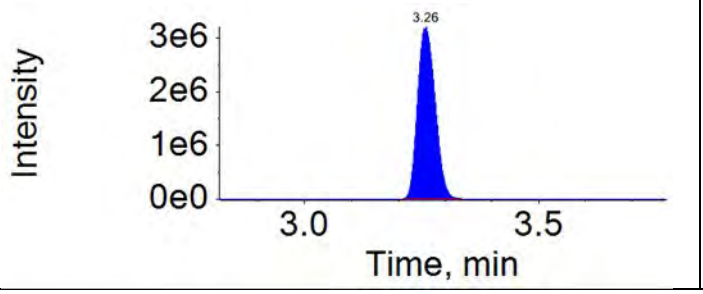


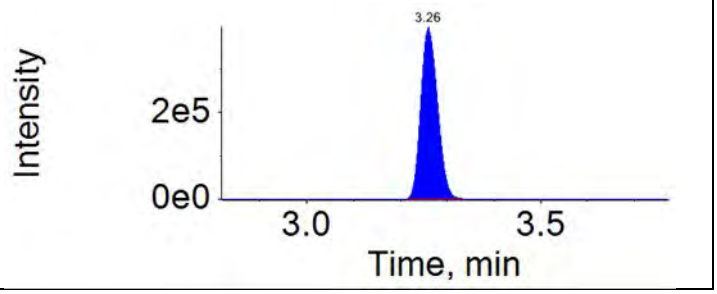
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

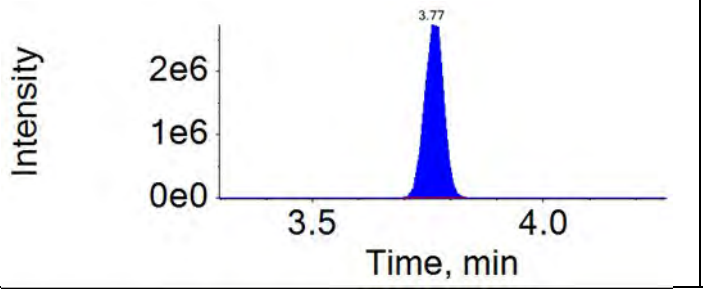
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

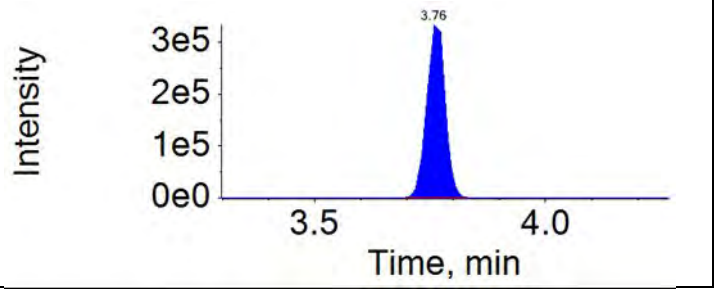
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



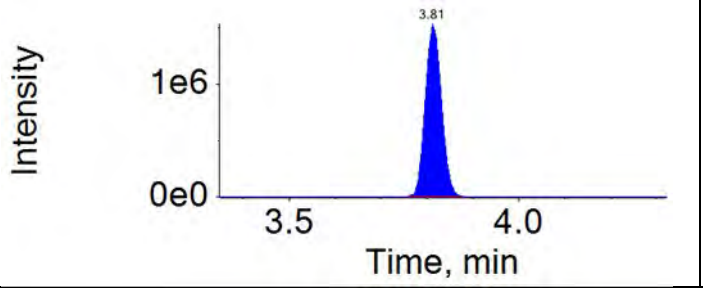


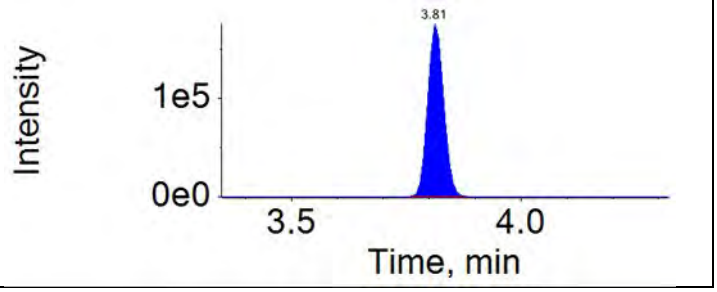
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



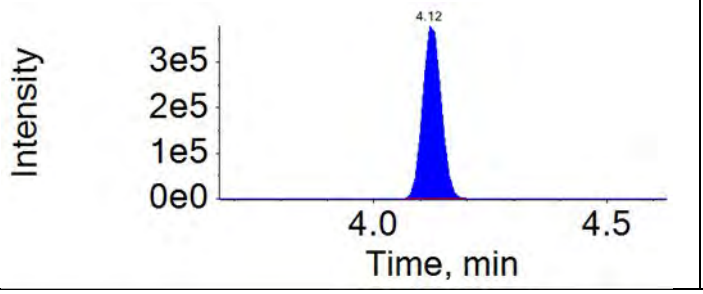


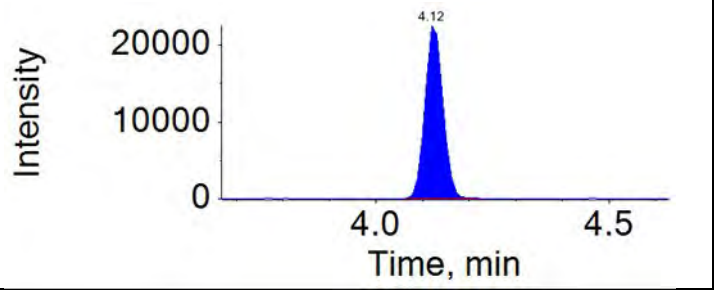
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



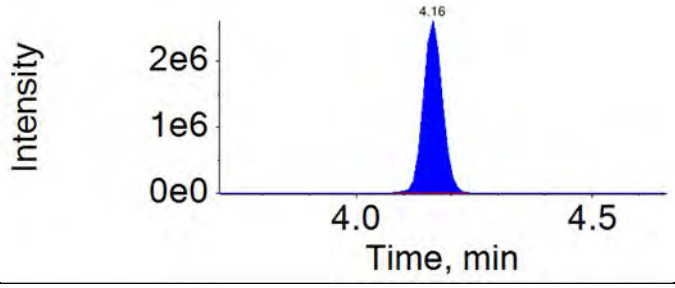


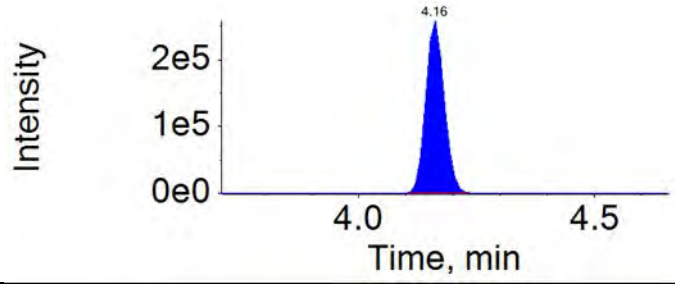
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

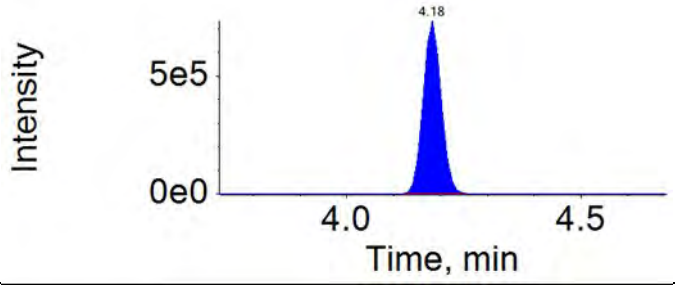
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

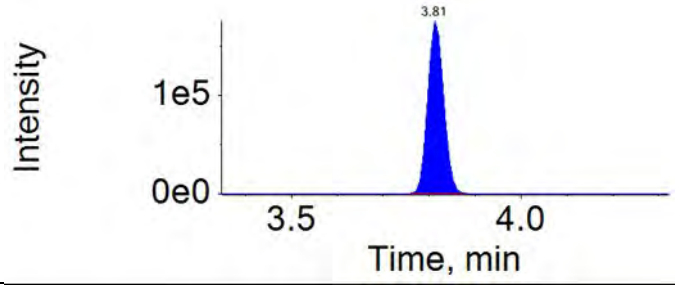
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



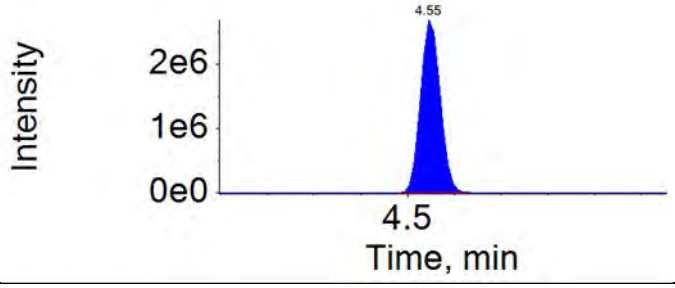


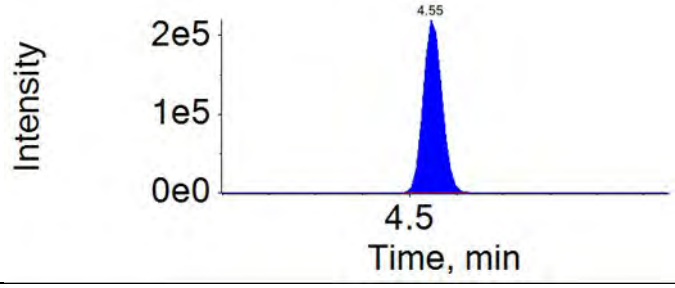
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



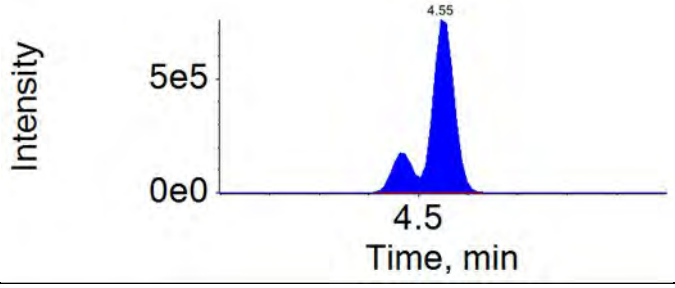


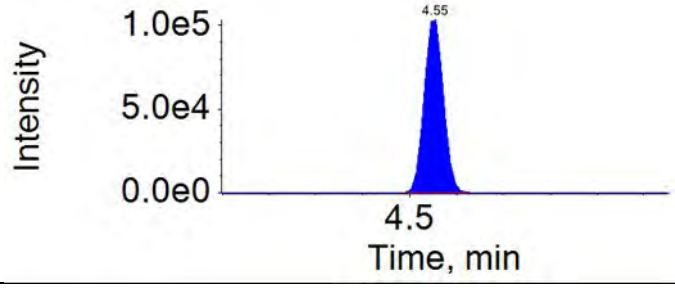
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

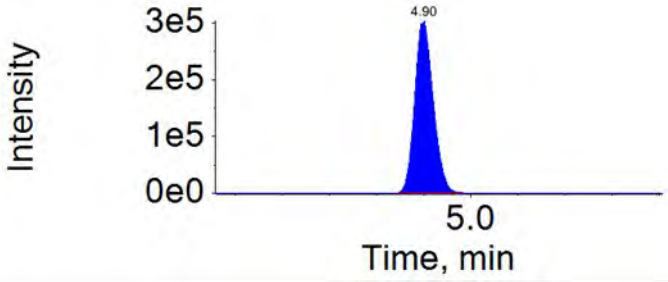
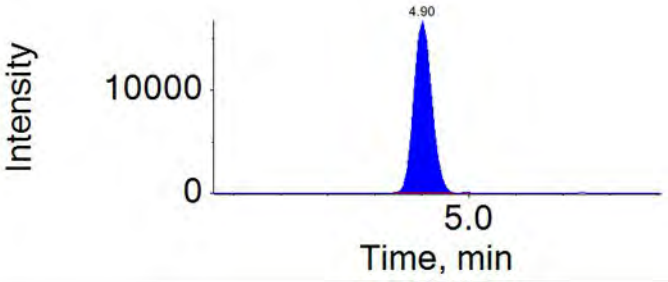


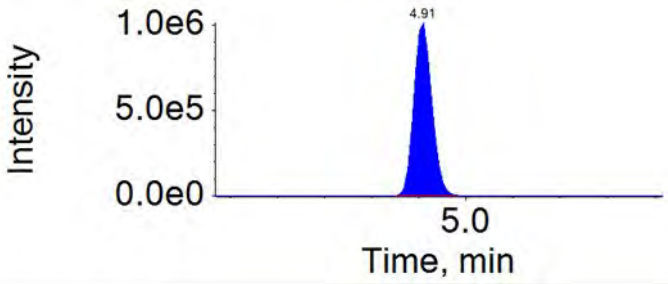
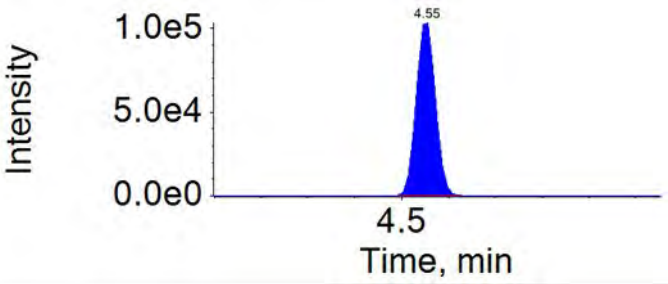


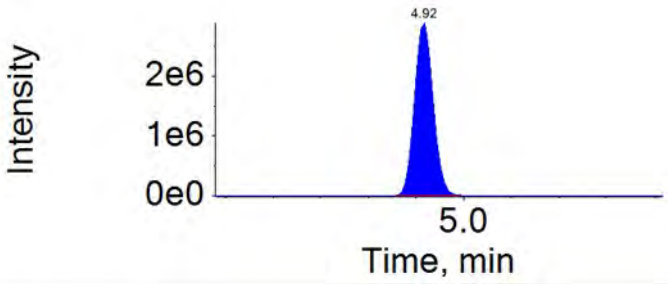
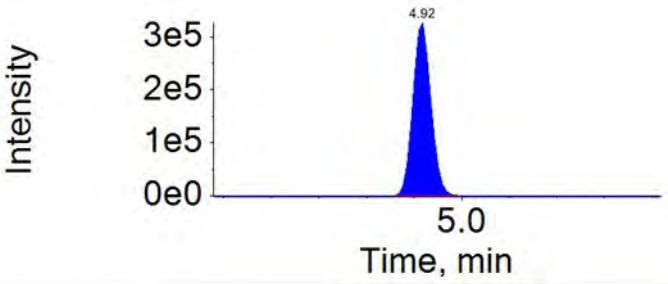
APPROVED
By MSM at 11:49 am, 12/19/18

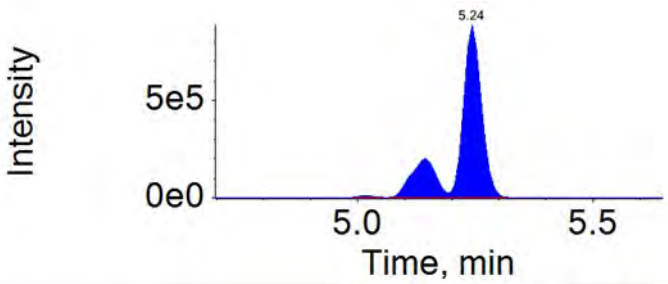
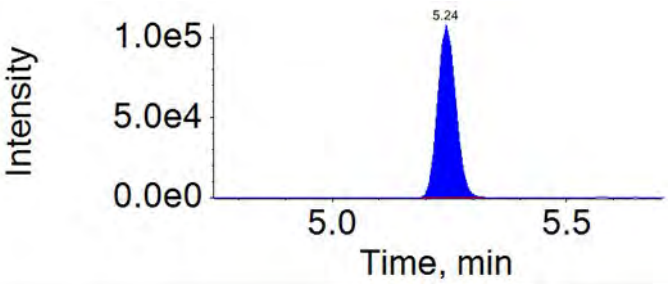
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

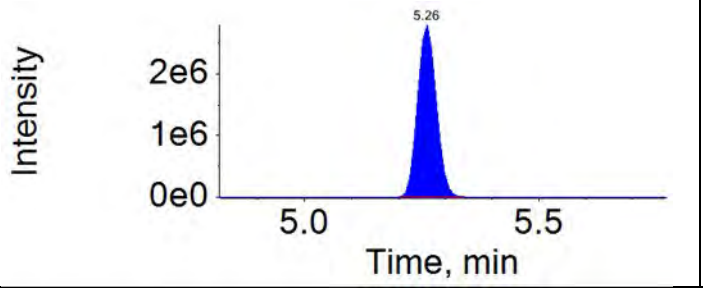
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

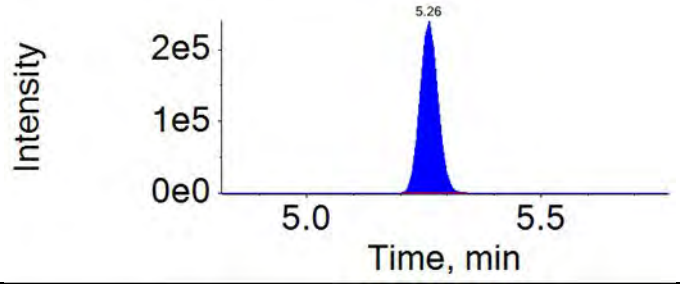
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

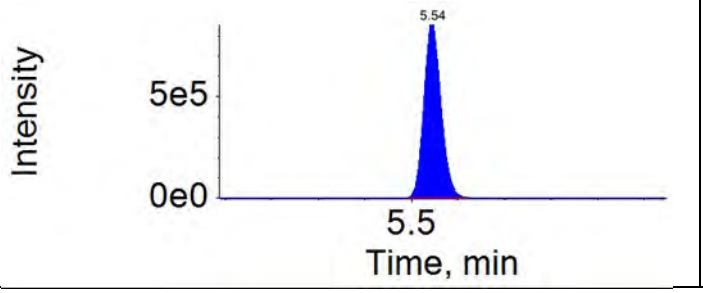
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

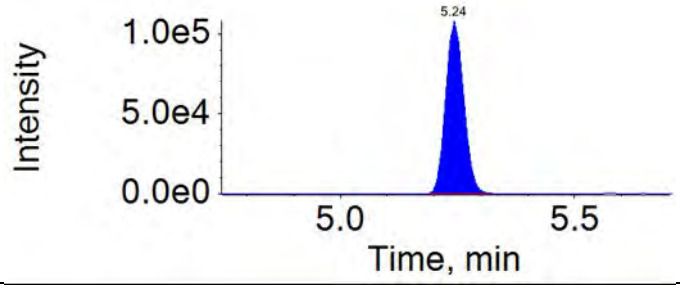
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



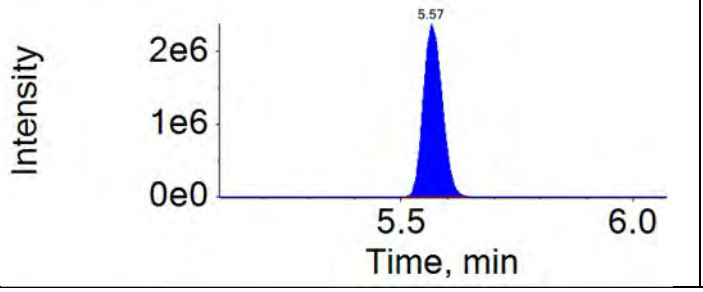


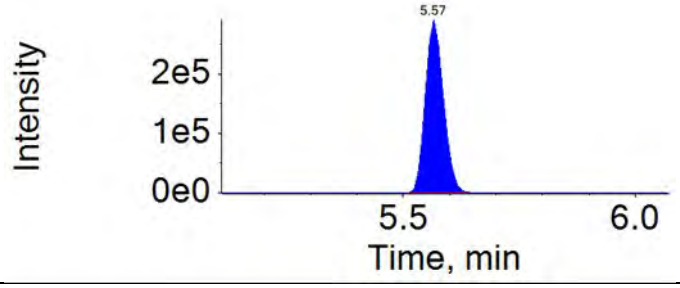
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



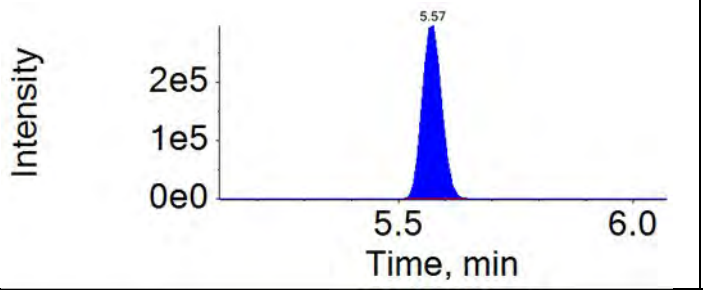


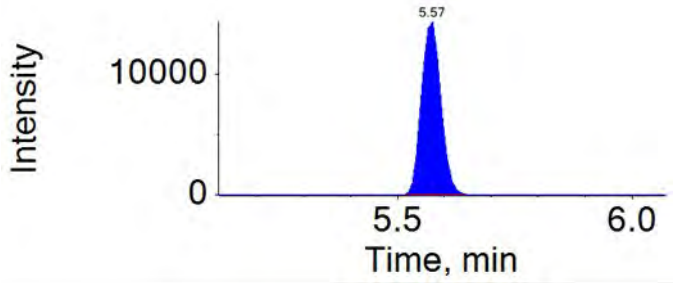
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



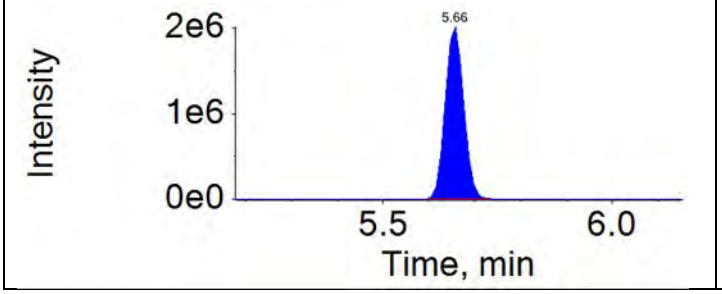


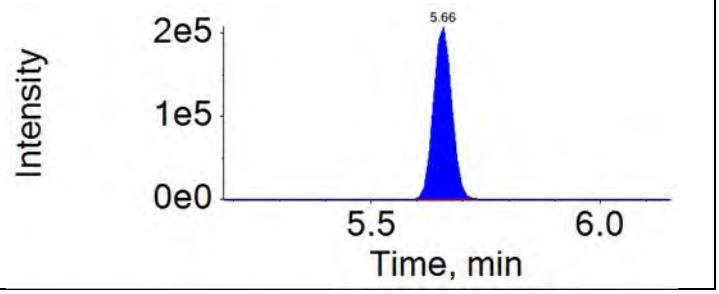
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

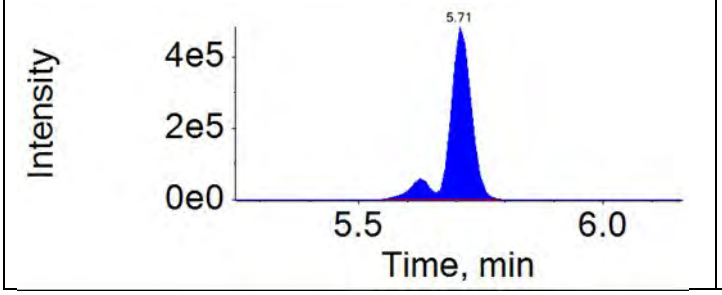
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

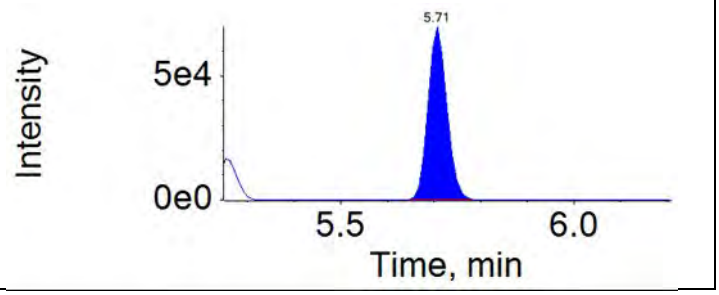
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



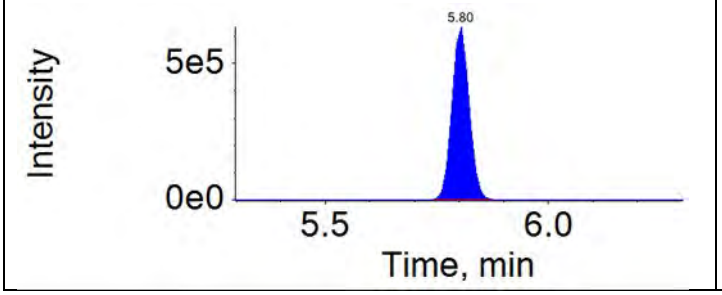


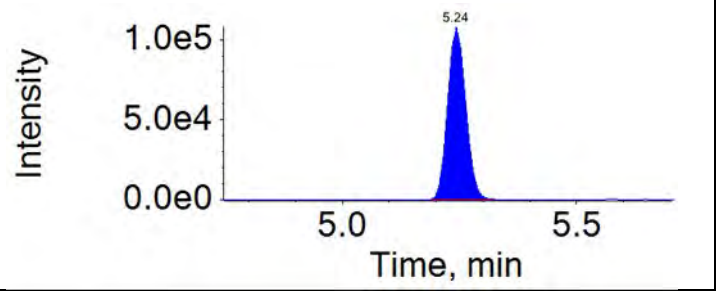
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



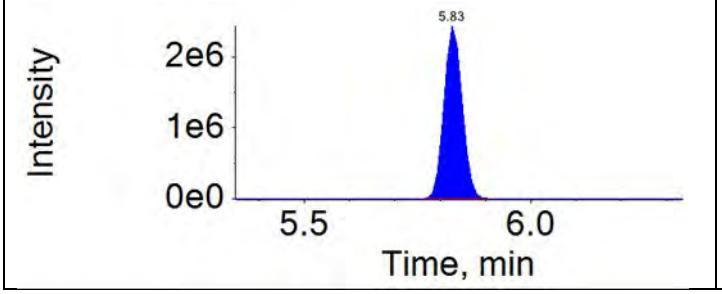


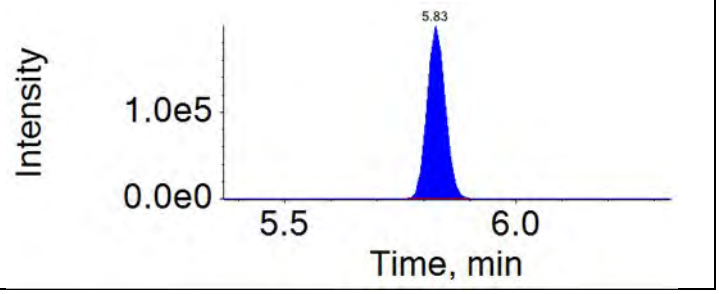
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



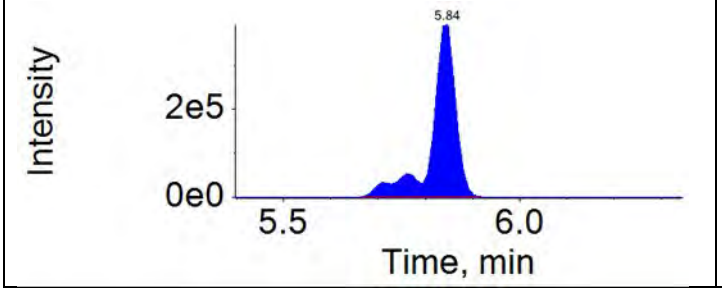


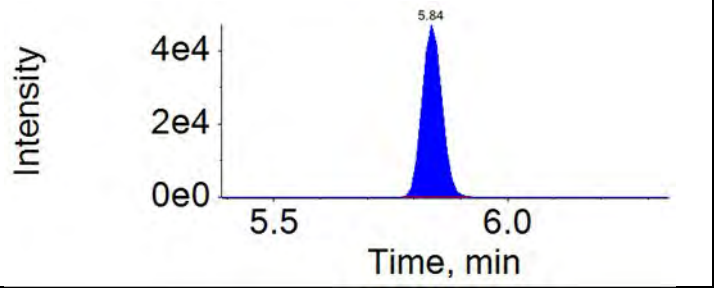
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

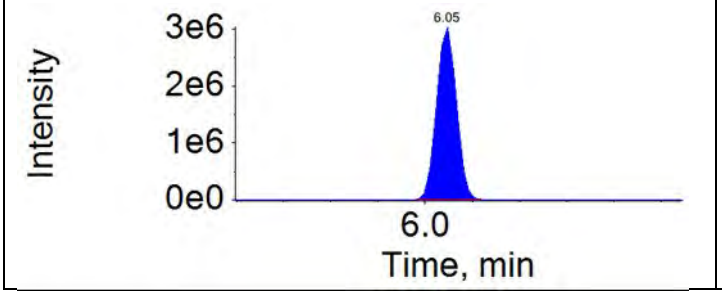
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

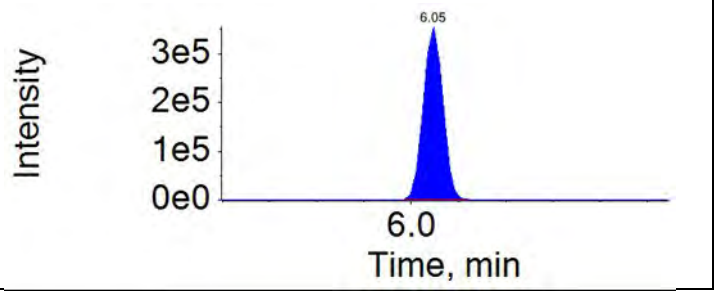
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



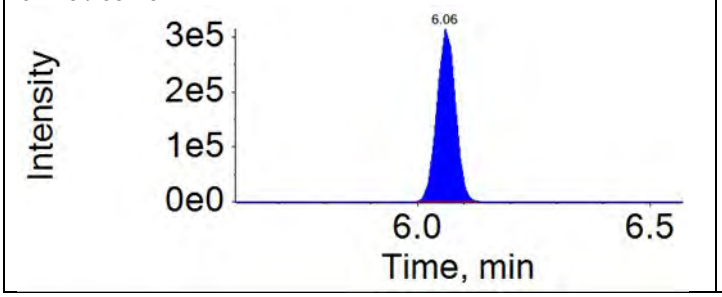


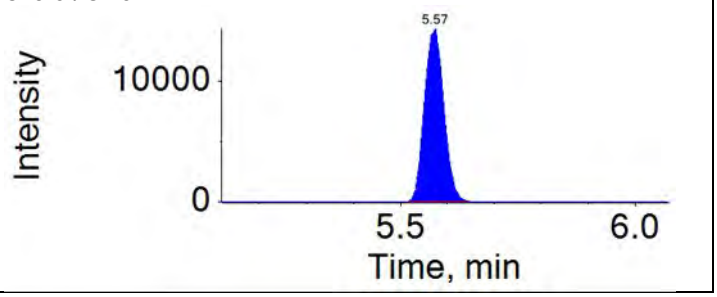
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



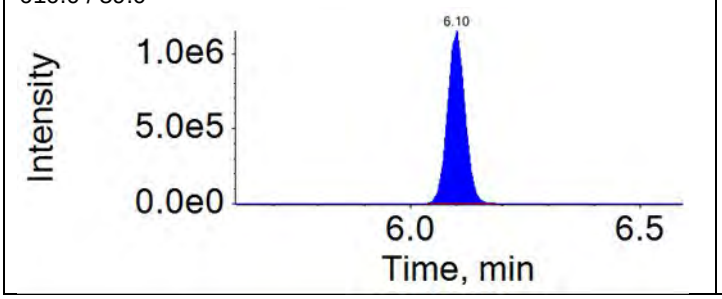


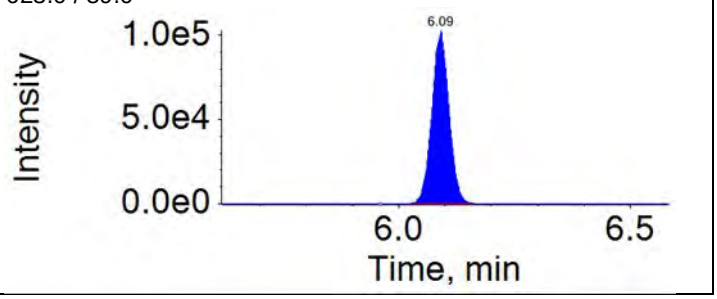
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



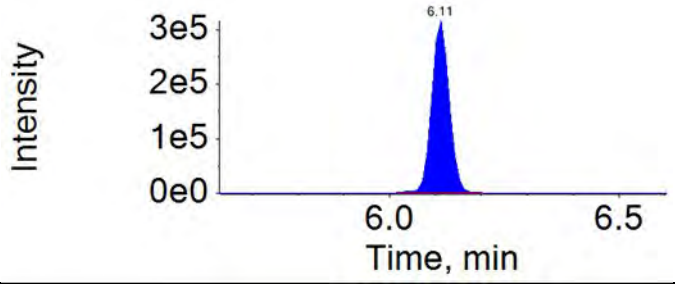


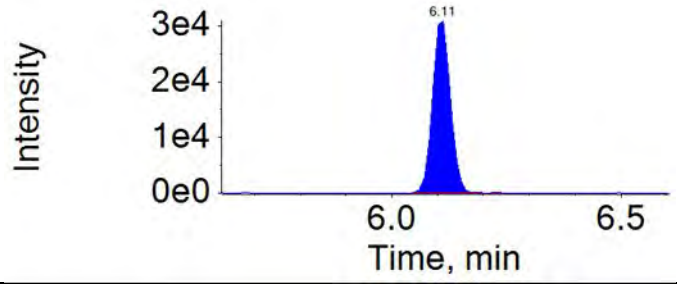
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

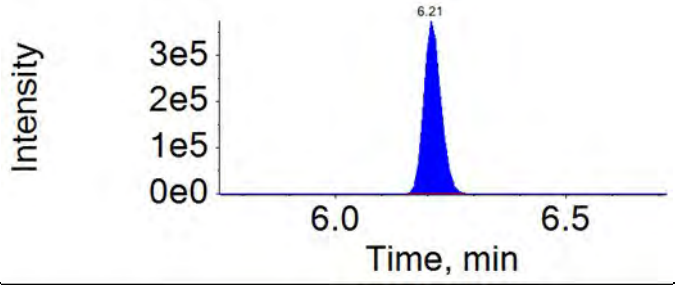
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

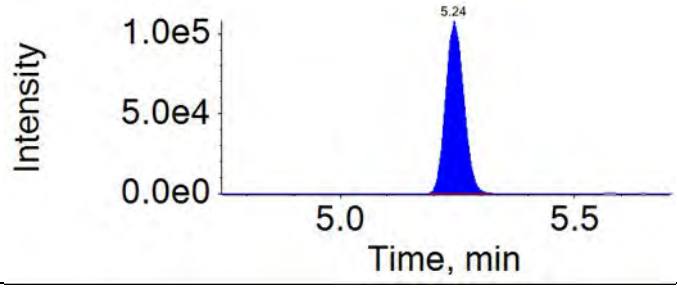
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



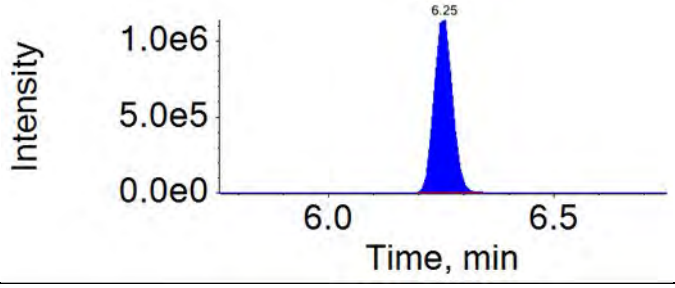


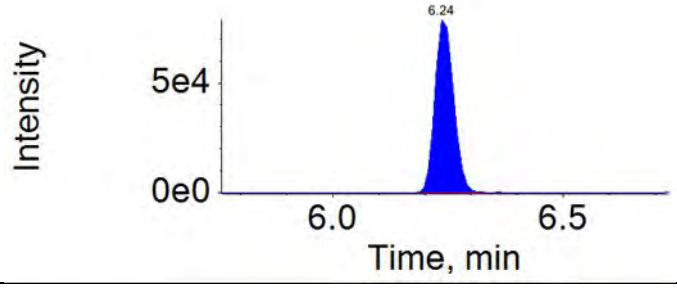
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



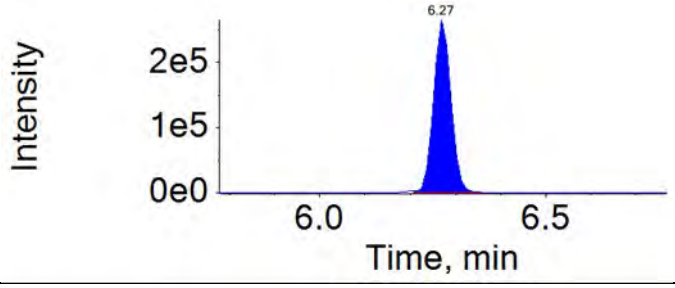


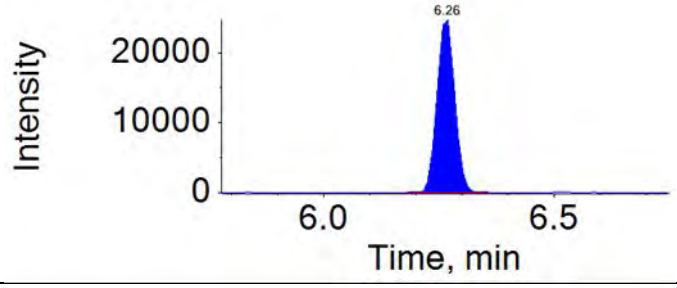
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



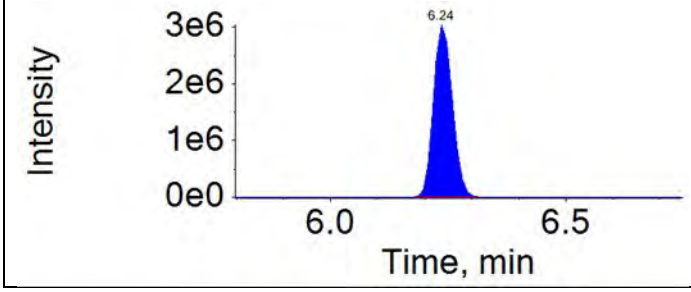


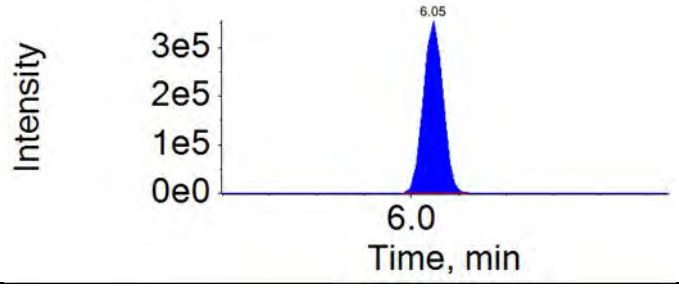
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

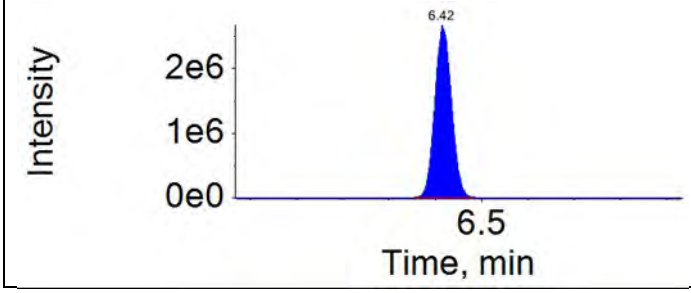
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

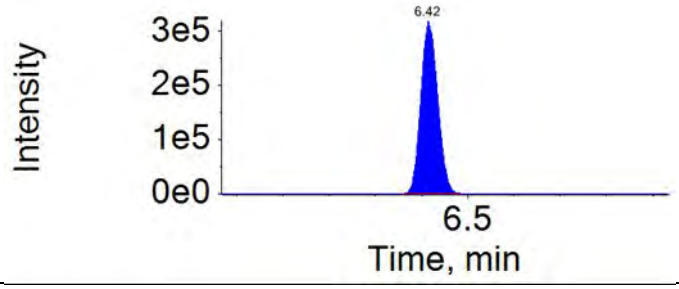
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



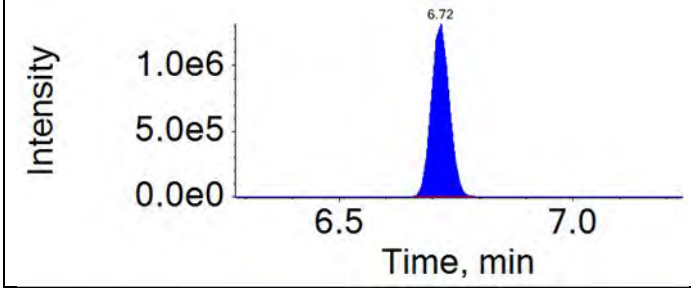


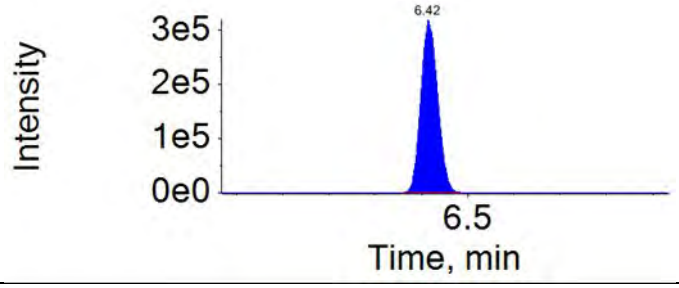
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



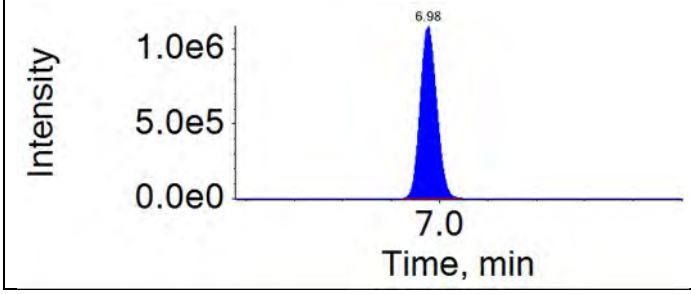


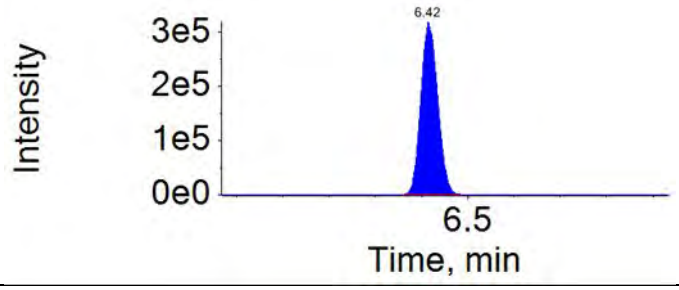
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



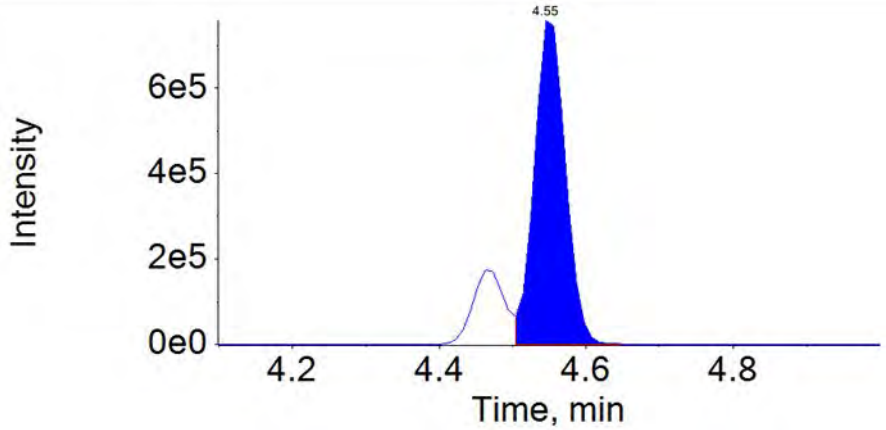


APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

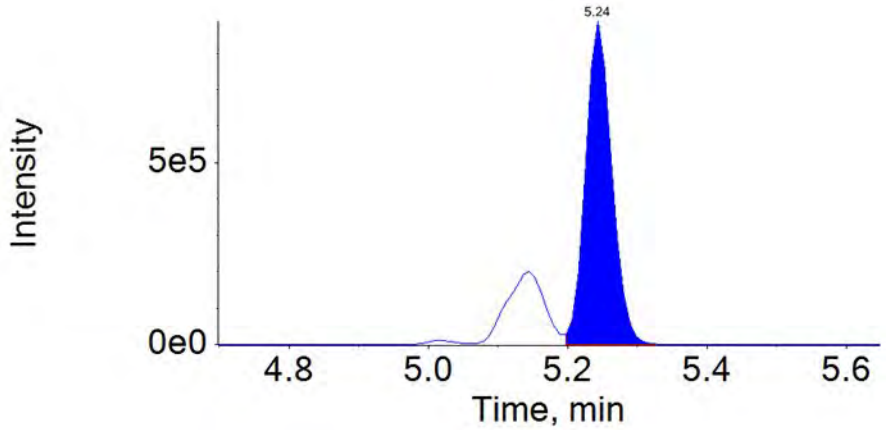
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
2244871.65
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



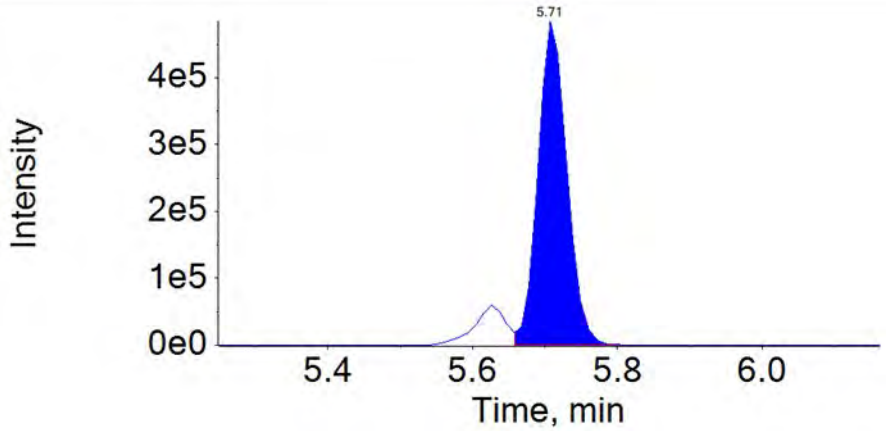
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
2323679.23
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
1344898.91
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



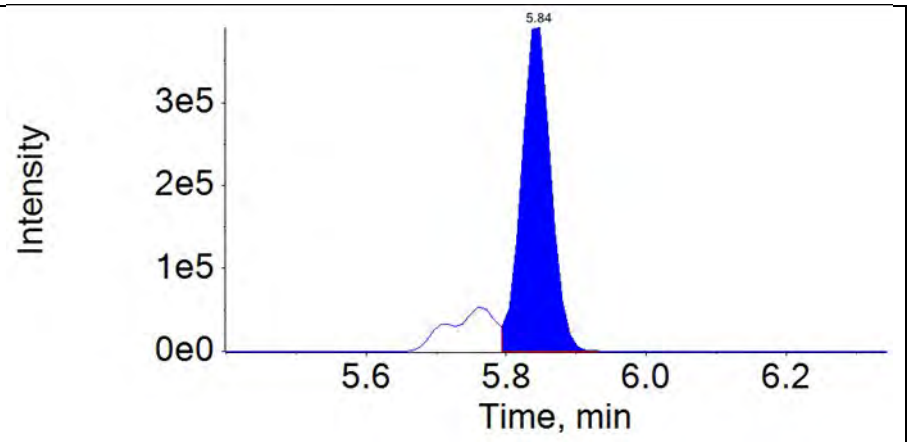
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

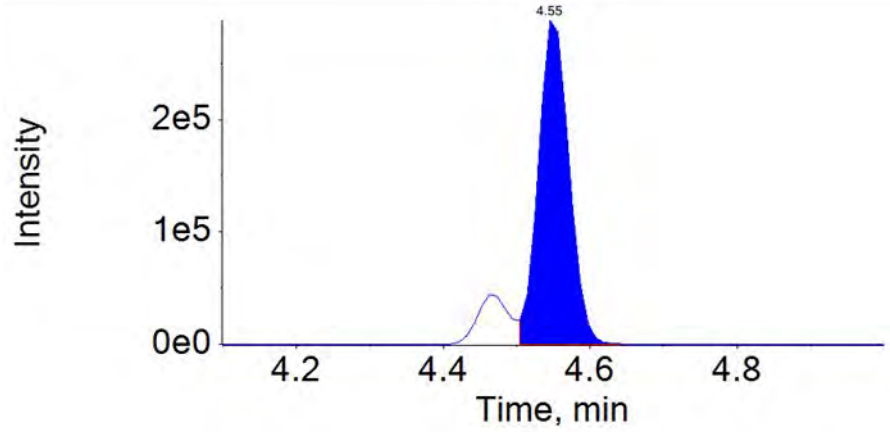
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
1148800.56
Mass Range:
584.0 / 419.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



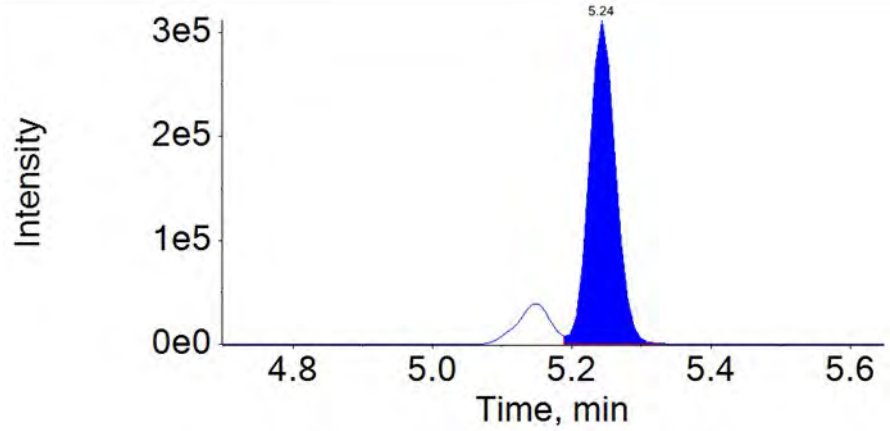
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
843933.70
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
820825.78
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



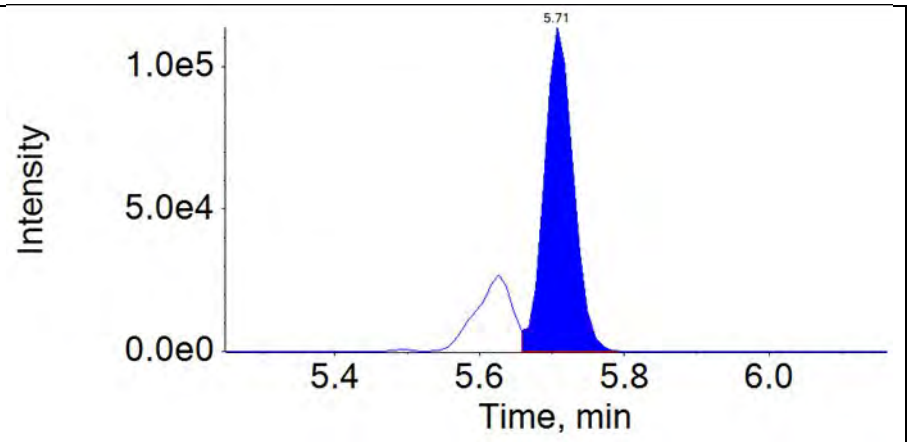
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

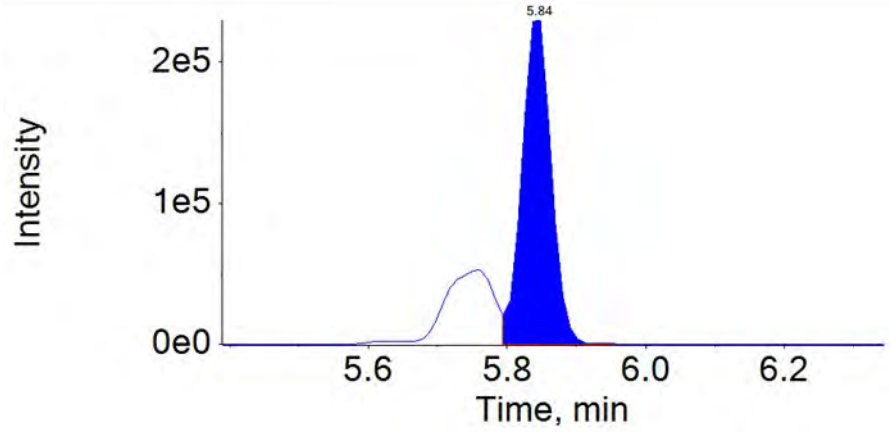
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
317010.40
Mass Range:
570.0 / 483.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
682661.87
Mass Range:
584.0 / 526.0
File Name:
18DEC18DCAL-73.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

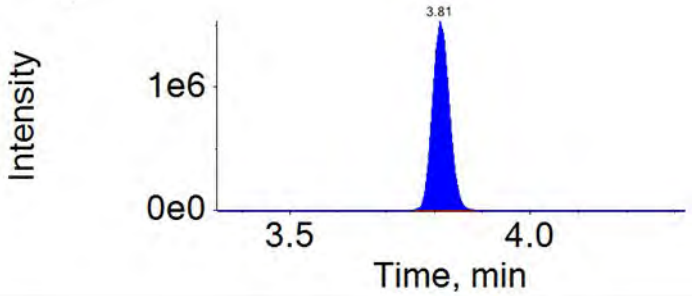
Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-73.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	3747060.81	A	1.0000	1.0000			
PFBS_2	3.81	1.00	1388451.30	A	0.3686	0.3705	1	50	
4:2-FTS	4.12	1.00	1050923.97	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	659127.30	A	0.6123	0.6272	2	50	
PFHxA	4.16	1.00	7325035.52	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	88785.13	A	0.0115	0.0121	6	50	
PFPeS	4.18	1.10	1963865.79	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	994277.05	A	0.5256	0.5063	-4	50	
PFHpA	4.55	1.00	7849138.67	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	445142.17	A	0.0547	0.0567	4	50	
PFHxS	4.55	1.00	2769777.02	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	977028.86	M	0.3359	0.3527	5	50	
6:2-FTS	4.90	1.00	827147.20	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	537976.87	A	0.6344	0.6504	3	50	
PFHpS	4.91	1.08	2676577.94	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	1086003.30	A	0.4110	0.4057	-1	50	
PFOA	4.92	1.00	7895459.16	A	1.0000	1.0000			
PFOA_2	4.92	1.00	499363.03	A	0.0590	0.0632	7	50	
PFOS	5.24	1.00	3112288.56	M	1.0000	1.0000			
PFOS_2	5.24	1.00	951657.61	M	0.2980	0.3058	3	50	
PFNA	5.26	1.00	7783069.71	A	1.0000	1.0000			
PFNA_2	5.26	1.00	158739.24	A	0.0214	0.0204	-5	50	
PFNS	5.54	1.06	2213789.57	A	1.0000	1.0000			
PFNS_2	5.54	1.06	1005975.46	A	0.4608	0.4544	-1	50	
PFDA	5.57	1.00	6722193.64	A	1.0000	1.0000			
PFDA_2	5.57	1.00	44391.48	A	0.0064	0.0066	4	50	
8:2-FTS	5.57	1.00	866380.45	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	492719.47	A	0.5879	0.5687	-3	50	
NMeFOSAA	5.71	1.00	1522626.11	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	408610.29	M	0.2625	0.2684	2	50	
PFDS	5.80	1.11	1690515.86	A	1.0000	1.0000			
PFDS_2	5.80	1.11	859476.06	A	0.4962	0.5084	2	50	
PFUnDA	5.83	1.00	6790806.92	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	30040.77	A	0.0035	0.0044	25	50	
NEtFOSAA	5.84	1.00	1393940.73	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	932797.05	M	0.6883	0.6692	-3	50	
PFDoDA	6.05	1.00	8862936.24	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	129605.08	A	0.0134	0.0146	9	50	
10:2-FTS	6.06	1.09	875761.61	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	637935.34	A	0.7018	0.7284	4	50	
PFTrDA	6.24	1.03	8498735.48	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	81172.80	A	0.0093	0.0096	2	50	
PFTeDA	6.42	1.00	6745639.52	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	41861.10	A	0.0058	0.0062	7	50	
PFHxDA	6.72	1.05	3527192.44	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	220464.09	A	0.0656	0.0625	-5	50	
PFODA	6.98	1.09	2737389.49	A	1.0000	1.0000			
PFODA_2	6.97	1.09	73331.48	A	0.0273	0.0268	-2	50	

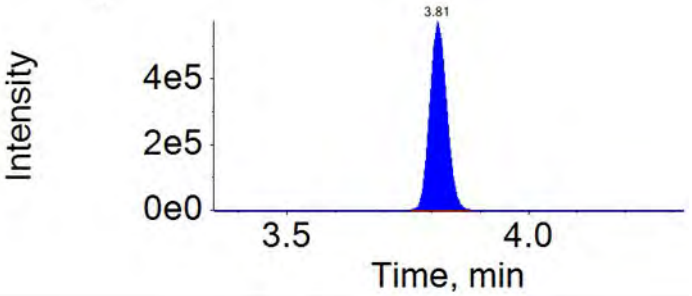
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

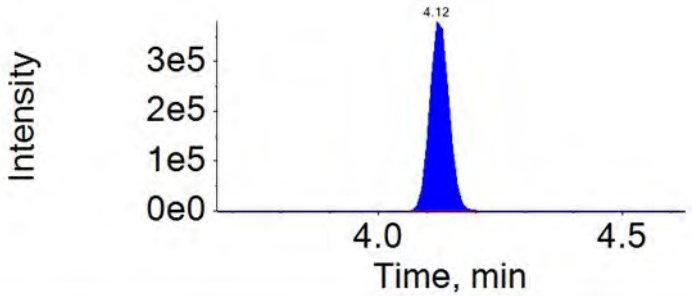
Component: PFBS
Primary Mass: 299.0 / 80.0



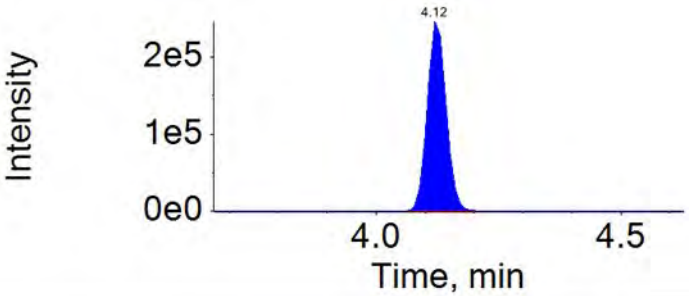
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



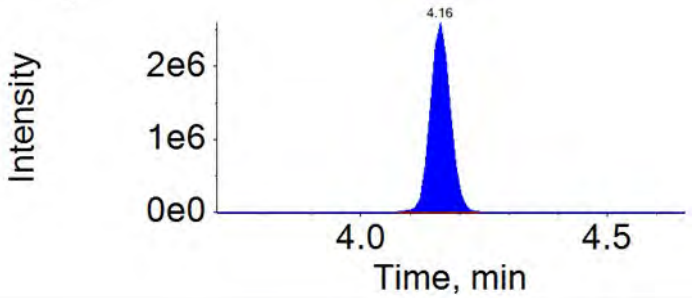
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



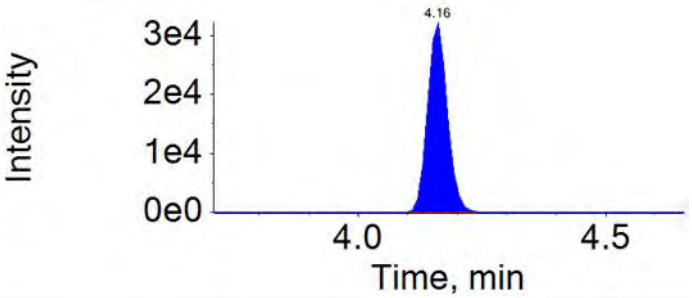
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



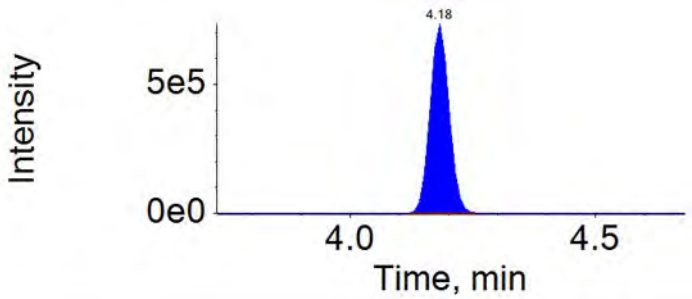
Component: PFHxA
Primary Mass: 313.0 / 269.0



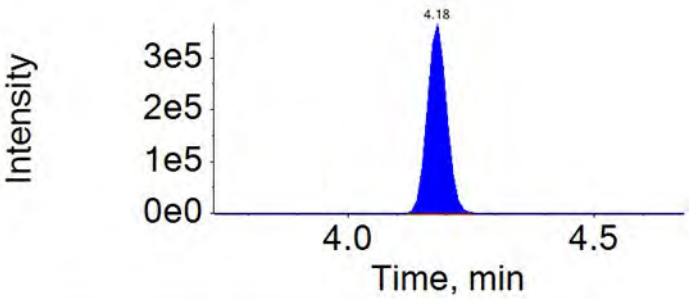
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



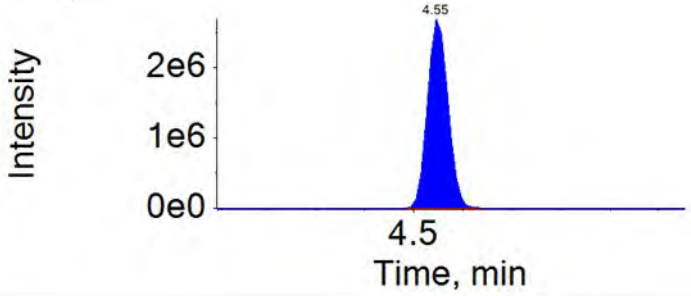
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



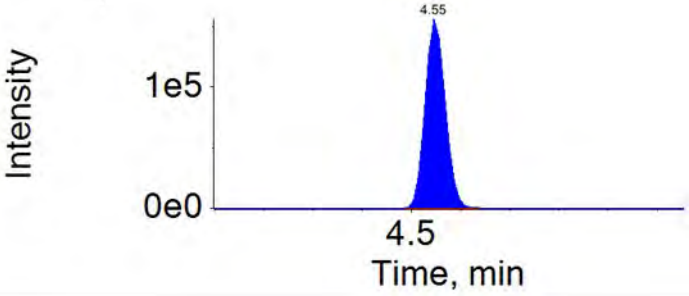
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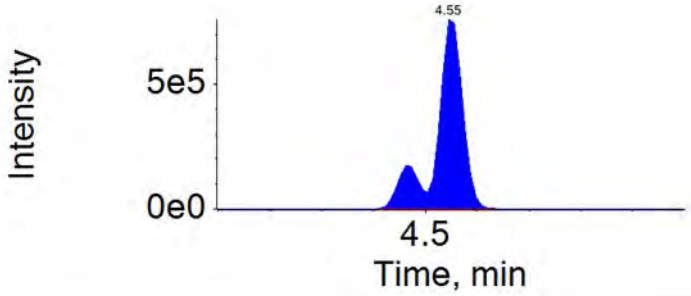
Component: PFHpA
Primary Mass: 363.0 / 319.0



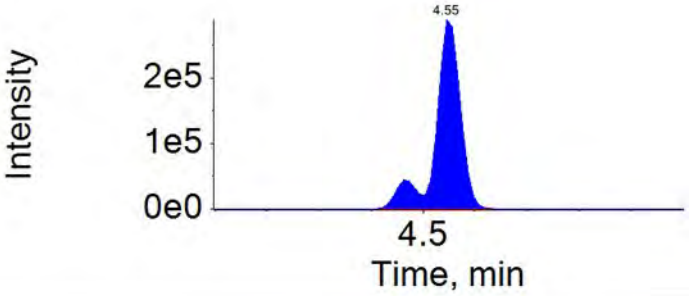
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



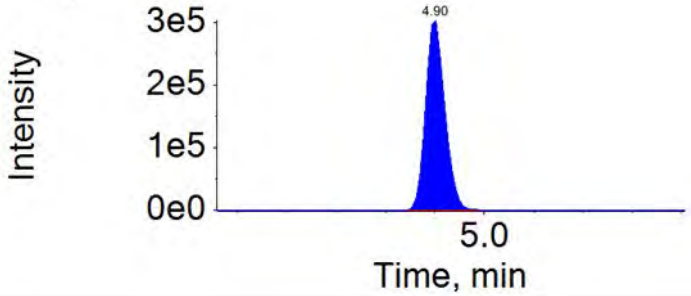
Component: PFHxS
Primary Mass: 399.0 / 80.0



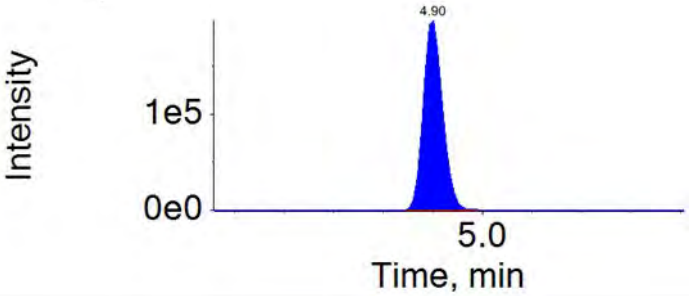
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



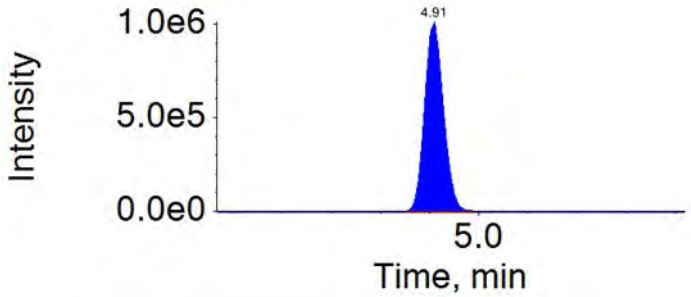
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



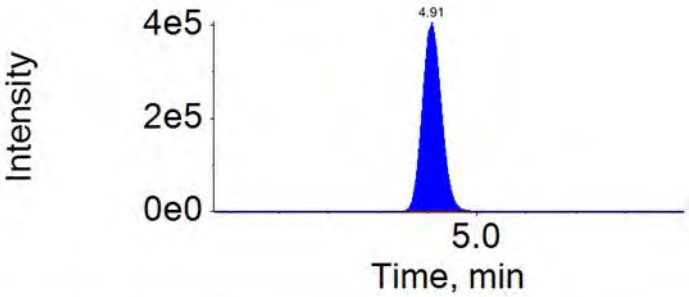
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



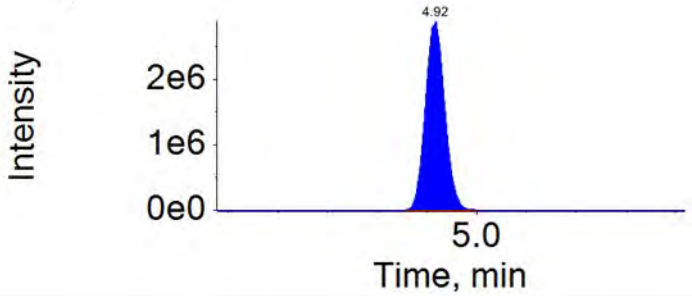
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



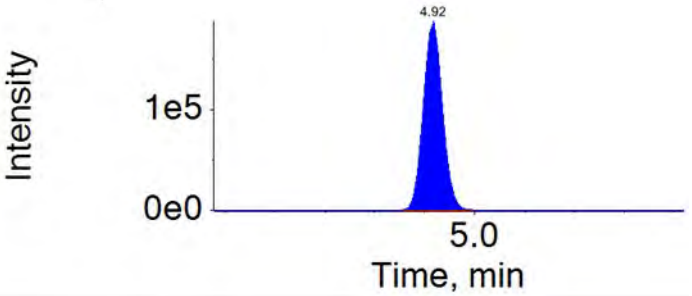
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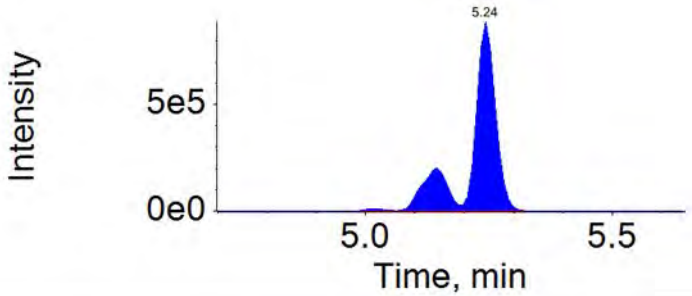
Component: PFOA
Primary Mass: 413.0 / 369.0



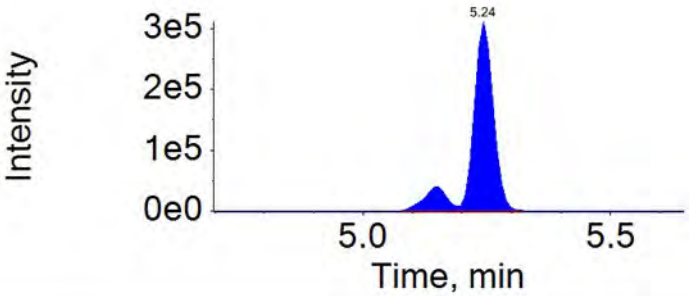
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



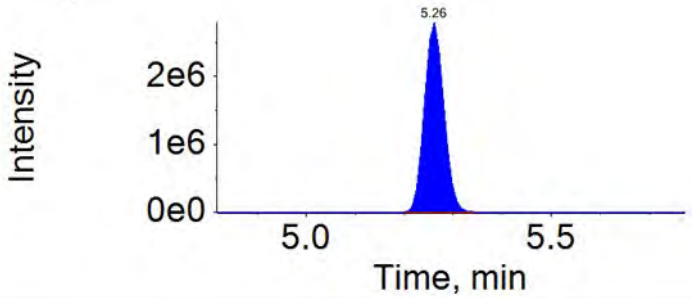
Component: PFOS
Primary Mass: 499.0 / 80.0



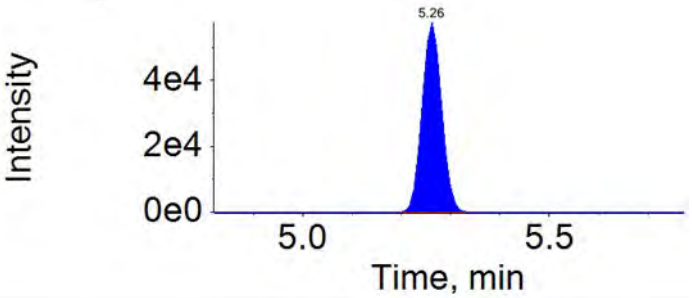
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



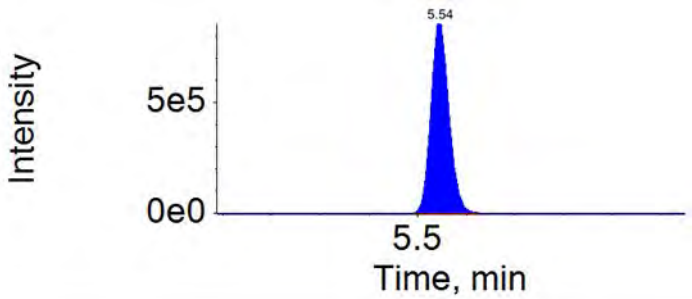
Component: PFNA
Primary Mass: 463.0 / 419.0



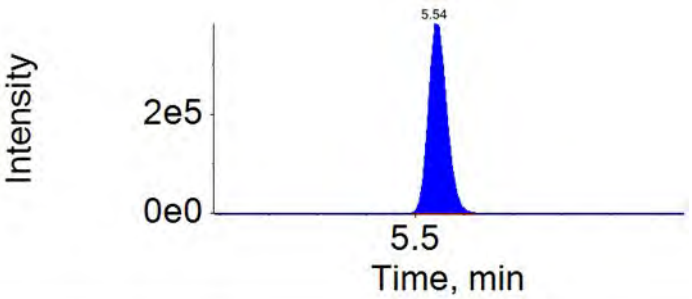
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



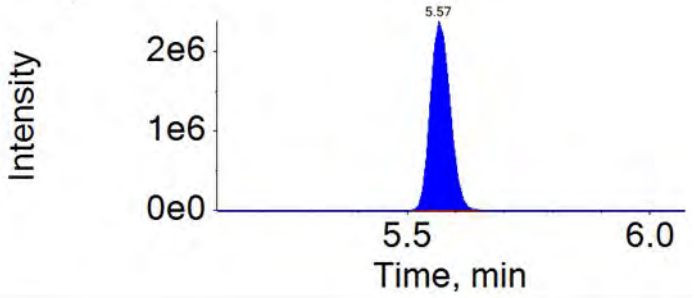
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



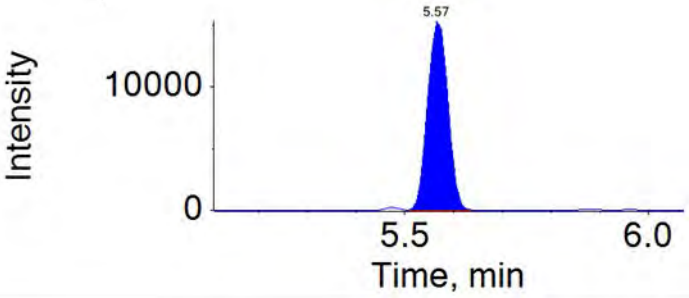
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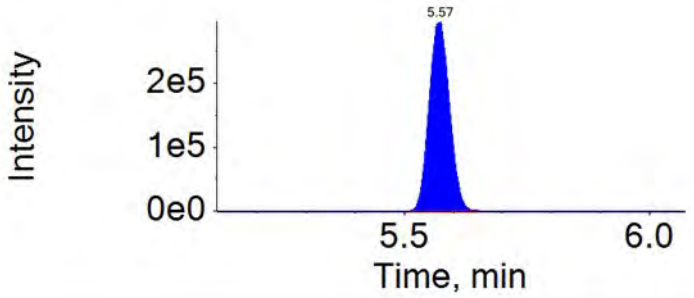
Component: PFDA
Primary Mass: 513.0 / 469.0



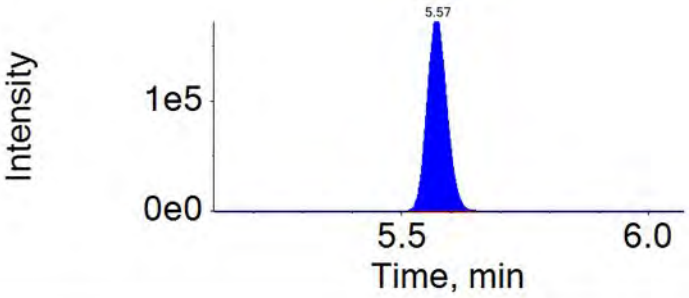
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



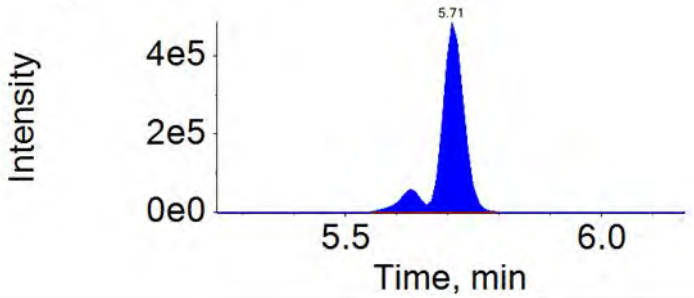
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



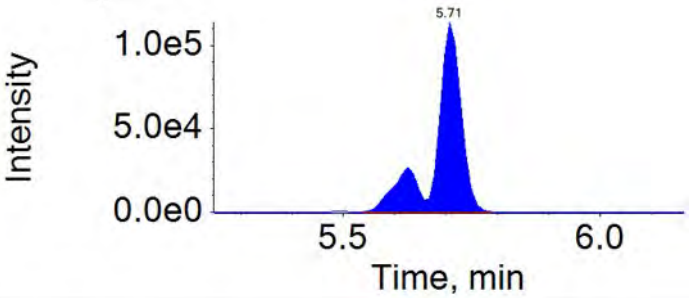
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



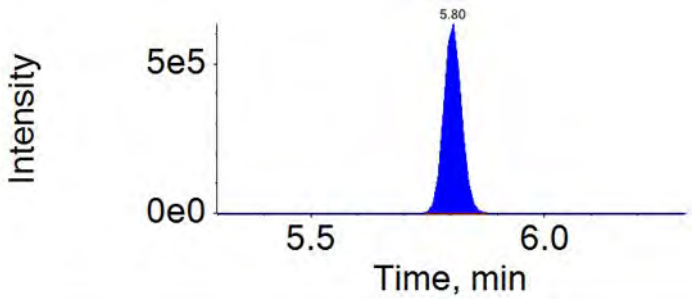
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



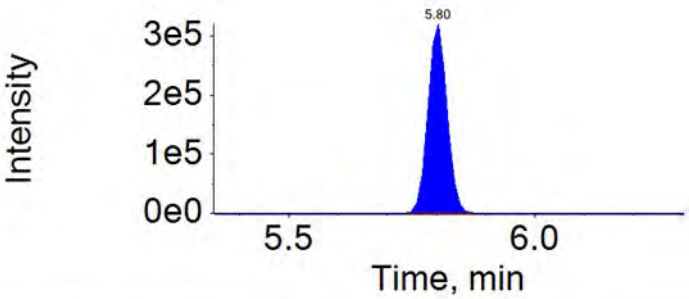
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



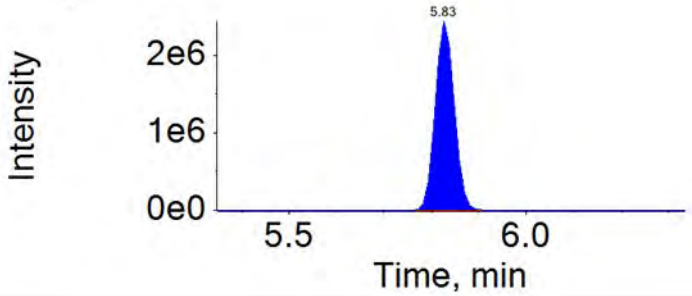
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Secondary Mass: 599.0 / 99.0



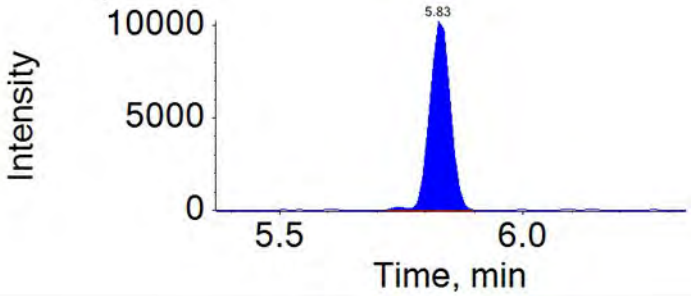
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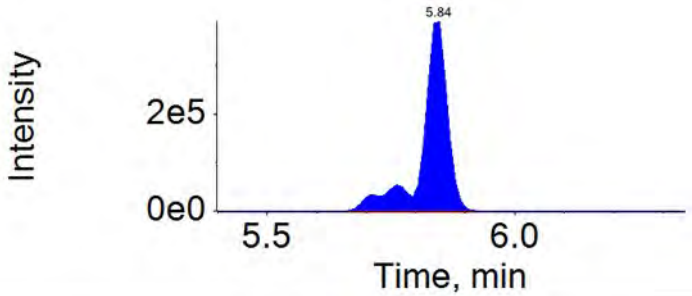
Component: PFUnDA
Primary Mass: 563.0 / 519.0



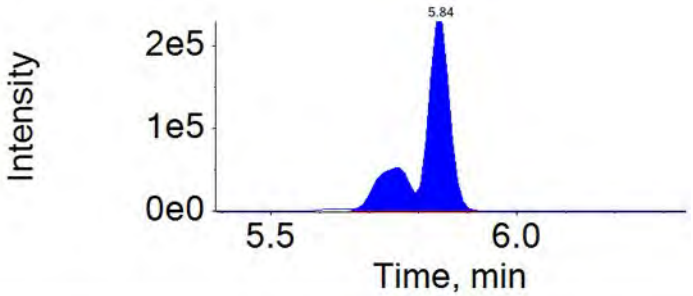
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Secondary Mass: 563.0 / 169.0



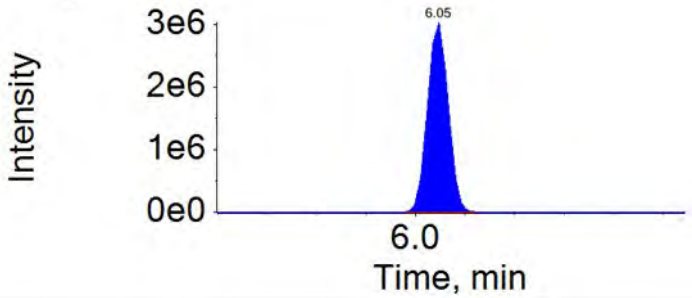
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



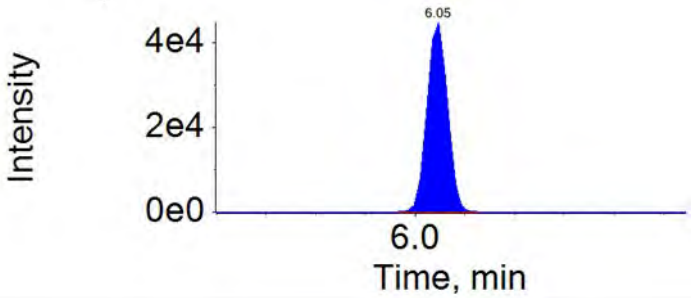
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



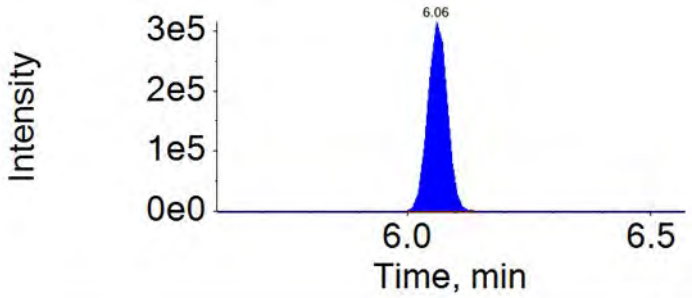
Component: PFDoDA
Primary Mass: 613.0 / 569.0



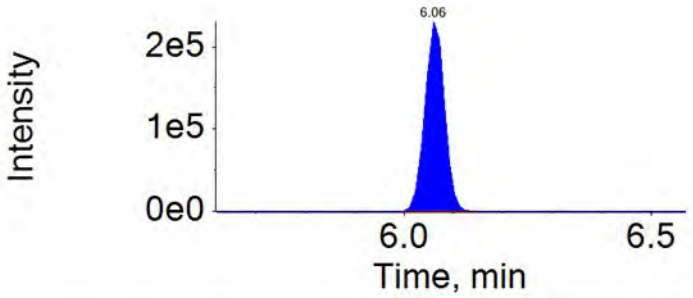
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



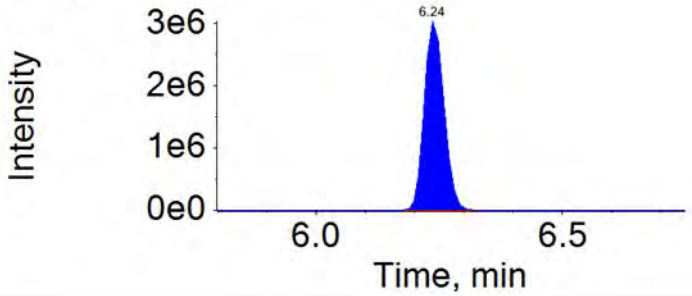
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



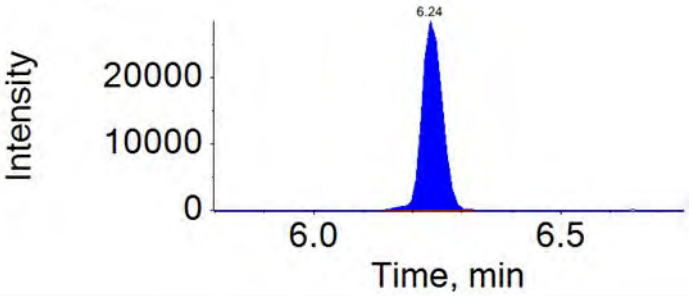
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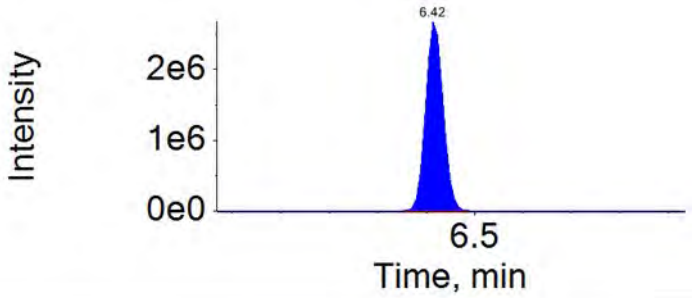
Component: PFTrDA
Primary Mass: 663.0 / 619.0



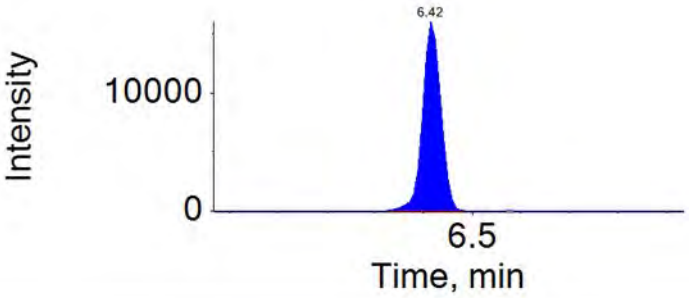
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



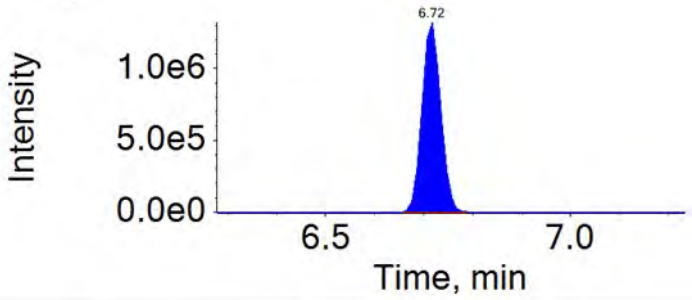
Component: PFTeDA
Primary Mass: 713.0 / 669.0



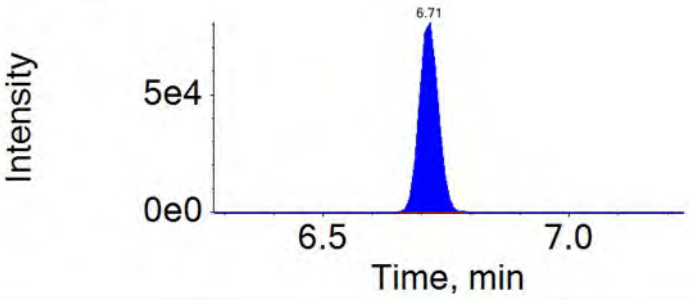
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



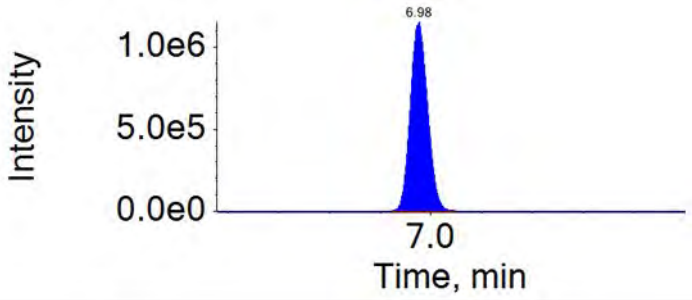
Component: PFHxDA
Primary Mass: 813.0 / 769.0



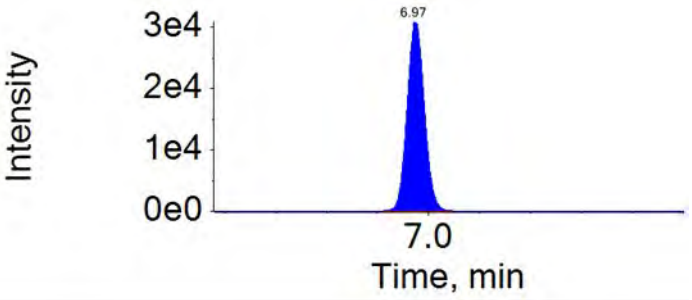
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
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REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL7			**Data File:**		18DEC18DCAL-74.wiff
Sample ID:	CALBRN71833B			**Acquis Date:**		2018-12-19T00:28:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	9			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	763214.5	941251.6	-19	50	
13C2-PFOA	5.0	484733.4	485595.3	0	50	
13C4-PFOS	4.8	246274.5	292182.6	-16	50	
13C2-PFDA	5.0	459096.6	467216.0	-2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	849248.2	13C3-PFBA	763214.5	1.113	5.000	4.927	99	70-130	
E13C5-PFPeA	811189.0	13C3-PFBA	763214.5	1.063	5.000	4.956	99	70-130	
E13C3-PFBS	371468.6	13C3-PFBA	763214.5	0.487	4.650	4.739	102	70-130	
E13C2-4:2-FTS	60332.0	13C2-PFOA	484733.4	0.124	4.670	4.727	101	70-130	
E13C5-PFHxA	642893.1	13C2-PFOA	484733.4	1.326	5.000	4.744	95	70-130	
E13C3-PFHxS	250261.1	13C2-PFOA	484733.4	0.516	4.730	3.907	83	70-130	
E13C4-PFHpA	546291.6	13C2-PFOA	484733.4	1.127	5.000	4.868	97	70-130	
E13C2-6:2-FTS	39094.5	13C2-PFOA	484733.4	0.081	4.750	4.058	85	70-130	
E13C8-PFOA	753729.0	13C2-PFOA	484733.4	1.555	5.000	4.276	86	70-130	
E13C8-PFOS	268338.2	13C4-PFOS	246274.5	1.090	4.780	4.873	102	70-130	
E13C9-PFNA	597020.8	13C4-PFOS	246274.5	2.424	5.000	5.515	110	70-130	
E13C6-PFDA	716919.5	13C2-PFDA	459096.6	1.562	5.000	4.448	89	70-130	
E13C2-8:2-FTS	35654.3	13C2-PFDA	459096.6	0.078	4.790	4.003	84	70-130	
E13C8-PFOSA	529267.8	13C2-PFDA	459096.6	1.153	5.000	4.489	90	70-130	
Ed3-NMeFOSAA	187926.1	13C2-PFDA	459096.6	0.409	5.000	4.503	90	70-130	
E13C7-PFUnDA	466944.4	13C2-PFDA	459096.6	1.017	5.000	4.257	85	70-130	
Ed5-NEtFOSAA	126195.3	13C2-PFDA	459096.6	0.275	5.000	4.050	81	70-130	
E13C2-PFDoDA	896268.1	13C2-PFDA	459096.6	1.952	5.000	4.107	82	70-130	
Ed7-NMePFOSAE	258278.1	13C2-PFDA	459096.6	0.563	5.000	5.027	101	70-130	
Ed3-NMePFOSA	82766.7	13C2-PFDA	459096.6	0.180	5.000	4.954	99	70-130	
Ed9-NEtPFOSAE	238594.6	13C2-PFDA	459096.6	0.520	5.000	5.313	106	70-130	
Ed5-NEtPFOSA	61214.0	13C2-PFDA	459096.6	0.133	5.000	4.625	92	70-130	
E13C2-PFTeDA	739019.1	13C2-PFDA	459096.6	1.610	5.000	4.536	91	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

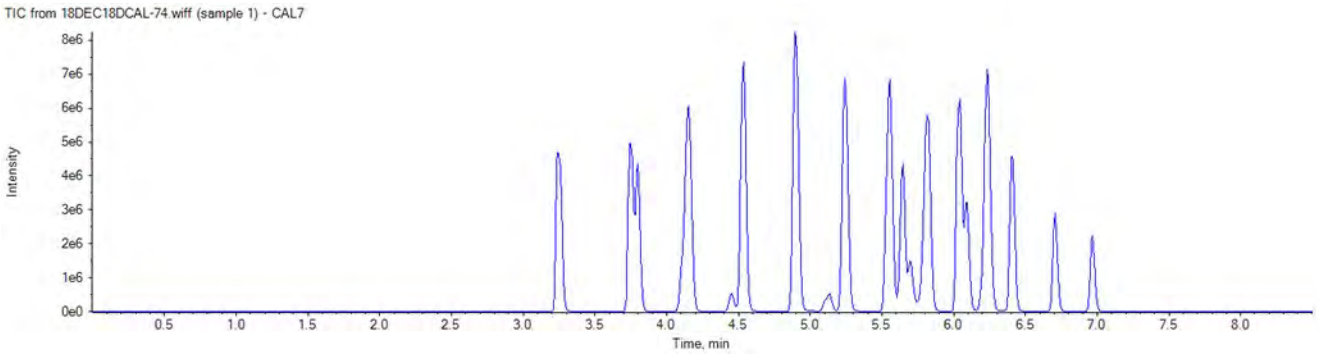
Analyte Quantitation Peak Table

Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-74.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.25	1.000	12069469.9		A	13C4-PFBA	3.25	849248.2	14.212	75.458
PFPeA	3.75	1.000	12267933.1		A	13C5-PFPeA	3.75	811189.0	15.123	78.065
PFBS	3.80	1.000	6651233.8		A	13C3-PFBS	3.80	371468.6	17.905	88.391
4:2-FTS	4.11	1.000	1978052.5		A	13C2-4:2-FTS	4.11	60332.0	32.786	86.019
PFHxA	4.15	1.000	12199404.1		A	13C5-PFHxA	4.15	642893.1	18.976	78.171
PFPeS	4.17	1.100	3356554.2		A	13C3-PFBS	3.80	371468.6	9.036	91.992
PFHpA	4.53	1.000	12613152.1		A	13C4-PFHpA	4.53	546291.6	23.089	76.560
PFHxS	4.54	1.000	5016409.1		M	13C3-PFHxS	4.54	250261.1	20.045	97.498
6:2-FTS	4.89	1.000	1375932.6		A	13C2-6:2-FTS	4.89	39094.5	35.195	87.615
PFHpS	4.89	1.080	4467941.4		A	13C3-PFHxS	4.54	250261.1	17.853	94.443
PFOA	4.90	1.000	12588128.0		A	13C8-PFOA	4.90	753729.0	16.701	88.477
PFOS	5.23	1.000	5671288.5		M	13C8-PFOS	5.23	268338.2	21.135	92.533
PFNA	5.25	1.000	12632479.1		A	13C9-PFNA	5.25	597020.8	21.159	84.094
PFNS	5.53	1.060	3731780.6		A	13C8-PFOS	5.23	268338.2	13.907	88.431
PFDA	5.56	1.000	11290182.1		A	13C6-PFDA	5.56	716919.5	15.748	81.331
8:2-FTS	5.56	1.000	1403687.6		A	13C2-8:2-FTS	5.56	35654.3	39.369	79.240
PFOSA	5.65	1.000	9756585.7		A	13C8-PFOSA	5.65	529267.8	18.434	92.193
NMeFOSAA	5.70	1.000	2804936.3		M	d3-NMeFOSAA	5.70	187926.1	14.926	92.762
PFDS	5.79	1.110	3153807.5		A	13C8-PFOS	5.23	268338.2	11.753	96.485
PFUnDA	5.82	1.000	10906838.8		A	13C7-PFUnDA	5.82	466944.4	23.358	77.359
NEtFOSAA	5.83	1.000	2419106.3		A	d5-NEtFOSAA	5.83	126195.3	19.170	97.702
PFDoDA	6.04	1.000	13735940.7		A	13C2-PFDoDA	6.04	896268.1	15.326	77.202
10:2-FTS	6.05	1.090	1572726.7		A	13C2-8:2-FTS	5.56	35654.3	44.110	89.839
NMePFOSAE	6.09	1.000	5672407.3		A	d7-NMePFOSAE	6.08	258278.1	21.962	96.903
NMePFOSA	6.10	1.000	1519310.6		A	d3-NMePFOSA	6.10	82766.7	18.357	92.669
PFDoS	6.20	1.190	1693764.8		A	13C8-PFOS	5.23	268338.2	6.312	95.631
NEtPFOSAE	6.24	1.000	5932510.4		A	d9-NEtPFOSAE	6.23	238594.6	24.864	81.230
NEtPFOSA	6.26	1.000	1312776.8		A	d5-NEtPFOSA	6.26	61214.0	21.446	100.313
PFTrDA	6.23	1.030	12403653.2		A	13C2-PFDoDA	6.04	896268.1	13.839	70.998
PFTeDA	6.41	1.000	10584696.4		A	13C2-PFTeDA	6.41	739019.1	14.323	77.125
PFHxDA	6.71	1.050	6096568.0		A	13C2-PFTeDA	6.41	739019.1	8.250	90.592
PFODA	6.97	1.090	4781425.1		A	13C2-PFTeDA	6.41	739019.1	6.470	92.966

Total Ion Chromatogram

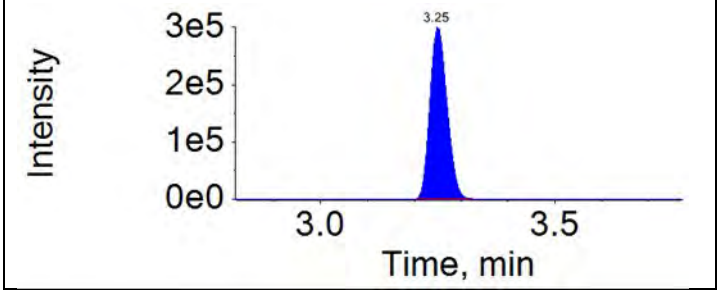


APPROVED
By MSM at 11:49 am, 12/19/18

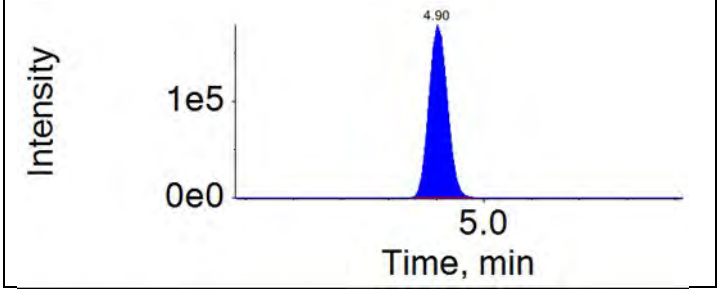
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

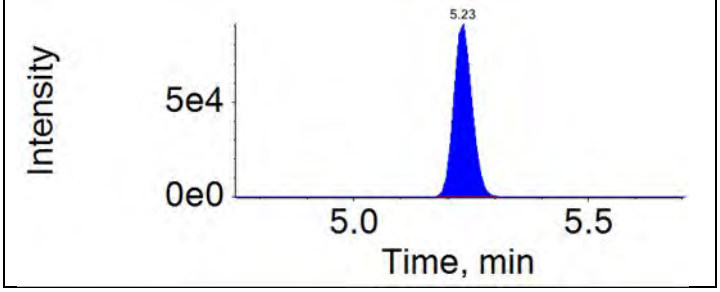
Injection Standard: 13C3-PFBA
216.0 / 172.0



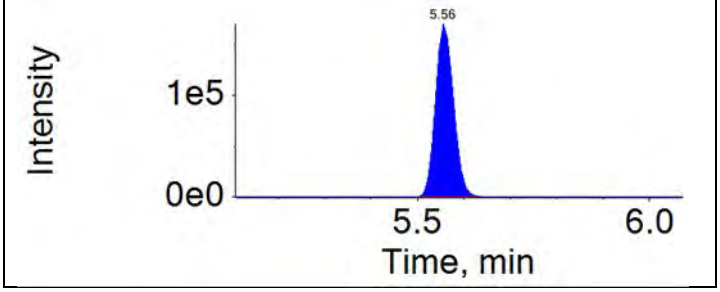
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



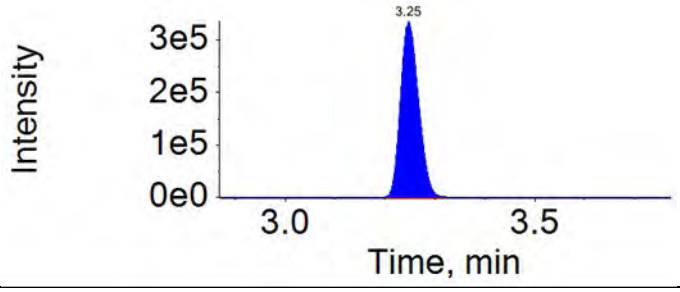
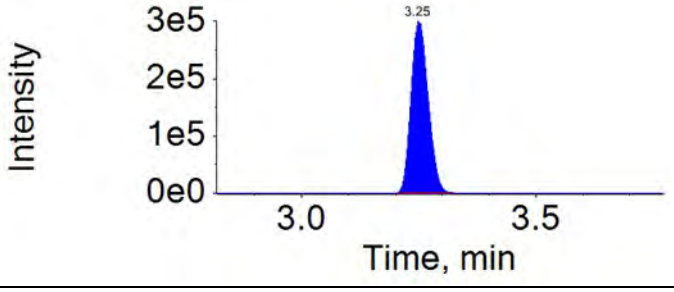
Injection Standard: 13C2-PFDA
515.0 / 470.0

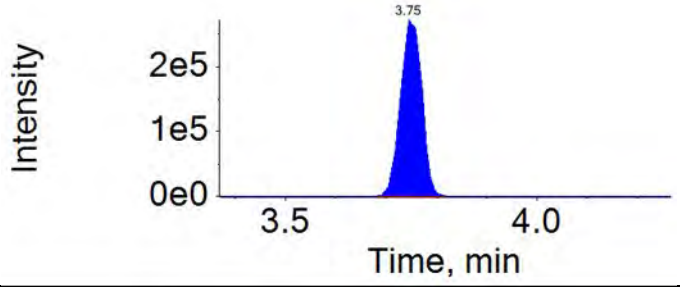
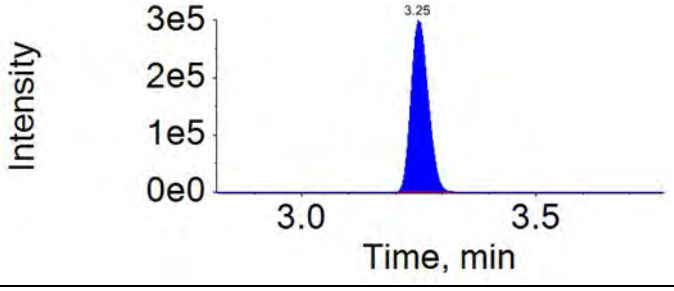


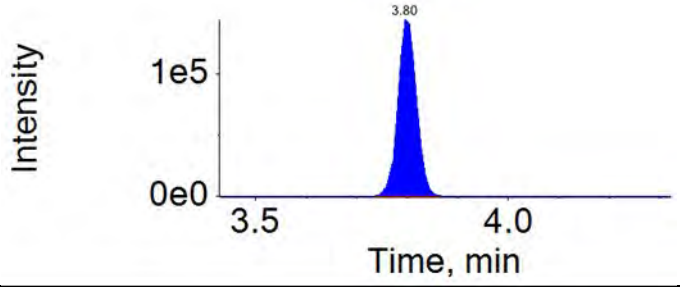
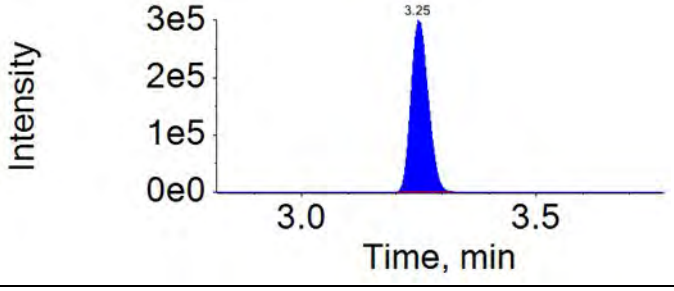
APPROVED
By MSM at 11:49 am, 12/19/18

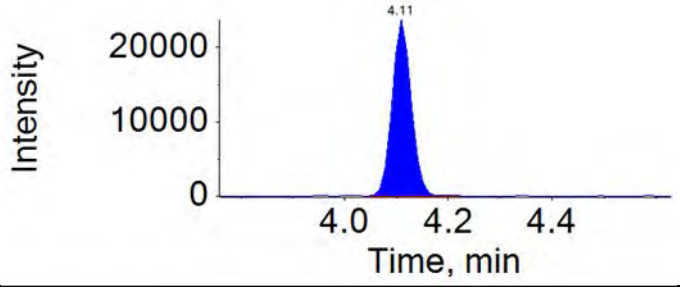
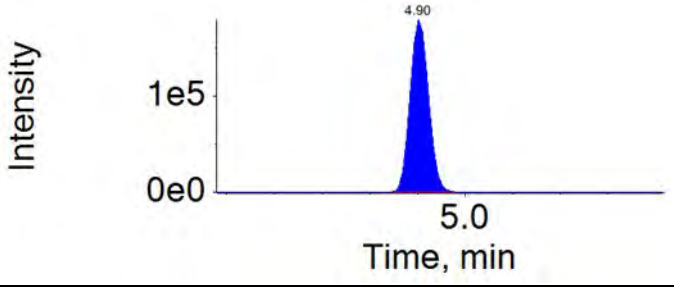
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

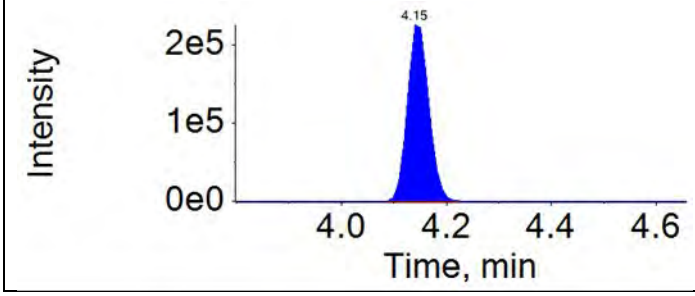
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

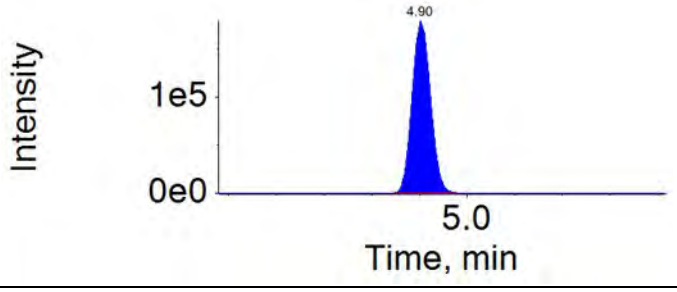
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

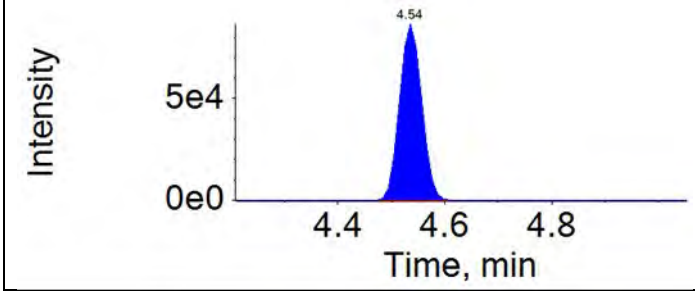
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

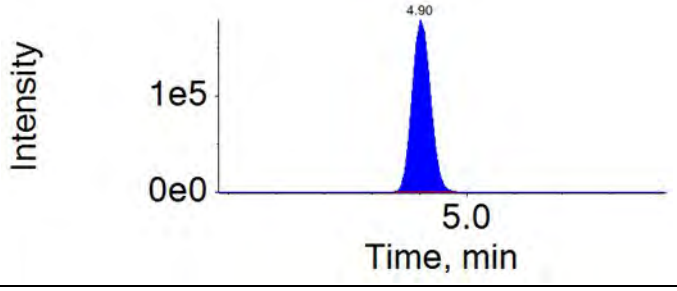
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



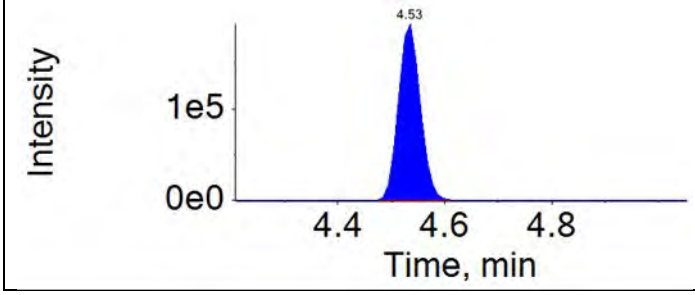


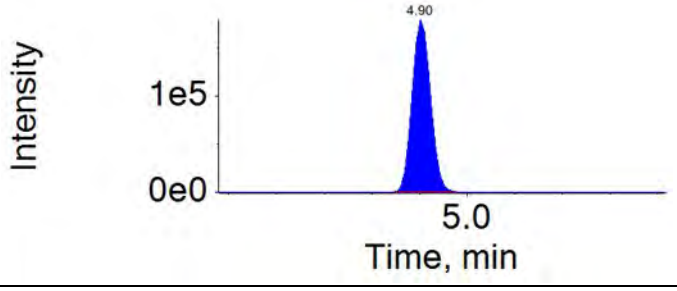
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



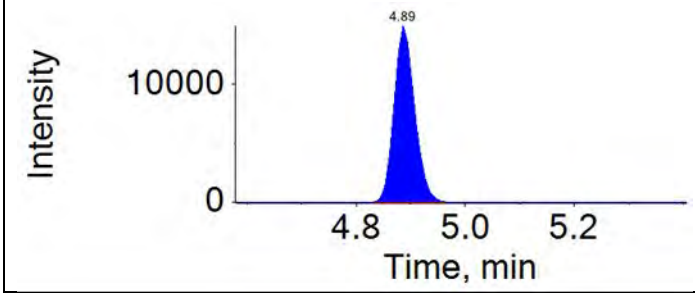


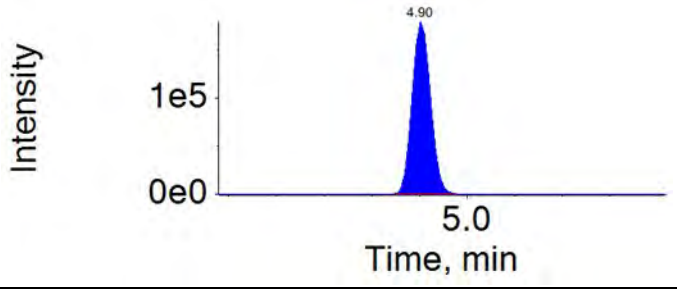
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

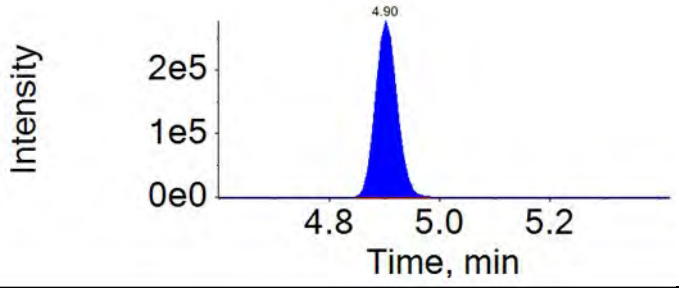
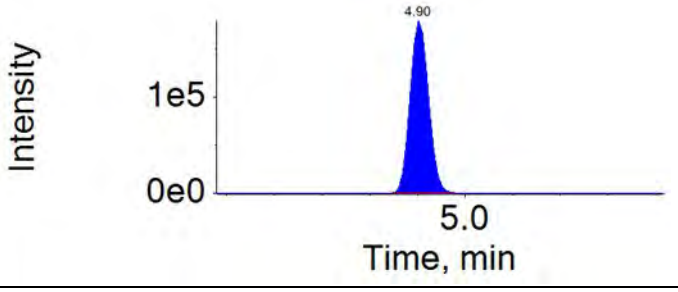


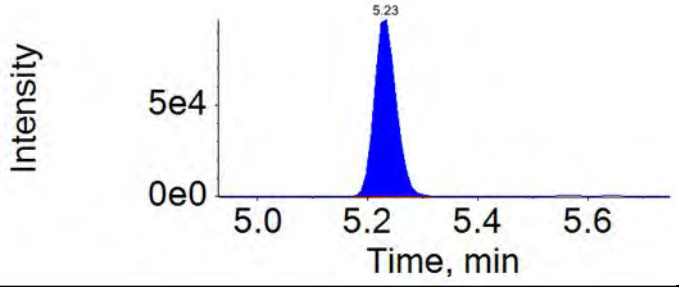
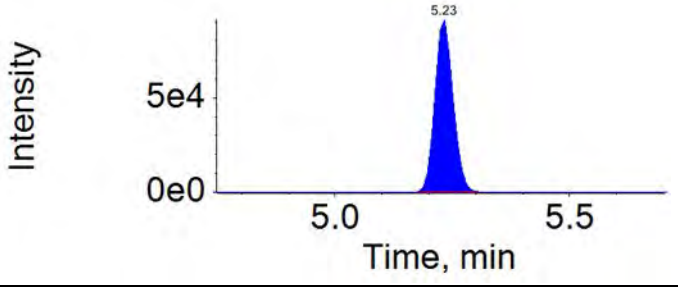


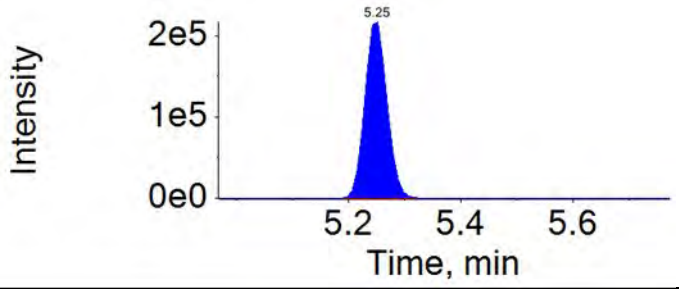
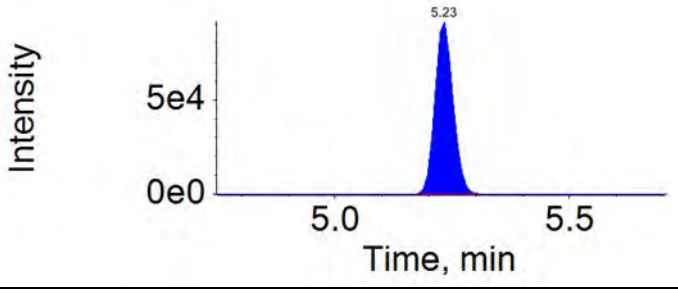
APPROVED
By MSM at 11:49 am, 12/19/18

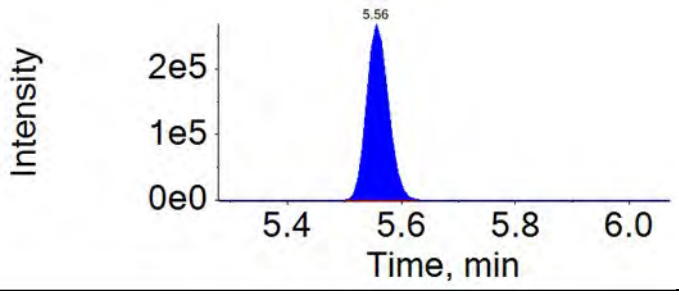
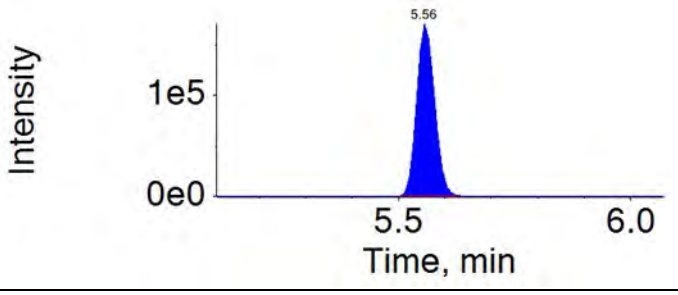
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

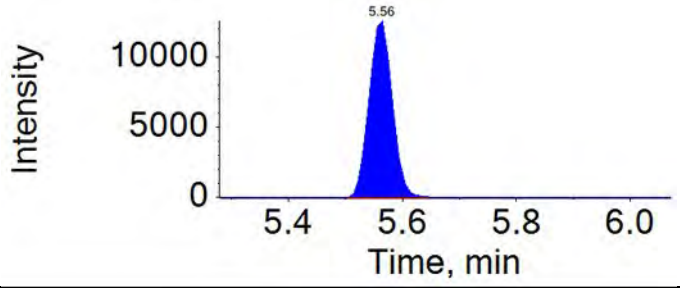
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

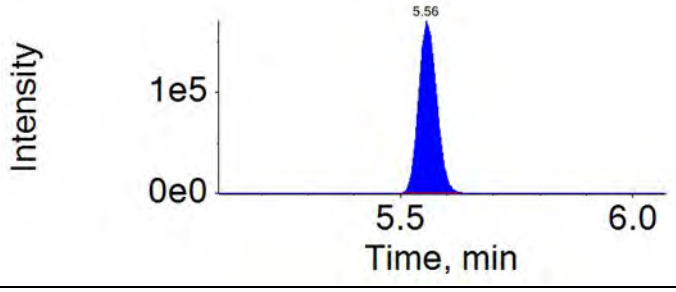
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

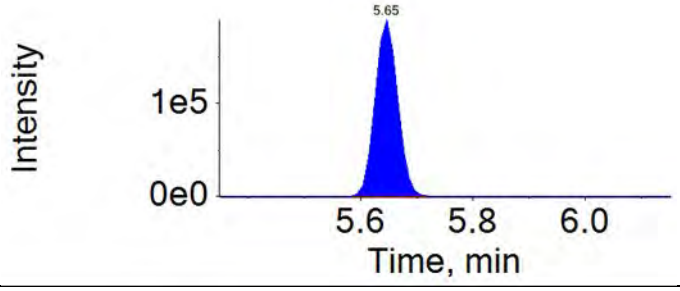
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

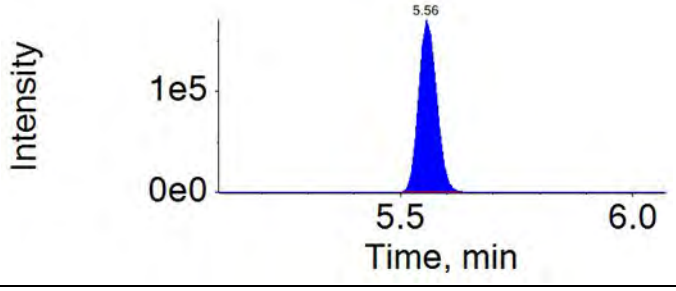
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



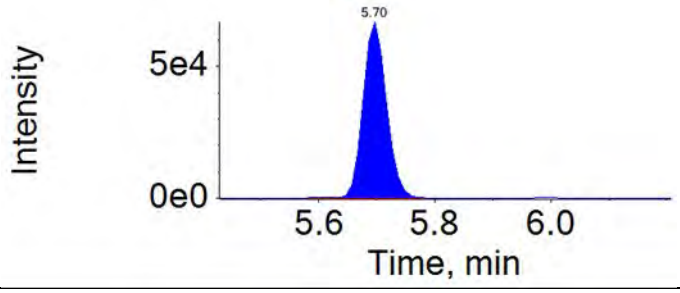


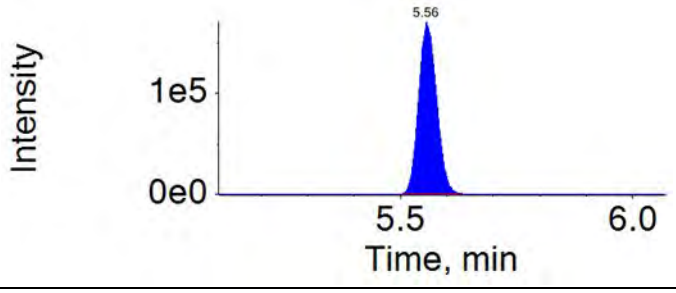
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



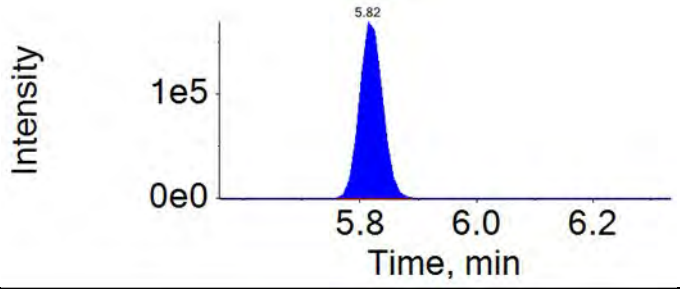


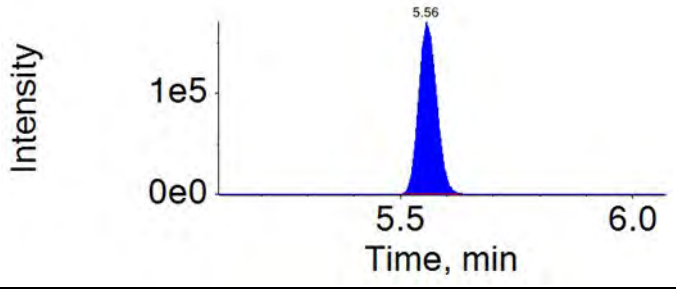
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

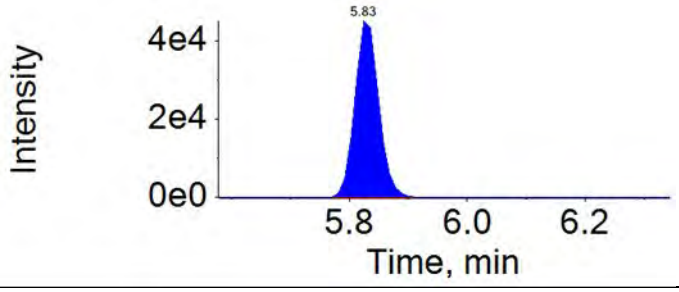
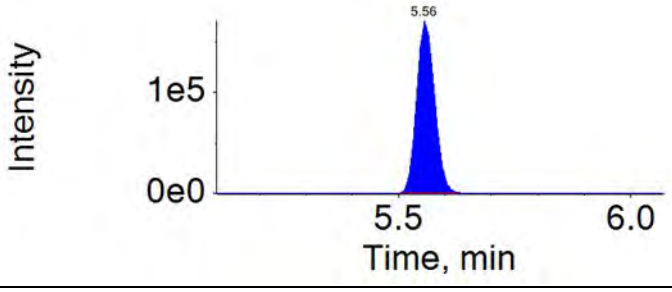


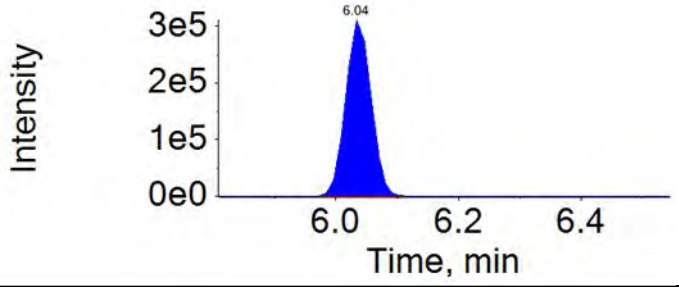
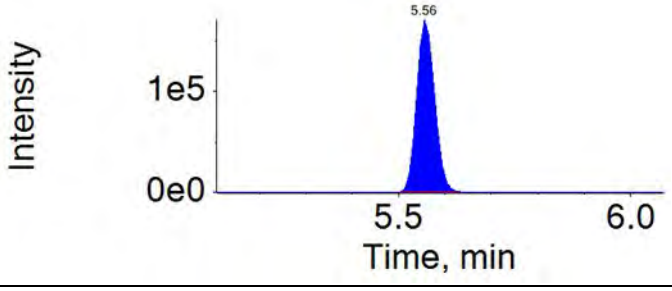


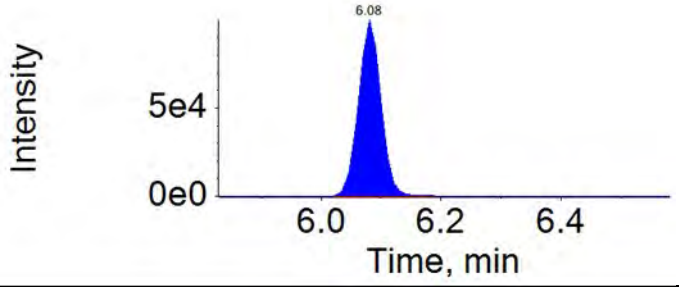
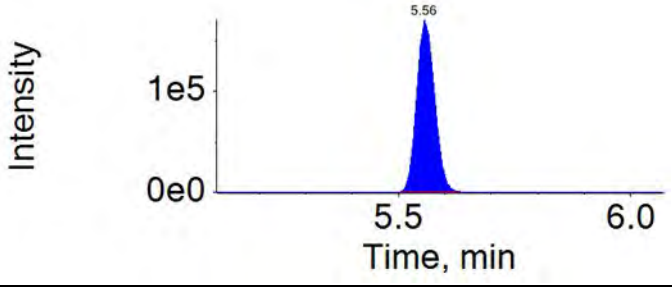
APPROVED
By MSM at 11:49 am, 12/19/18

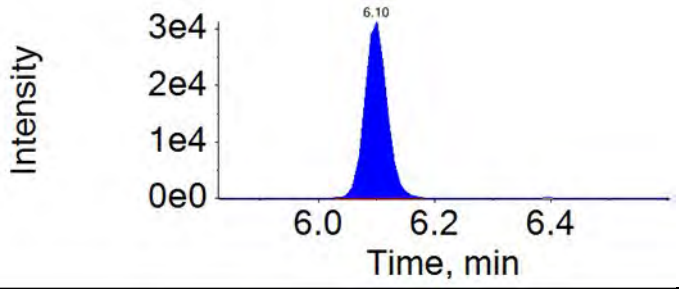
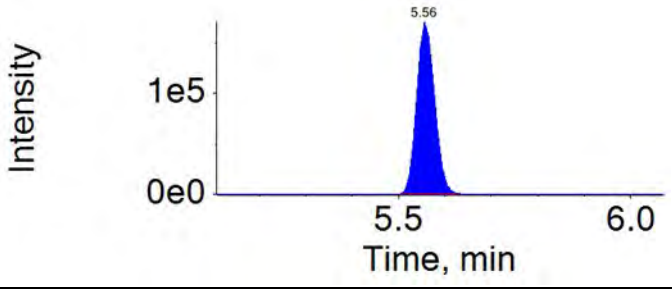
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

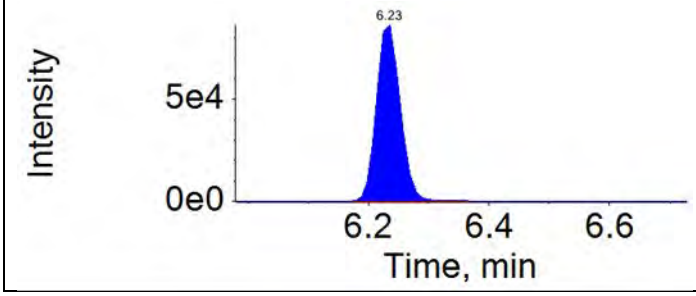
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

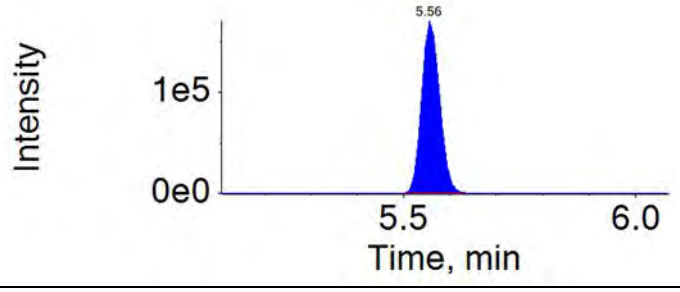
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

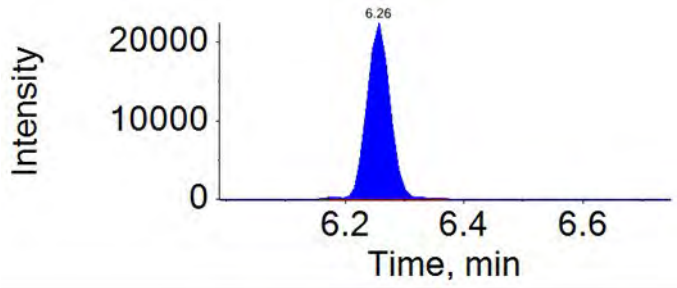
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

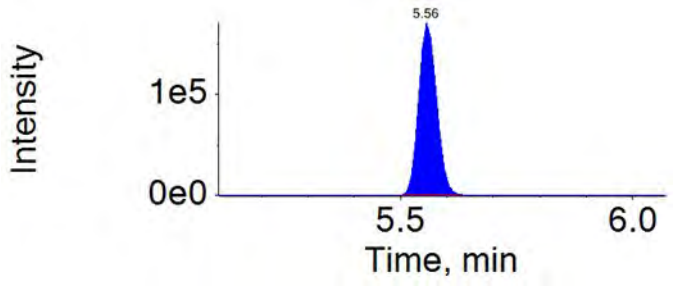
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



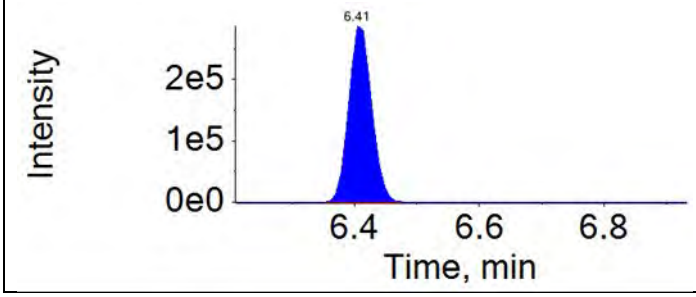


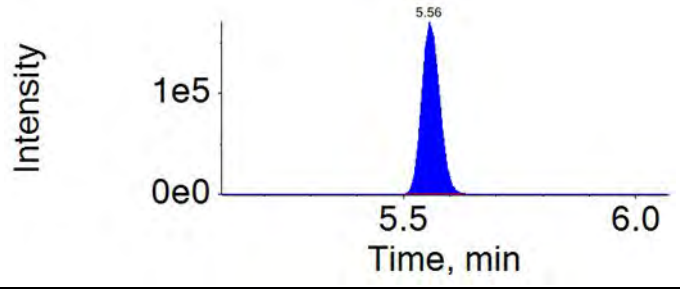
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



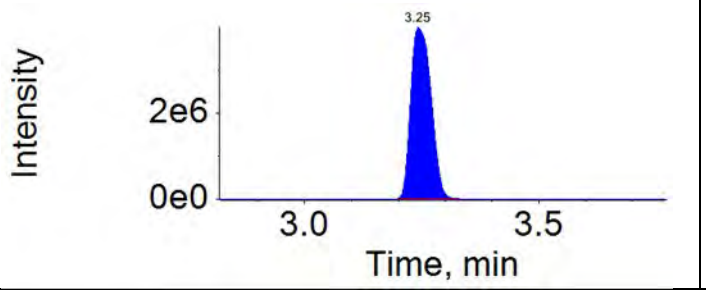


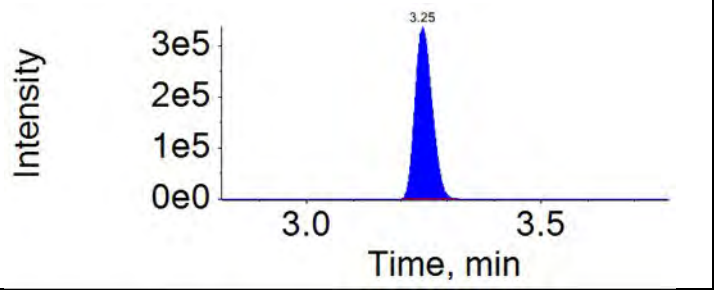
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

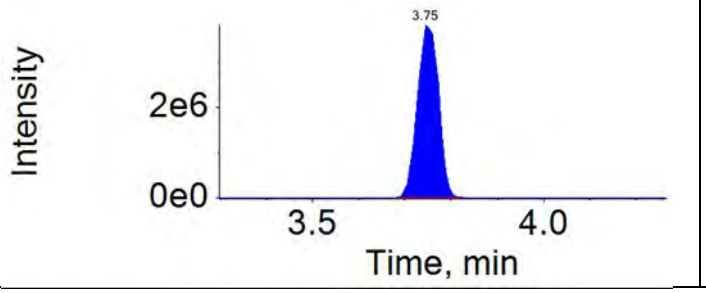
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

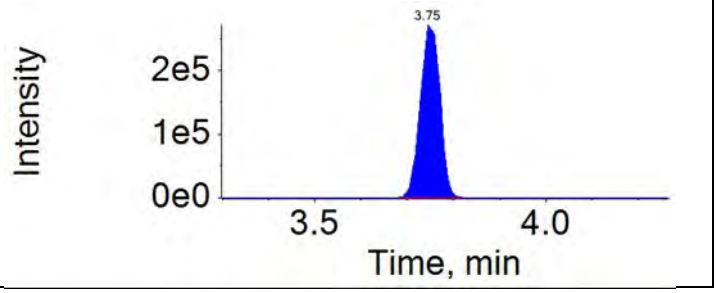
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



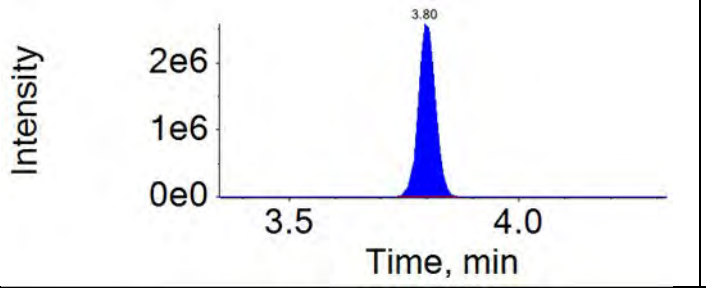


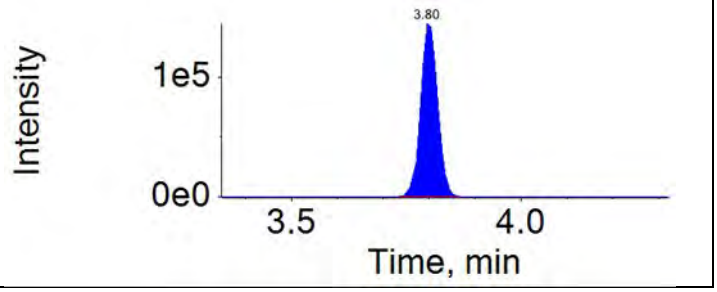
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



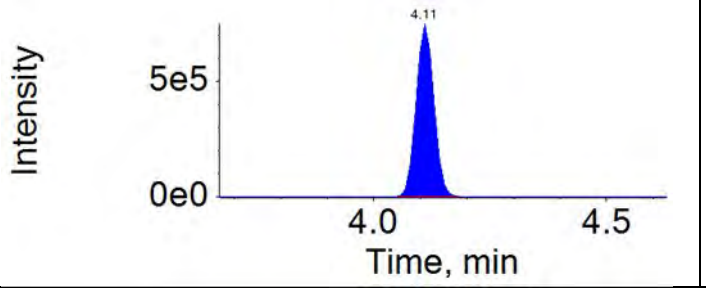


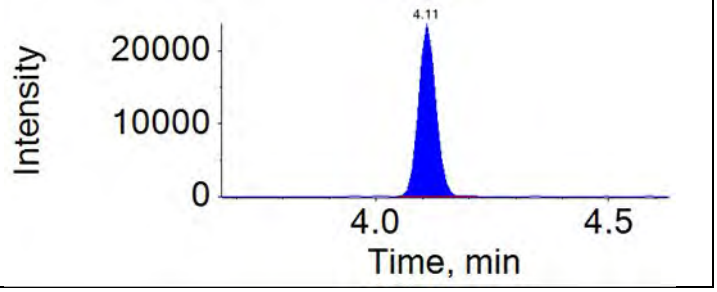
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



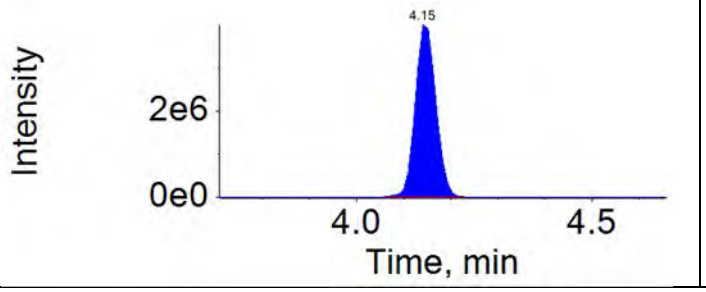


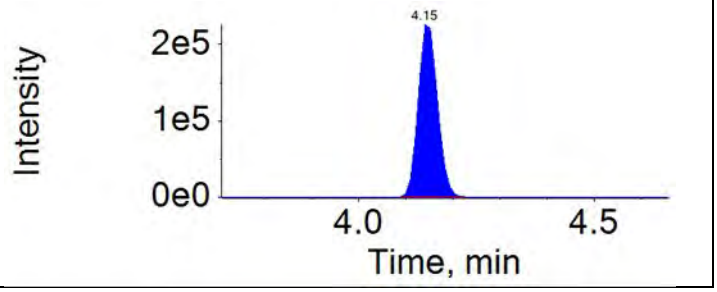
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

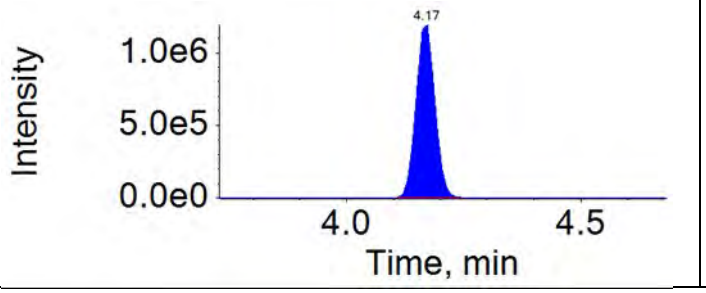
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

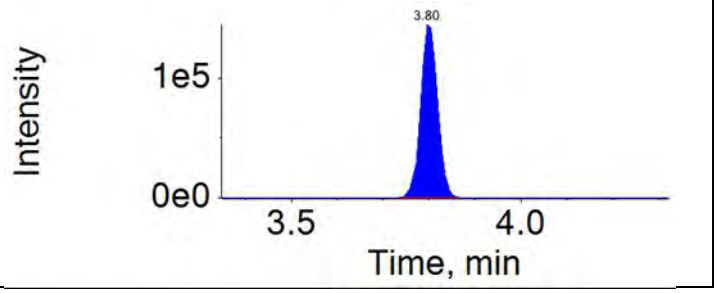
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



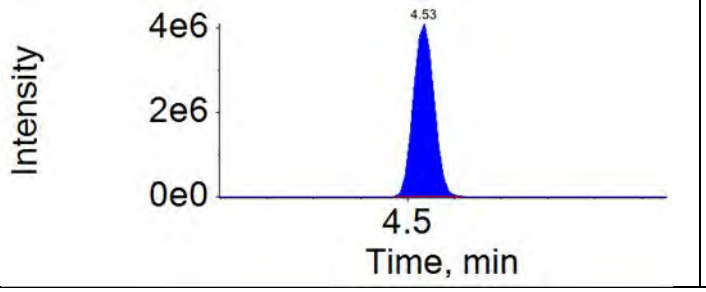


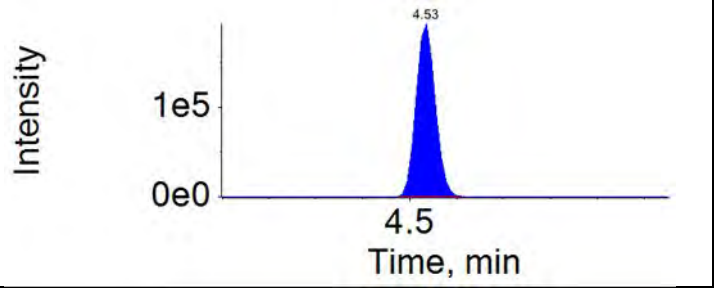
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



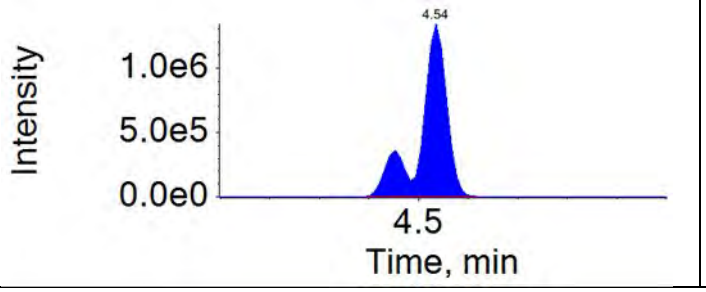


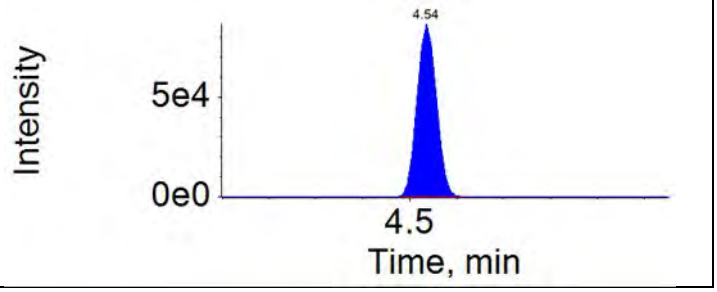
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

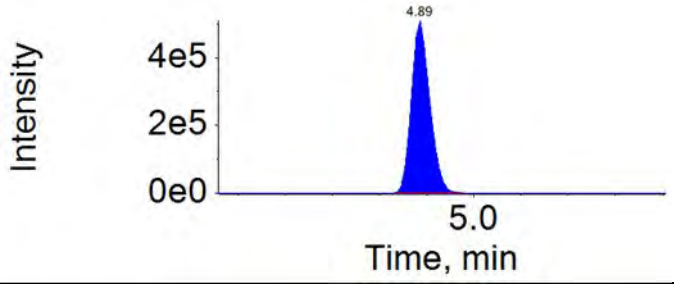
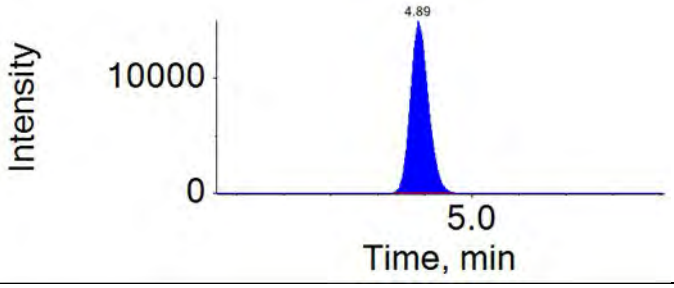


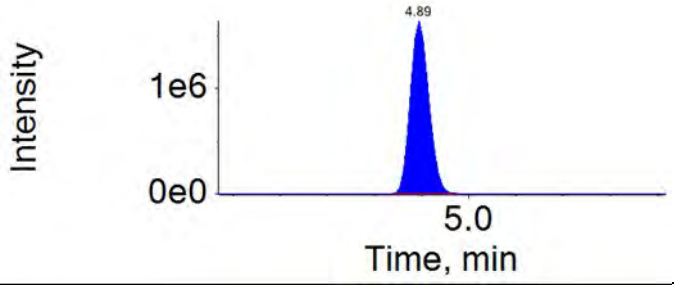
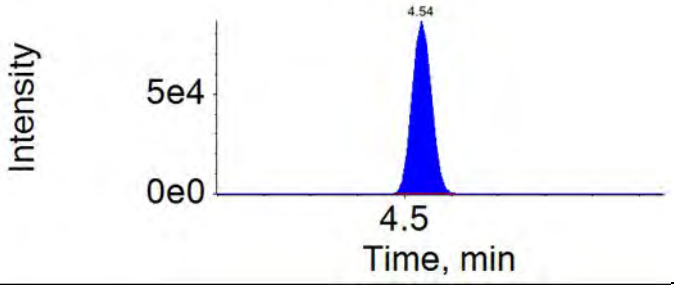


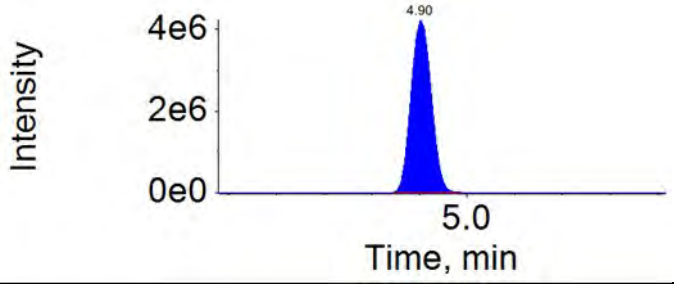
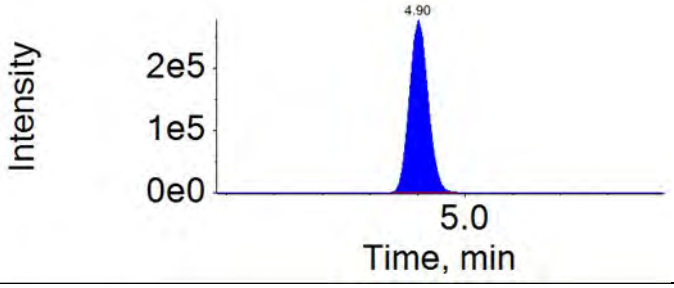
APPROVED
By MSM at 11:49 am, 12/19/18

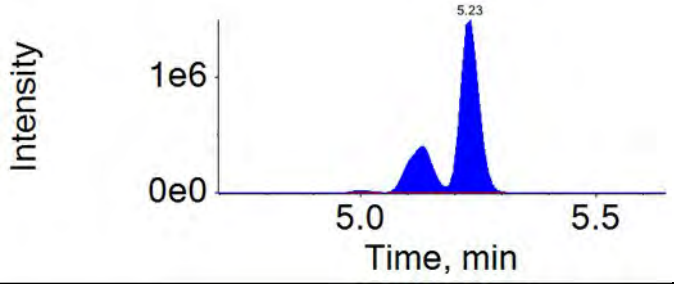
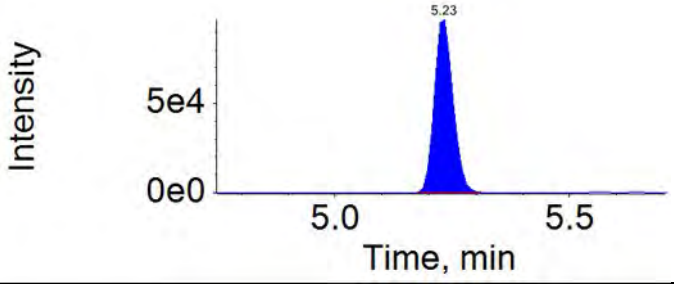
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

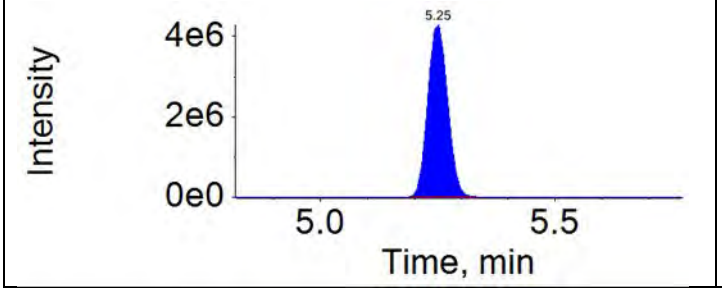
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

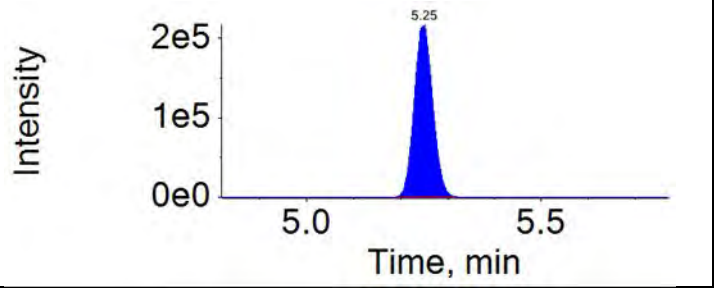
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

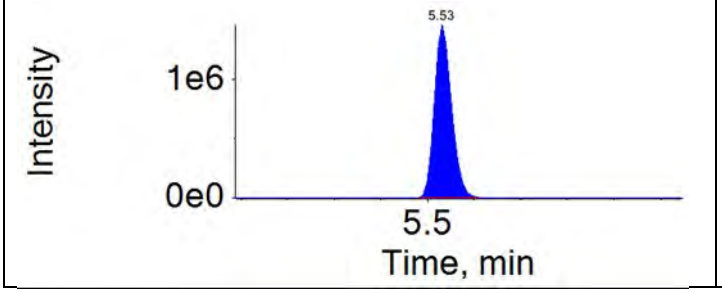
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

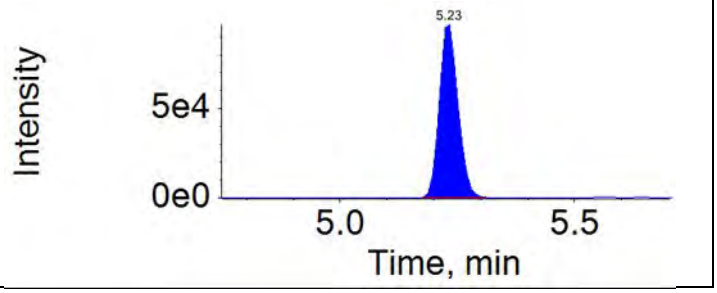
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



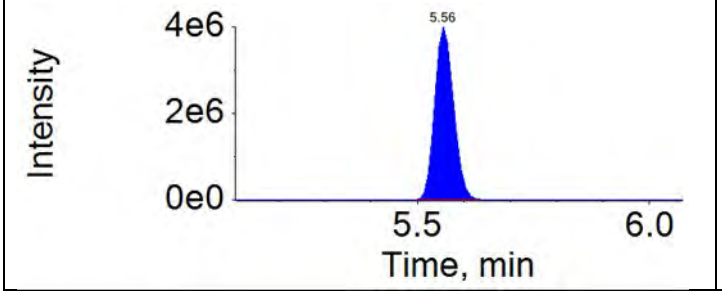


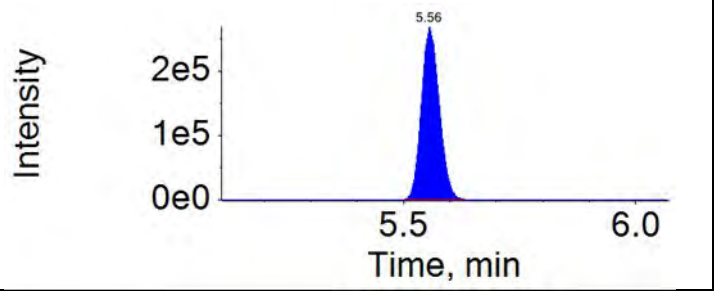
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



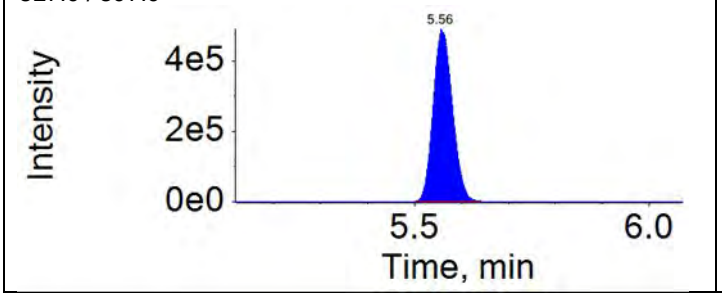


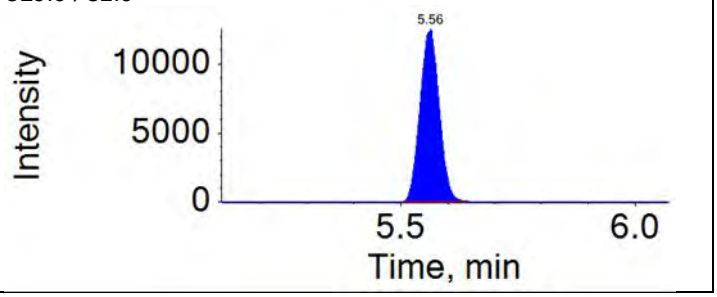
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



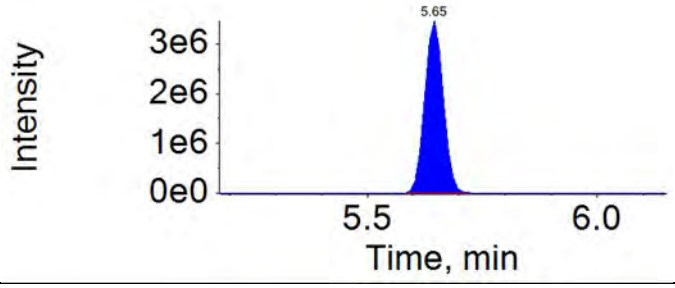


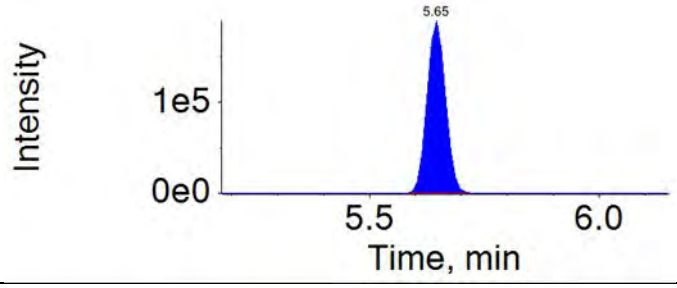
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

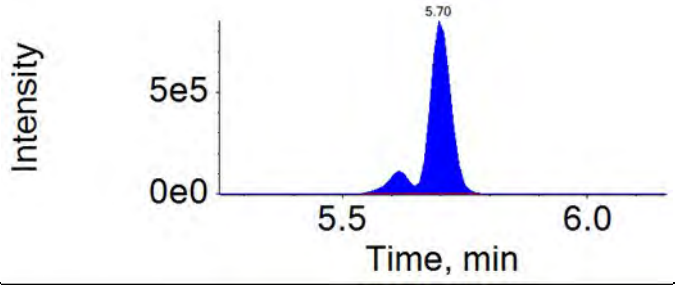
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

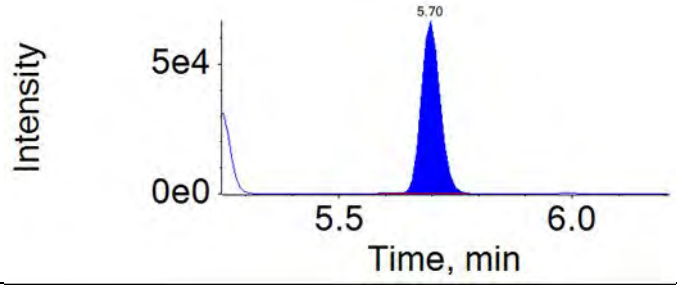
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



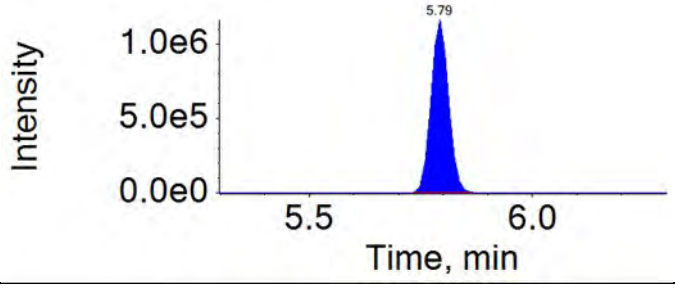


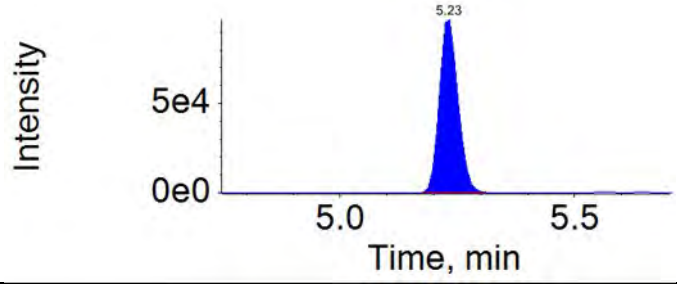
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



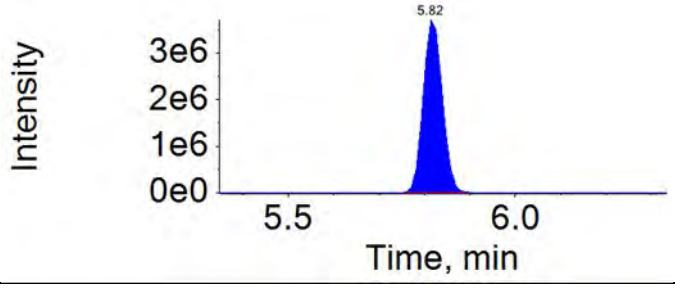


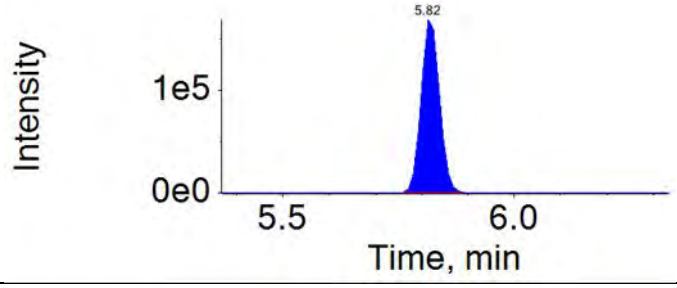
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



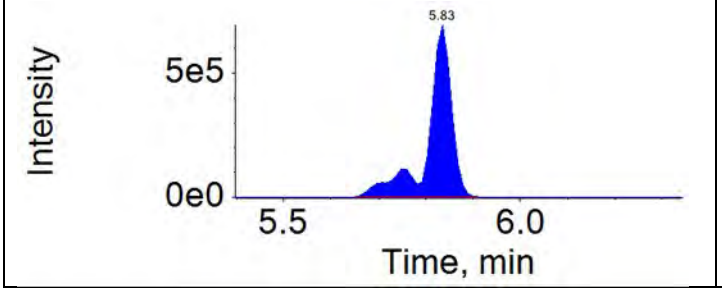


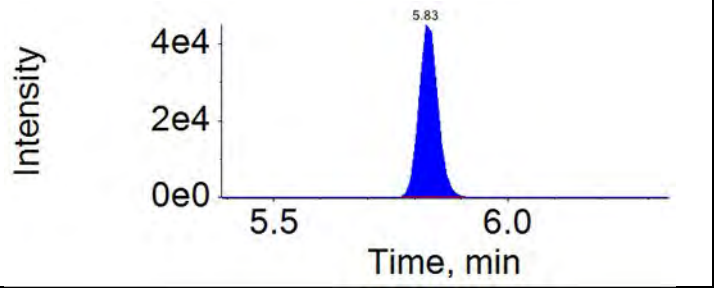
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

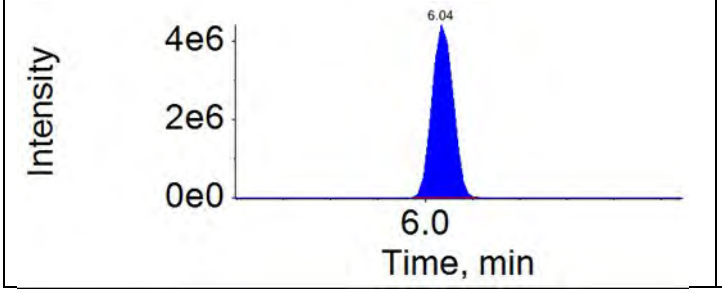
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

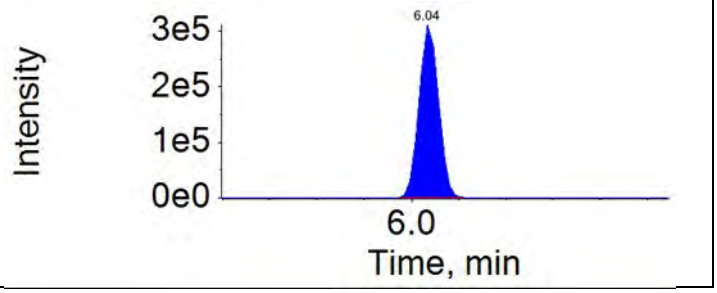
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



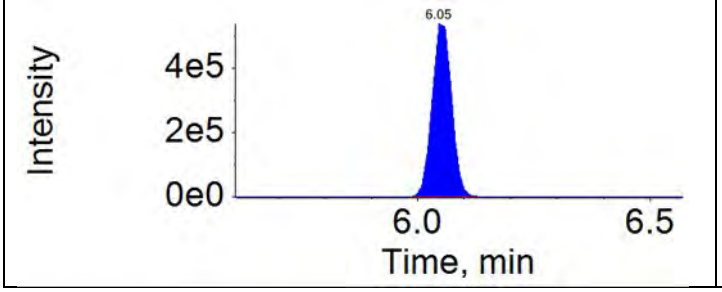


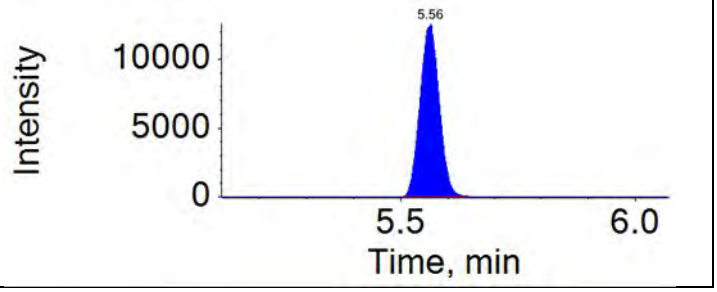
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



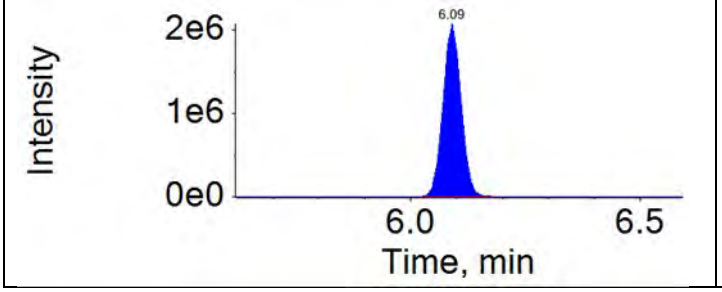


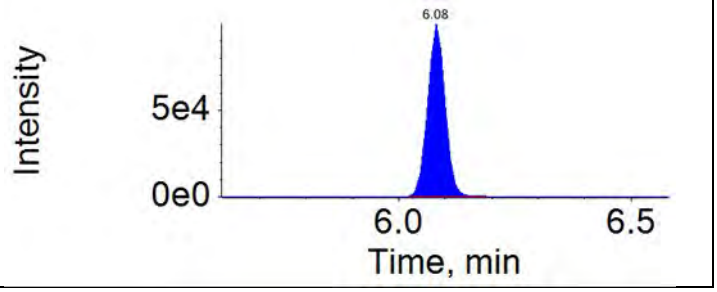
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



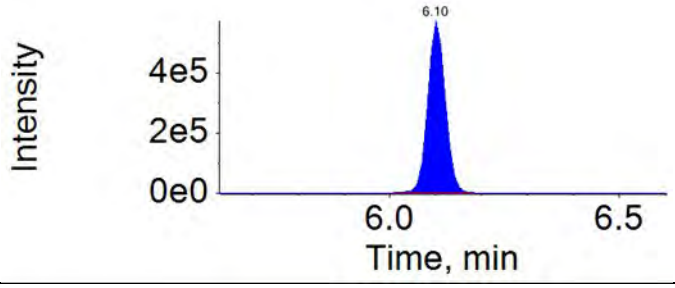


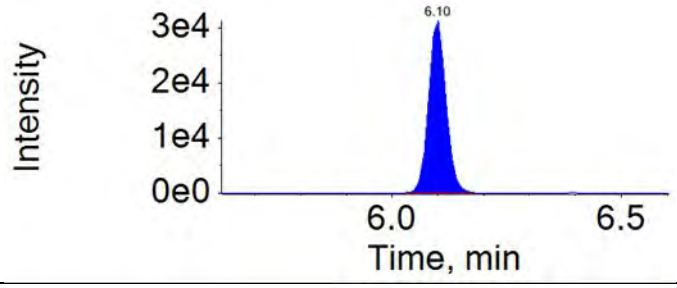
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

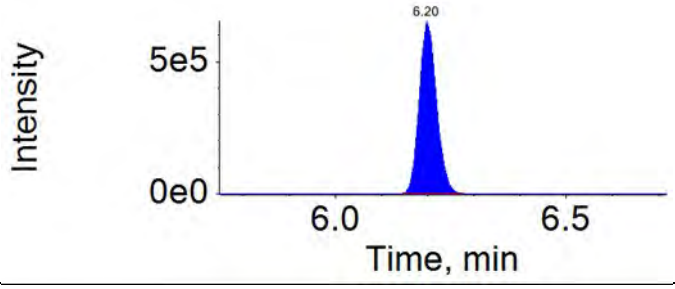
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

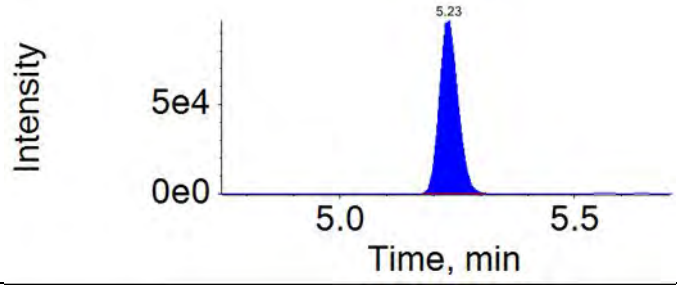
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



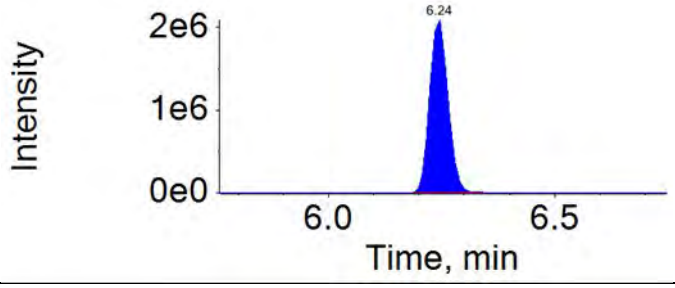


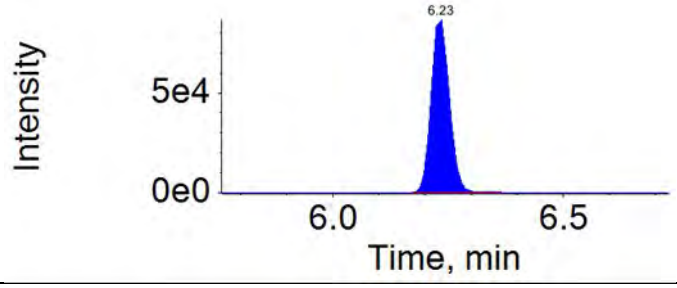
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



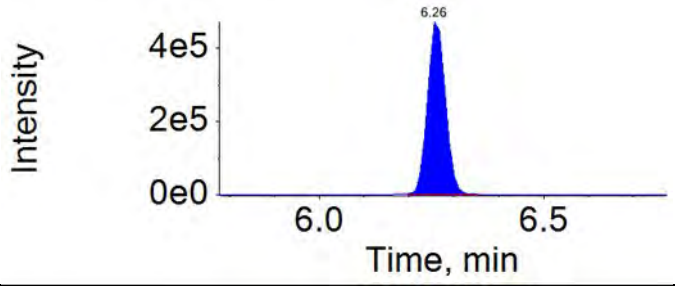


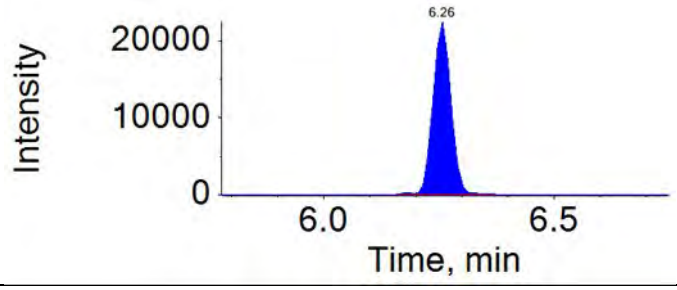
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

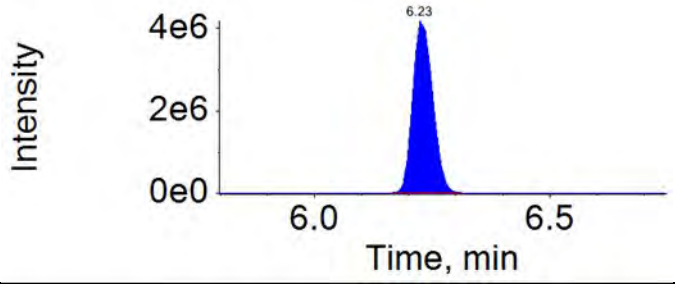
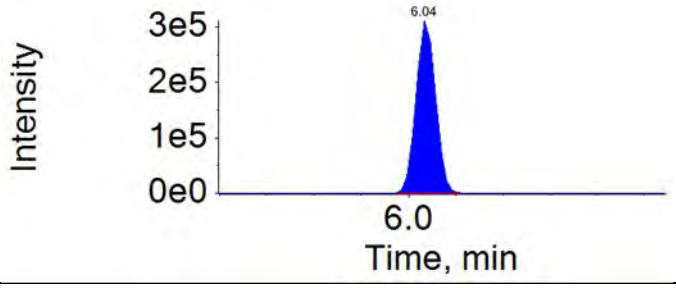


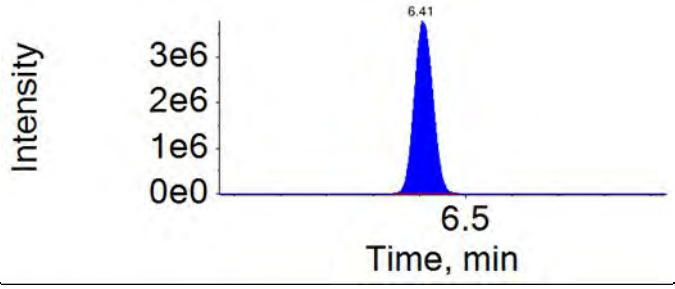
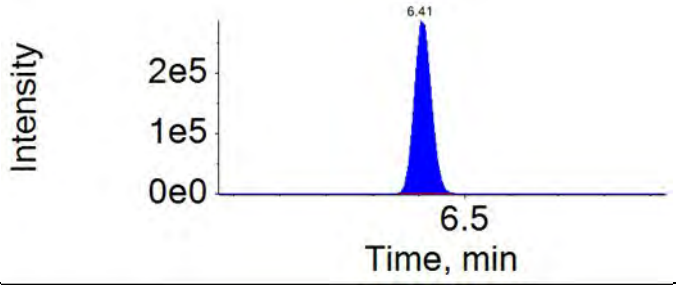


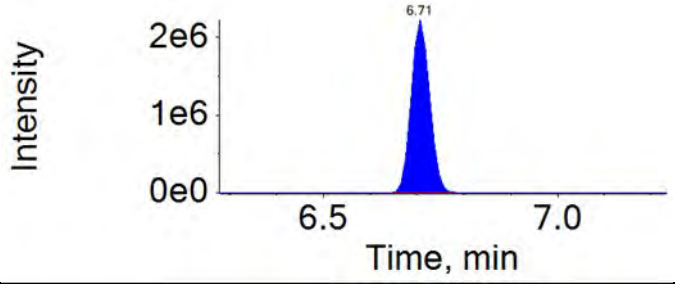
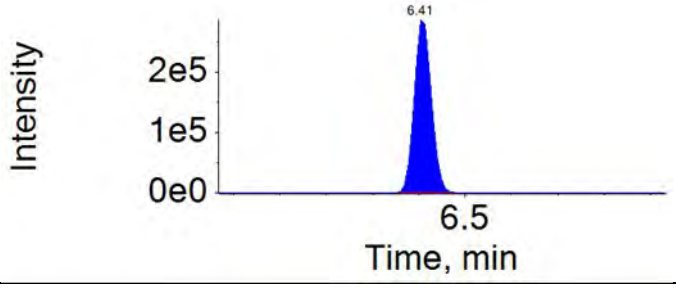
APPROVED
By MSM at 11:49 am, 12/19/18

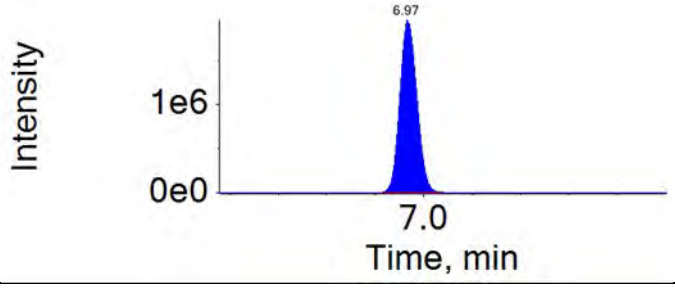
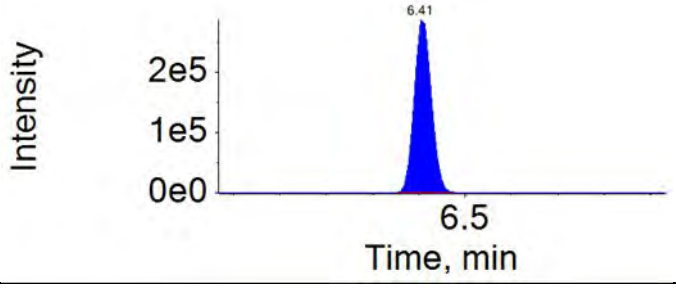
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

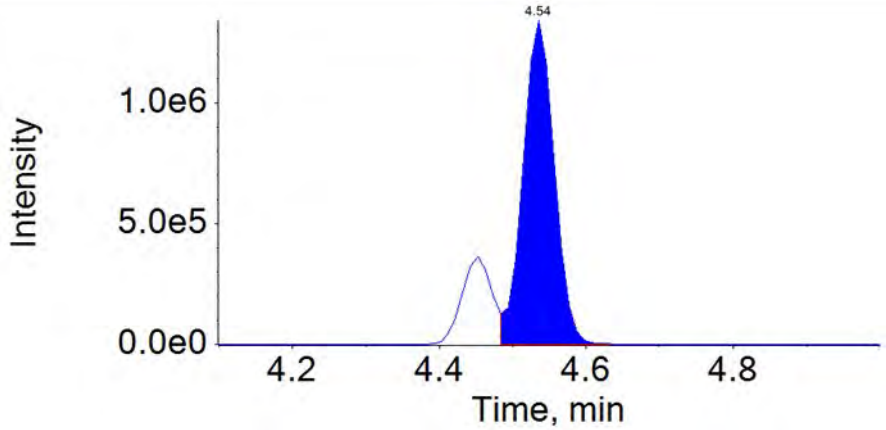
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

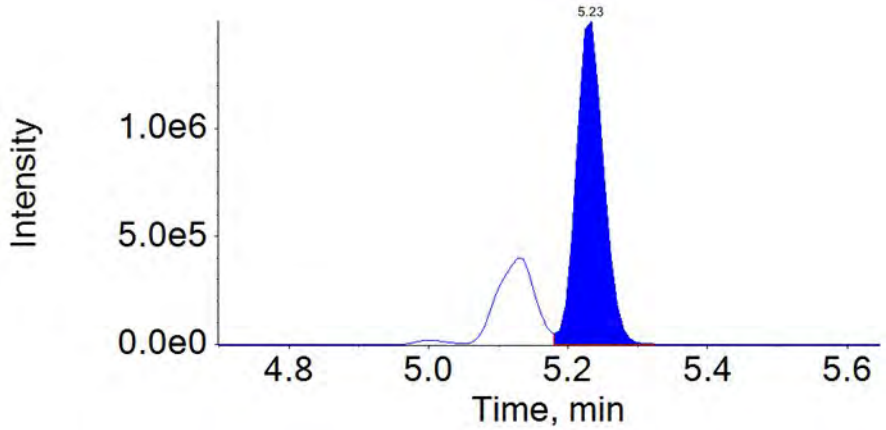
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
3995899.98
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



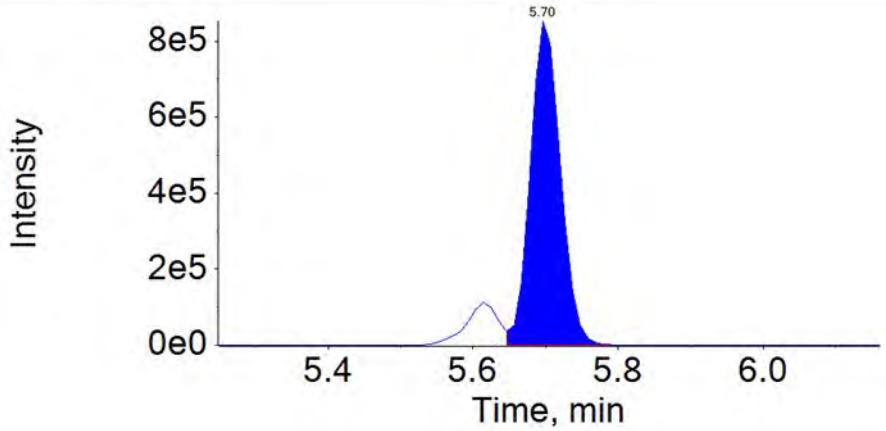
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
4098777.17
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
2466791.04
Mass Range:
570.0 / 419.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



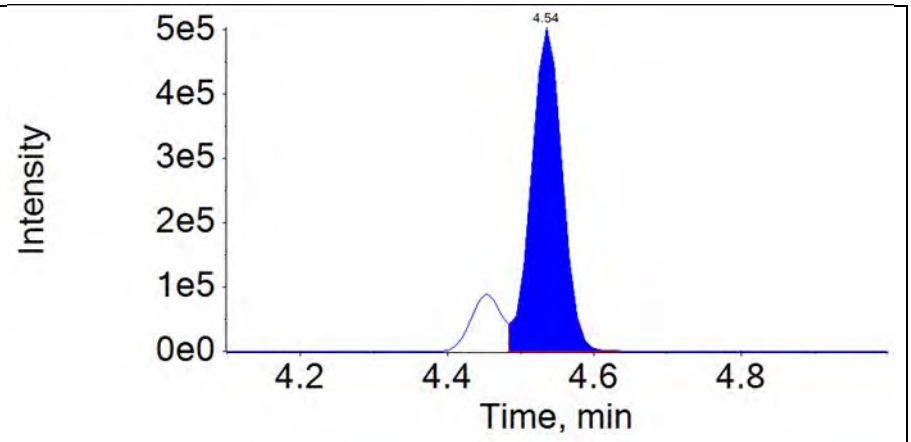
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

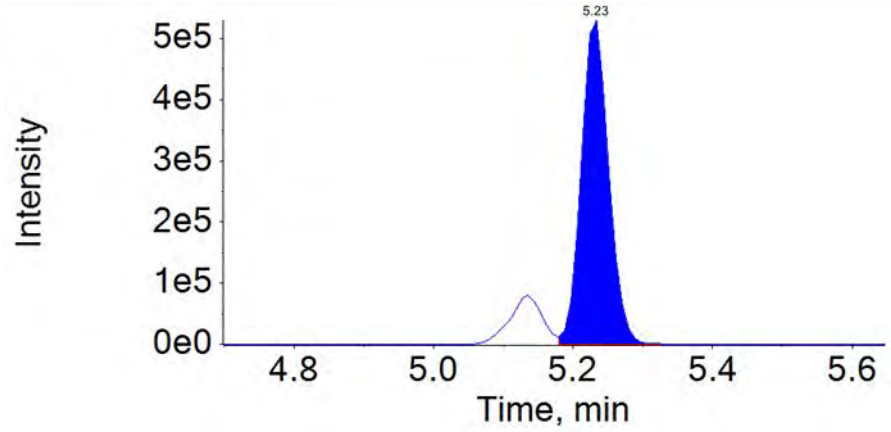
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
1481005.35
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



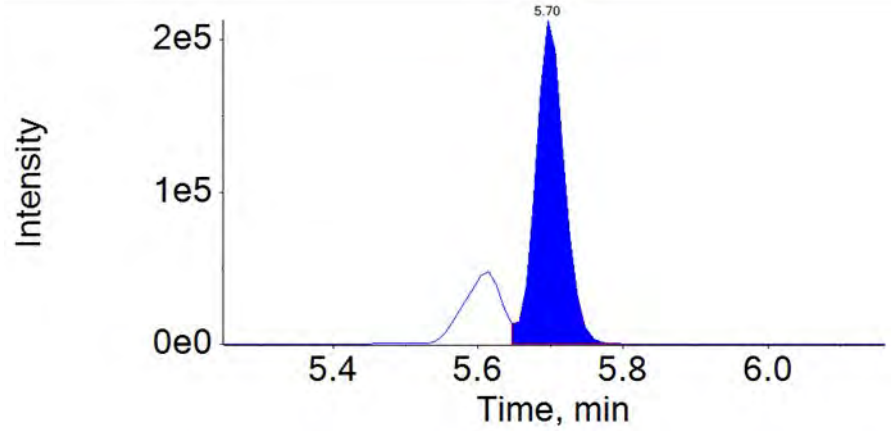
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
1449572.47
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
585730.69
Mass Range:
570.0 / 483.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

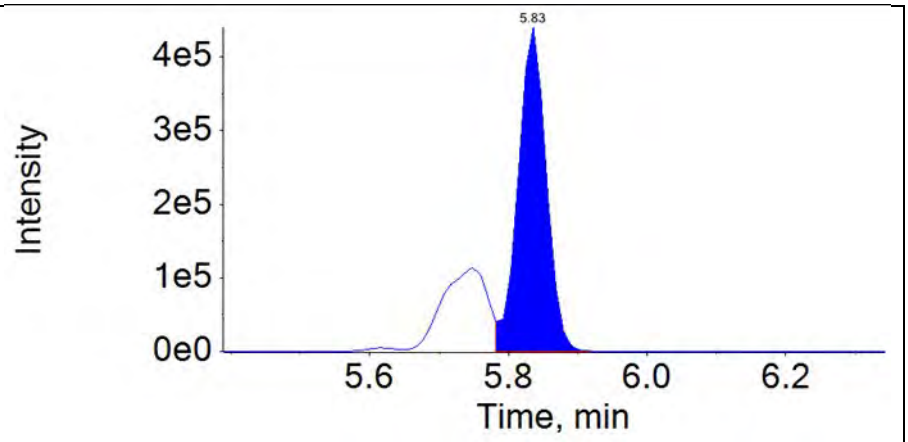
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
1245306.55
Mass Range:
584.0 / 526.0
File Name:
18DEC18DCAL-74.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

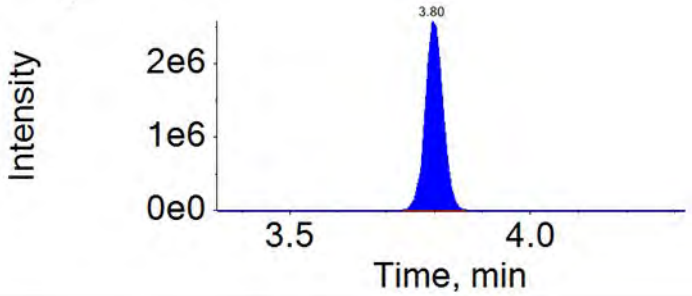
Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-74.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	6651233.80	A	1.0000	1.0000			
PFBS_2	3.80	1.00	2518541.57	A	0.3686	0.3787	3	50	
4:2-FTS	4.11	1.00	1978052.53	A	1.0000	1.0000			
4:2-FTS_2	4.11	1.00	1224620.02	A	0.6123	0.6191	1	50	
PFHxA	4.15	1.00	12199404.08	A	1.0000	1.0000			
PFHxA_2	4.14	1.00	165678.06	A	0.0115	0.0136	18	50	
PFPeS	4.17	1.10	3356554.18	A	1.0000	1.0000			
PFPeS_2	4.17	1.10	1811682.64	A	0.5256	0.5397	3	50	
PFHpA	4.53	1.00	12613152.06	A	1.0000	1.0000			
PFHpA_2	4.53	1.00	806852.01	A	0.0547	0.0640	17	50	
PFHxS	4.54	1.00	5016409.07	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	1735223.71	M	0.3359	0.3459	3	50	
6:2-FTS	4.89	1.00	1375932.55	A	1.0000	1.0000			
6:2-FTS_2	4.88	1.00	847203.59	A	0.6344	0.6157	-3	50	
PFHpS	4.89	1.08	4467941.35	A	1.0000	1.0000			
PFHpS_2	4.89	1.08	1808971.65	A	0.4110	0.4049	-1	50	
PFOA	4.90	1.00	12588127.97	A	1.0000	1.0000			
PFOA_2	4.90	1.00	841028.94	A	0.0590	0.0668	13	50	
PFOS	5.23	1.00	5671288.52	M	1.0000	1.0000			
PFOS_2	5.23	1.00	1707824.91	M	0.2980	0.3011	1	50	
PFNA	5.25	1.00	12632479.09	A	1.0000	1.0000			
PFNA_2	5.25	1.00	303911.11	A	0.0214	0.0241	12	50	
PFNS	5.53	1.06	3731780.57	A	1.0000	1.0000			
PFNS_2	5.53	1.06	1741744.42	A	0.4608	0.4667	1	50	
PFDA	5.56	1.00	11290182.13	A	1.0000	1.0000			
PFDA_2	5.56	1.00	92490.71	A	0.0064	0.0082	29	50	
8:2-FTS	5.56	1.00	1403687.59	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	883642.79	A	0.5879	0.6295	7	50	
NMeFOSAA	5.70	1.00	2804936.29	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	757224.32	M	0.2625	0.2700	3	50	
PFDS	5.79	1.11	3153807.53	A	1.0000	1.0000			
PFDS_2	5.79	1.11	1524364.02	A	0.4962	0.4833	-3	50	
PFUnDA	5.82	1.00	10906838.78	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	48757.14	A	0.0035	0.0045	26	50	
NEtFOSAA	5.83	1.00	2419106.27	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	1752348.59	M	0.6883	0.7244	5	50	
PFDoDA	6.04	1.00	13735940.73	A	1.0000	1.0000			
PFDoDA_2	6.03	1.00	233150.50	A	0.0134	0.0170	26	50	
10:2-FTS	6.05	1.09	1572726.66	A	1.0000	1.0000			
10:2-FTS_2	6.05	1.09	1084682.46	A	0.7018	0.6897	-2	50	
PFTrDA	6.23	1.03	12403653.15	A	1.0000	1.0000			
PFTrDA_2	6.23	1.03	144958.87	A	0.0093	0.0117	25	50	
PFTeDA	6.41	1.00	10584696.41	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	78637.32	A	0.0058	0.0074	28	50	
PFHxDA	6.71	1.05	6096567.97	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	415709.72	A	0.0656	0.0682	4	50	
PFODA	6.97	1.09	4781425.10	A	1.0000	1.0000			
PFODA_2	6.97	1.09	131731.12	A	0.0273	0.0276	1	50	

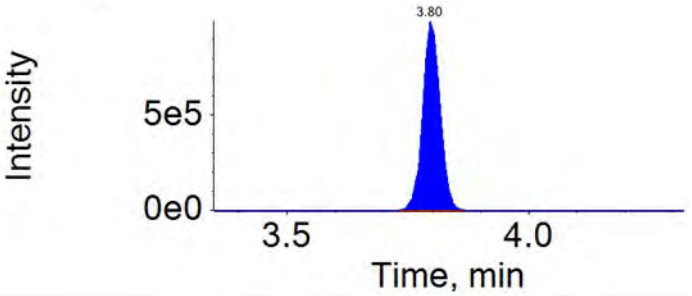
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

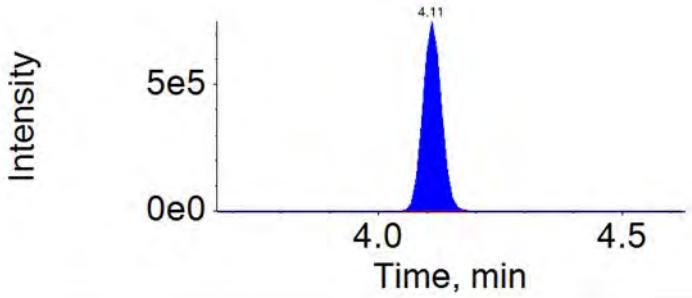
Component: PFBS
Primary Mass: 299.0 / 80.0



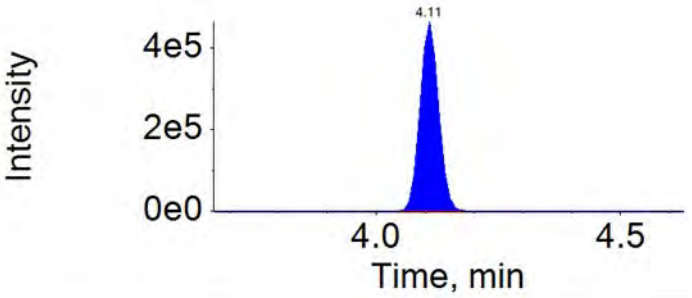
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



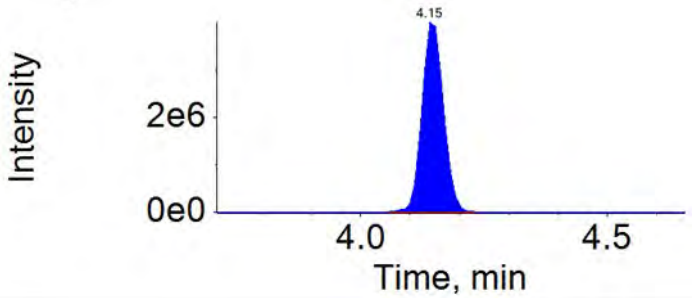
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



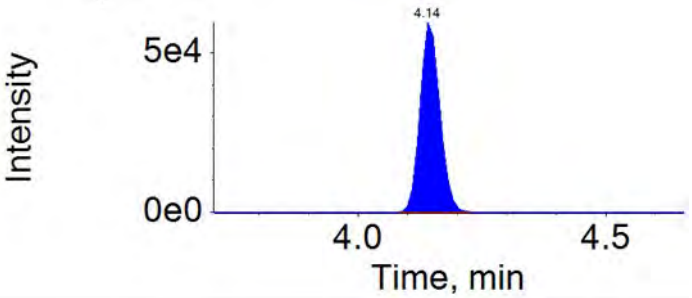
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



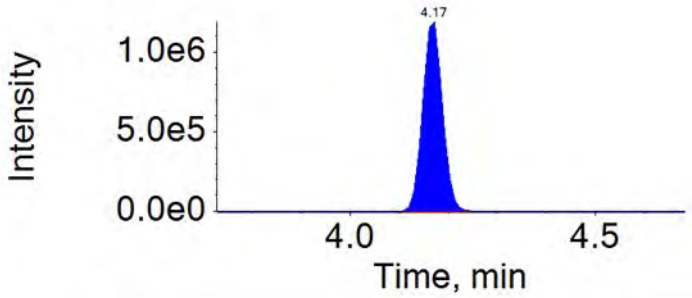
Component: PFHxA
Primary Mass: 313.0 / 269.0



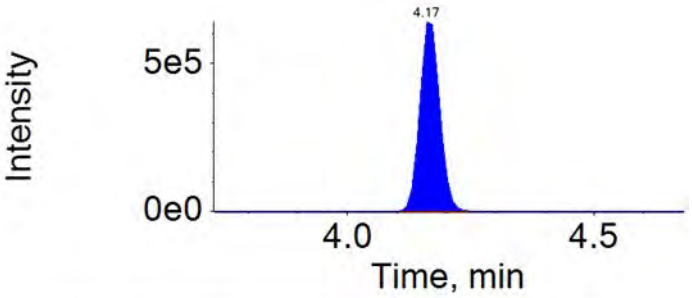
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



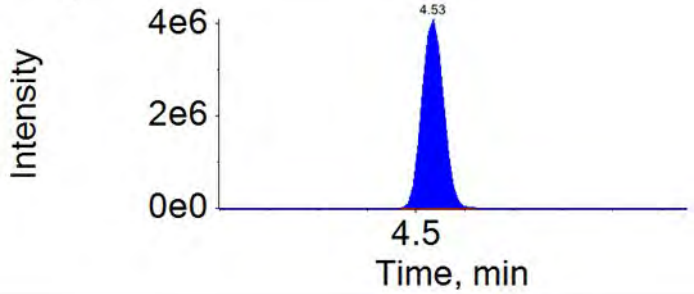
Component: PFPeS
Primary Mass: 349.0 / 80.0



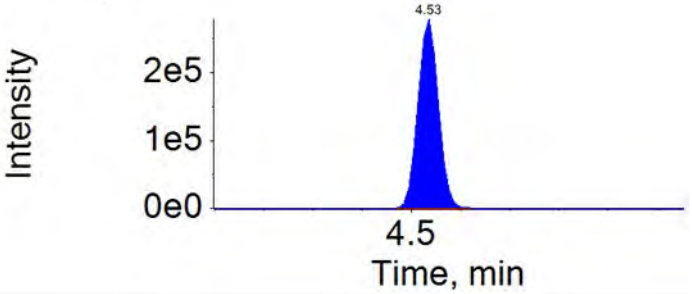
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Secondary Mass: 349.0 / 99.0



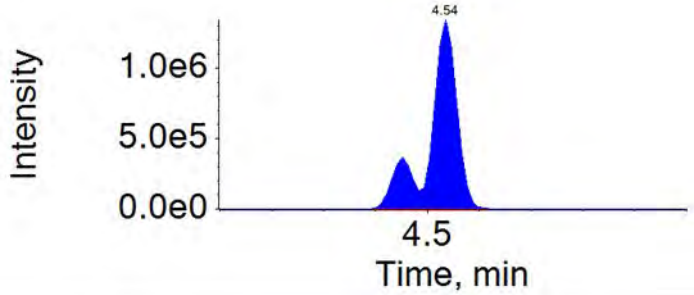
Component: PFHpA
Primary Mass: 363.0 / 319.0



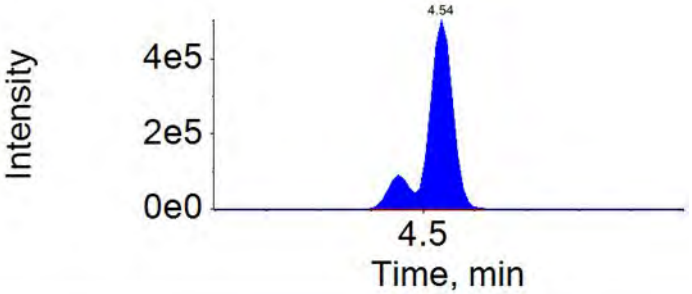
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



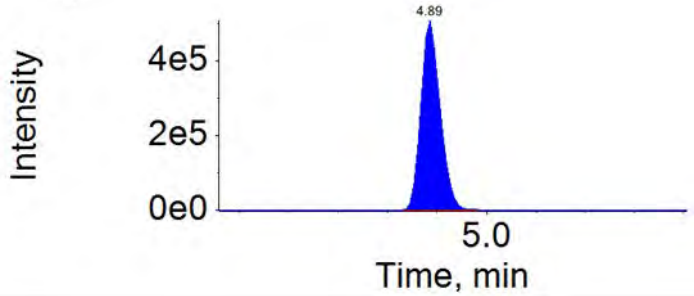
Component: PFHxS
Primary Mass: 399.0 / 80.0



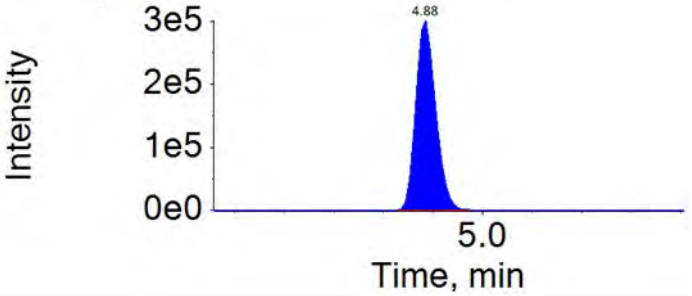
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



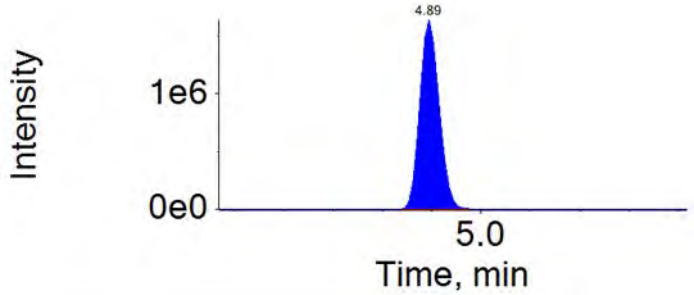
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



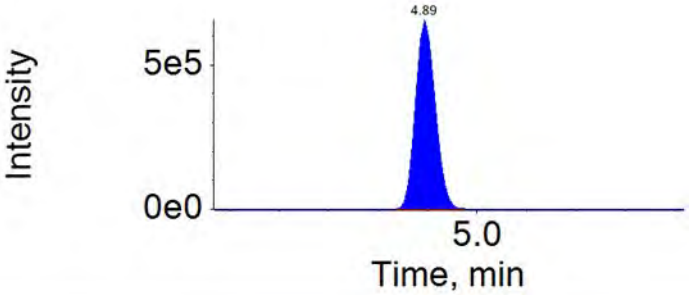
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



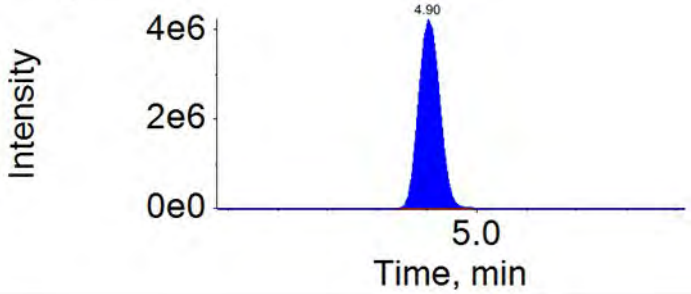
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



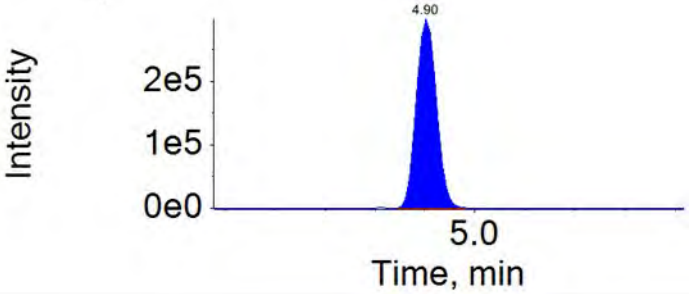
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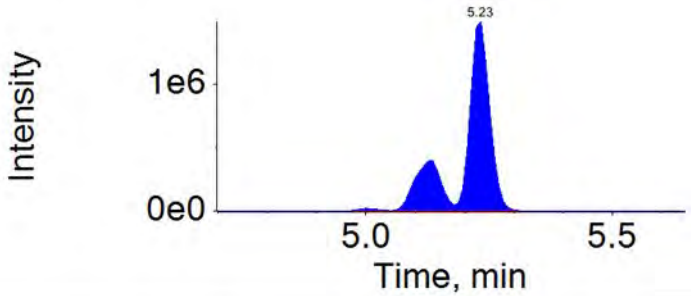
Component: PFOA
Primary Mass: 413.0 / 369.0



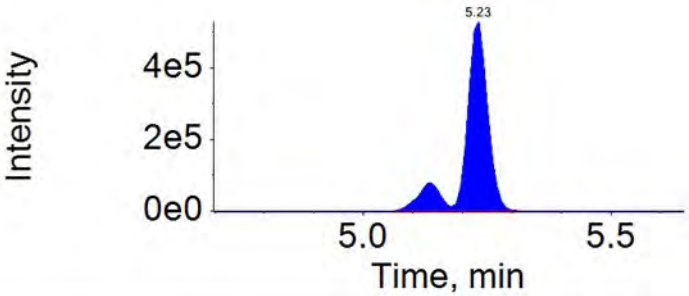
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Secondary Mass: 413.0 / 169.0



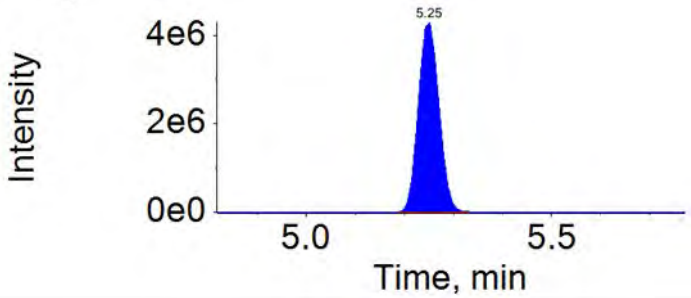
Component: PFOS
Primary Mass: 499.0 / 80.0



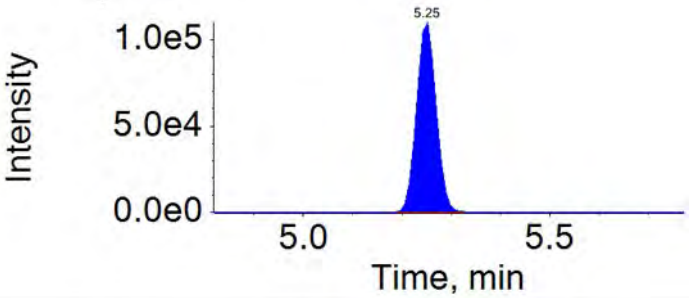
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



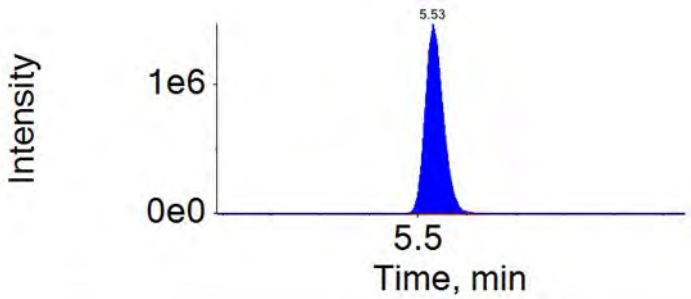
Component: PFNA
Primary Mass: 463.0 / 419.0



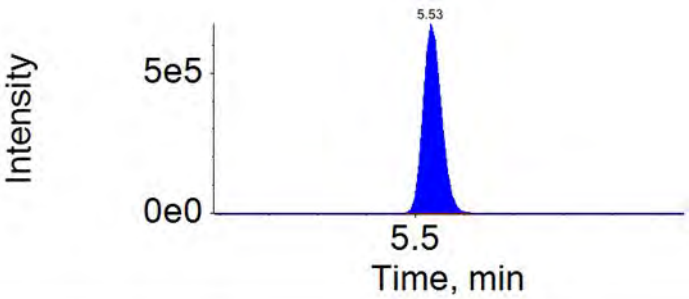
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



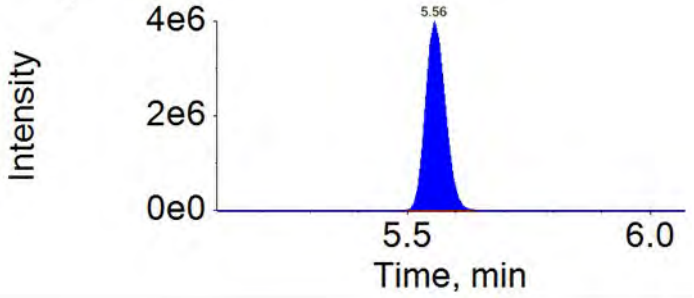
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



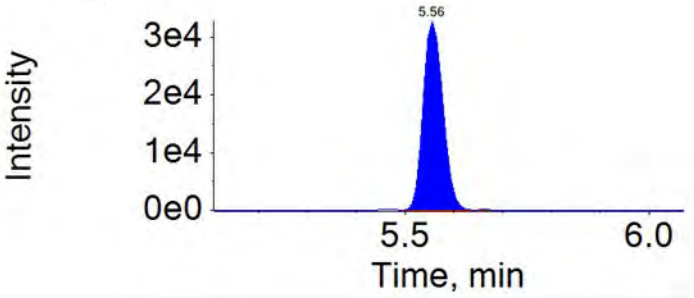
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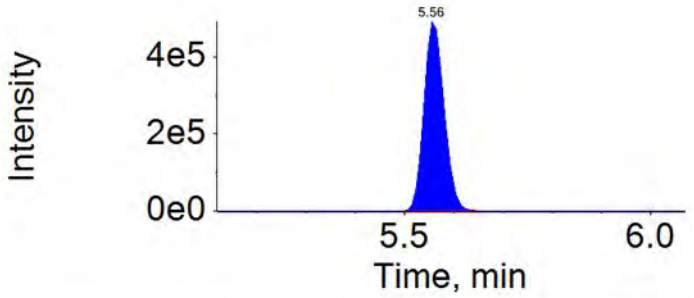
Component: PFDA
Primary Mass: 513.0 / 469.0



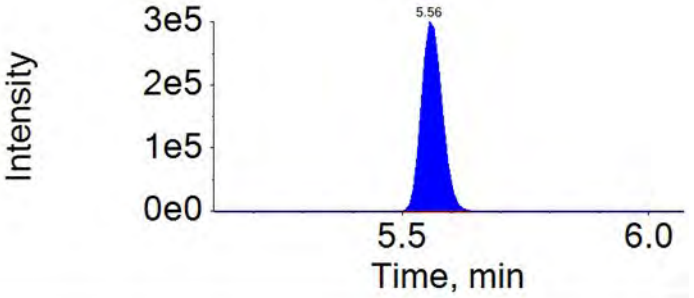
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



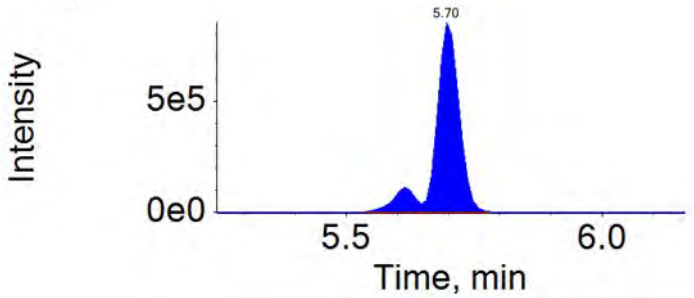
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



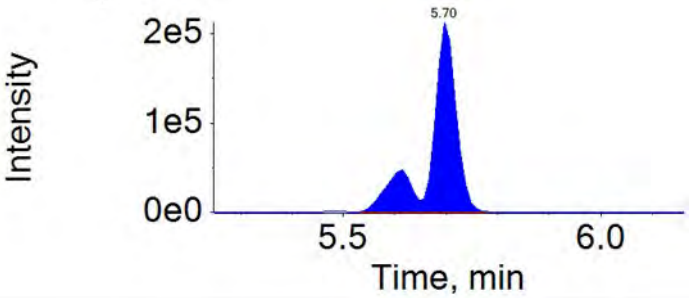
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



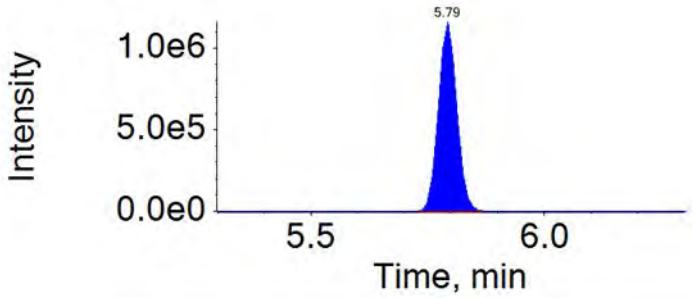
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



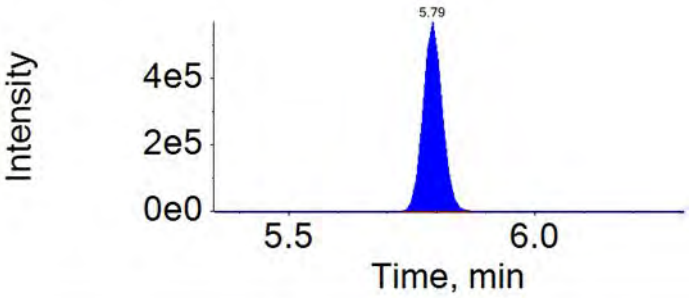
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



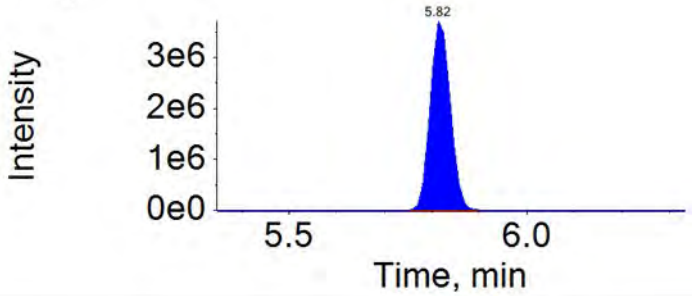
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



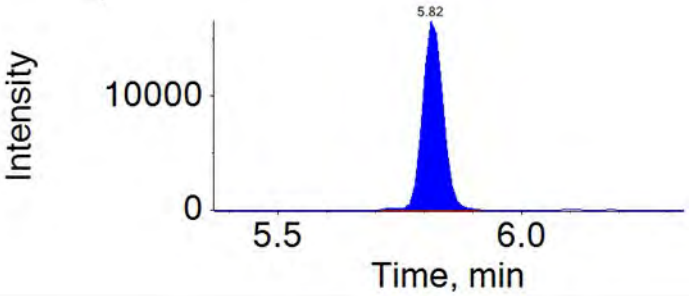
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

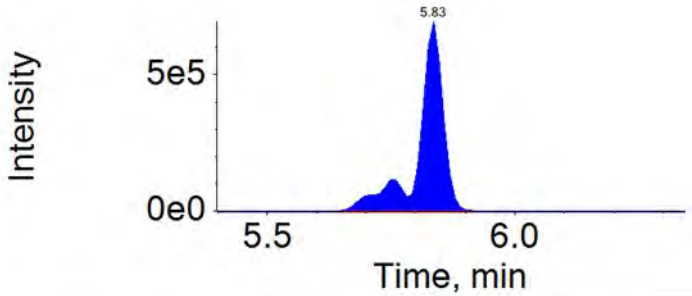
Component: PFUnDA
Primary Mass: 563.0 / 519.0



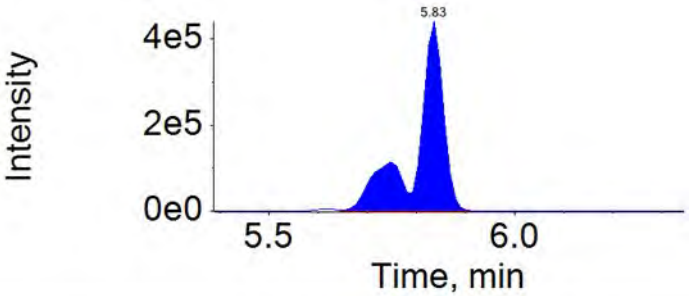
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



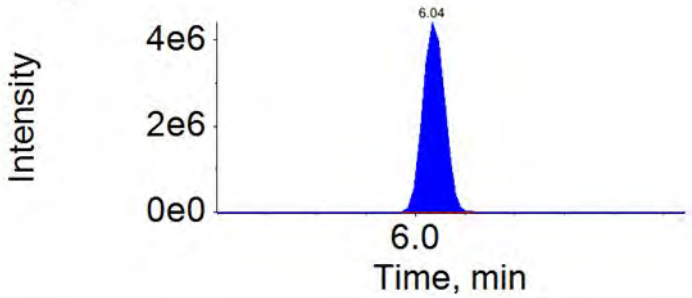
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



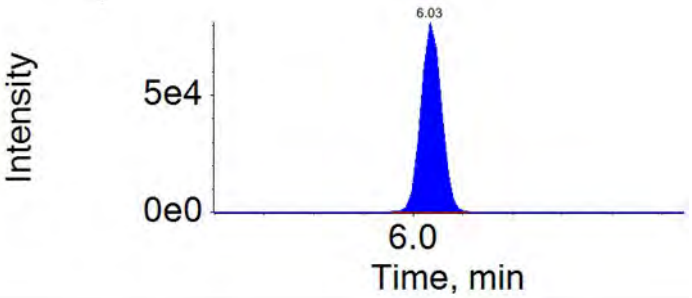
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



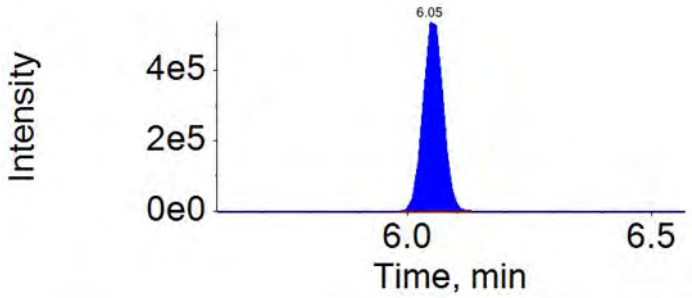
Component: PFDoDA
Primary Mass: 613.0 / 569.0



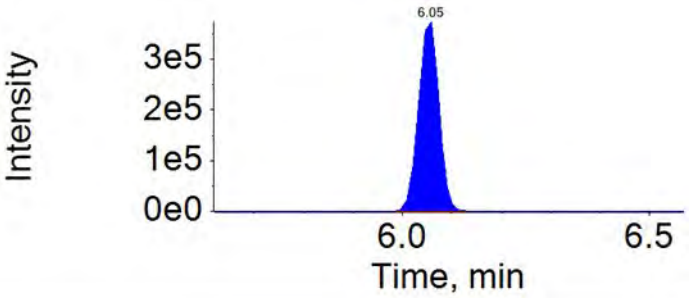
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



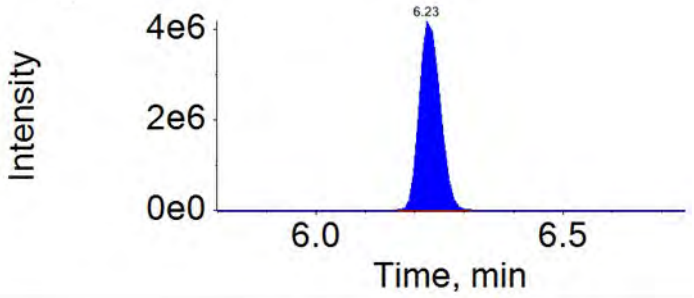
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



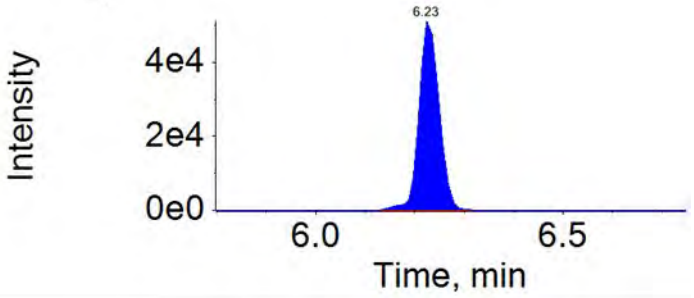
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



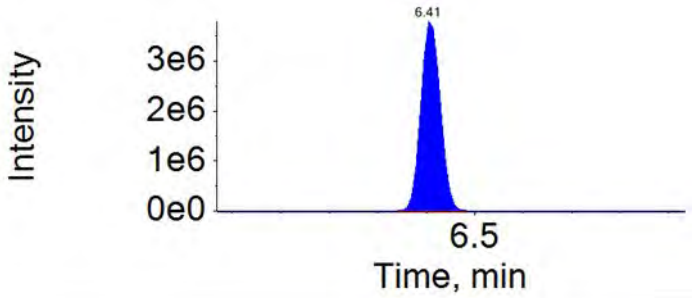
Component: PFTrDA
Primary Mass: 663.0 / 619.0



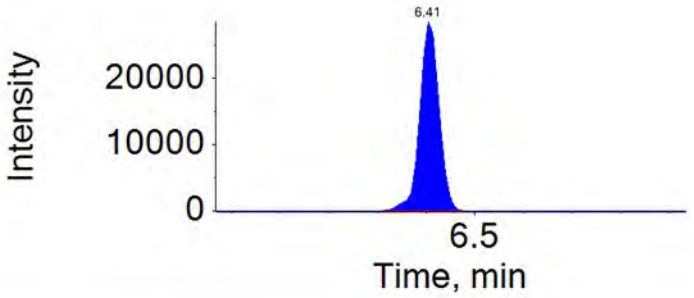
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



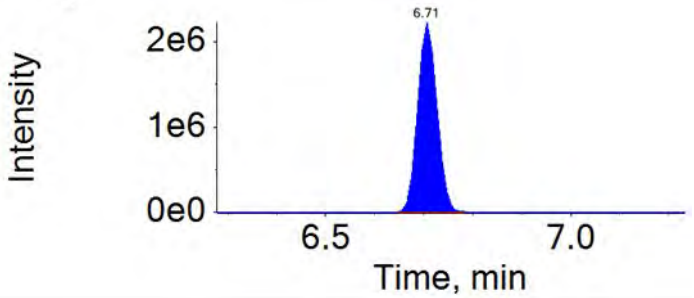
Component: PFTeDA
Primary Mass: 713.0 / 669.0



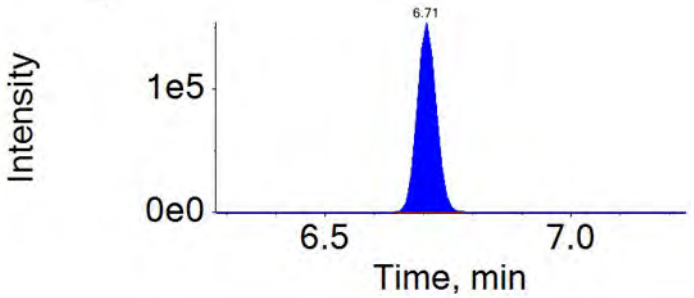
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



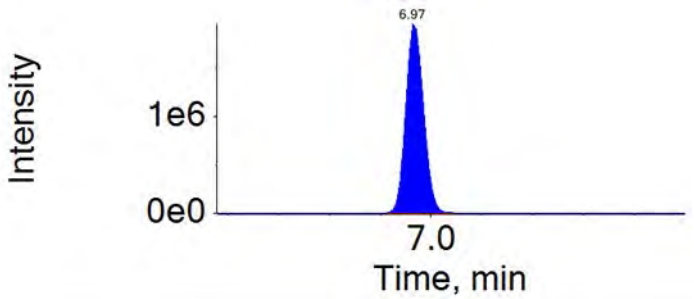
Component: PFHxDA
Primary Mass: 813.0 / 769.0



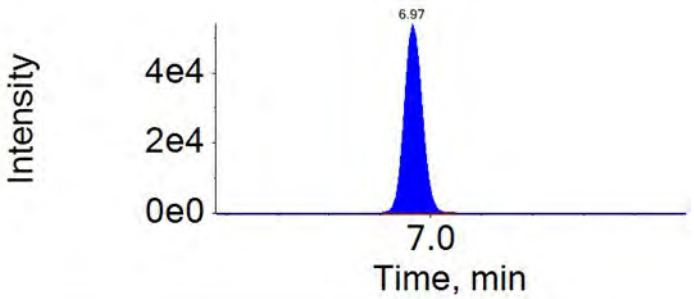
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	MDL			**Data File:**		18DEC18DCAL-67.wiff
Sample ID:	MDLMODX1833F			**Acquis Date:**		2018-12-18T23:25:52
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	2			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	988372.7	941251.6	5	50	
13C2-PFOA	5.0	542685.1	485595.3	12	50	
13C4-PFOS	4.8	316191.9	292182.6	8	50	
13C2-PFDA	5.0	494658.7	467216.0	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1088801.6	13C3-PFBA	988372.7	1.102	5.000	4.878	98	70-130	
E13C5-PFPeA	1028850.2	13C3-PFBA	988372.7	1.041	5.000	4.854	97	70-130	
E13C3-PFBS	462763.7	13C3-PFBA	988372.7	0.468	4.650	4.559	98	70-130	
E13C2-4:2-FTS	63790.3	13C2-PFOA	542685.1	0.118	4.670	4.464	96	70-130	
E13C5-PFHxA	759068.5	13C2-PFOA	542685.1	1.399	5.000	5.003	100	70-130	
E13C3-PFHxS	353739.7	13C2-PFOA	542685.1	0.652	4.730	4.932	104	70-130	
E13C4-PFHpA	599028.3	13C2-PFOA	542685.1	1.104	5.000	4.768	95	70-130	
E13C2-6:2-FTS	52379.9	13C2-PFOA	542685.1	0.097	4.750	4.856	102	70-130	
E13C8-PFOA	1038332.8	13C2-PFOA	542685.1	1.913	5.000	5.261	105	70-130	
E13C8-PFOS	330787.6	13C4-PFOS	316191.9	1.046	4.780	4.678	98	70-130	
E13C9-PFNA	699619.2	13C4-PFOS	316191.9	2.213	5.000	5.034	101	70-130	
E13C6-PFDA	887422.7	13C2-PFDA	494658.7	1.794	5.000	5.110	102	70-130	
E13C2-8:2-FTS	45693.1	13C2-PFDA	494658.7	0.092	4.790	4.761	99	70-130	
E13C8-PFOSA	593211.5	13C2-PFDA	494658.7	1.199	5.000	4.670	93	70-130	
Ed3-NMeFOSAA	203569.7	13C2-PFDA	494658.7	0.412	5.000	4.528	91	70-130	
E13C7-PFUnDA	589619.4	13C2-PFDA	494658.7	1.192	5.000	4.989	100	70-130	
Ed5-NEtFOSAA	181825.6	13C2-PFDA	494658.7	0.368	5.000	5.415	108	70-130	
E13C2-PFDoDA	1209881.5	13C2-PFDA	494658.7	2.446	5.000	5.146	103	70-130	
Ed7-NMePFOSAE	251101.2	13C2-PFDA	494658.7	0.508	5.000	4.536	91	70-130	
Ed3-NMePFOSA	79469.7	13C2-PFDA	494658.7	0.161	5.000	4.414	88	70-130	
Ed9-NEtPFOSAE	222205.9	13C2-PFDA	494658.7	0.449	5.000	4.593	92	70-130	
Ed5-NEtPFOSA	68092.7	13C2-PFDA	494658.7	0.138	5.000	4.775	95	70-130	
E13C2-PFTeDA	922819.9	13C2-PFDA	494658.7	1.866	5.000	5.257	105	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

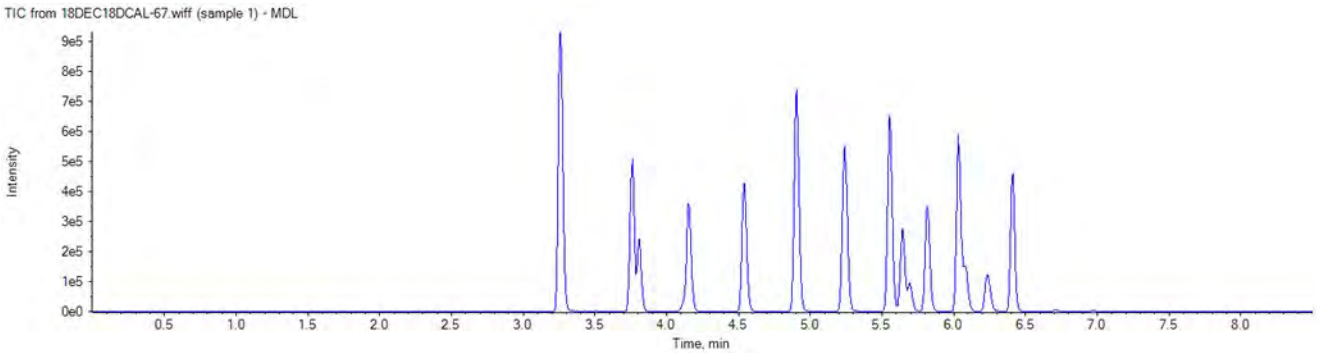
Analyte Quantitation Peak Table

Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-67.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	35692.7		A	13C4-PFBA	3.26	1088801.6	0.033	0.174
PFPeA	3.76	1.000	26762.8		A	13C5-PFPeA	3.76	1028850.2	0.026	0.134
PFBS	3.81	1.000	10927.5		A	13C3-PFBS	3.81	462763.7	0.024	0.117
4:2-FTS	4.12	1.000	2760.1		A	13C2-4:2-FTS	4.12	63790.3	0.043	0.114
PFHxA	4.15	1.000	24366.5		A	13C5-PFHxA	4.15	759068.5	0.032	0.132
PFPeS	4.17	1.090	4603.3		A	13C3-PFBS	3.81	462763.7	0.010	0.101
PFHpA	4.54	1.000	28052.4		A	13C4-PFHpA	4.54	599028.3	0.047	0.155
PFHxS	4.54	1.000	9137.7		A	13C3-PFHxS	4.54	353739.7	0.026	0.126
6:2-FTS	4.89	1.000	3271.1		A	13C2-6:2-FTS	4.89	52379.9	0.062	0.155
PFHpS	4.90	1.080	8306.5		A	13C3-PFHxS	4.54	353739.7	0.023	0.124
PFOA	4.90	1.000	29367.5		A	13C8-PFOA	4.91	1038332.8	0.028	0.150
PFOS	5.23	1.000	7700.8		A	13C8-PFOS	5.23	330787.6	0.023	0.102
PFNA	5.25	1.000	25516.5		A	13C9-PFNA	5.25	699619.2	0.036	0.145
PFNS	5.53	1.060	4755.2		A	13C8-PFOS	5.23	330787.6	0.014	0.091
PFDA	5.55	1.000	20958.7		A	13C6-PFDA	5.55	887422.7	0.024	0.122
8:2-FTS	5.55	1.000	2279.7		A	13C2-8:2-FTS	5.56	45693.1	0.050	0.100
PFOSA	5.64	1.000	14607.5		A	13C8-PFOSA	5.64	593211.5	0.025	0.123
NMeFOSAA	5.70	1.000	5302.8		A	d3-NMeFOSAA	5.69	203569.7	0.026	0.162
PFDS	5.79	1.110	5575.3		A	13C8-PFOS	5.23	330787.6	0.017	0.138
PFUnDA	5.82	1.000	23975.0		A	13C7-PFUnDA	5.82	589619.4	0.041	0.135
NEtFOSAA	5.83	1.000	3750.4		A	d5-NEtFOSAA	5.82	181825.6	0.021	0.105
PFDoDA	6.03	1.000	33130.1		A	13C2-PFDoDA	6.03	1209881.5	0.027	0.138
10:2-FTS	6.05	1.090	2591.9		A	13C2-8:2-FTS	5.56	45693.1	0.057	0.116
NMePFOSAE	6.09	1.000	7863.6		A	d7-NMePFOSAE	6.08	251101.2	0.031	0.138
NMePFOSA	6.10	1.000	1847.4		A	d3-NMePFOSA	6.10	79469.7	0.023	0.117
PFDoS	6.20	1.190	2143.2		A	13C8-PFOS	5.23	330787.6	0.006	0.098
NEtPFOSAE	6.24	1.000	5789.7		A	d9-NEtPFOSAE	6.23	222205.9	0.026	0.085
NEtPFOSA	6.26	1.000	1597.4		A	d5-NEtPFOSA	6.26	68092.7	0.023	0.110
PFTrDA	6.23	1.030	31273.8		A	13C2-PFDoDA	6.03	1209881.5	0.026	0.133
PFTeDA	6.41	1.000	22403.0		A	13C2-PFTeDA	6.41	922819.9	0.024	0.131
PFHxDA	6.71	1.050	11075.7		A	13C2-PFTeDA	6.41	922819.9	0.012	0.132
PFODA	6.97	1.090	6612.2		A	13C2-PFTeDA	6.41	922819.9	0.007	0.103

Total Ion Chromatogram

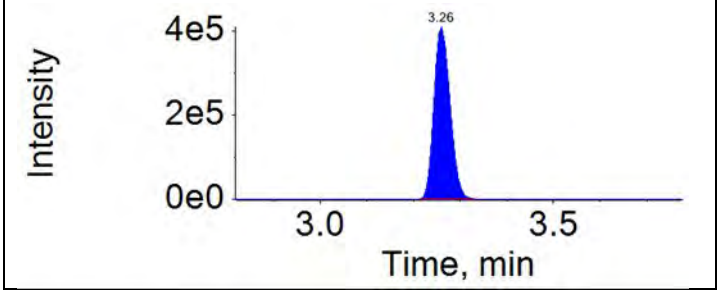


APPROVED
By MSM at 11:49 am, 12/19/18

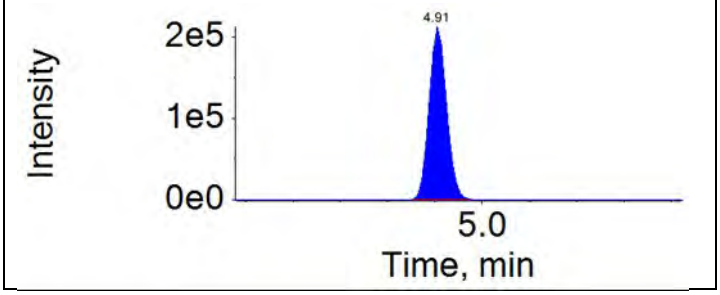
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

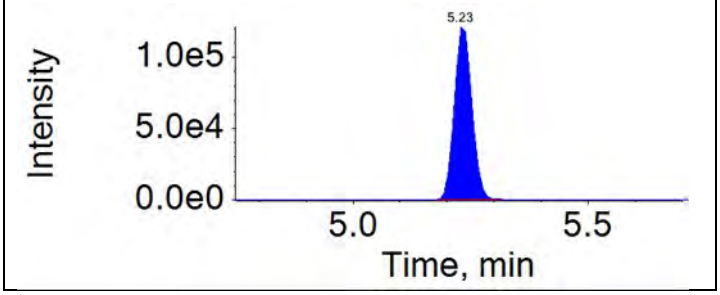
Injection Standard: 13C3-PFBA
216.0 / 172.0



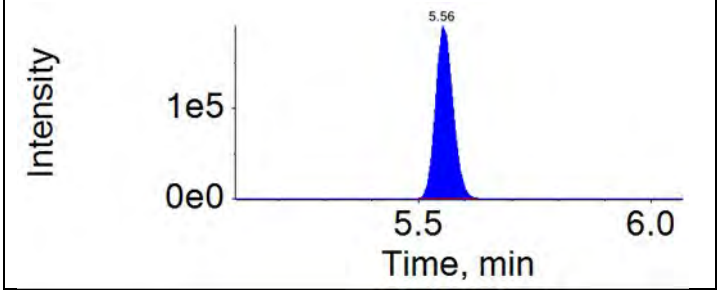
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



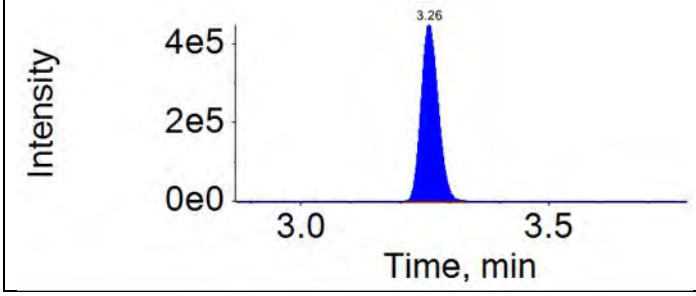
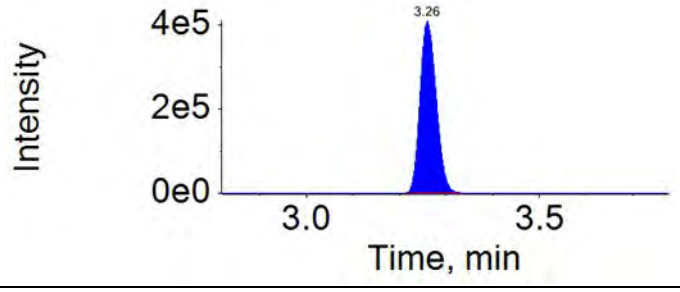
Injection Standard: 13C2-PFDA
515.0 / 470.0

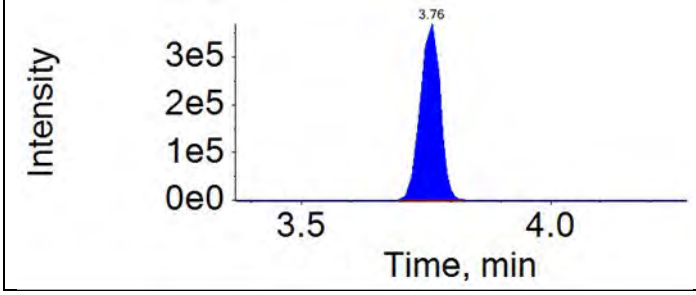
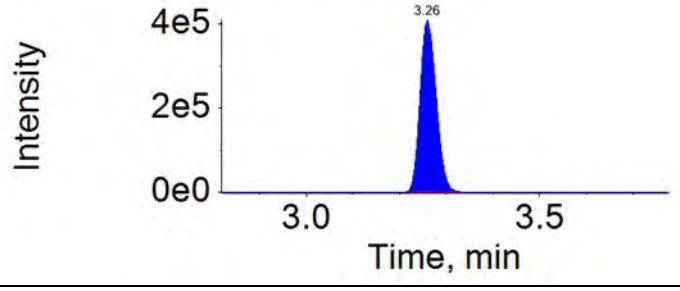


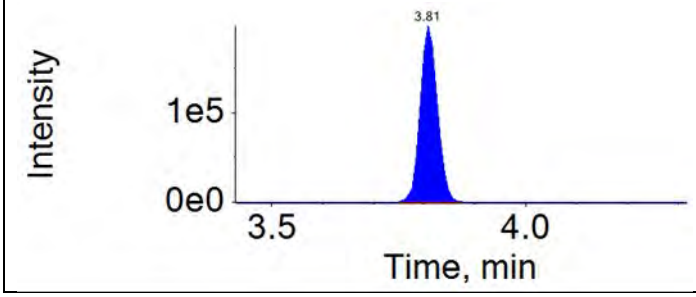
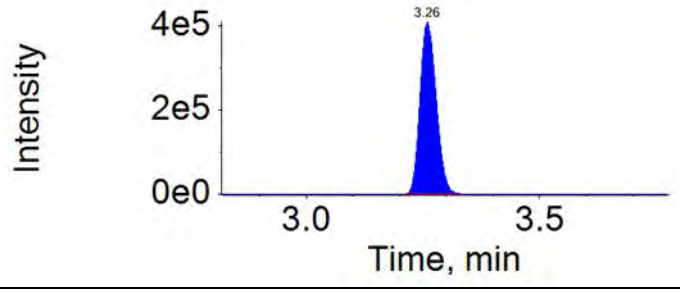
APPROVED
By MSM at 11:49 am, 12/19/18

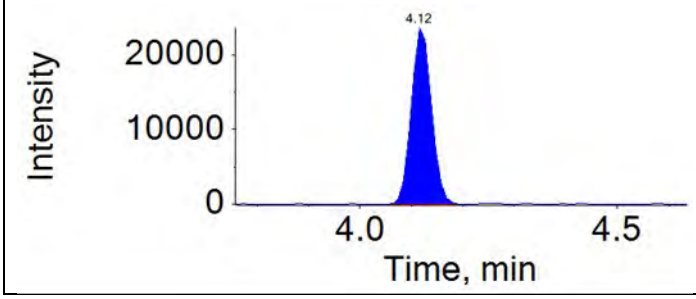
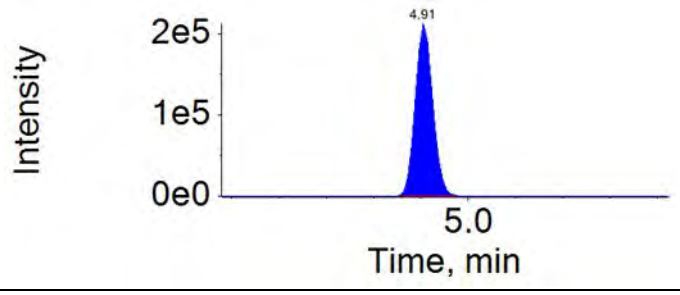
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

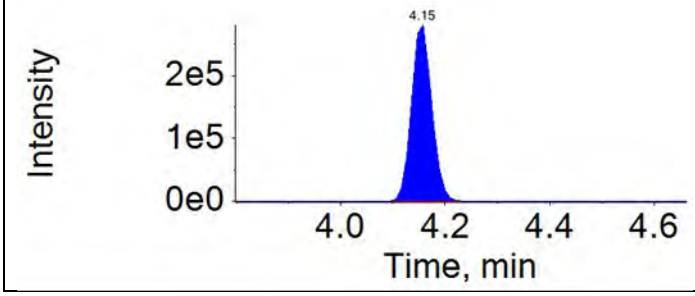
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

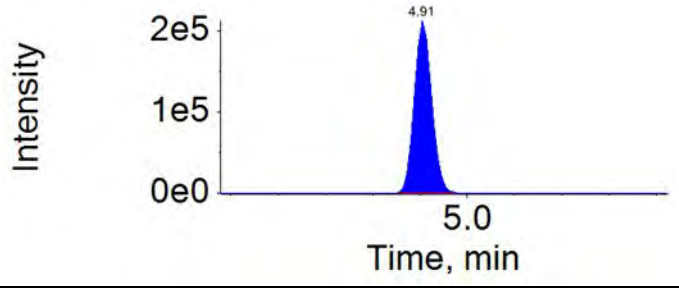
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

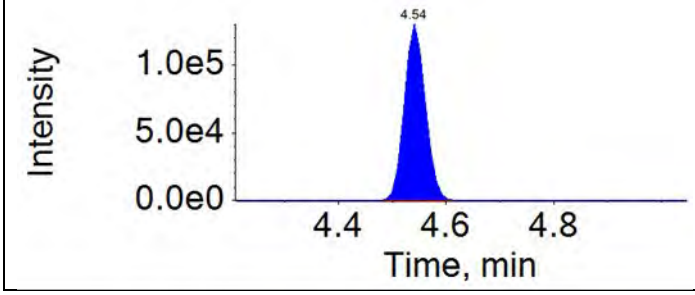
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

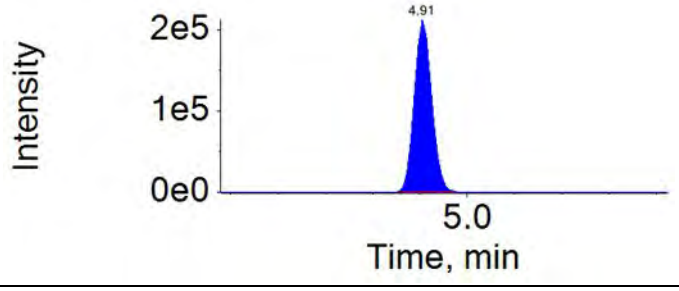
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



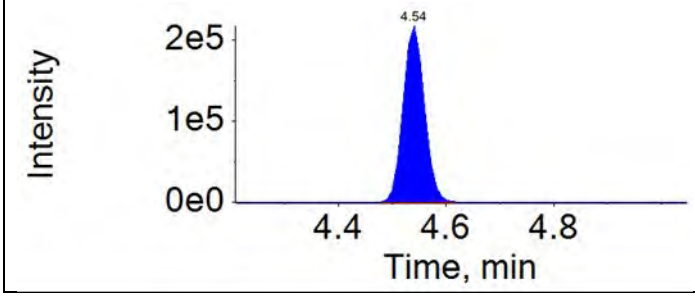


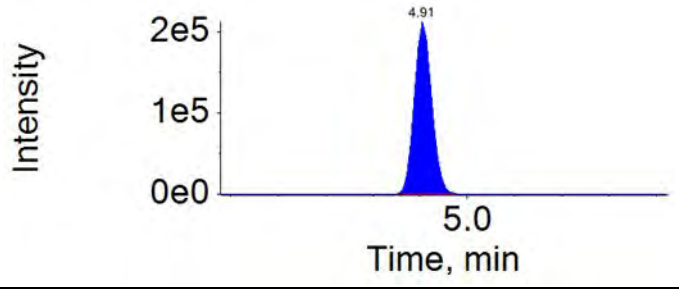
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



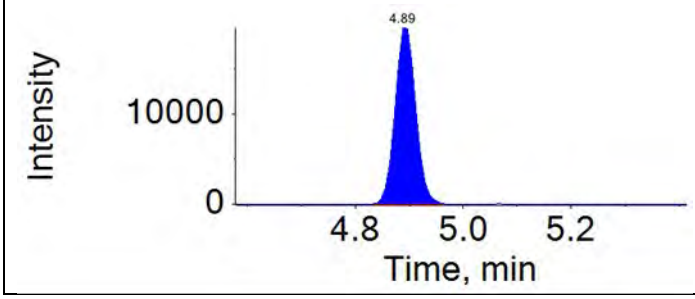


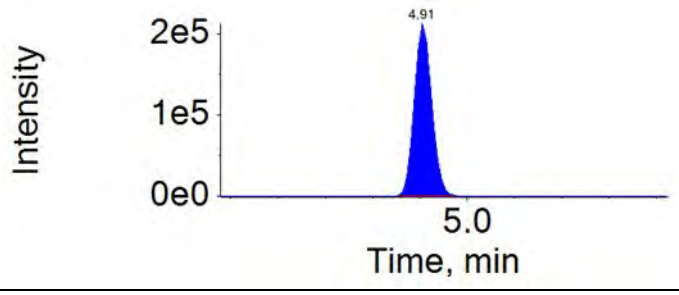
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



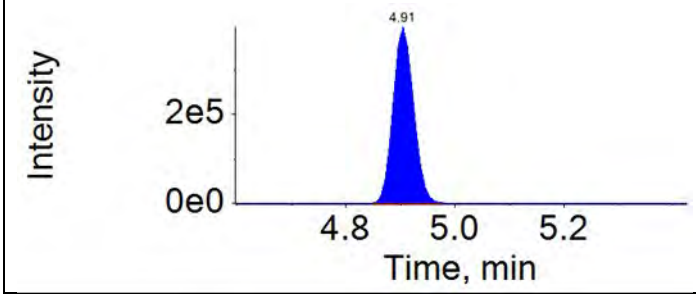


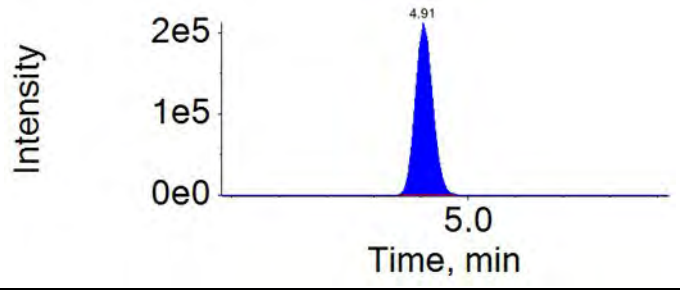
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

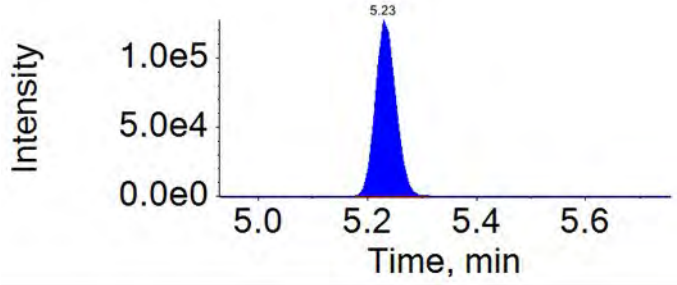
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

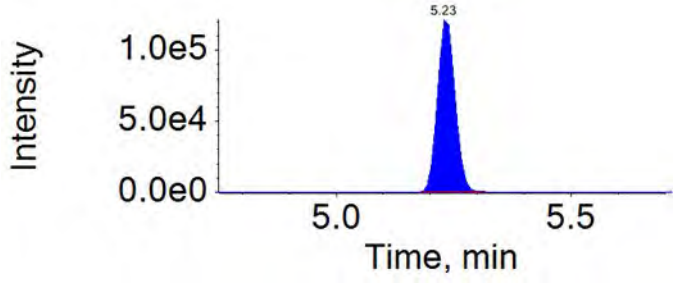
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



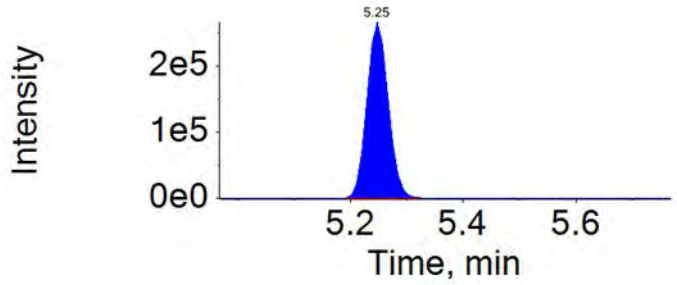


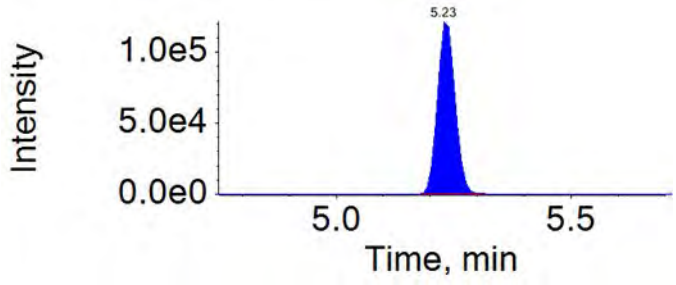
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



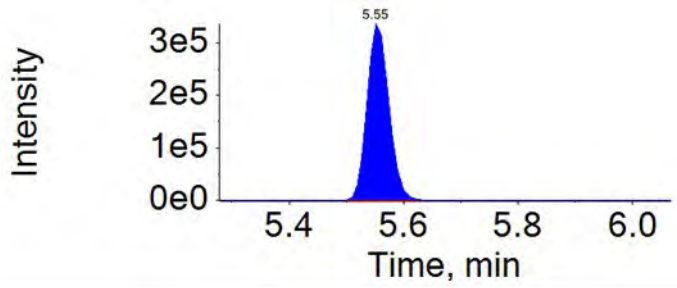


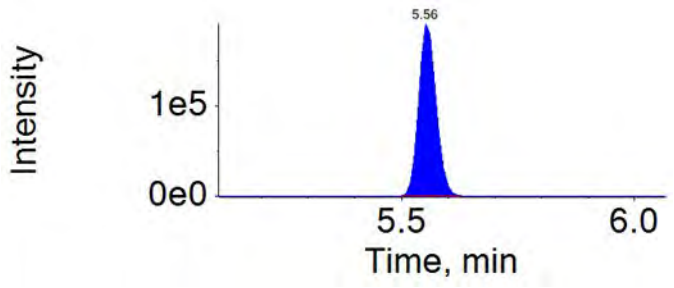
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





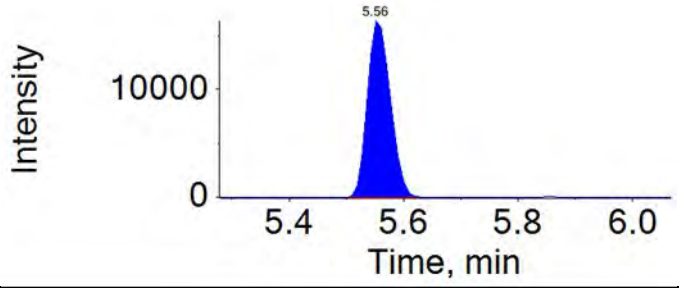
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

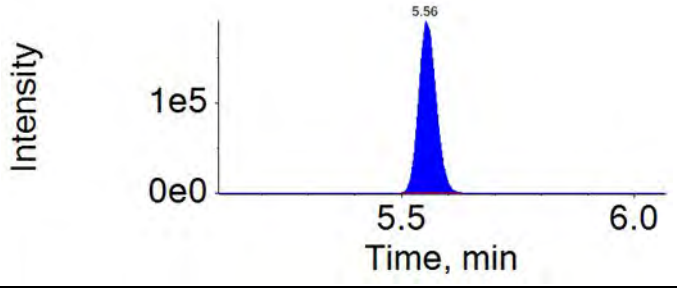




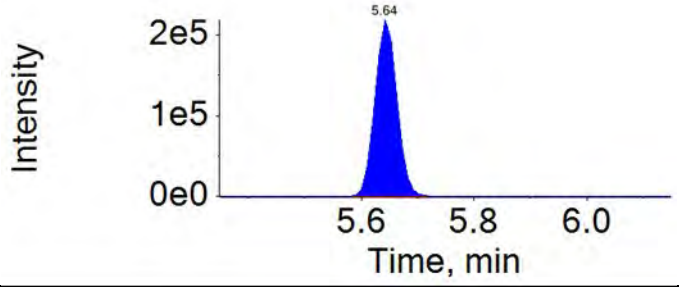
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

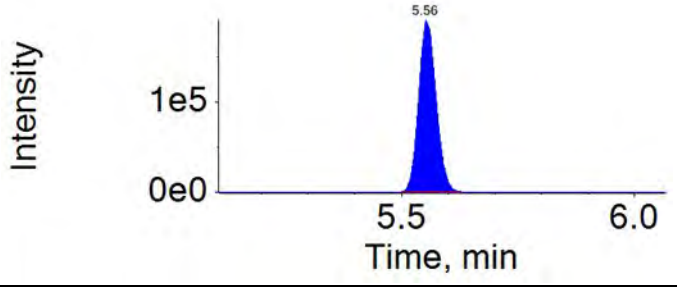
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



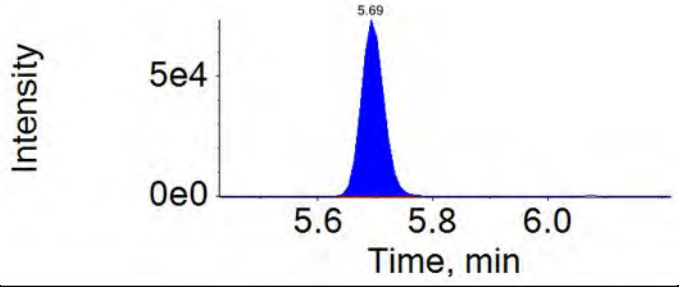


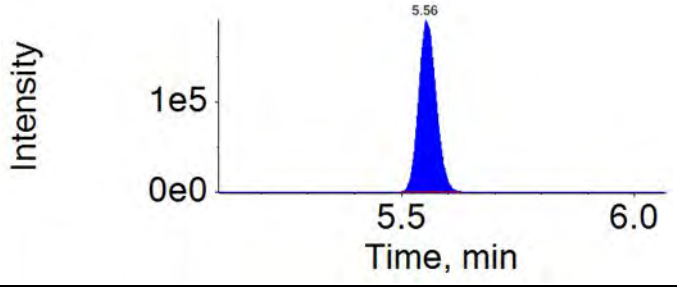
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



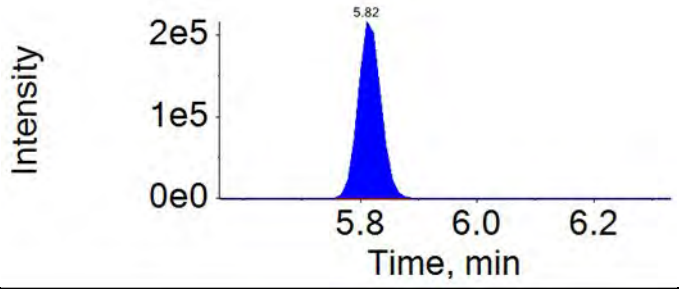


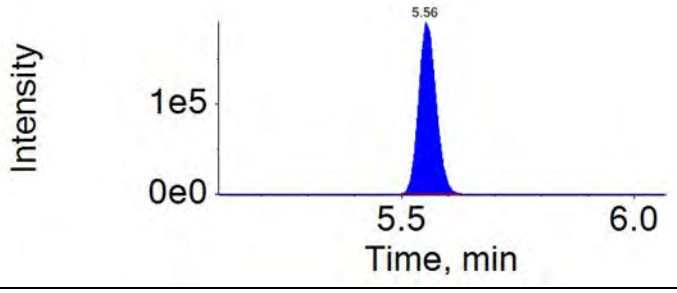
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



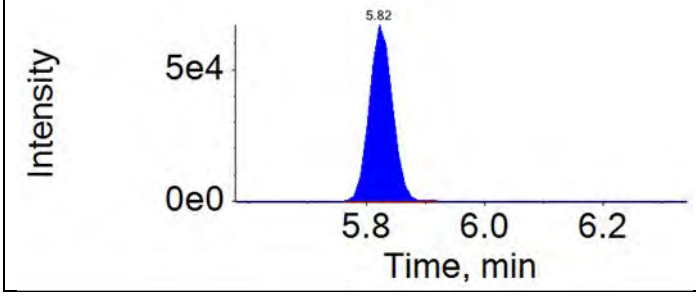


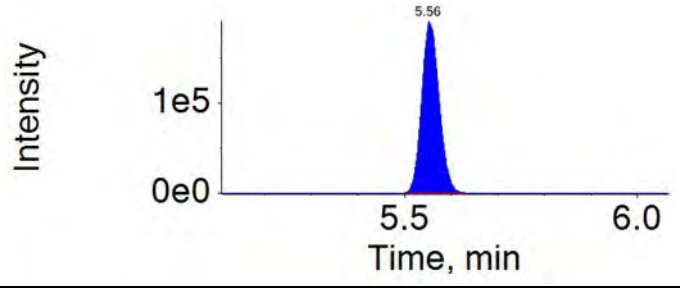
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

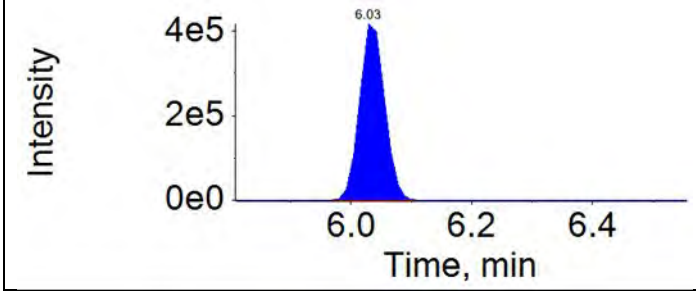
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

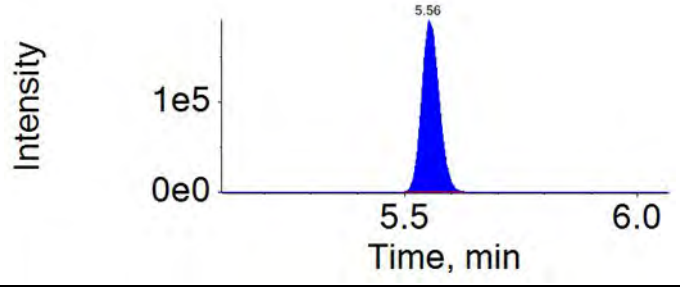
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



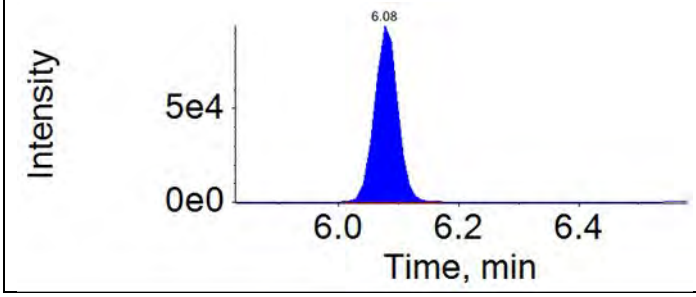


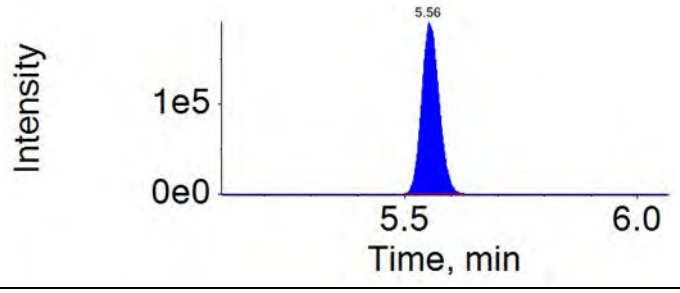
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



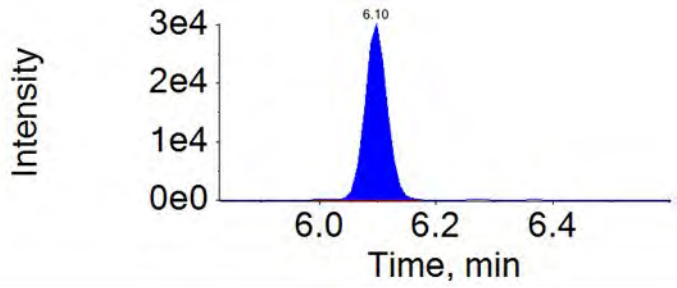


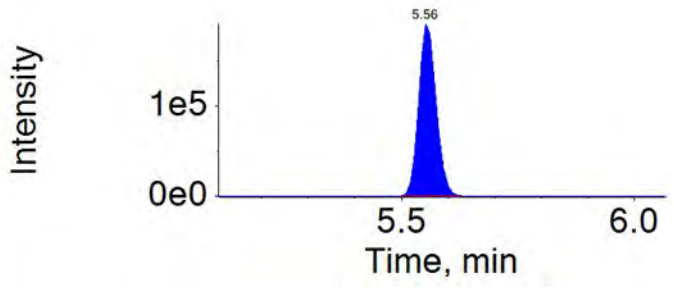
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



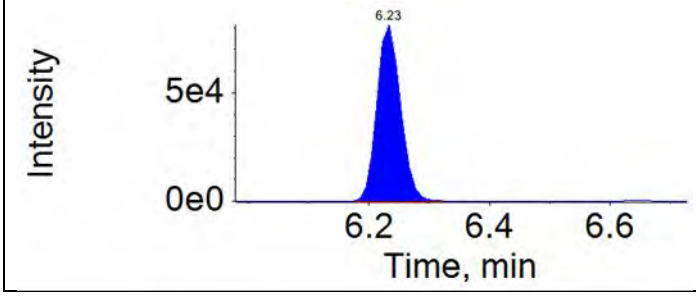


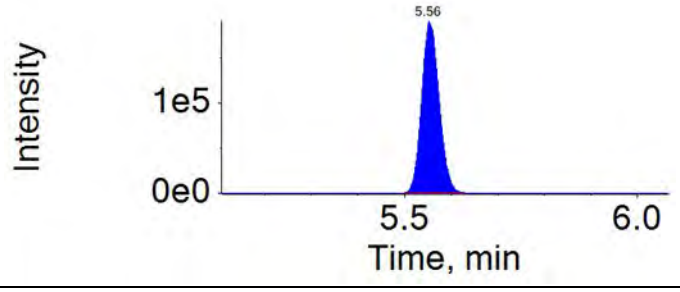
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

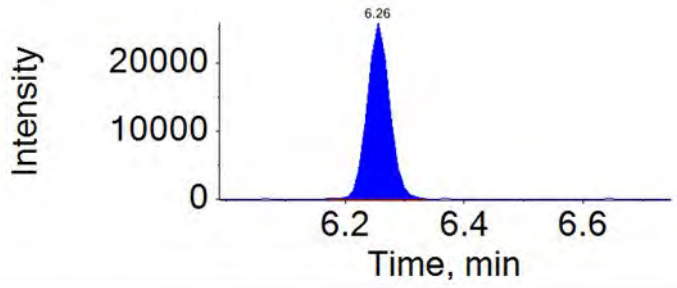
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

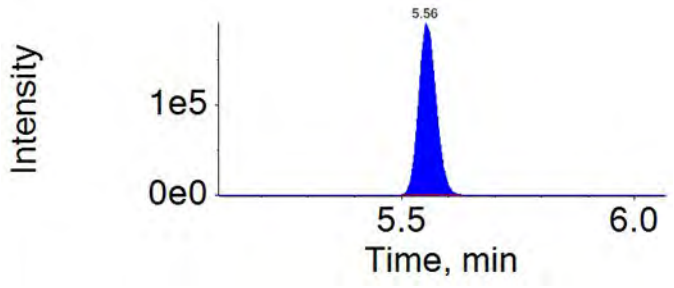
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



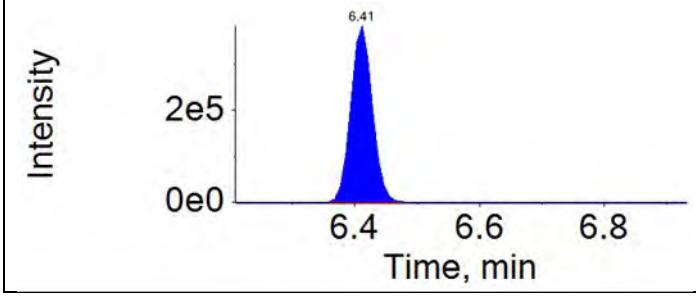


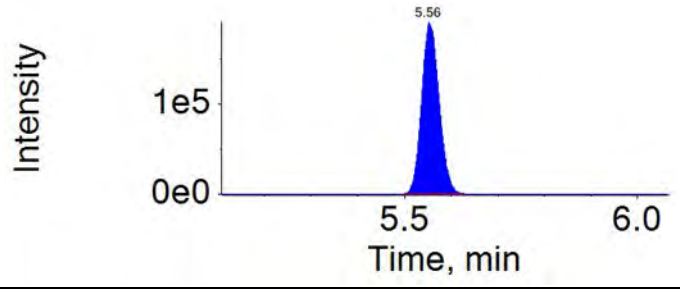
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



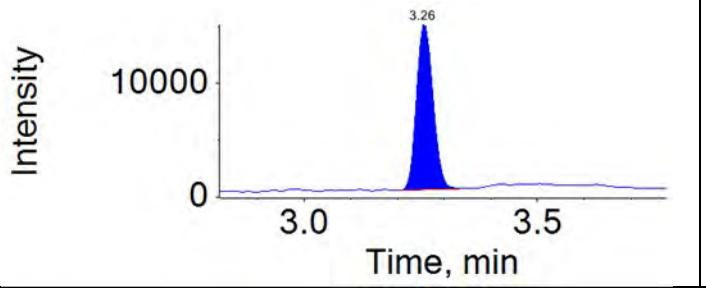


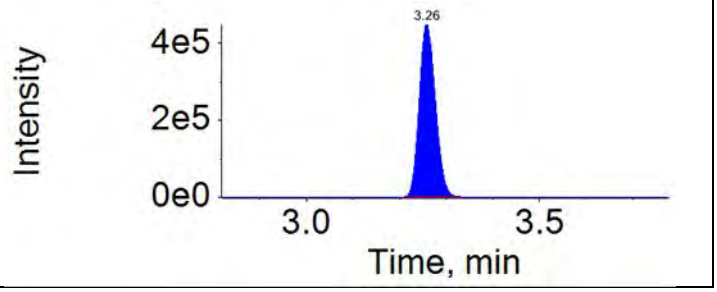
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

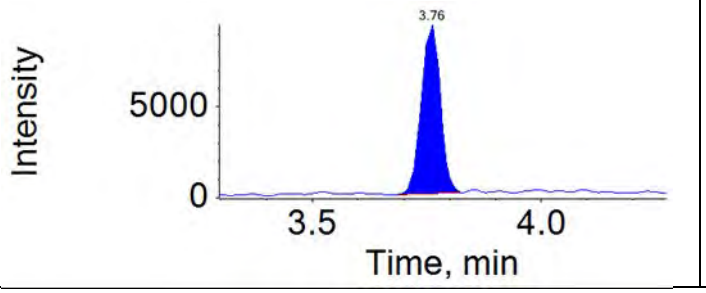
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

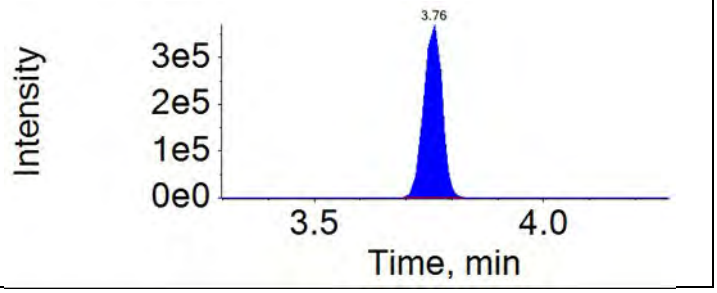
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



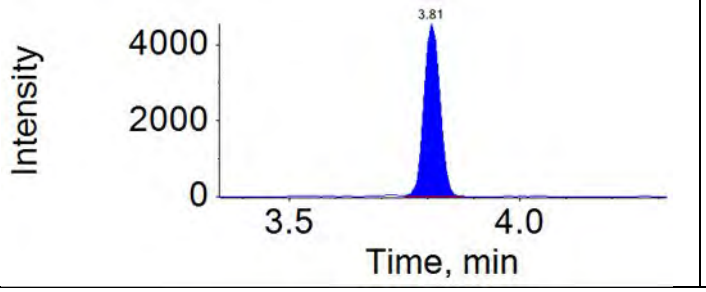


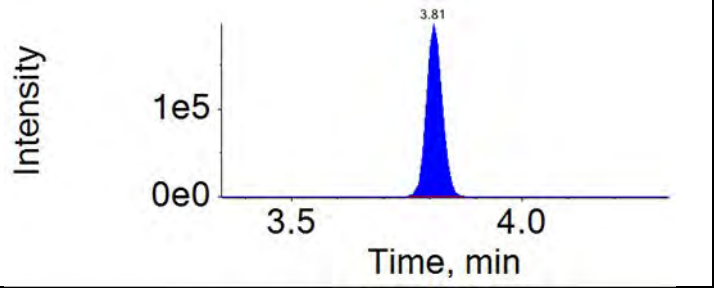
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



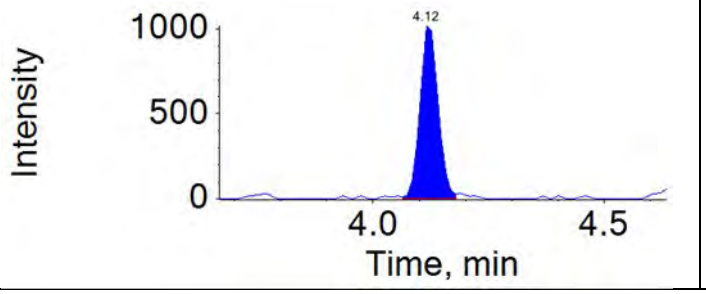


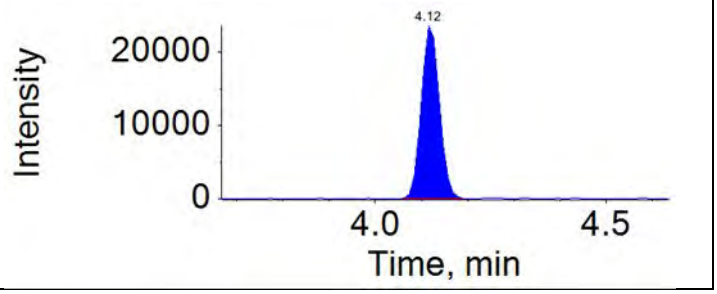
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



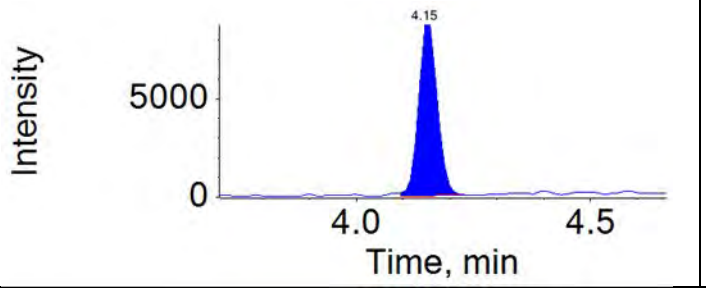


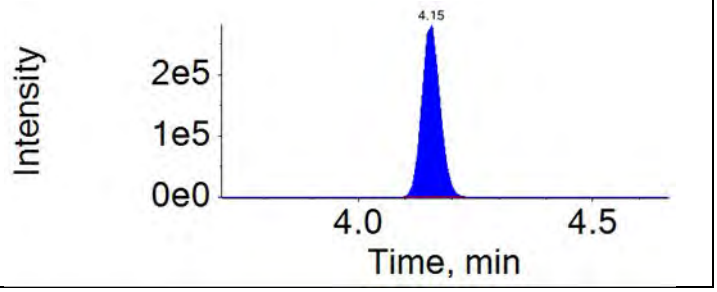
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

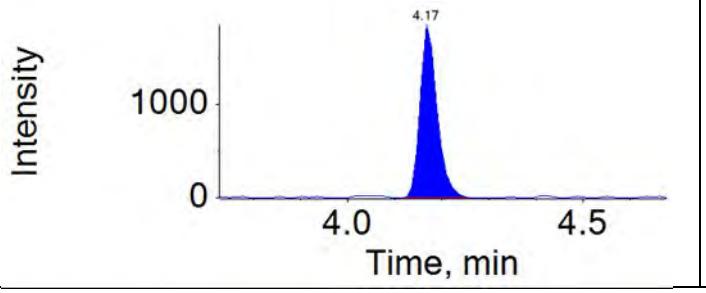
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

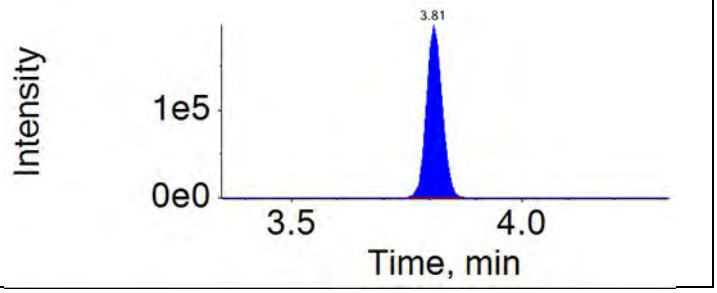
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



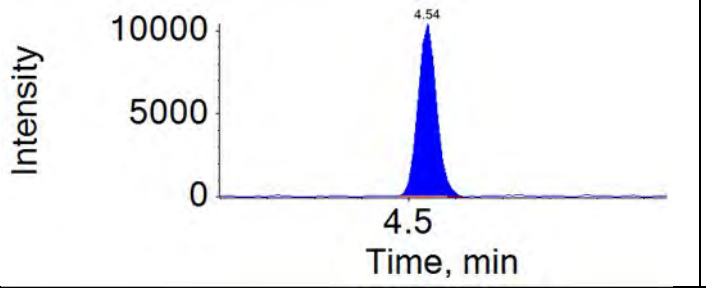


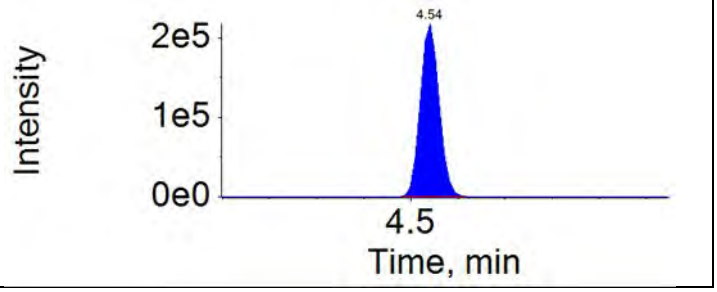
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



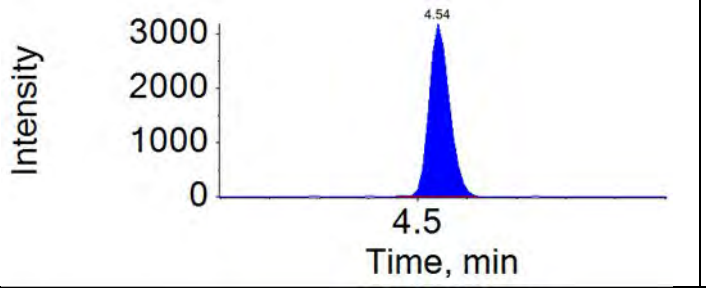


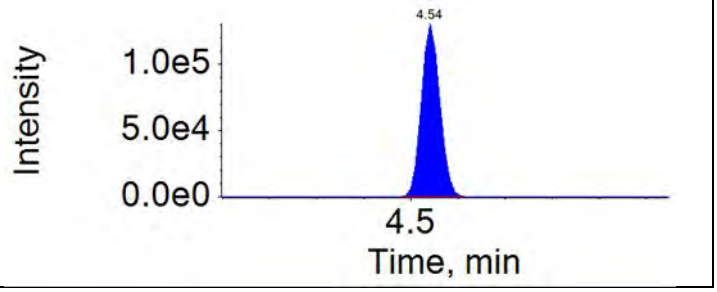
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

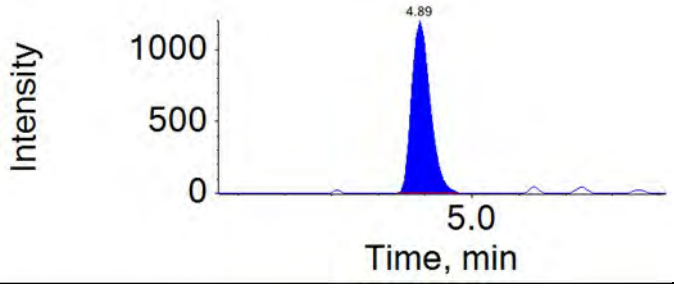
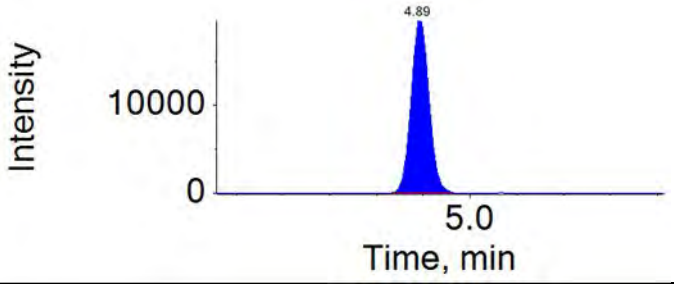


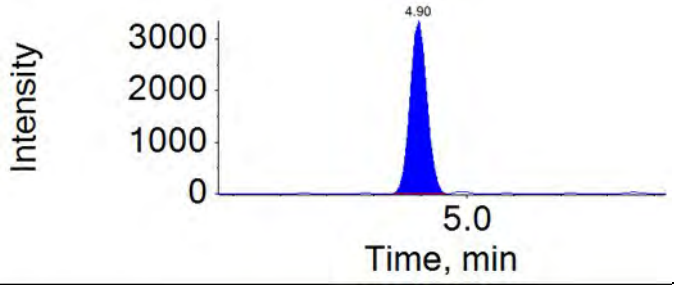
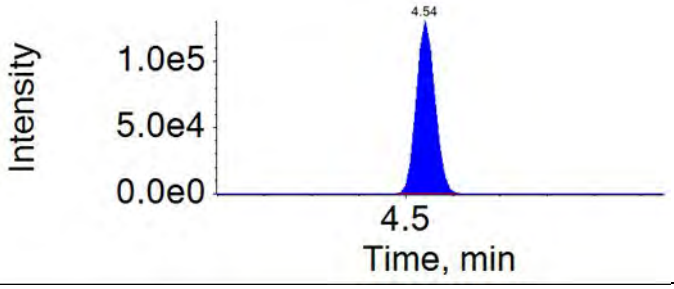


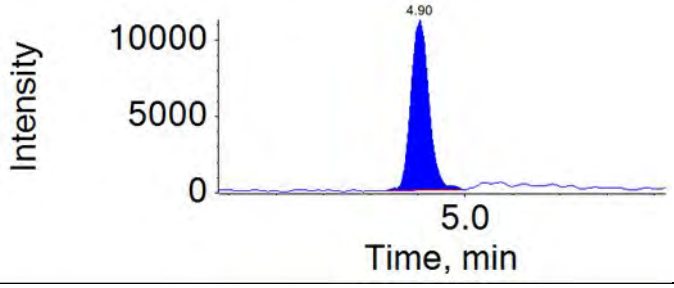
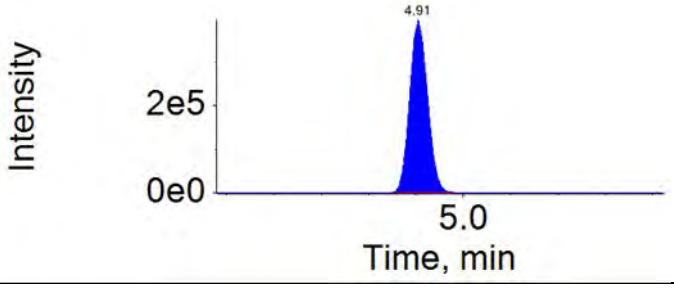
APPROVED
By MSM at 11:49 am, 12/19/18

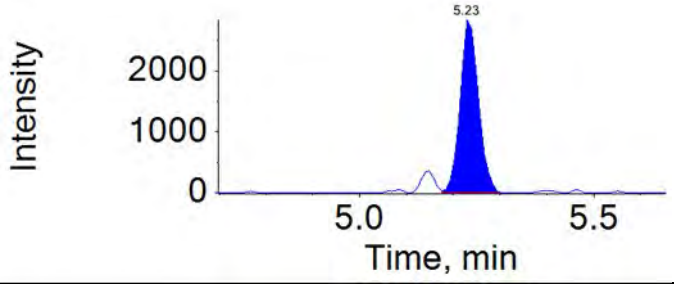
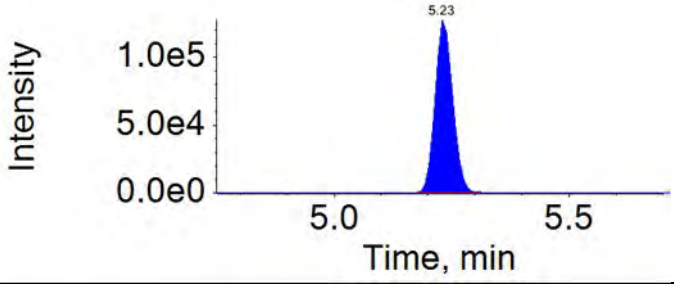
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

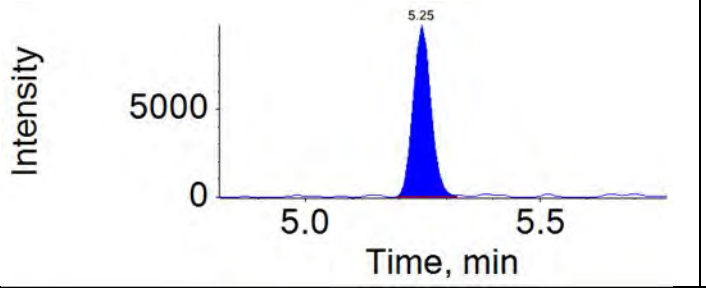
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

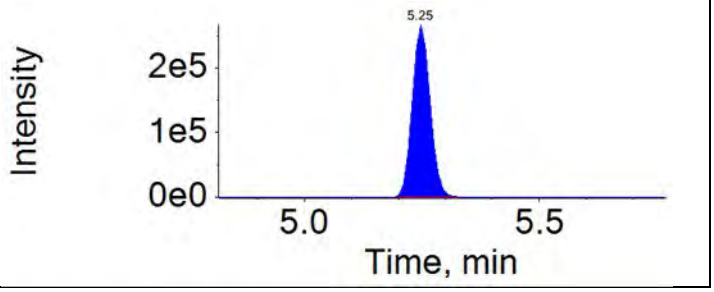
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

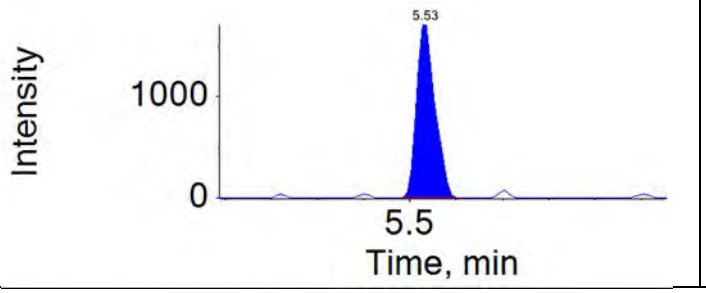
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

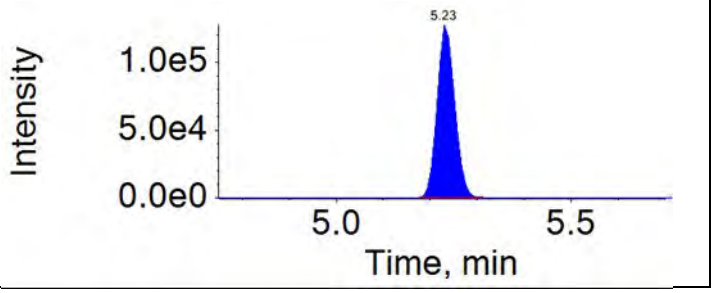
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



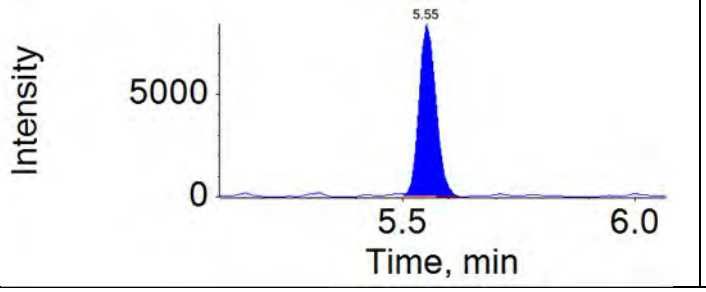


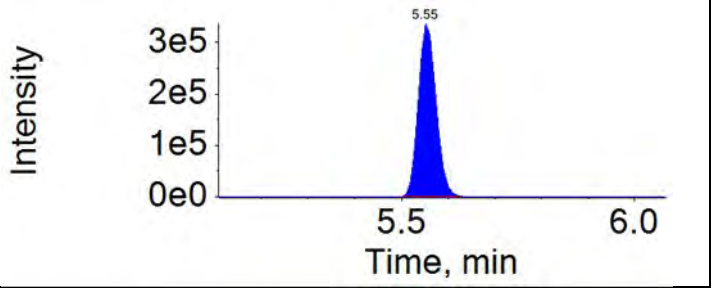
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



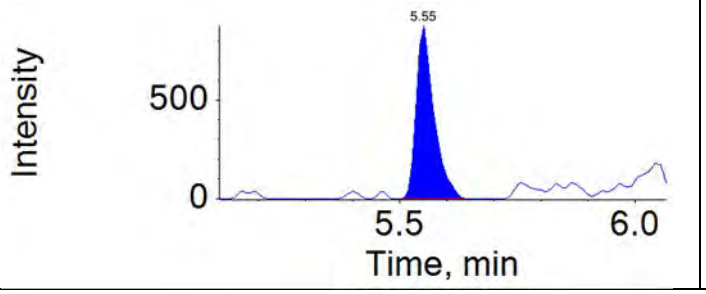


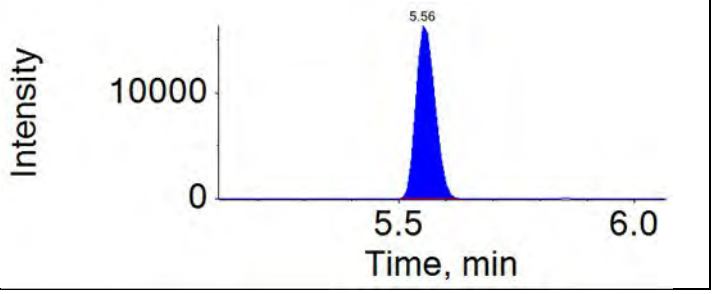
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



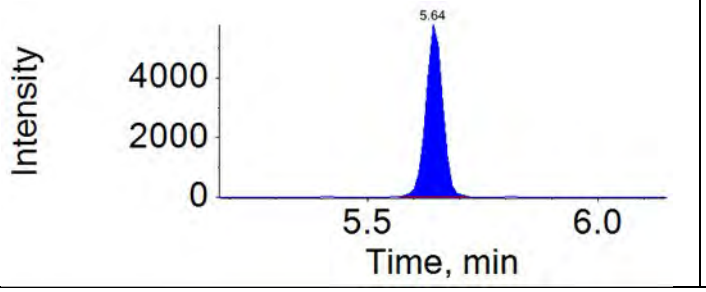


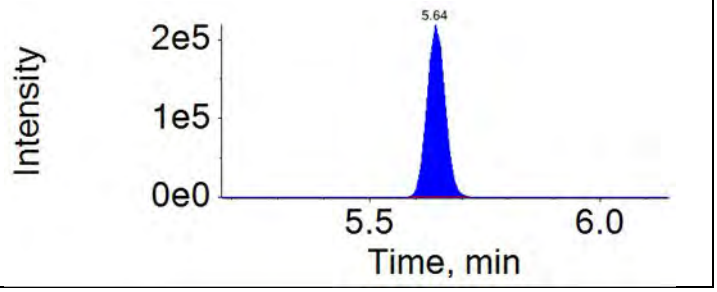
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

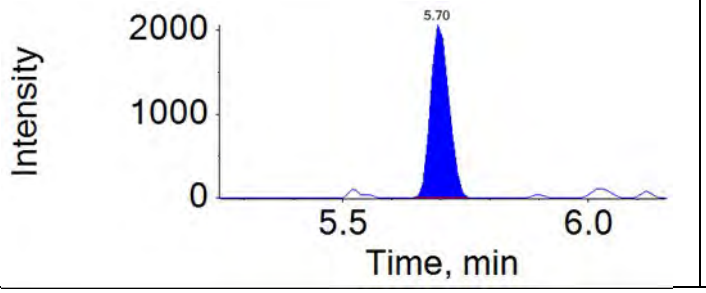
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

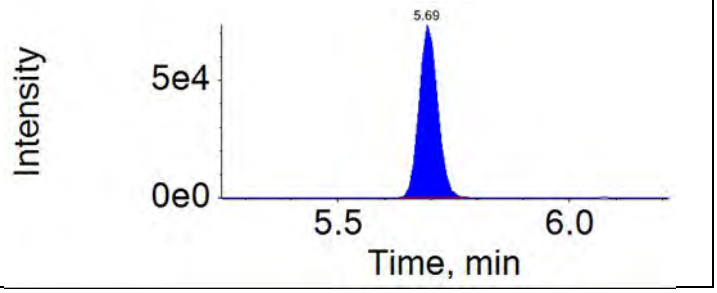
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



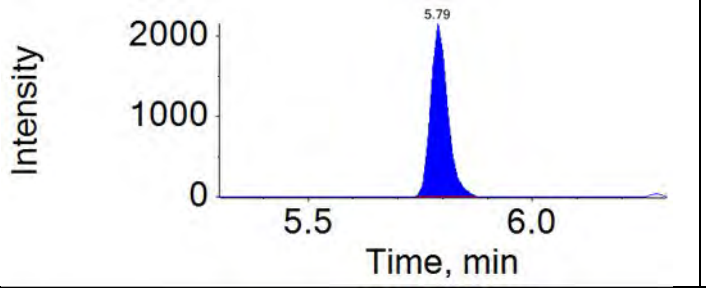


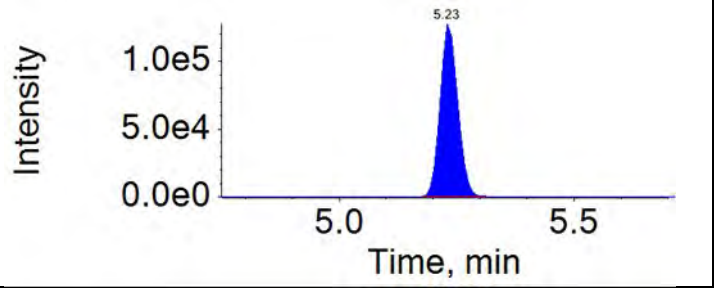
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



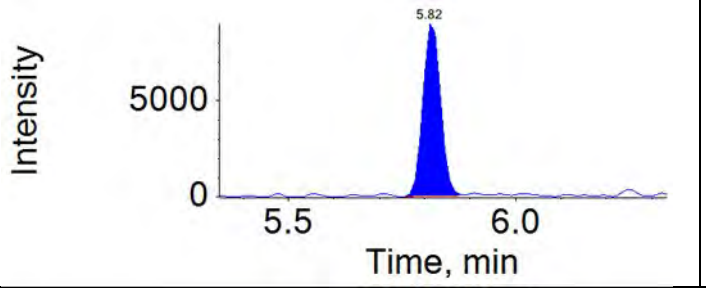


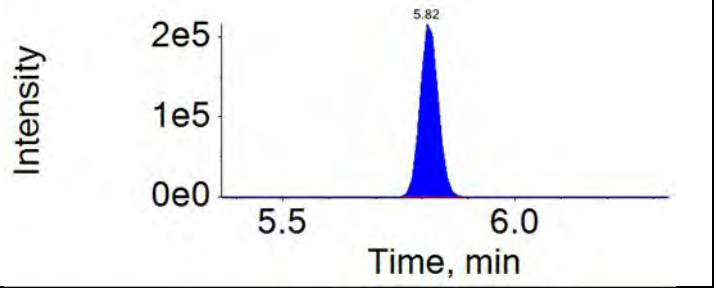
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



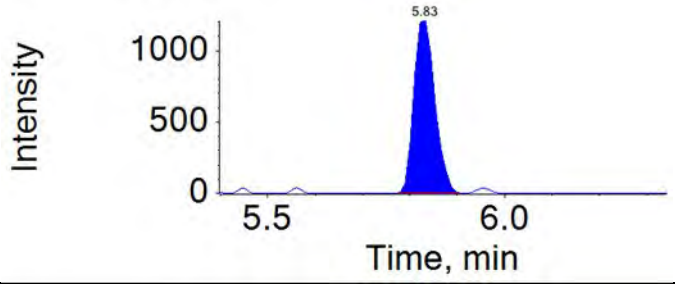


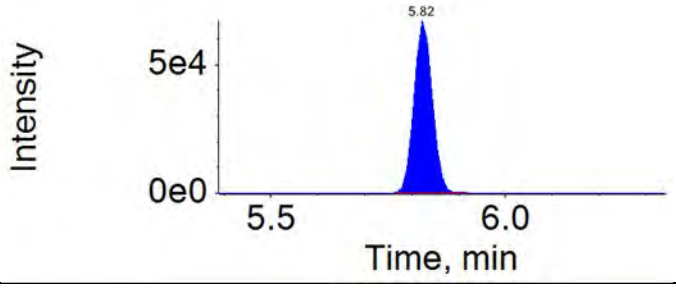
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

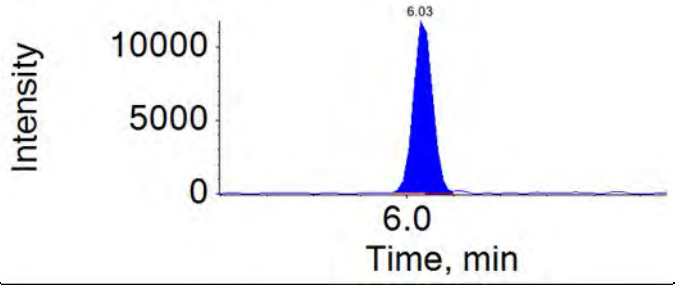
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

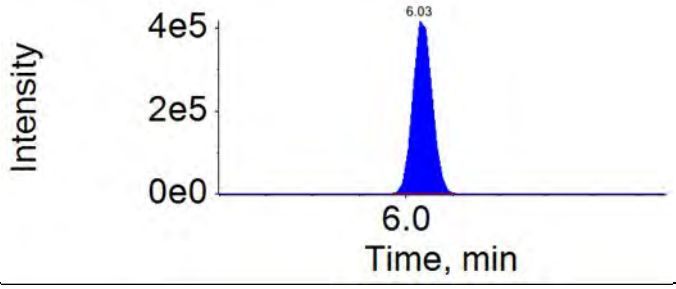
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



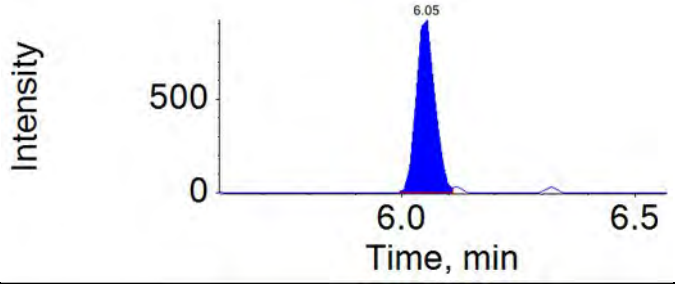


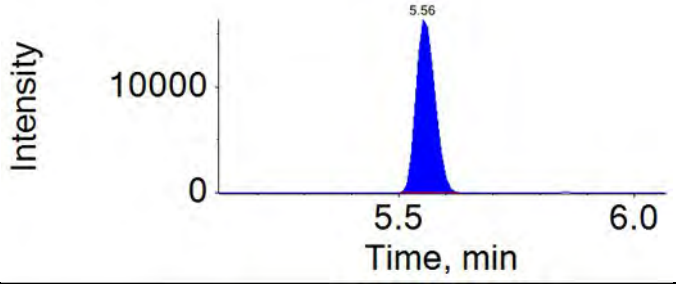
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



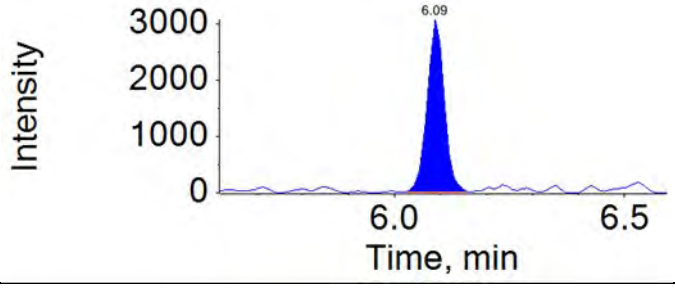


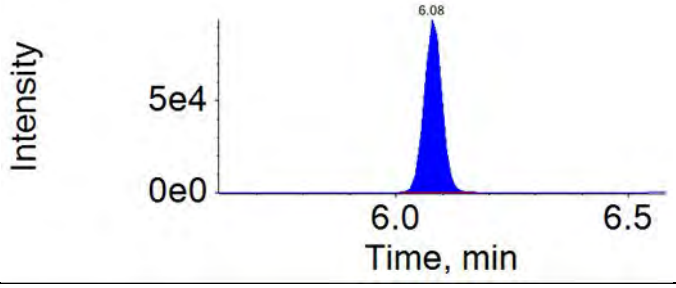
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



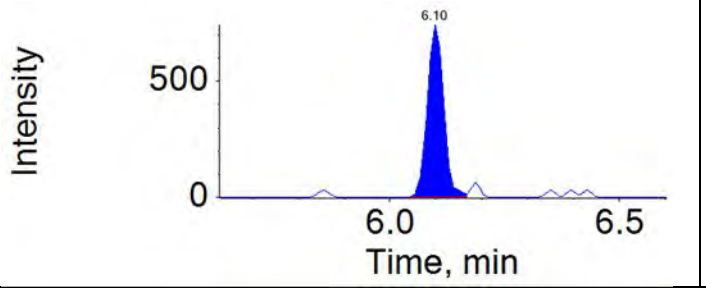


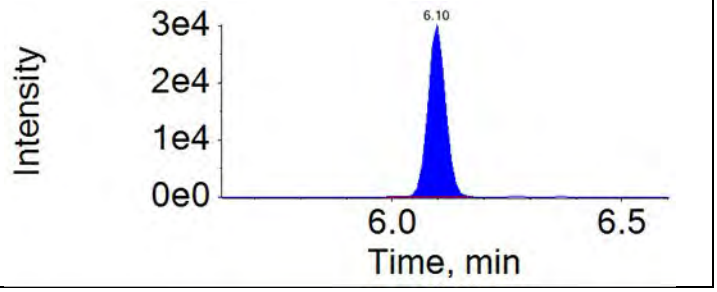
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

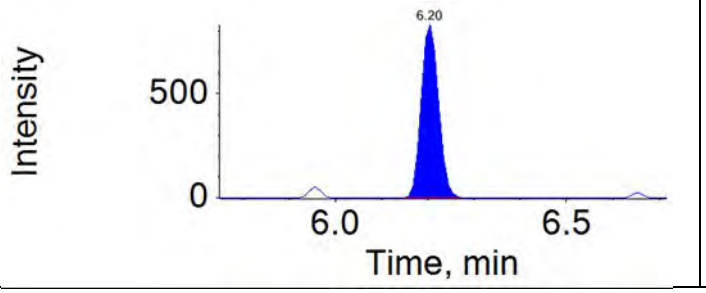
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

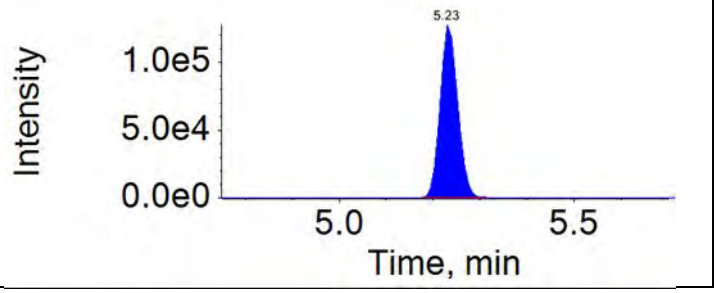
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



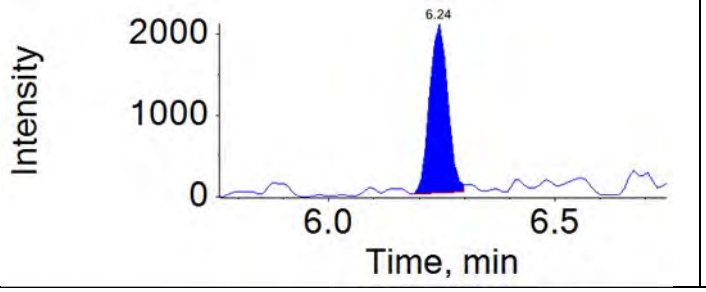


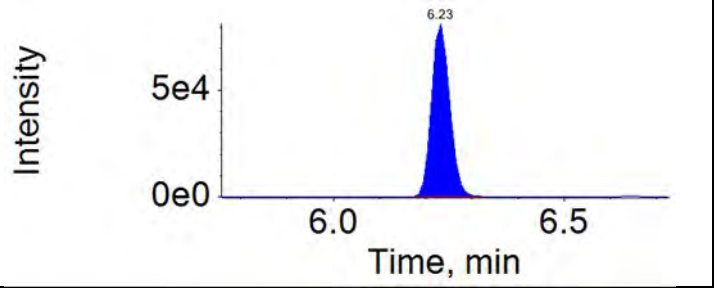
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



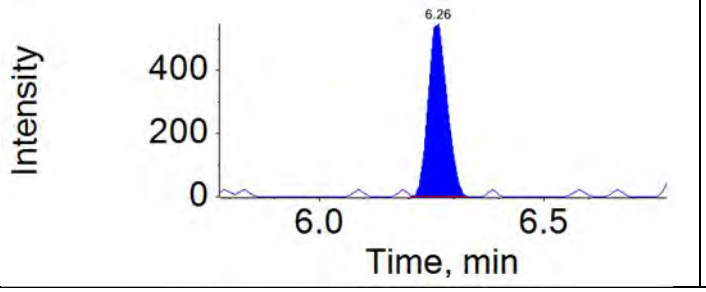


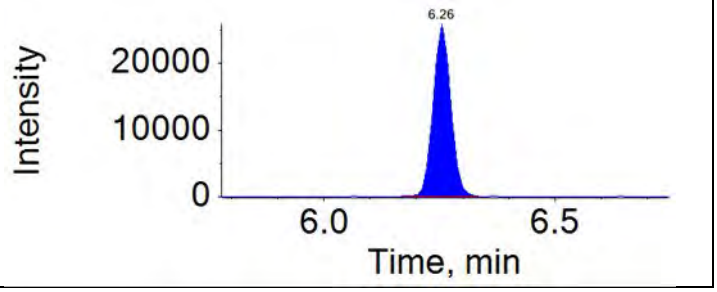
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

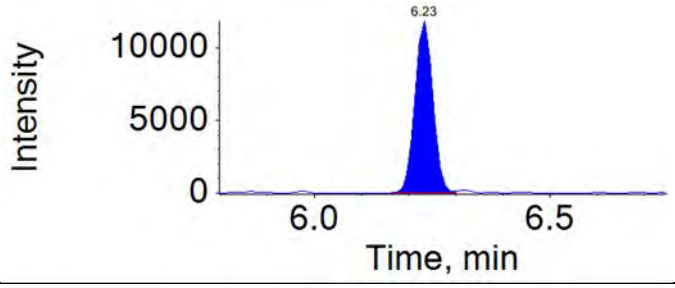
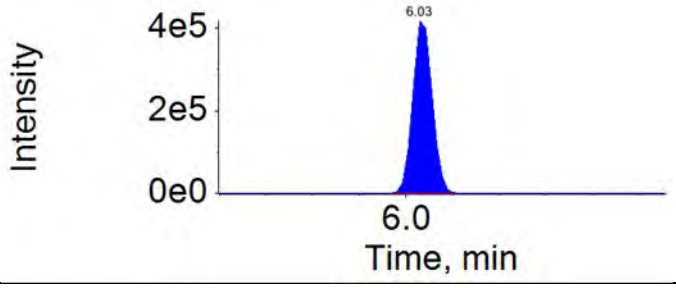


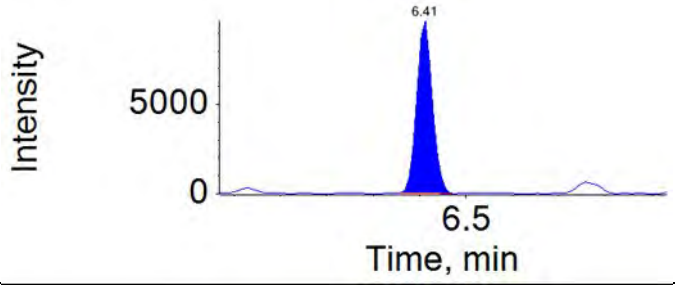
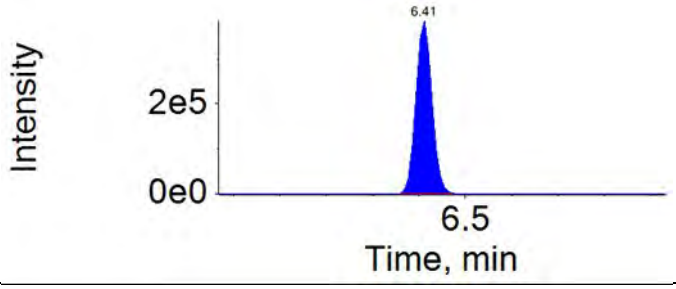


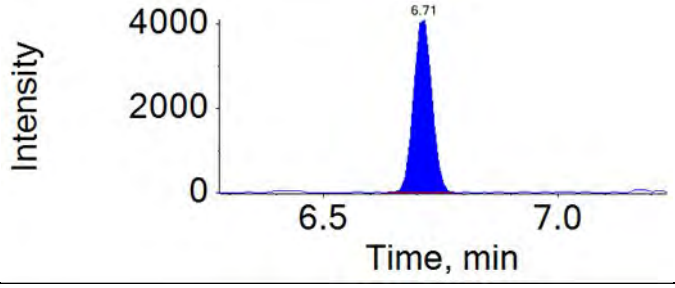
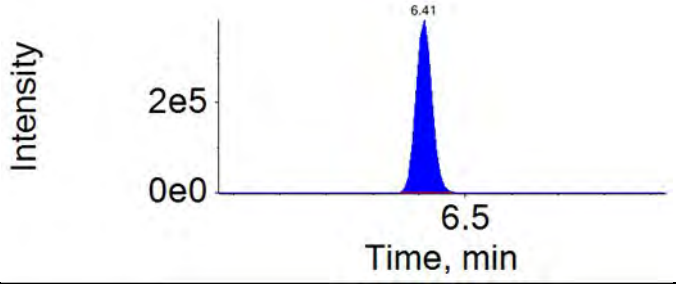
APPROVED
By MSM at 11:49 am, 12/19/18

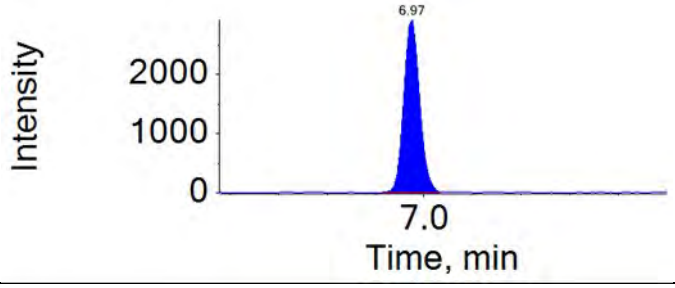
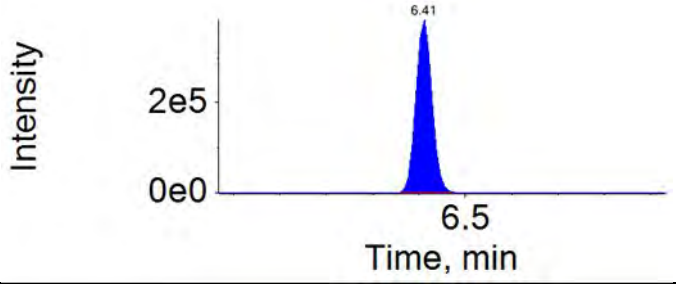
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

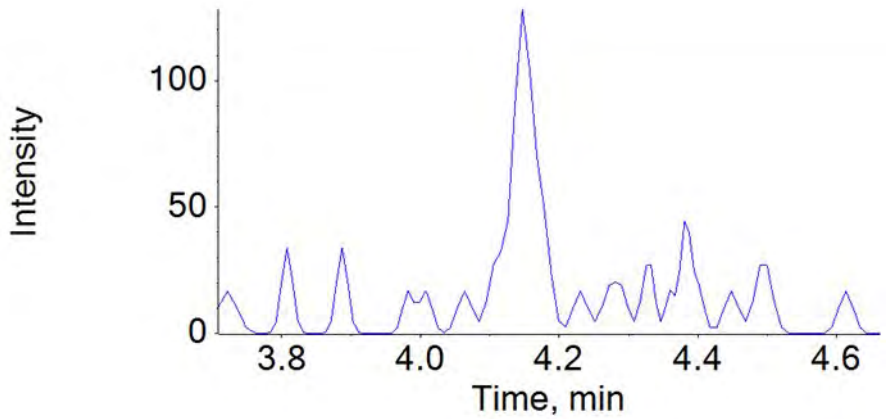
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 11:49 am, 12/19/18

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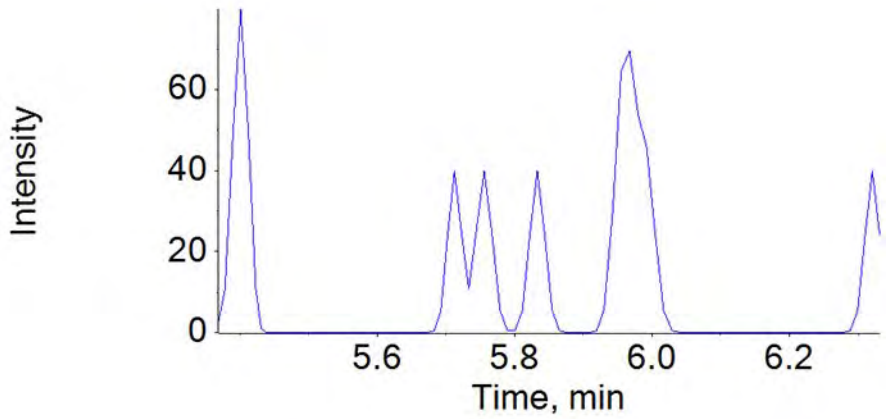
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18DEC18DCAL-67.wiff
Sample Name:
MDL



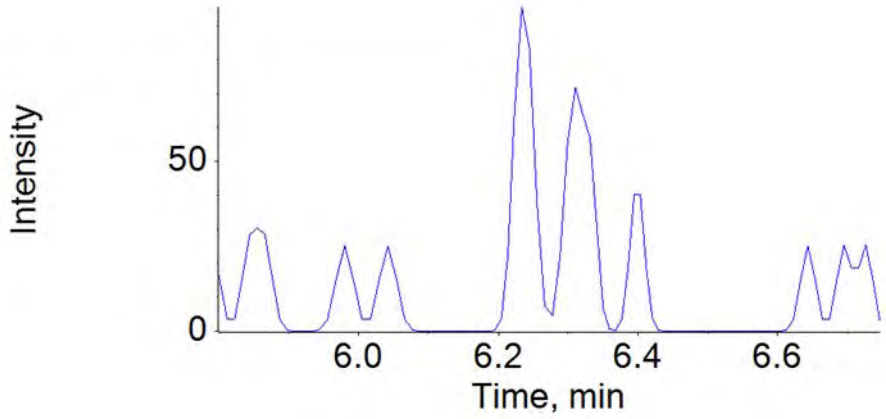
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC18DCAL-67.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
663.0 / 169.0
File Name:
18DEC18DCAL-67.wiff
Sample Name:
MDL



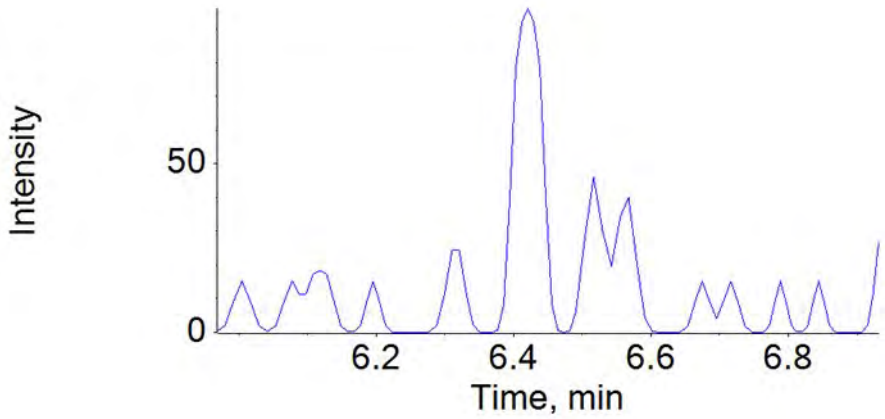
Integration Comment: incorrect integration

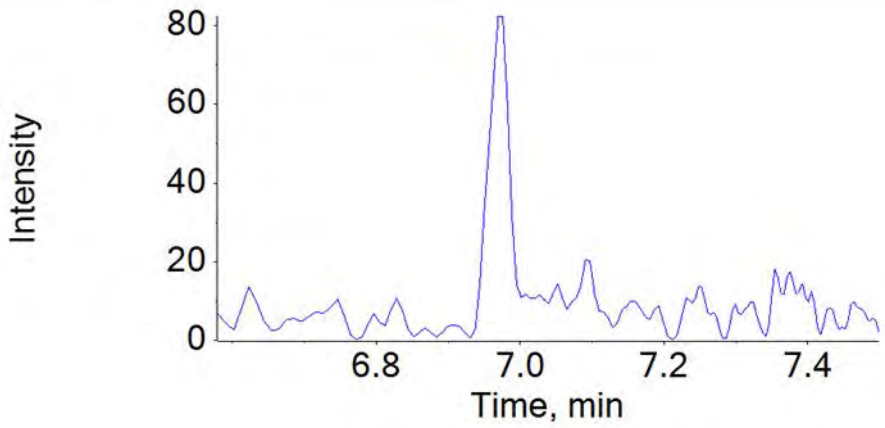
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By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFTeDA_2 **RT (min.):** N/A **Peak Area:** N/A **Mass Range:** 713.0 / 169.0 **File Name:** 18DEC18DCAL-67.wiff **Sample Name:** MDL	 **Integration Comment:** incorrect integration

Component Name: PFODA_2 **RT (min.):** N/A **Peak Area:** N/A **Mass Range:** 913.0 / 169.0 **File Name:** 18DEC18DCAL-67.wiff **Sample Name:** MDL	 **Integration Comment:** incorrect integration

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By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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Ion Ratio Report

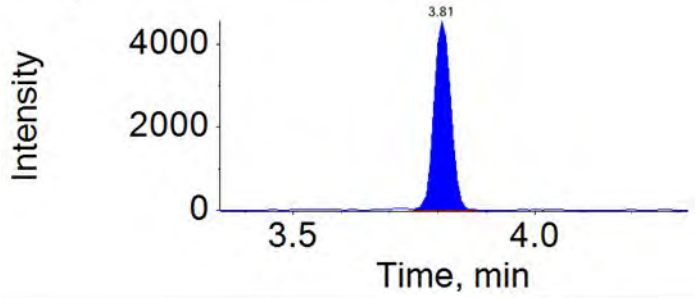
Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-67.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	10927.47	A	1.0000	1.0000			
PFBS_2	3.81	1.00	3560.79	A	0.3686	0.3259	-12	50	
4:2-FTS	4.12	1.00	2760.06	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	2174.60	A	0.6123	0.7879	29	50	
PFHxA	4.15	1.00	24366.47	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	368.45	M	0.0115	0.0151	32	50	
PFPeS	4.17	1.09	4603.26	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	2233.64	A	0.5256	0.4852	-8	50	
PFHpA	4.54	1.00	28052.37	A	1.0000	1.0000			
PFHpA_2	4.53	1.00	1174.66	A	0.0547	0.0419	-23	50	
PFHxS	4.54	1.00	9137.72	A	1.0000	1.0000			
PFHxS_2	4.54	1.00	3045.86	A	0.3359	0.3333	-1	50	
6:2-FTS	4.89	1.00	3271.12	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	1727.71	A	0.6344	0.5282	-17	50	
PFHpS	4.90	1.08	8306.46	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	3528.56	A	0.4110	0.4248	3	50	
PFOA	4.90	1.00	29367.46	A	1.0000	1.0000			
PFOA_2	4.90	1.00	1160.61	A	0.0590	0.0395	-33	50	
PFOS	5.23	1.00	7700.79	A	1.0000	1.0000			
PFOS_2	5.23	1.00	2691.79	A	0.2980	0.3495	17	50	
PFNA	5.25	1.00	25516.53	A	1.0000	1.0000			
PFNA_2	5.25	1.00	438.69	A	0.0214	0.0172	-20	50	
PFNS	5.53	1.06	4755.19	A	1.0000	1.0000			
PFNS_2	5.54	1.06	2078.88	A	0.4608	0.4372	-5	50	
PFDA	5.55	1.00	20958.74	A	1.0000	1.0000			
PFDA_2	5.54	1.00	258.85	A	0.0064	0.0124	94	50	OOS
8:2-FTS	5.55	1.00	2279.69	A	1.0000	1.0000			
8:2-FTS_2	5.55	1.00	1699.17	A	0.5879	0.7454	27	50	
NMeFOSAA	5.70	1.00	5302.77	A	1.0000	1.0000			
NMeFOSAA_2	5.69	1.00	1096.87	A	0.2625	0.2068	-21	50	
PFDS	5.79	1.11	5575.33	A	1.0000	1.0000			
PFDS_2	5.79	1.11	3131.27	A	0.4962	0.5616	13	50	
PFUnDA	5.82	1.00	23974.95	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	64.17	M	0.0035	0.0027	-24	50	
NEtFOSAA	5.83	1.00	3750.38	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	3104.55	A	0.6883	0.8278	20	50	
PFDoDA	6.03	1.00	33130.12	A	1.0000	1.0000			
PFDoDA_2	6.03	1.00	557.62	A	0.0134	0.0168	25	50	
10:2-FTS	6.05	1.09	2591.93	A	1.0000	1.0000			
10:2-FTS_2	6.05	1.09	1149.68	A	0.7018	0.4436	-37	50	
PFTrDA	6.23	1.03	31273.81	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	199.71	M	0.0093	0.0064	-32	50	
PFTeDA	6.41	1.00	22403.03	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	280.09	M	0.0058	0.0125	115	50	OOS
PFHxDA	6.71	1.05	11075.72	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	673.97	A	0.0656	0.0609	-7	50	
PFODA	6.97	1.09	6612.20	A	1.0000	1.0000			
PFODA_2	6.97	1.09	168.85	M	0.0273	0.0255	-6	50	

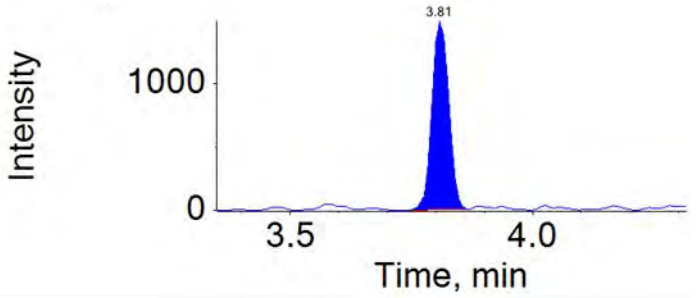
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

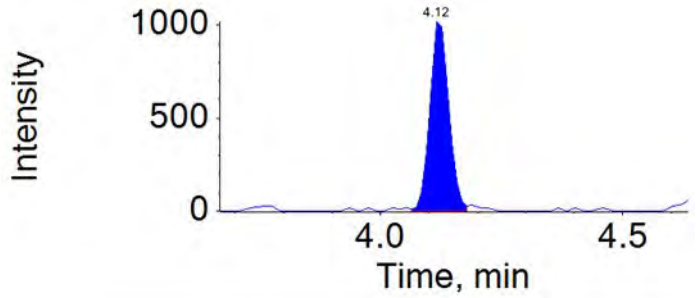
Component: PFBS
Primary Mass: 299.0 / 80.0



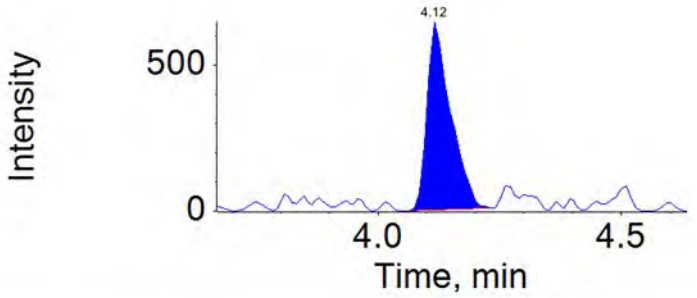
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



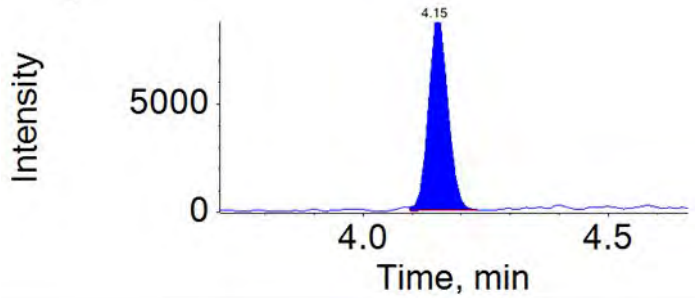
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



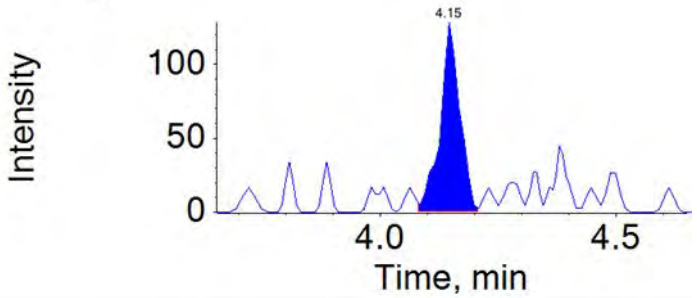
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



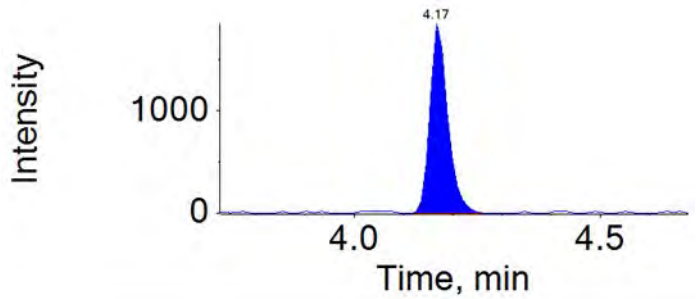
Component: PFHxA
Primary Mass: 313.0 / 269.0



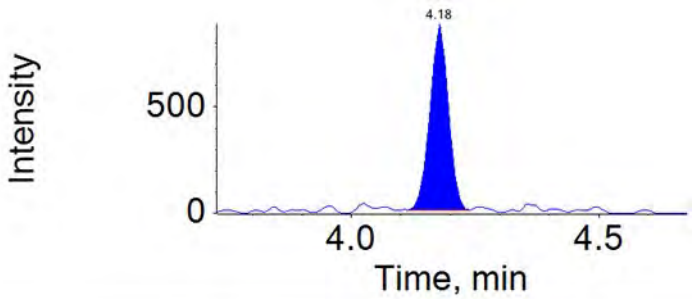
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



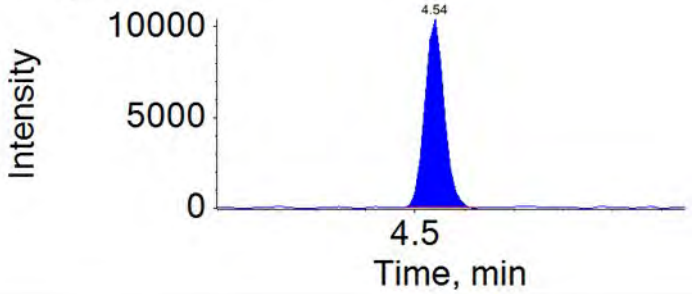
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



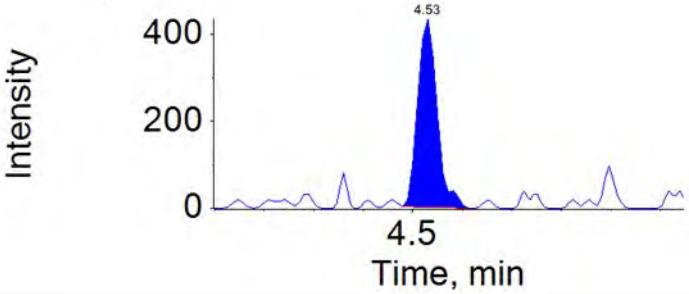
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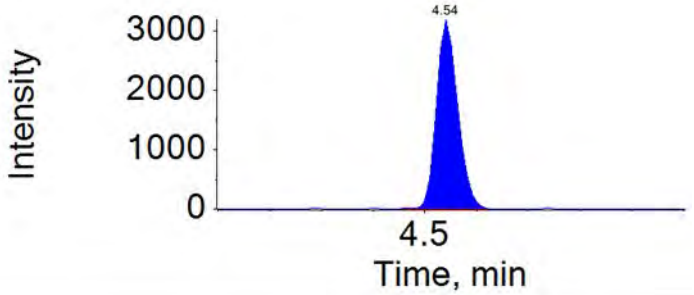
Component: PFHpA
Primary Mass: 363.0 / 319.0



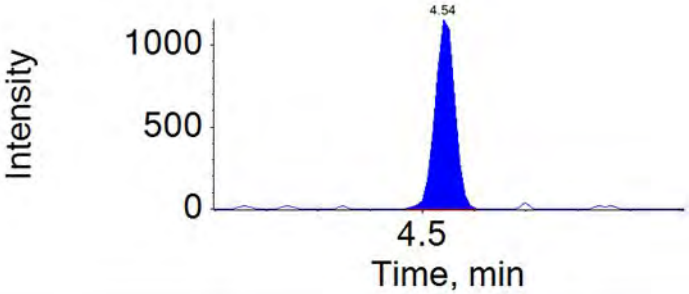
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



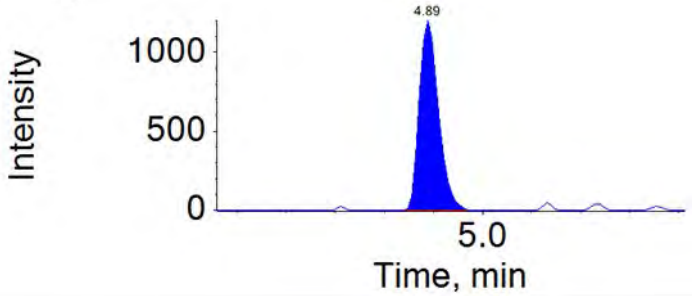
Component: PFHxS
Primary Mass: 399.0 / 80.0



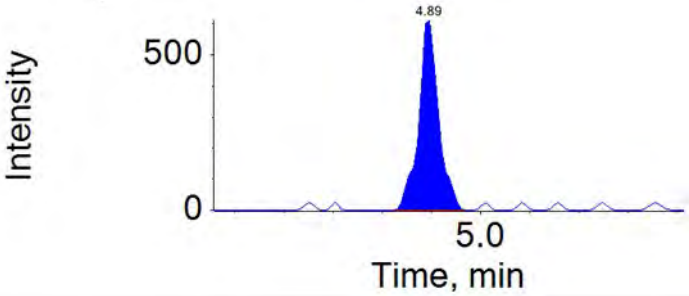
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



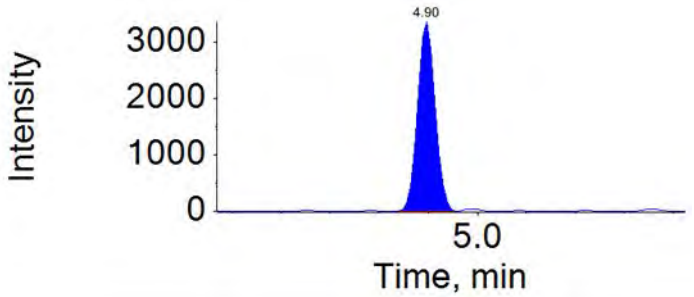
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



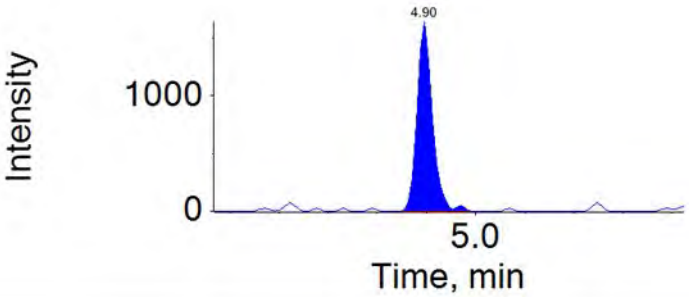
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



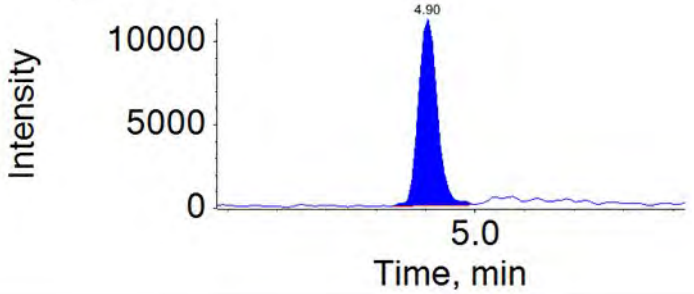
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



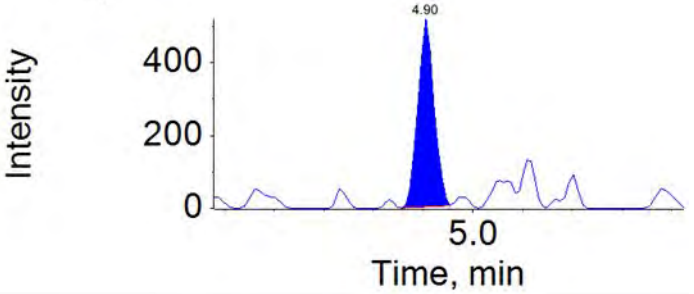
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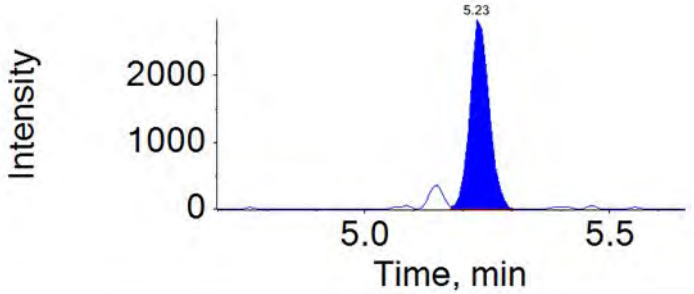
Component: PFOA
Primary Mass: 413.0 / 369.0



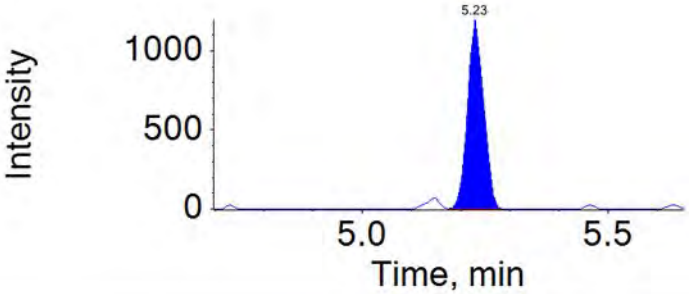
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



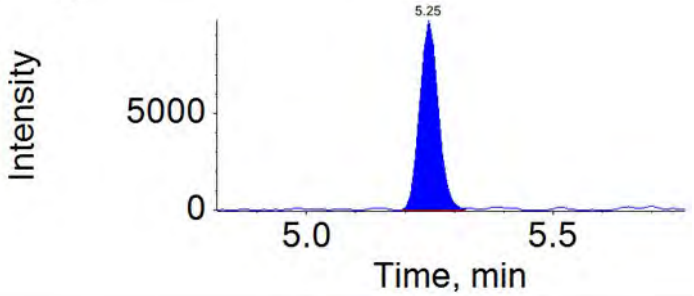
Component: PFOS
Primary Mass: 499.0 / 80.0



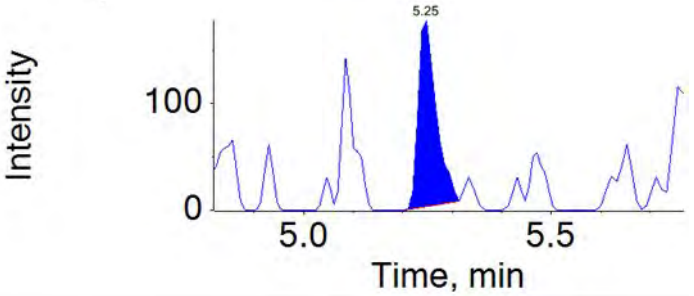
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



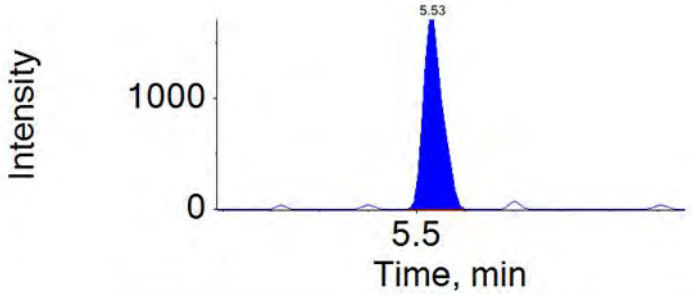
Component: PFNA
Primary Mass: 463.0 / 419.0



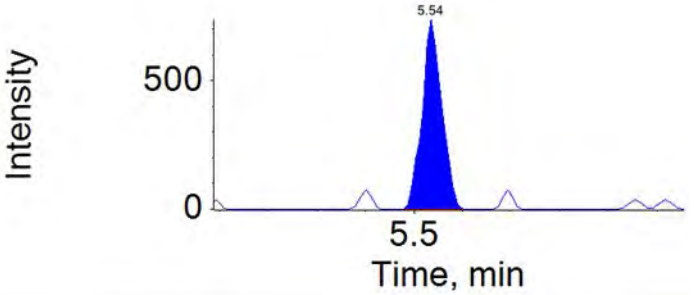
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



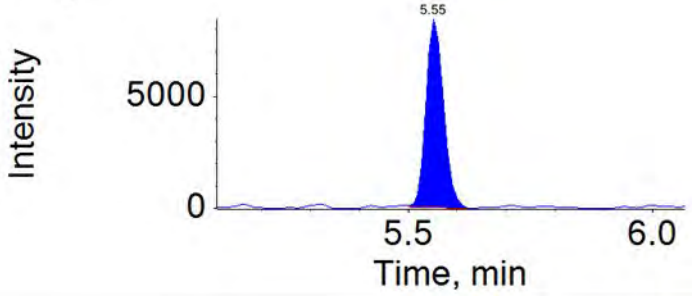
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



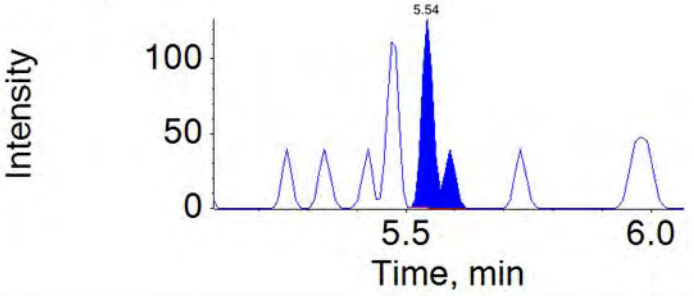
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REVIEWED
By HMK at 11:53 am, 12/21/18

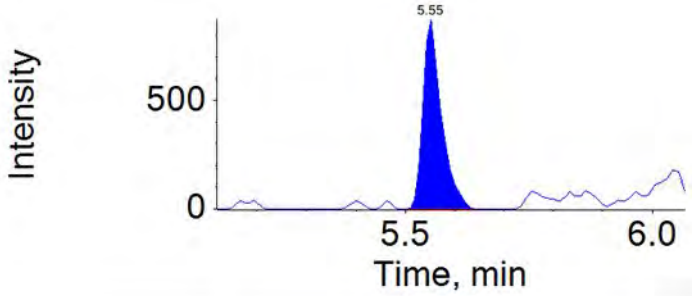
Component: PFDA
Primary Mass: 513.0 / 469.0



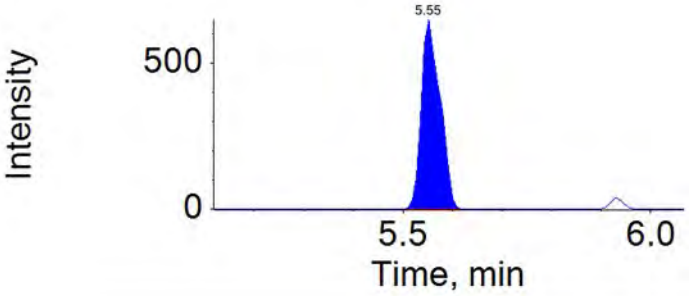
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



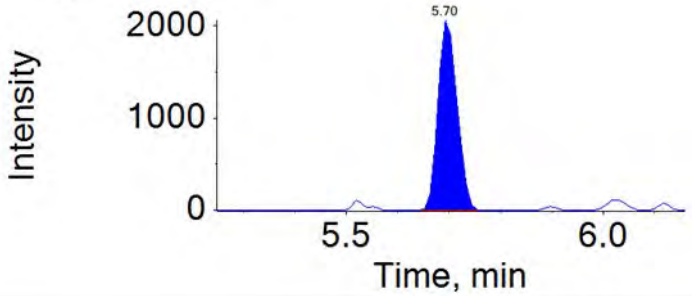
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



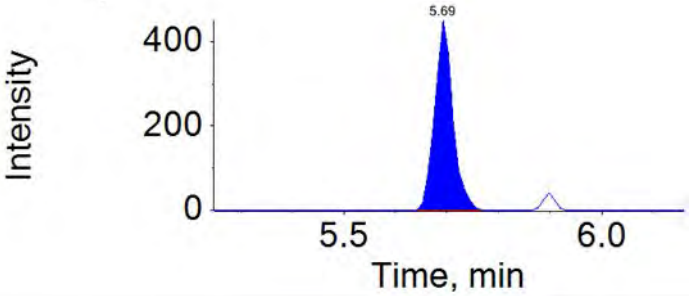
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



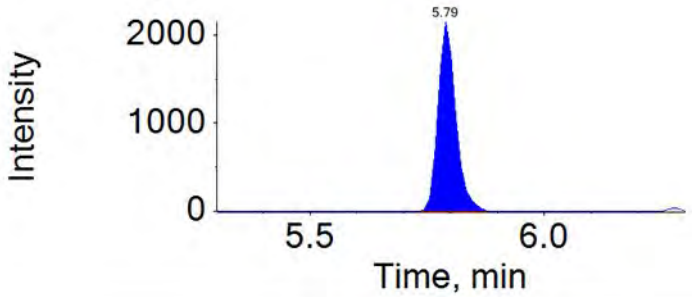
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



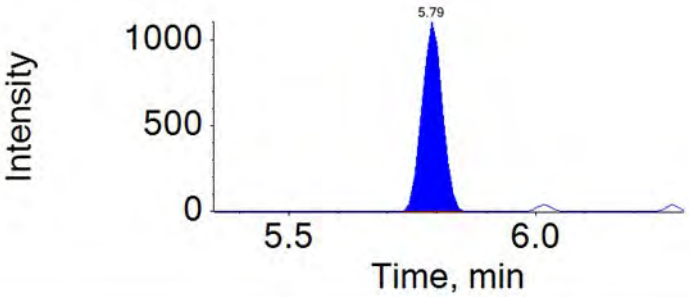
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



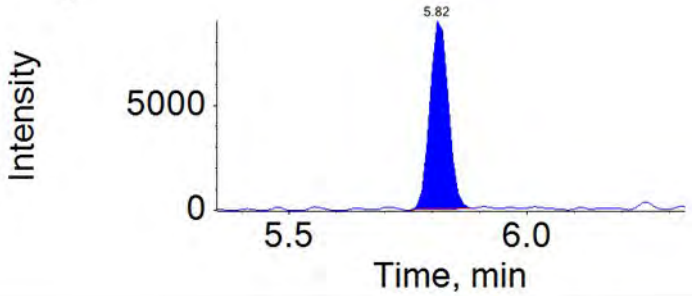
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



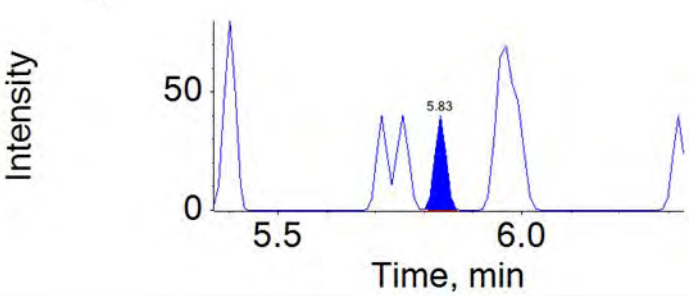
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

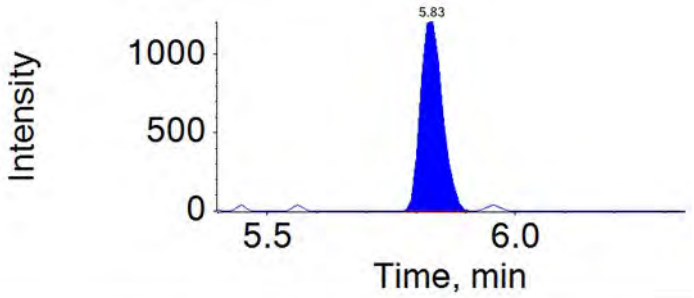
Component: PFUnDA
Primary Mass: 563.0 / 519.0



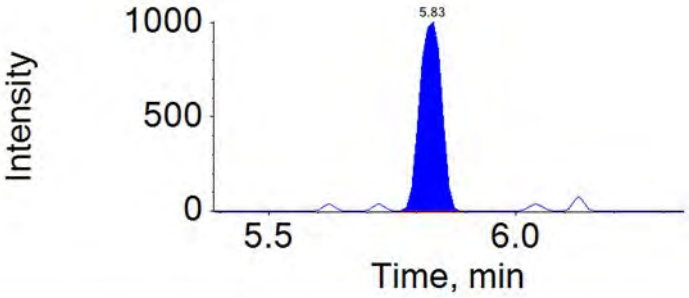
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



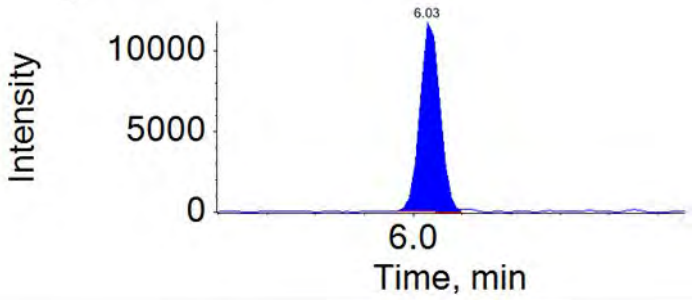
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



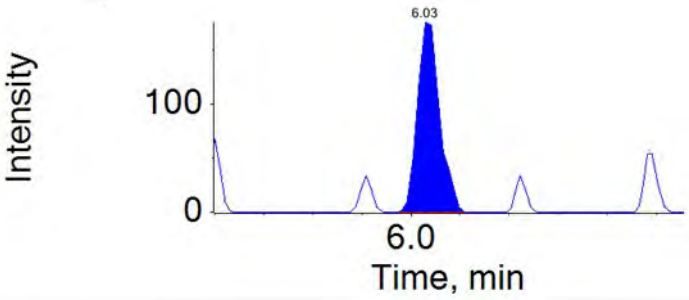
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



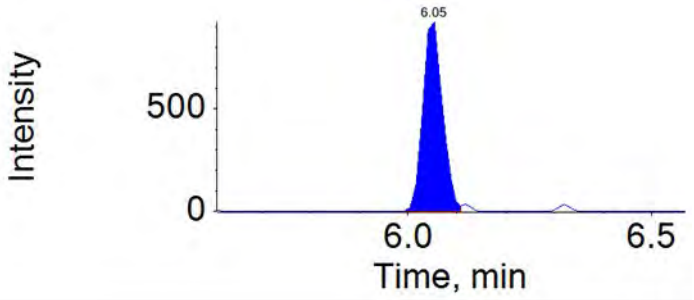
Component: PFDoDA
Primary Mass: 613.0 / 569.0



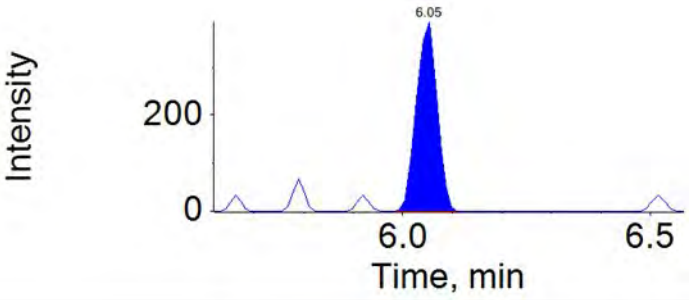
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



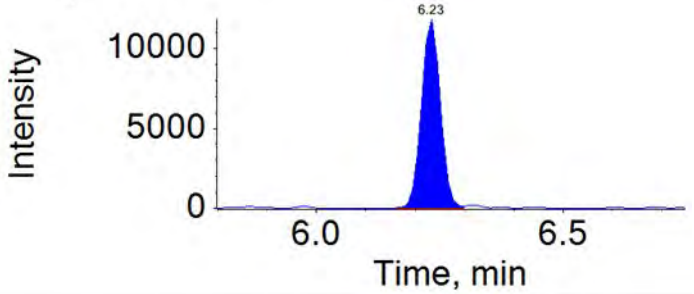
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



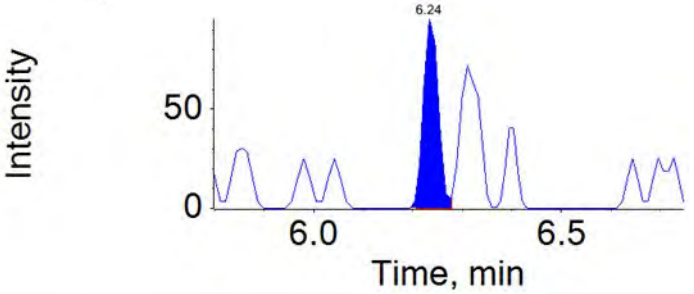
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

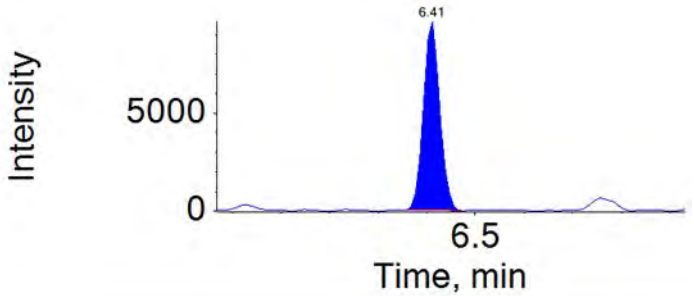
Component: PFTrDA
Primary Mass: 663.0 / 619.0



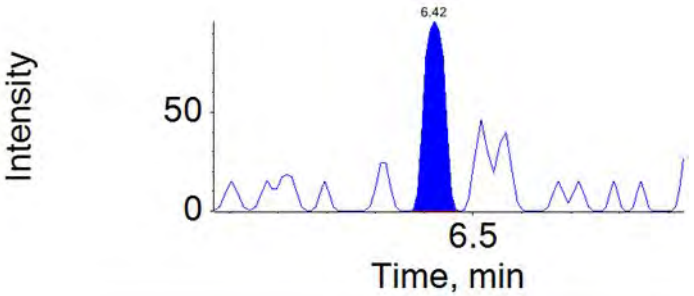
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



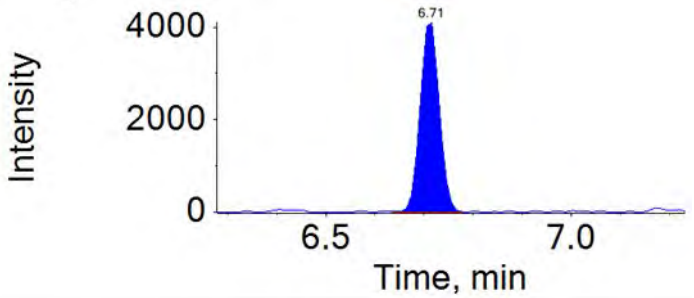
Component: PFTeDA
Primary Mass: 713.0 / 669.0



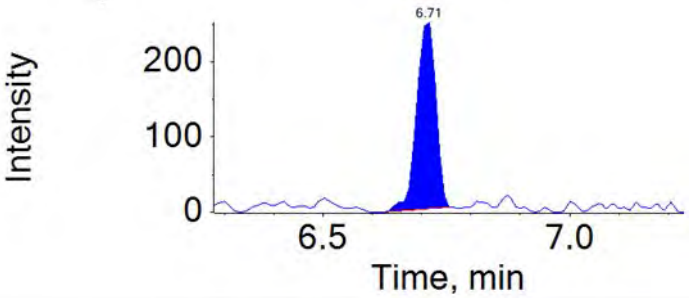
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



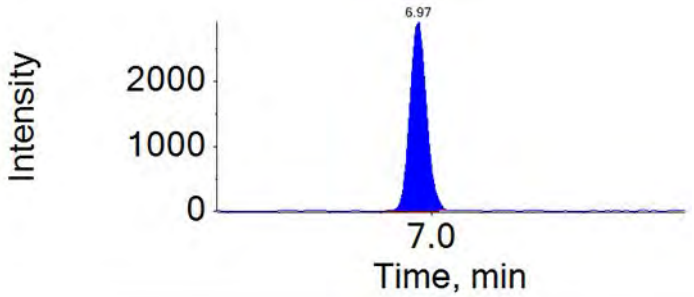
Component: PFHxDA
Primary Mass: 813.0 / 769.0



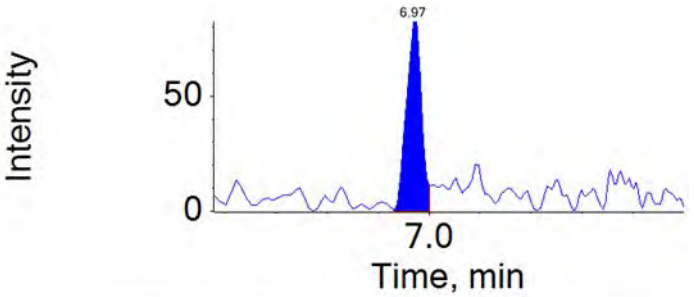
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	ICV			**Data File:**		18DEC18DCAL-76.wiff
Sample ID:	ICVMODX1833G			**Acquis Date:**		2018-12-19T00:46:59
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	10			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1001581.5	941251.6	6	50	
13C2-PFOA	5.0	545957.8	485595.3	12	50	
13C4-PFOS	4.8	314888.7	292182.6	8	50	
13C2-PFDA	5.0	489223.2	467216.0	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1094642.4	13C3-PFBA	1001581.5	1.093	5.000	4.840	97	70-130	
E13C5-PFPeA	1008730.1	13C3-PFBA	1001581.5	1.007	5.000	4.696	94	70-130	
E13C3-PFBS	449153.4	13C3-PFBA	1001581.5	0.448	4.650	4.367	94	70-130	
E13C2-4:2-FTS	61415.7	13C2-PFOA	545957.8	0.112	4.670	4.272	91	70-130	
E13C5-PFHxA	791701.0	13C2-PFOA	545957.8	1.450	5.000	5.187	104	70-130	
E13C3-PFHxS	346627.1	13C2-PFOA	545957.8	0.635	4.730	4.804	102	70-130	
E13C4-PFHpA	592782.0	13C2-PFOA	545957.8	1.086	5.000	4.690	94	70-130	
E13C2-6:2-FTS	51799.6	13C2-PFOA	545957.8	0.095	4.750	4.774	100	70-130	
E13C8-PFOA	993017.0	13C2-PFOA	545957.8	1.819	5.000	5.001	100	70-130	
E13C8-PFOS	334311.5	13C4-PFOS	314888.7	1.062	4.780	4.748	99	70-130	
E13C9-PFNA	671215.9	13C4-PFOS	314888.7	2.132	5.000	4.849	97	70-130	
E13C6-PFDA	872771.8	13C2-PFDA	489223.2	1.784	5.000	5.082	102	70-130	
E13C2-8:2-FTS	45316.1	13C2-PFDA	489223.2	0.093	4.790	4.774	100	70-130	
E13C8-PFOSA	654848.9	13C2-PFDA	489223.2	1.339	5.000	5.212	104	70-130	
Ed3-NMeFOSAA	223608.7	13C2-PFDA	489223.2	0.457	5.000	5.029	101	70-130	
E13C7-PFUnDA	587076.9	13C2-PFDA	489223.2	1.200	5.000	5.023	100	70-130	
Ed5-NEtFOSAA	178505.1	13C2-PFDA	489223.2	0.365	5.000	5.375	108	70-130	
E13C2-PFDoDA	1224073.9	13C2-PFDA	489223.2	2.502	5.000	5.264	105	70-130	
Ed7-NMePFOSAE	269917.7	13C2-PFDA	489223.2	0.552	5.000	4.930	99	70-130	
Ed3-NMePFOSA	88738.2	13C2-PFDA	489223.2	0.181	5.000	4.984	100	70-130	
Ed9-NEtPFOSAE	231171.4	13C2-PFDA	489223.2	0.473	5.000	4.831	97	70-130	
Ed5-NEtPFOSA	70087.4	13C2-PFDA	489223.2	0.143	5.000	4.969	99	70-130	
E13C2-PFTeDA	902755.3	13C2-PFDA	489223.2	1.845	5.000	5.200	104	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

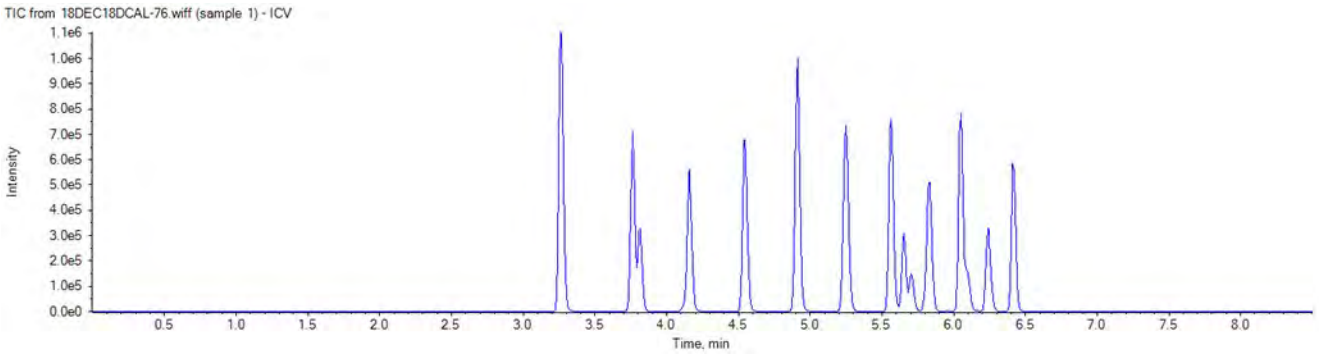
Analyte Quantitation Peak Table

Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-76.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	412745.7		A	13C4-PFBA	3.26	1094642.4	0.377	2.002
PFPeA	3.77	1.000	395897.4		A	13C5-PFPeA	3.76	1008730.1	0.392	2.026
PFBS	3.81	1.000	169697.0		A	13C3-PFBS	3.81	449153.4	0.378	1.865
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.12	61415.7	N/A	
PFHxA	4.16	1.000	384443.4		A	13C5-PFHxA	4.16	791701.0	0.486	2.000
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	449153.4	N/A	
PFHpA	4.55	1.000	403375.9		A	13C4-PFHpA	4.54	592782.0	0.680	2.256
PFHxS	4.55	1.000	130829.5		A	13C3-PFHxS	4.55	346627.1	0.377	1.836
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	51799.6	N/A	
PFHpS	4.90	1.080	129646.8		A	13C3-PFHxS	4.55	346627.1	0.374	1.979
PFOA	4.91	1.000	398236.1		A	13C8-PFOA	4.91	993017.0	0.401	2.125
PFOS	5.24	1.000	133872.0		A	13C8-PFOS	5.24	334311.5	0.400	1.753
PFNA	5.26	1.000	367059.5		A	13C9-PFNA	5.26	671215.9	0.547	2.173
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	334311.5	N/A	
PFDA	5.56	1.000	331197.9		A	13C6-PFDA	5.56	872771.8	0.379	1.960
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	45316.1	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	654848.9	N/A	
NMeFOSAA	5.71	1.000	83098.3		A	d3-NMeFOSAA	5.71	223608.7	0.372	2.310
PFDS	5.80	1.110	81048.4		A	13C8-PFOS	5.24	334311.5	0.242	1.990
PFUnDA	5.83	1.000	328698.4		A	13C7-PFUnDA	5.83	587076.9	0.560	1.854
NEtFOSAA	5.84	1.000	73599.0		A	d5-NEtFOSAA	5.84	178505.1	0.412	2.101
PFDoDA	6.05	1.000	471885.2		A	13C2-PFDoDA	6.05	1224073.9	0.386	1.942
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	45316.1	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	269917.7	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	88738.2	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	334311.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	231171.4	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	70087.4	N/A	
PFTrDA	6.24	1.030	463980.1		A	13C2-PFDoDA	6.05	1224073.9	0.379	1.945
PFTeDA	6.42	1.000	335133.7		A	13C2-PFTeDA	6.42	902755.3	0.371	1.999
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	902755.3	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	902755.3	N/A	

Total Ion Chromatogram

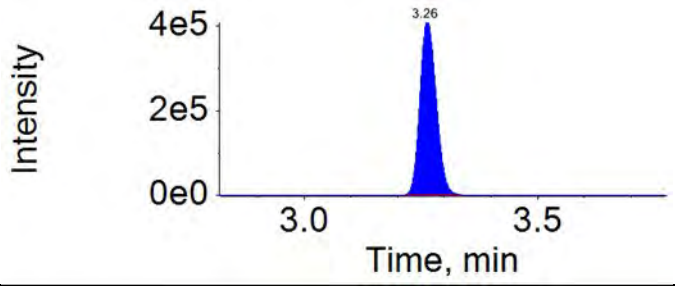


APPROVED
By MSM at 11:49 am, 12/19/18

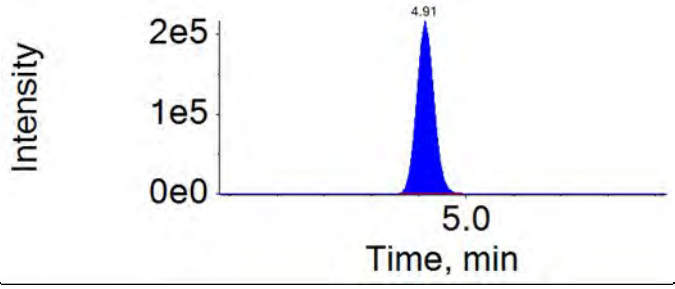
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

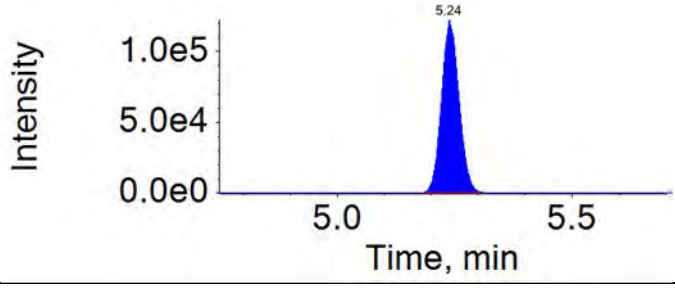
Injection Standard: 13C3-PFBA
216.0 / 172.0



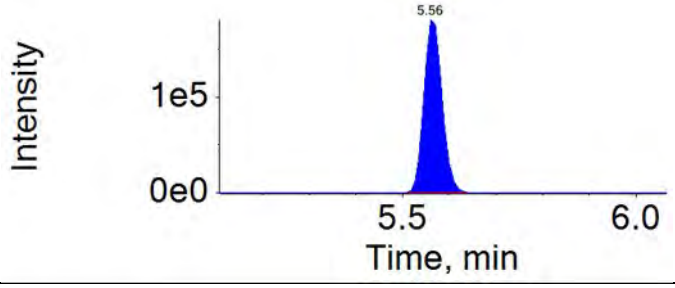
Injection Standard: 13C2-PFOA
415.0 / 370.0



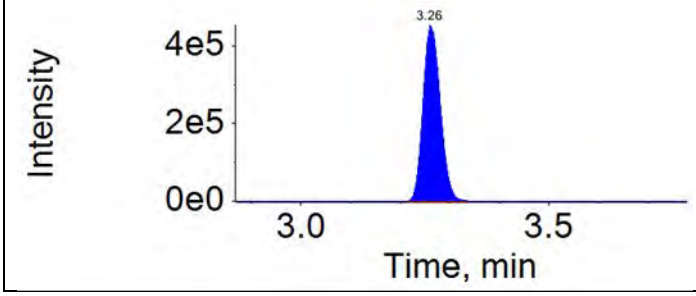
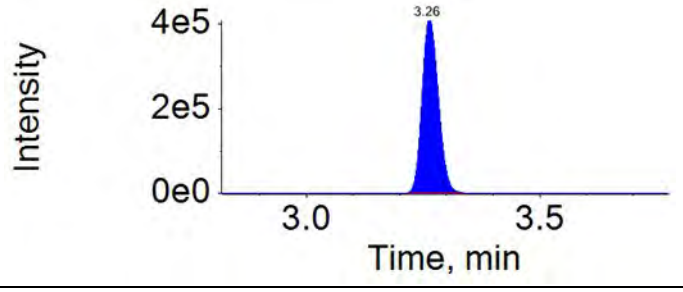
Injection Standard: 13C4-PFOS
503.0 / 80.0

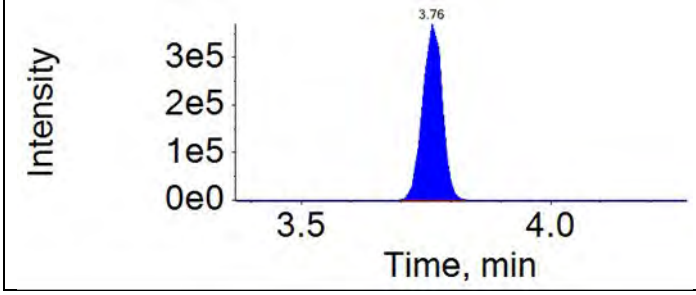
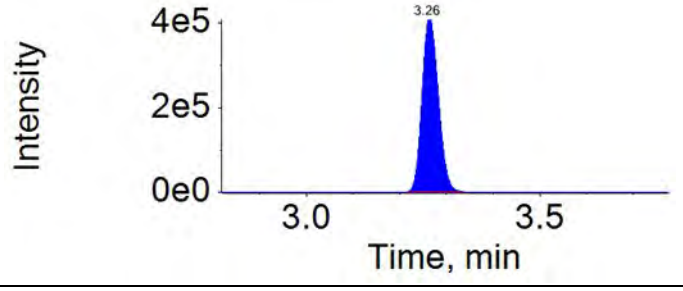


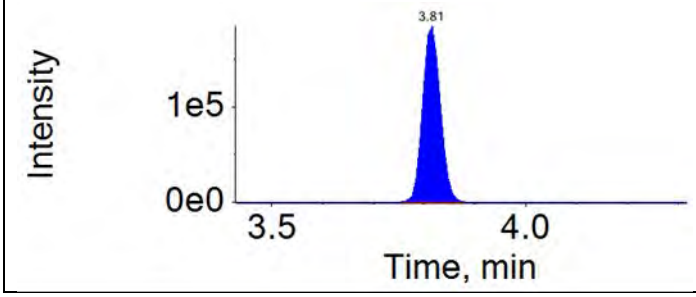
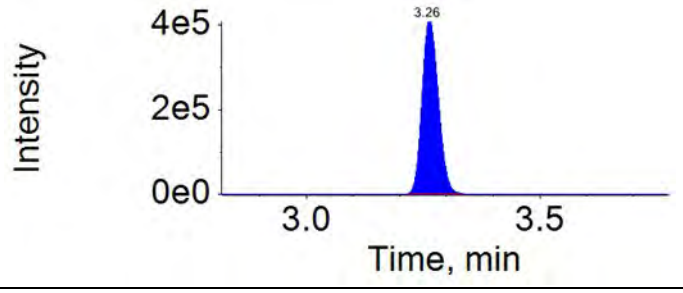
Injection Standard: 13C2-PFDA
515.0 / 470.0

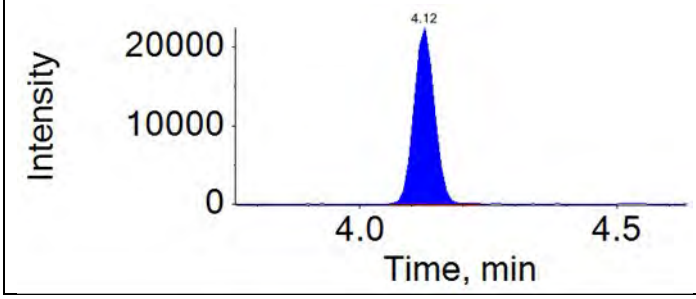
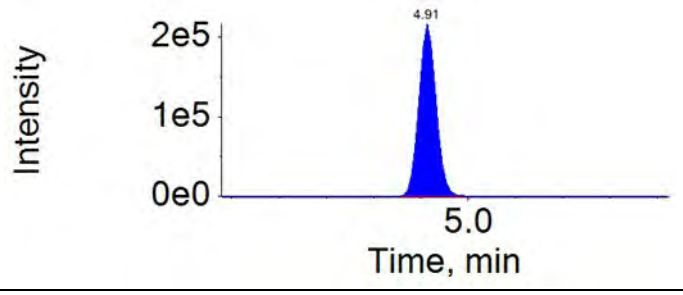


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

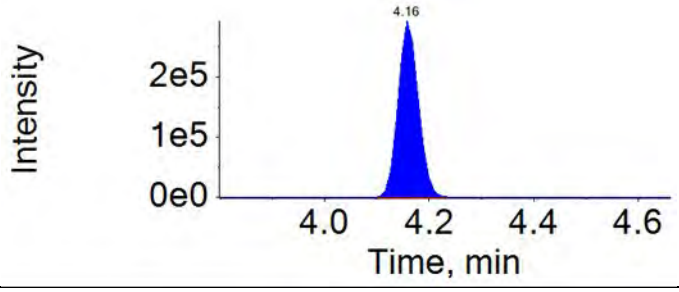
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

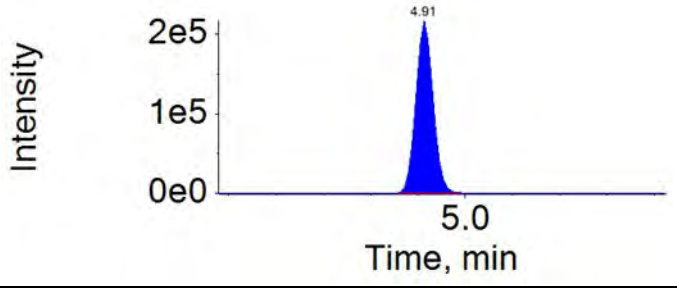
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

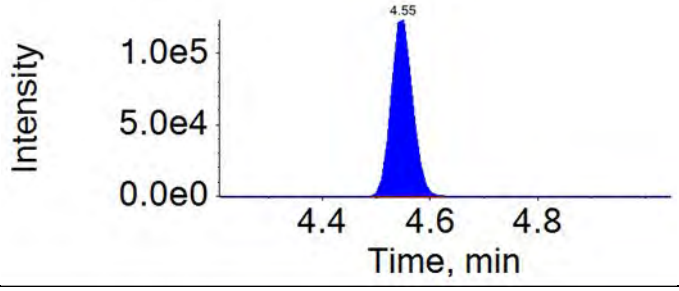
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

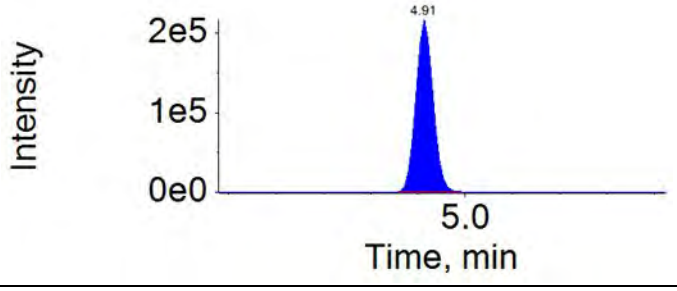
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



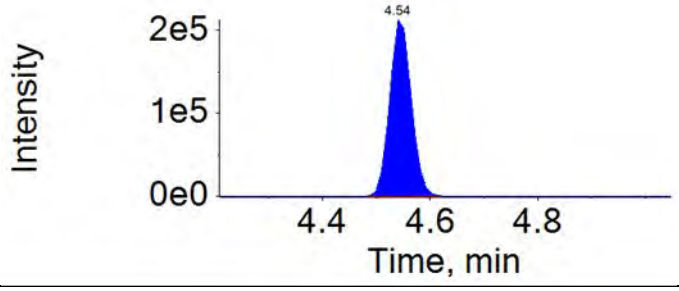


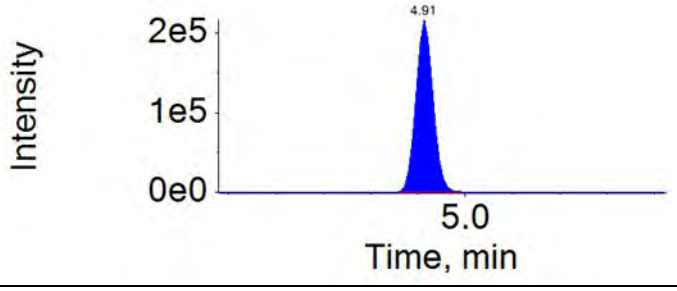
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



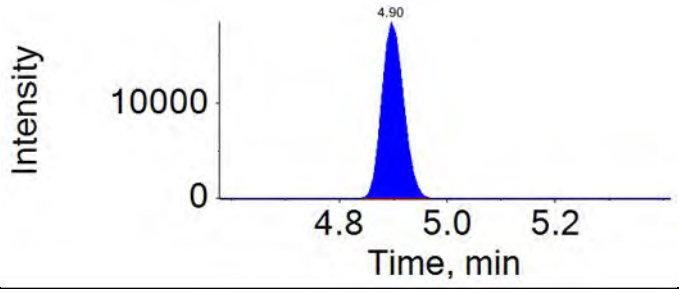


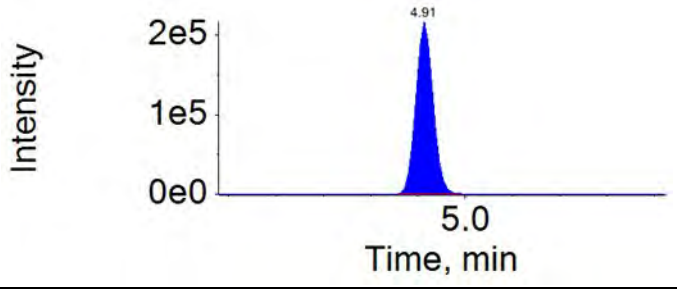
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



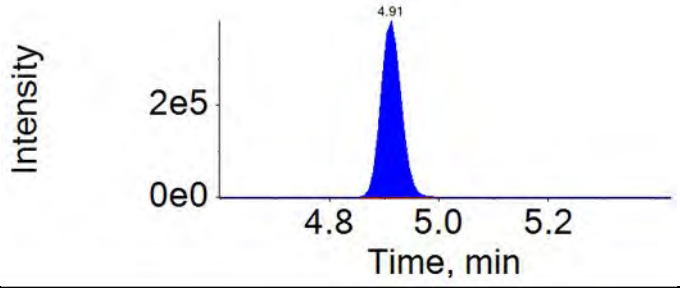


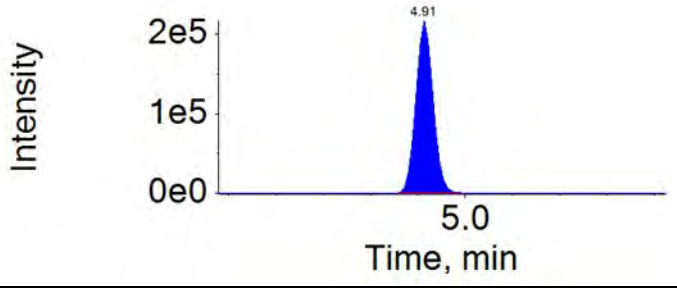
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

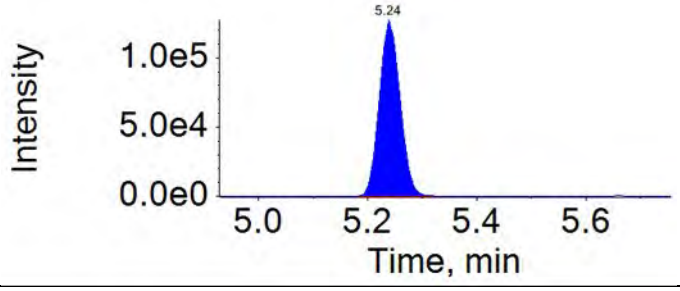
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

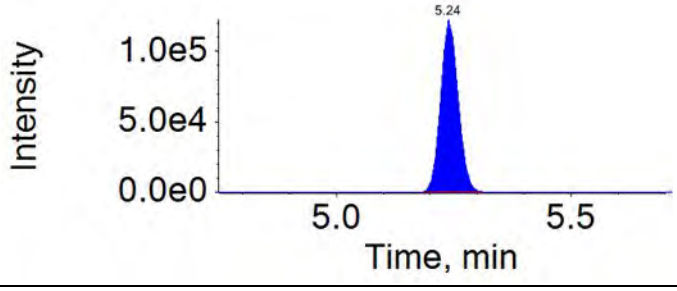
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



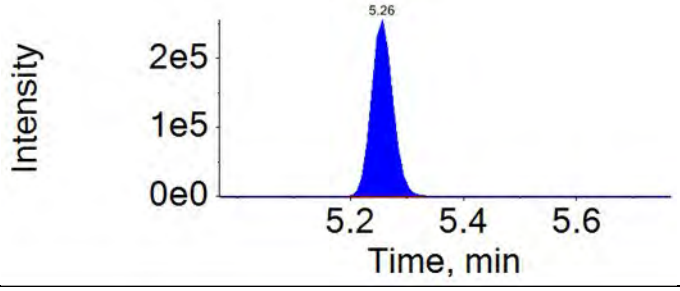


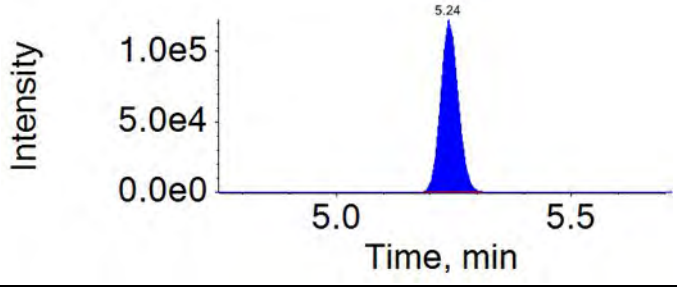
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



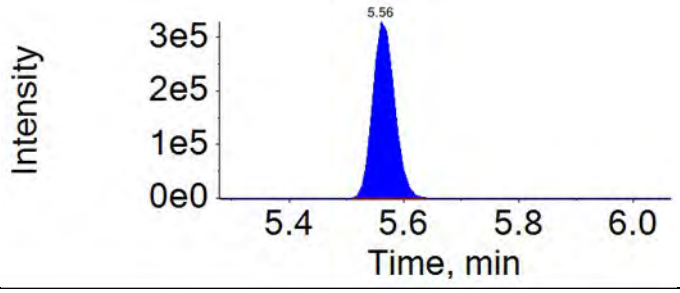


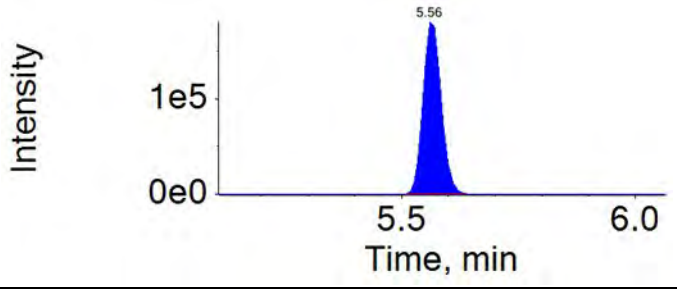
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



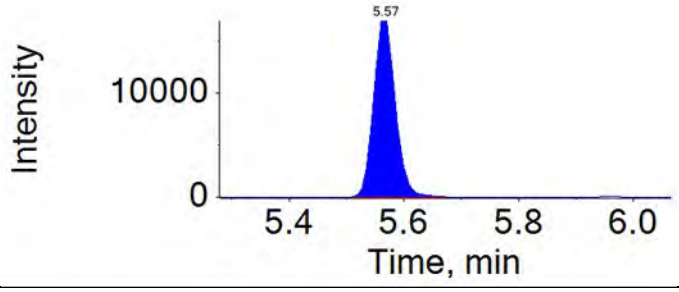


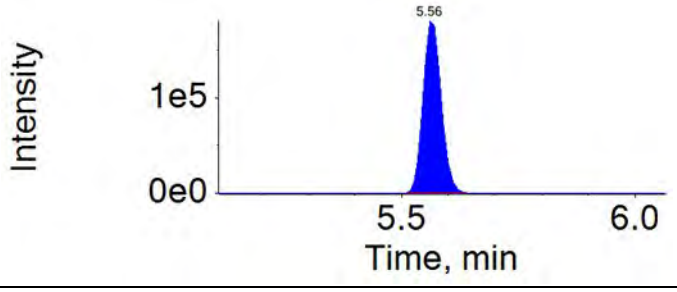
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

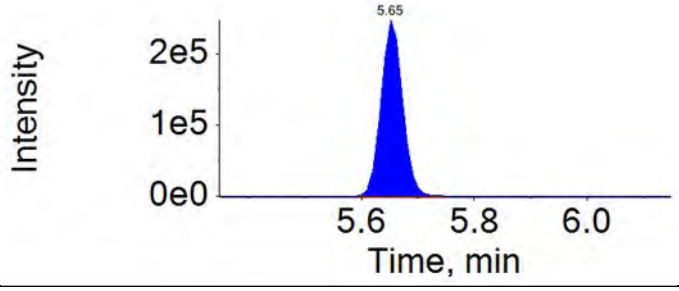
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

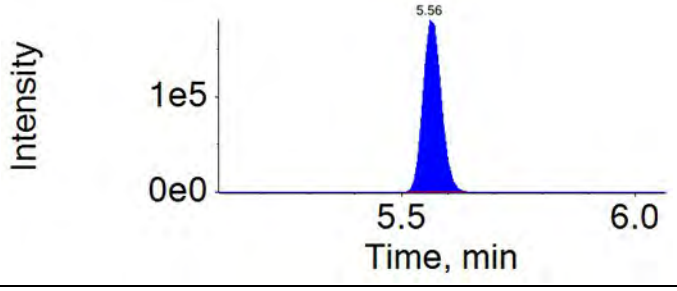
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



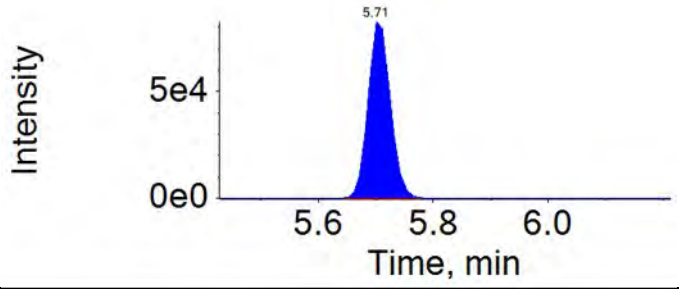


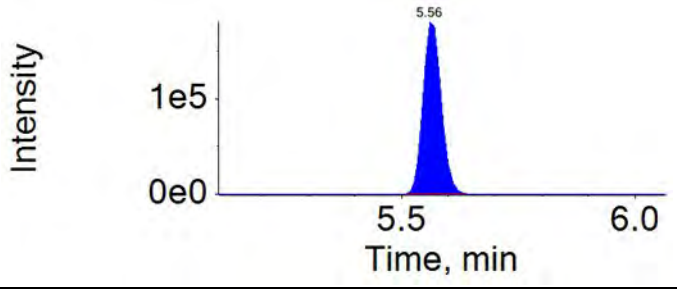
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



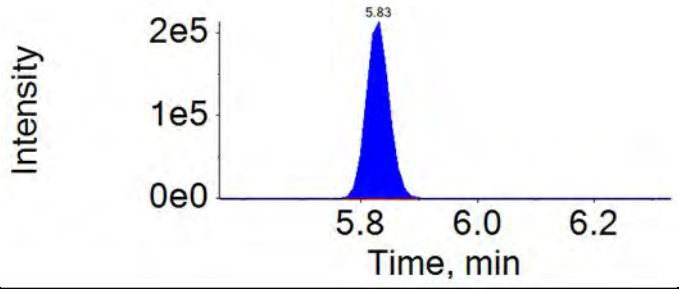


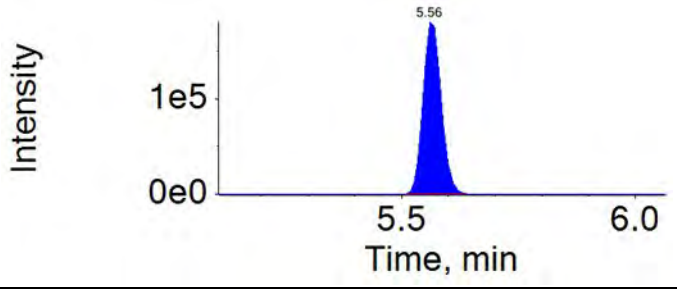
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



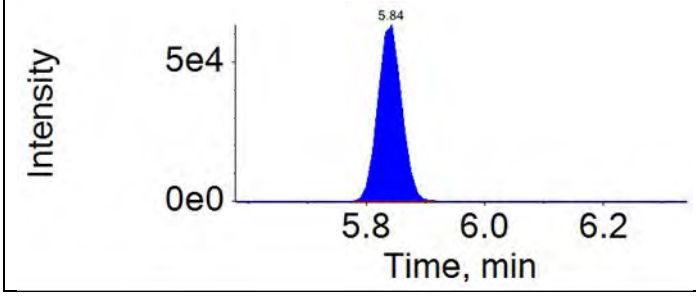


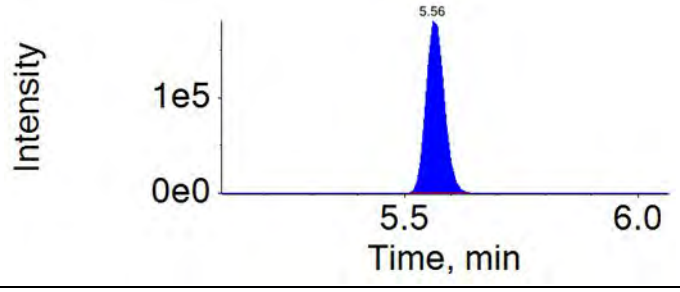
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

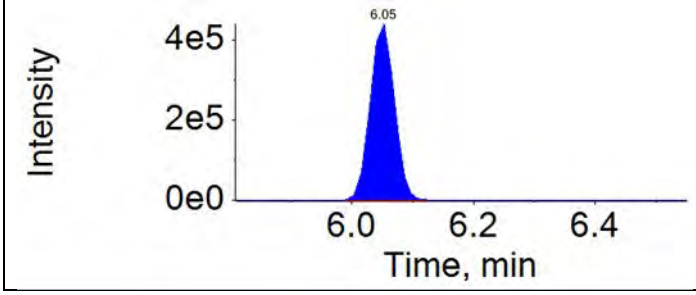
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

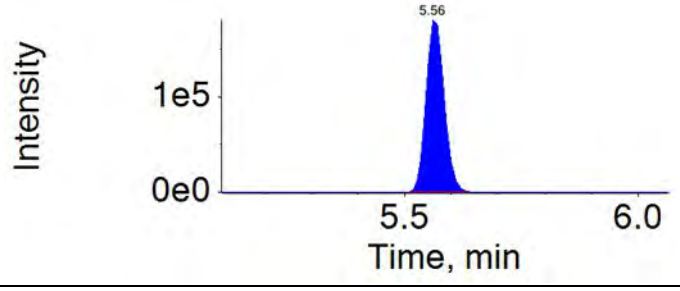
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



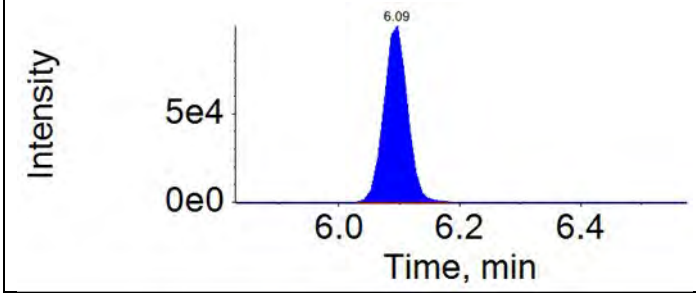


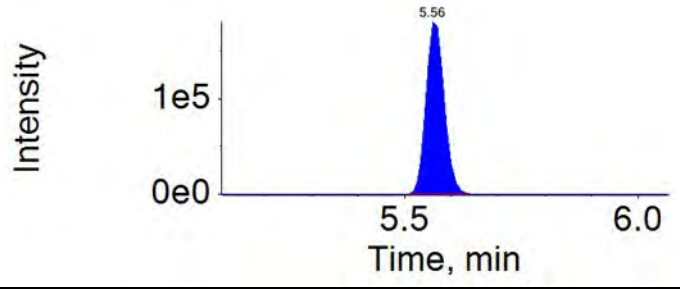
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



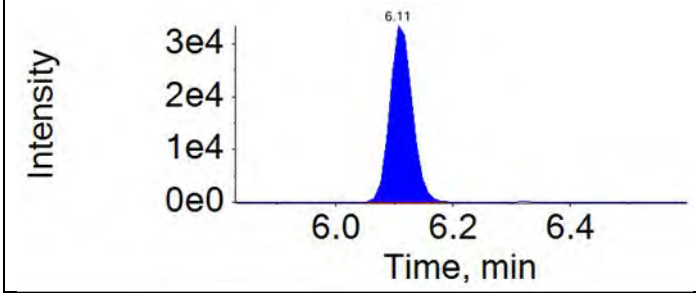


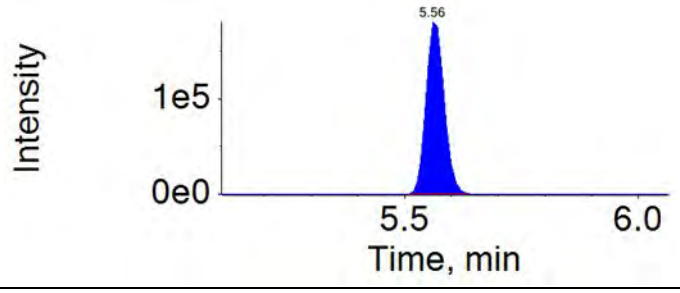
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





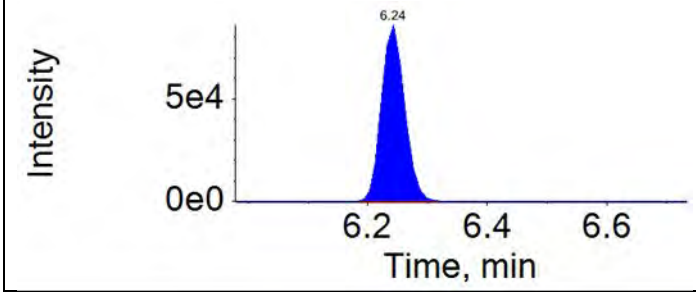
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

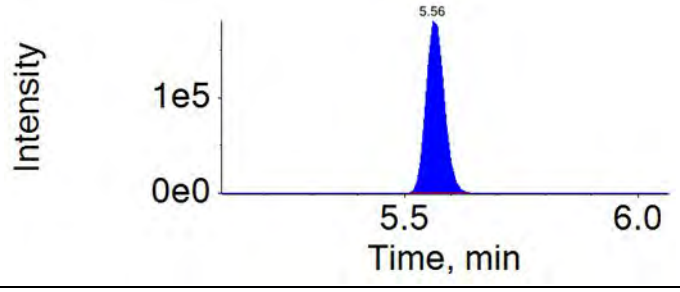




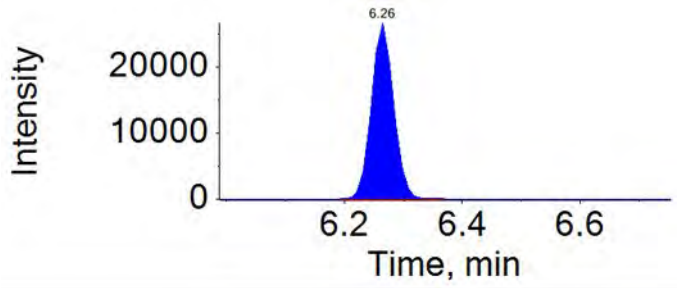
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

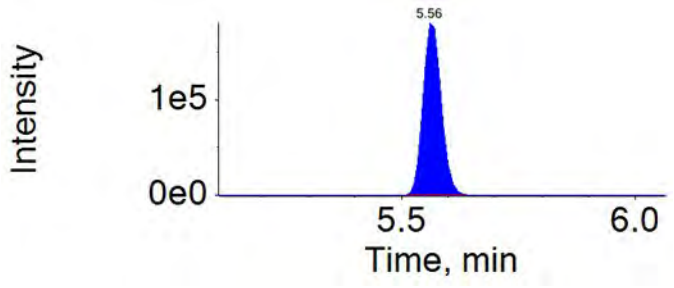
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



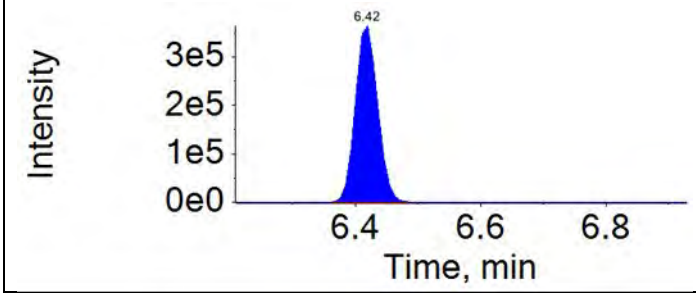


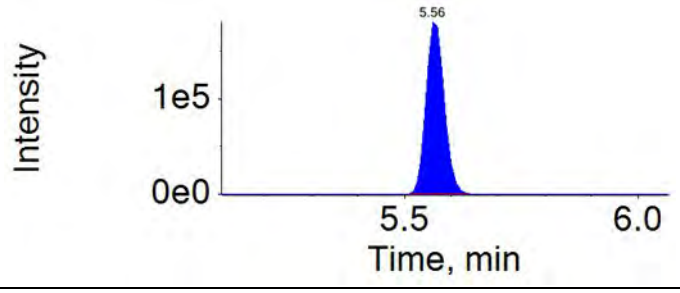
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



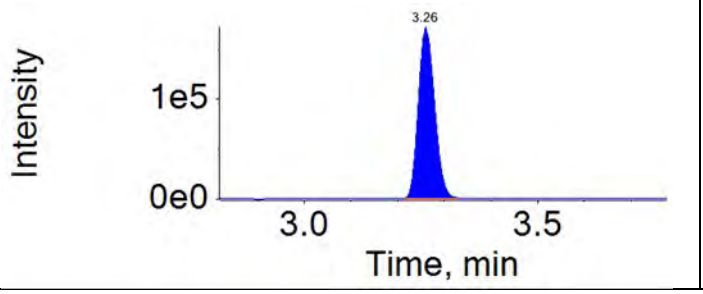


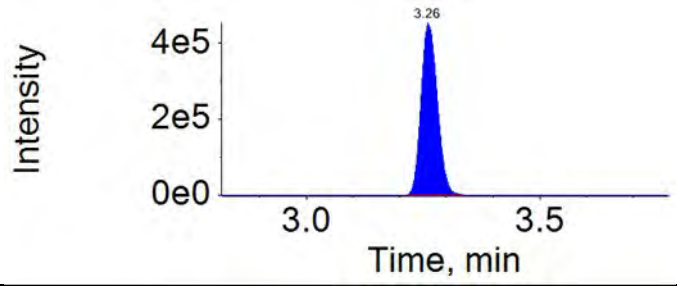
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

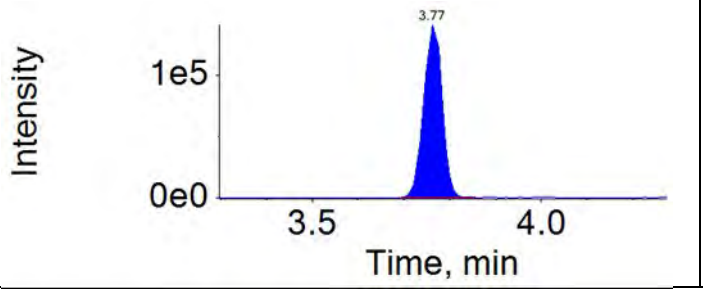
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

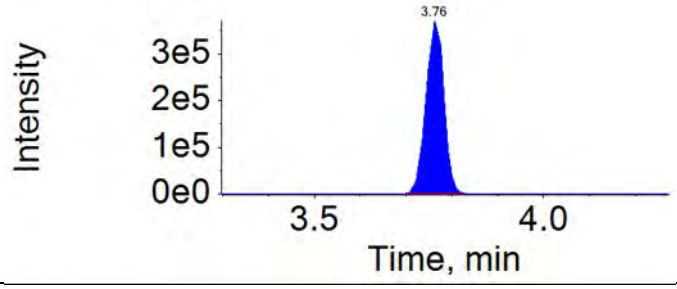
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



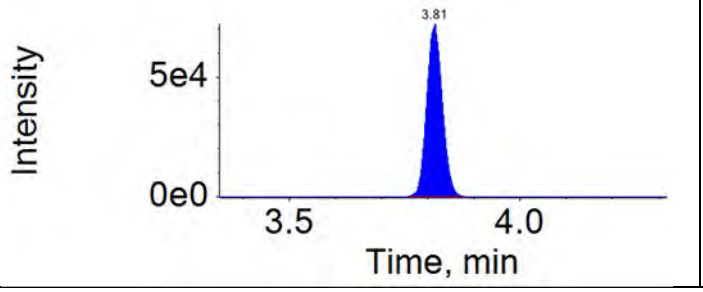


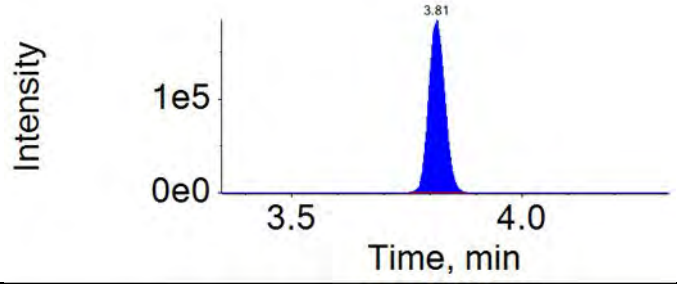
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



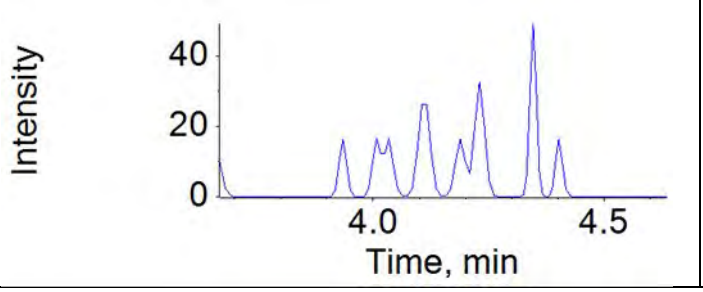


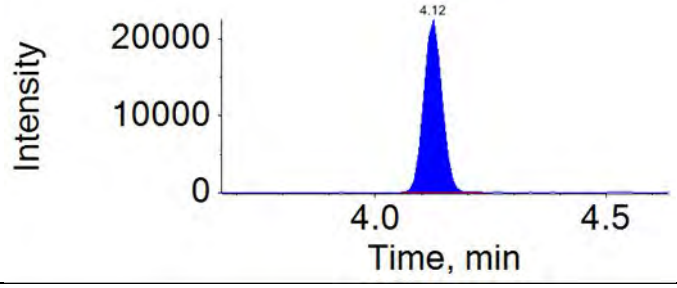
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



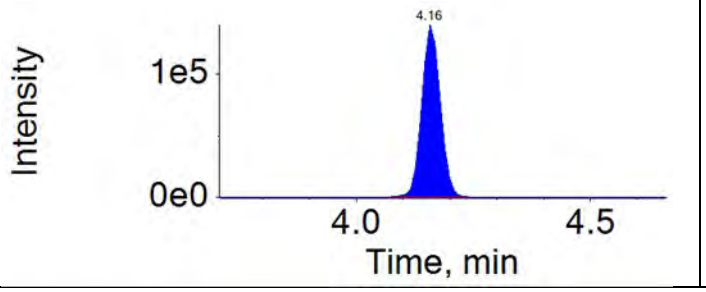


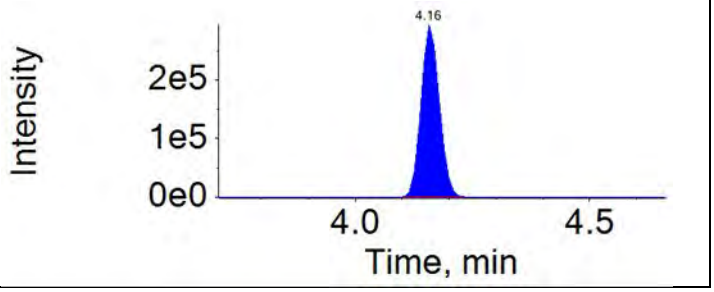
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

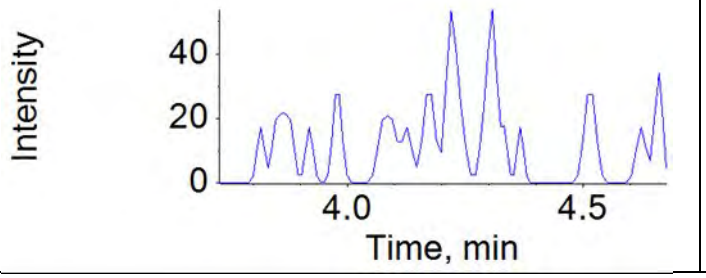
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

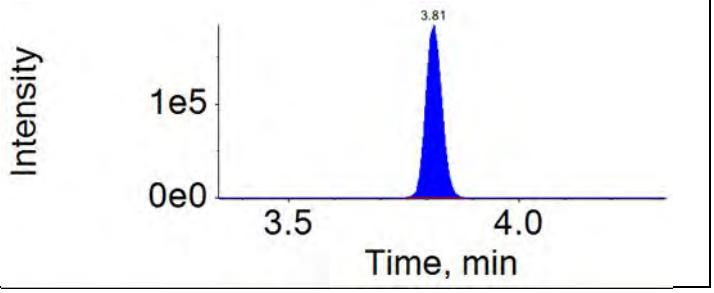
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



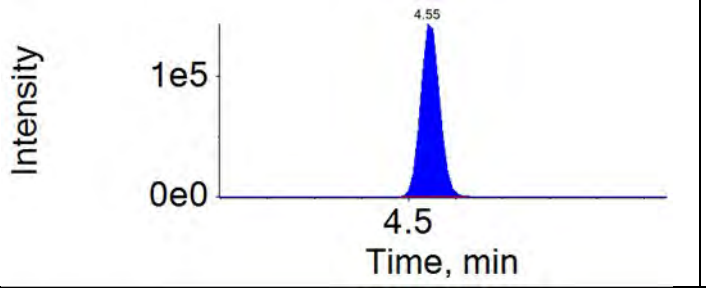


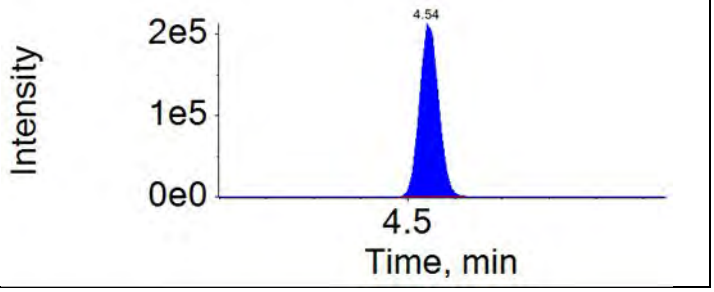
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



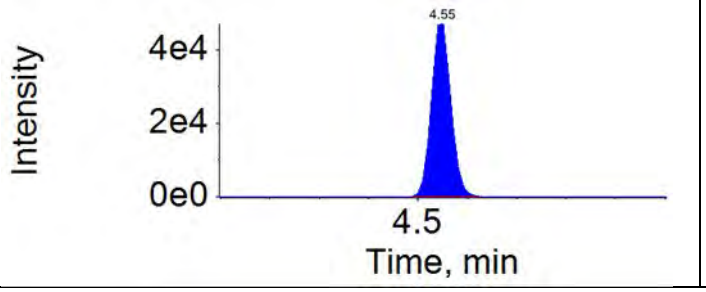


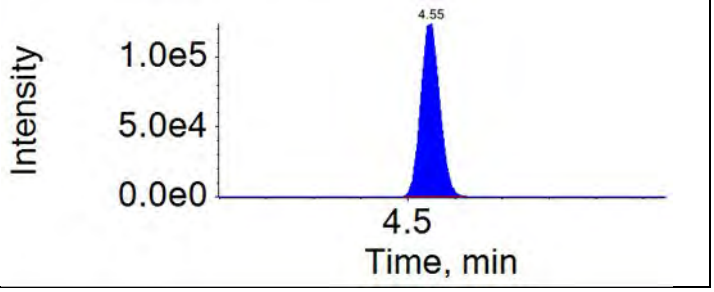
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



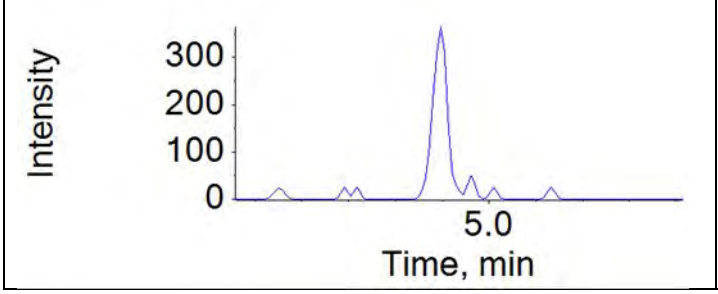


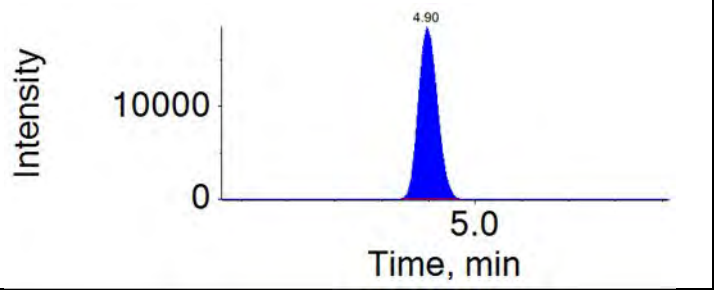
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

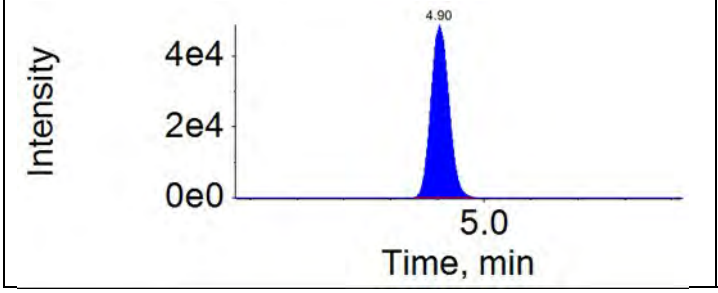
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

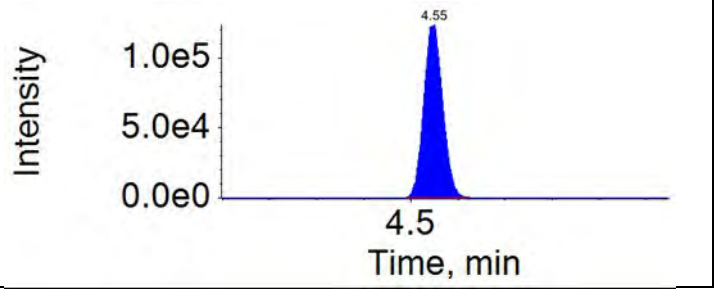
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



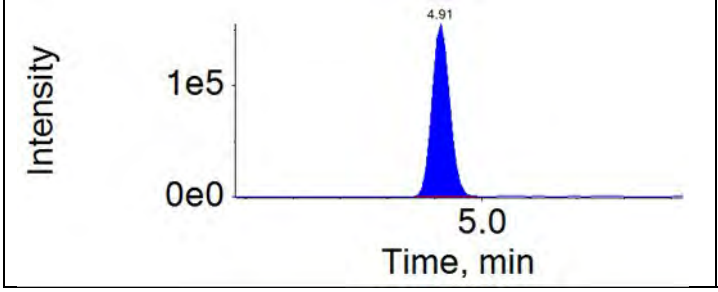


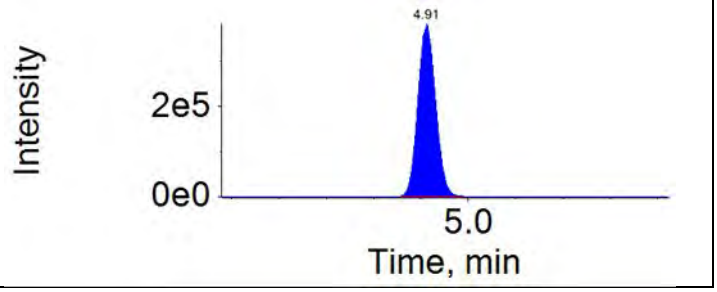
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



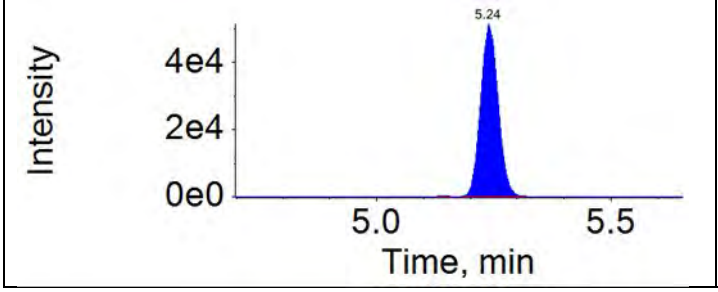


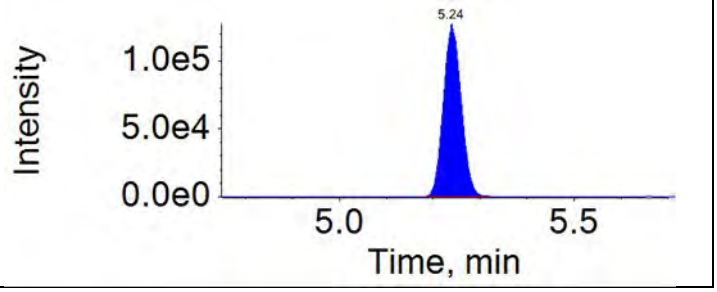
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



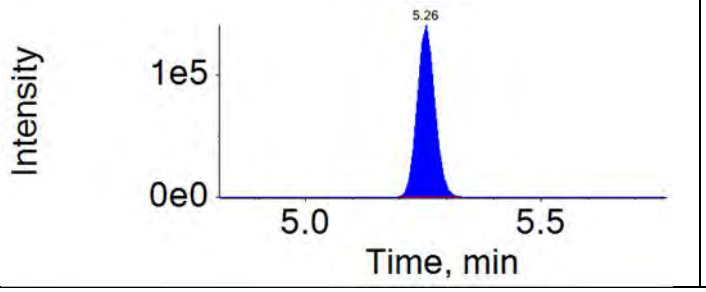


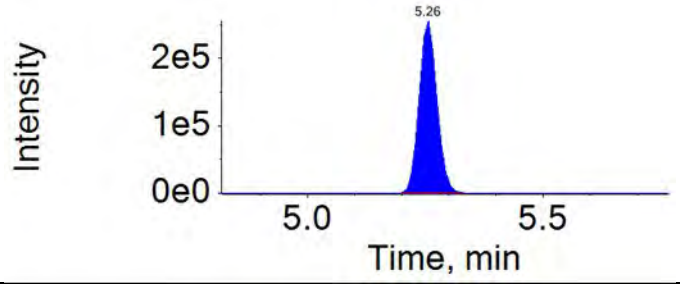
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

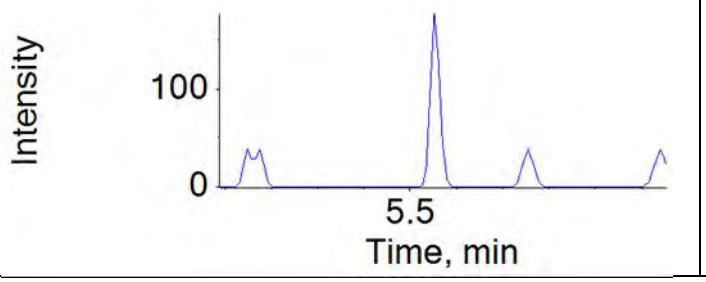
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

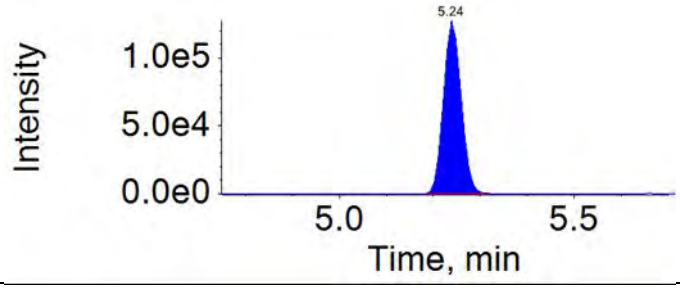
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



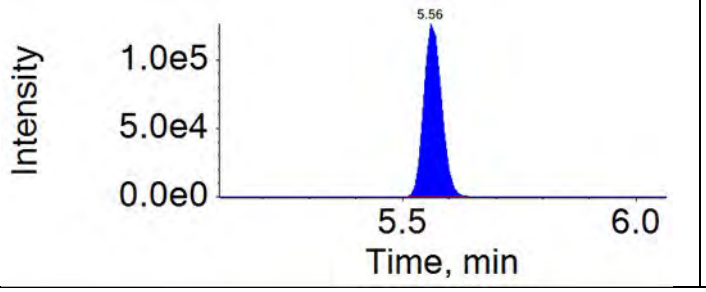


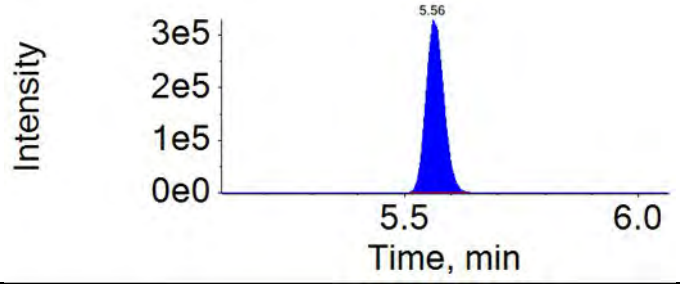
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



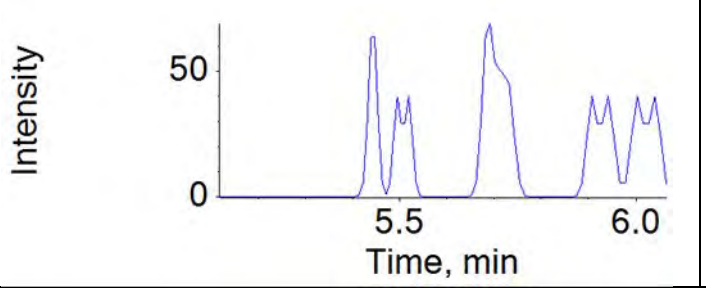


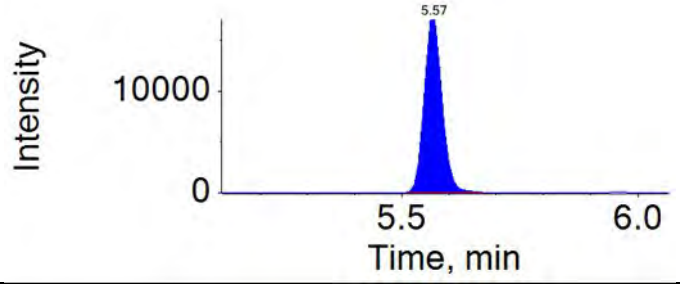
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



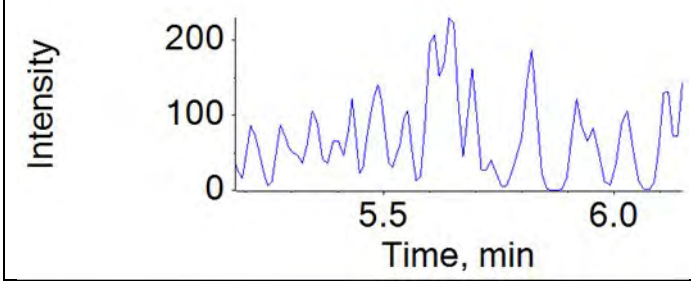


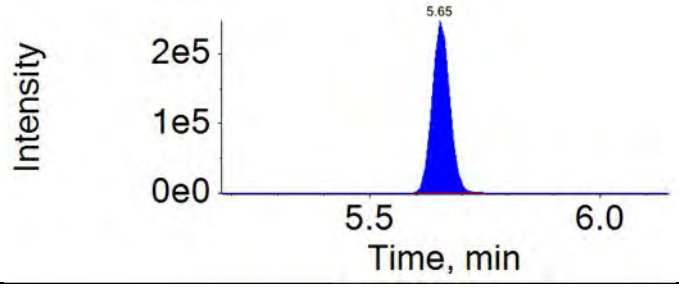
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

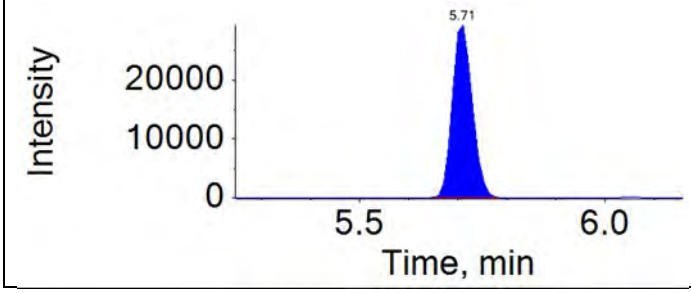
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

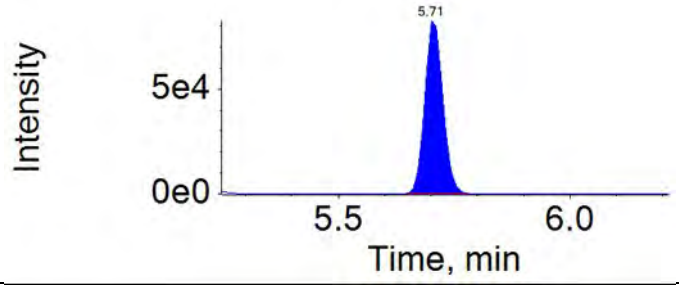
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



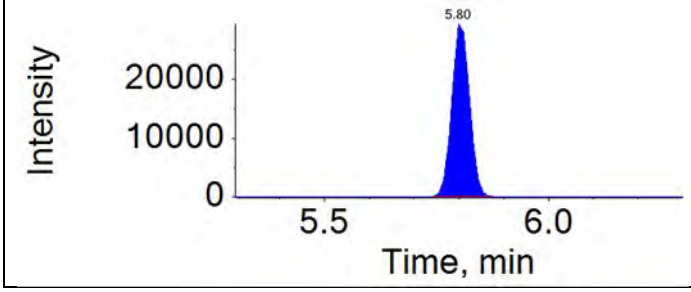


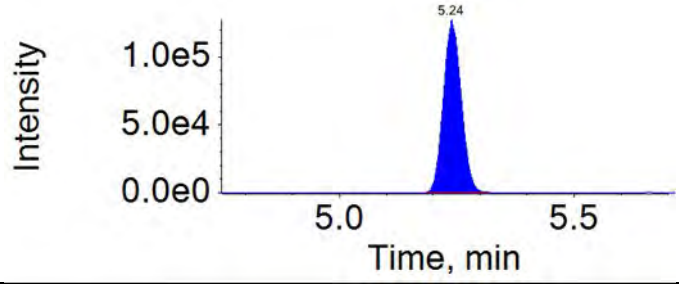
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



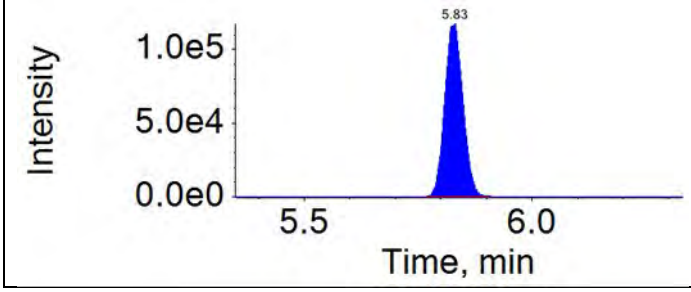


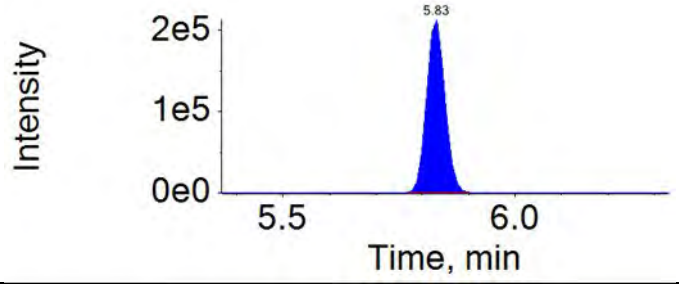
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



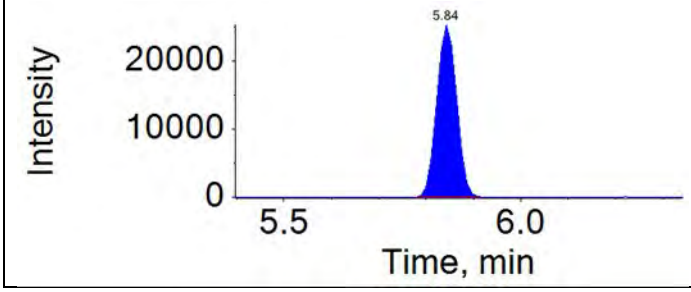


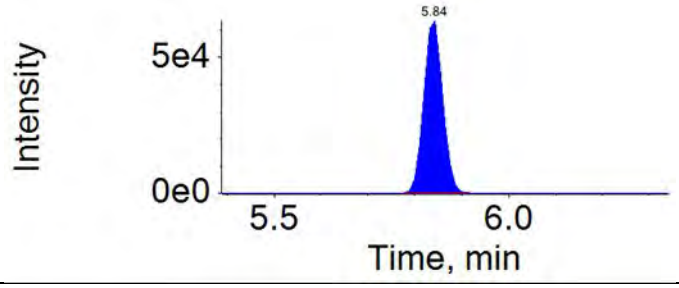
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

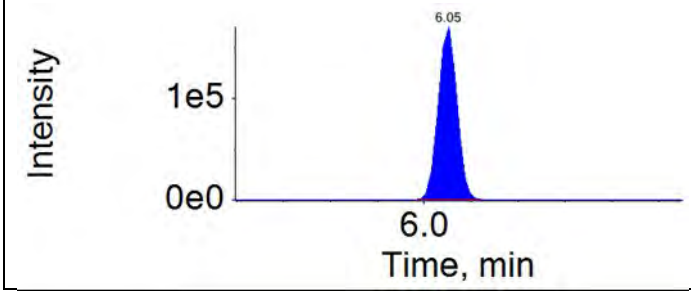
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

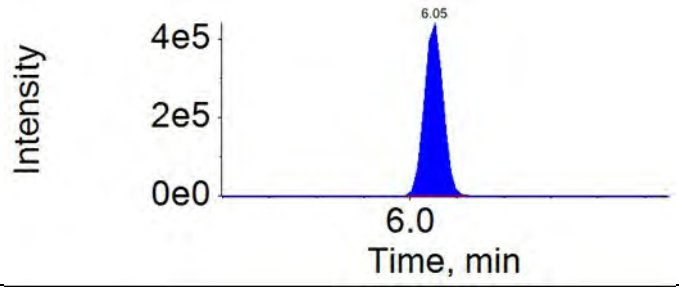
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



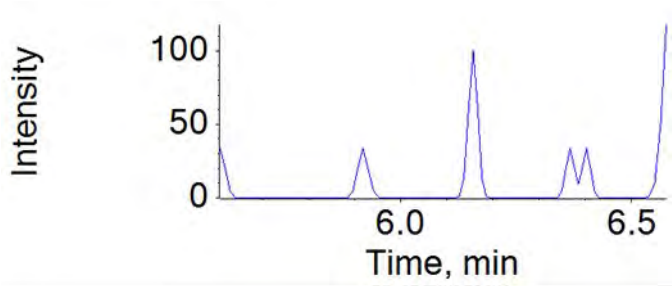


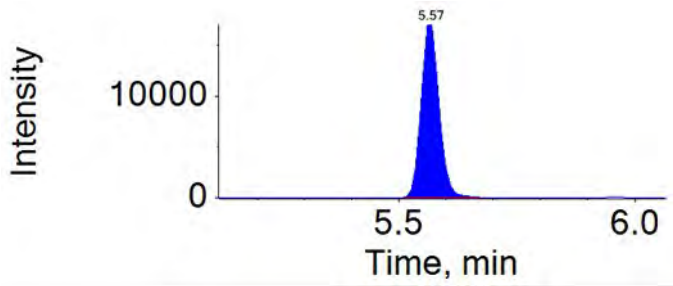
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



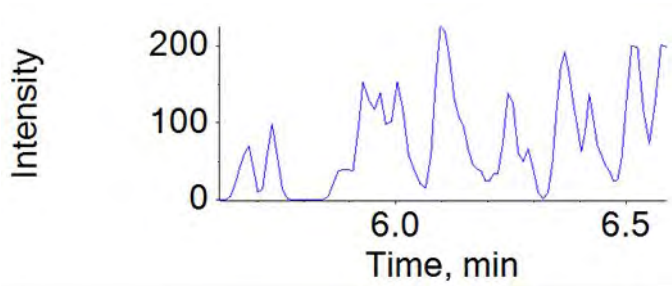


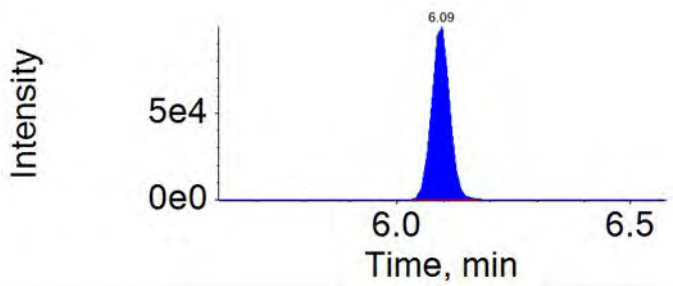
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



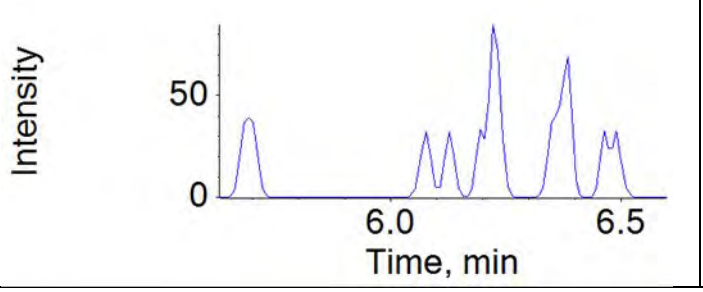


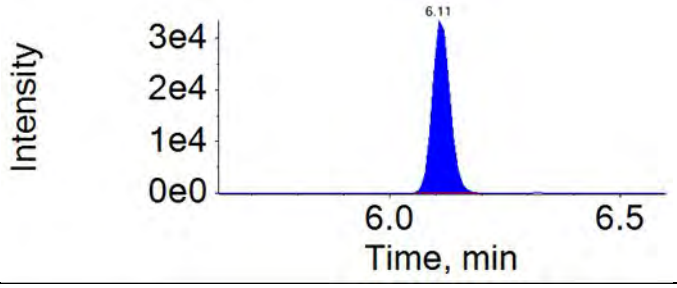
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

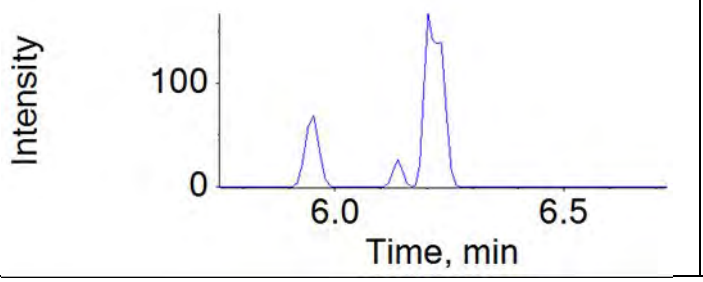
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

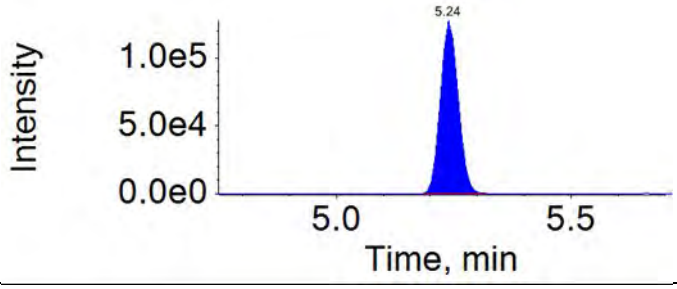
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



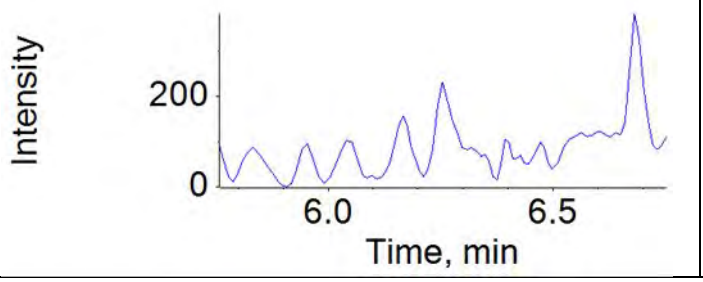


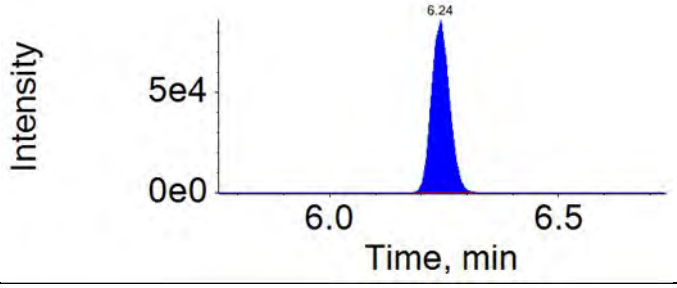
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



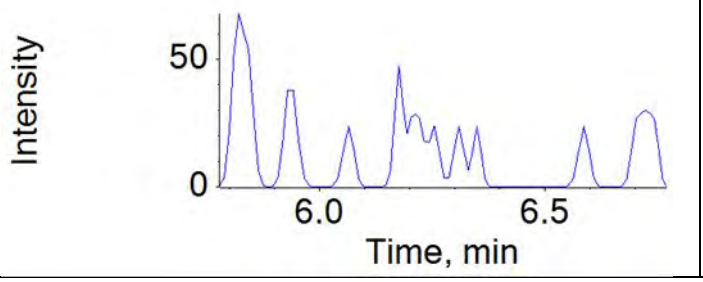


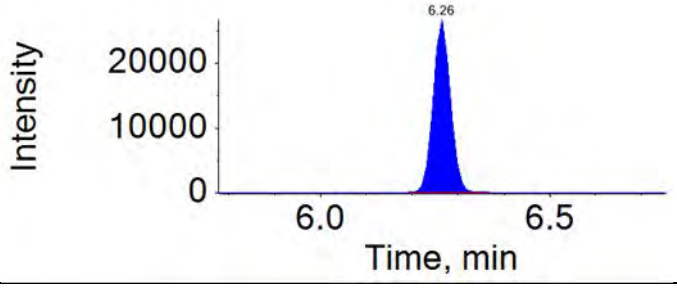
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



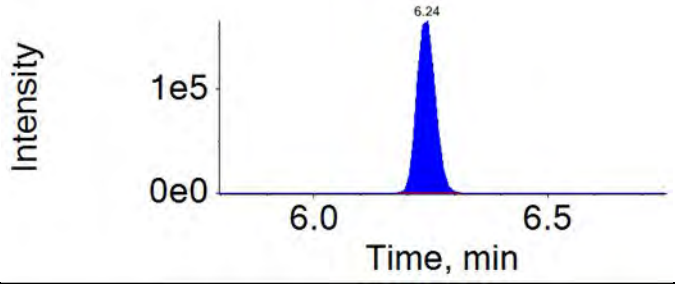


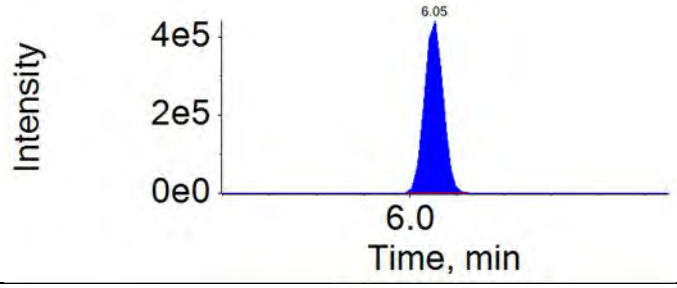
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

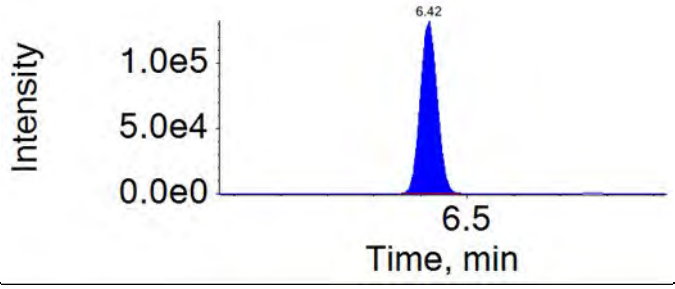
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

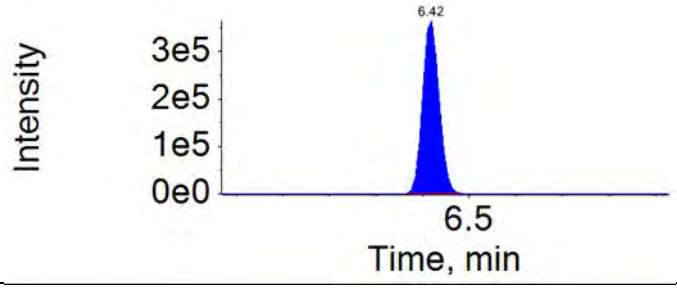
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



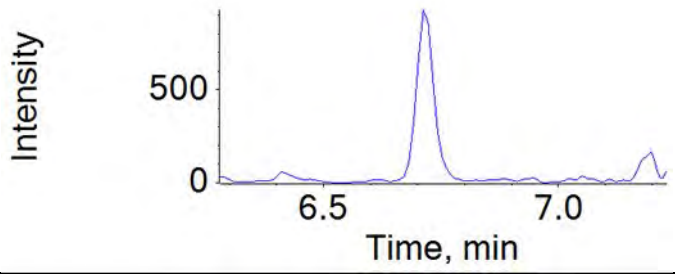


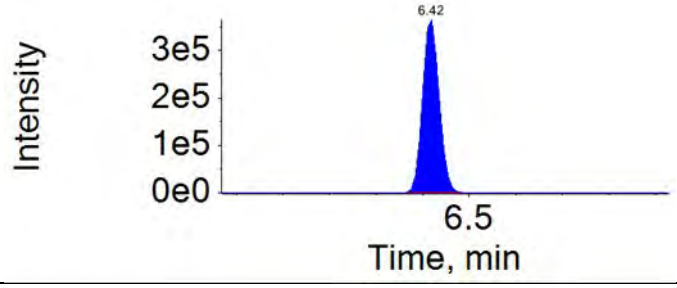
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



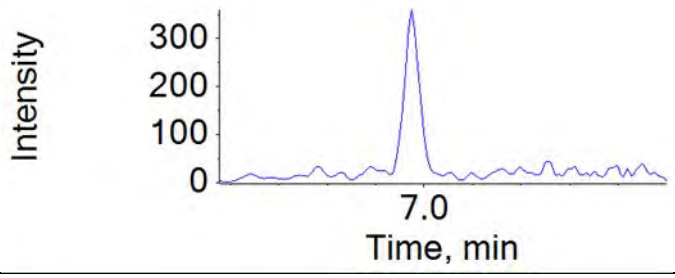


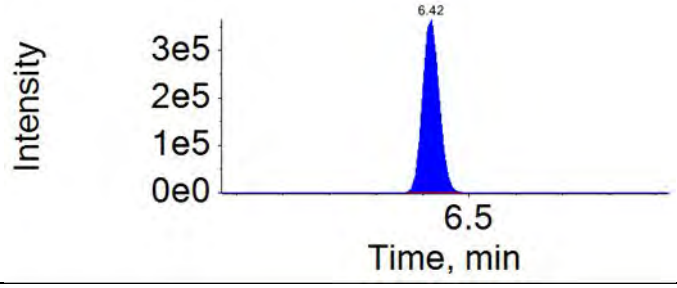
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





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Ion Ratio Report

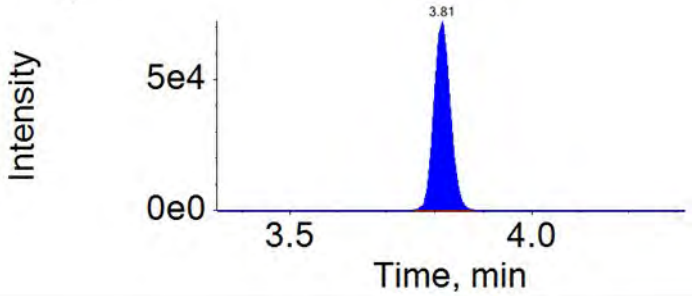
Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-76.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	169696.97	A	1.0000	1.0000			
PFBS_2	3.81	1.00	61117.32	A	0.3686	0.3602	-2	50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6123	N/A		50	
PFHxA	4.16	1.00	384443.42	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	5173.00	A	0.0115	0.0135	17	50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5256	N/A		50	
PFHpA	4.55	1.00	403375.85	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	21660.35	A	0.0547	0.0537	-2	50	
PFHxS	4.55	1.00	130829.50	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	49033.05	A	0.3359	0.3748	12	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6344	N/A		50	
PFHpS	4.90	1.08	129646.75	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	53369.58	A	0.4110	0.4117	0	50	
PFOA	4.91	1.00	398236.05	A	1.0000	1.0000			
PFOA_2	4.91	1.00	22624.63	A	0.0590	0.0568	-4	50	
PFOS	5.24	1.00	133872.01	A	1.0000	1.0000			
PFOS_2	5.24	1.00	43180.79	A	0.2980	0.3226	8	50	
PFNA	5.26	1.00	367059.53	A	1.0000	1.0000			
PFNA_2	5.25	1.00	6937.38	A	0.0214	0.0189	-12	50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4608	N/A		50	
PFDA	5.56	1.00	331197.86	A	1.0000	1.0000			
PFDA_2	5.56	1.00	2397.14	A	0.0064	0.0072	14	50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.5879	N/A		50	
NMeFOSAA	5.71	1.00	83098.34	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	20485.00	A	0.2625	0.2465	-6	50	
PFDS	5.80	1.11	81048.38	A	1.0000	1.0000			
PFDS_2	5.80	1.11	38322.11	A	0.4962	0.4728	-5	50	
PFUnDA	5.83	1.00	328698.42	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	1234.50	A	0.0035	0.0038	6	50	
NEtFOSAA	5.84	1.00	73598.96	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	46245.31	A	0.6883	0.6283	-9	50	
PFDoDA	6.05	1.00	471885.24	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	5740.41	A	0.0134	0.0122	-9	50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.7018	N/A		50	
PFTrDA	6.24	1.03	463980.11	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	4160.01	A	0.0093	0.0090	-4	50	
PFTeDA	6.42	1.00	335133.74	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	2337.37	A	0.0058	0.0070	20	50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0656	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0273	N/A		50	

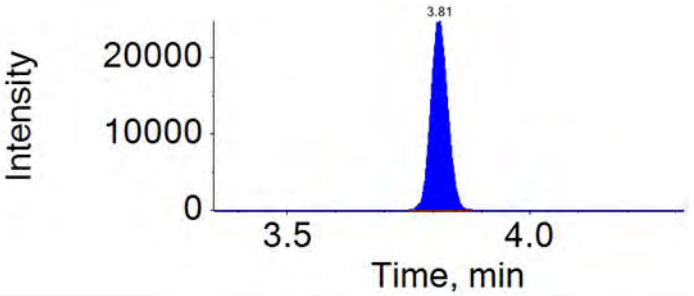
APPROVED
By MSM at 11:49 am, 12/19/18

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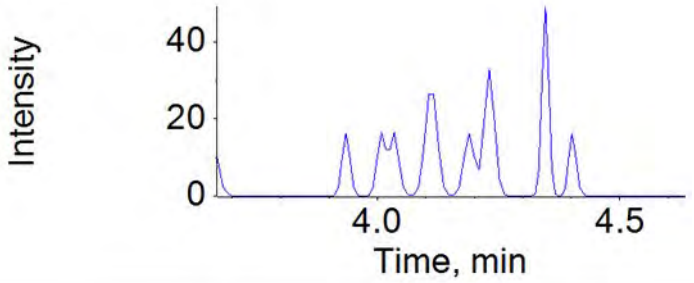
Component: PFBS
Primary Mass: 299.0 / 80.0



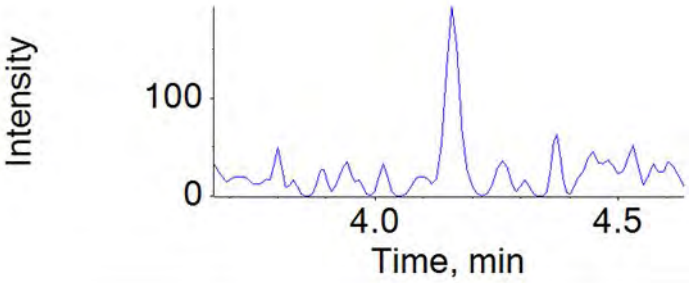
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



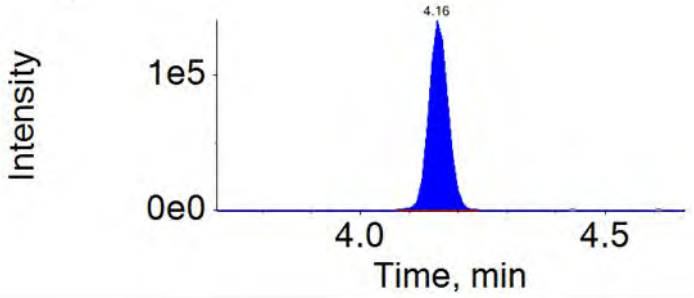
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



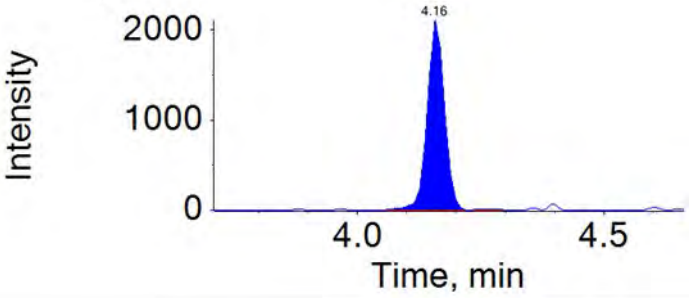
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



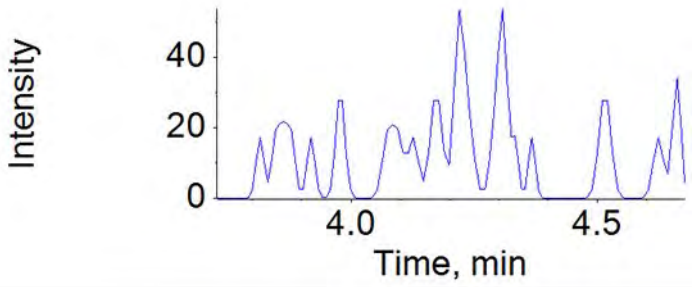
Component: PFHxA
Primary Mass: 313.0 / 269.0



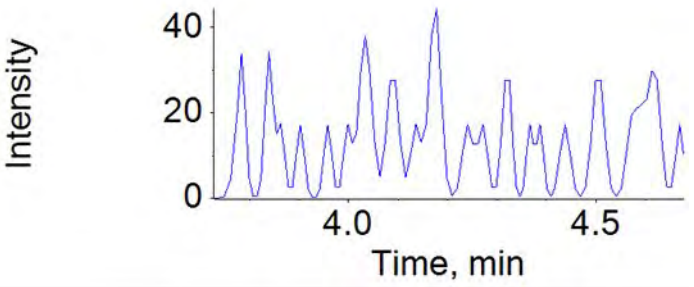
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



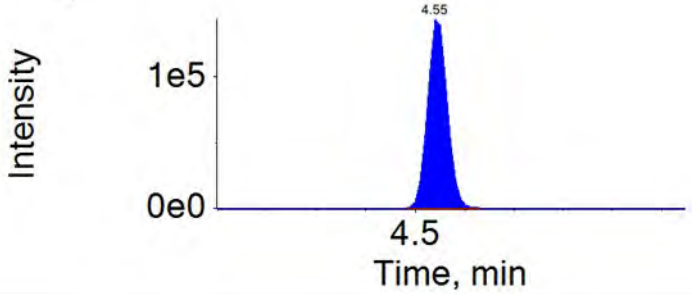
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



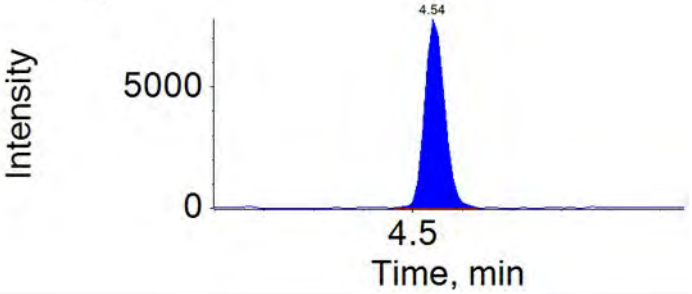
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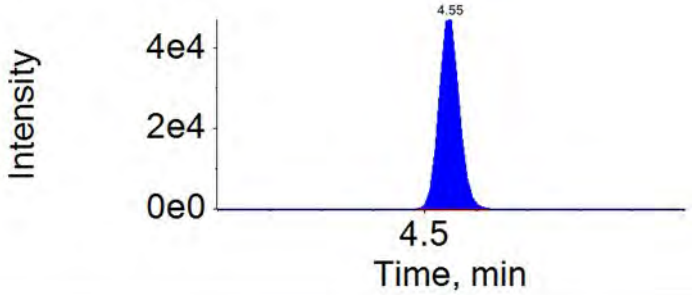
Component: PFHpA
Primary Mass: 363.0 / 319.0



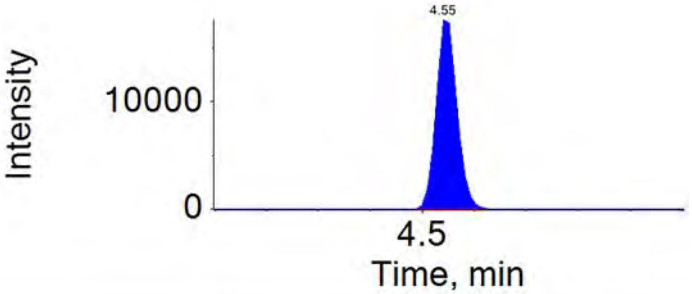
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



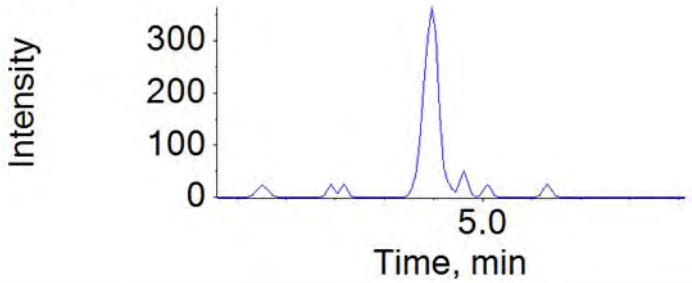
Component: PFHxS
Primary Mass: 399.0 / 80.0



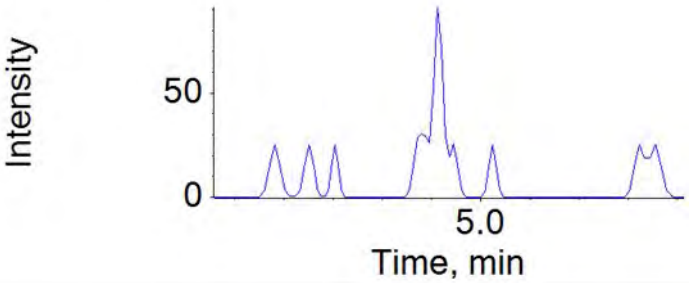
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



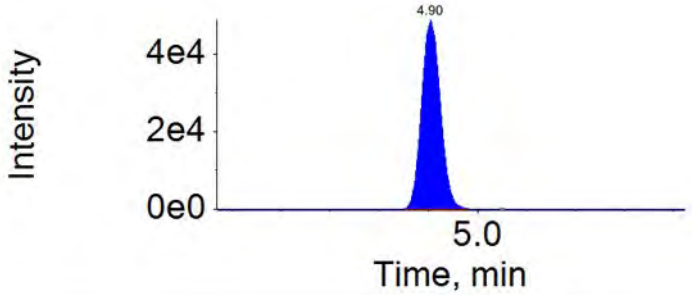
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



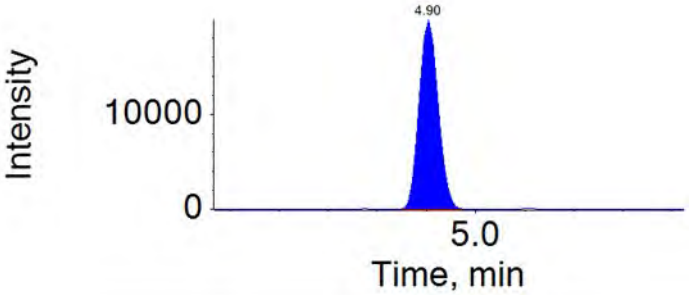
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



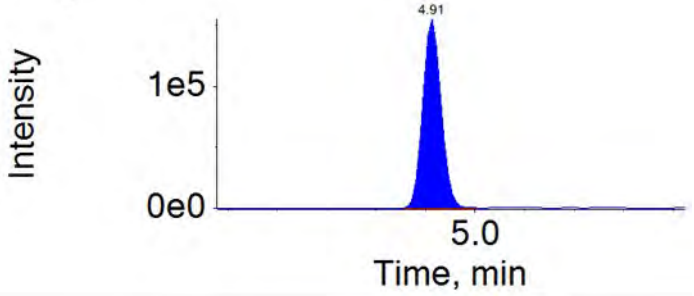
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



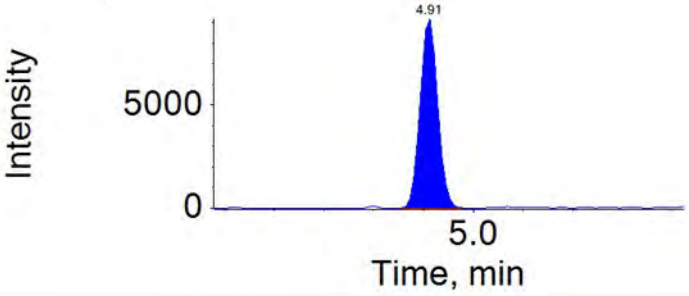
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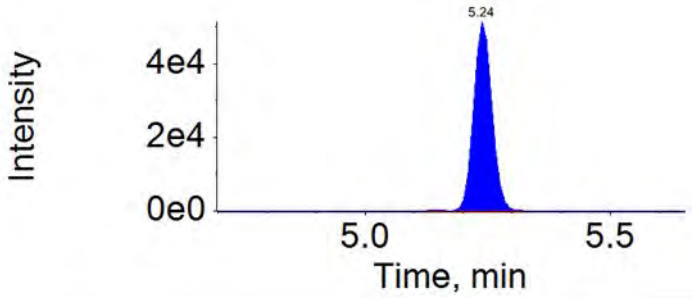
Component: PFOA
Primary Mass: 413.0 / 369.0



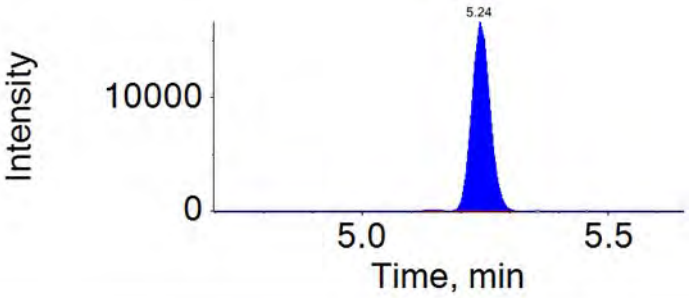
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



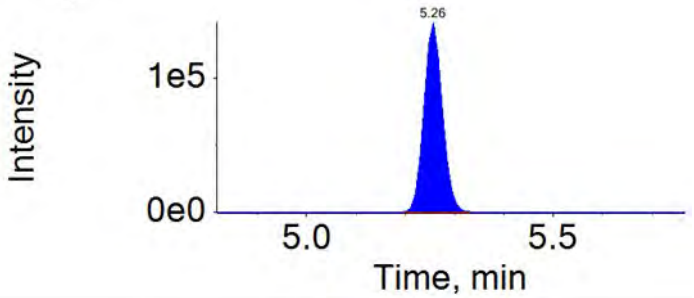
Component: PFOS
Primary Mass: 499.0 / 80.0



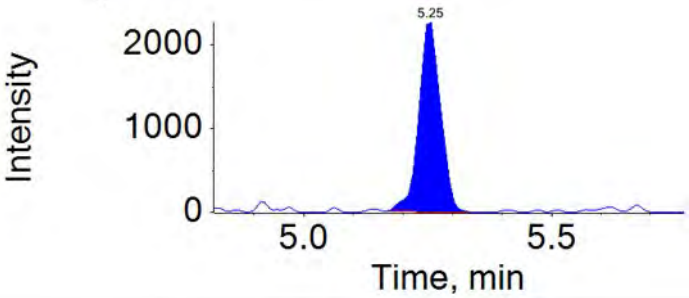
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



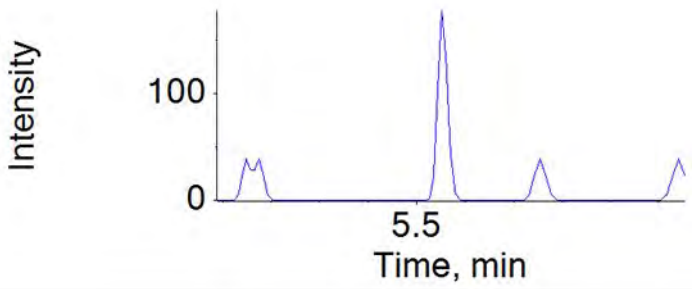
Component: PFNA
Primary Mass: 463.0 / 419.0



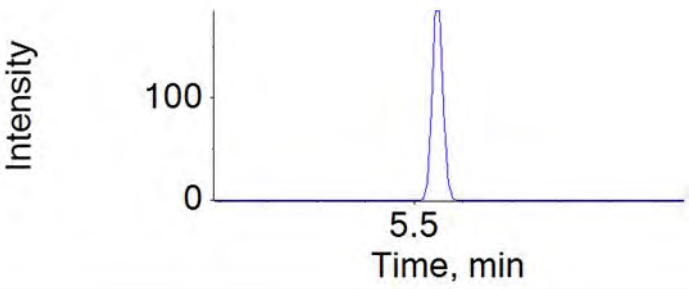
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



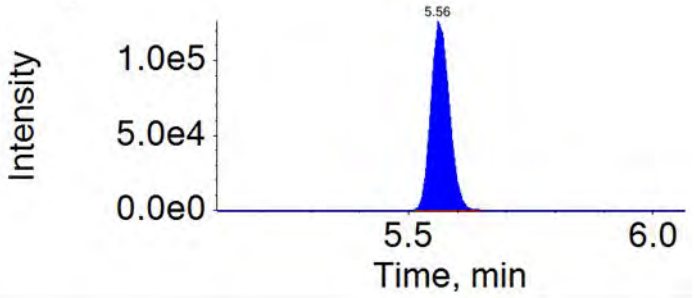
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



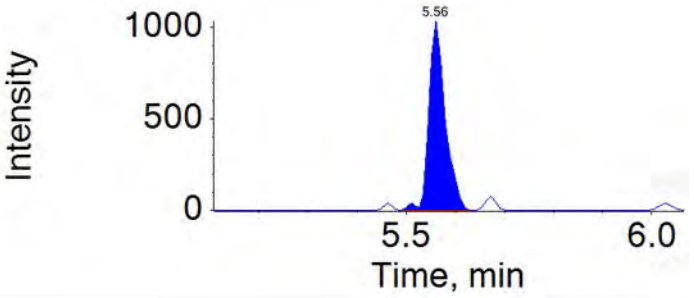
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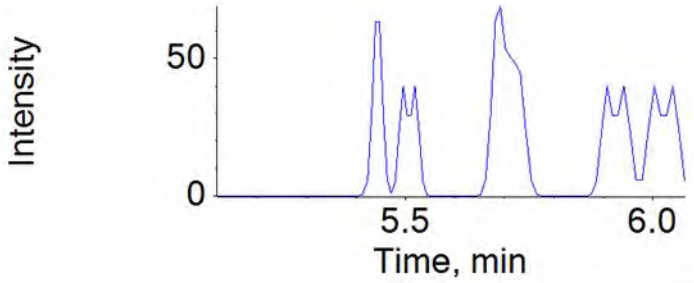
Component: PFDA
Primary Mass: 513.0 / 469.0



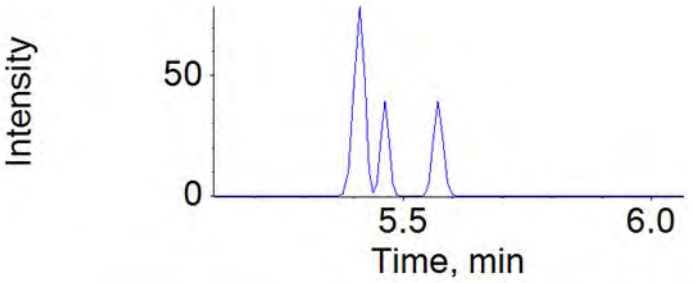
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



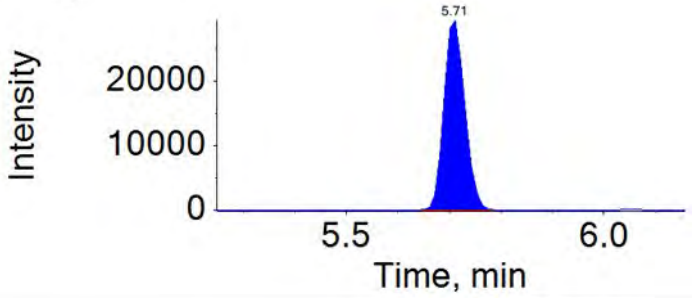
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



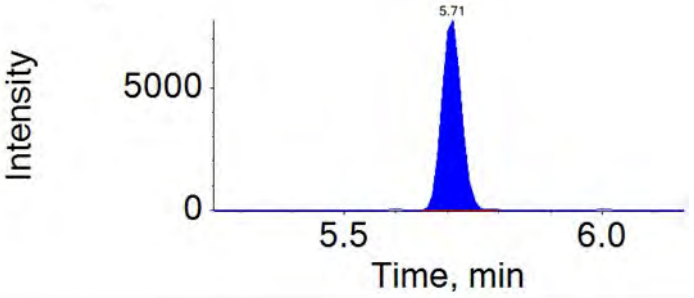
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



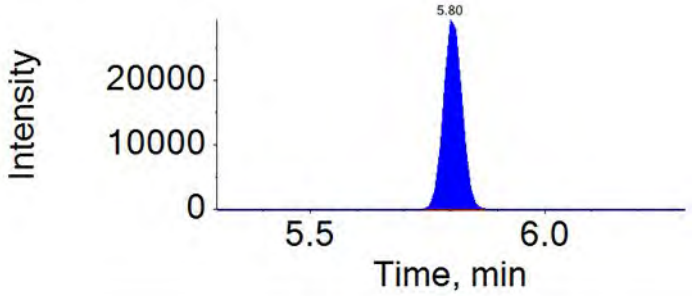
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



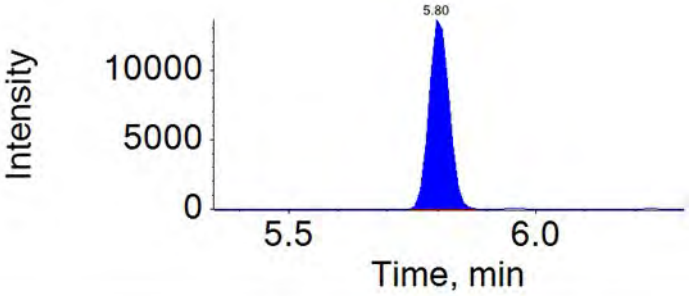
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



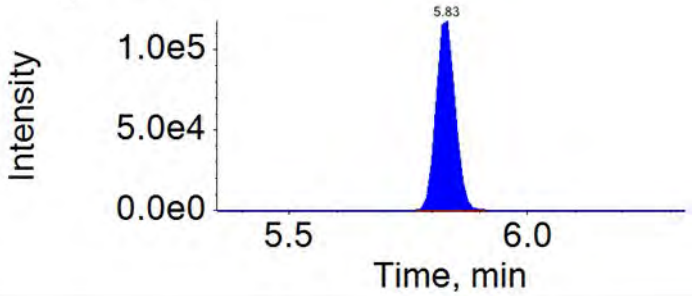
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



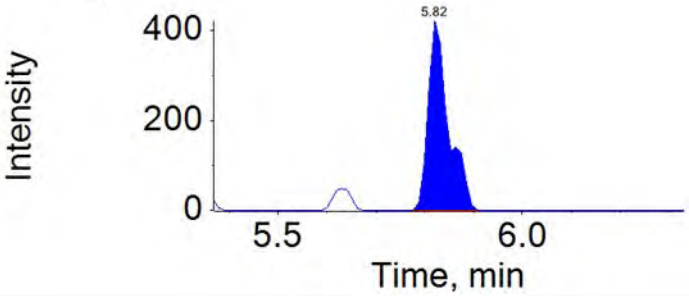
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

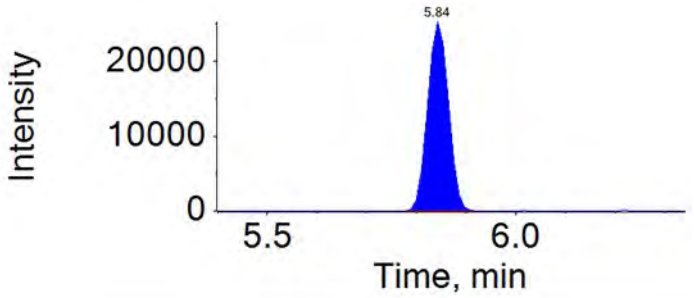
Component: PFUnDA
Primary Mass: 563.0 / 519.0



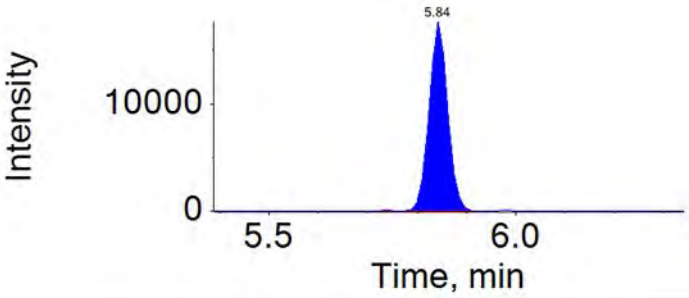
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



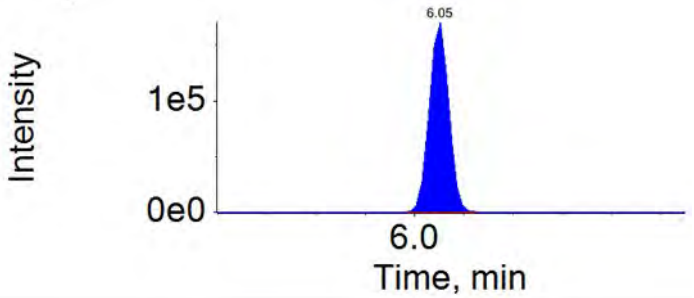
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



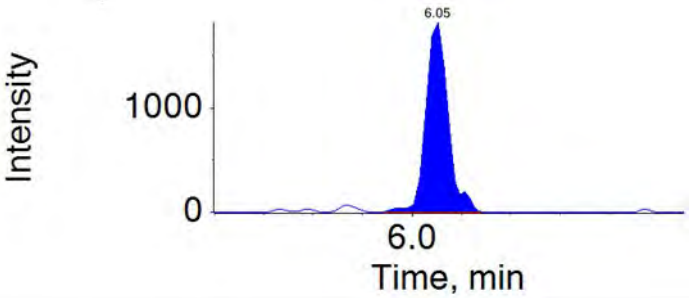
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



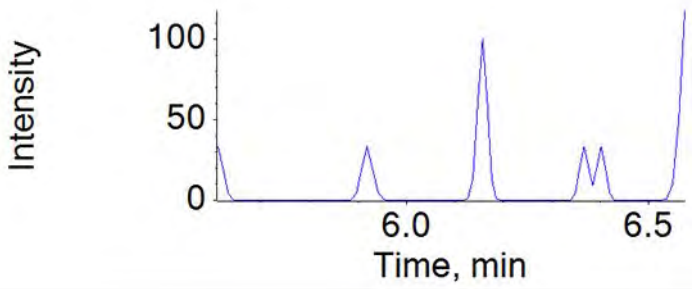
Component: PFDoDA
Primary Mass: 613.0 / 569.0



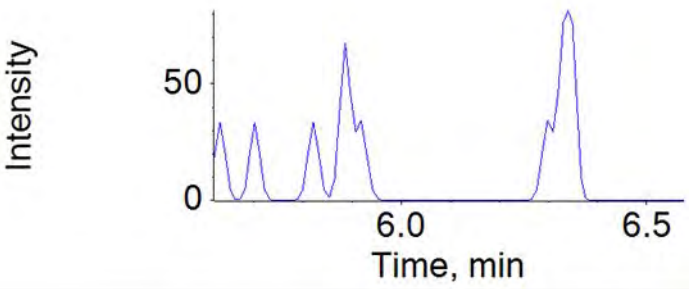
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



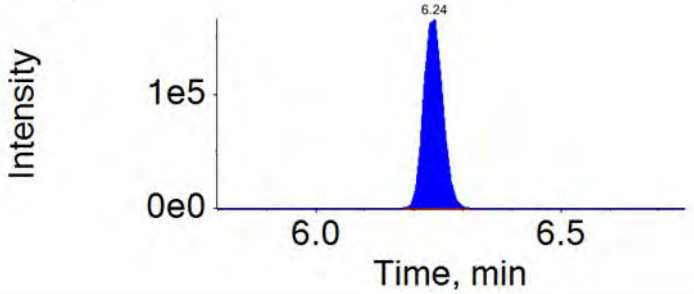
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



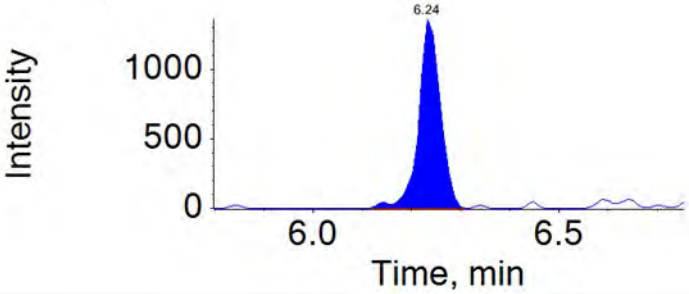
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

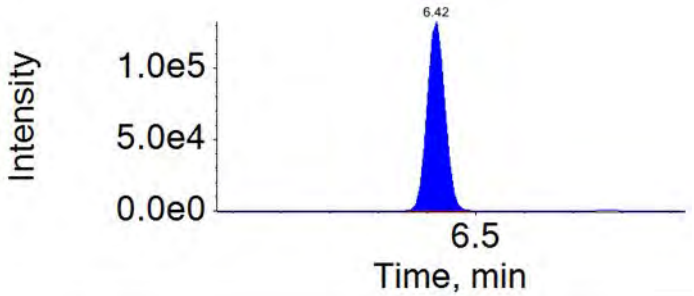
Component: PFTrDA
Primary Mass: 663.0 / 619.0



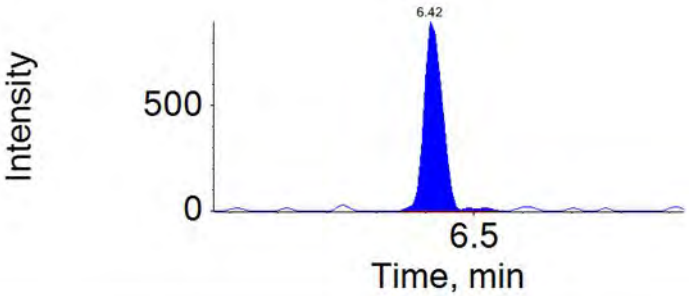
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



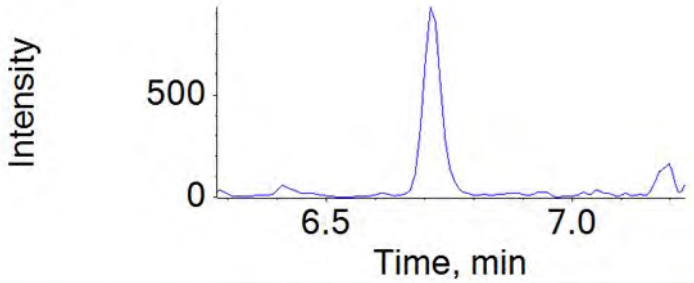
Component: PFTeDA
Primary Mass: 713.0 / 669.0



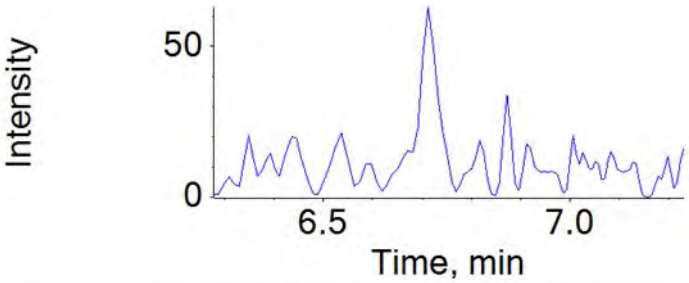
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



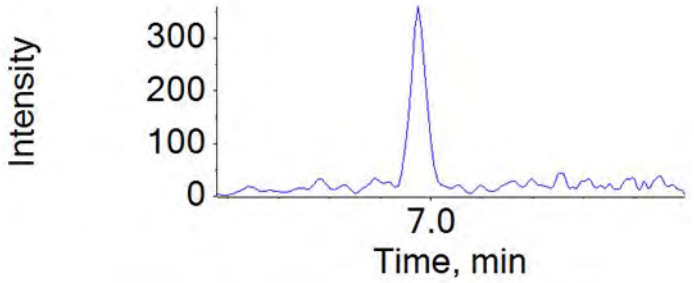
Component: PFHxDA
Primary Mass: 813.0 / 769.0



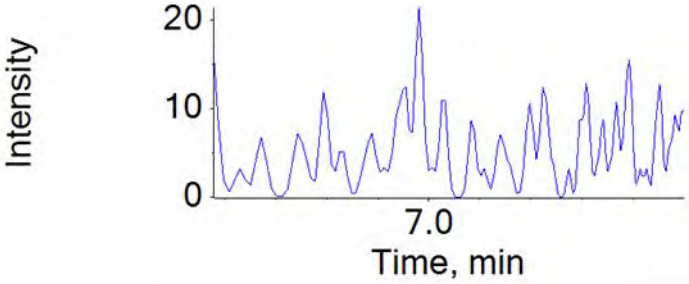
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC18DCAL-75.wiff
Sample ID:	methanol + labels			**Acquis Date:**		2018-12-19T00:37:59
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1079925.6	941251.6	15	50	
13C2-PFOA	5.0	585825.1	485595.3	21	50	
13C4-PFOS	4.8	352673.4	292182.6	21	50	
13C2-PFDA	5.0	521096.3	467216.0	12	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1189185.9	13C3-PFBA	1079925.6	1.101	5.000	4.876	98	70-130	
E13C5-PFPeA	1124499.8	13C3-PFBA	1079925.6	1.041	5.000	4.856	97	70-130	
E13C3-PFBS	473112.4	13C3-PFBA	1079925.6	0.438	4.650	4.266	92	70-130	
E13C2-4:2-FTS	66978.2	13C2-PFOA	585825.1	0.114	4.670	4.342	93	70-130	
E13C5-PFHxA	794824.1	13C2-PFOA	585825.1	1.357	5.000	4.853	97	70-130	
E13C3-PFHxS	359058.3	13C2-PFOA	585825.1	0.613	4.730	4.638	98	70-130	
E13C4-PFHpA	632358.9	13C2-PFOA	585825.1	1.079	5.000	4.663	93	70-130	
E13C2-6:2-FTS	56500.3	13C2-PFOA	585825.1	0.096	4.750	4.852	102	70-130	
E13C8-PFOA	1094219.8	13C2-PFOA	585825.1	1.868	5.000	5.136	103	70-130	
E13C8-PFOS	368522.4	13C4-PFOS	352673.4	1.045	4.780	4.673	98	70-130	
E13C9-PFNA	748034.0	13C4-PFOS	352673.4	2.121	5.000	4.825	97	70-130	
E13C6-PFDA	956008.8	13C2-PFDA	521096.3	1.835	5.000	5.226	105	70-130	
E13C2-8:2-FTS	52536.4	13C2-PFDA	521096.3	0.101	4.790	5.196	108	70-130	
E13C8-PFOSA	749437.5	13C2-PFDA	521096.3	1.438	5.000	5.600	112	70-130	
Ed3-NMeFOSAA	262204.7	13C2-PFDA	521096.3	0.503	5.000	5.536	111	70-130	
E13C7-PFUnDA	640896.0	13C2-PFDA	521096.3	1.230	5.000	5.148	103	70-130	
Ed5-NEtFOSAA	178339.9	13C2-PFDA	521096.3	0.342	5.000	5.042	101	70-130	
E13C2-PFDoDA	1305861.6	13C2-PFDA	521096.3	2.506	5.000	5.272	105	70-130	
Ed7-NMePFOSAE	289876.6	13C2-PFDA	521096.3	0.556	5.000	4.970	99	70-130	
Ed3-NMePFOSA	98770.3	13C2-PFDA	521096.3	0.190	5.000	5.208	104	70-130	
Ed9-NEtPFOSAE	256271.5	13C2-PFDA	521096.3	0.492	5.000	5.028	101	70-130	
Ed5-NEtPFOSA	76760.2	13C2-PFDA	521096.3	0.147	5.000	5.109	102	70-130	
E13C2-PFTeDA	907626.5	13C2-PFDA	521096.3	1.742	5.000	4.908	98	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

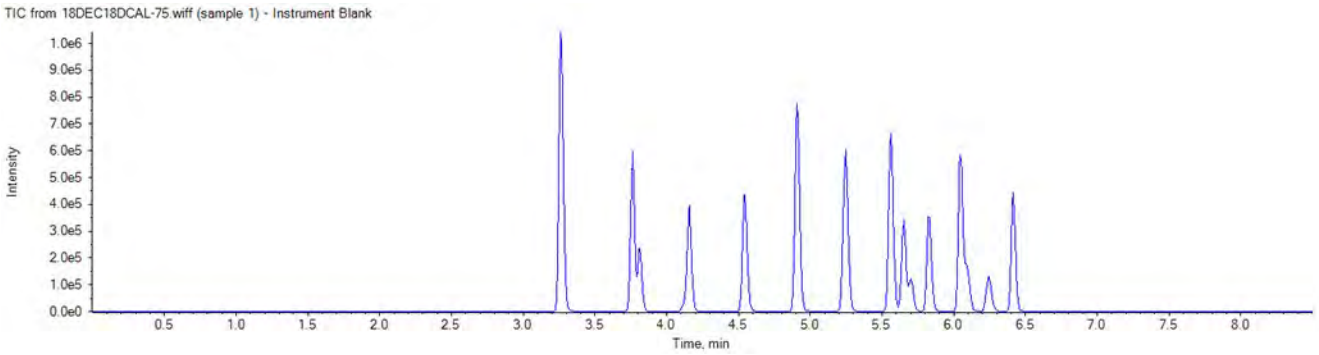
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-75.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.26	1189185.9	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	1124499.8	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	473112.4	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.12	66978.2	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	794824.1	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	473112.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	632358.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	359058.3	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	56500.3	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	359058.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	1094219.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	368522.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	748034.0	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	368522.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	956008.8	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	52536.4	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	749437.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	262204.7	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.24	368522.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	640896.0	N/A	
NEtFOSAA	5.84	1.000	1882.8		A	d5-NEtFOSAA	5.84	178339.9	0.011	0.054
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1305861.6	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	52536.4	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	289876.6	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	98770.3	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	368522.4	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	256271.5	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	76760.2	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1305861.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	907626.5	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	907626.5	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	907626.5	N/A	

Total Ion Chromatogram

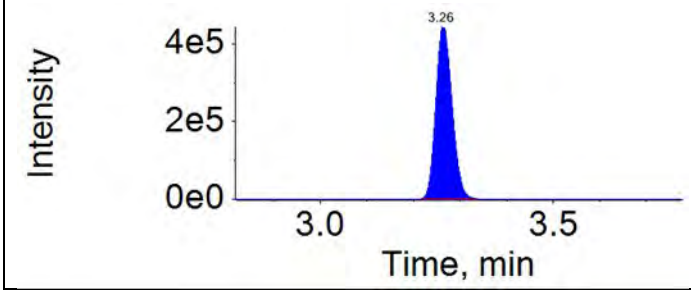


APPROVED
By MSM at 11:49 am, 12/19/18

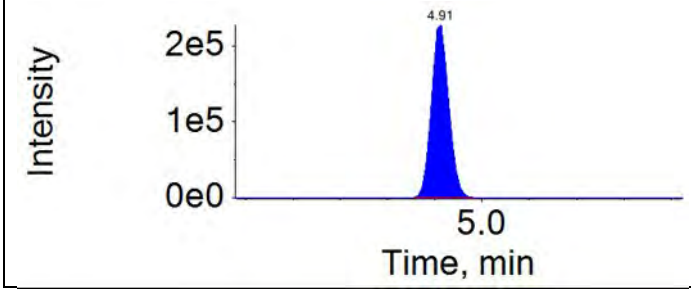
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

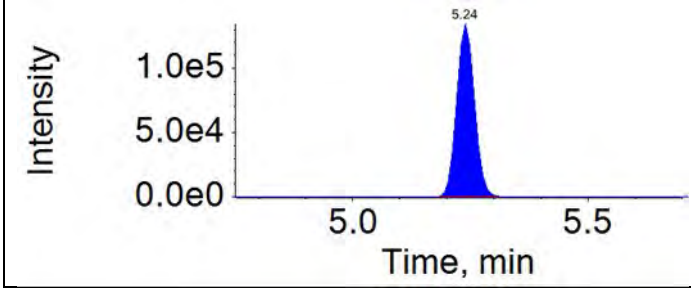
Injection Standard: 13C3-PFBA
216.0 / 172.0



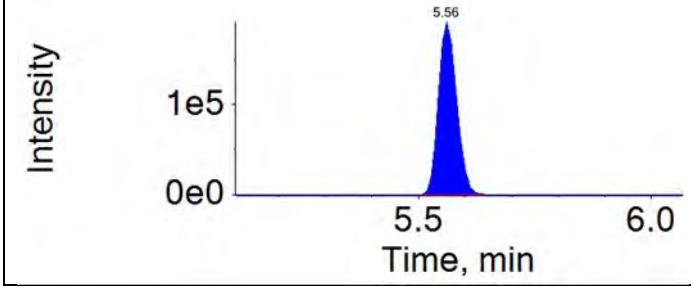
Injection Standard: 13C2-PFOA
415.0 / 370.0



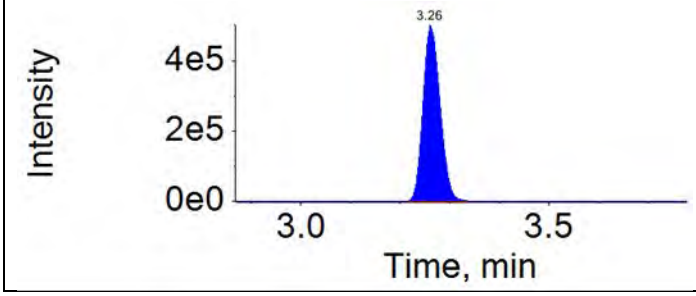
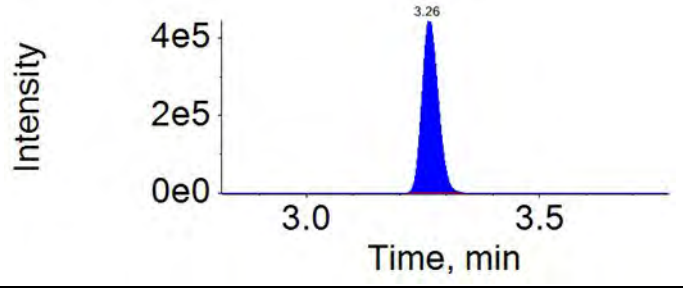
Injection Standard: 13C4-PFOS
503.0 / 80.0

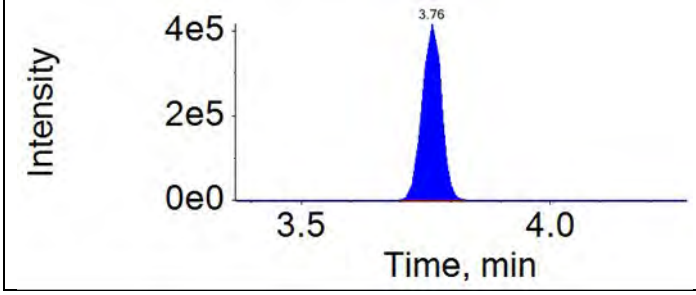
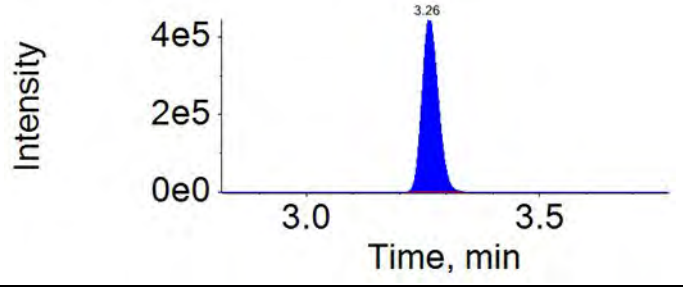


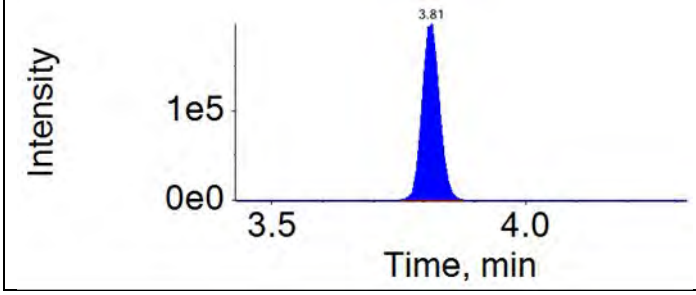
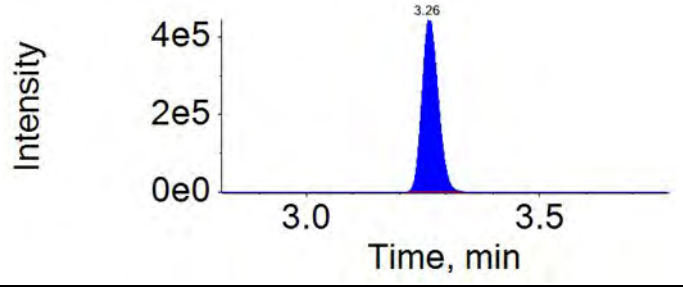
Injection Standard: 13C2-PFDA
515.0 / 470.0

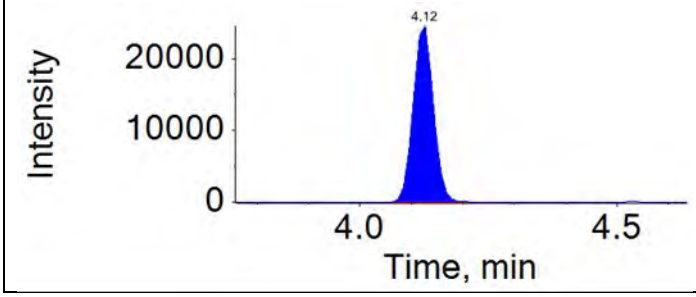
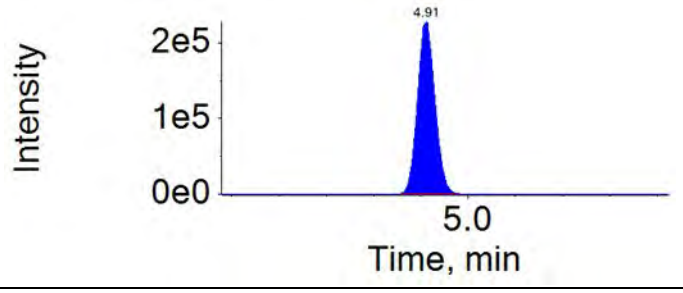


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

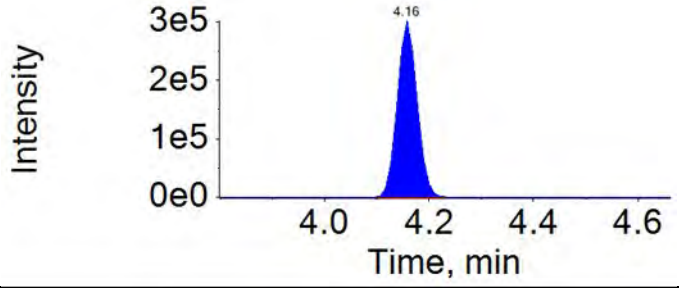
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

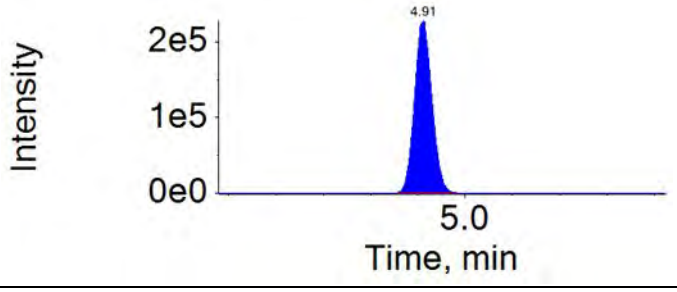
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

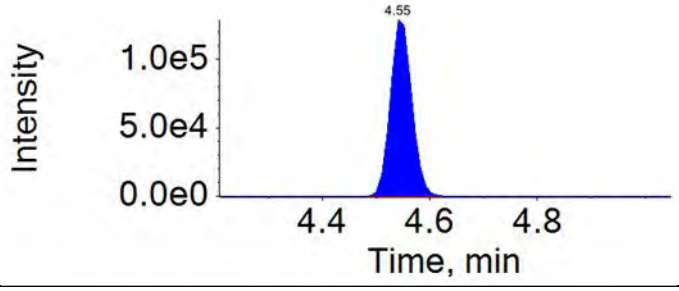
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

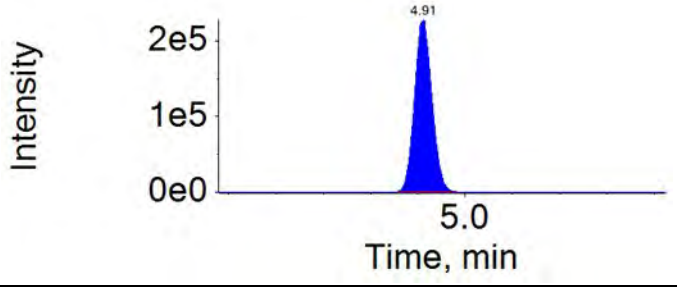
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



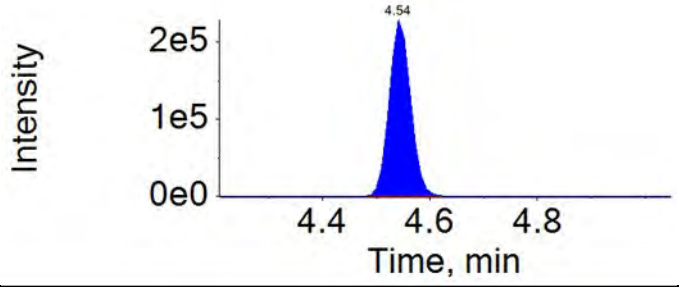


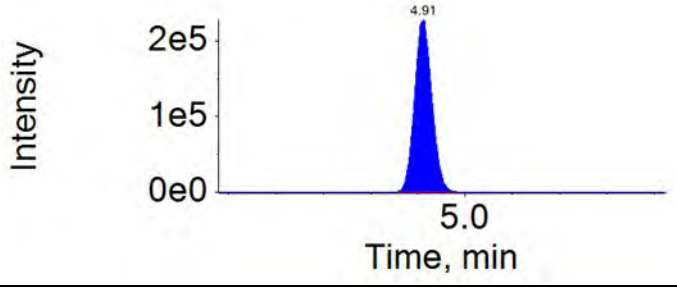
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



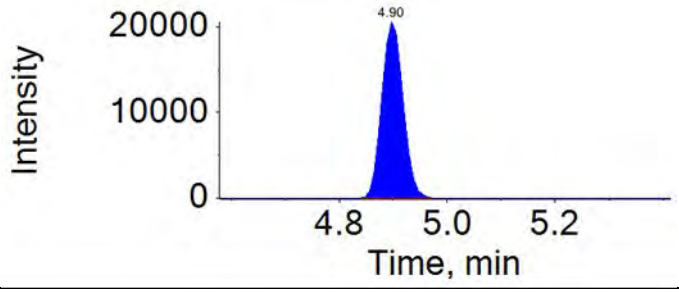


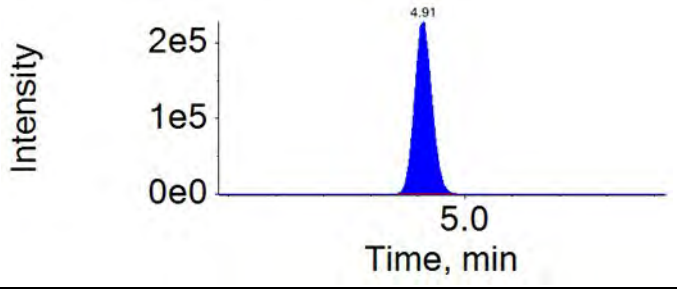
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

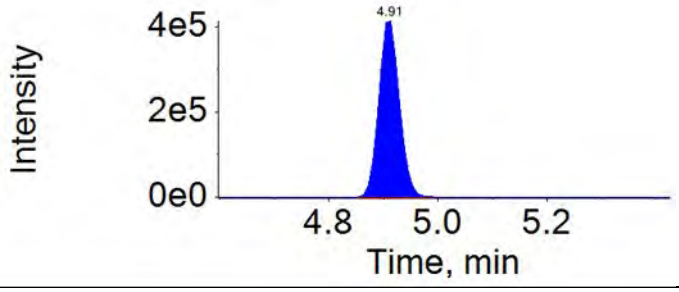
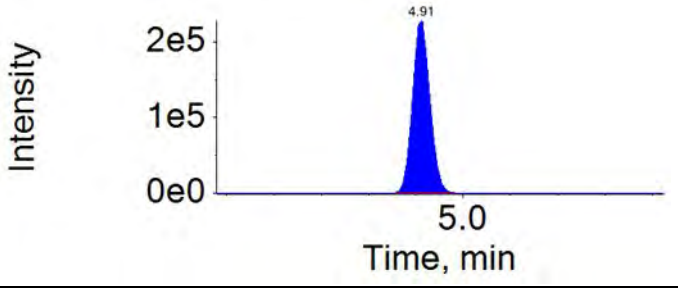


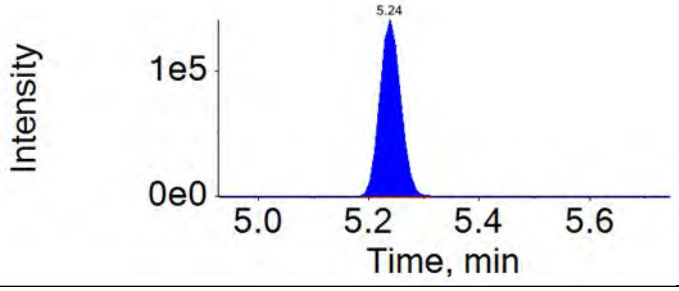
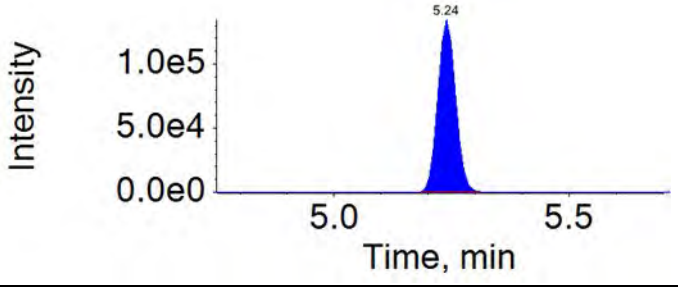


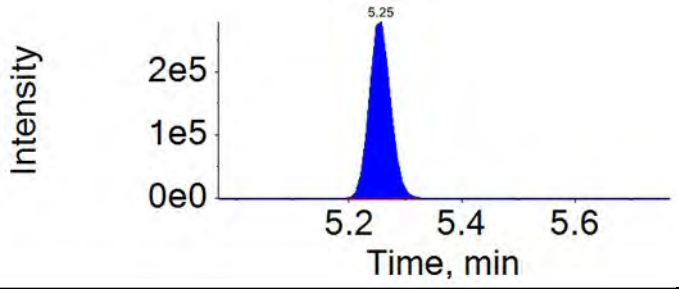
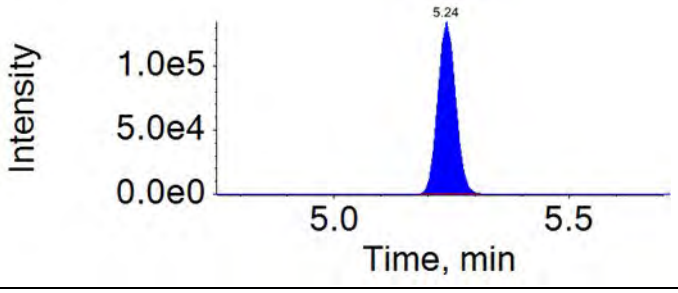
APPROVED
By MSM at 11:49 am, 12/19/18

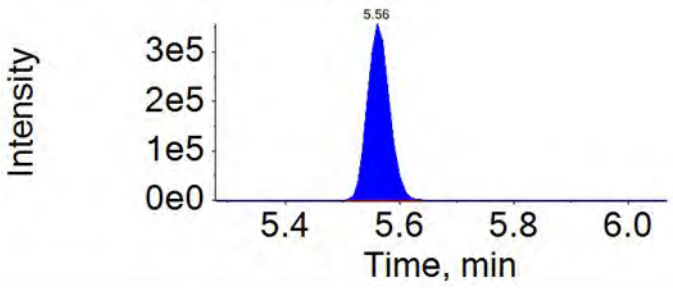
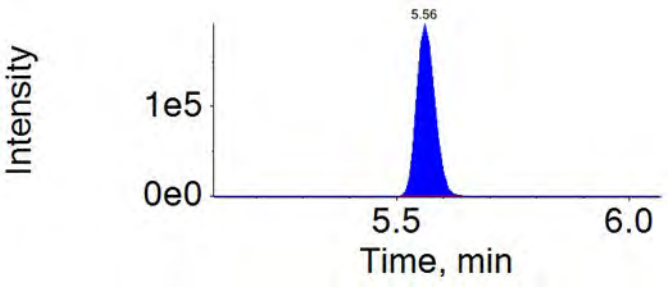
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

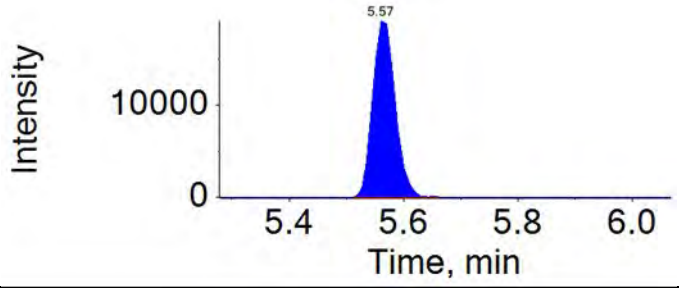
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

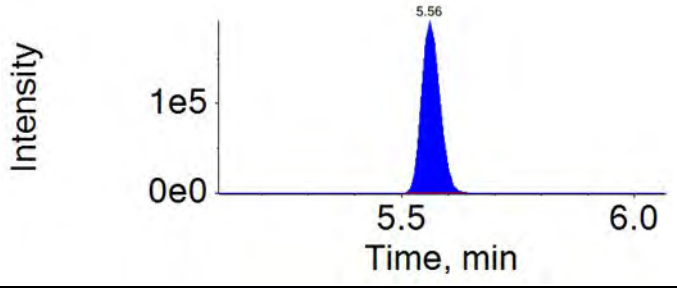
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

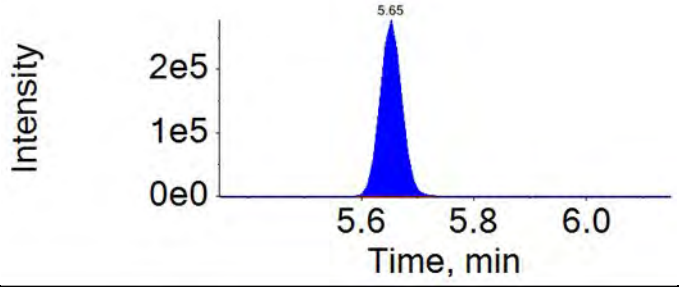
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

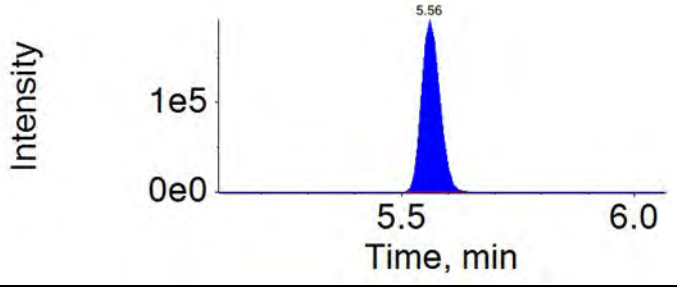
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



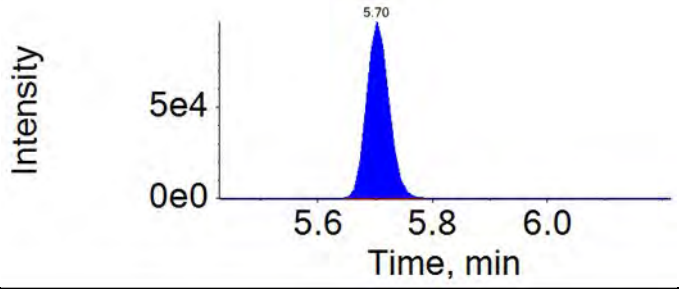


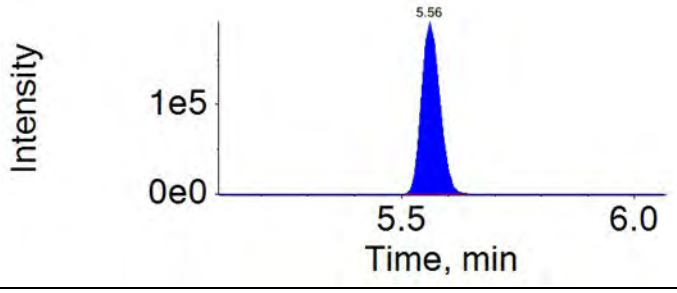
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



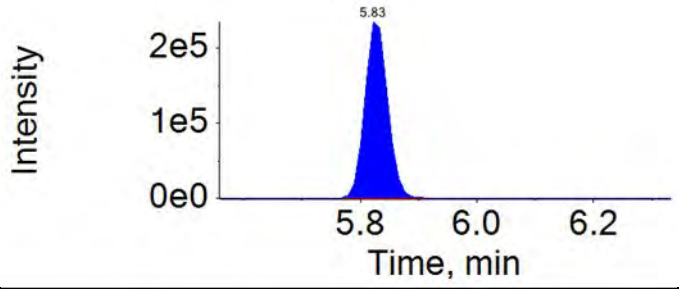


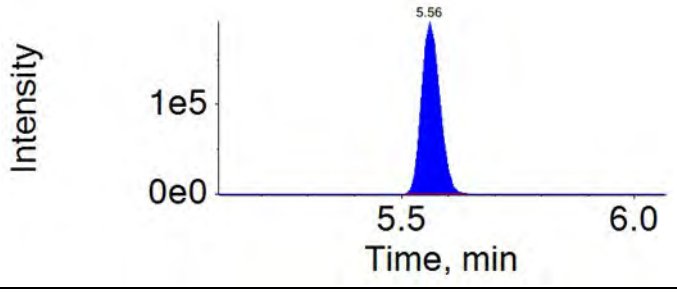
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





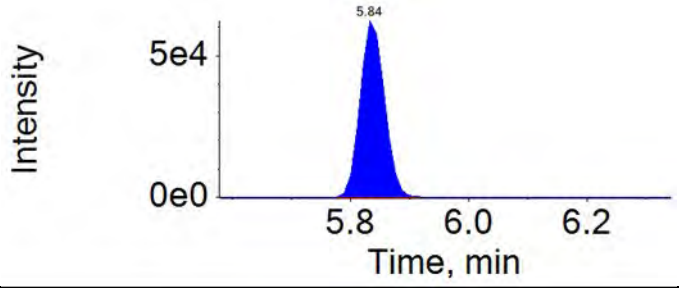
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

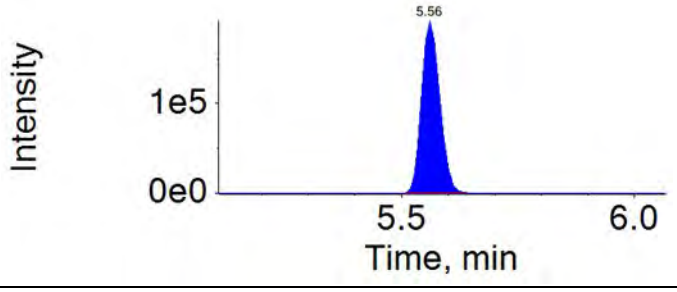




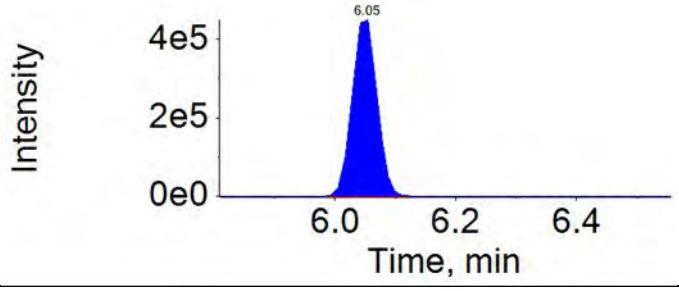
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

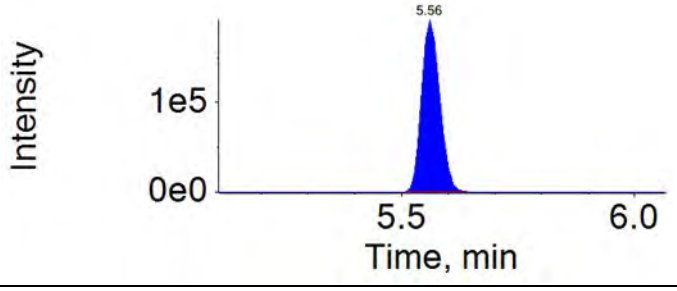
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



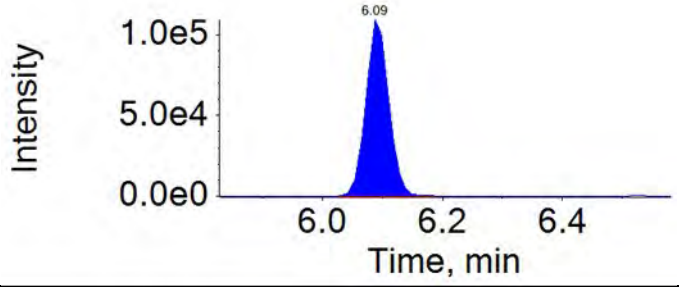


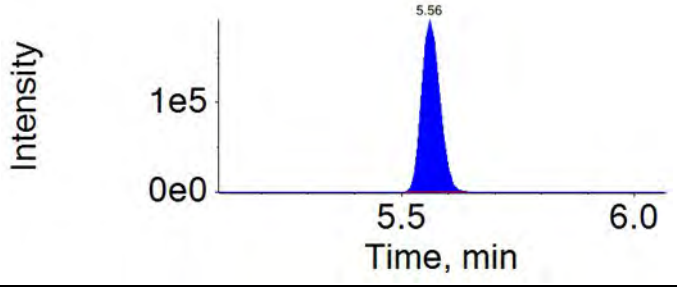
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



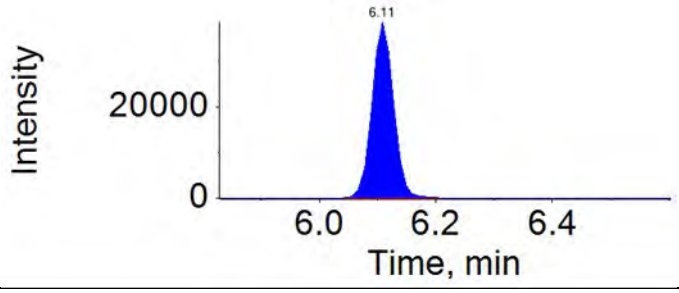


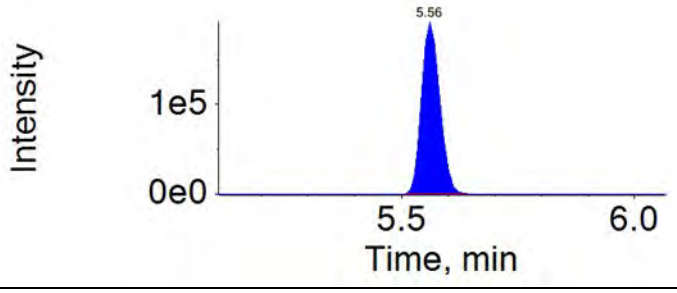
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



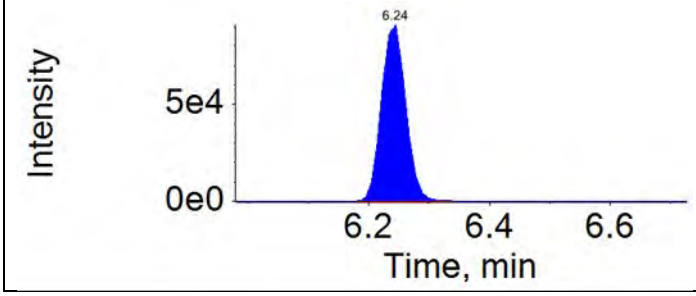


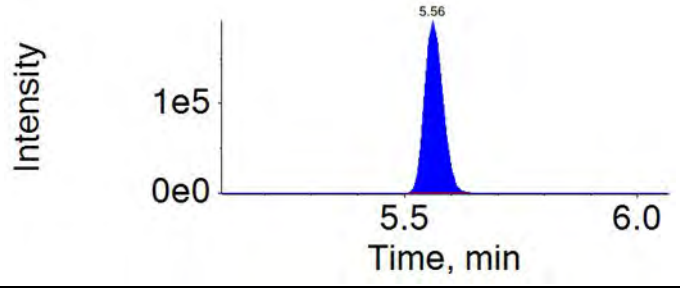
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

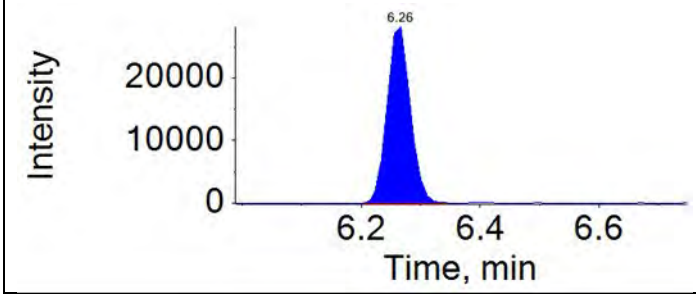
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

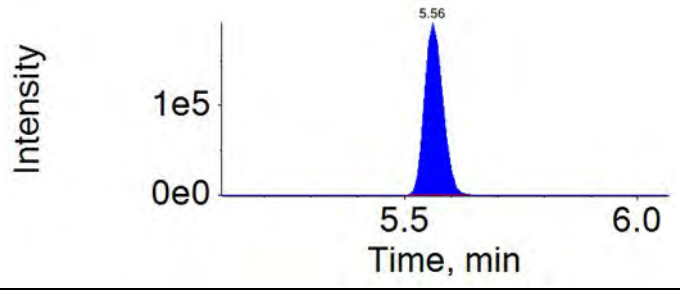
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



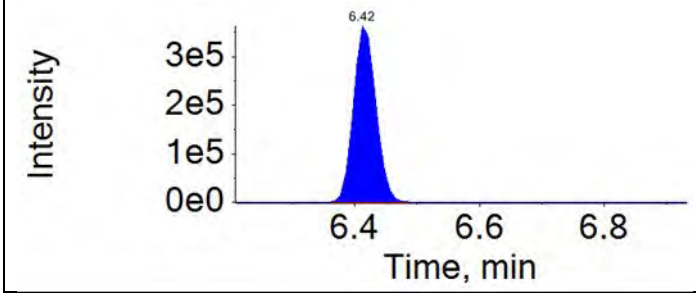


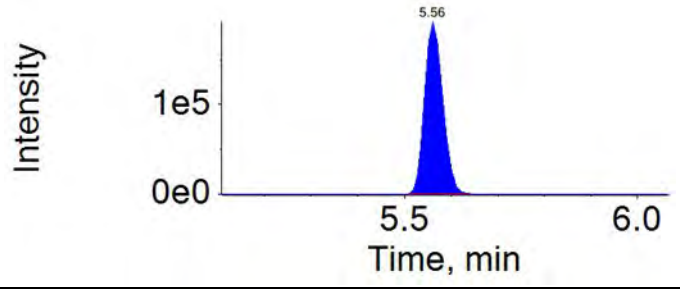
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



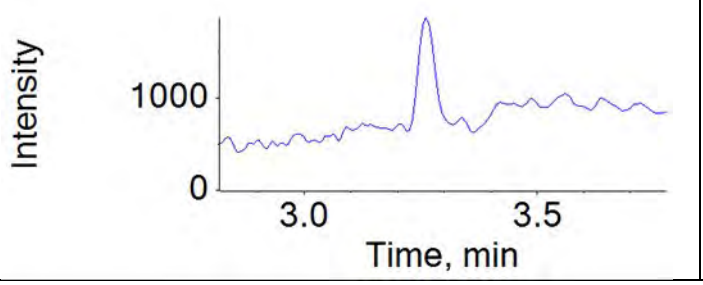


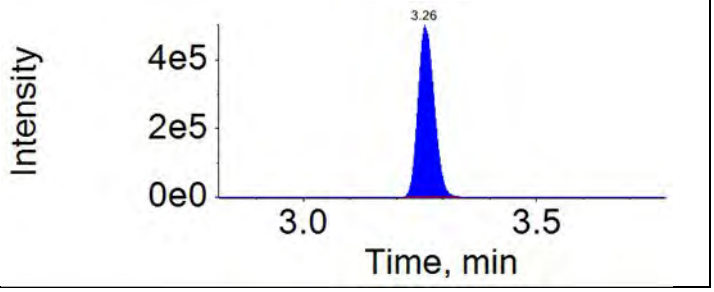
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

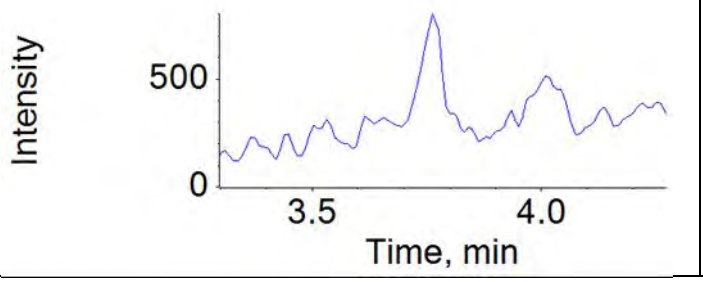
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

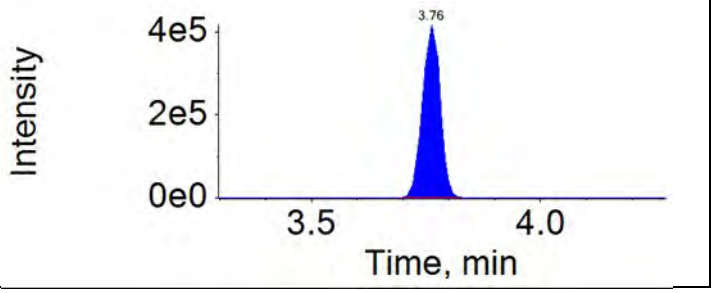
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



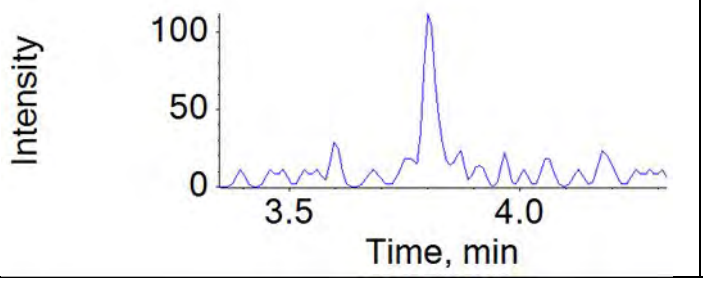


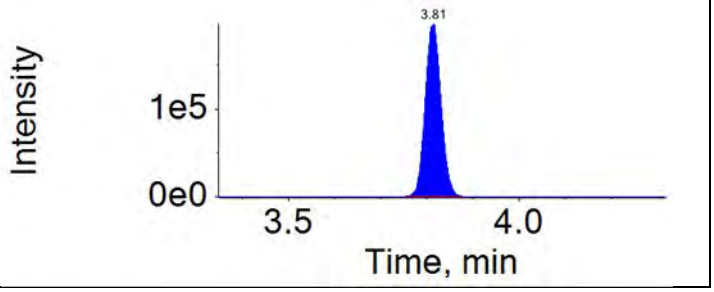
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



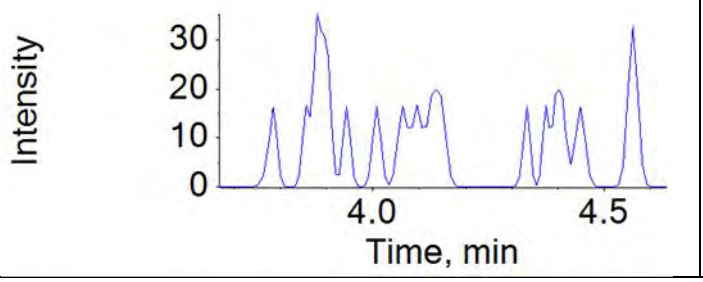


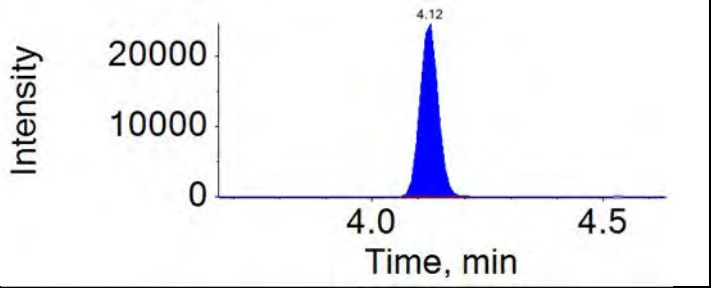
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



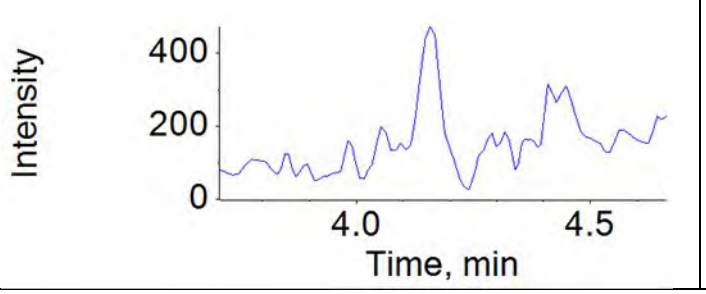


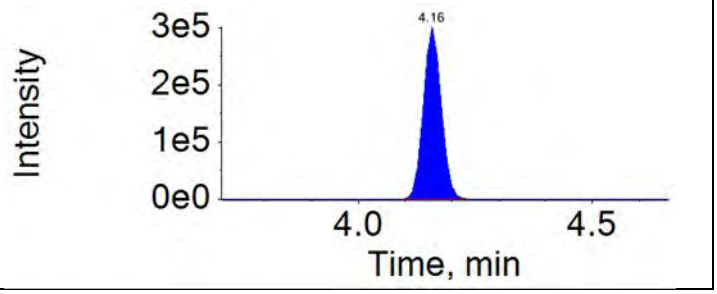
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

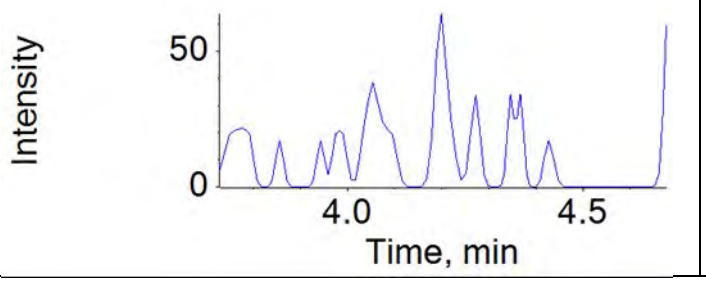
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

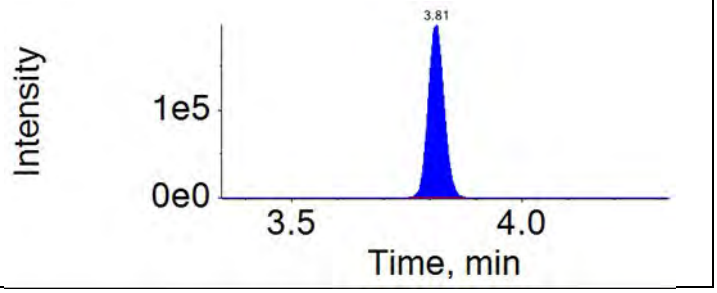
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



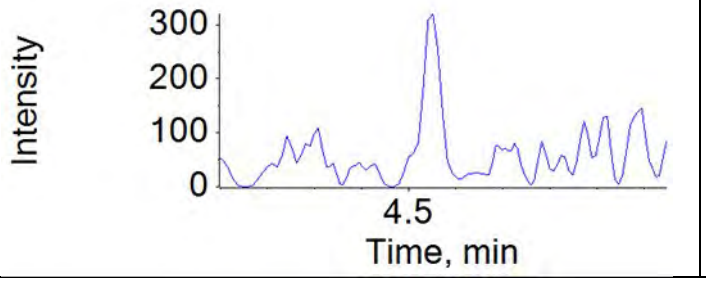


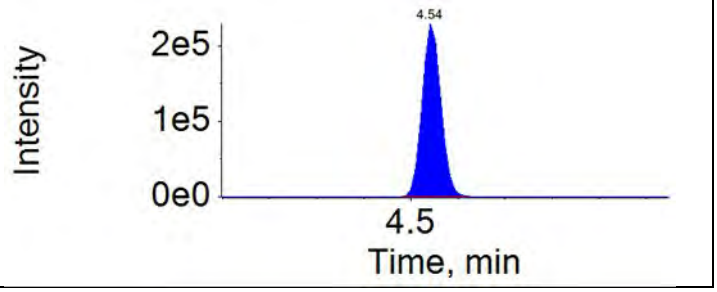
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



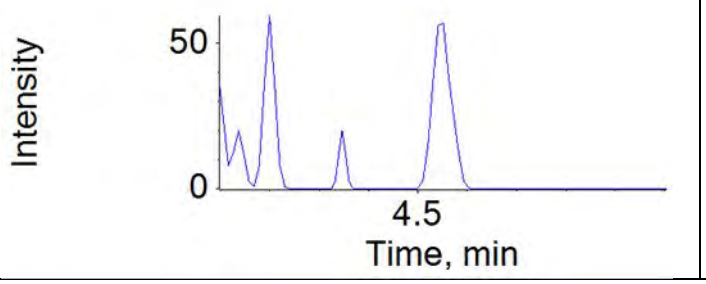


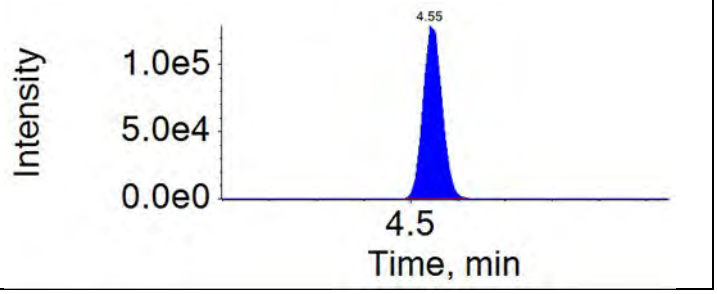
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



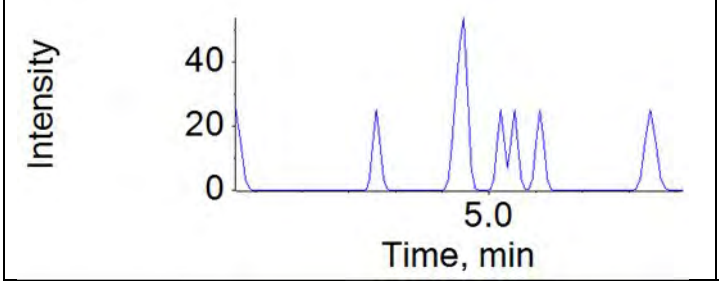


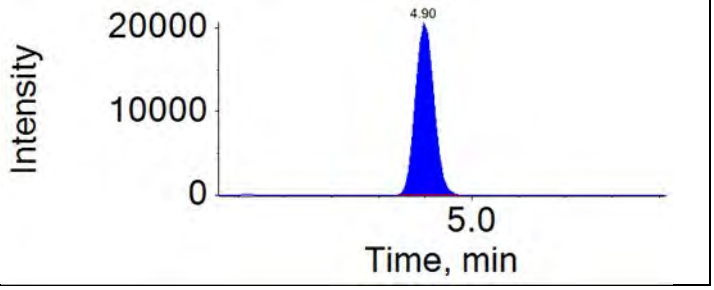
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

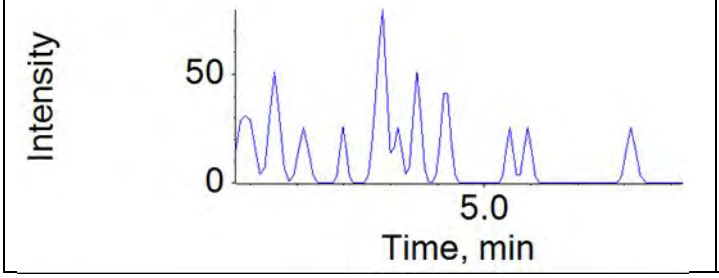
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

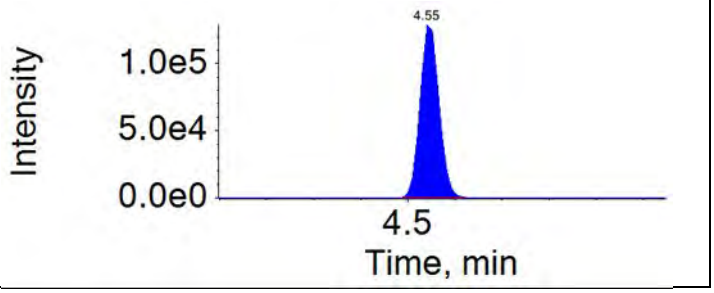
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



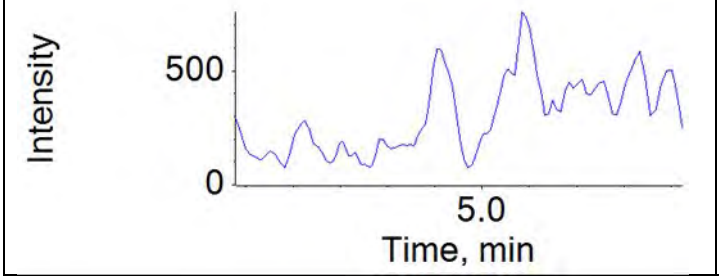


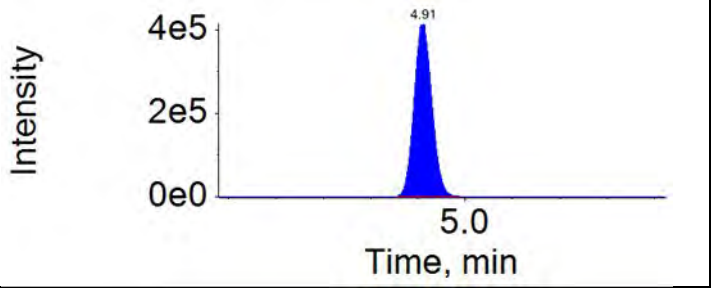
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



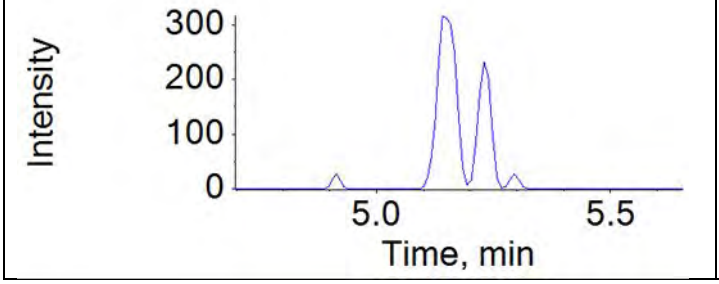


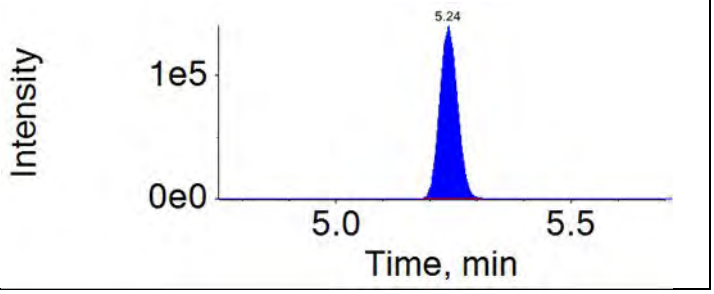
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



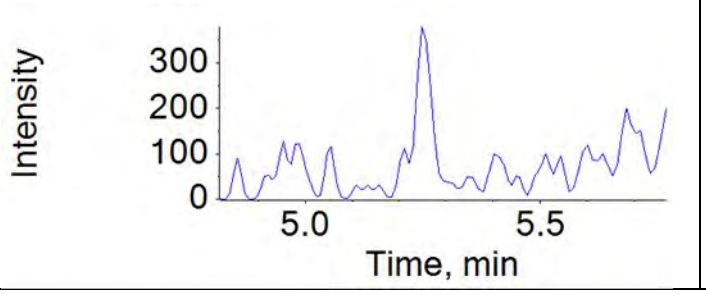


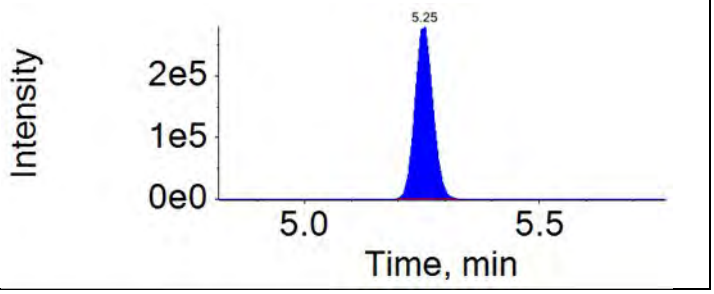
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

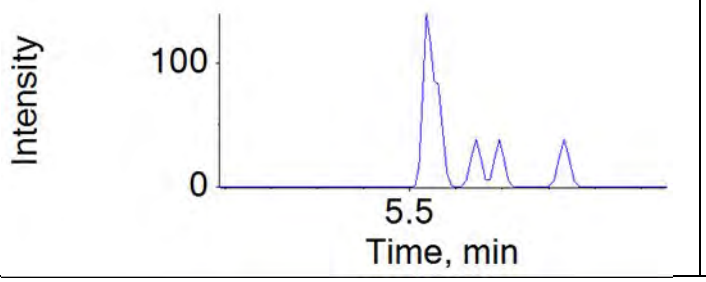
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

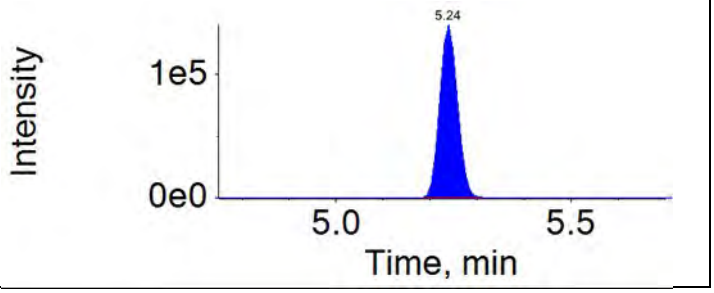
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



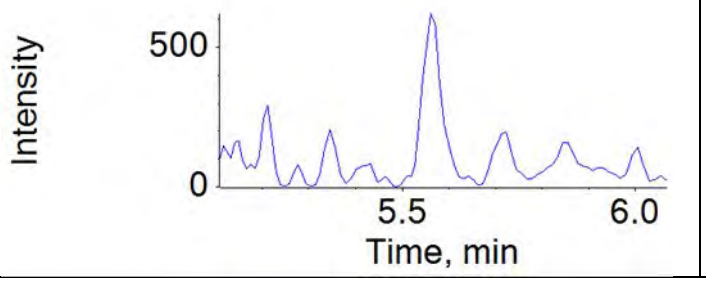


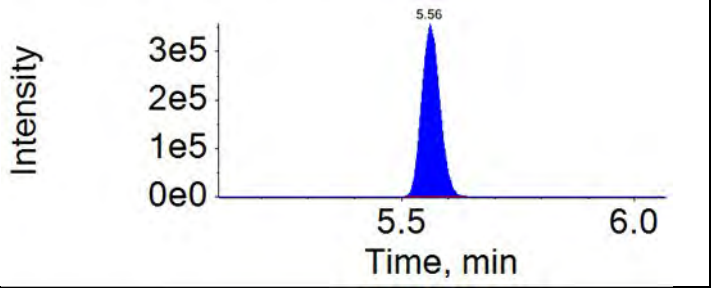
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



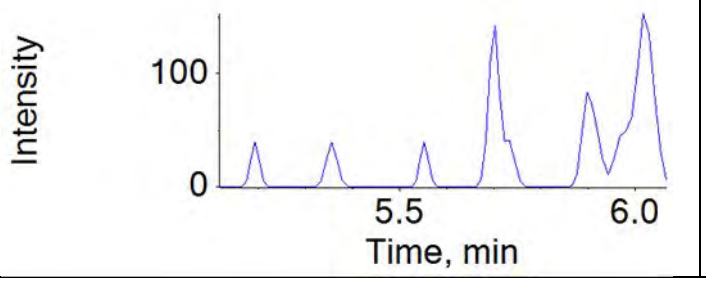


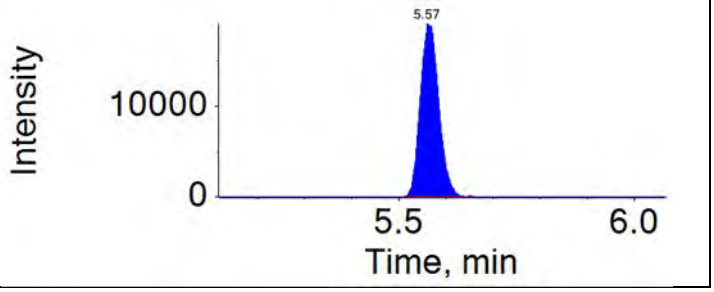
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



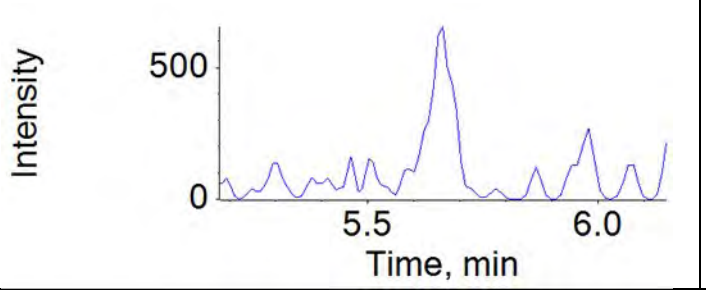


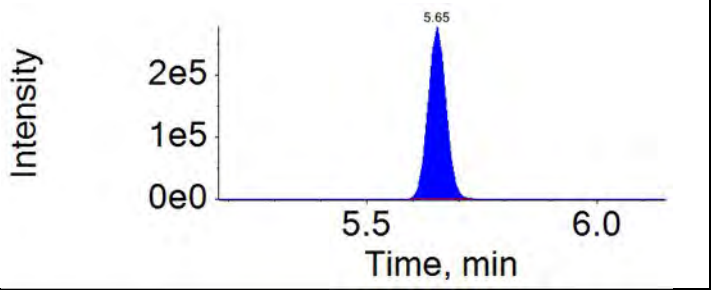
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

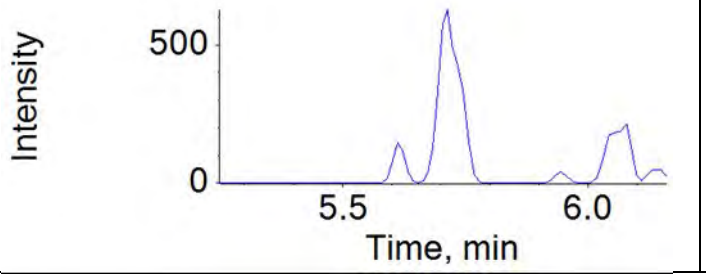
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

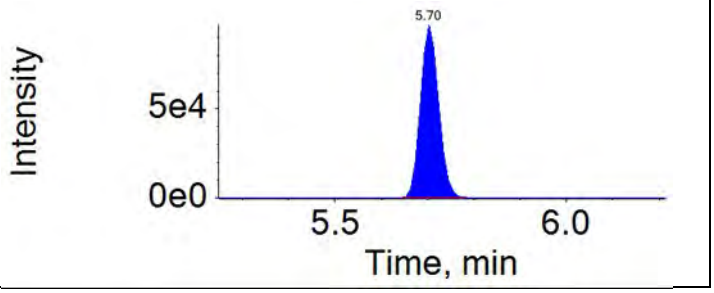
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



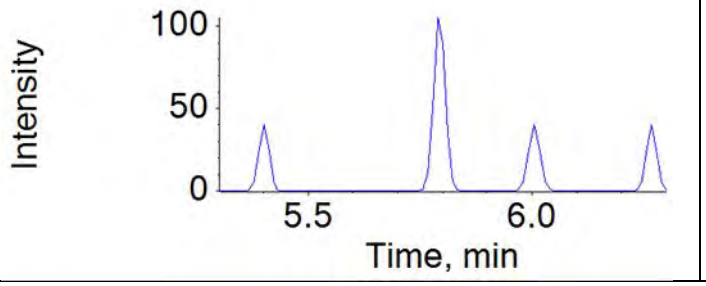


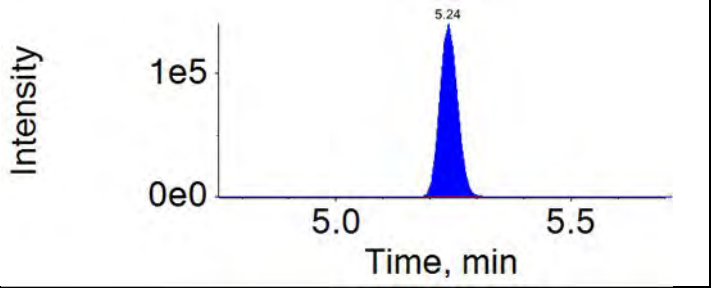
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



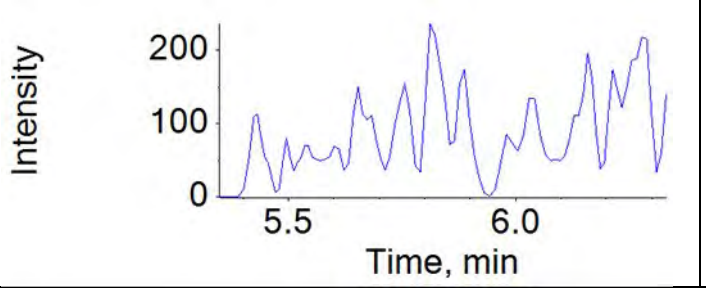


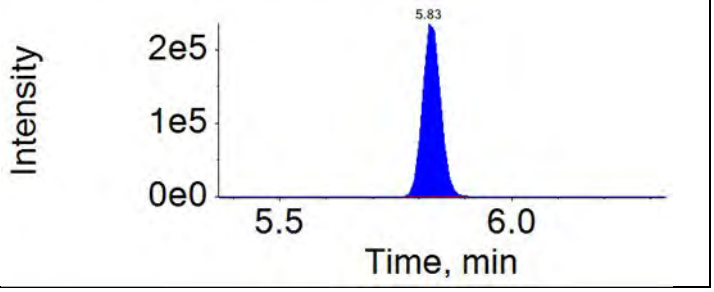
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





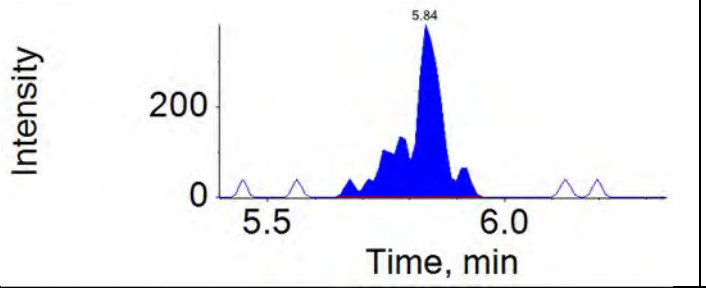
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

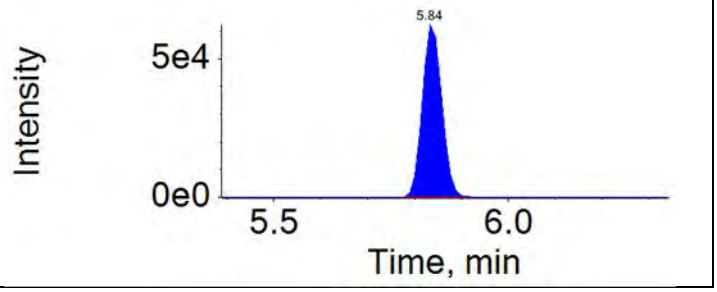




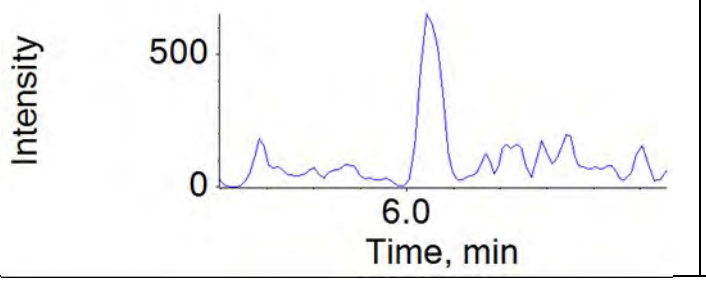
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

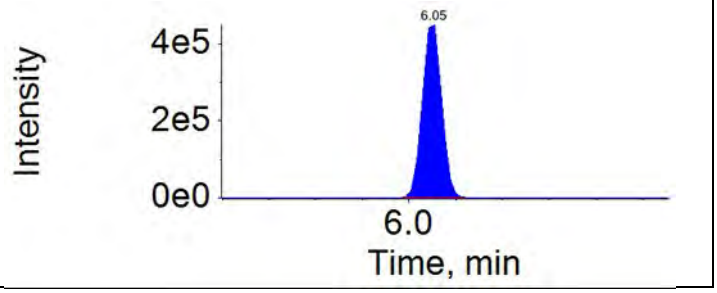
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



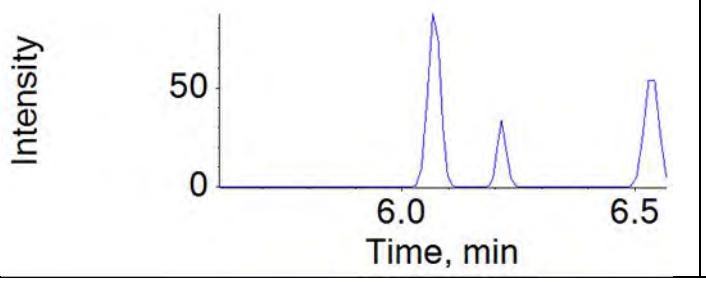


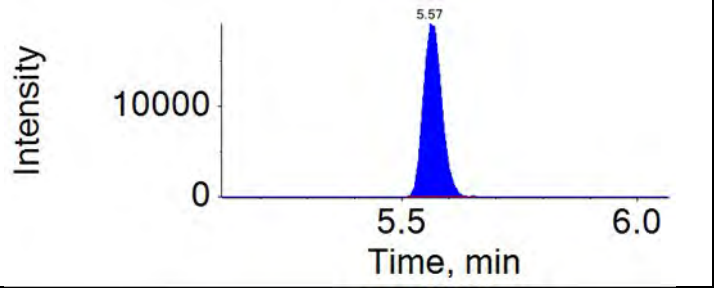
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



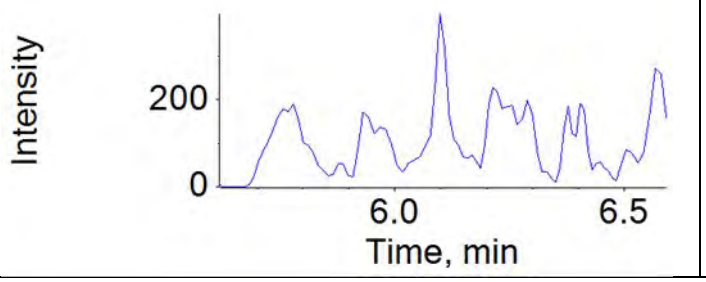


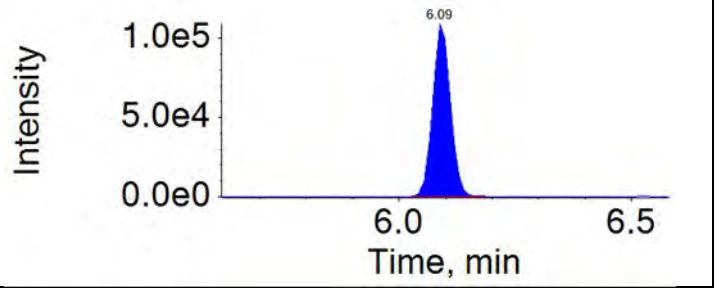
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





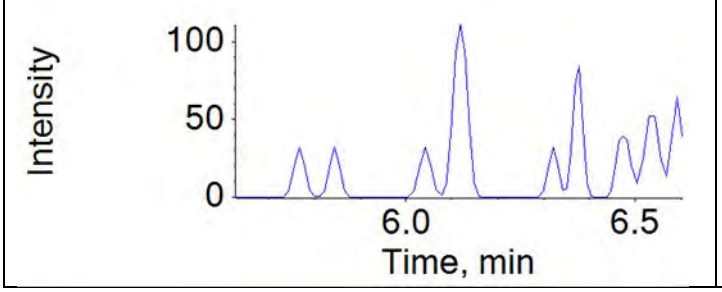
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

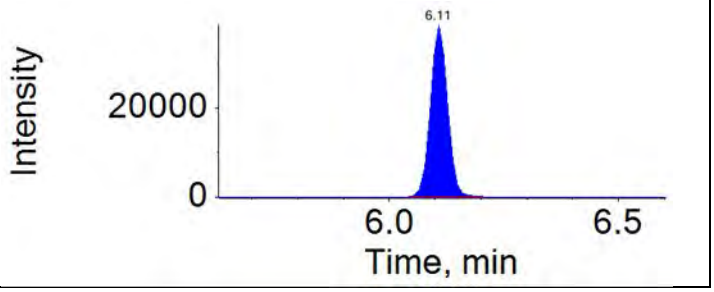




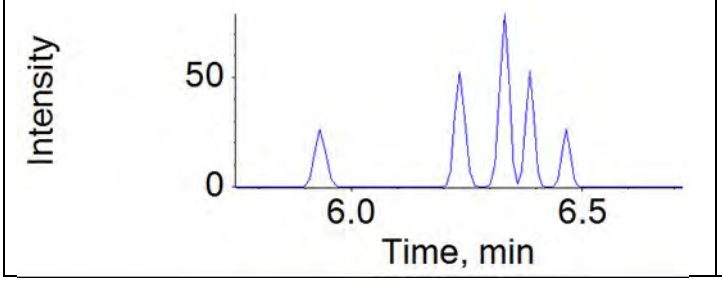
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

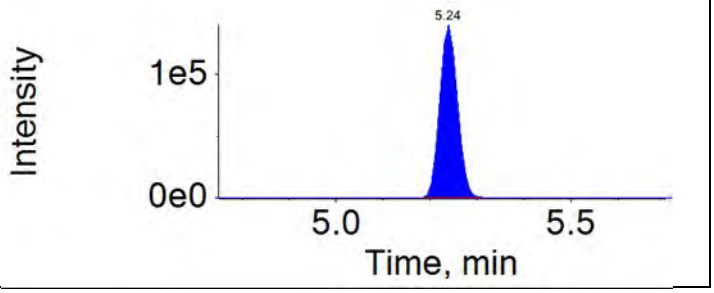
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



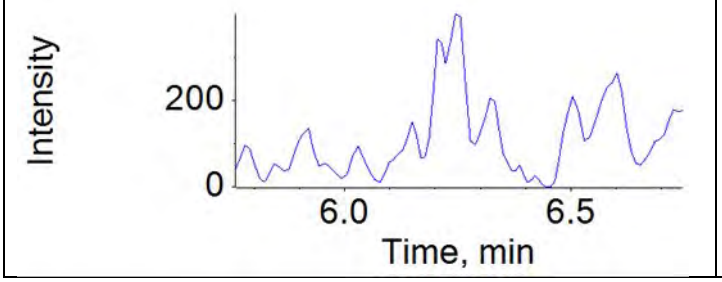


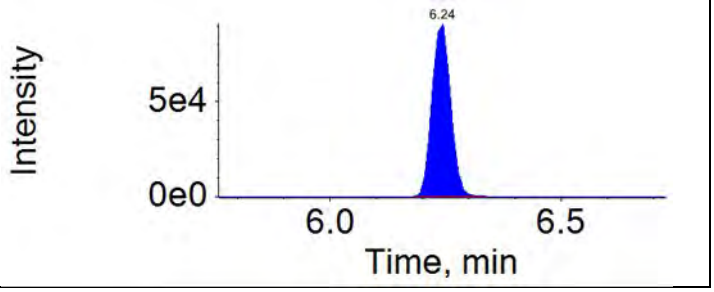
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



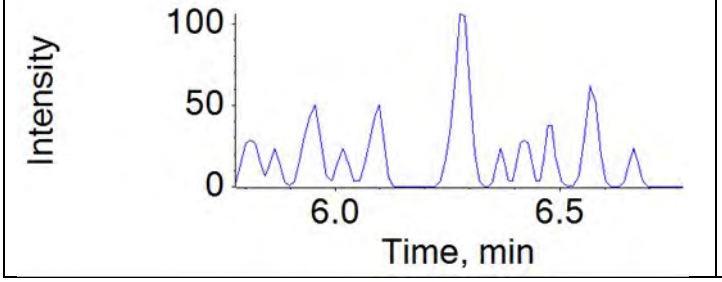


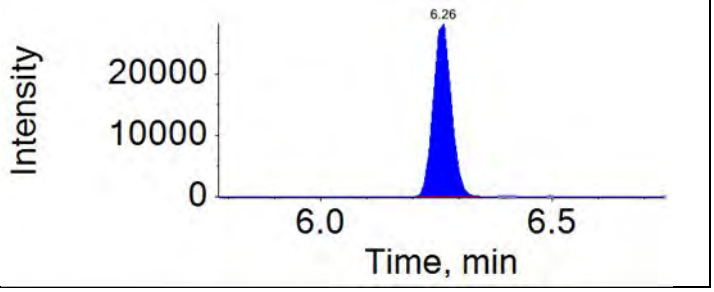
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



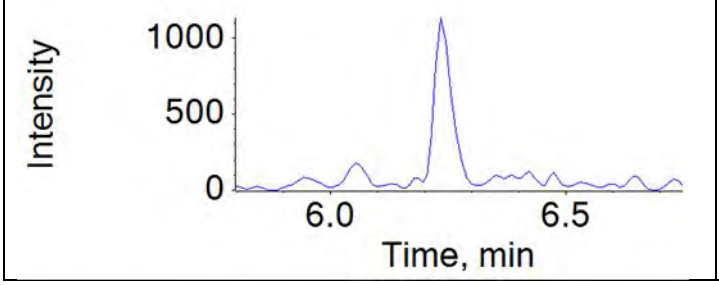


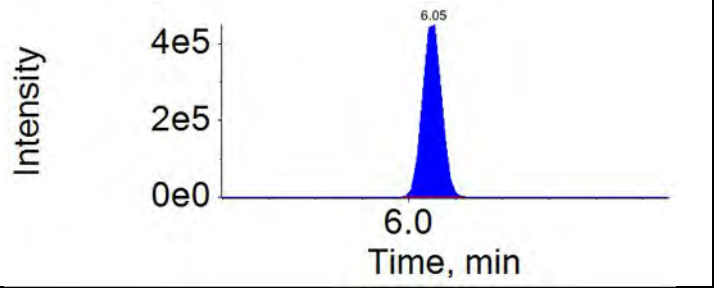
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

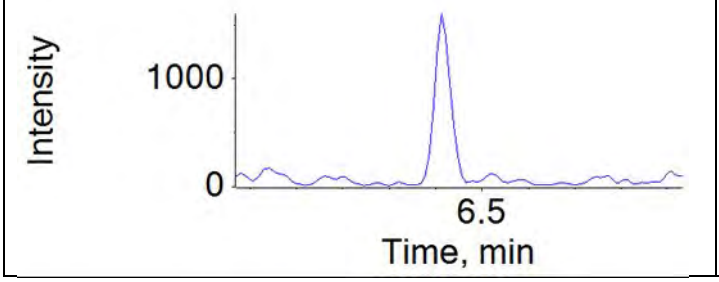
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

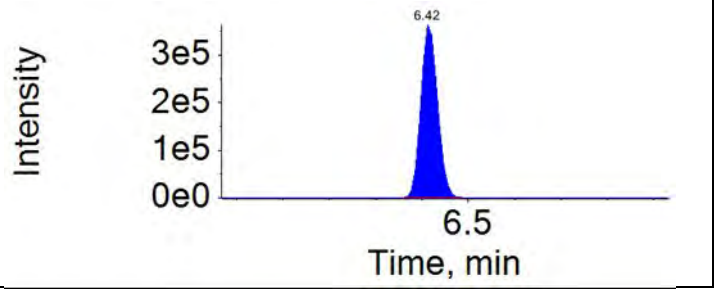
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



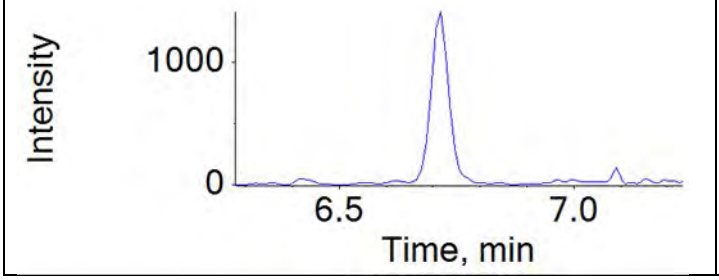


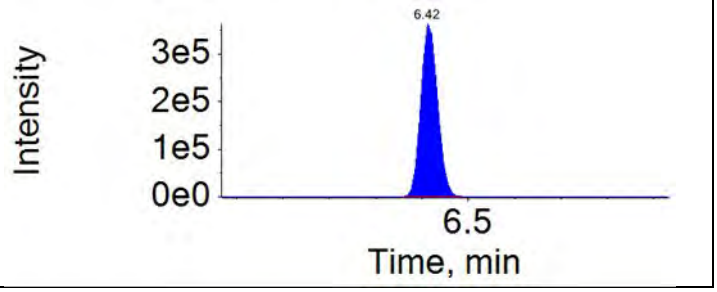
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



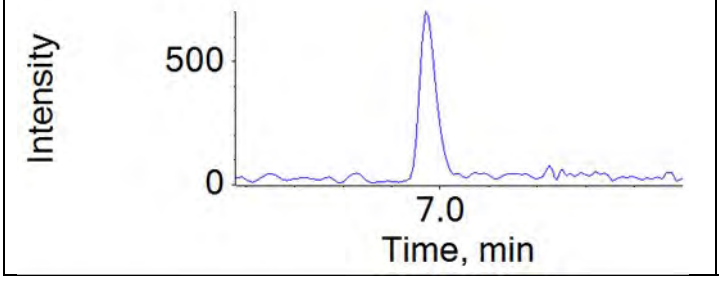


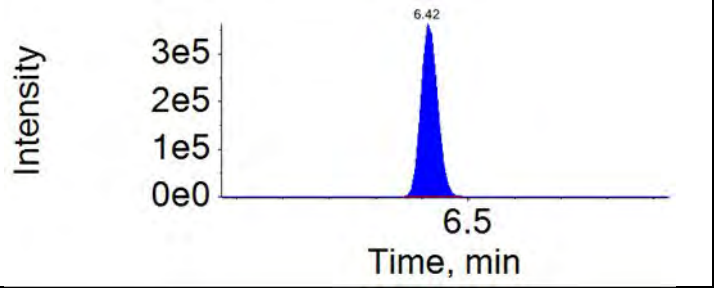
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





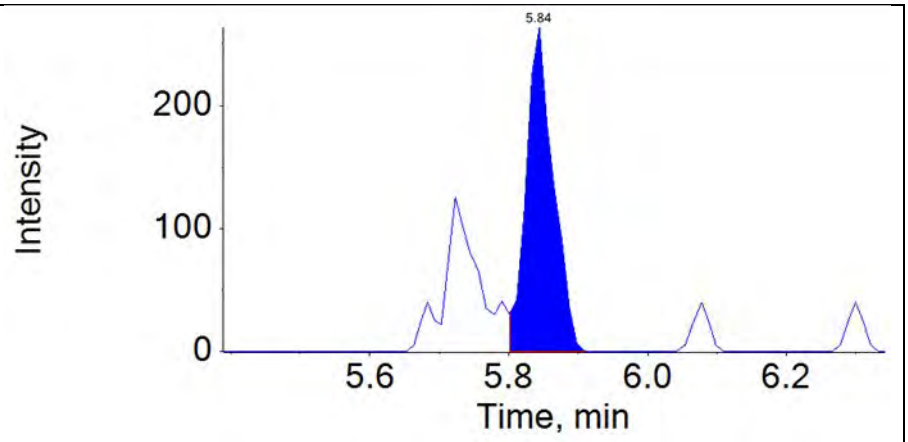
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
720.34
Mass Range:
584.0 / 526.0
File Name:
18DEC18DCAL-75.wiff
Sample Name:
Instrument Blank



Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

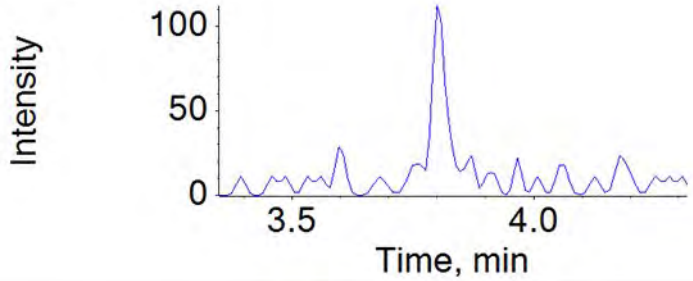
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-75.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3686	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6123	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0115	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5256	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0547	N/A		50	
PFHxS	N/A	N/A	N/A	A	1.0000	N/A			
PFHxS_2	N/A	N/A	N/A	A	0.3359	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6344	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4110	N/A		50	
PFOA	N/A	N/A	N/A	A	1.0000	N/A			
PFOA_2	N/A	N/A	N/A	A	0.0590	N/A		50	
PFOS	N/A	N/A	N/A	A	1.0000	N/A			
PFOS_2	N/A	N/A	N/A	A	0.2980	N/A		50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0214	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4608	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0064	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.5879	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2625	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4962	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0035	N/A		50	
NEtFOSAA	5.84	1.00	1882.80	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	1145.72	M	0.6883	0.6085	-12	50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0134	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.7018	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0093	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0058	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0656	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0273	N/A		50	

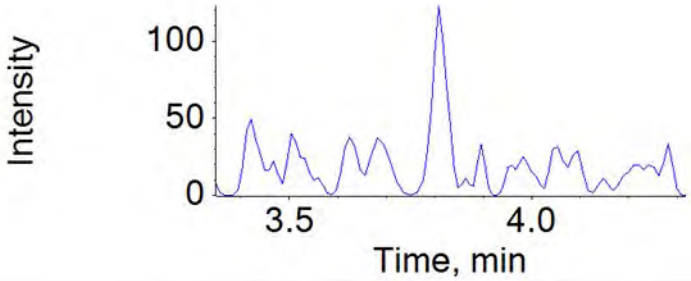
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

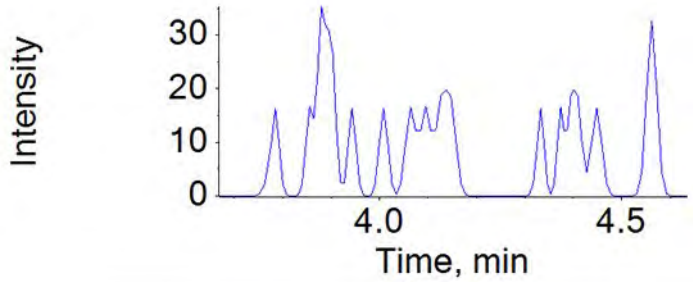
Component: PFBS
Primary Mass: 299.0 / 80.0



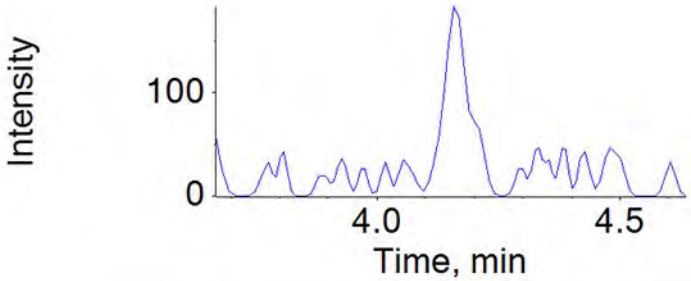
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



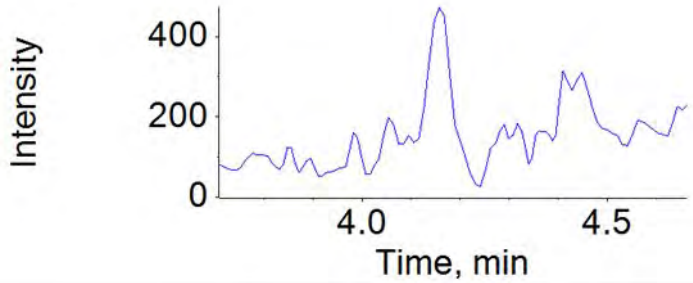
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



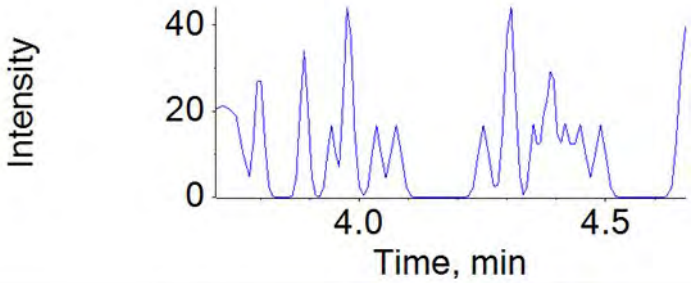
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



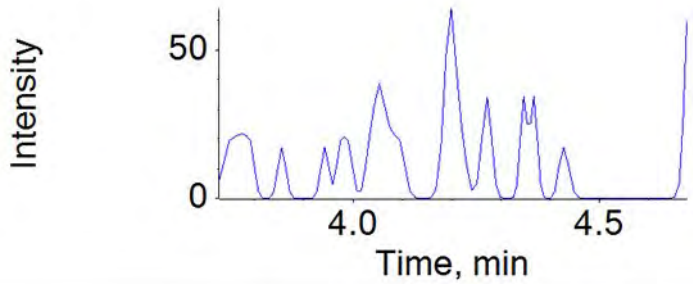
Component: PFHxA
Primary Mass: 313.0 / 269.0



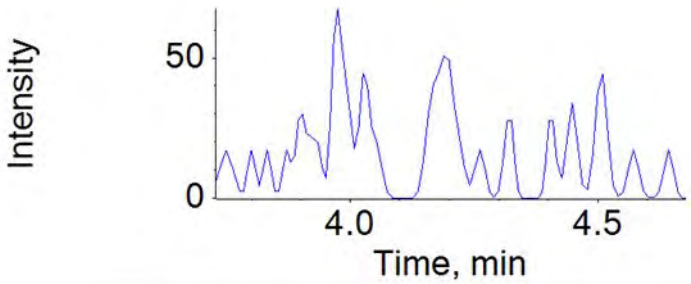
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



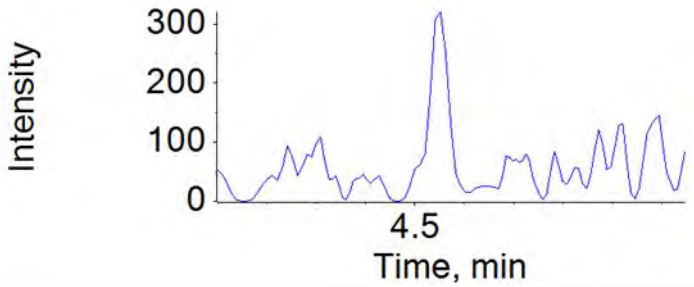
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



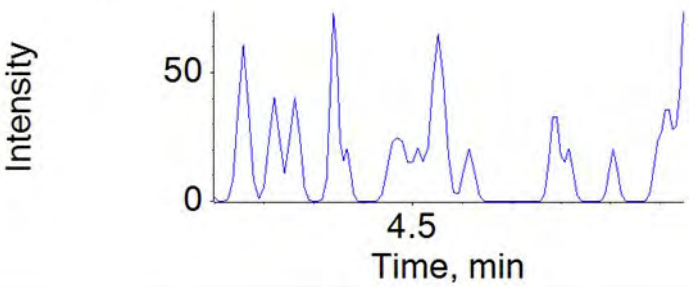
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

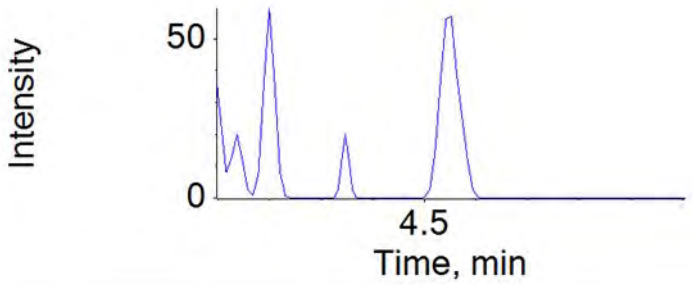
Component: PFHpA
Primary Mass: 363.0 / 319.0



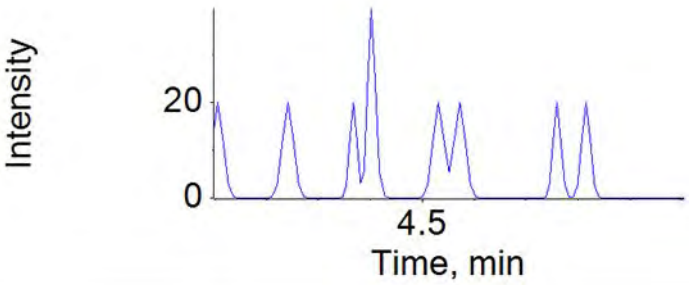
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



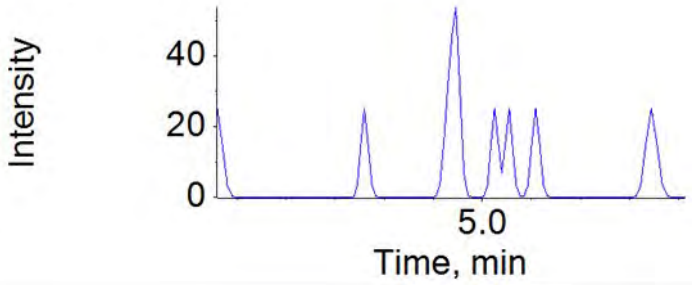
Component: PFHxS
Primary Mass: 399.0 / 80.0



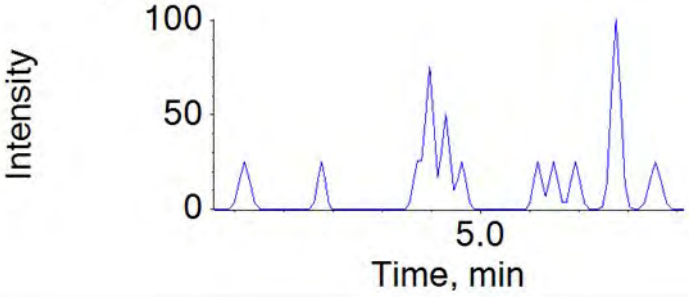
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Secondary Mass: 399.0 / 99.0



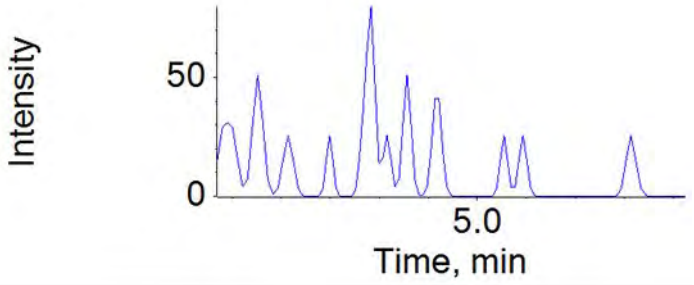
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



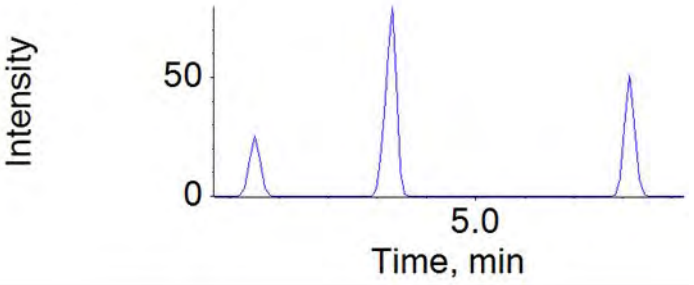
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



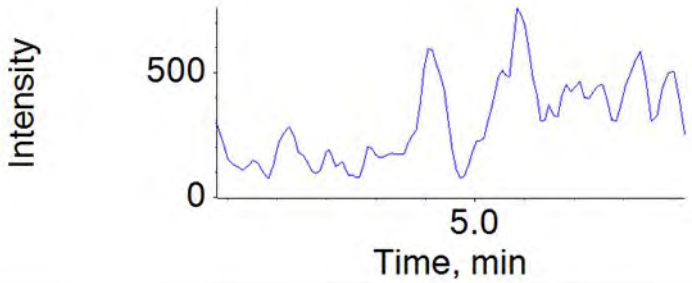
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



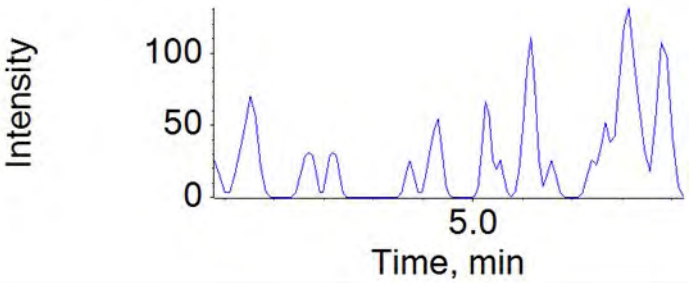
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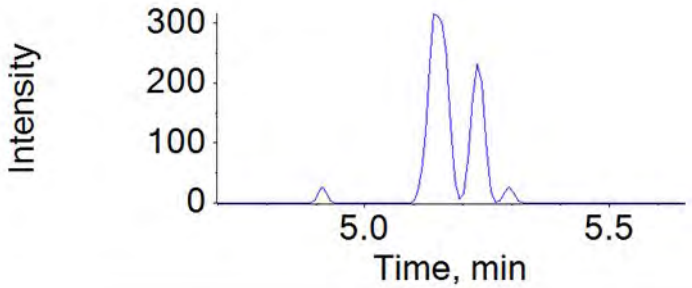
Component: PFOA
Primary Mass: 413.0 / 369.0



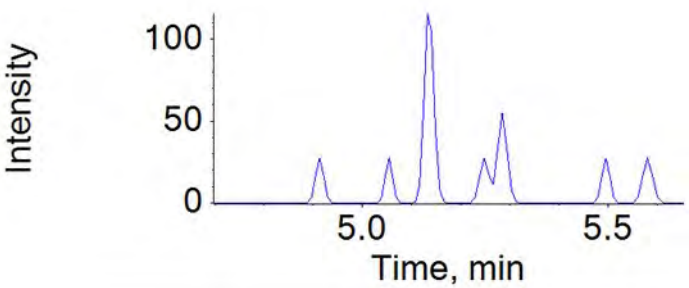
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



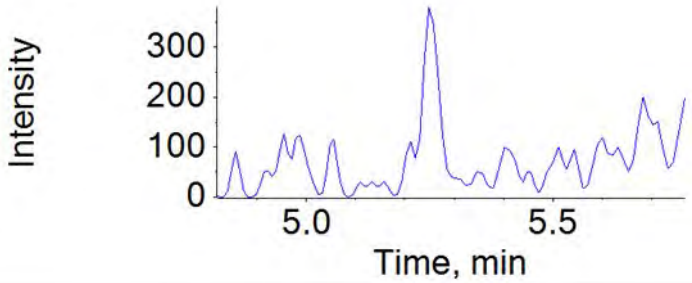
Component: PFOS
Primary Mass: 499.0 / 80.0



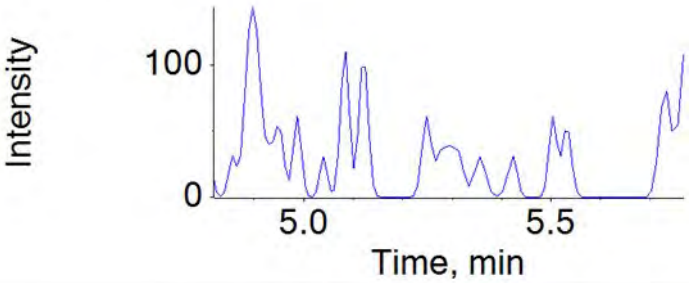
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



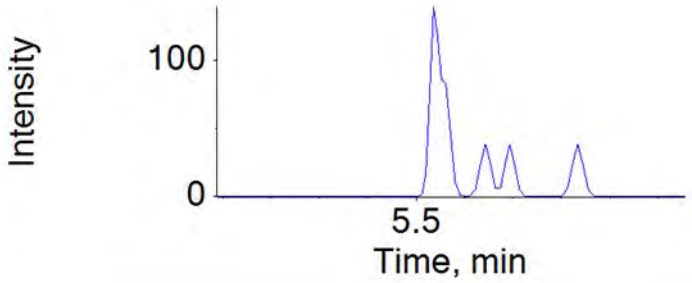
Component: PFNA
Primary Mass: 463.0 / 419.0



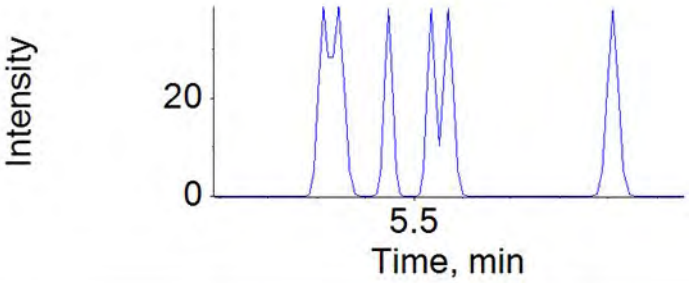
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



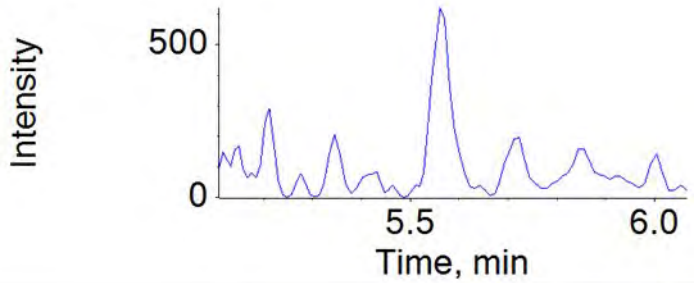
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



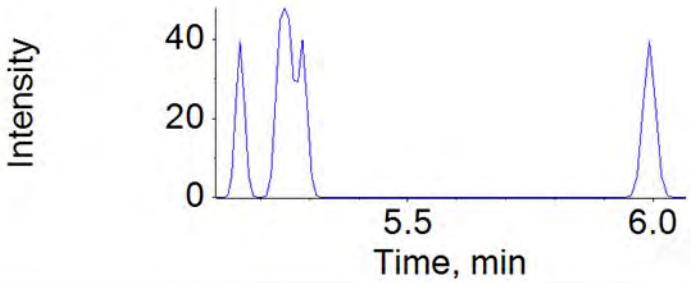
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

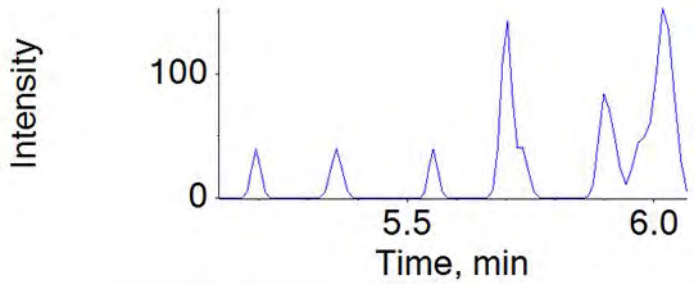
Component: PFDA
Primary Mass: 513.0 / 469.0



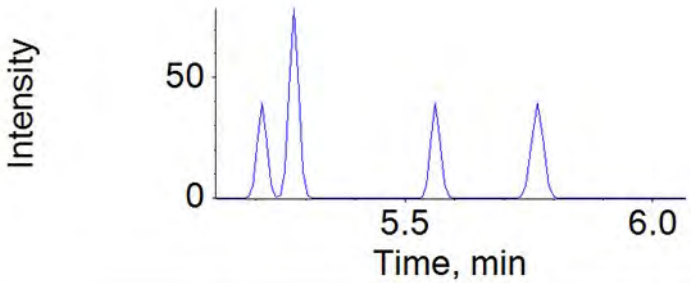
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



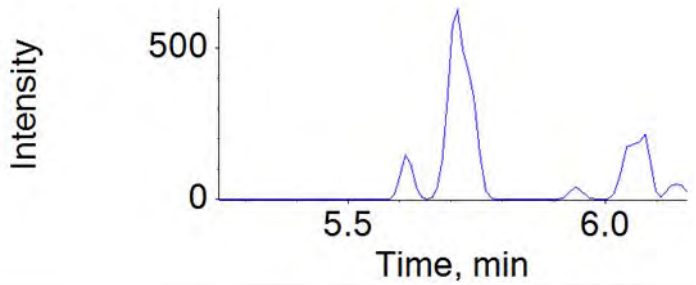
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



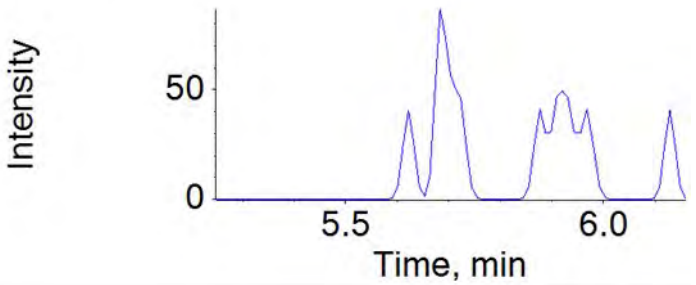
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



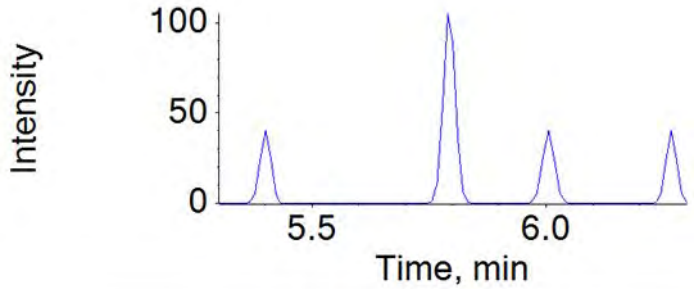
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



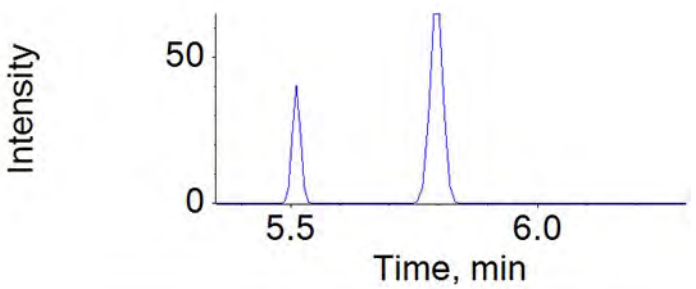
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



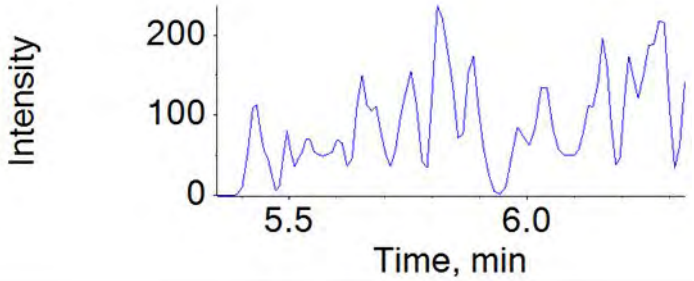
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



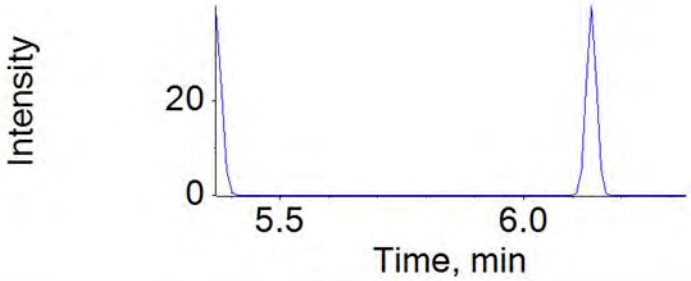
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

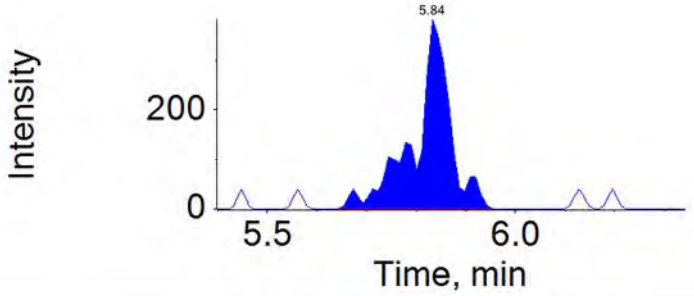
Component: PFUnDA
Primary Mass: 563.0 / 519.0



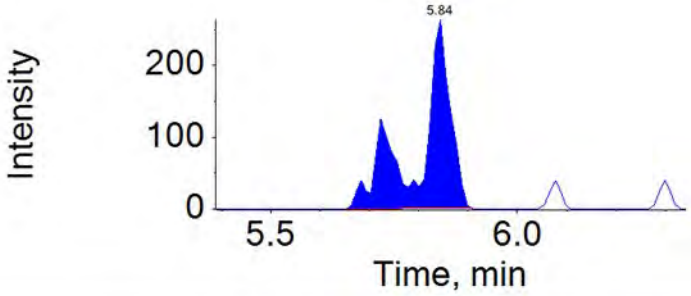
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



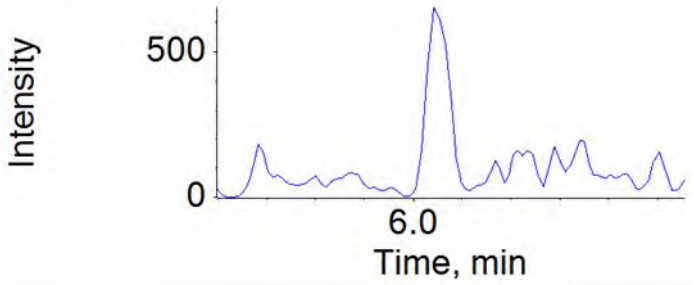
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



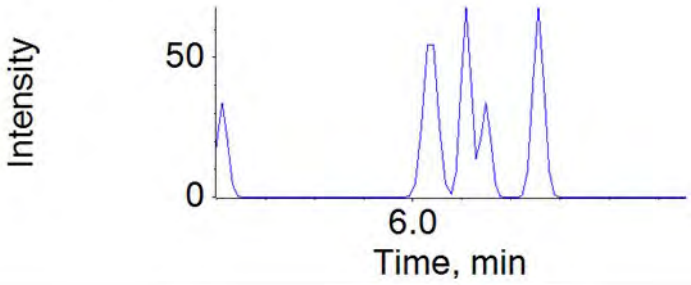
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



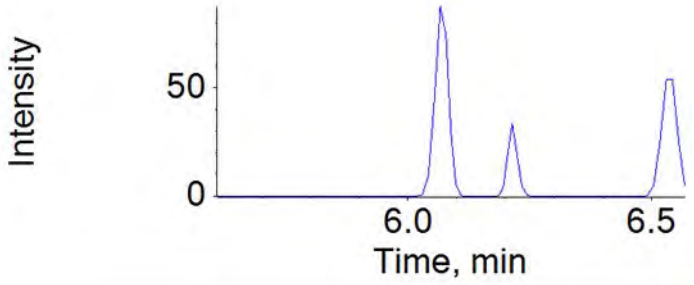
Component: PFDoDA
Primary Mass: 613.0 / 569.0



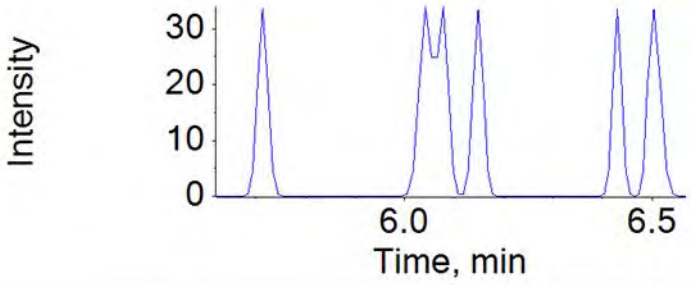
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



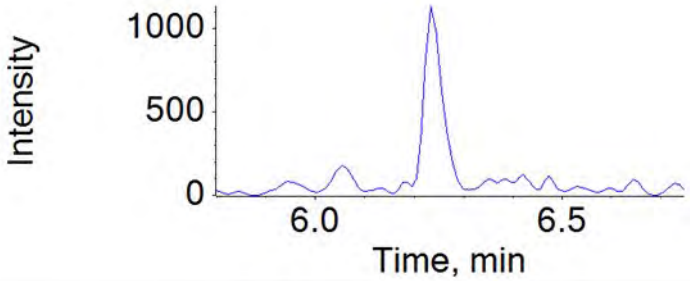
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



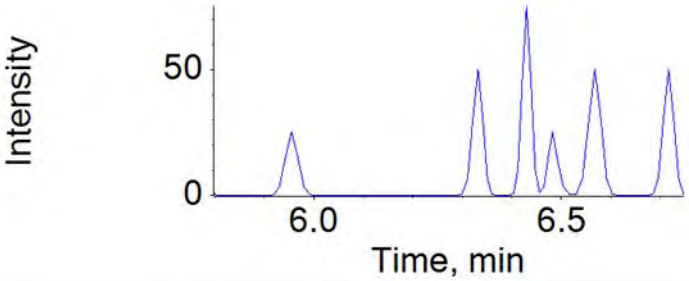
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

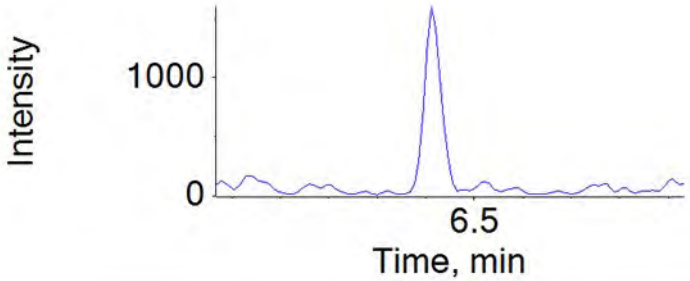
Component: PFTrDA
Primary Mass: 663.0 / 619.0



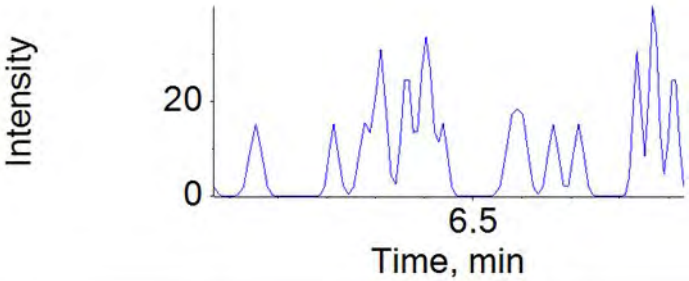
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



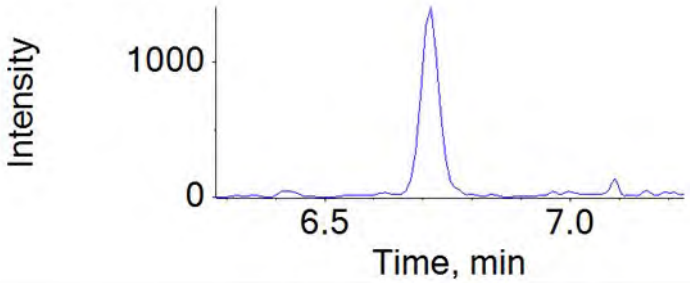
Component: PFTeDA
Primary Mass: 713.0 / 669.0



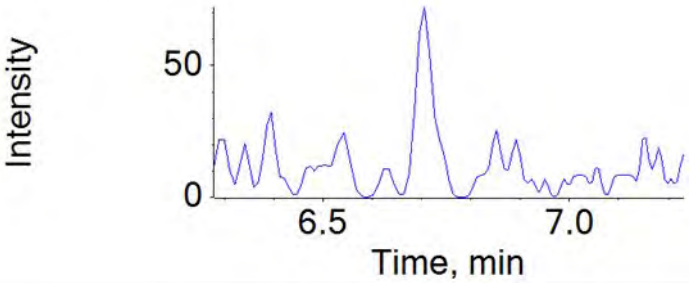
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



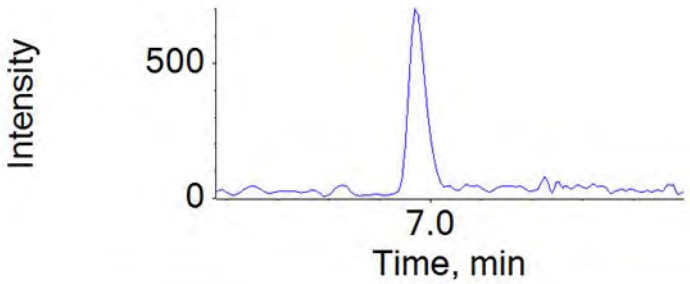
Component: PFHxDA
Primary Mass: 813.0 / 769.0



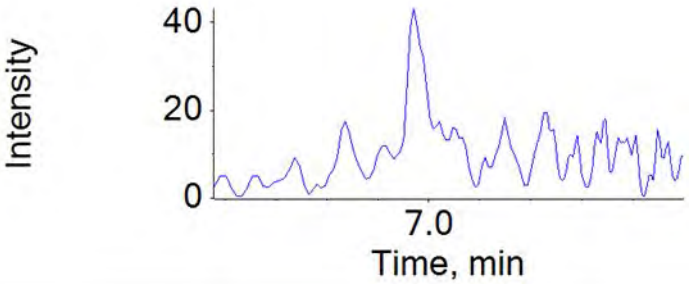
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	L+B CAL3			**Data File:**		18DEC18DCAL-77.wiff
Sample ID:	LBMODX1833D			**Acquis Date:**		2018-12-19T00:56:02
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	11			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1007629.8	941251.6	7	50	
13C2-PFOA	5.0	505665.7	485595.3	4	50	
13C4-PFOS	4.8	308937.2	292182.6	6	50	
13C2-PFDA	5.0	510147.6	467216.0	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1087535.4	13C3-PFBA	1007629.8	1.079	5.000	4.779	96	70-130	
E13C5-PFPeA	995098.6	13C3-PFBA	1007629.8	0.988	5.000	4.605	92	70-130	
E13C3-PFBS	445506.3	13C3-PFBA	1007629.8	0.442	4.650	4.305	93	70-130	
E13C2-4:2-FTS	66060.1	13C2-PFOA	505665.7	0.131	4.670	4.962	106	70-130	
E13C5-PFHxA	731668.3	13C2-PFOA	505665.7	1.447	5.000	5.176	104	70-130	
E13C3-PFHxS	332926.8	13C2-PFOA	505665.7	0.658	4.730	4.982	105	70-130	
E13C4-PFHpA	577179.7	13C2-PFOA	505665.7	1.141	5.000	4.930	99	70-130	
E13C2-6:2-FTS	51479.1	13C2-PFOA	505665.7	0.102	4.750	5.122	108	70-130	
E13C8-PFOA	994370.4	13C2-PFOA	505665.7	1.966	5.000	5.407	108	70-130	
E13C8-PFOS	330509.6	13C4-PFOS	308937.2	1.070	4.780	4.784	100	70-130	
E13C9-PFNA	662382.4	13C4-PFOS	308937.2	2.144	5.000	4.878	98	70-130	
E13C6-PFDA	864506.9	13C2-PFDA	510147.6	1.695	5.000	4.827	97	70-130	
E13C2-8:2-FTS	50115.1	13C2-PFDA	510147.6	0.098	4.790	5.063	106	70-130	
E13C8-PFOSA	645146.7	13C2-PFDA	510147.6	1.265	5.000	4.925	98	70-130	
Ed3-NMeFOSAA	206813.4	13C2-PFDA	510147.6	0.405	5.000	4.460	89	70-130	
E13C7-PFUnDA	587710.7	13C2-PFDA	510147.6	1.152	5.000	4.822	96	70-130	
Ed5-NEtFOSAA	191977.3	13C2-PFDA	510147.6	0.376	5.000	5.544	111	70-130	
E13C2-PFDoDA	1227072.7	13C2-PFDA	510147.6	2.405	5.000	5.060	101	70-130	
Ed7-NMePFOSAE	272862.3	13C2-PFDA	510147.6	0.535	5.000	4.779	96	70-130	
Ed3-NMePFOSA	92526.3	13C2-PFDA	510147.6	0.181	5.000	4.984	100	70-130	
Ed9-NEtPFOSAE	240336.0	13C2-PFDA	510147.6	0.471	5.000	4.816	96	70-130	
Ed5-NEtPFOSA	72583.0	13C2-PFDA	510147.6	0.142	5.000	4.935	99	70-130	
E13C2-PFTeDA	832234.3	13C2-PFDA	510147.6	1.631	5.000	4.597	92	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

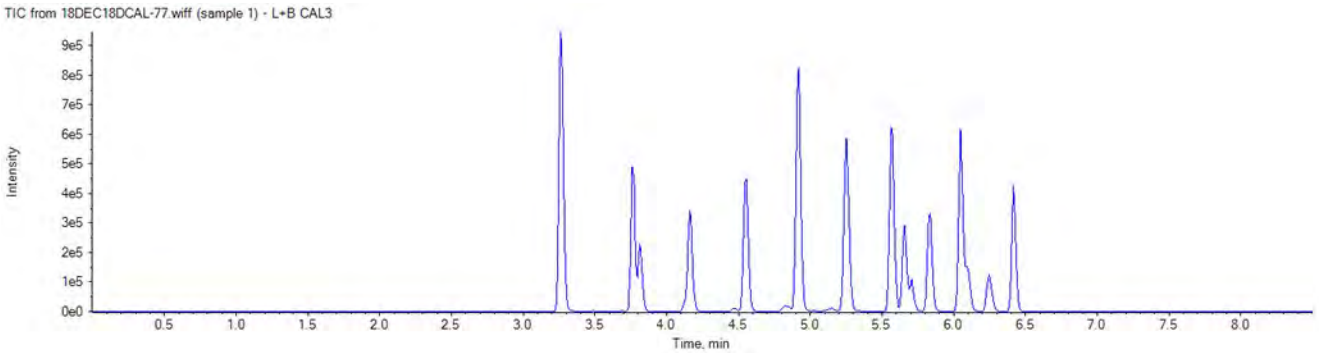
Analyte Quantitation Peak Table

Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-77.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.26	1087535.4	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	995098.6	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	445506.3	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	66060.1	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	731668.3	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	445506.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	577179.7	N/A	
PFHxS	4.55	1.000	135519.1		M	13C3-PFHxS	4.55	332926.8	0.407	1.980
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	51479.1	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	332926.8	N/A	
PFOA	4.92	1.000	376989.8		M	13C8-PFOA	4.92	994370.4	0.379	2.008
PFOS	5.25	1.000	122501.9		M	13C8-PFOS	5.25	330509.6	0.371	1.623
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	662382.4	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	330509.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	864506.9	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	50115.1	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.66	645146.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	206813.4	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	330509.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	587710.7	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	191977.3	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1227072.7	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	50115.1	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	272862.3	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	92526.3	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	330509.6	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	240336.0	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.27	72583.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1227072.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	832234.3	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	832234.3	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	832234.3	N/A	

Total Ion Chromatogram

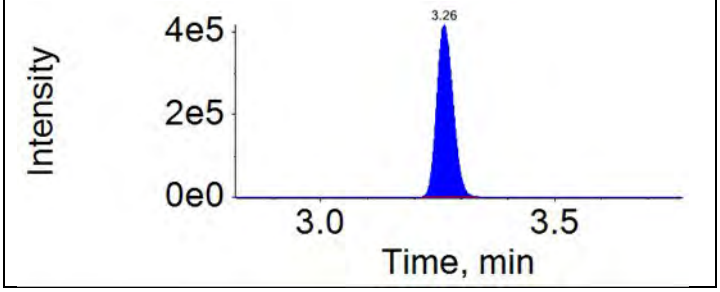


APPROVED
By MSM at 11:49 am, 12/19/18

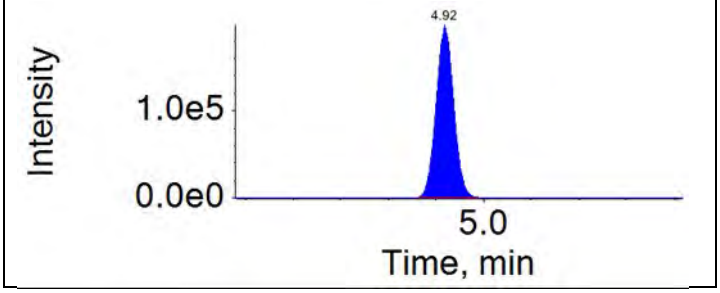
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

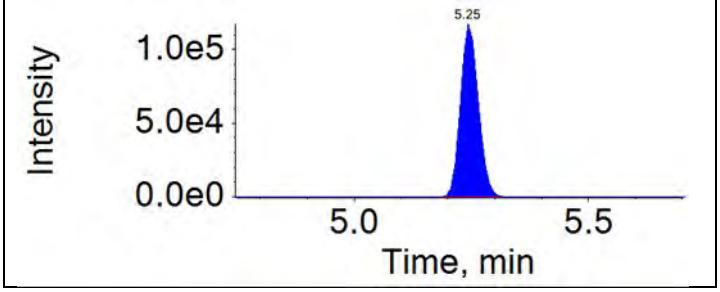
Injection Standard: 13C3-PFBA
216.0 / 172.0



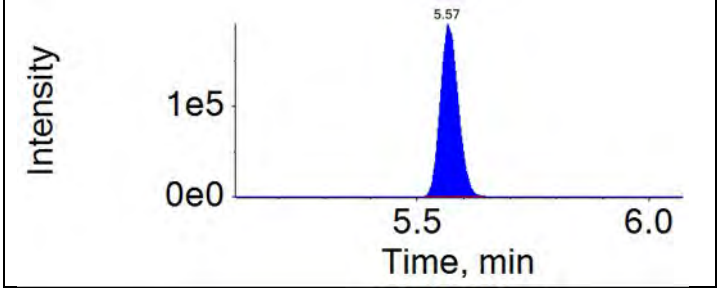
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

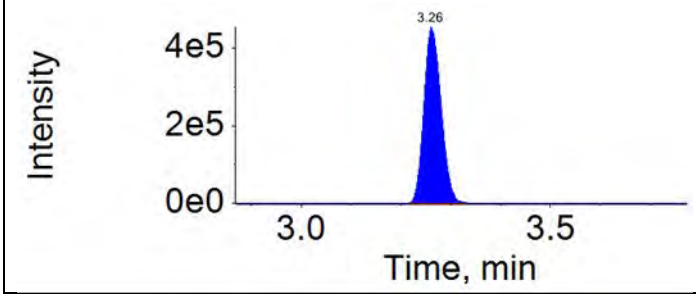


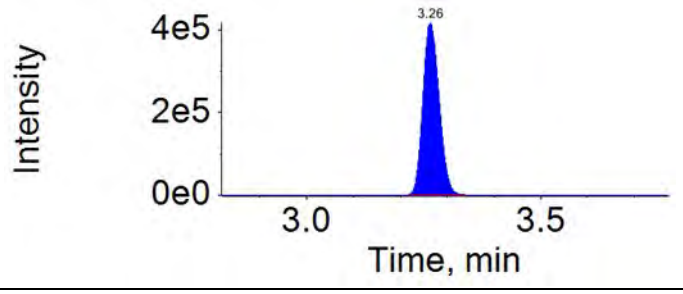
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

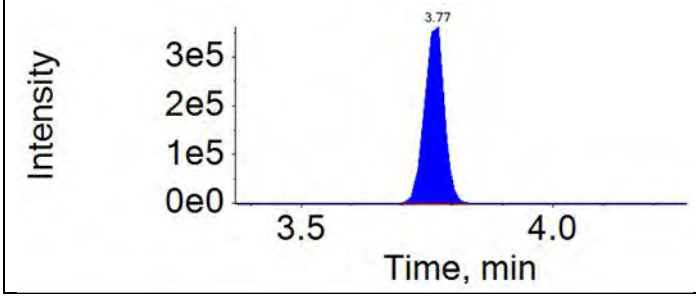
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

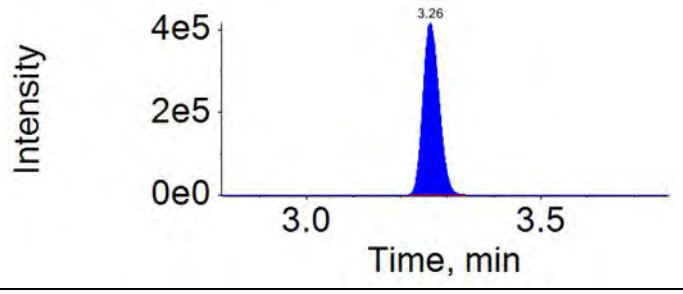
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



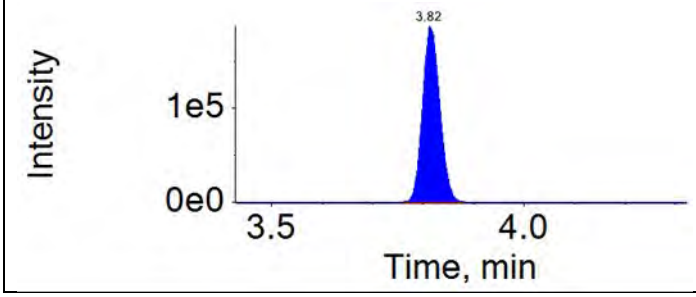


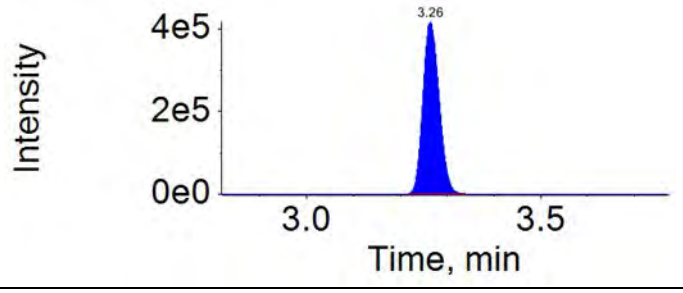
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



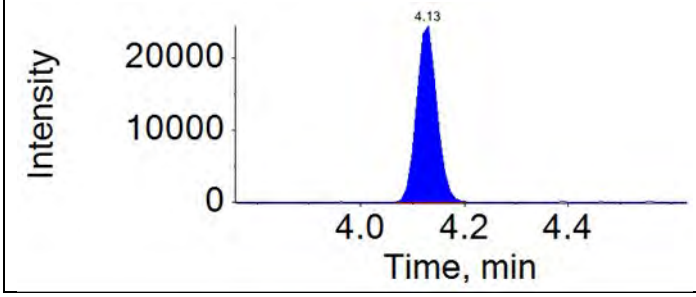


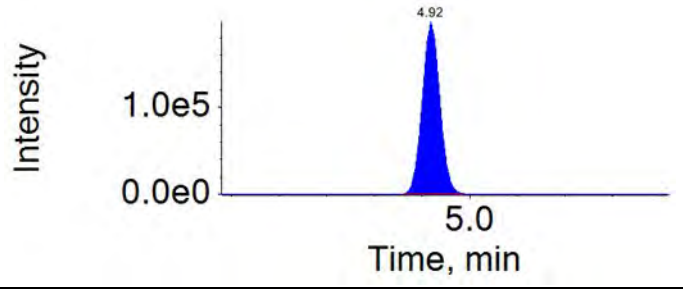
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





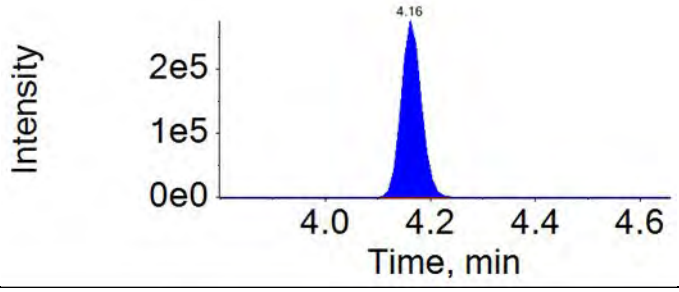
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

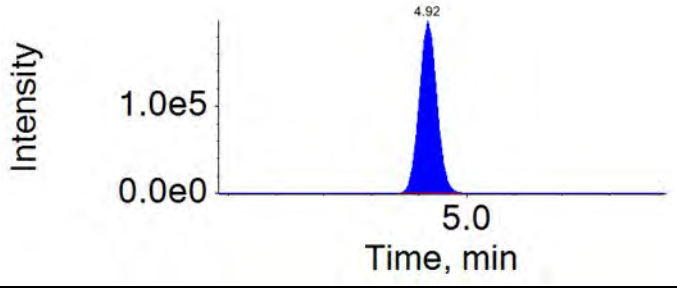




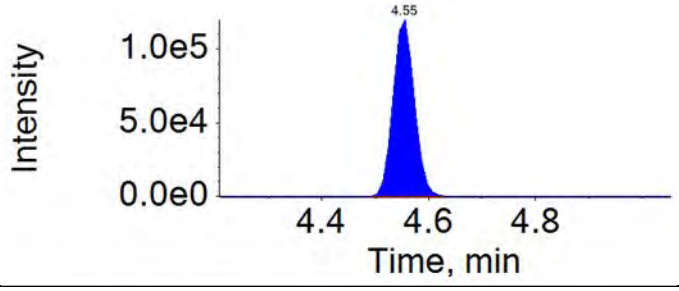
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

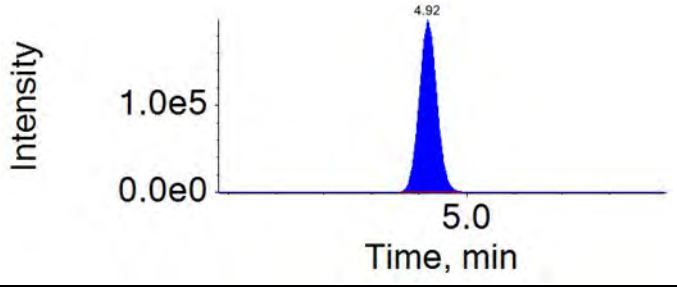
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



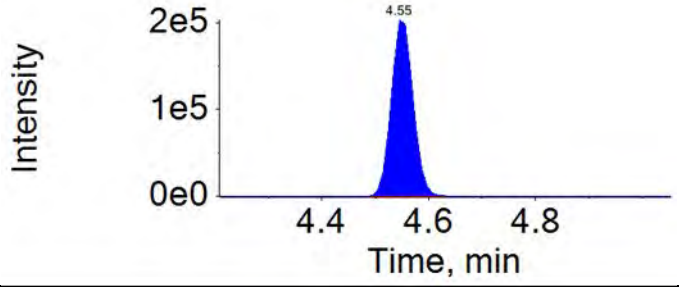


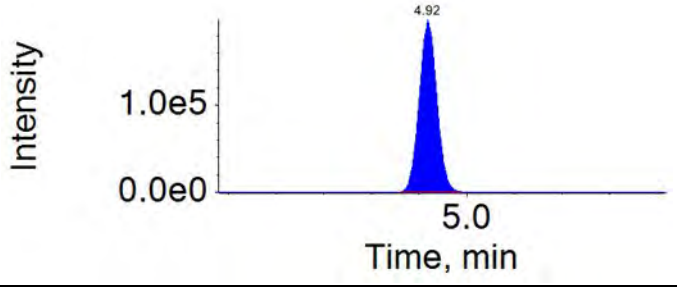
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



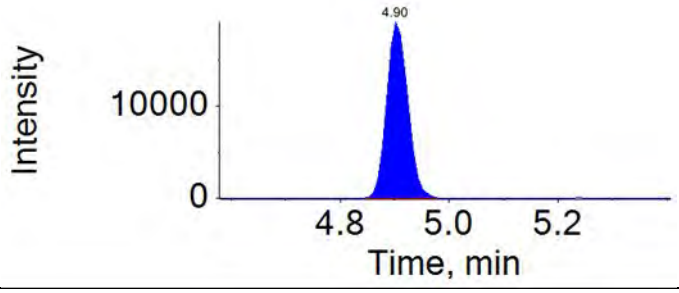


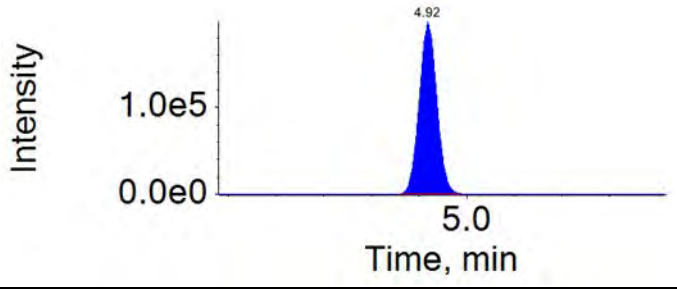
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

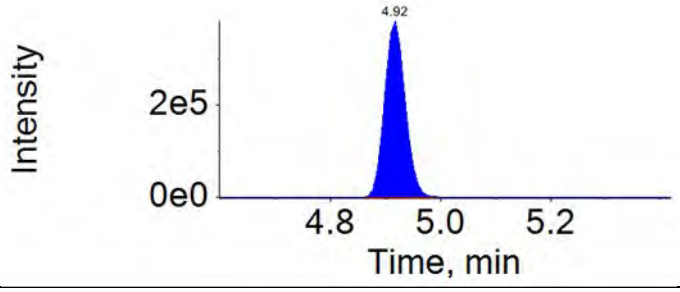
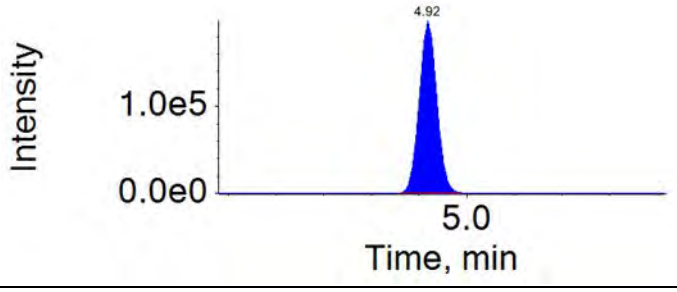


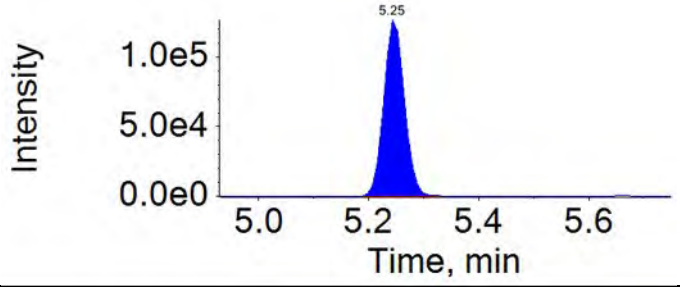
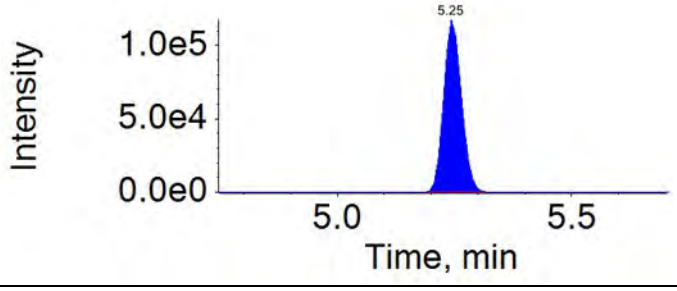


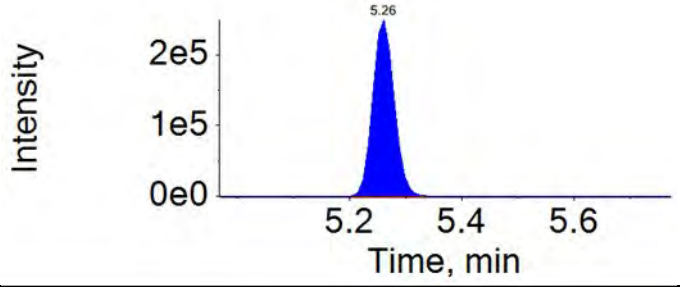
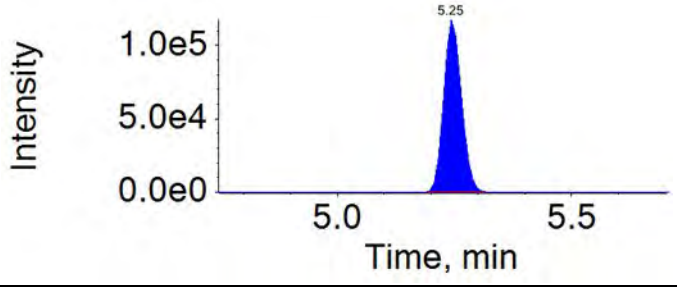
APPROVED
By MSM at 11:49 am, 12/19/18

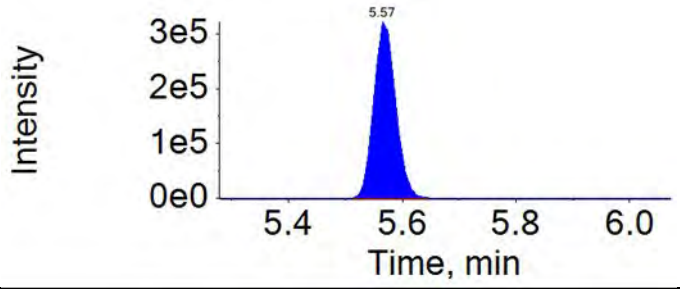
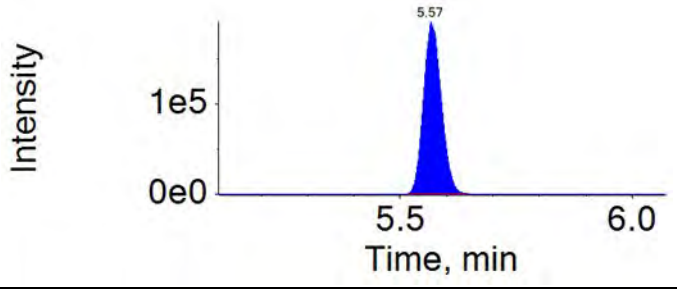
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

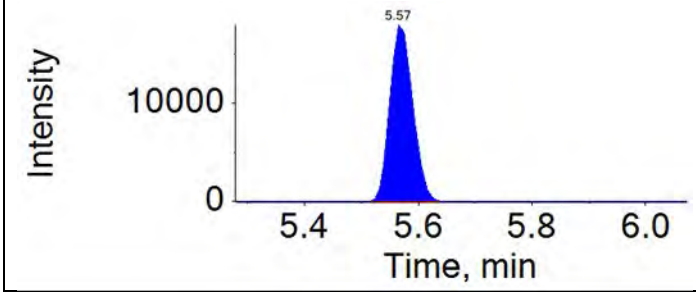
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

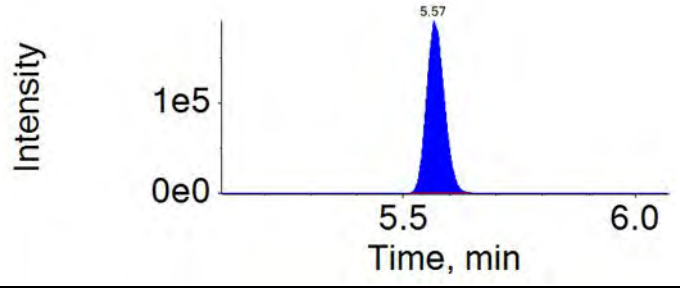
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

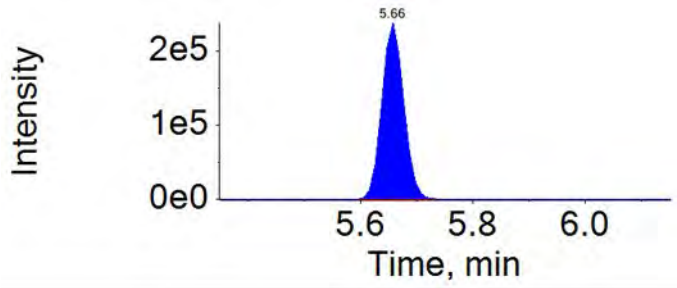
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

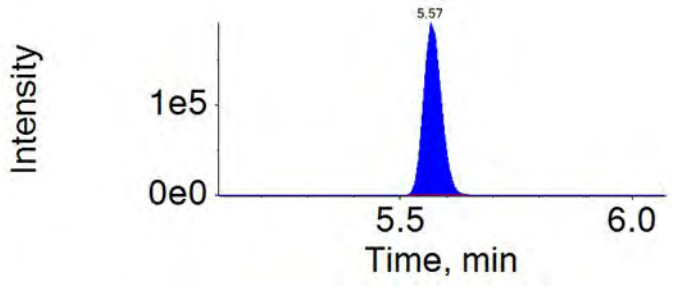
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



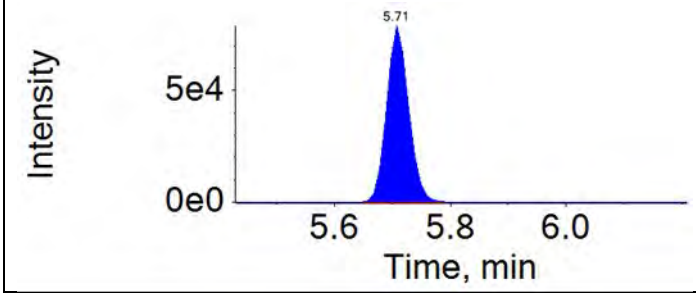


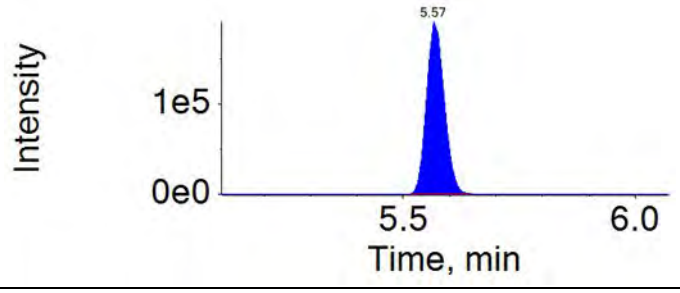
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



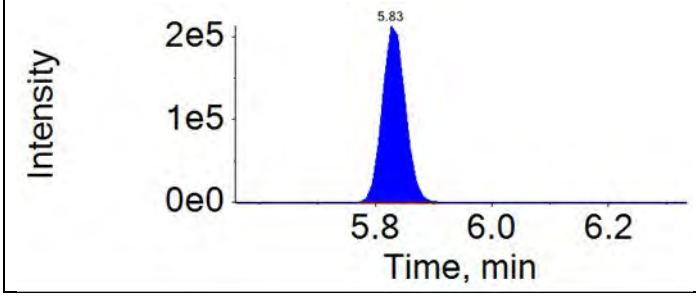


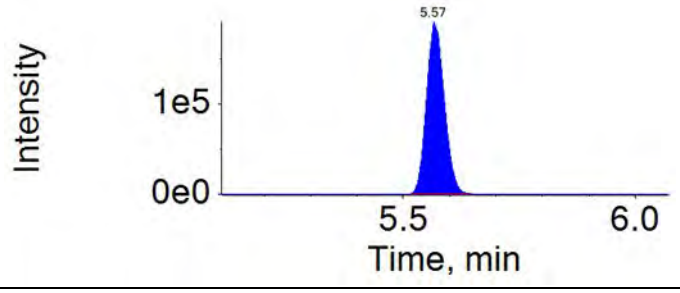
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



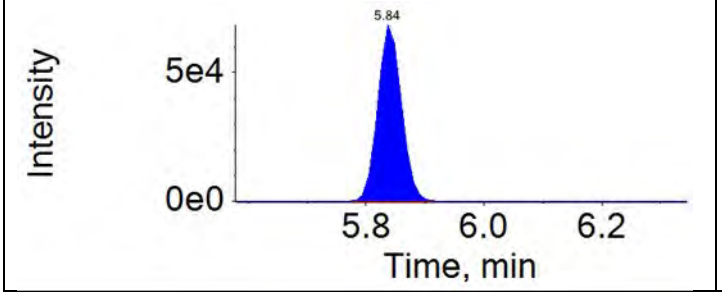


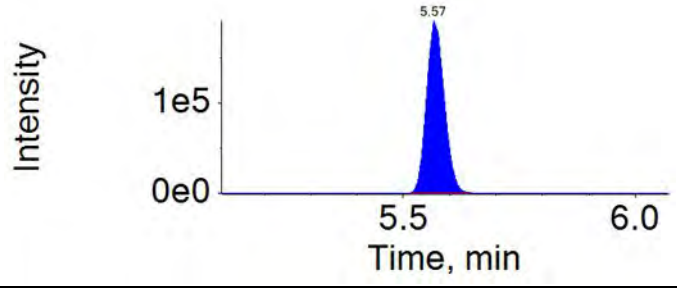
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

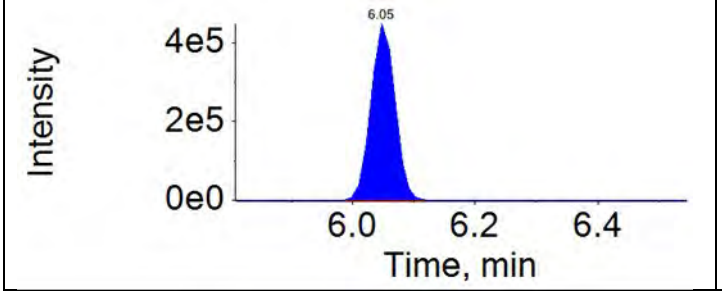
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

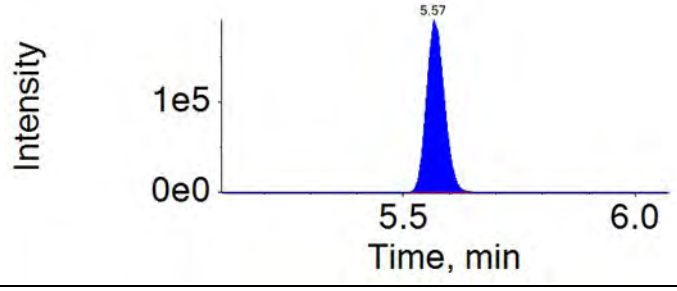
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



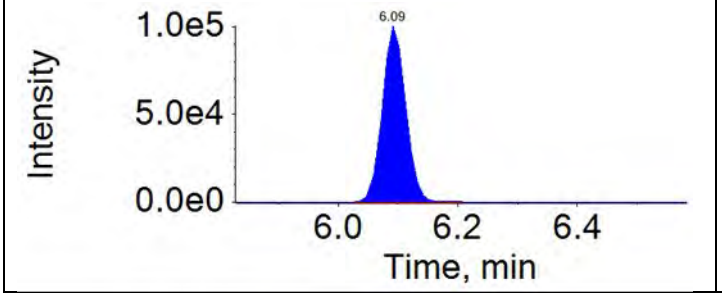


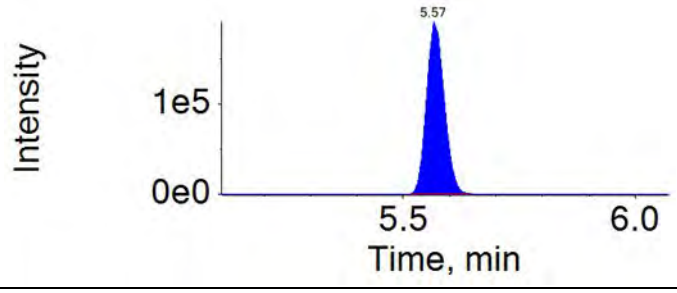
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



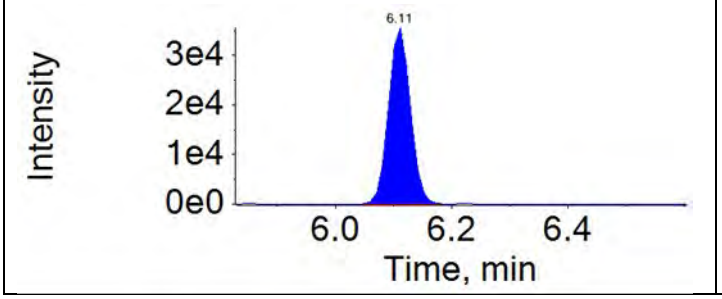


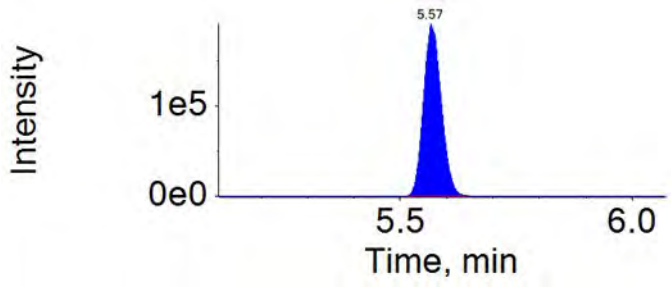
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



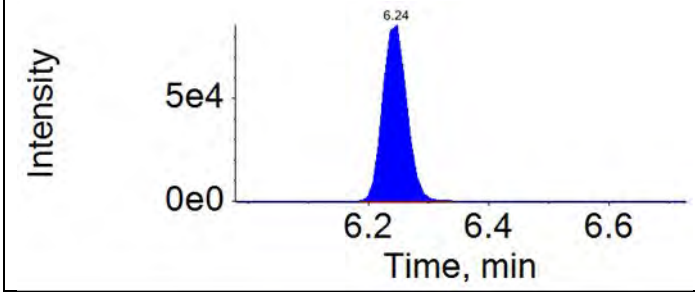


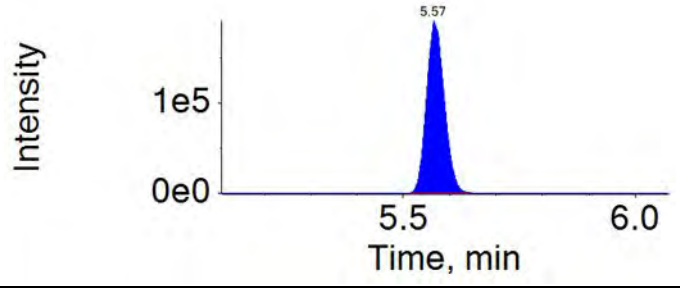
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

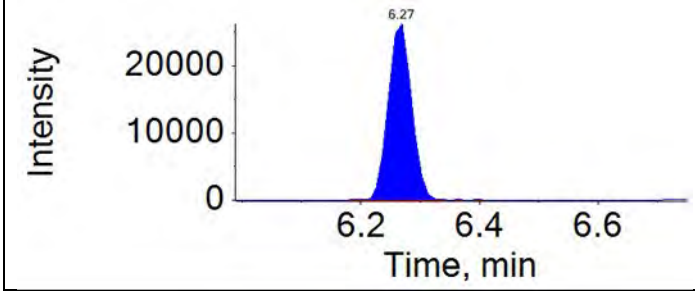
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

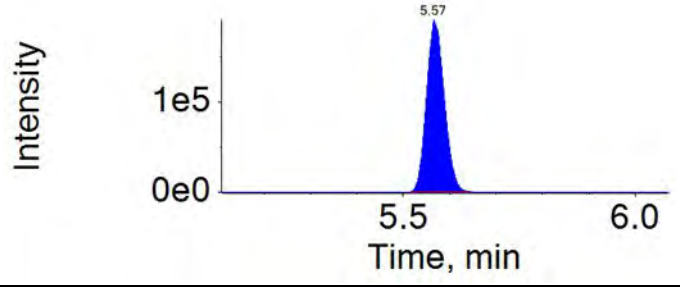
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



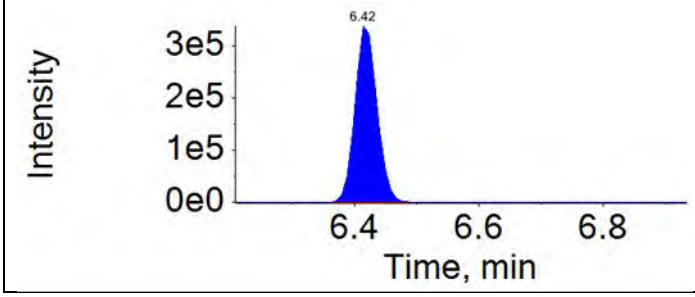


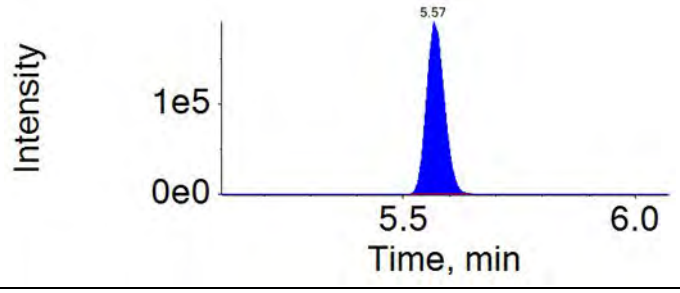
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



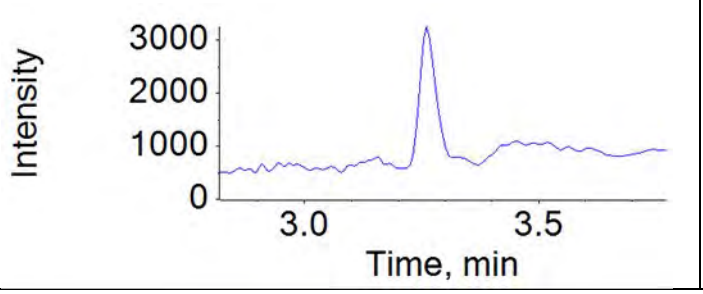


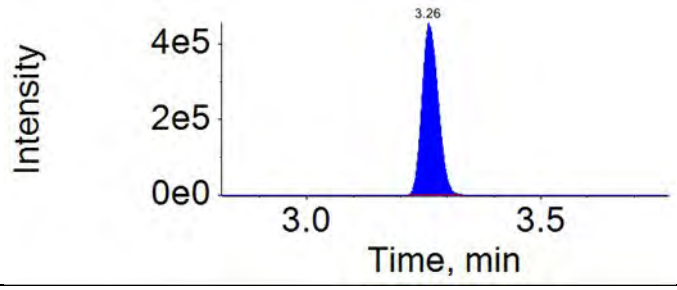
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

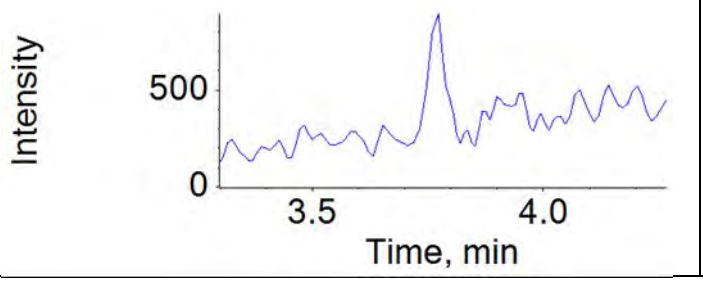
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

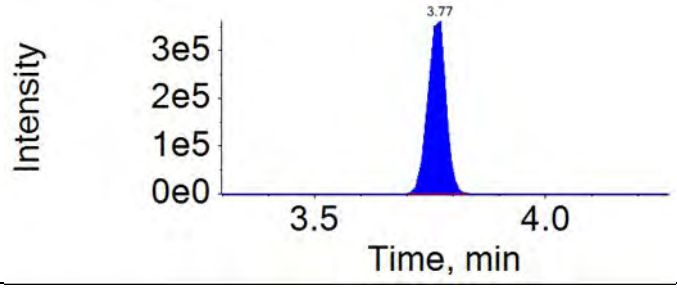
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



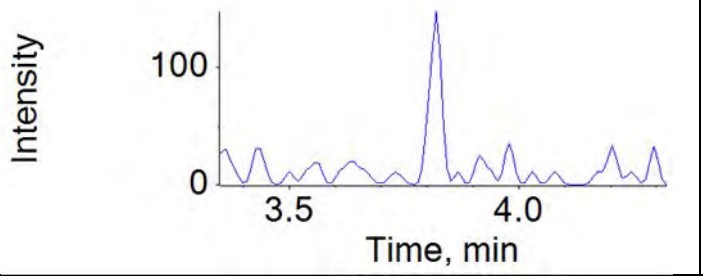


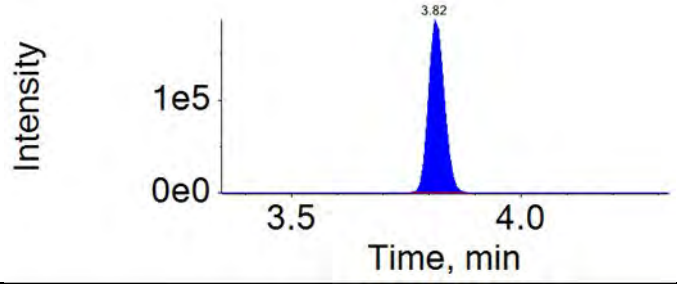
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



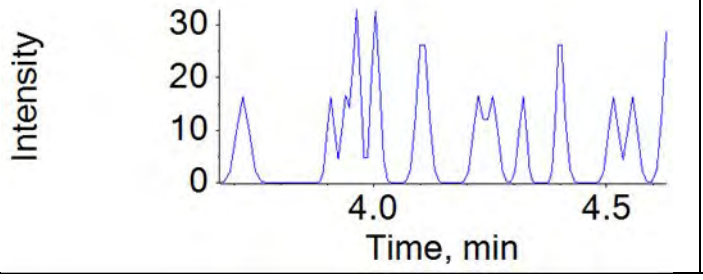


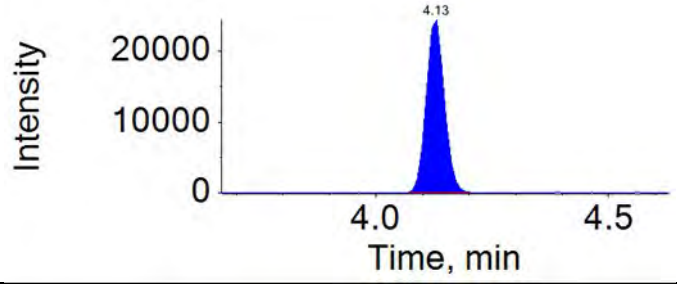
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



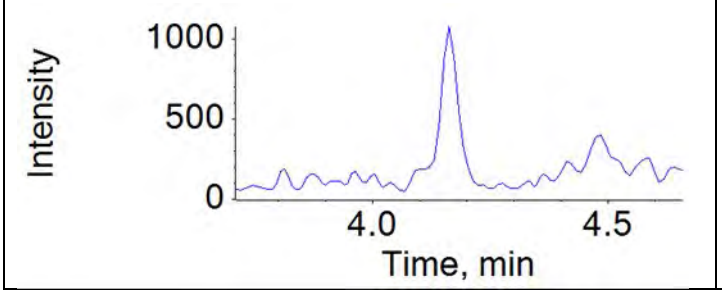


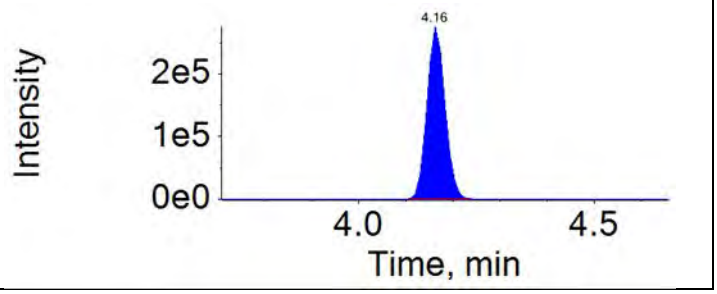
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

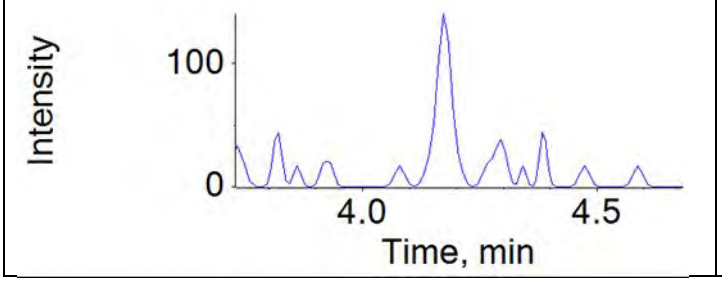
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

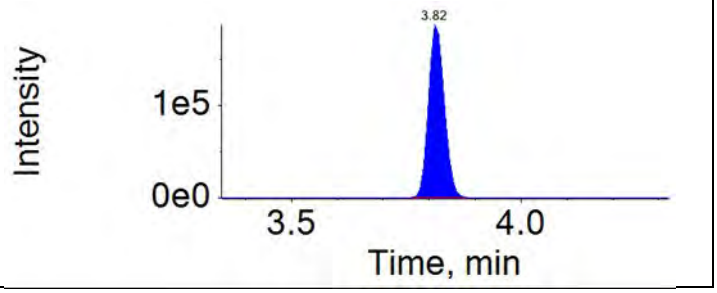
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



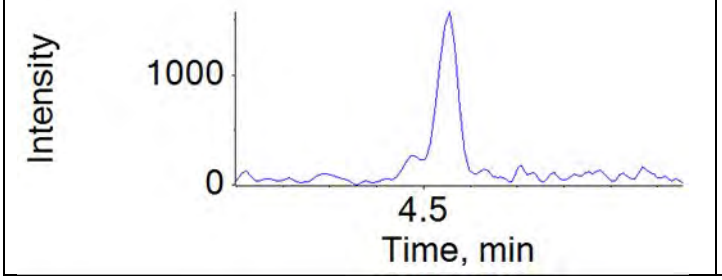


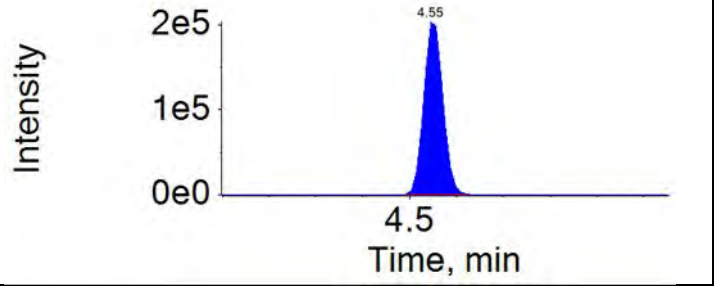
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



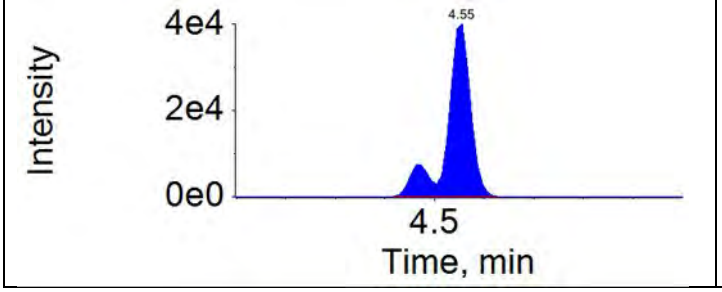


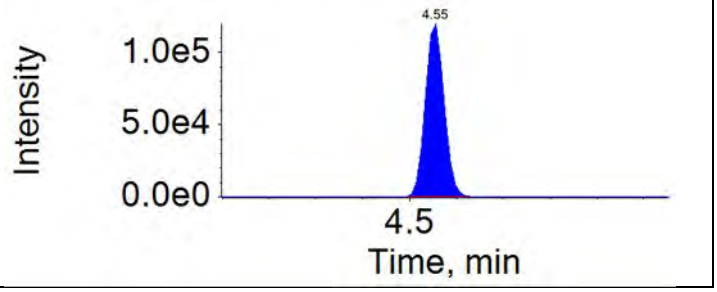
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



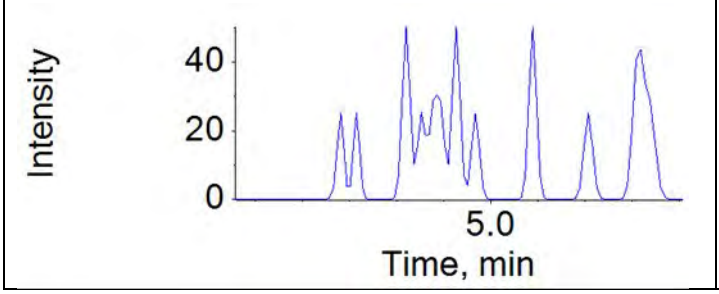


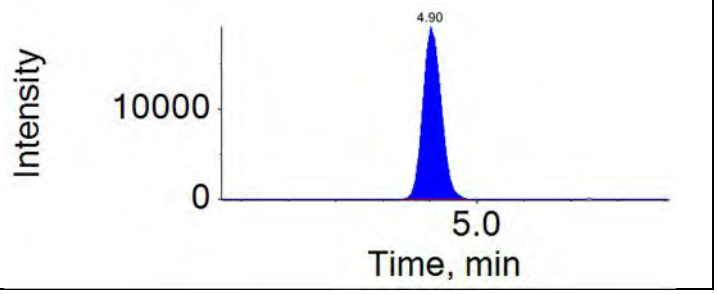
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

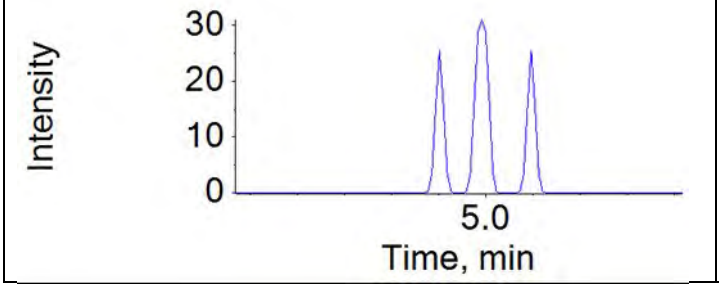
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

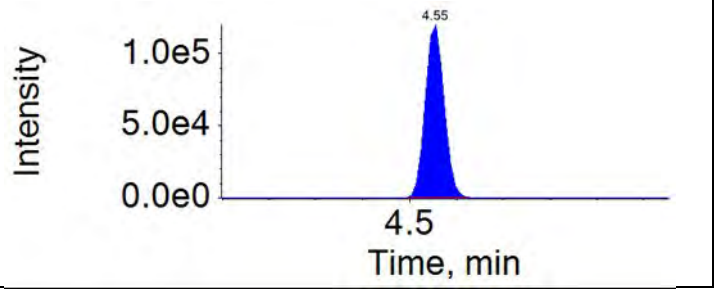
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



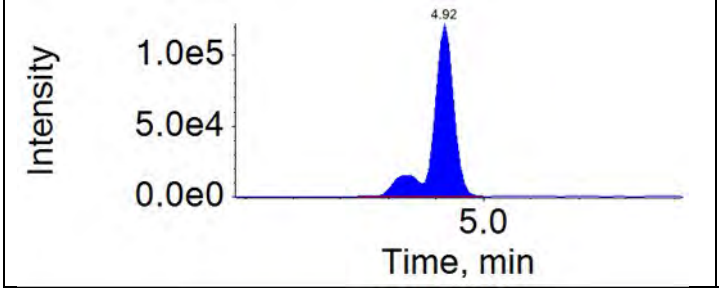


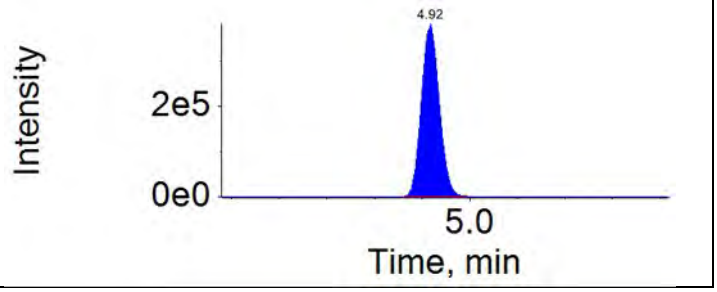
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



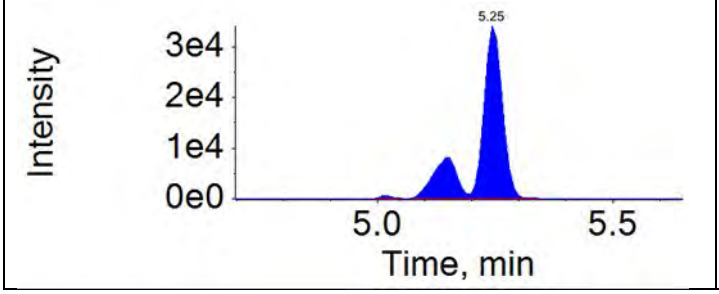


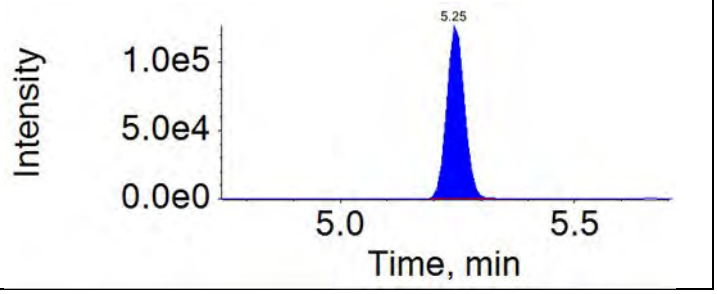
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



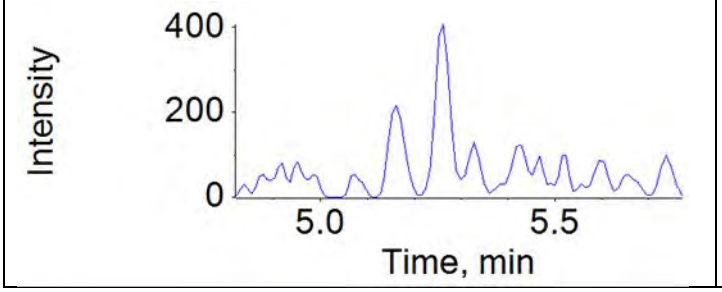


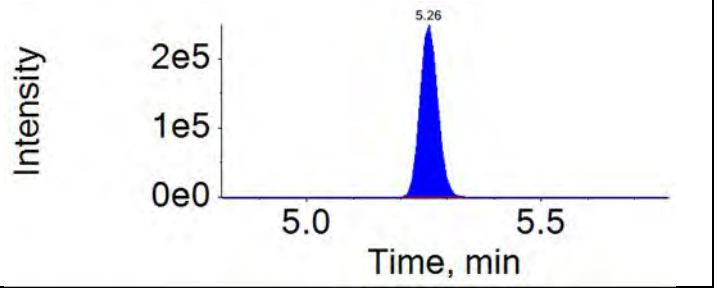
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

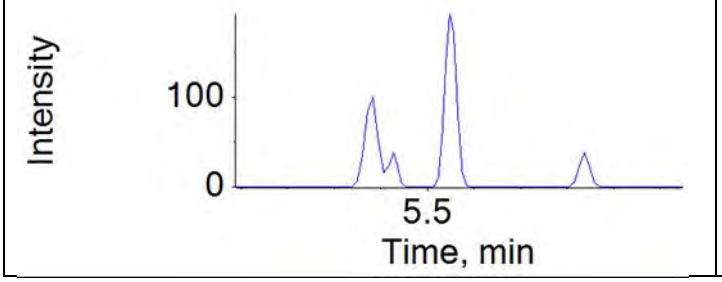
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

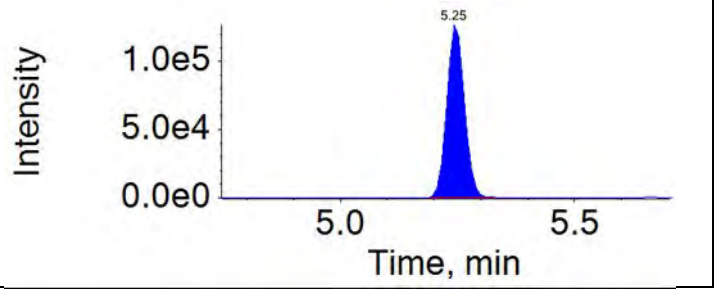
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



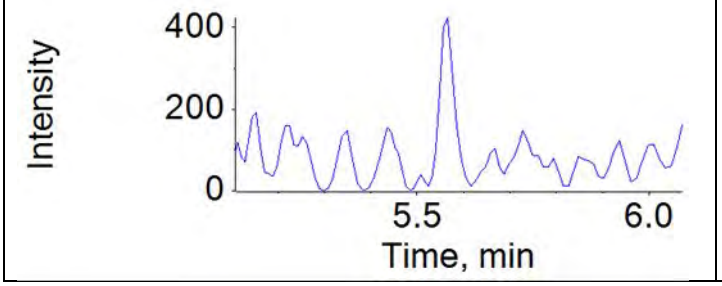


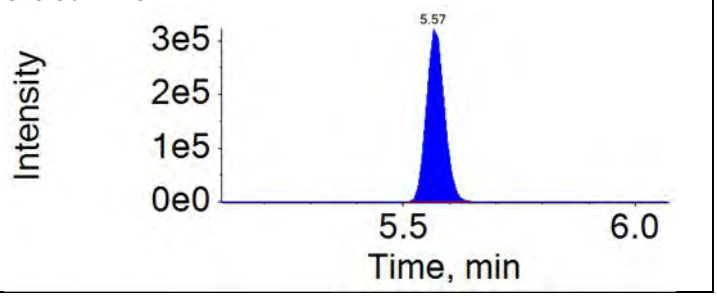
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



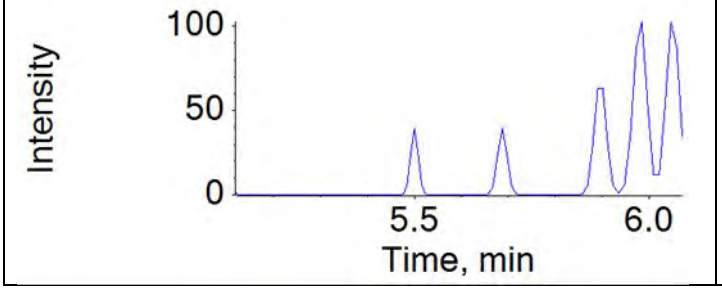


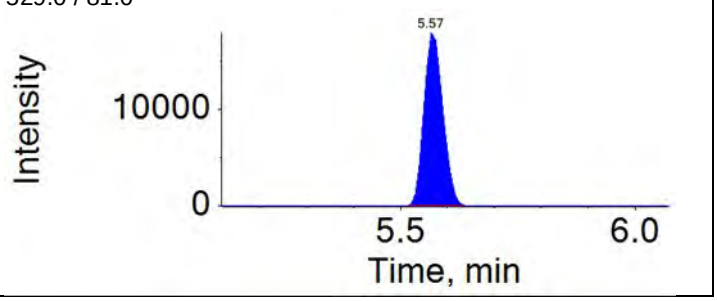
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



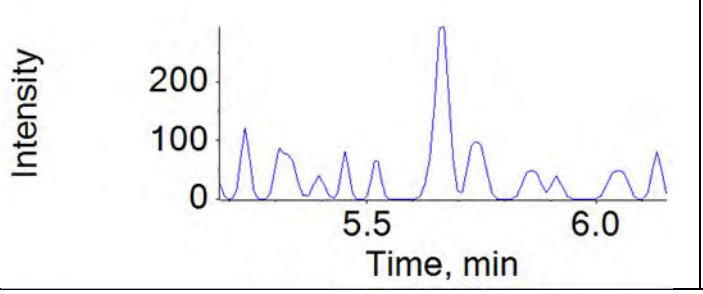


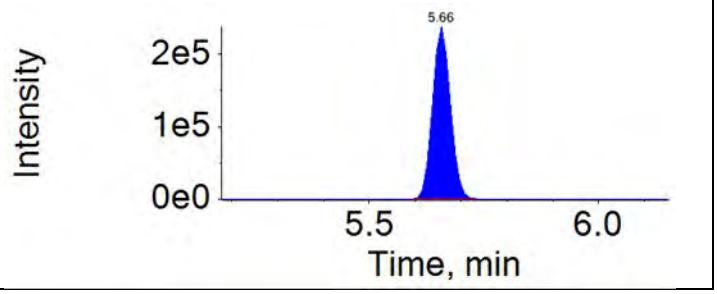
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

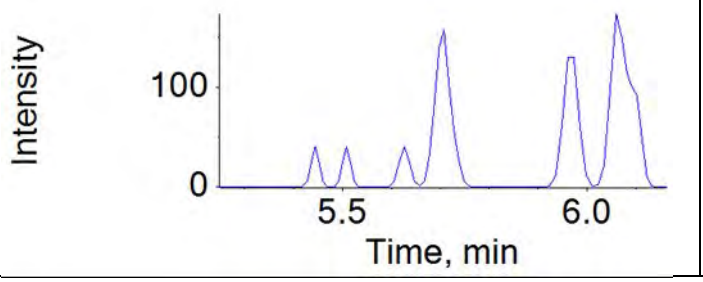
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

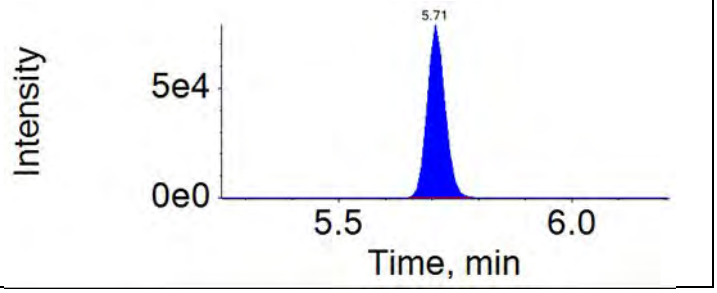
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



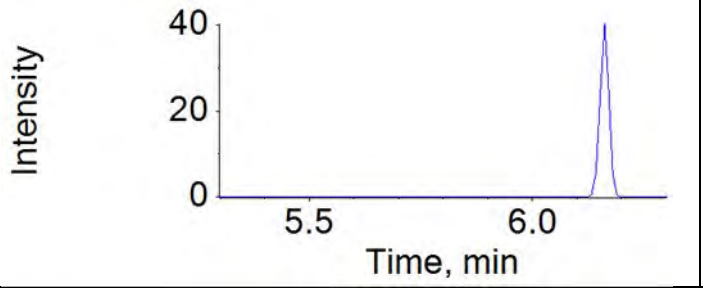


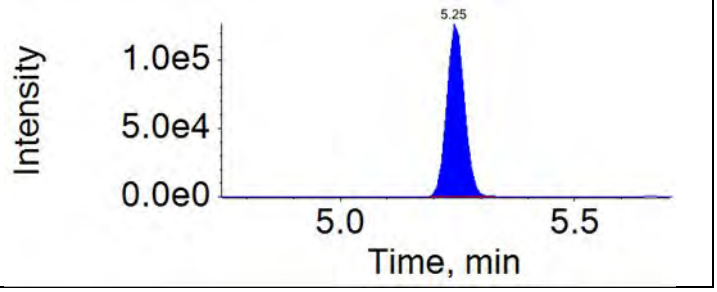
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



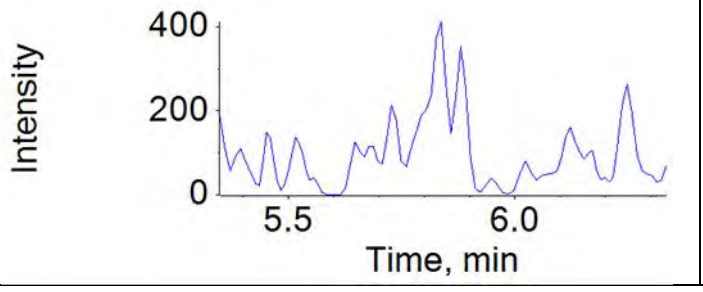


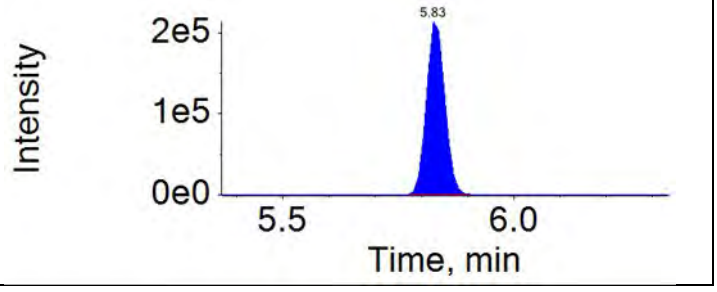
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



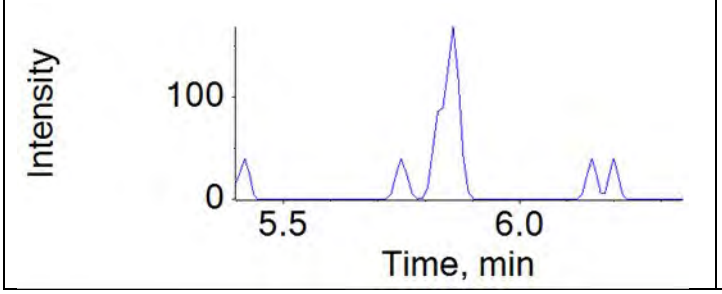


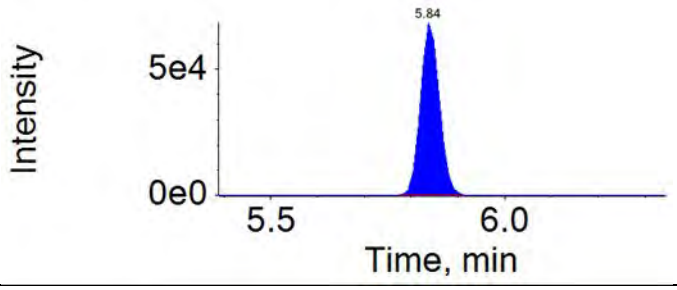
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

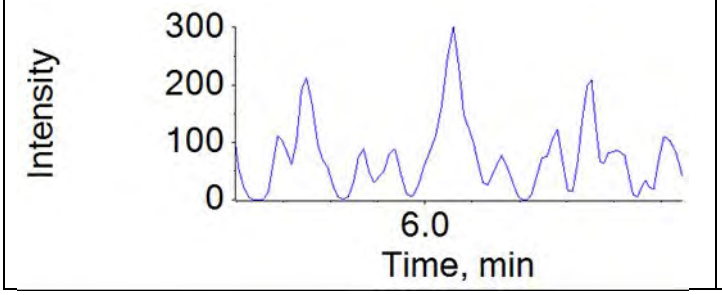
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

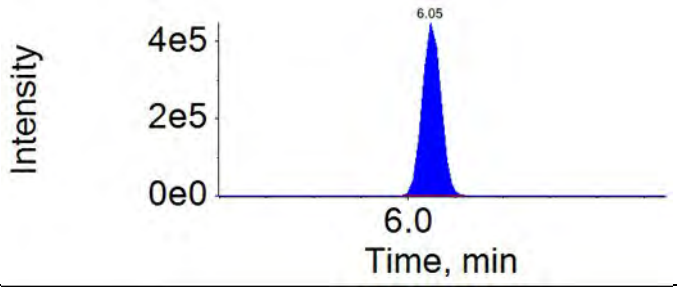
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



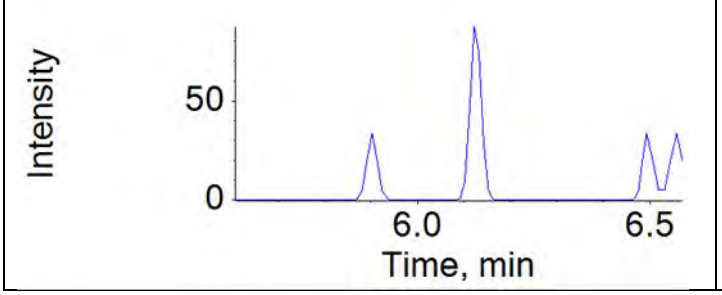


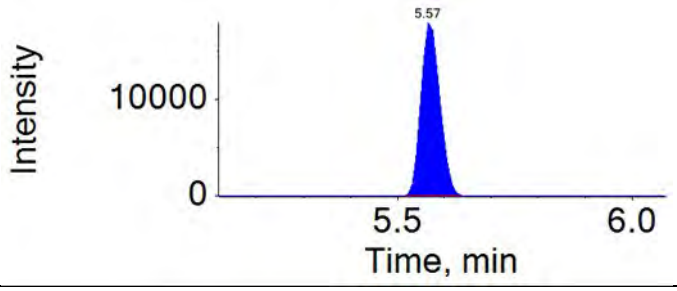
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



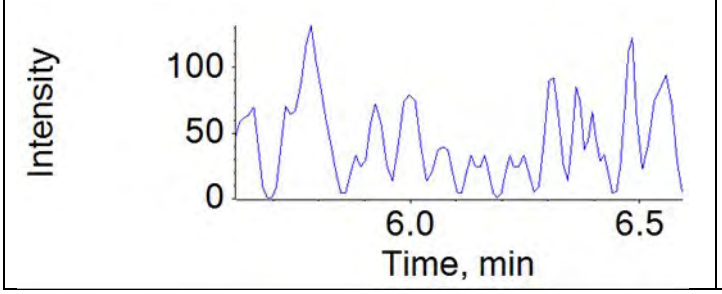


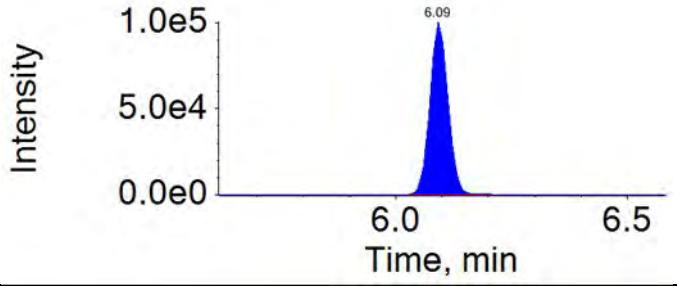
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





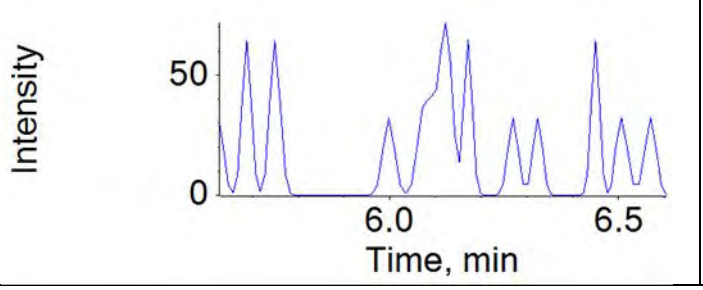
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

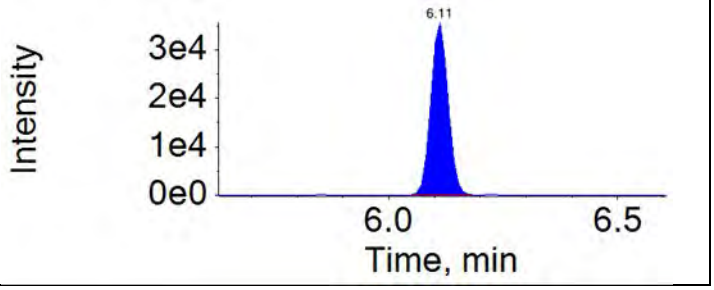




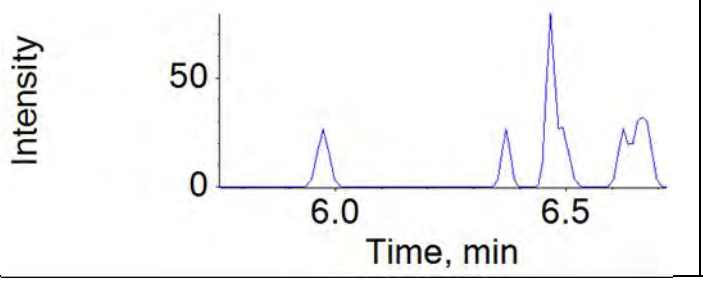
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

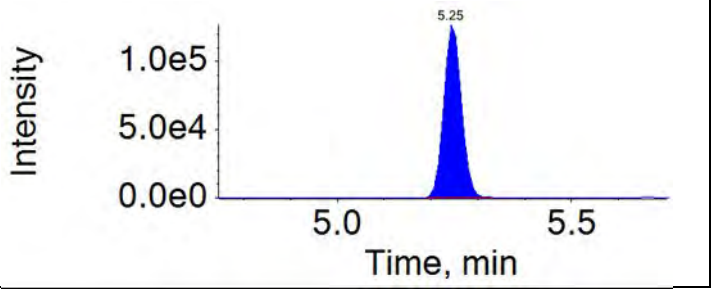
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



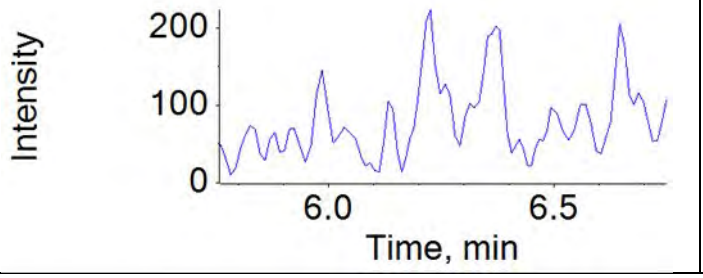


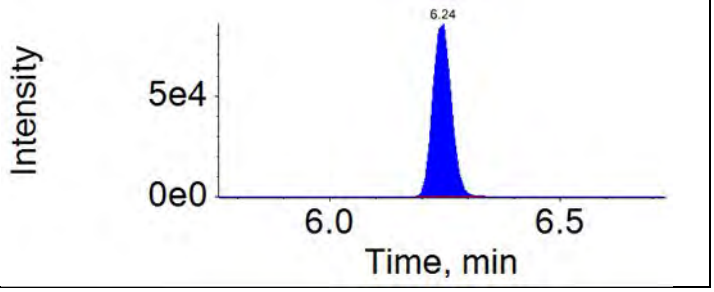
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



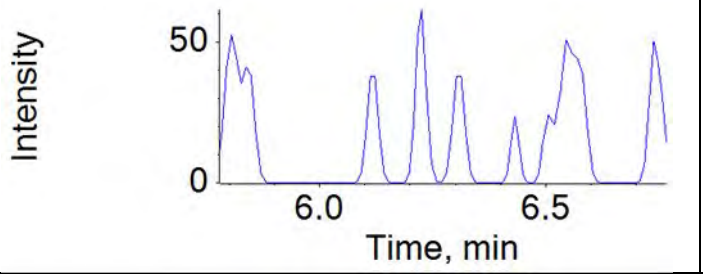


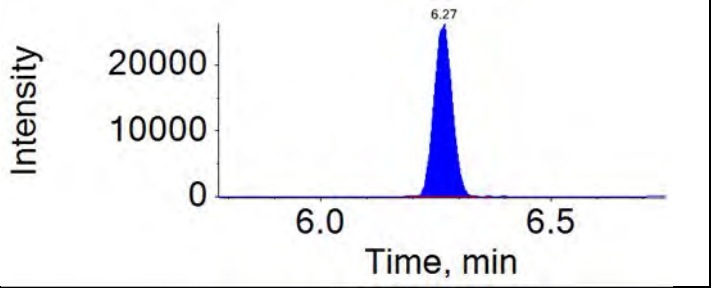
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



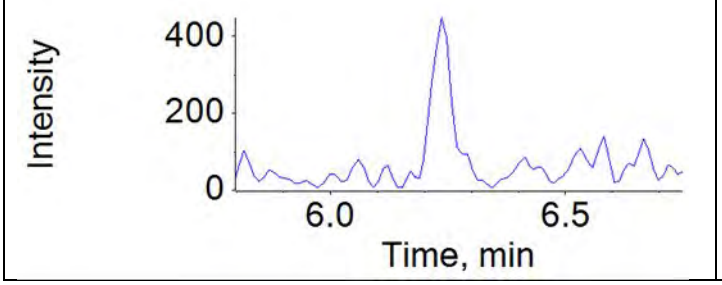


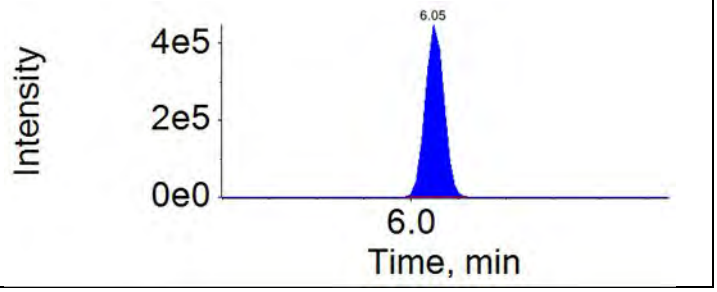
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

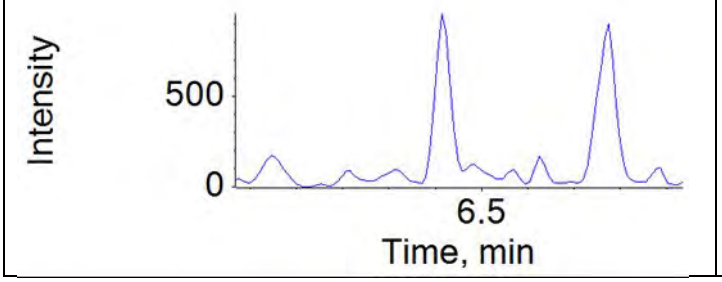
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

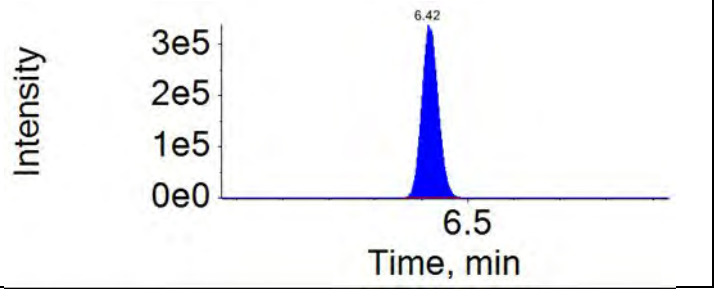
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



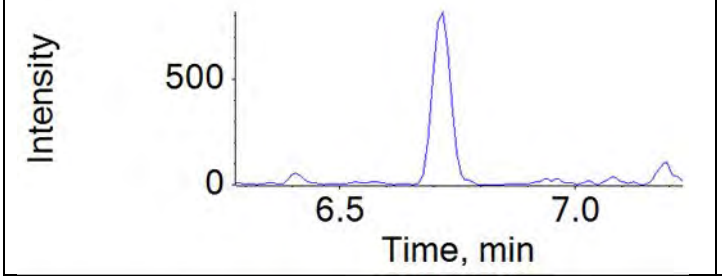


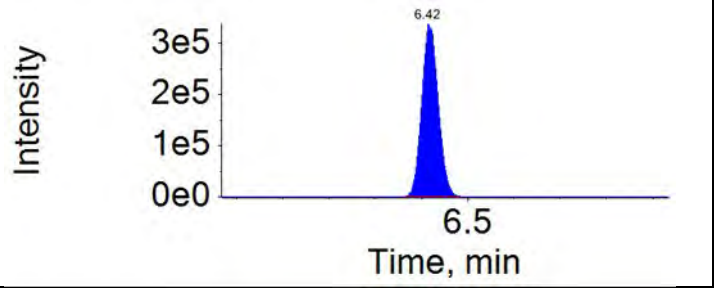
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



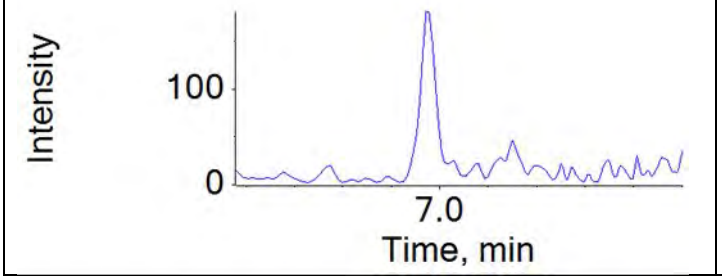


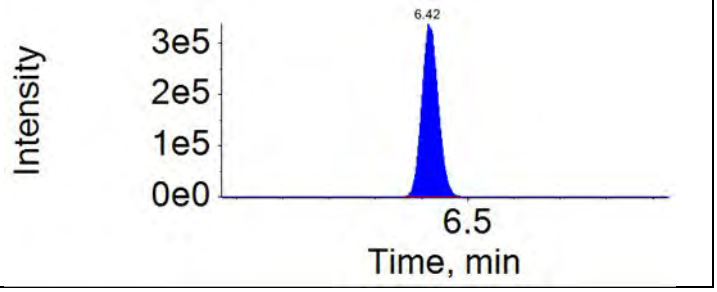
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



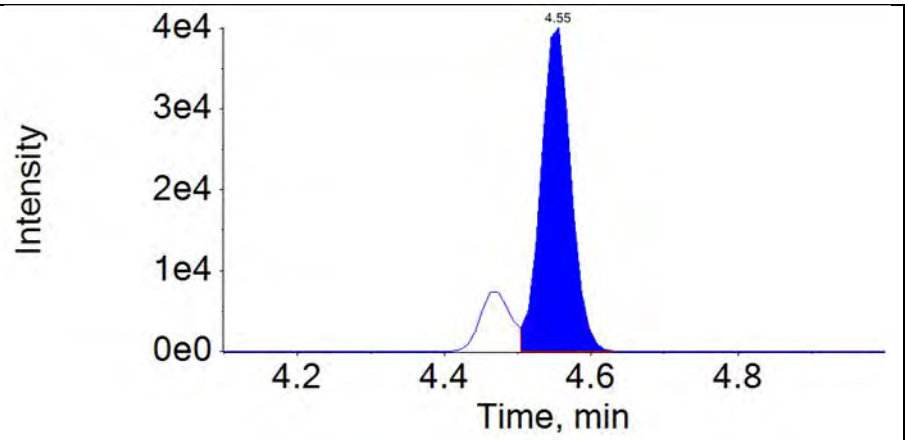


APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

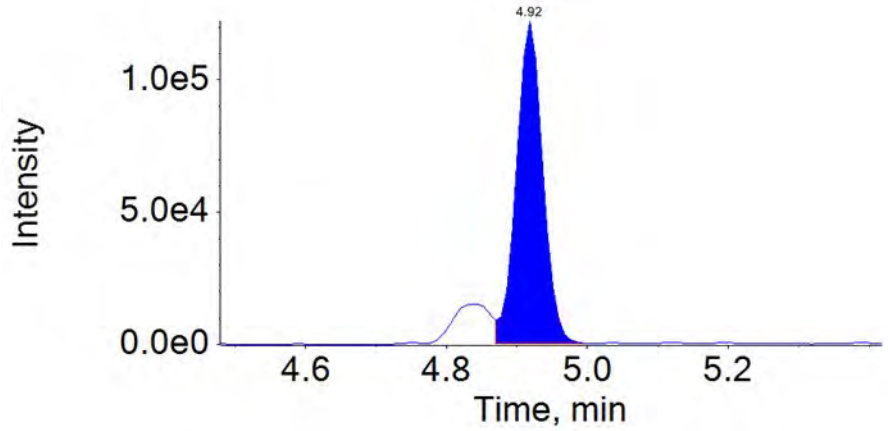
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
114078.01
Mass Range:
399.0 / 80.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



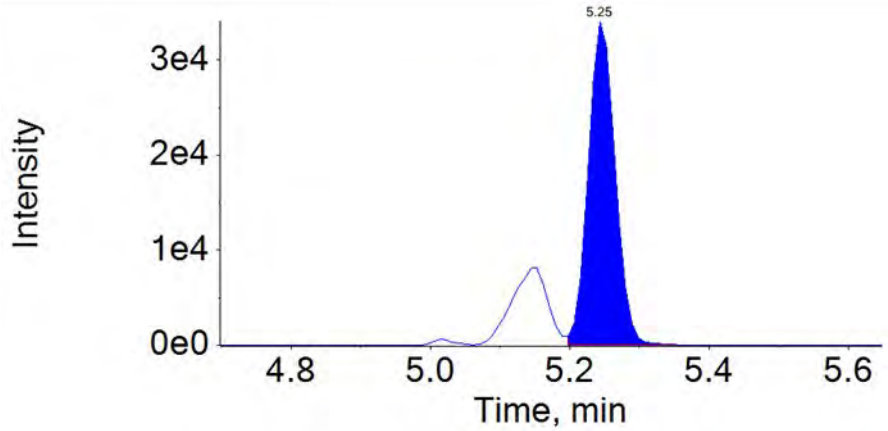
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
317567.36
Mass Range:
413.0 / 369.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
91524.73
Mass Range:
499.0 / 80.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



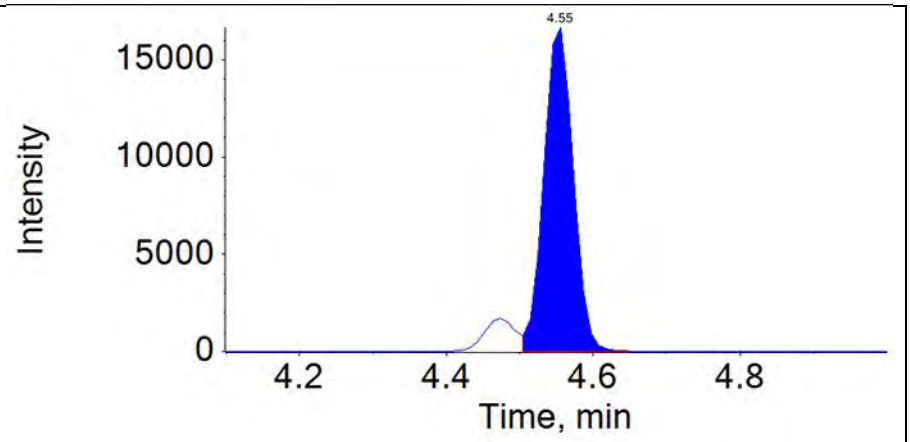
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

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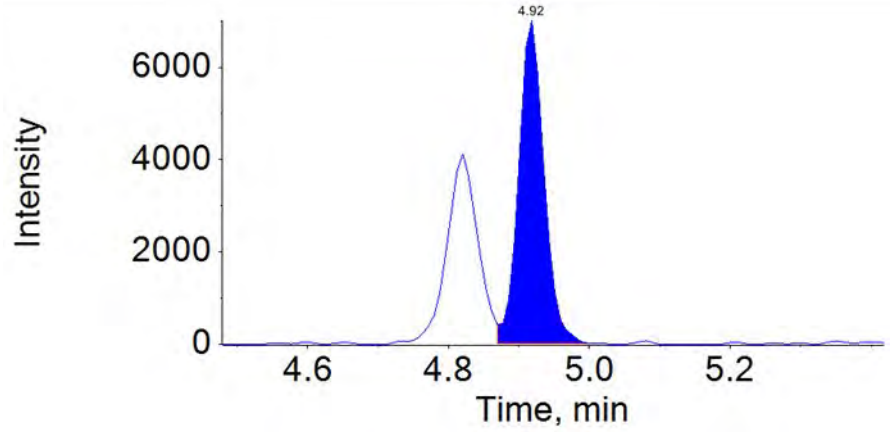
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
46761.02
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



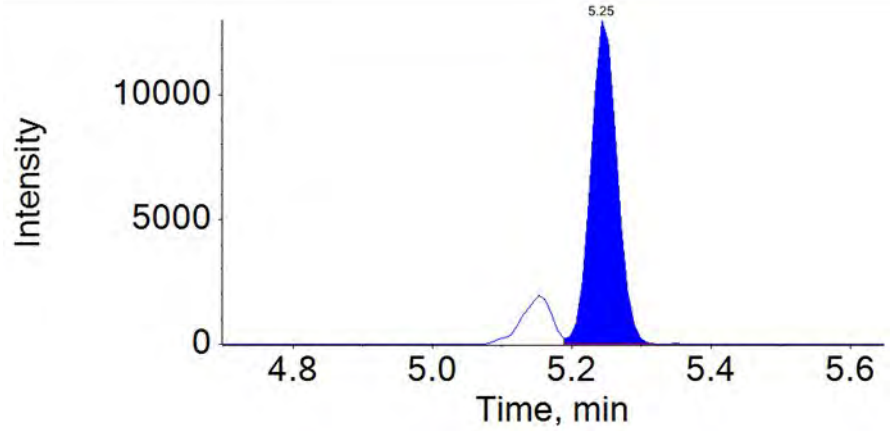
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
17600.83
Mass Range:
413.0 / 169.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
33998.02
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-77.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

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By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

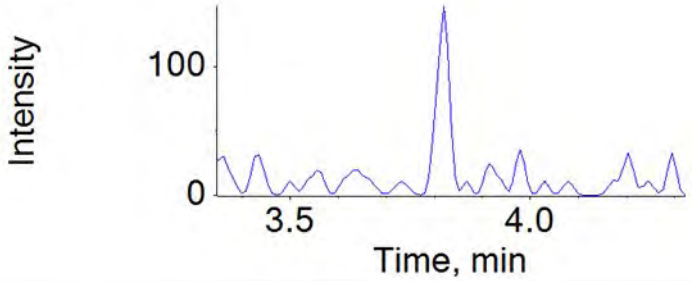
Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-77.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3686	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6123	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0115	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5256	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0547	N/A		50	
PFHxS	4.55	1.00	135519.08	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	51738.87	M	0.3359	0.3818	14	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6344	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4110	N/A		50	
PFOA	4.92	1.00	376989.77	M	1.0000	1.0000			
PFOA_2	4.91	1.00	30425.35	M	0.0590	0.0807	37	50	
PFOS	5.25	1.00	122501.93	M	1.0000	1.0000			
PFOS_2	5.25	1.00	39785.16	M	0.2980	0.3248	9	50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0214	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4608	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0064	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.5879	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2625	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4962	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0035	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6883	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0134	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.7018	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0093	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0058	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0656	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0273	N/A		50	

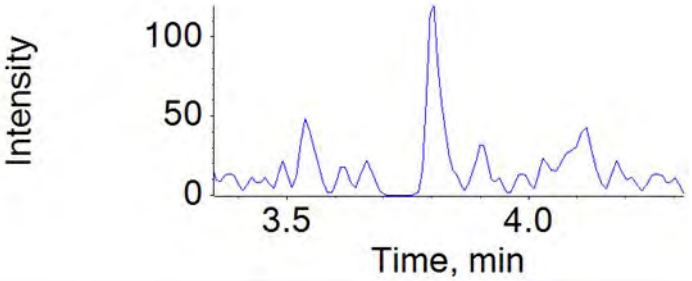
APPROVED
By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

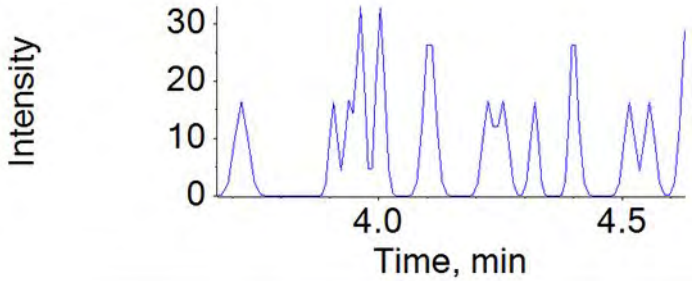
Component: PFBS
Primary Mass: 299.0 / 80.0



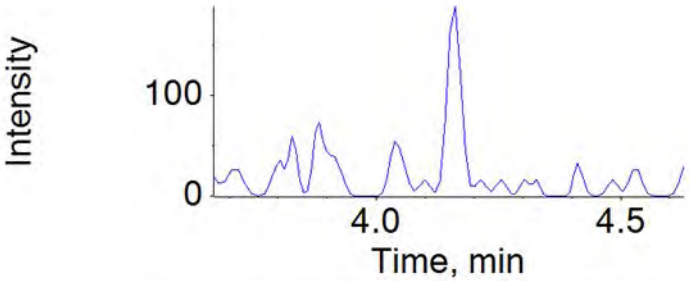
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



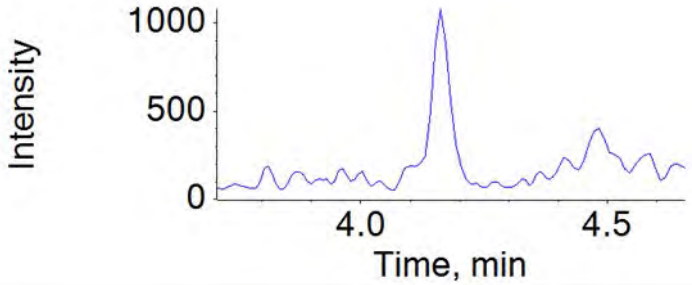
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



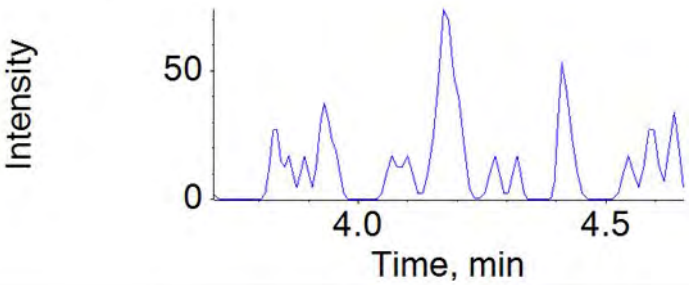
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



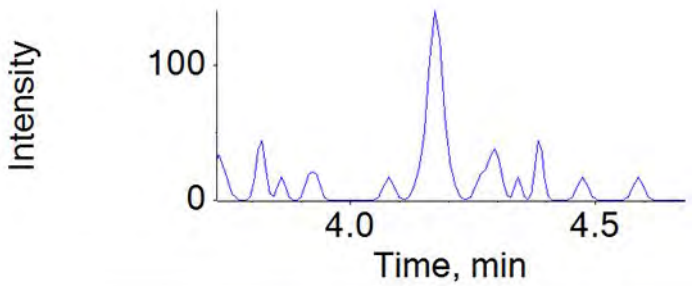
Component: PFHxA
Primary Mass: 313.0 / 269.0



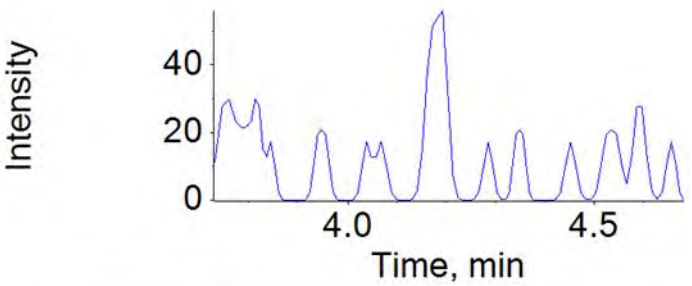
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



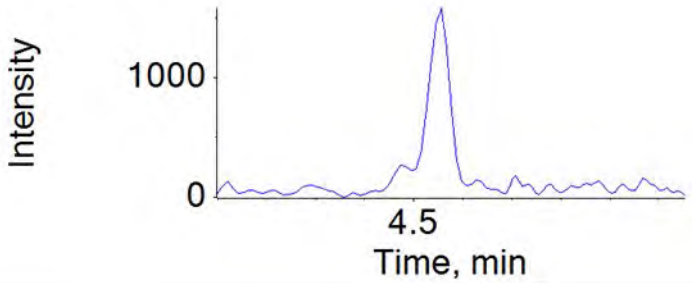
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



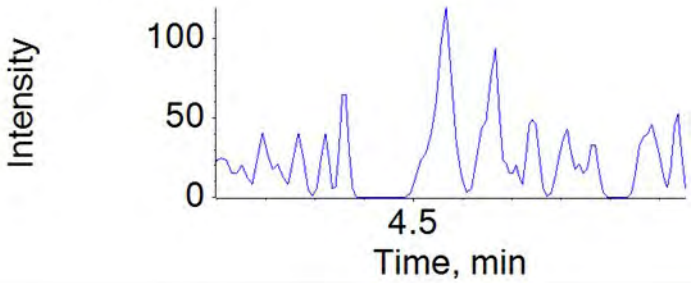
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

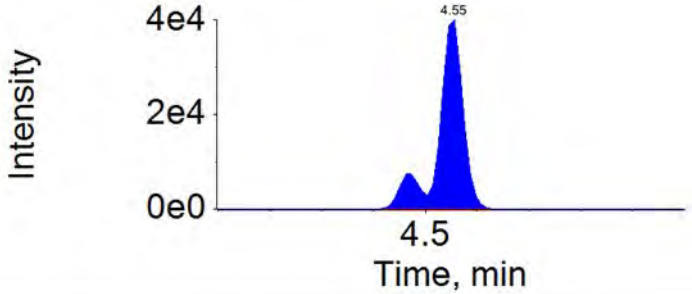
Component: PFHpA
Primary Mass: 363.0 / 319.0



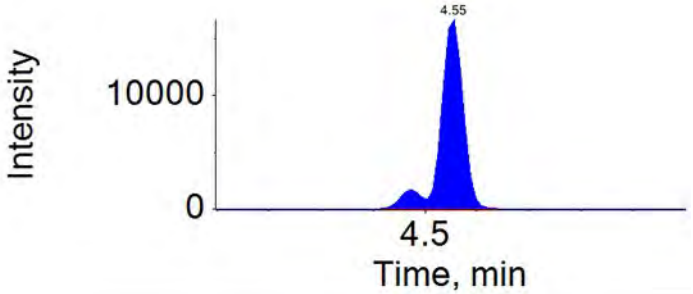
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



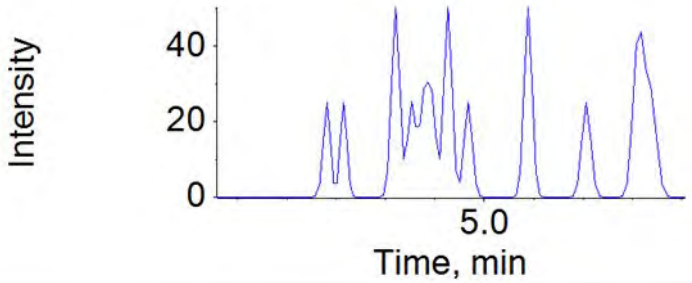
Component: PFHxS
Primary Mass: 399.0 / 80.0



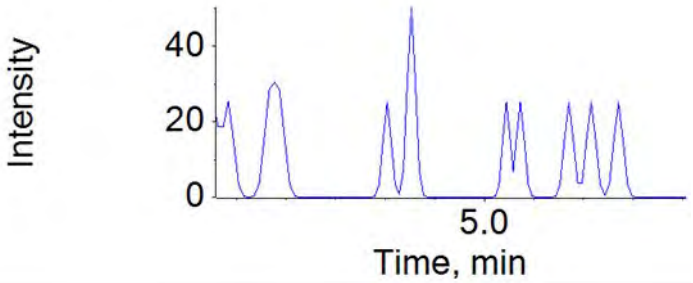
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



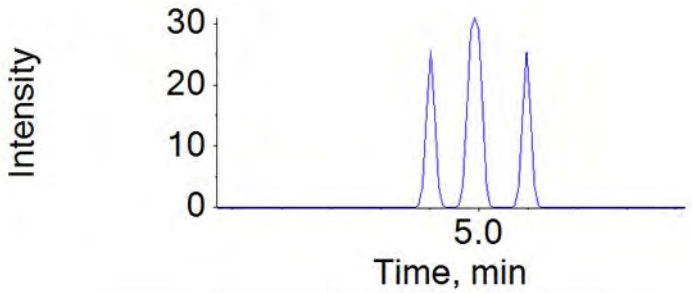
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



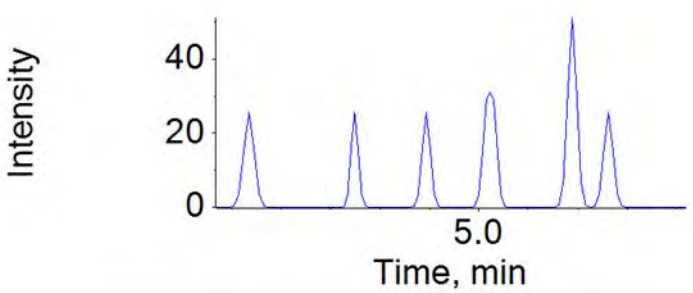
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



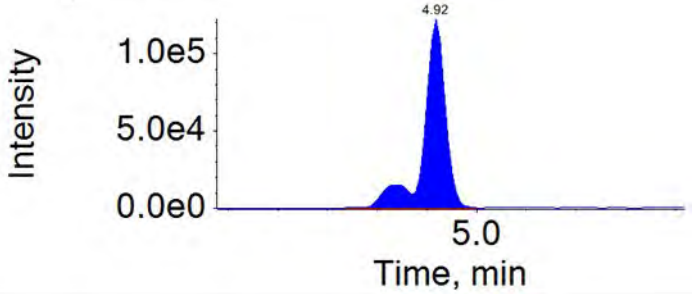
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



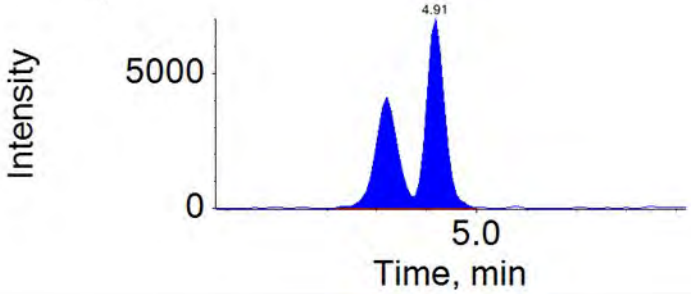
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

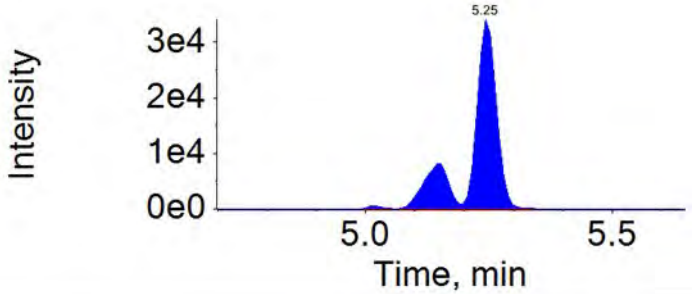
Component: PFOA
Primary Mass: 413.0 / 369.0



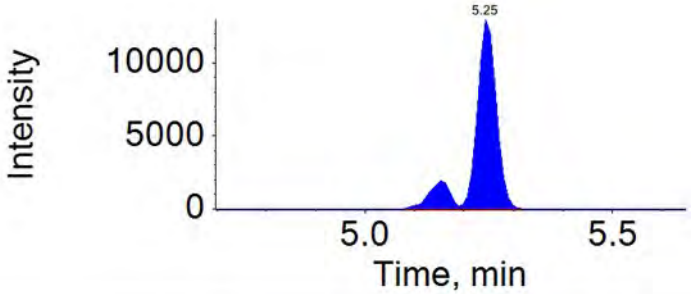
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



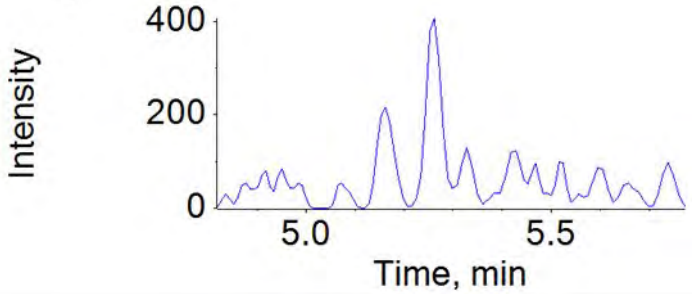
Component: PFOS
Primary Mass: 499.0 / 80.0



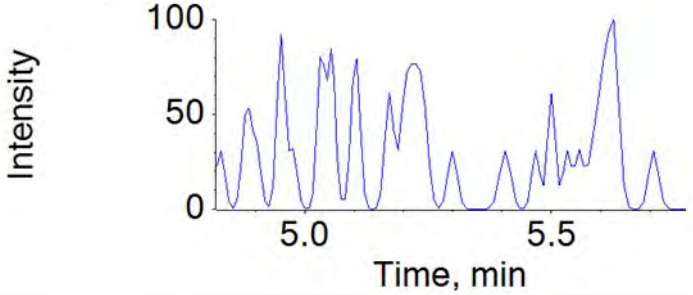
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



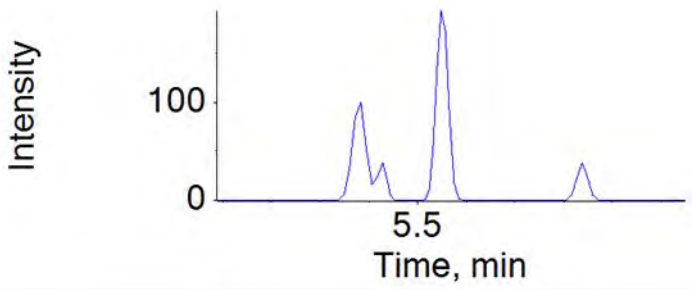
Component: PFNA
Primary Mass: 463.0 / 419.0



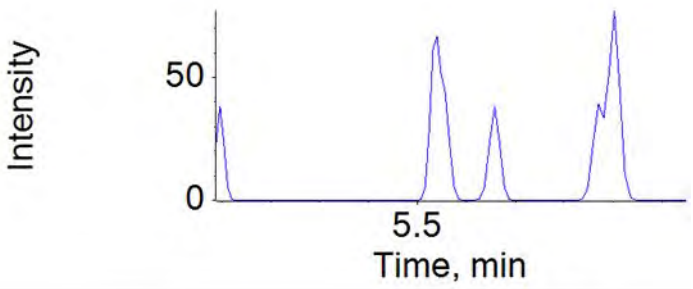
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



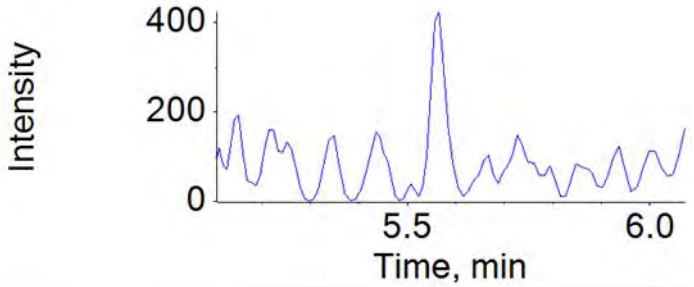
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



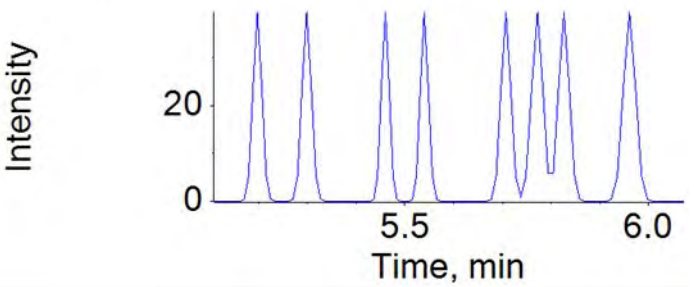
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

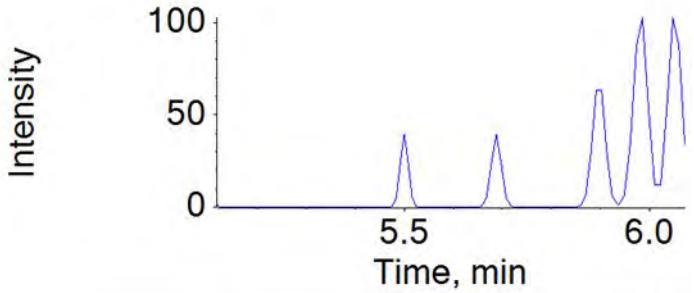
Component: PFDA
Primary Mass: 513.0 / 469.0



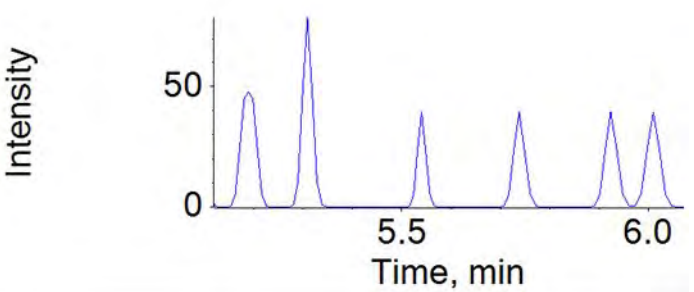
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



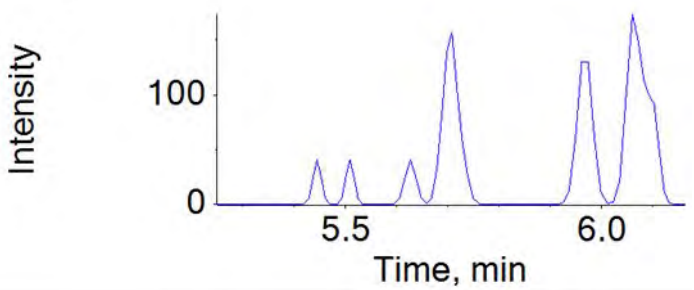
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



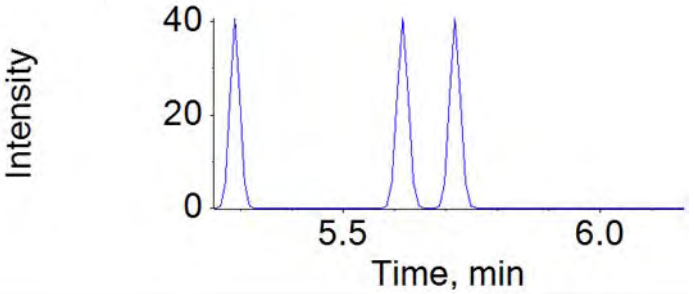
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



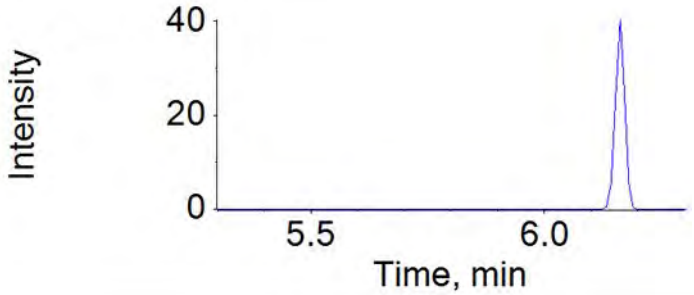
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



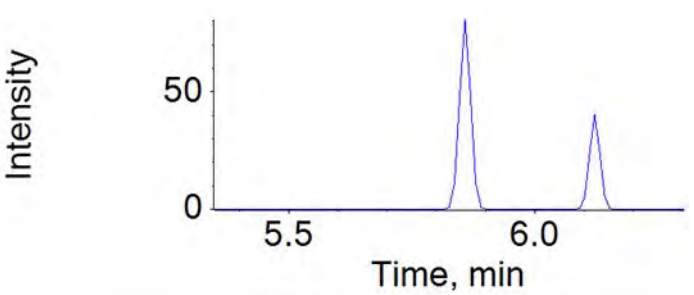
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



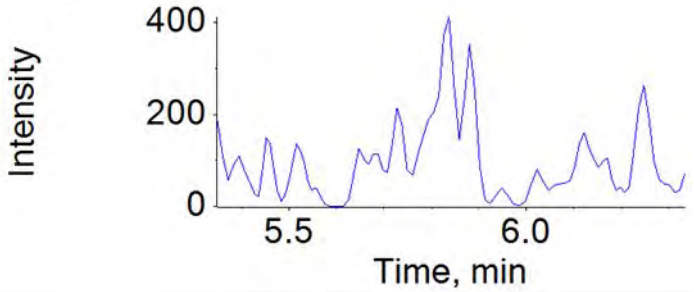
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



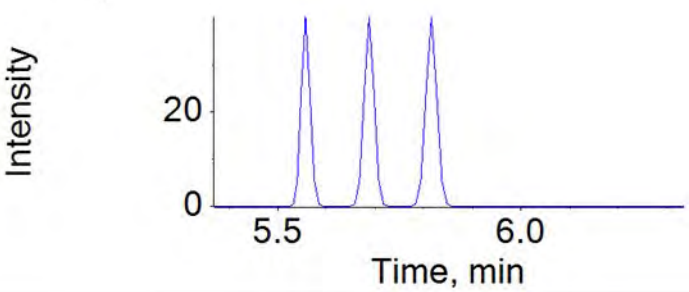
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

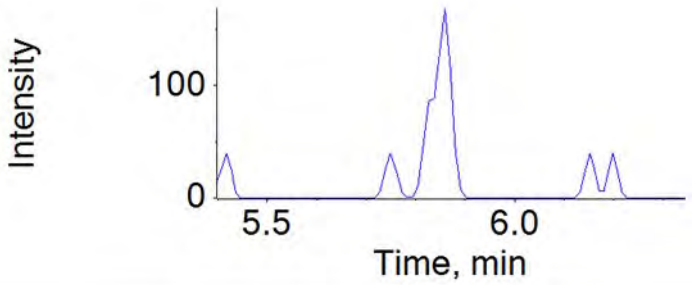
Component: PFUnDA
Primary Mass: 563.0 / 519.0



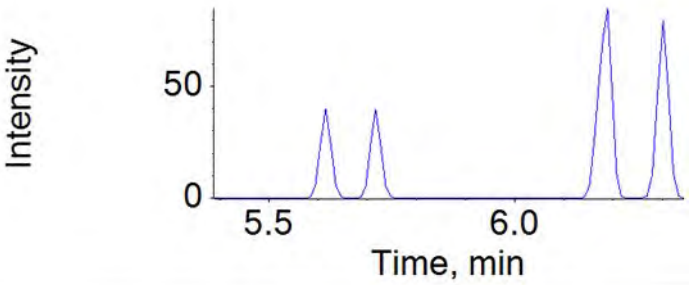
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



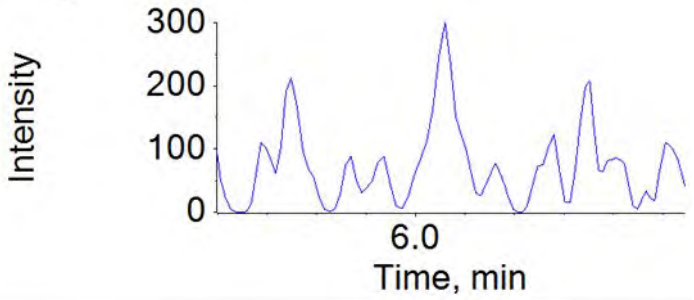
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



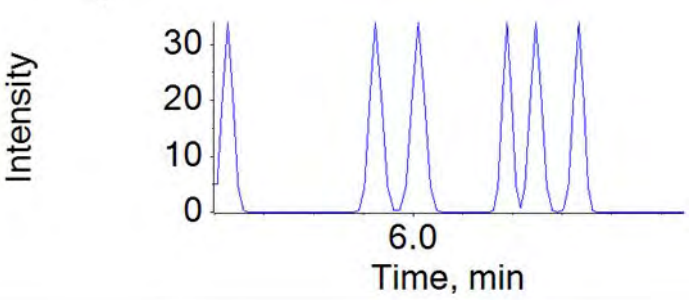
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



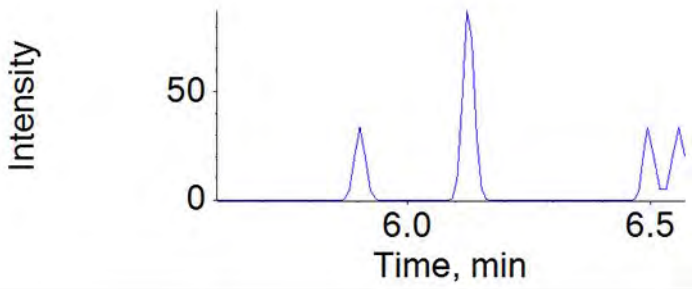
Component: PFDoDA
Primary Mass: 613.0 / 569.0



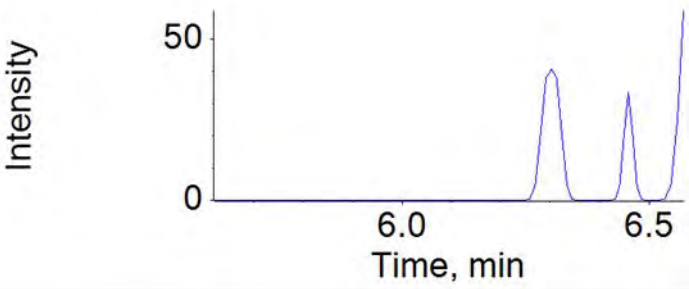
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



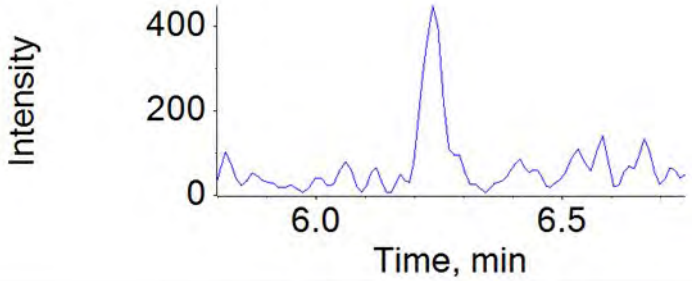
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



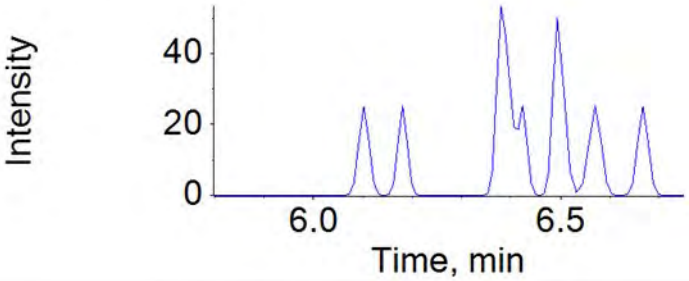
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

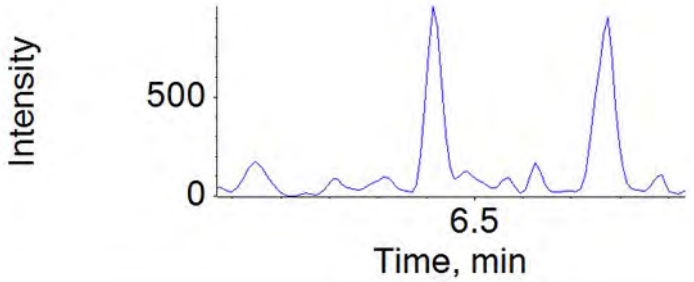
Component: PFTrDA
Primary Mass: 663.0 / 619.0



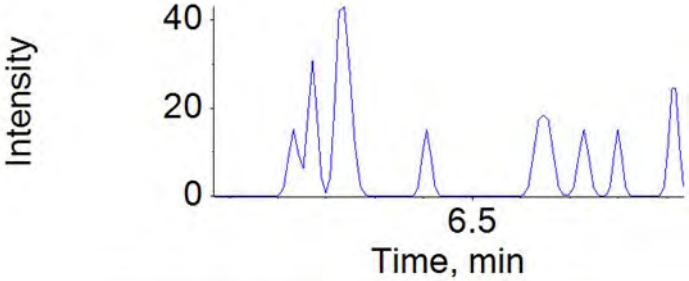
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



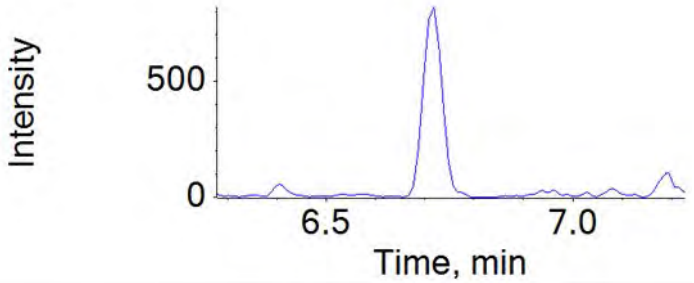
Component: PFTeDA
Primary Mass: 713.0 / 669.0



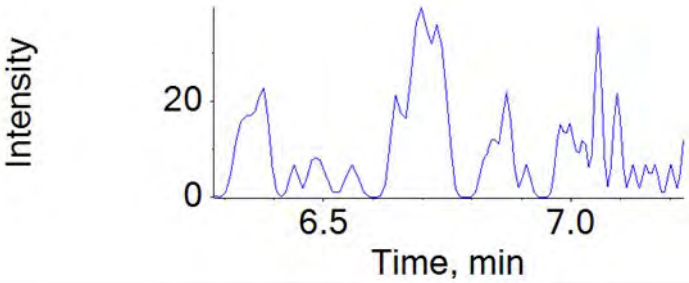
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



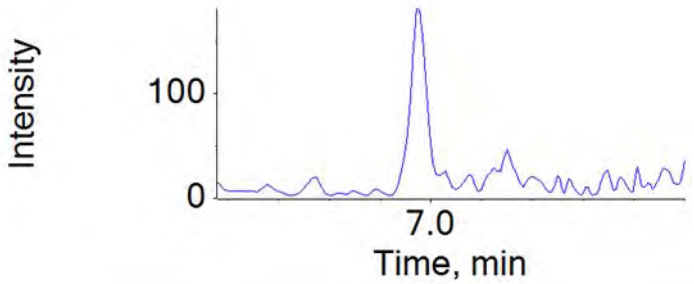
Component: PFHxDA
Primary Mass: 813.0 / 769.0



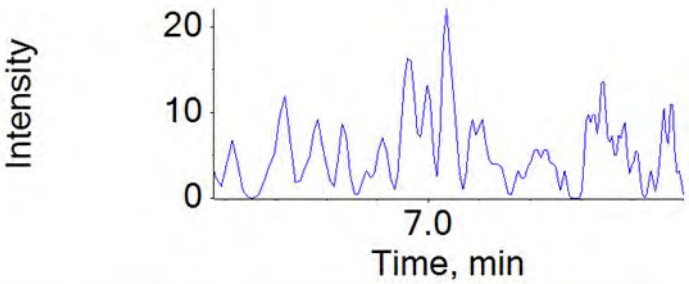
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



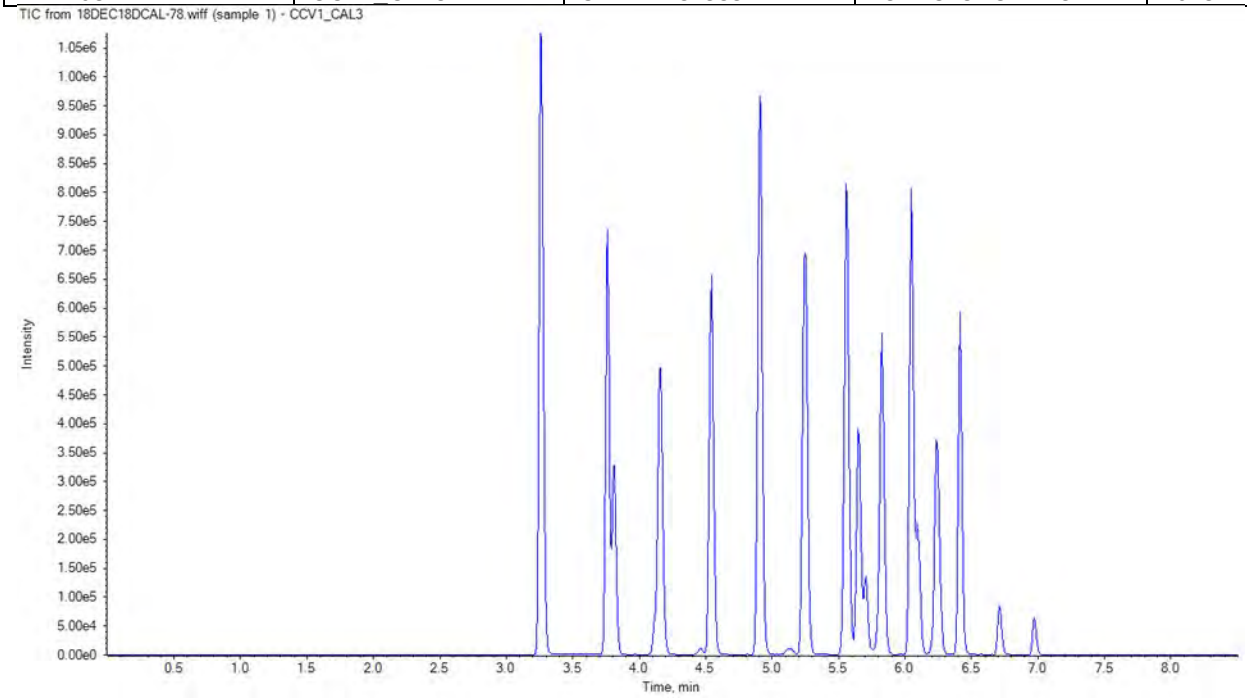
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC18DCAL-78.wiff	2018-12-19T01:05:05



Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	931673.3	941251.6	-1	50	
13C2-PFOA	5.0	517839.6	485595.3	7	50	
13C4-PFOS	4.8	300541.8	292182.6	3	50	
13C2-PFDA	5.0	461995.4	467216.0	-1	50	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC18DCAL-78.wiff	2018-12-19T01:05:05

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	428384.1	10	13C4-PFBA	1039696.3	5.0	0.412	3.26	1.000	2.000	2.188	9	30	
PFPeA	421063.6	11	13C5-PFPeA	999967.7	5.0	0.421	3.76	1.000	2.000	2.174	9	30	
PFBS	174296.1	10	13C3-PFBS	430239.4	4.7	0.405	3.81	1.000	1.770	2.000	13	30	
4:2-FTS	49087.0	11	13C2-4:2-FTS	59909.8	4.7	0.819	4.12	1.000	1.870	2.150	15	30	
PFHxA	388326.7	11	13C5-PFHxA	703753.3	5.0	0.552	4.16	1.000	2.000	2.273	14	30	
PFPeS	88563.6	11	13C3-PFBS	430239.4	4.7	0.206	4.18	1.100	1.880	2.096	11	30	
PFHpA	411871.6	11	13C4-PFHpA	593302.4	5.0	0.694	4.54	1.000	2.000	2.302	15	30	
PFHxS	127273.3	19	13C3-PFHxS	322553.5	4.7	0.395	4.54	1.000	1.820	1.919	5	30	
6:2-FTS	45983.7	11	13C2-6:2-FTS	51959.8	4.8	0.885	4.90	1.000	1.900	2.203	16	30	
PFHpS	125155.7	10	13C3-PFHxS	322553.5	4.7	0.388	4.90	1.080	1.900	2.053	8	30	
PFOA	414271.2	11	13C8-PFOA	987186.8	5.0	0.420	4.91	1.000	2.000	2.223	11	30	
PFOS	141737.2	22	13C8-PFOS	313926.9	4.8	0.451	5.24	1.000	1.850	1.977	7	30	
PFNA	426327.6	11	13C9-PFNA	664731.6	5.0	0.641	5.25	1.000	2.000	2.549	27	30	
PFNS	99495.9	11	13C8-PFOS	313926.9	4.8	0.317	5.54	1.060	1.920	2.015	5	30	
PFDA	355807.1	11	13C6-PFDA	850023.2	5.0	0.419	5.56	1.000	2.000	2.162	8	30	
8:2-FTS	46733.6	11	13C2-8:2-FTS	43126.4	4.8	1.084	5.56	1.000	1.920	2.181	14	30	
PFOSA	251903.3	11	13C8-PFOSA	638165.8	5.0	0.395	5.65	1.000	2.000	1.974	-1	30	
NMeFOSAA	75350.0	18	d3-NMeFOSAA	210058.3	5.0	0.359	5.70	1.000	2.000	2.229	11	30	
PFDS	79355.3	11	13C8-PFOS	313926.9	4.8	0.253	5.80	1.110	1.930	2.075	8	30	
PFUnDA	375287.3	11	13C7-PFUnDA	567462.3	5.0	0.661	5.82	1.000	2.000	2.190	10	30	
NEtFOSAA	69397.2	21	d5-NEtFOSAA	166030.6	5.0	0.418	5.84	1.000	2.000	2.130	7	30	
PFDoDA	512002.2	11	13C2-PFDoDA	1097714.7	5.0	0.466	6.05	1.000	2.000	2.350	17	30	
10:2-FTS	47194.6	11	13C2-8:2-FTS	43126.4	4.8	1.094	6.06	1.090	1.930	2.229	15	30	
NMePFOSAE	130231.6	11	d7-NMePFOSAE	261869.5	5.0	0.497	6.10	1.000	2.000	2.194	10	30	
NMePFOSA	36162.8	11	d3-NMePFOSA	81106.2	5.0	0.446	6.11	1.000	2.000	2.251	13	30	
PFDoS	43520.5	10	13C8-PFOS	313926.9	4.8	0.139	6.21	1.190	1.940	2.100	8	30	
NEtPFOSAE	148630.5	11	d9-NEtPFOSAE	229490.8	5.0	0.648	6.25	1.000	2.000	2.116	6	30	
NEtPFOSA	31752.1	11	d5-NEtPFOSA	67222.0	5.0	0.472	6.27	1.000	2.000	2.209	10	30	
PFTrDA	472947.8	11	13C2-PFDoDA	1097714.7	5.0	0.431	6.24	1.030	2.000	2.210	11	30	
PFTeDA	330447.9	10	13C2-PFTeDA	825659.0	5.0	0.400	6.41	1.000	2.000	2.155	8	30	
PFHxDA	169410.4	11	13C2-PFTeDA	825659.0	5.0	0.205	6.71	1.050	2.000	2.253	13	30	
PFODA	127433.6	10	13C2-PFTeDA	825659.0	5.0	0.154	6.97	1.090	2.000	2.218	11	30	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC18DCAL 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_CAL3			**Data File:**		18DEC18DCAL-78.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-19T01:05:05
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC18DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	931673.3	941251.6	-1	50	
13C2-PFOA	5.0	517839.6	485595.3	7	50	
13C4-PFOS	4.8	300541.8	292182.6	3	50	
13C2-PFDA	5.0	461995.4	467216.0	-1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1039696.3	13C3-PFBA	931673.3	1.116	5.000	4.942	99	70-130	
E13C5-PFPeA	999967.7	13C3-PFBA	931673.3	1.073	5.000	5.005	100	70-130	
E13C3-PFBS	430239.4	13C3-PFBA	931673.3	0.462	4.650	4.497	97	70-130	
E13C2-4:2-FTS	59909.8	13C2-PFOA	517839.6	0.116	4.670	4.394	94	70-130	
E13C5-PFHxA	703753.3	13C2-PFOA	517839.6	1.359	5.000	4.861	97	70-130	
E13C3-PFHxS	322553.5	13C2-PFOA	517839.6	0.623	4.730	4.713	100	70-130	
E13C4-PFHpA	593302.4	13C2-PFOA	517839.6	1.146	5.000	4.949	99	70-130	
E13C2-6:2-FTS	51959.8	13C2-PFOA	517839.6	0.100	4.750	5.048	106	70-130	
E13C8-PFOA	987186.8	13C2-PFOA	517839.6	1.906	5.000	5.242	105	70-130	
E13C8-PFOS	313926.9	13C4-PFOS	300541.8	1.045	4.780	4.671	98	70-130	
E13C9-PFNA	664731.6	13C4-PFOS	300541.8	2.212	5.000	5.032	101	70-130	
E13C6-PFDA	850023.2	13C2-PFDA	461995.4	1.840	5.000	5.241	105	70-130	
E13C2-8:2-FTS	43126.4	13C2-PFDA	461995.4	0.093	4.790	4.811	100	70-130	
E13C8-PFOSA	638165.8	13C2-PFDA	461995.4	1.381	5.000	5.379	108	70-130	
Ed3-NMeFOSAA	210058.3	13C2-PFDA	461995.4	0.455	5.000	5.002	100	70-130	
E13C7-PFUnDA	567462.3	13C2-PFDA	461995.4	1.228	5.000	5.141	103	70-130	
Ed5-NEtFOSAA	166030.6	13C2-PFDA	461995.4	0.359	5.000	5.294	106	70-130	
E13C2-PFDoDA	1097714.7	13C2-PFDA	461995.4	2.376	5.000	4.999	100	70-130	
Ed7-NMePFOSAE	261869.5	13C2-PFDA	461995.4	0.567	5.000	5.065	101	70-130	
Ed3-NMePFOSA	81106.2	13C2-PFDA	461995.4	0.176	5.000	4.824	96	70-130	
Ed9-NEtPFOSAE	229490.8	13C2-PFDA	461995.4	0.497	5.000	5.079	102	70-130	
Ed5-NEtPFOSA	67222.0	13C2-PFDA	461995.4	0.146	5.000	5.047	101	70-130	
E13C2-PFTeDA	825659.0	13C2-PFDA	461995.4	1.787	5.000	5.036	101	70-130	

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

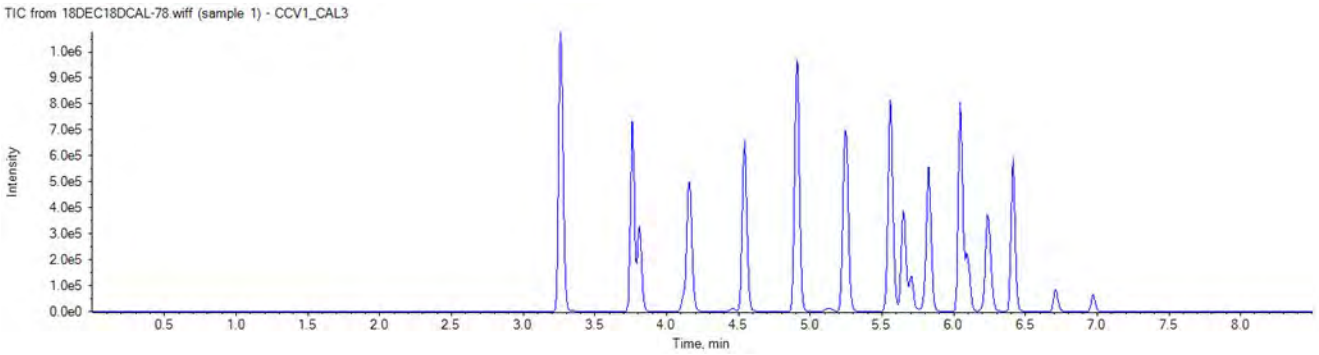
Analyte Quantitation Peak Table

Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-78.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	428384.1		A	13C4-PFBA	3.26	1039696.3	0.412	2.188
PFPeA	3.76	1.000	421063.6		A	13C5-PFPeA	3.76	999967.7	0.421	2.174
PFBS	3.81	1.000	174296.1		A	13C3-PFBS	3.81	430239.4	0.405	2.000
4:2-FTS	4.12	1.000	49087.0		A	13C2-4:2-FTS	4.12	59909.8	0.819	2.150
PFHxA	4.16	1.000	388326.7		A	13C5-PFHxA	4.16	703753.3	0.552	2.273
PFPeS	4.18	1.100	88563.6		A	13C3-PFBS	3.81	430239.4	0.206	2.096
PFHpA	4.54	1.000	411871.6		A	13C4-PFHpA	4.54	593302.4	0.694	2.302
PFHxS	4.54	1.000	127273.3		M	13C3-PFHxS	4.54	322553.5	0.395	1.919
6:2-FTS	4.90	1.000	45983.7		A	13C2-6:2-FTS	4.90	51959.8	0.885	2.203
PFHpS	4.90	1.080	125155.7		A	13C3-PFHxS	4.54	322553.5	0.388	2.053
PFOA	4.91	1.000	414271.2		A	13C8-PFOA	4.91	987186.8	0.420	2.223
PFOS	5.24	1.000	141737.2		M	13C8-PFOS	5.24	313926.9	0.451	1.977
PFNA	5.25	1.000	426327.6		A	13C9-PFNA	5.25	664731.6	0.641	2.549
PFNS	5.54	1.060	99495.9		A	13C8-PFOS	5.24	313926.9	0.317	2.015
PFDA	5.56	1.000	355807.1		A	13C6-PFDA	5.56	850023.2	0.419	2.162
8:2-FTS	5.56	1.000	46733.6		A	13C2-8:2-FTS	5.56	43126.4	1.084	2.181
PFOSA	5.65	1.000	251903.3		A	13C8-PFOSA	5.65	638165.8	0.395	1.974
NMeFOSAA	5.70	1.000	75350.0		M	d3-NMeFOSAA	5.70	210058.3	0.359	2.229
PFDS	5.80	1.110	79355.3		A	13C8-PFOS	5.24	313926.9	0.253	2.075
PFUnDA	5.82	1.000	375287.3		A	13C7-PFUnDA	5.83	567462.3	0.661	2.190
NEtFOSAA	5.84	1.000	69397.2		M	d5-NEtFOSAA	5.84	166030.6	0.418	2.130
PFDoDA	6.05	1.000	512002.2		A	13C2-PFDoDA	6.05	1097714.7	0.466	2.350
10:2-FTS	6.06	1.090	47194.6		A	13C2-8:2-FTS	5.56	43126.4	1.094	2.229
NMePFOSAE	6.10	1.000	130231.6		A	d7-NMePFOSAE	6.09	261869.5	0.497	2.194
NMePFOSA	6.11	1.000	36162.8		A	d3-NMePFOSA	6.11	81106.2	0.446	2.251
PFDoS	6.21	1.190	43520.5		A	13C8-PFOS	5.24	313926.9	0.139	2.100
NEtPFOSAE	6.25	1.000	148630.5		A	d9-NEtPFOSAE	6.24	229490.8	0.648	2.116
NEtPFOSA	6.27	1.000	31752.1		A	d5-NEtPFOSA	6.26	67222.0	0.472	2.209
PFTrDA	6.24	1.030	472947.8		A	13C2-PFDoDA	6.05	1097714.7	0.431	2.210
PFTeDA	6.41	1.000	330447.9		A	13C2-PFTeDA	6.41	825659.0	0.400	2.155
PFHxDA	6.71	1.050	169410.4		A	13C2-PFTeDA	6.41	825659.0	0.205	2.253
PFODA	6.97	1.090	127433.6		A	13C2-PFTeDA	6.41	825659.0	0.154	2.218

Total Ion Chromatogram

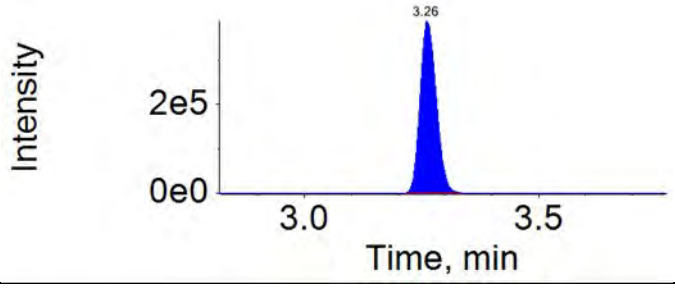


APPROVED
By MSM at 11:49 am, 12/19/18

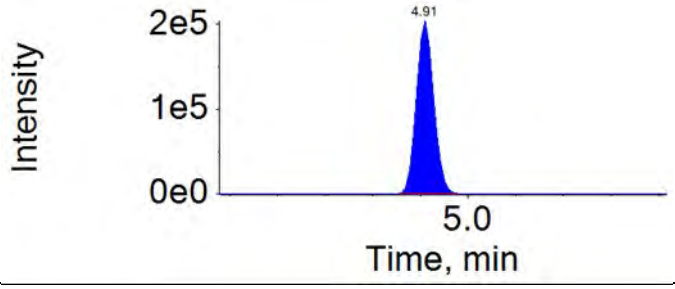
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

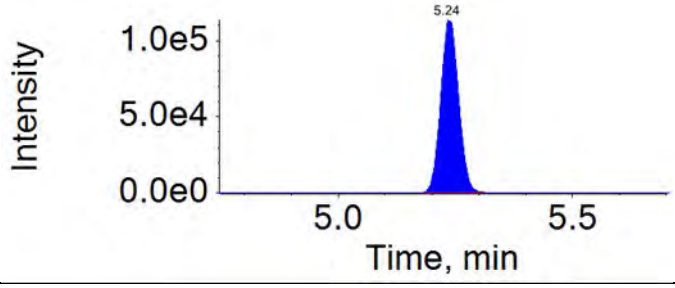
Injection Standard: 13C3-PFBA
216.0 / 172.0



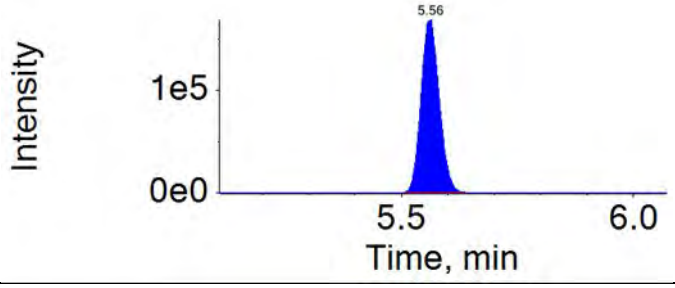
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

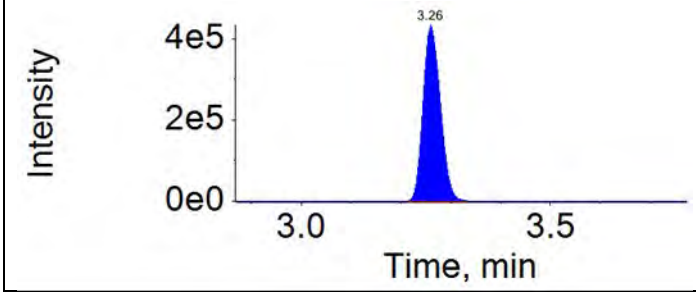


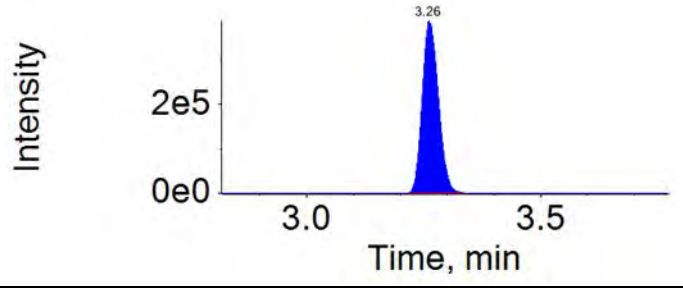
Injection Standard: 13C2-PFDA
515.0 / 470.0



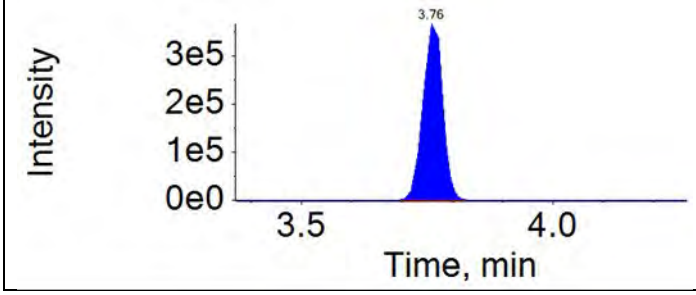
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

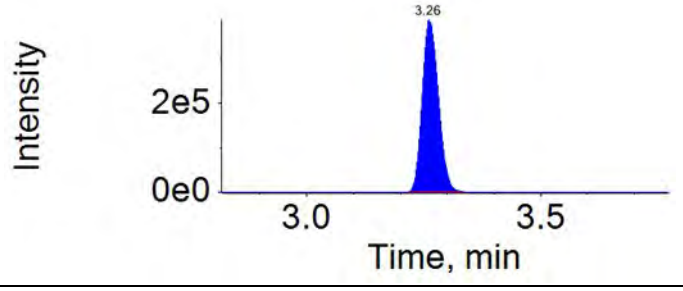
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



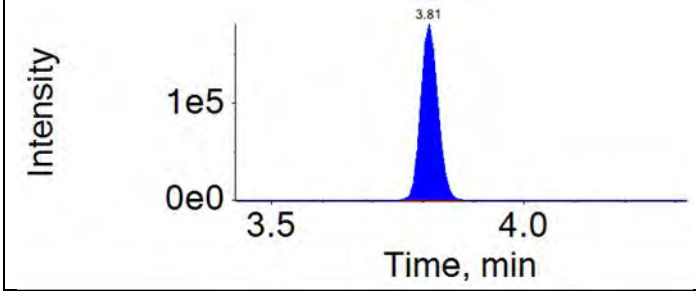


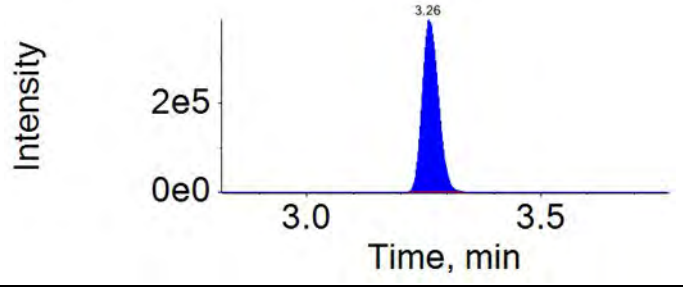
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



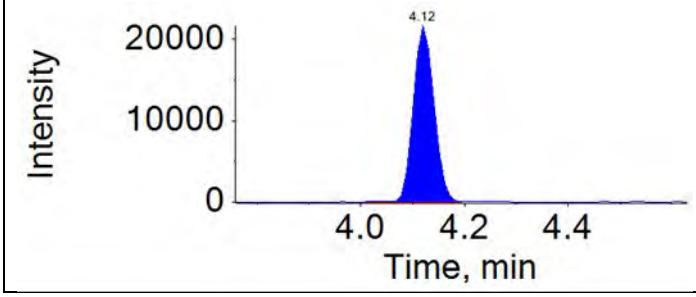


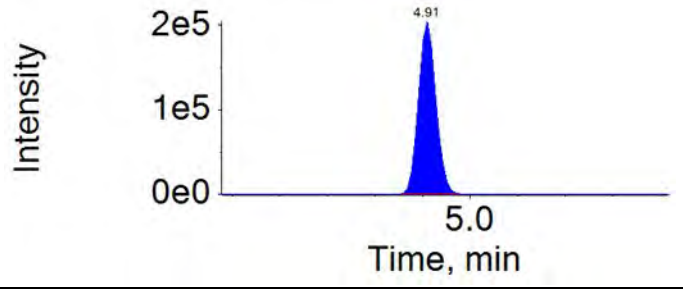
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





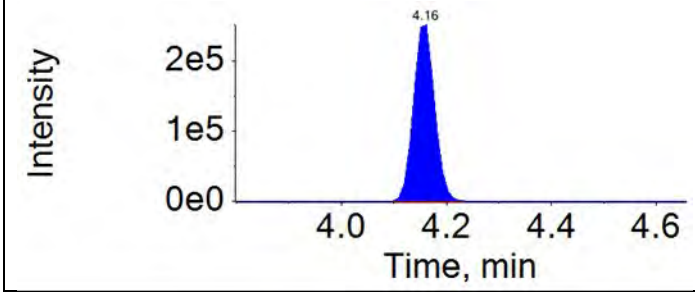
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

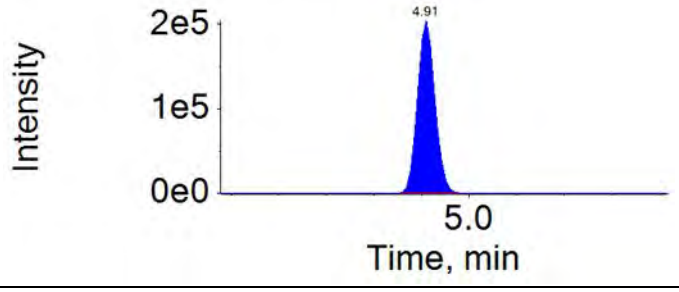




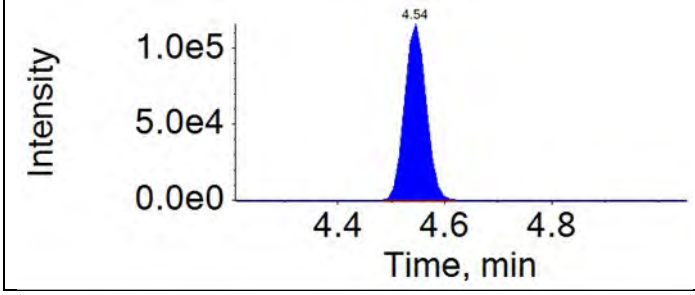
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

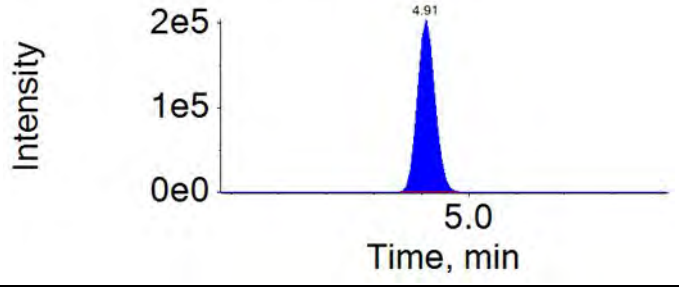
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



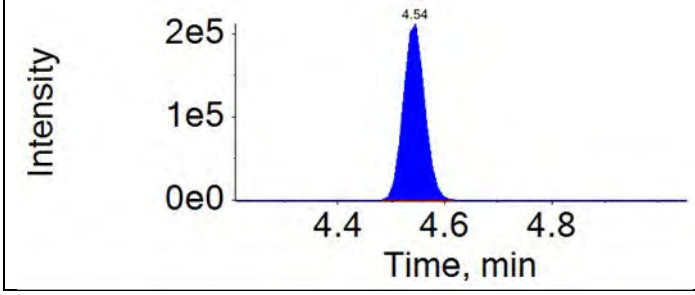


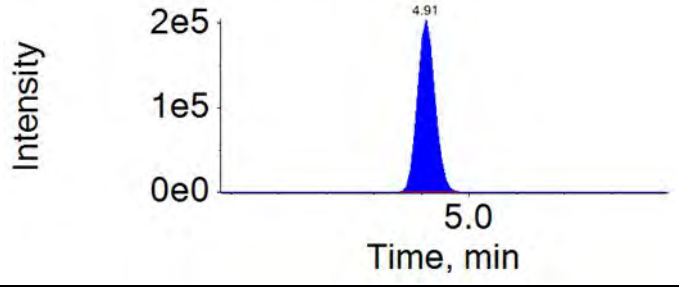
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



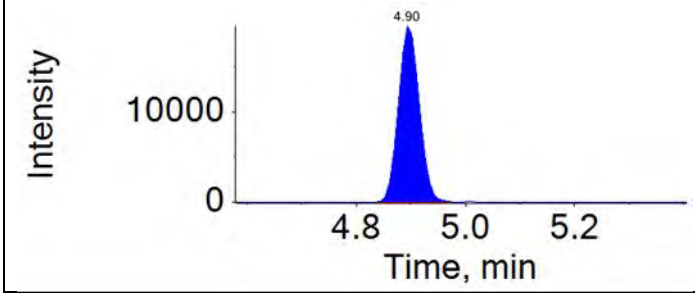


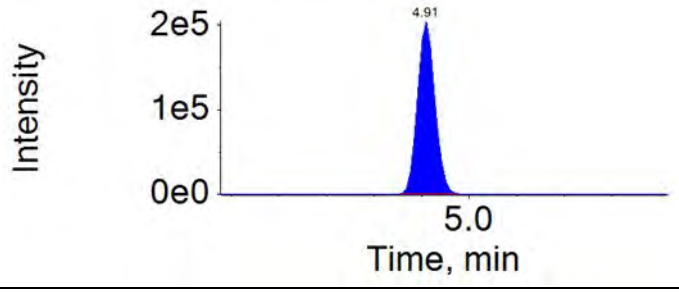
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



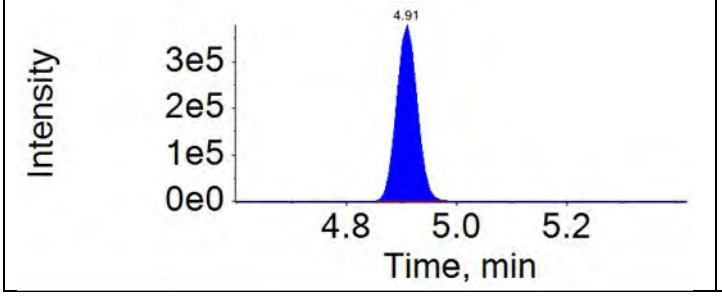


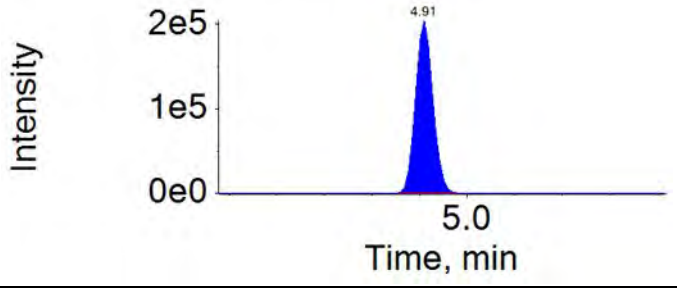
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

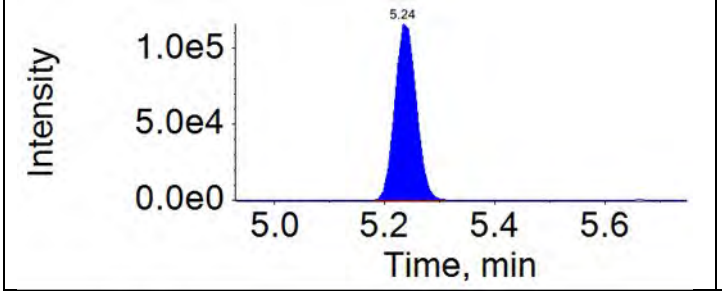
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

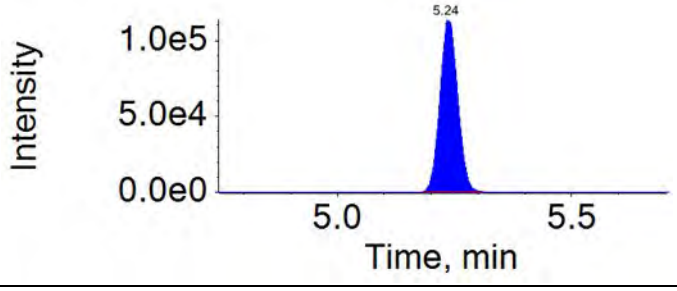
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



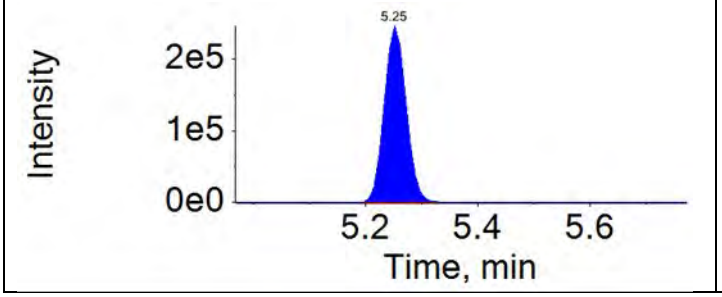


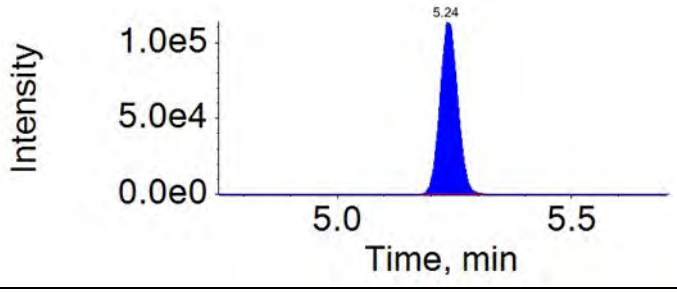
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



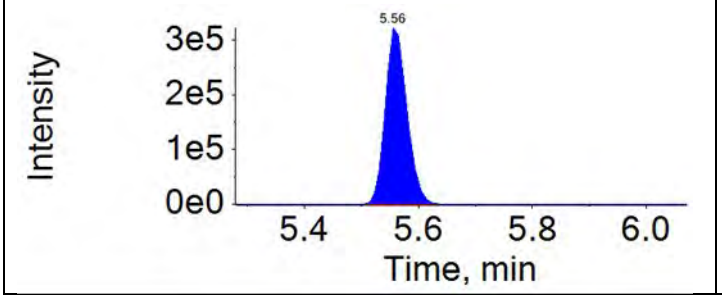


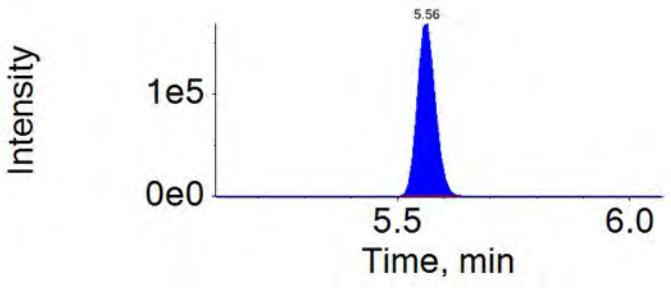
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



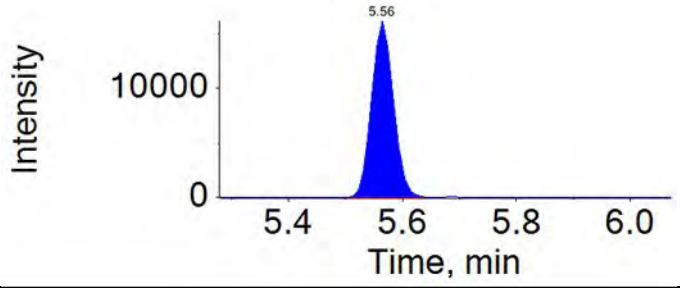


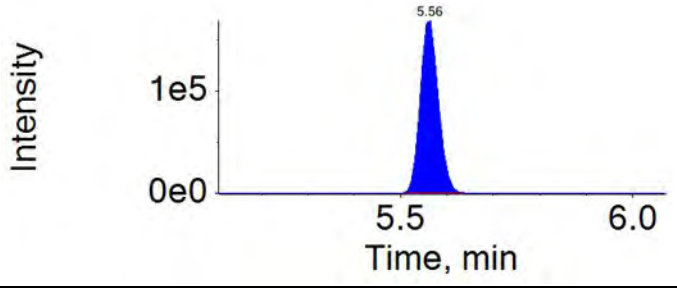
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

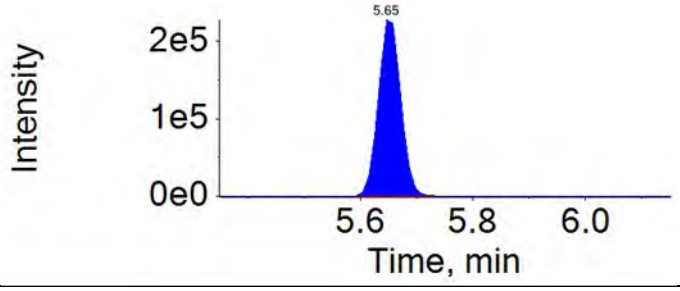
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

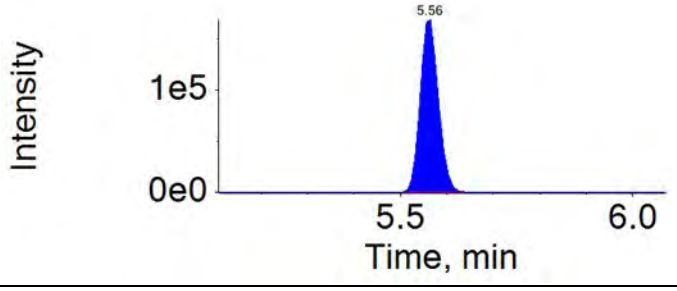
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



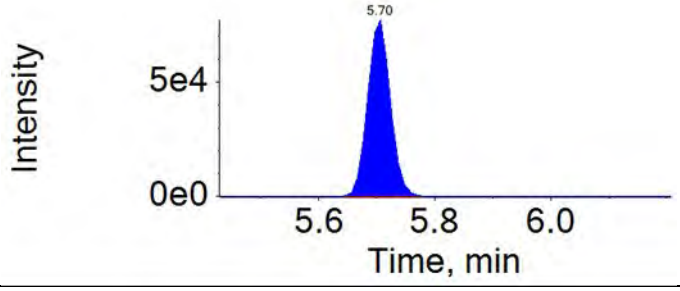


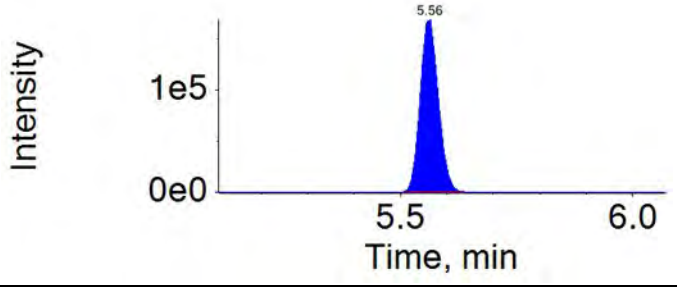
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



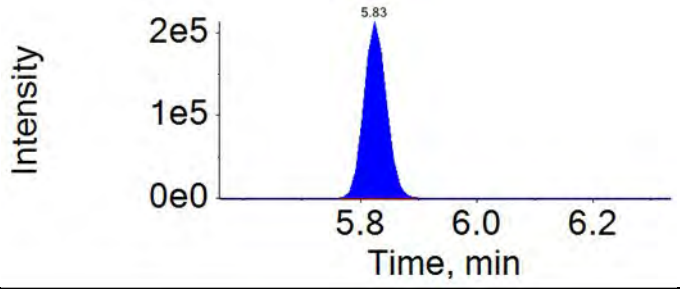


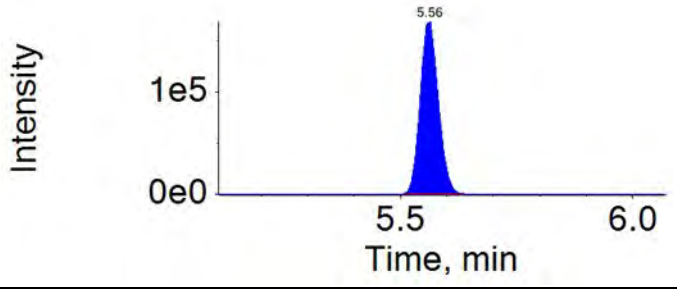
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



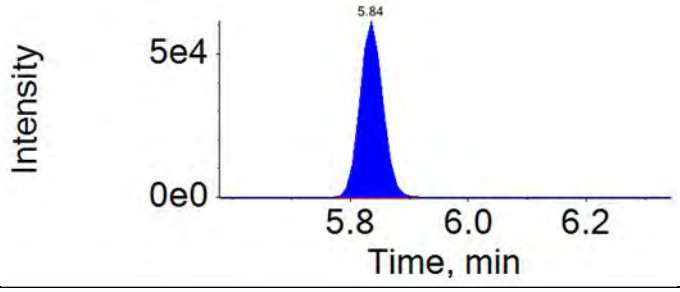


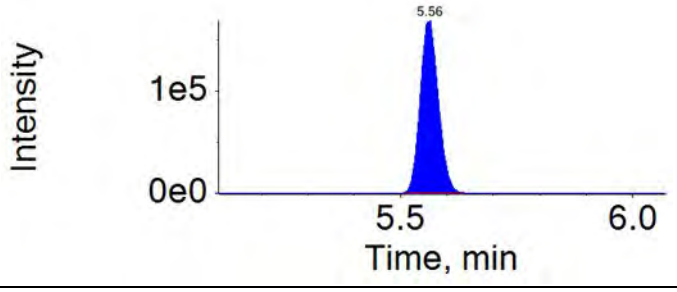
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

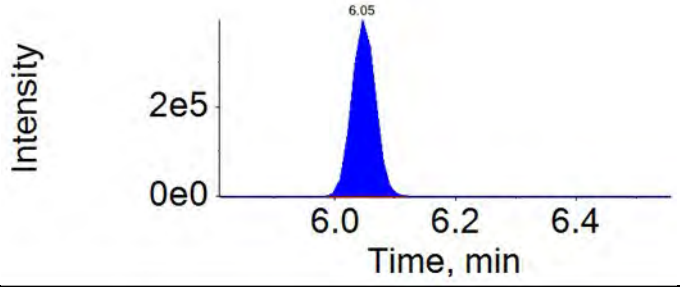
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

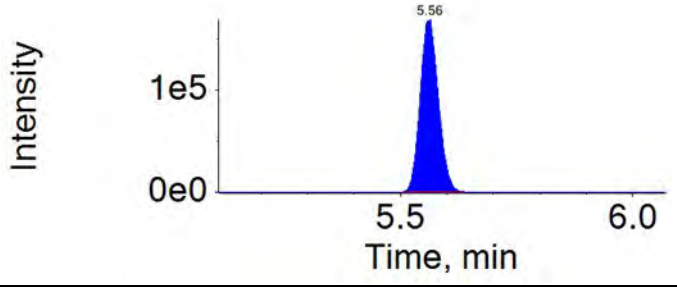
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



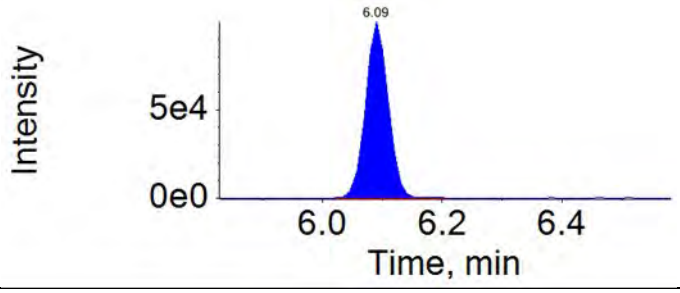


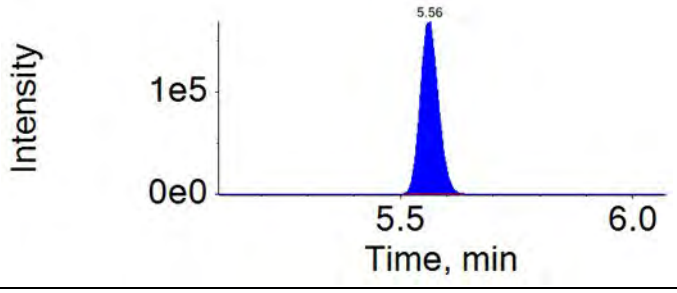
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



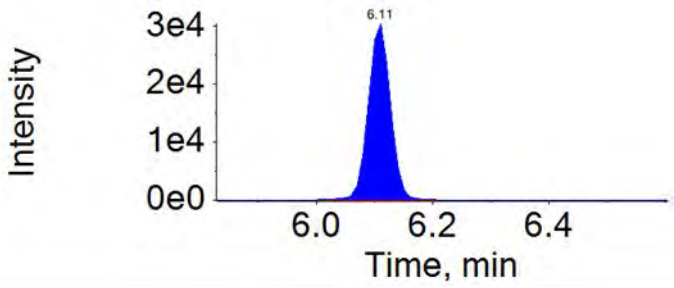


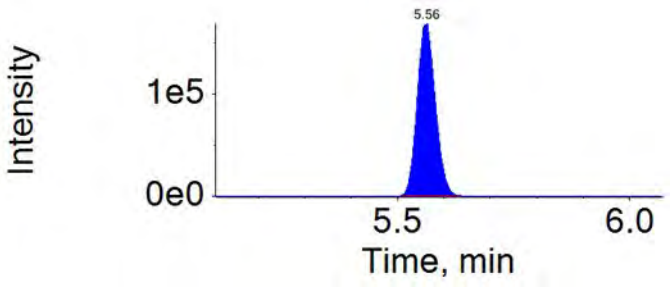
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



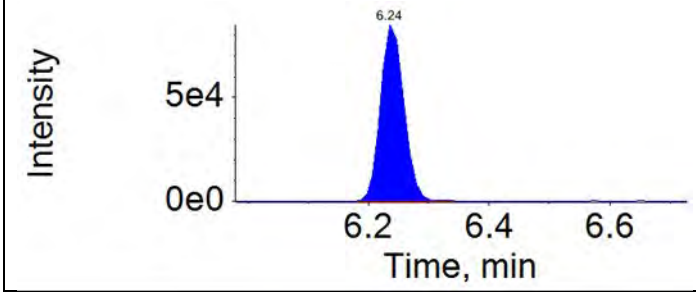


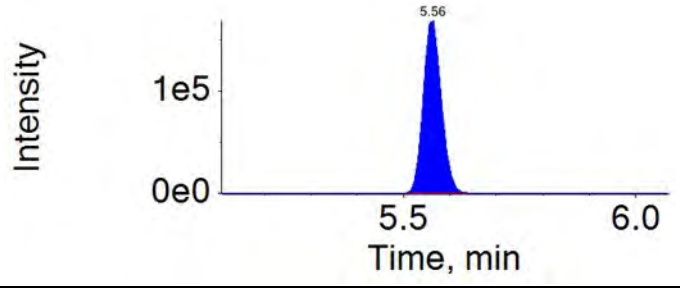
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

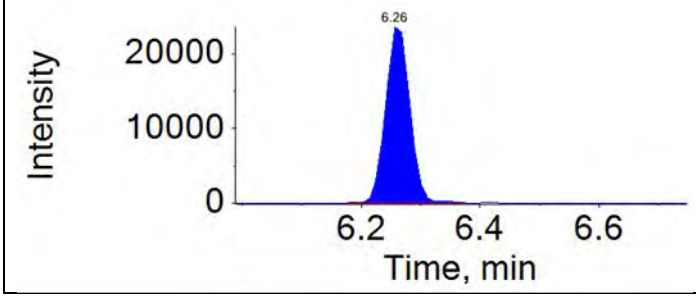
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

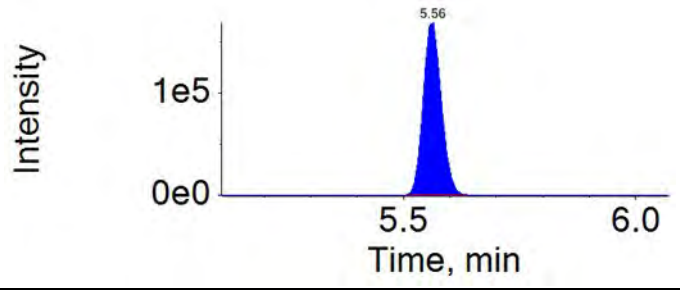
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



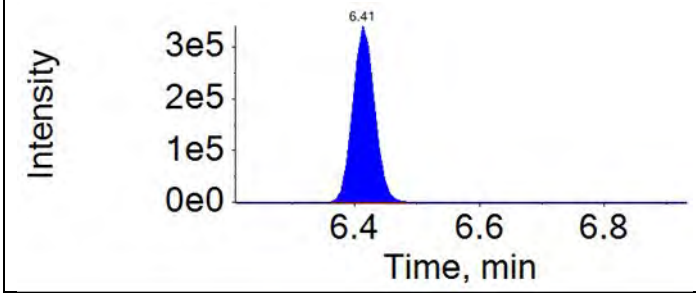


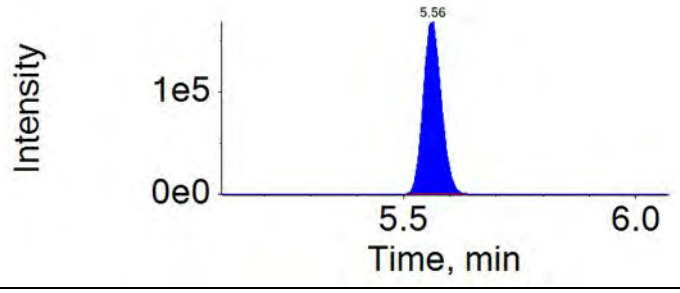
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



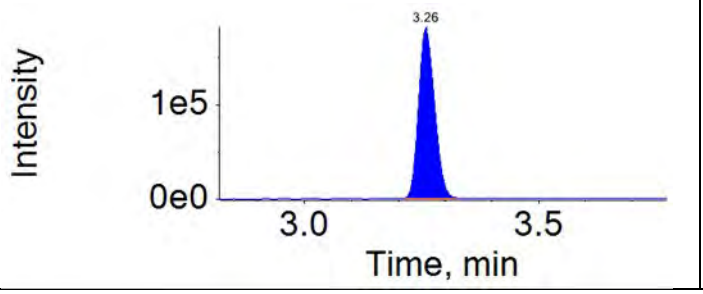


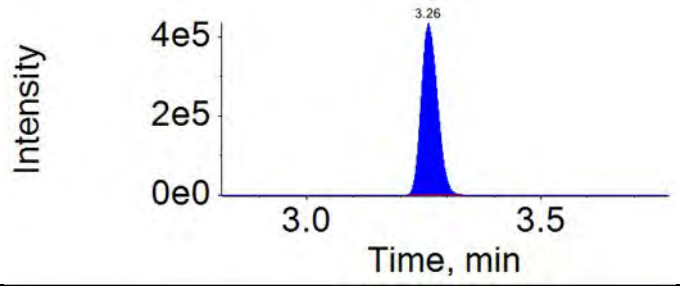
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

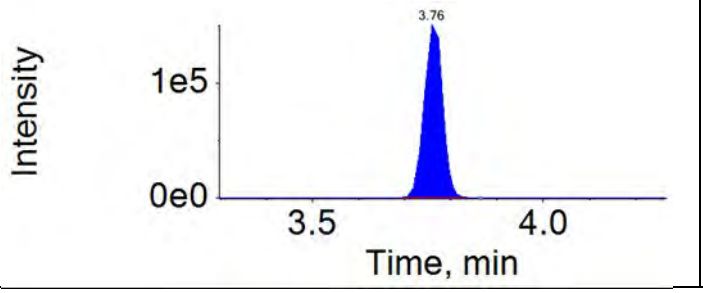
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

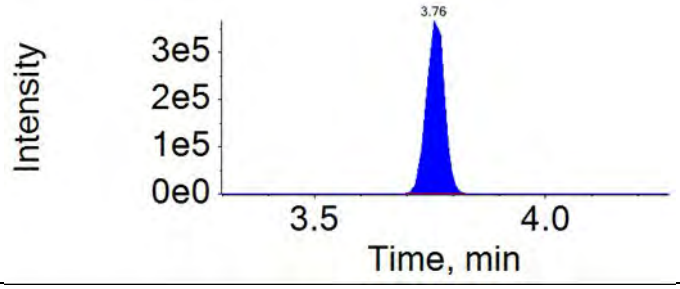
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



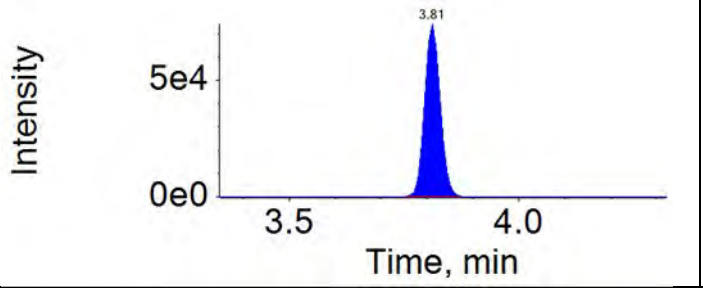


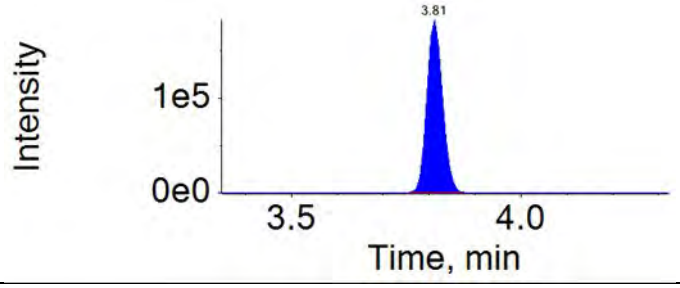
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



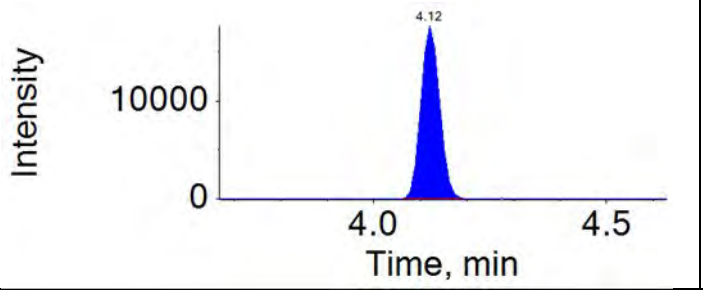


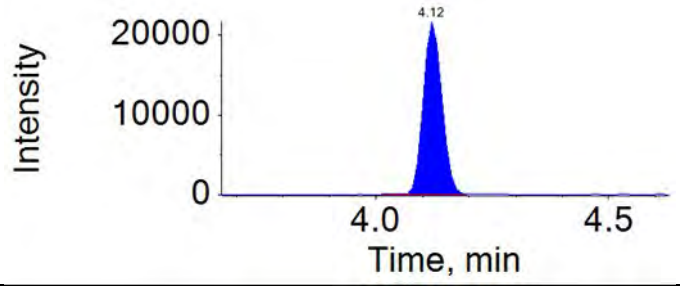
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



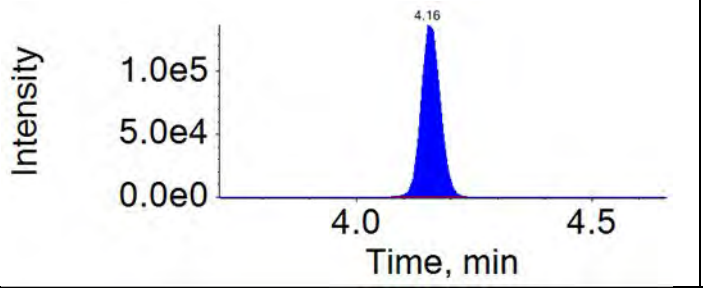


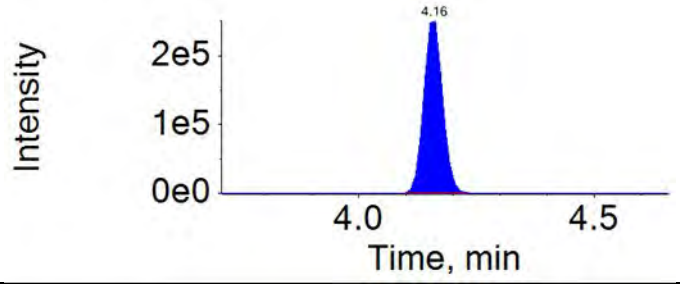
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

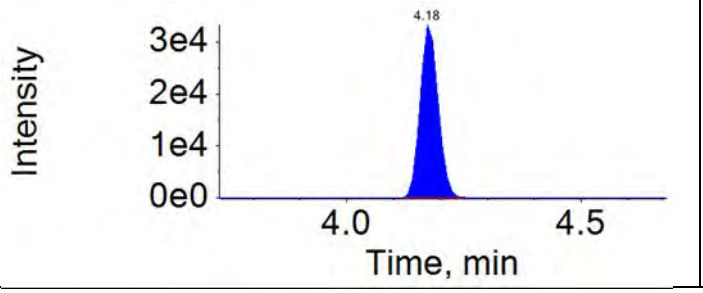
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

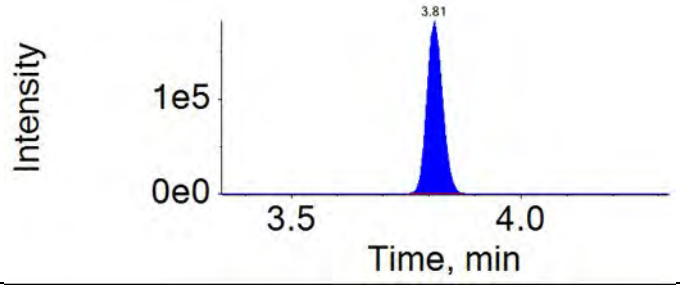
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



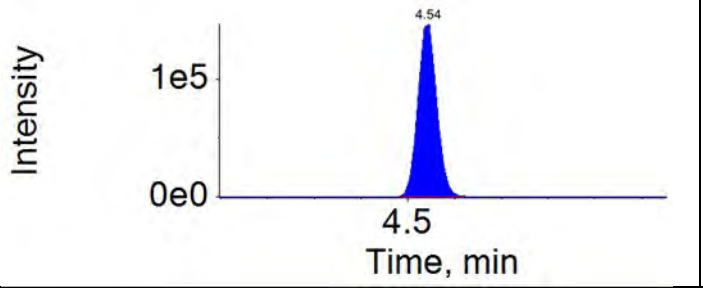


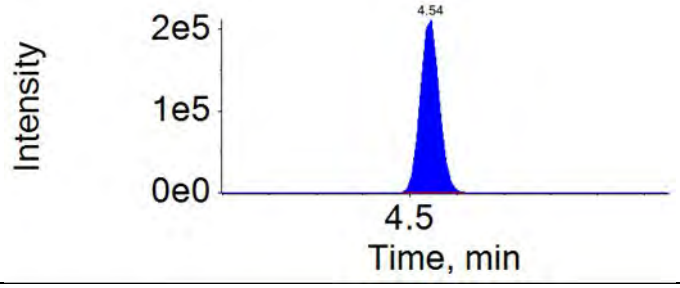
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



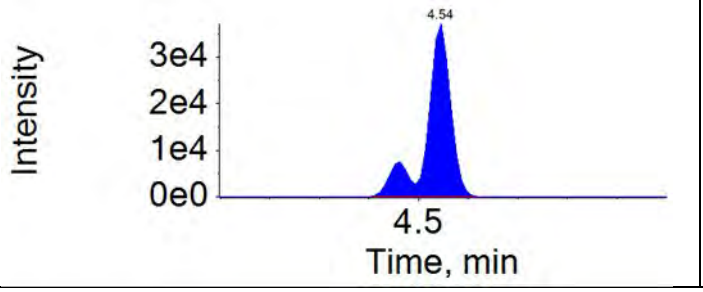


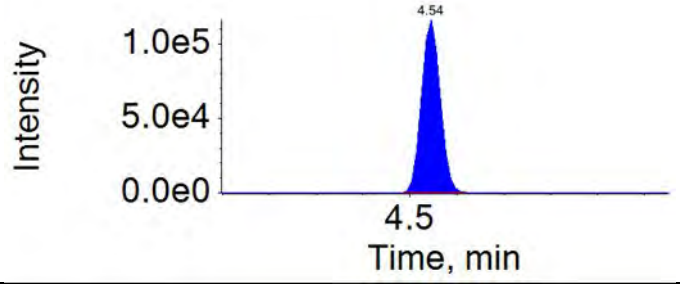
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

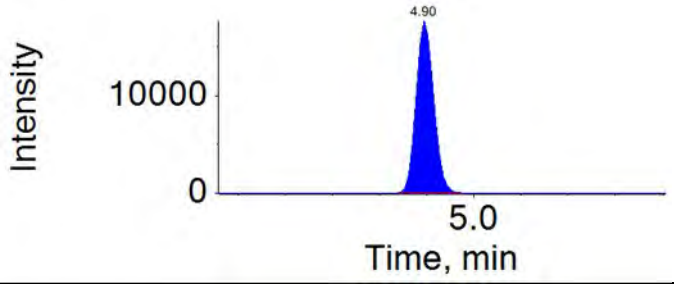
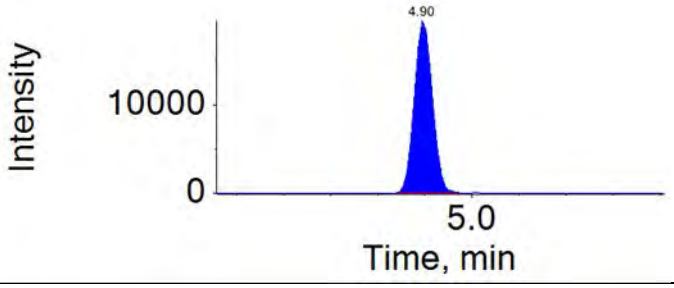


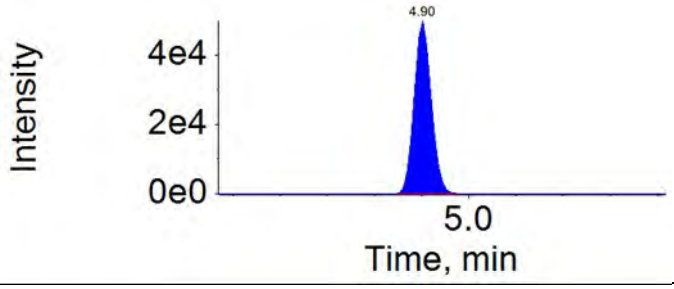
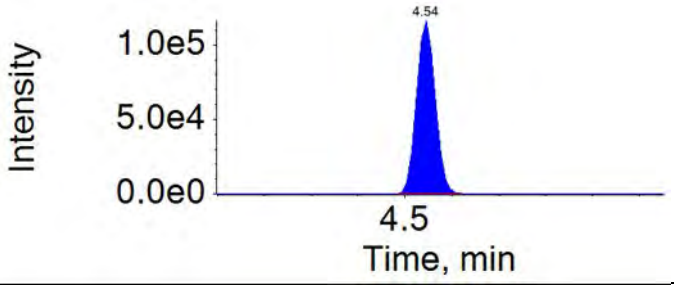


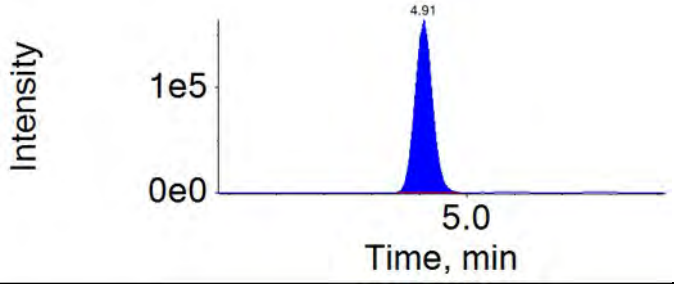
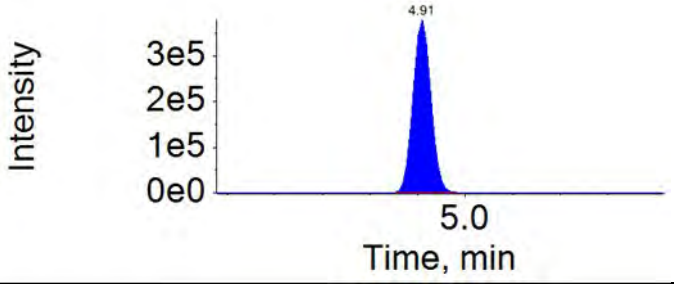
APPROVED
By MSM at 11:49 am, 12/19/18

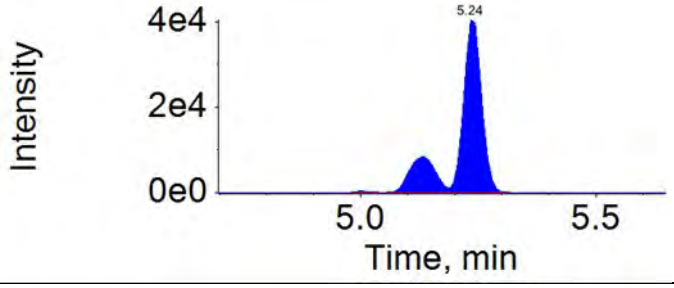
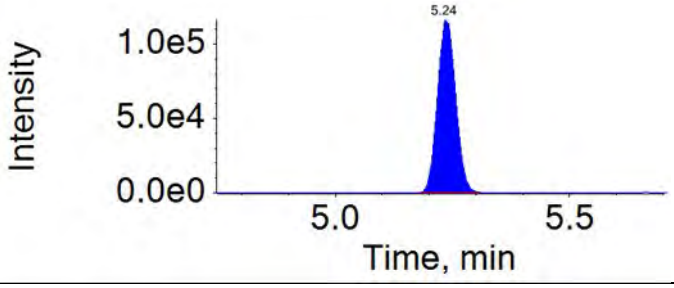
REVIEWED
By HMK at 11:53 am, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

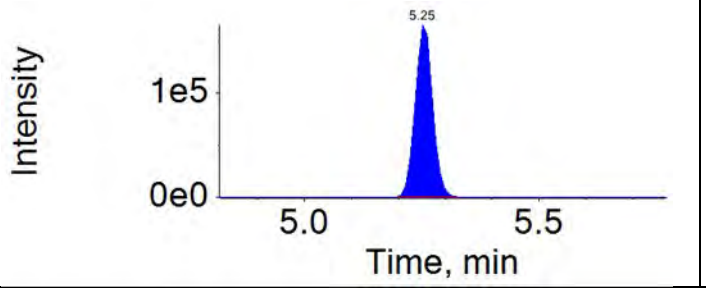
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

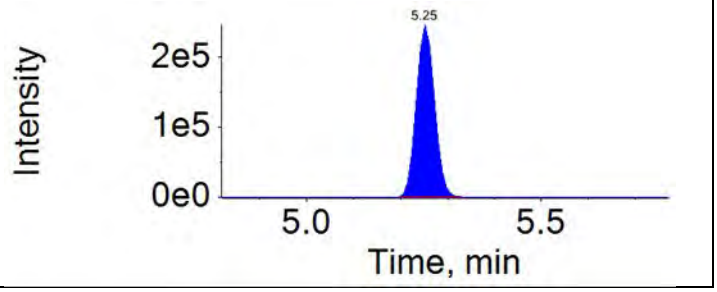
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

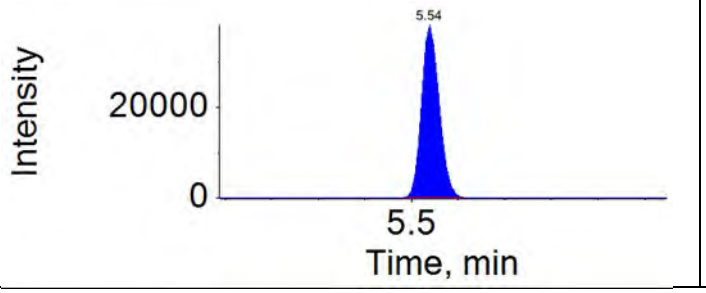
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

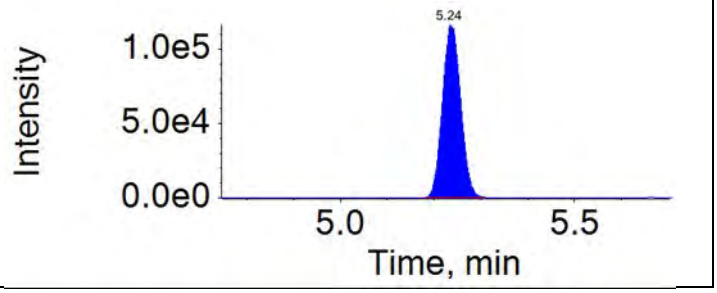
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



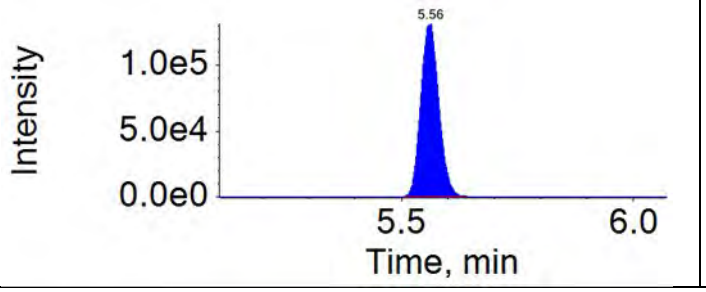


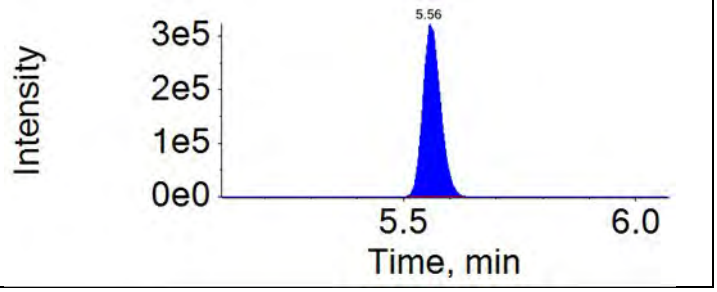
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



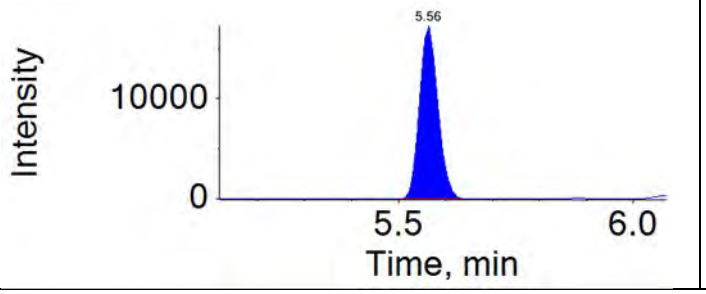


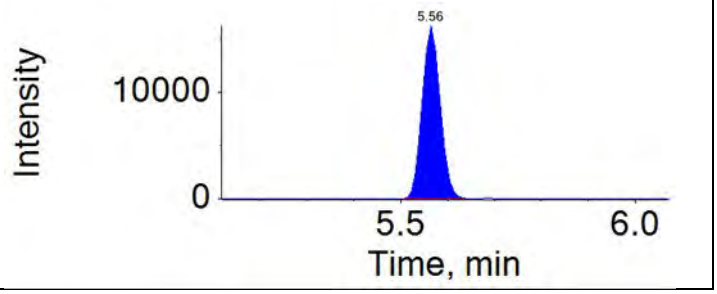
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



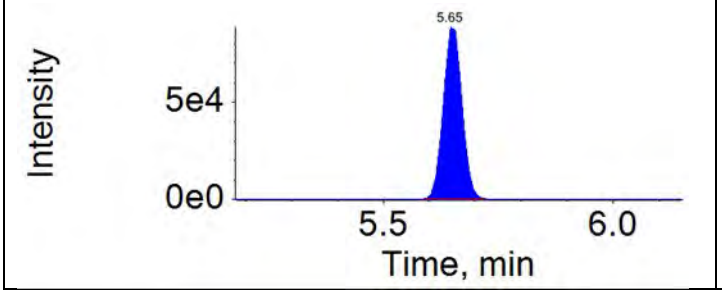


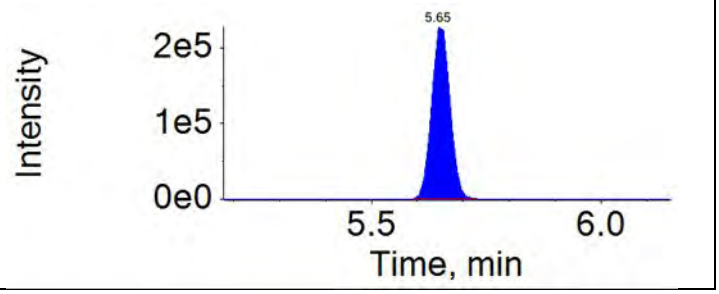
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

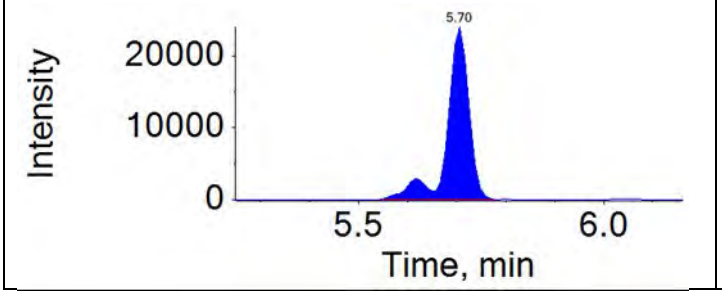
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

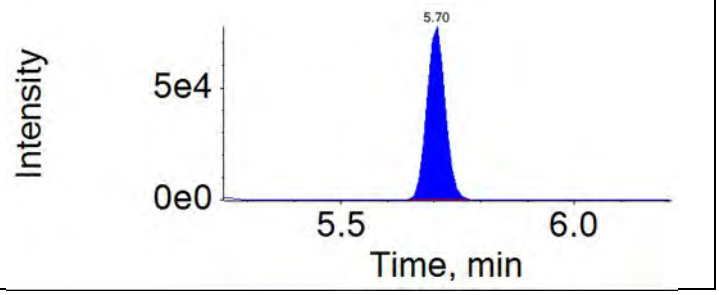
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



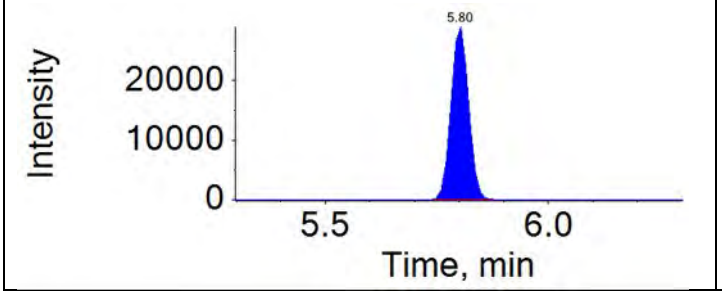


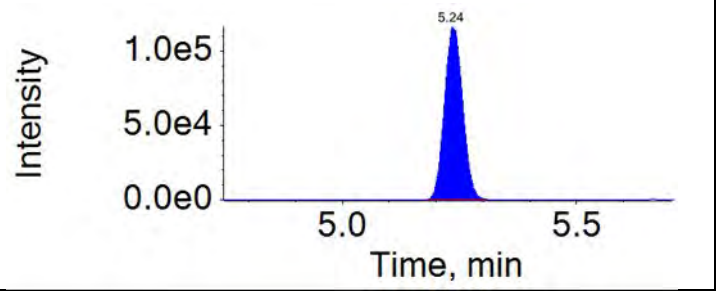
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



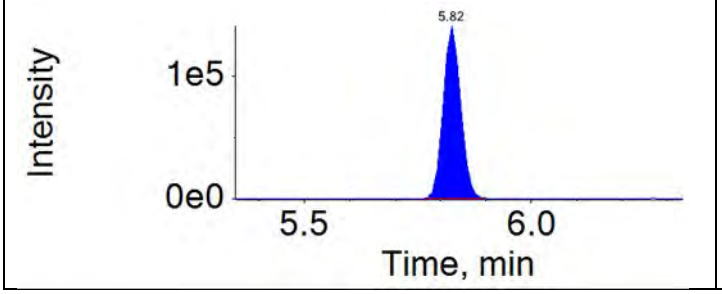


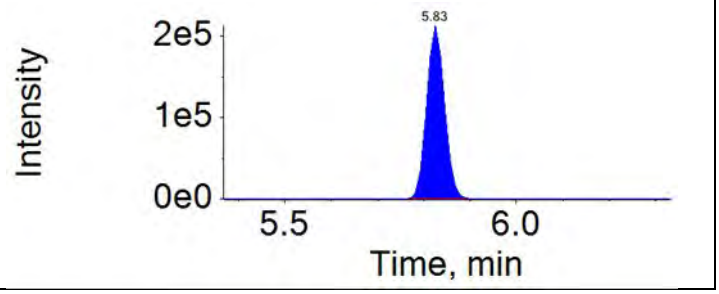
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



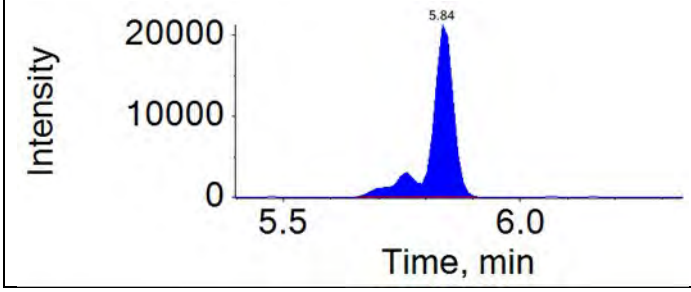


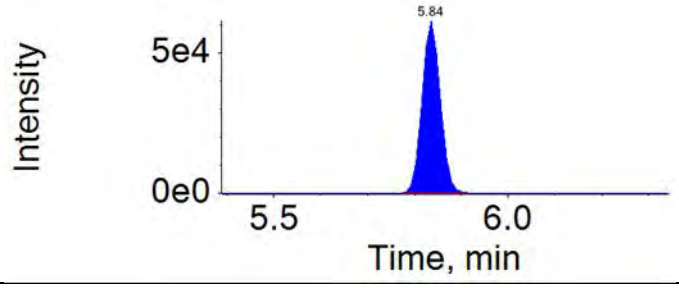
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

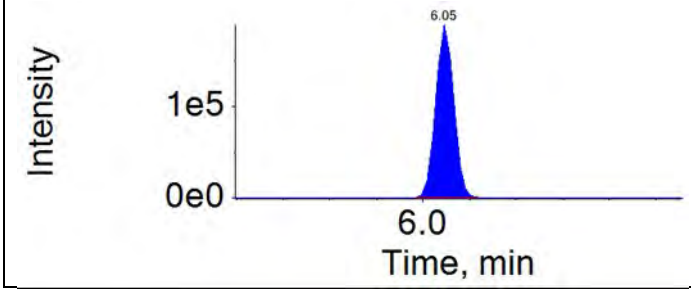
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

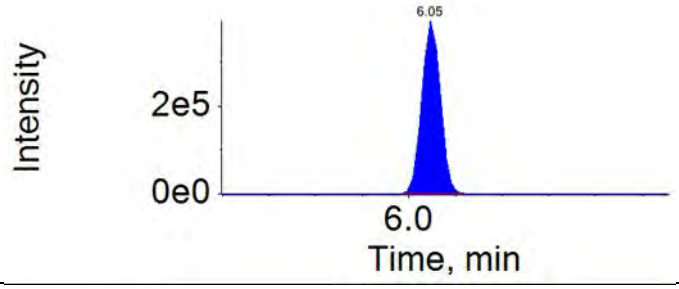
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



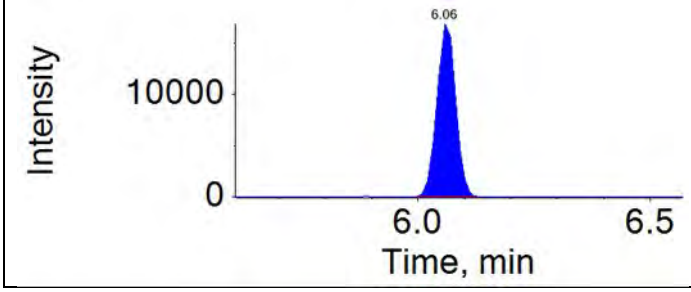


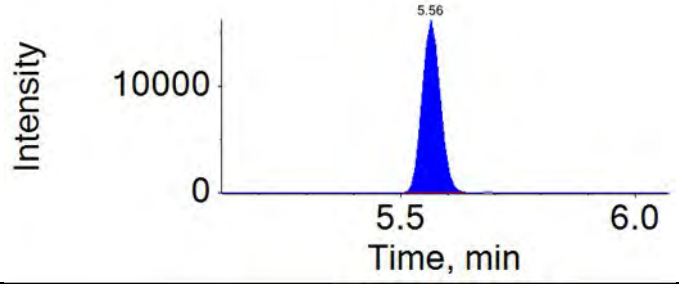
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



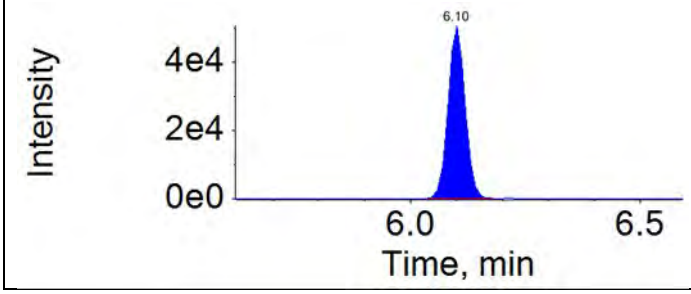


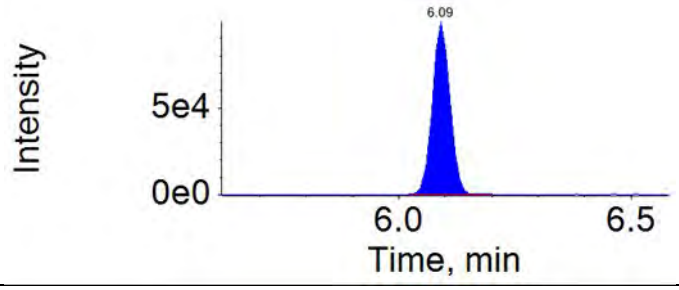
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



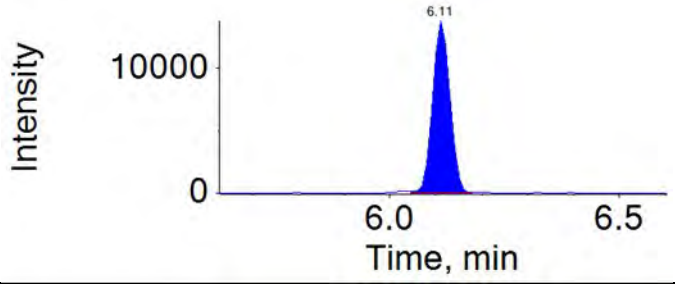


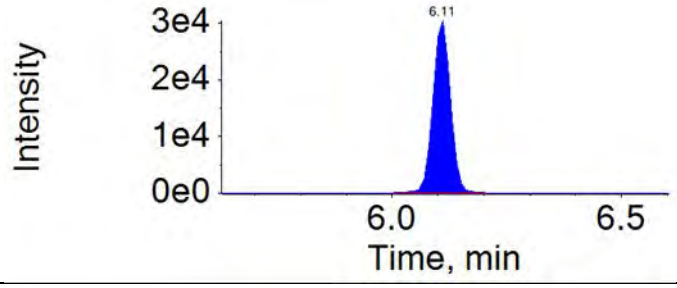
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

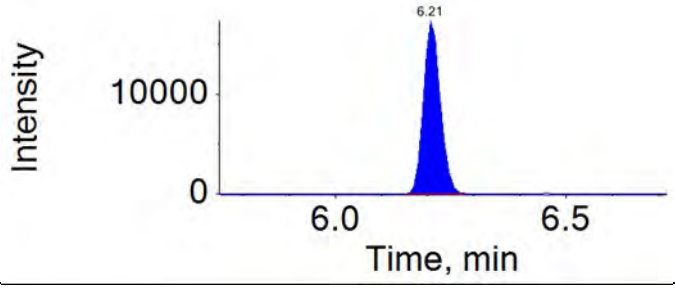
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

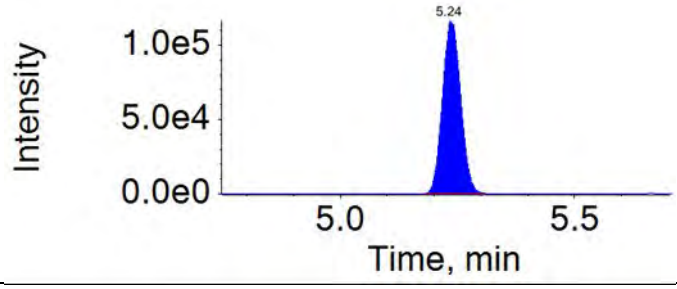
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



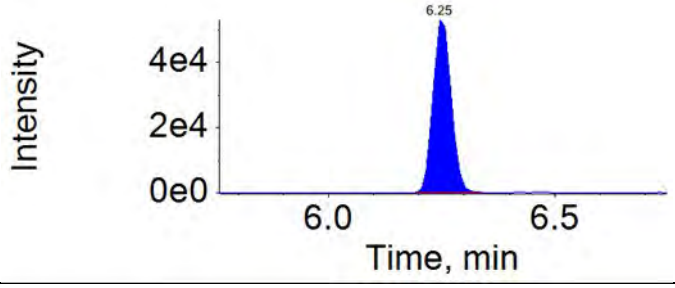


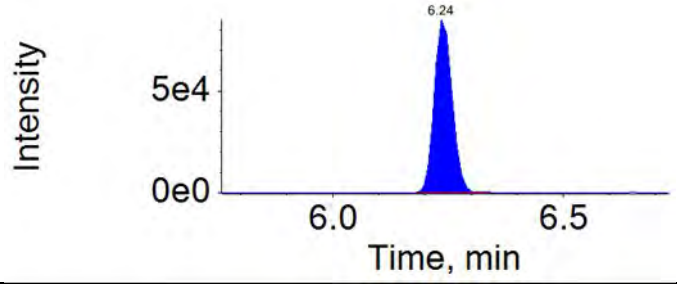
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



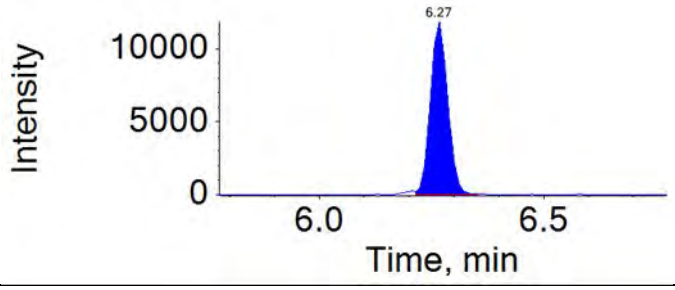


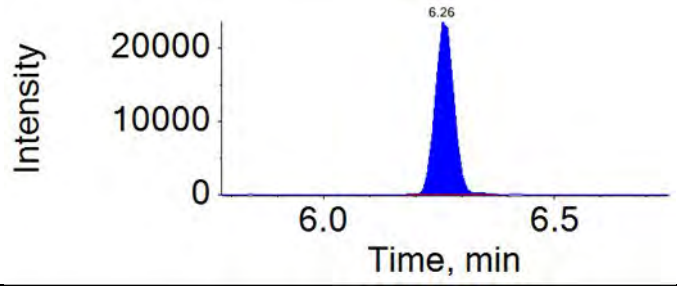
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



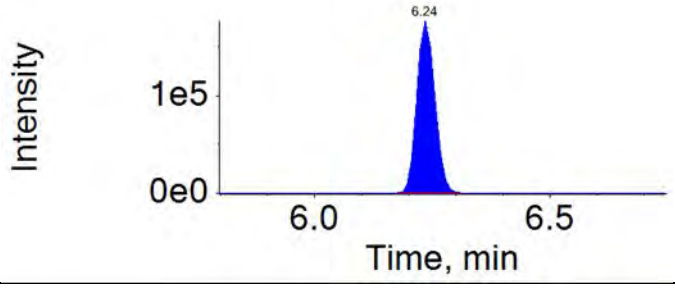


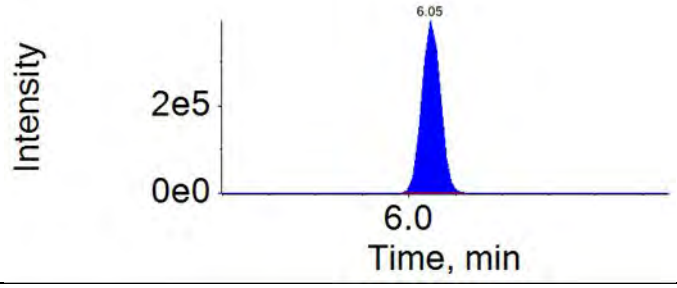
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

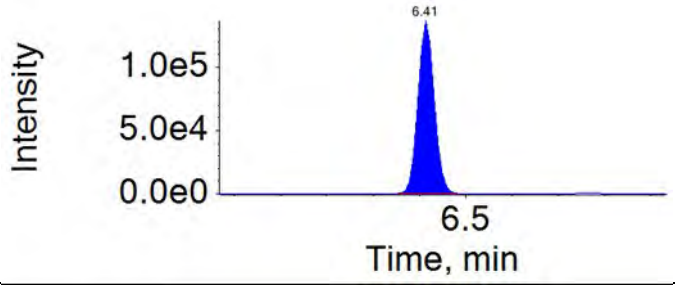
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC18DCAL 12/19/2018 9:34:01 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

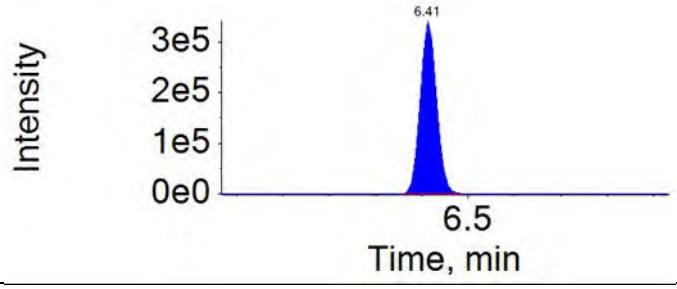
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



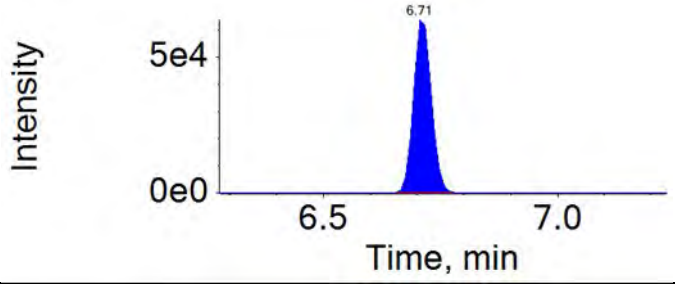


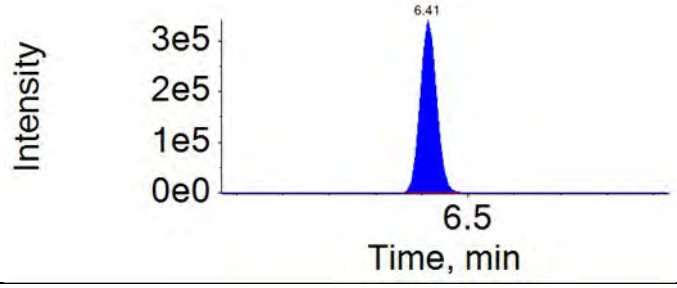
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



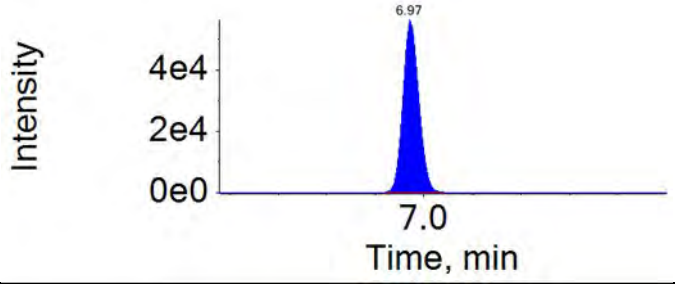


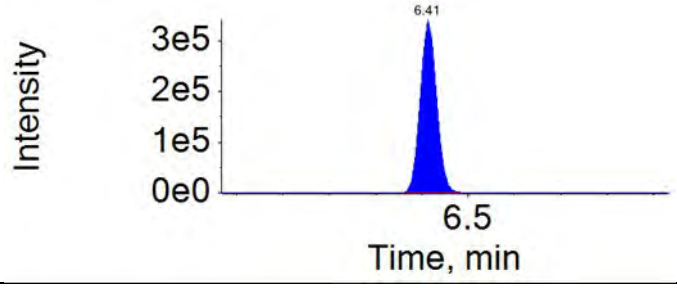
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0

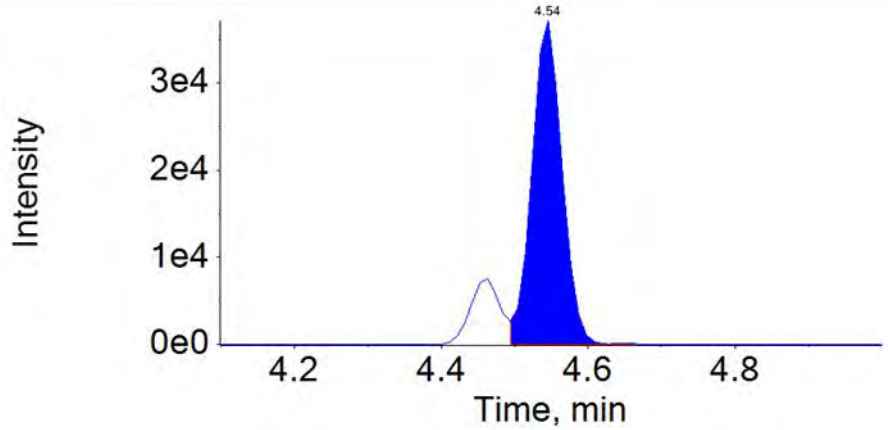


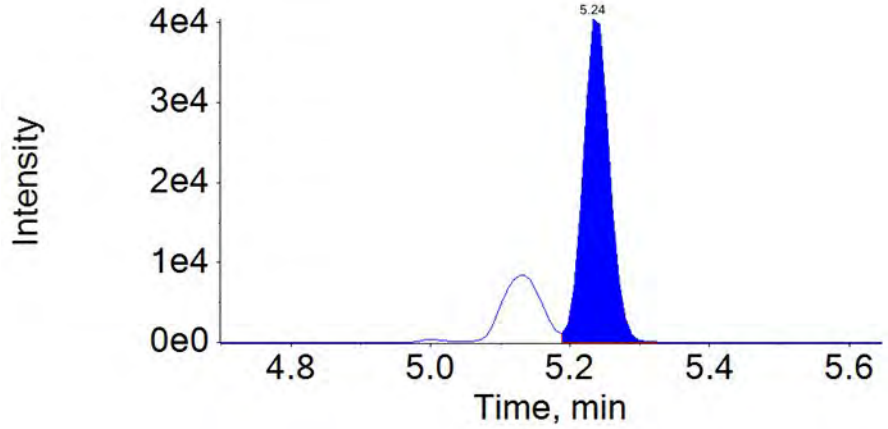


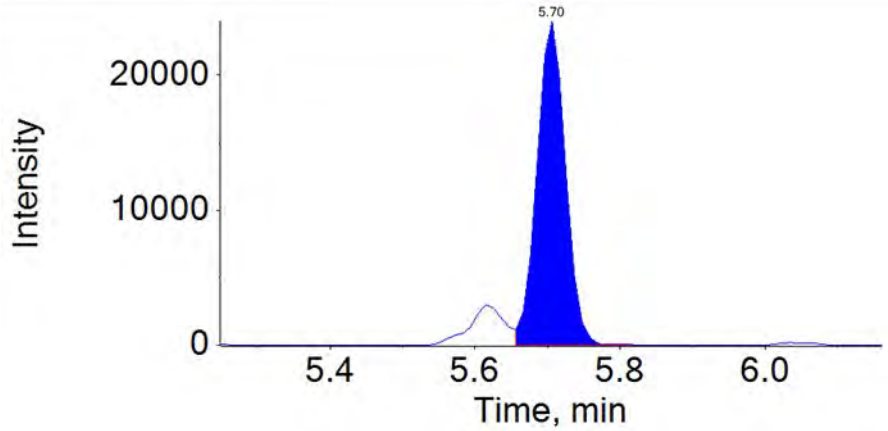
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxS **RT (min.):** 4.54 **Peak Area:** 106402.94 **Mass Range:** 399.0 / 80.0 **File Name:** 18DEC18DCAL-78.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

Component Name: PFOS **RT (min.):** 5.24 **Peak Area:** 107247.06 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC18DCAL-78.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

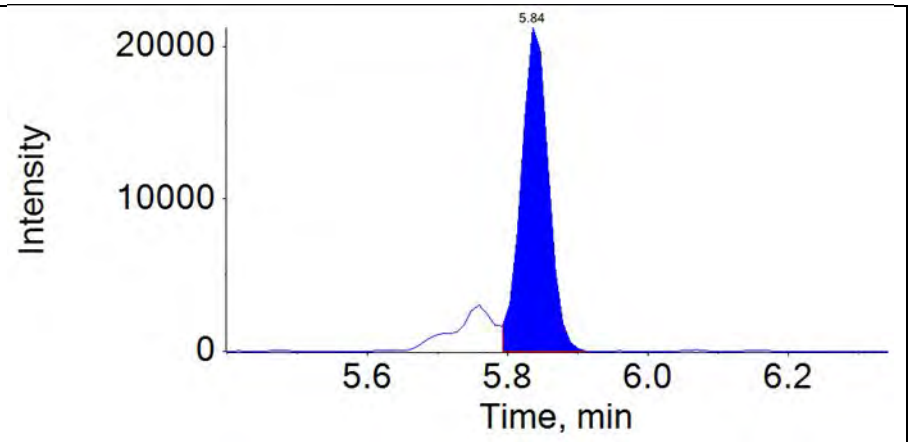
Component Name: NMeFOSAA **RT (min.):** 5.70 **Peak Area:** 65670.35 **Mass Range:** 570.0 / 419.0 **File Name:** 18DEC18DCAL-78.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

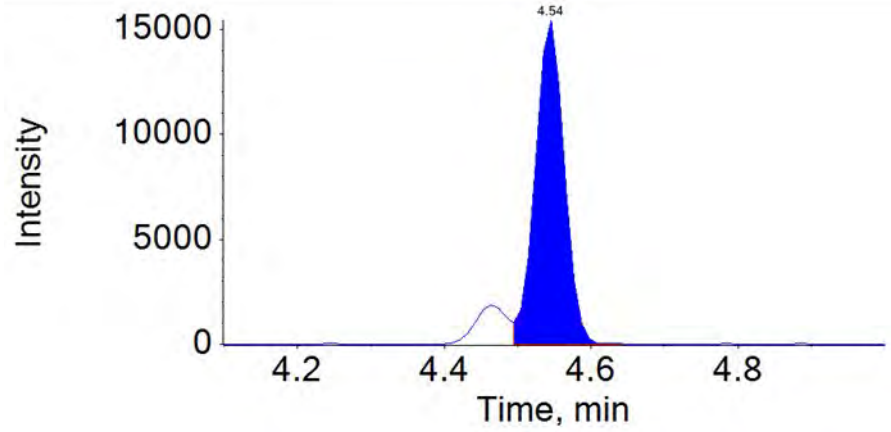
Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
57313.17
Mass Range:
584.0 / 419.0
File Name:
18DEC18DCAL-78.wiff
Sample Name:
CCV1_CAL3



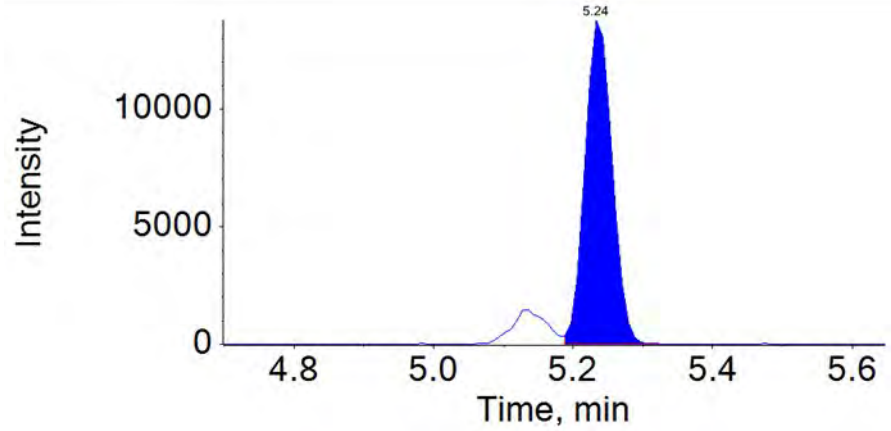
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
42564.92
Mass Range:
399.0 / 99.0
File Name:
18DEC18DCAL-78.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
37413.51
Mass Range:
499.0 / 99.0
File Name:
18DEC18DCAL-78.wiff
Sample Name:
CCV1_CAL3

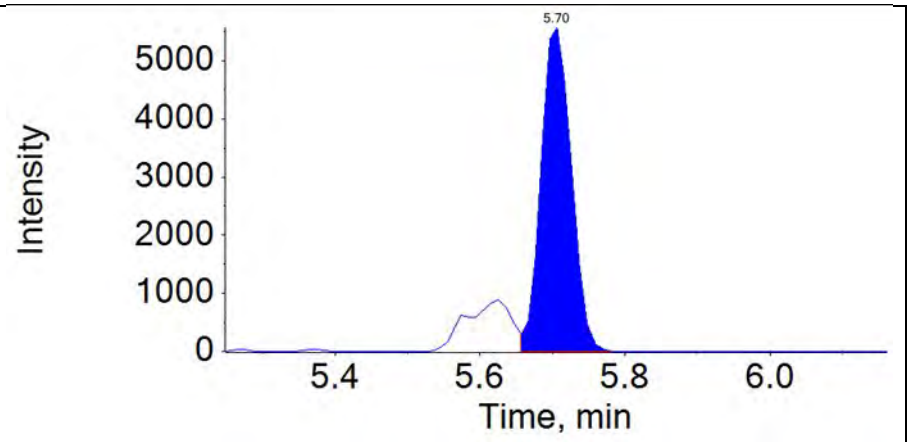


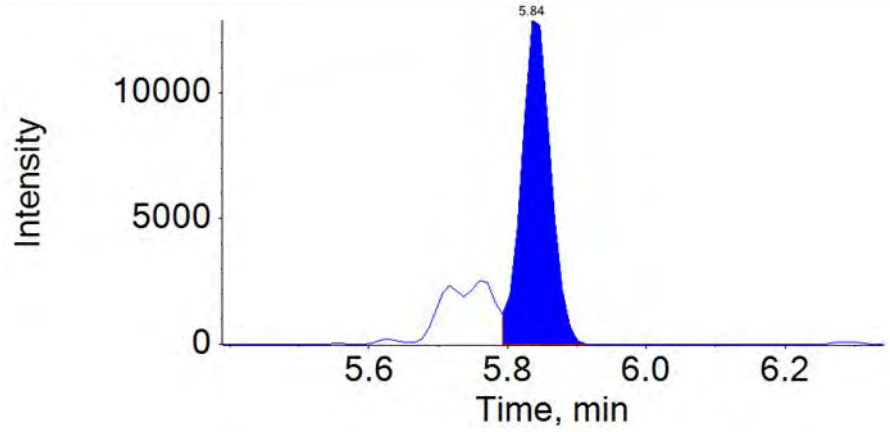
Integration Comment: incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NMeFOSAA_2 **RT (min.):** 5.70 **Peak Area:** 16220.04 **Mass Range:** 570.0 / 483.0 **File Name:** 18DEC18DCAL-78.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

Component Name: NEtFOSAA_2 **RT (min.):** 5.84 **Peak Area:** 38138.30 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC18DCAL-78.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Results Table Name: 18DEC18DCAL
Results Table Date: 12/19/2018 9:34:01 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Ion Ratio Report

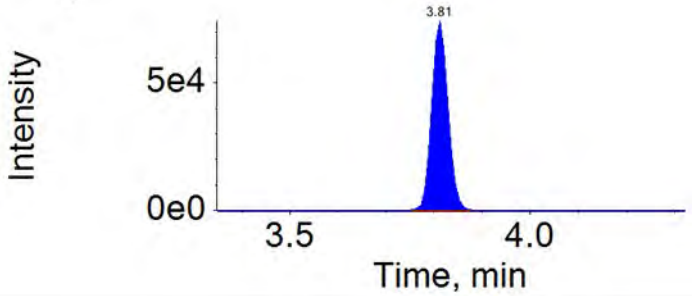
Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC18DCAL-78.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	174296.10	A	1.0000	1.0000			
PFBS_2	3.81	1.00	62169.68	A	0.3686	0.3567	-3	50	
4:2-FTS	4.12	1.00	49086.95	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	31782.10	A	0.6123	0.6475	6	50	
PFHxA	4.16	1.00	388326.65	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	4195.54	A	0.0115	0.0108	-6	50	
PFPeS	4.18	1.10	88563.56	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	45528.23	A	0.5256	0.5141	-2	50	
PFHpA	4.54	1.00	411871.58	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	22245.36	A	0.0547	0.0540	-1	50	
PFHxS	4.54	1.00	127273.28	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	48136.09	M	0.3359	0.3782	13	50	
6:2-FTS	4.90	1.00	45983.73	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	27253.15	A	0.6344	0.5927	-7	50	
PFHpS	4.90	1.08	125155.66	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	52446.19	A	0.4110	0.4190	2	50	
PFOA	4.91	1.00	414271.22	A	1.0000	1.0000			
PFOA_2	4.91	1.00	21676.55	A	0.0590	0.0523	-11	50	
PFOS	5.24	1.00	141737.19	M	1.0000	1.0000			
PFOS_2	5.24	1.00	42550.65	M	0.2980	0.3002	1	50	
PFNA	5.25	1.00	426327.64	A	1.0000	1.0000			
PFNA_2	5.25	1.00	7111.16	A	0.0214	0.0167	-22	50	
PFNS	5.54	1.06	99495.86	A	1.0000	1.0000			
PFNS_2	5.54	1.06	47930.81	A	0.4608	0.4817	5	50	
PFDA	5.56	1.00	355807.06	A	1.0000	1.0000			
PFDA_2	5.56	1.00	2184.93	A	0.0064	0.0061	-4	50	
8:2-FTS	5.56	1.00	46733.61	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	27255.63	A	0.5879	0.5832	-1	50	
NMeFOSAA	5.70	1.00	75349.96	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	20083.17	M	0.2625	0.2665	2	50	
PFDS	5.80	1.11	79355.29	A	1.0000	1.0000			
PFDS_2	5.80	1.11	42325.00	A	0.4962	0.5334	7	50	
PFUnDA	5.82	1.00	375287.28	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	1039.62	A	0.0035	0.0028	-22	50	
NEtFOSAA	5.84	1.00	69397.21	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	50966.38	M	0.6883	0.7344	7	50	
PFDoDA	6.05	1.00	512002.22	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	7101.00	A	0.0134	0.0139	3	50	
10:2-FTS	6.06	1.09	47194.56	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	34367.65	A	0.7018	0.7282	4	50	
PFTrDA	6.24	1.03	472947.84	A	1.0000	1.0000			
PFTrDA_2	6.23	1.03	3050.65	A	0.0093	0.0065	-31	50	
PFTeDA	6.41	1.00	330447.89	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	2109.51	A	0.0058	0.0064	10	50	
PFHxDA	6.71	1.05	169410.44	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	10282.24	A	0.0656	0.0607	-8	50	
PFODA	6.97	1.09	127433.57	A	1.0000	1.0000			
PFODA_2	6.97	1.09	3364.49	A	0.0273	0.0264	-3	50	

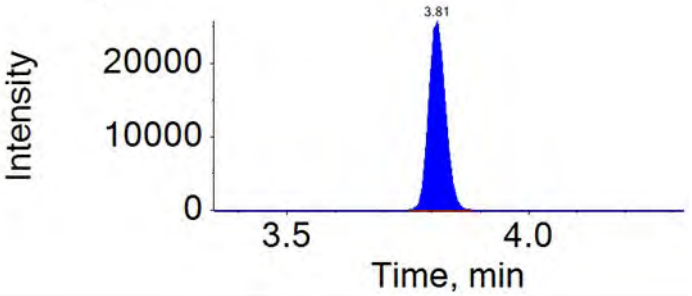
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

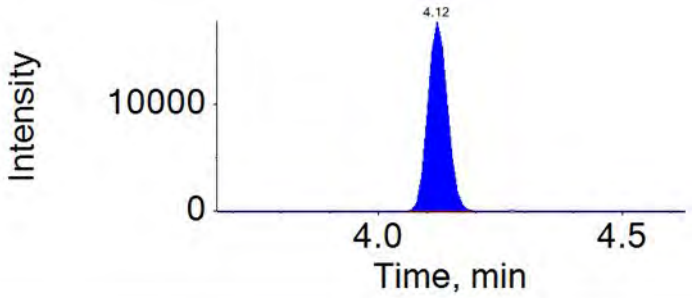
Component: PFBS
Primary Mass: 299.0 / 80.0



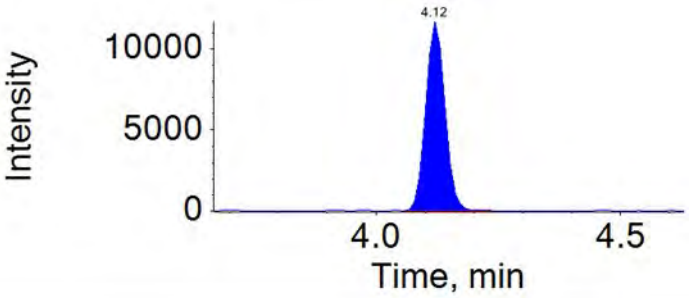
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



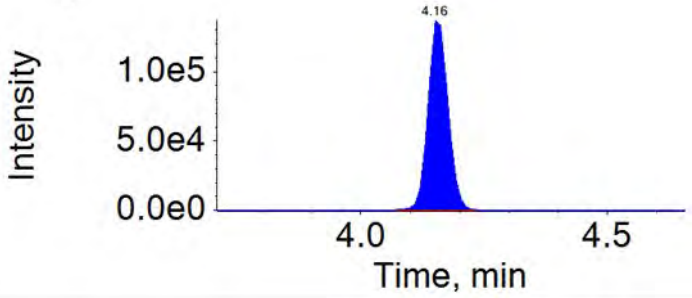
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



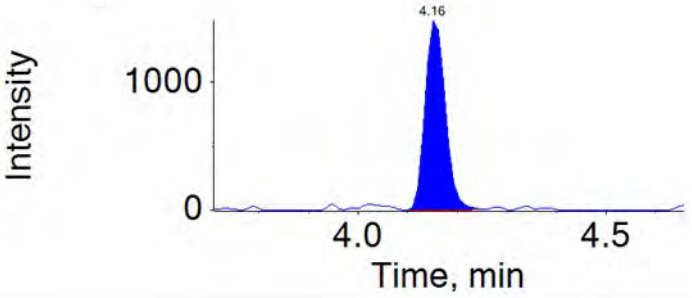
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



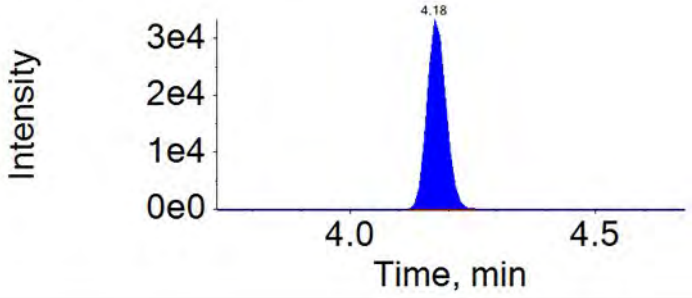
Component: PFHxA
Primary Mass: 313.0 / 269.0



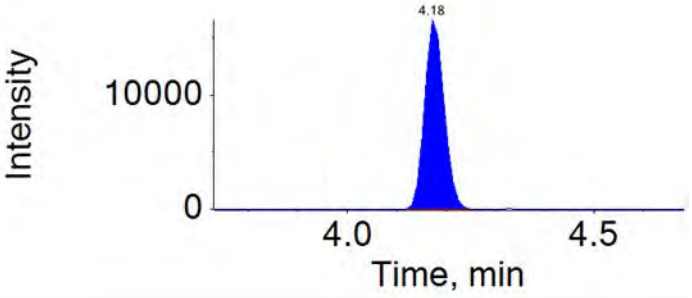
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



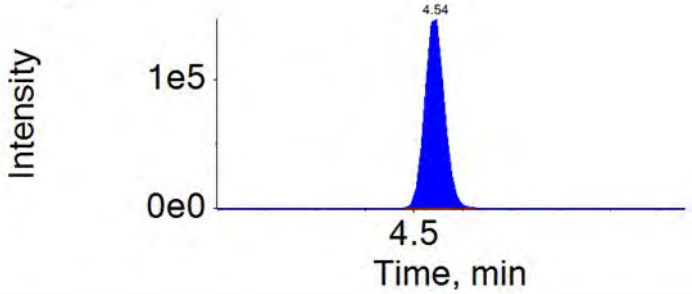
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



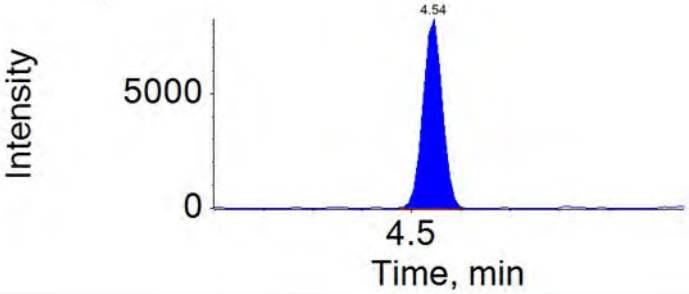
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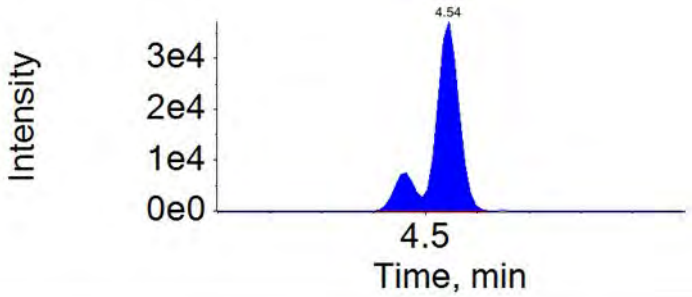
Component: PFHpA
Primary Mass: 363.0 / 319.0



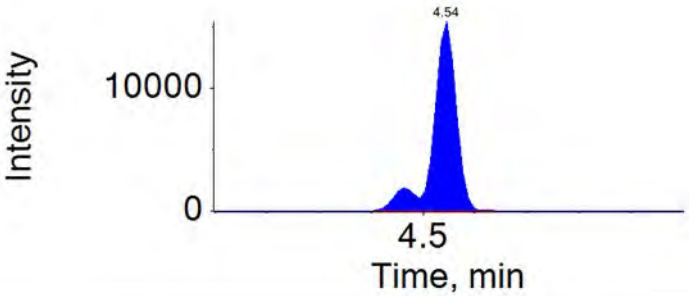
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



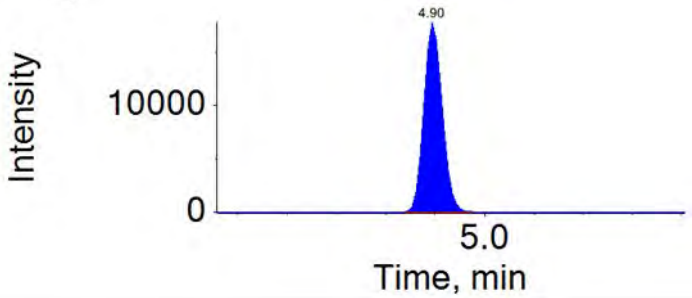
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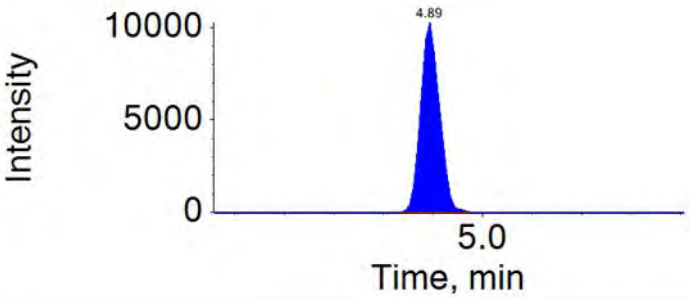
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Secondary Mass: 399.0 / 99.0



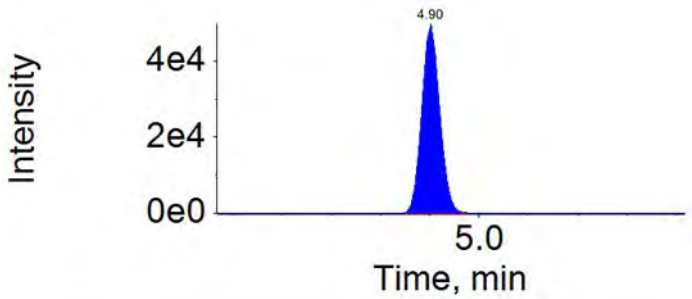
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



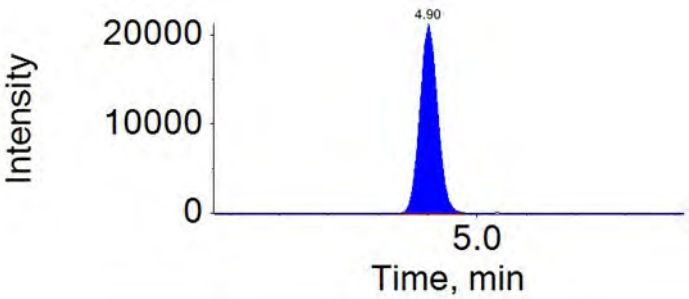
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



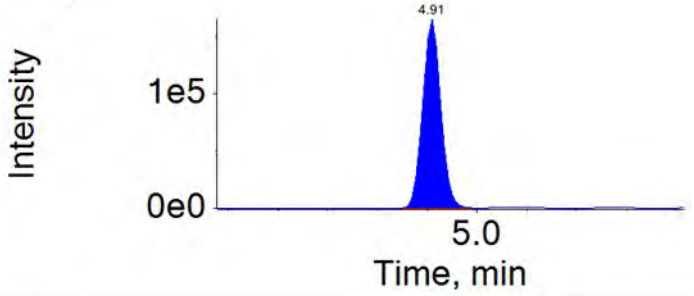
Component: PFHpS
Primary Mass: 449.0 / 80.0



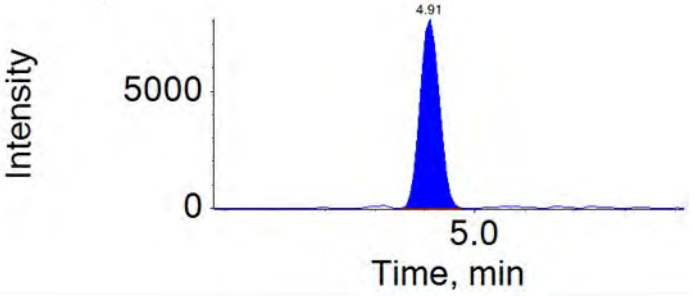
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Secondary Mass: 449.0 / 99.0



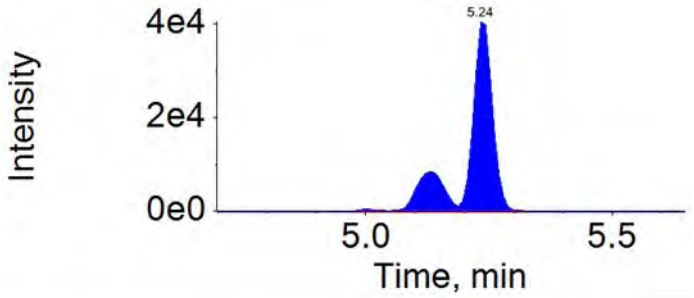
Component: PFOA
Primary Mass: 413.0 / 369.0



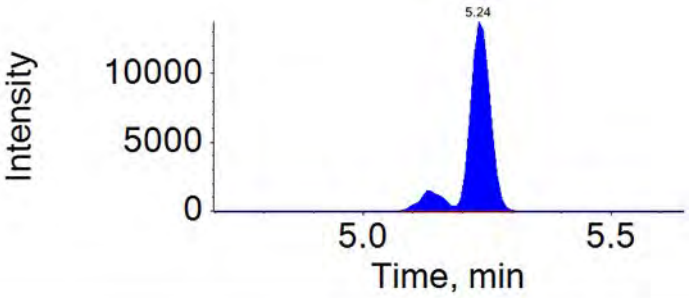
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



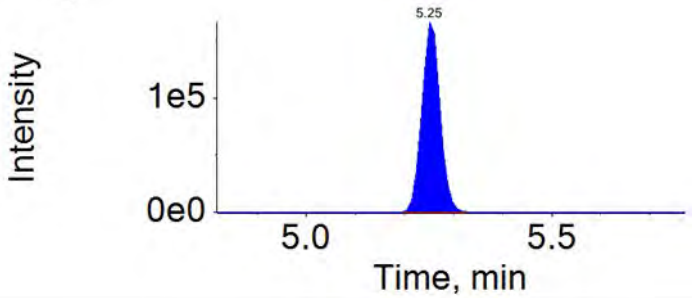
Component: PFOS
Primary Mass: 499.0 / 80.0



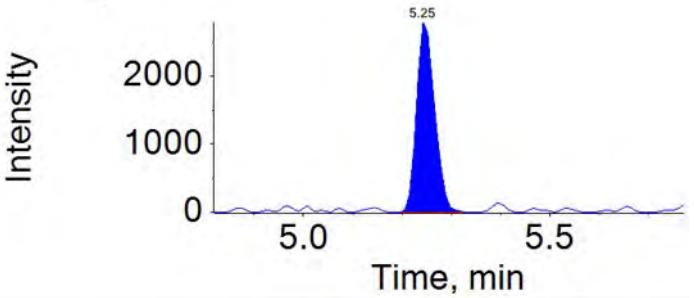
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



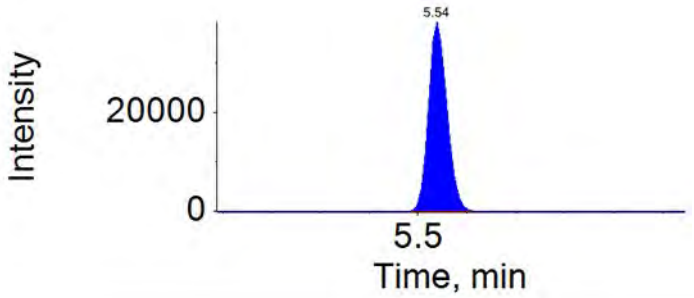
Component: PFNA
Primary Mass: 463.0 / 419.0



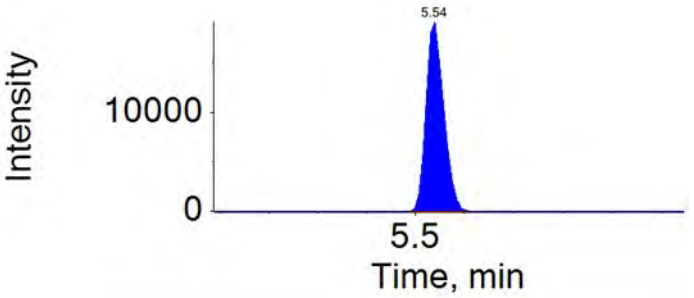
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



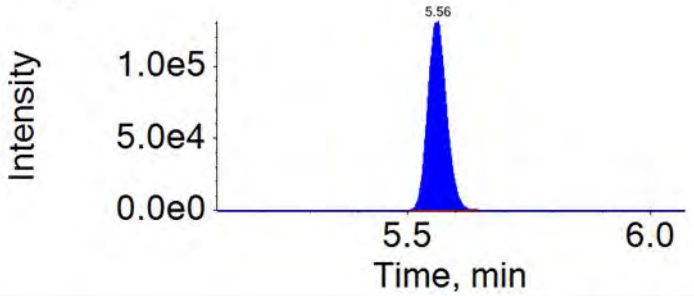
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Secondary Mass: 549.0 / 99.0



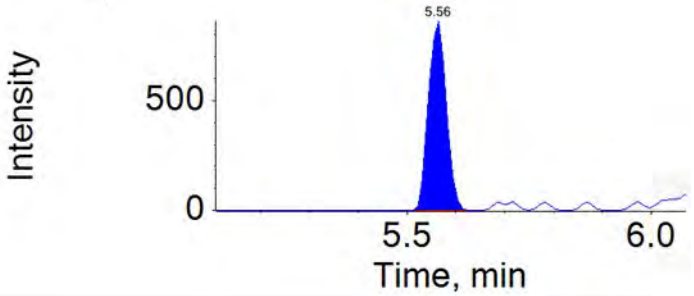
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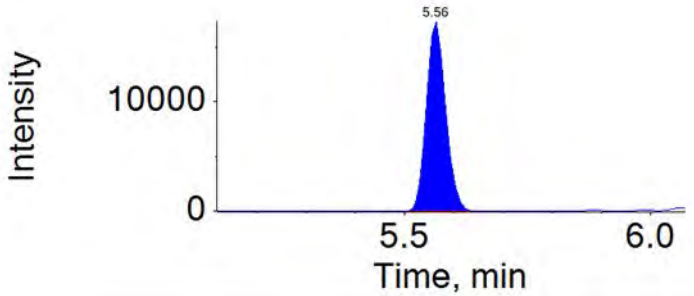
Component: PFDA
Primary Mass: 513.0 / 469.0



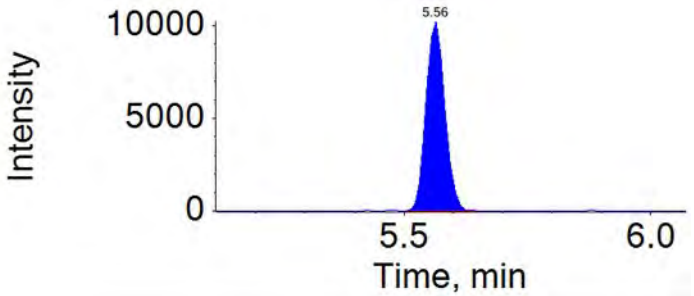
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



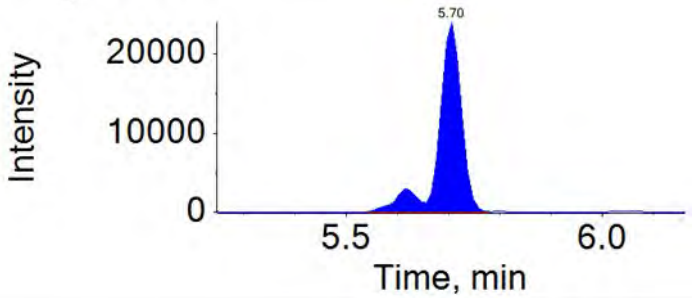
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



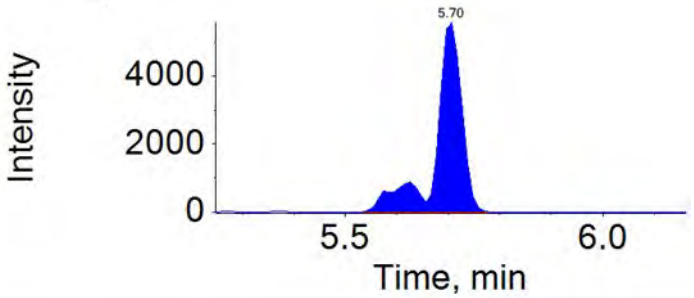
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



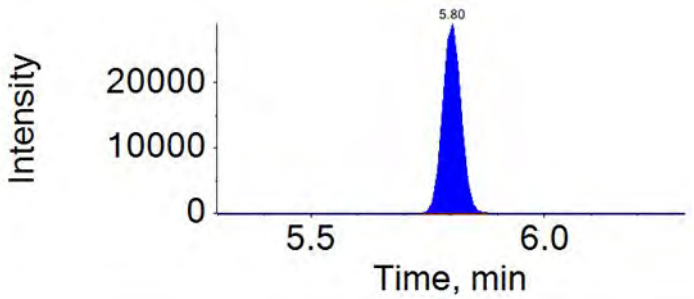
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



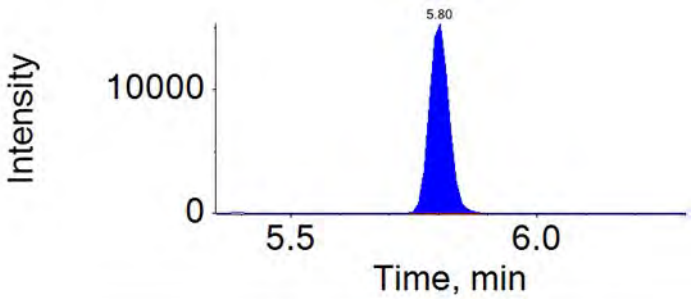
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



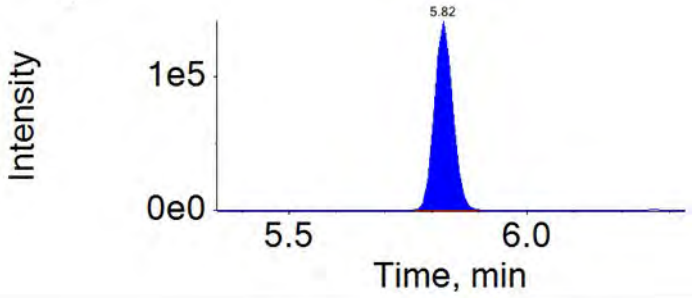
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Secondary Mass: 599.0 / 99.0



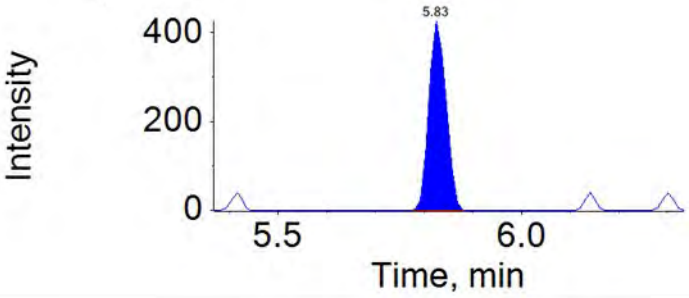
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By MSM at 11:49 am, 12/19/18

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By HMK at 11:53 am, 12/21/18

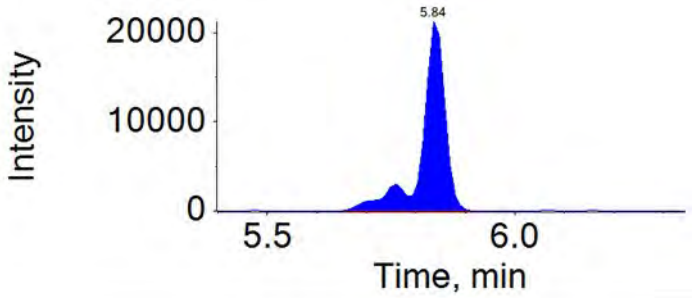
Component: PFUnDA
Primary Mass: 563.0 / 519.0



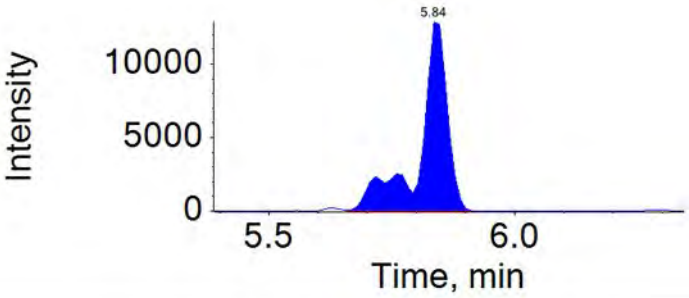
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



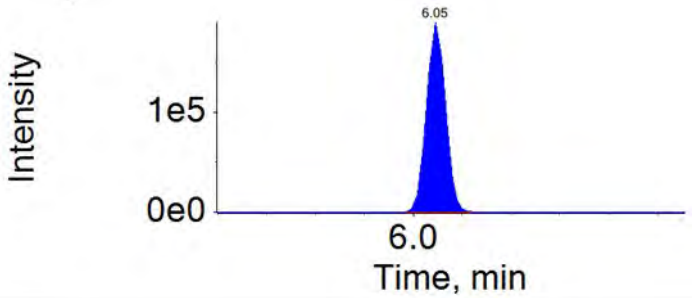
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



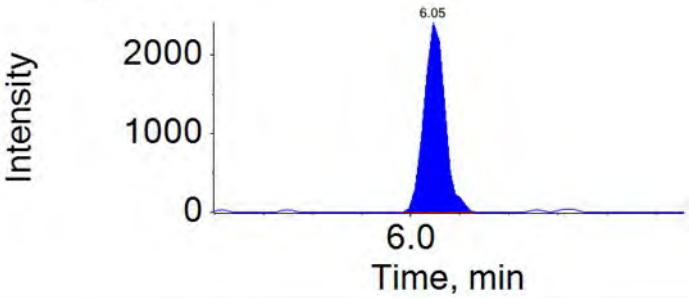
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



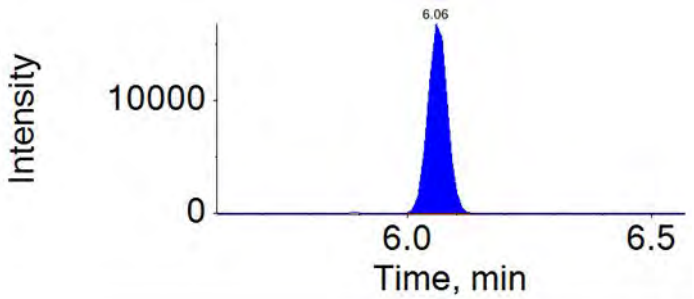
Component: PFDoDA
Primary Mass: 613.0 / 569.0



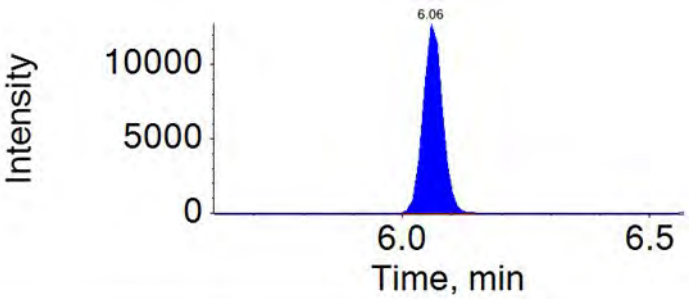
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



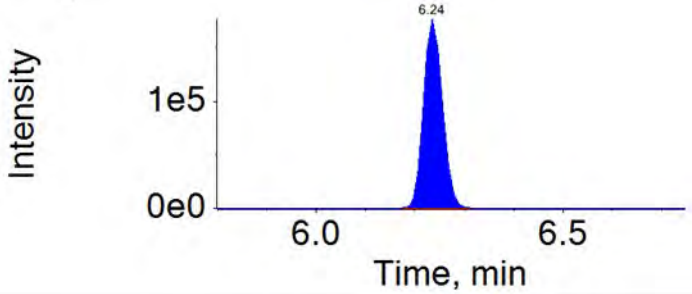
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



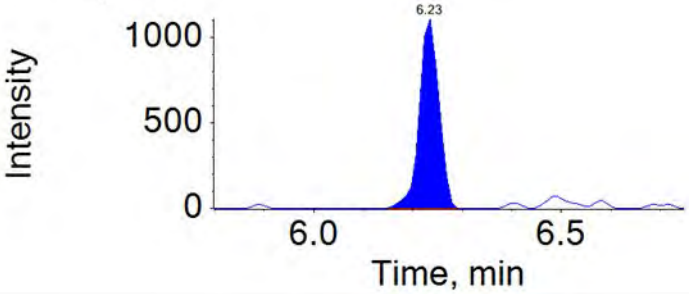
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



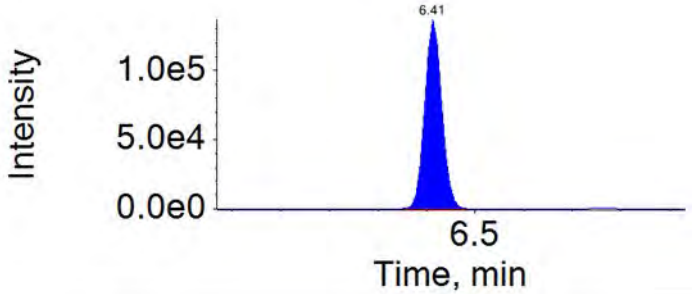
Component: PFTrDA
Primary Mass: 663.0 / 619.0



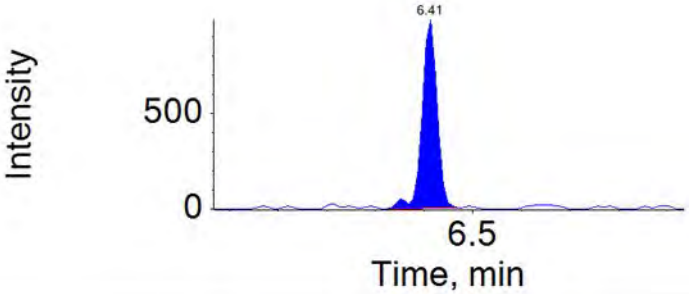
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



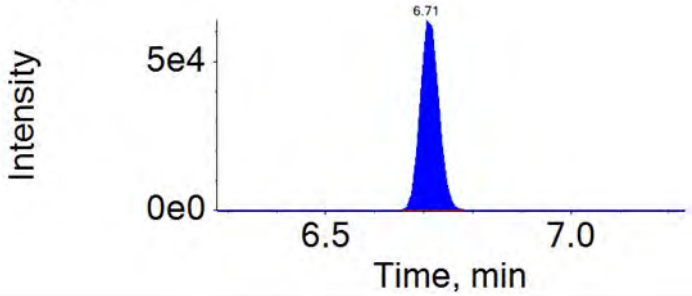
Component: PFTeDA
Primary Mass: 713.0 / 669.0



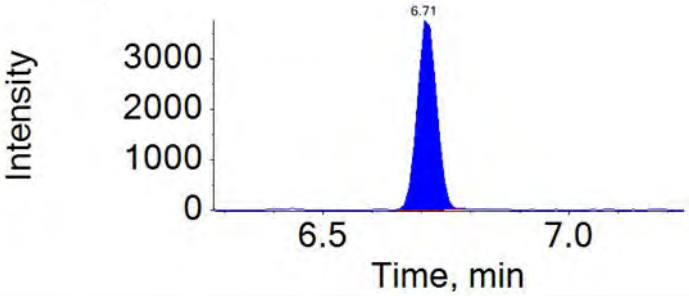
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



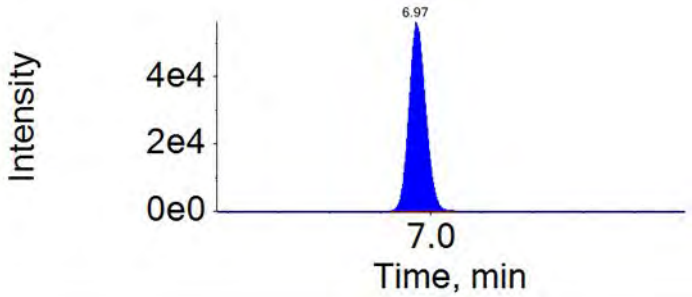
Component: PFHxDA
Primary Mass: 813.0 / 769.0



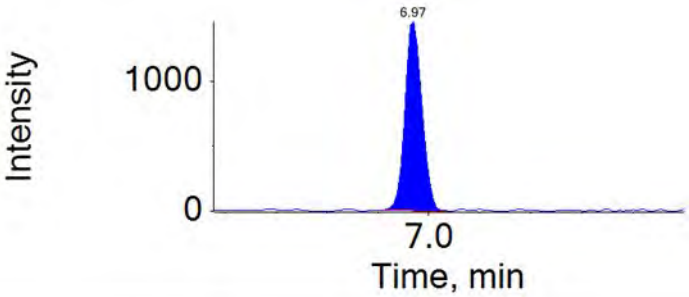
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



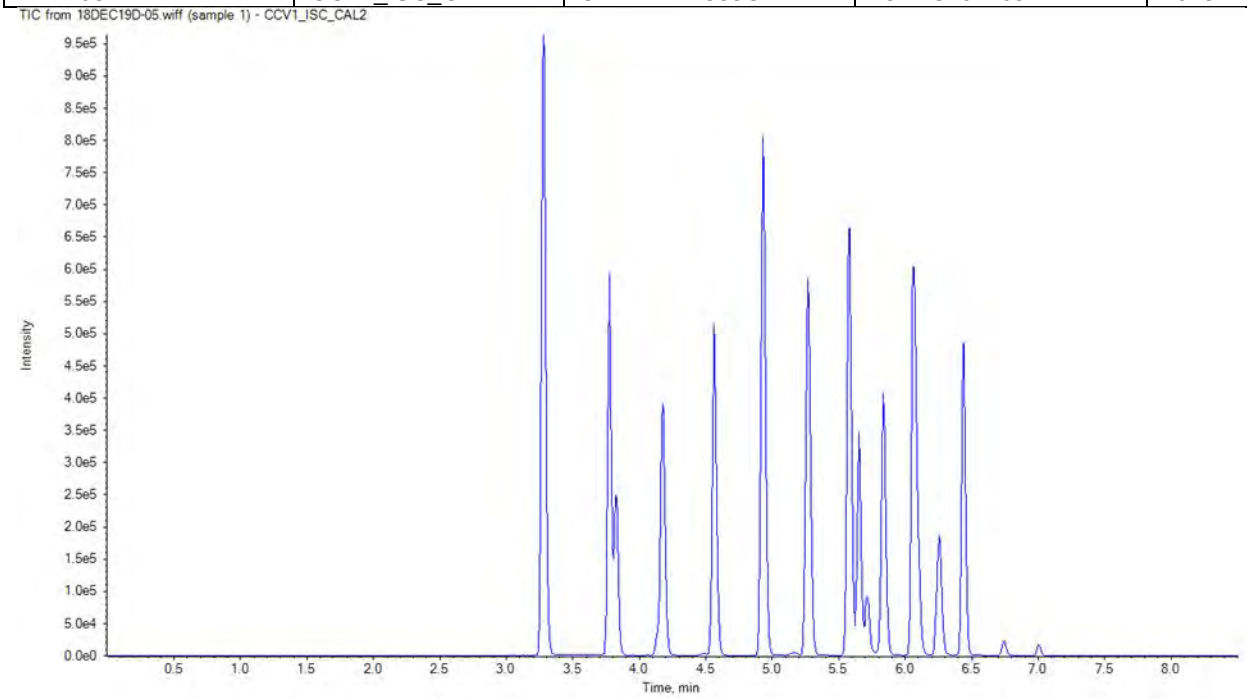
APPROVED
By MSM at 11:49 am, 12/19/18

REVIEWED
By HMK at 11:53 am, 12/21/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC19D-05.wiff	2018-12-19T10:43:56



Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	942675.8	941251.6	0	50	
13C2-PFOA	5.0	520268.5	485595.3	7	50	
13C4-PFOS	4.8	307968.9	292182.6	5	50	
13C2-PFDA	5.0	487375.3	467216.0	4	50	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC19D-05.wiff	2018-12-19T10:43:56

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	112717.4	10	13C4-PFBA	1081831.1	5.0	0.104	3.28	1.000	0.500	0.553	11	30	
PFPeA	115463.4	11	13C5-PFPeA	1015138.6	5.0	0.114	3.78	1.000	0.500	0.587	17	30	
PFBS	44925.3	10	13C3-PFBS	458914.8	4.7	0.098	3.83	1.000	0.443	0.483	9	30	
4:2-FTS	11736.4	11	13C2-4:2-FTS	61511.2	4.7	0.191	4.14	1.000	0.467	0.501	7	30	
PFHxA	107079.2	11	13C5-PFHxA	759858.0	5.0	0.141	4.18	1.000	0.500	0.581	16	30	
PFPeS	22247.6	11	13C3-PFBS	458914.8	4.7	0.048	4.20	1.100	0.469	0.494	5	30	
PFHpA	103683.1	11	13C4-PFHpA	604011.7	5.0	0.172	4.56	1.000	0.500	0.569	14	30	
PFHxS	34370.8	19	13C3-PFHxS	342157.6	4.7	0.100	4.57	1.000	0.456	0.489	7	30	
6:2-FTS	12373.1	11	13C2-6:2-FTS	51341.9	4.8	0.241	4.92	1.000	0.474	0.600	27	30	
PFHpS	33553.7	11	13C3-PFHxS	342157.6	4.7	0.098	4.93	1.080	0.476	0.519	9	30	
PFOA	114562.0	11	13C8-PFOA	1056721.3	5.0	0.108	4.93	1.000	0.500	0.574	15	30	
PFOS	40193.8	22	13C8-PFOS	338685.7	4.8	0.119	5.26	1.000	0.463	0.520	12	30	
PFNA	97577.3	11	13C9-PFNA	685124.5	5.0	0.142	5.28	1.000	0.500	0.566	13	30	
PFNS	26611.4	11	13C8-PFOS	338685.7	4.8	0.079	5.56	1.060	0.480	0.500	4	30	
PFDA	90078.4	11	13C6-PFDA	879280.0	5.0	0.102	5.58	1.000	0.500	0.529	6	30	
8:2-FTS	11537.9	10	13C2-8:2-FTS	41608.9	4.8	0.277	5.58	1.000	0.479	0.558	17	30	
PFOSA	68595.3	11	13C8-PFOSA	632676.2	5.0	0.108	5.65	1.000	0.500	0.542	8	30	
NMeFOSAA	17242.8	20	d3-NMeFOSAA	202378.7	5.0	0.085	5.72	1.000	0.500	0.530	6	30	
PFDS	21511.2	11	13C8-PFOS	338685.7	4.8	0.064	5.81	1.100	0.482	0.521	8	30	
PFUnDA	97436.6	11	13C7-PFUnDA	605028.9	5.0	0.161	5.83	1.000	0.500	0.533	7	30	
NEtFOSAA	17285.4	17	d5-NEtFOSAA	176057.5	5.0	0.098	5.85	1.000	0.500	0.500	0	30	
PFDoDA	123420.5	11	13C2-PFDoDA	1238000.4	5.0	0.100	6.06	1.000	0.500	0.502	0	30	
10:2-FTS	9993.2	11	13C2-8:2-FTS	41608.9	4.8	0.240	6.08	1.090	0.482	0.489	1	30	
NMePFOSAE	33183.2	11	d7-NMePFOSAE	265585.1	5.0	0.125	6.10	1.000	0.500	0.551	10	30	
NMePFOSA	9304.1	11	d3-NMePFOSA	81809.0	5.0	0.114	6.11	1.000	0.500	0.574	15	30	
PFDoS	9816.3	11	13C8-PFOS	338685.7	4.8	0.029	6.23	1.180	0.484	0.439	-9	30	
NEtPFOSAE	36673.9	11	d9-NEtPFOSAE	235788.2	5.0	0.156	6.26	1.000	0.500	0.508	2	30	
NEtPFOSA	8488.3	11	d5-NEtPFOSA	69823.4	5.0	0.122	6.28	1.000	0.500	0.569	14	30	
PFTrDA	129114.4	11	13C2-PFDoDA	1238000.4	5.0	0.104	6.26	1.030	0.500	0.535	7	30	
PFTeDA	90148.4	10	13C2-PFTeDA	905389.6	5.0	0.100	6.44	1.000	0.500	0.536	7	30	
PFHxDA	47073.3	11	13C2-PFTeDA	905389.6	5.0	0.052	6.74	1.050	0.500	0.571	14	30	
PFODA	35177.4	10	13C2-PFTeDA	905389.6	5.0	0.039	7.01	1.090	0.500	0.558	12	30	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM

Result Table: 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18DEC19D-05.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-19T10:43:56
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC19DCCV1-5
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC18DCAL-70

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	942675.8	941251.6	0	50	
13C2-PFOA	5.0	520268.5	485595.3	7	50	
13C4-PFOS	4.8	307968.9	292182.6	5	50	
13C2-PFDA	5.0	487375.3	467216.0	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1081831.1	13C3-PFBA	942675.8	1.148	5.000	5.082	102	70-130	
E13C5-PFPeA	1015138.6	13C3-PFBA	942675.8	1.077	5.000	5.022	100	70-130	
E13C3-PFBS	458914.8	13C3-PFBA	942675.8	0.487	4.650	4.740	102	70-130	
E13C2-4:2-FTS	61511.2	13C2-PFOA	520268.5	0.118	4.670	4.490	96	70-130	
E13C5-PFHxA	759858.0	13C2-PFOA	520268.5	1.461	5.000	5.224	104	70-130	
E13C3-PFHxS	342157.6	13C2-PFOA	520268.5	0.658	4.730	4.977	105	70-130	
E13C4-PFHpA	604011.7	13C2-PFOA	520268.5	1.161	5.000	5.015	100	70-130	
E13C2-6:2-FTS	51341.9	13C2-PFOA	520268.5	0.099	4.750	4.965	105	70-130	
E13C8-PFOA	1056721.3	13C2-PFOA	520268.5	2.031	5.000	5.585	112	70-130	
E13C8-PFOS	338685.7	13C4-PFOS	307968.9	1.100	4.780	4.918	103	70-130	
E13C9-PFNA	685124.5	13C4-PFOS	307968.9	2.225	5.000	5.061	101	70-130	
E13C6-PFDA	879280.0	13C2-PFDA	487375.3	1.804	5.000	5.139	103	70-130	
E13C2-8:2-FTS	41608.9	13C2-PFDA	487375.3	0.085	4.790	4.400	92	70-130	
E13C8-PFOSA	632676.2	13C2-PFDA	487375.3	1.298	5.000	5.055	101	70-130	
Ed3-NMeFOSAA	202378.7	13C2-PFDA	487375.3	0.415	5.000	4.568	91	70-130	
E13C7-PFUnDA	605028.9	13C2-PFDA	487375.3	1.241	5.000	5.196	104	70-130	
Ed5-NEtFOSAA	176057.5	13C2-PFDA	487375.3	0.361	5.000	5.322	106	70-130	
E13C2-PFDoDA	1238000.4	13C2-PFDA	487375.3	2.540	5.000	5.344	107	70-130	
Ed7-NMePFOSAE	265585.1	13C2-PFDA	487375.3	0.545	5.000	4.869	97	70-130	
Ed3-NMePFOSA	81809.0	13C2-PFDA	487375.3	0.168	5.000	4.612	92	70-130	
Ed9-NEtPFOSAE	235788.2	13C2-PFDA	487375.3	0.484	5.000	4.946	99	70-130	
Ed5-NEtPFOSA	69823.4	13C2-PFDA	487375.3	0.143	5.000	4.969	99	70-130	
E13C2-PFTeDA	905389.6	13C2-PFDA	487375.3	1.858	5.000	5.235	105	70-130	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

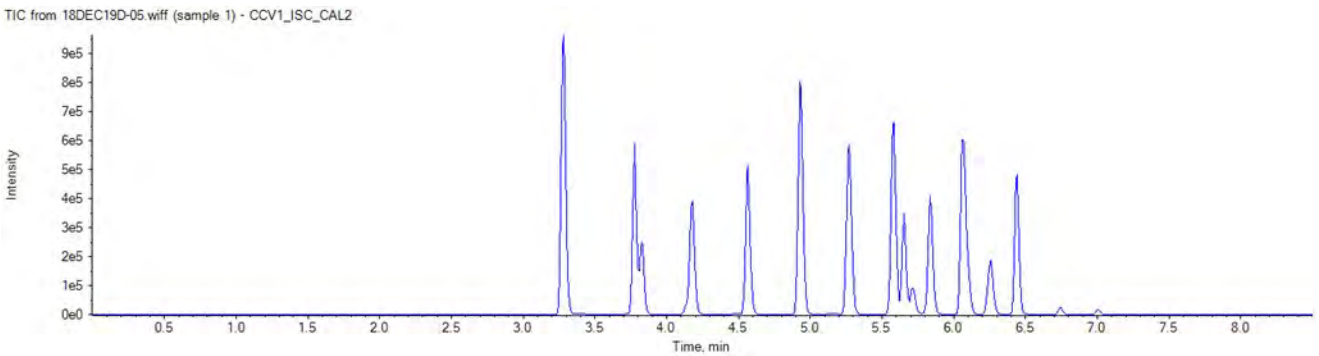
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC19D-05.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.28	1.000	112717.4		A	13C4-PFBA	3.28	1081831.1	0.104	0.553
PFPeA	3.78	1.000	115463.4		A	13C5-PFPeA	3.78	1015138.6	0.114	0.587
PFBS	3.83	1.000	44925.3		A	13C3-PFBS	3.83	458914.8	0.098	0.483
4:2-FTS	4.14	1.000	11736.4		A	13C2-4:2-FTS	4.14	61511.2	0.191	0.501
PFHxA	4.18	1.000	107079.2		A	13C5-PFHxA	4.18	759858.0	0.141	0.581
PFPeS	4.20	1.100	22247.6		A	13C3-PFBS	3.83	458914.8	0.048	0.494
PFHpA	4.56	1.000	103683.1		A	13C4-PFHpA	4.56	604011.7	0.172	0.569
PFHxS	4.57	1.000	34370.8		M	13C3-PFHxS	4.57	342157.6	0.100	0.489
6:2-FTS	4.92	1.000	12373.1		A	13C2-6:2-FTS	4.92	51341.9	0.241	0.600
PFHpS	4.93	1.080	33553.7		A	13C3-PFHxS	4.57	342157.6	0.098	0.519
PFOA	4.93	1.000	114562.0		A	13C8-PFOA	4.93	1056721.3	0.108	0.574
PFOS	5.26	1.000	40193.8		M	13C8-PFOS	5.26	338685.7	0.119	0.520
PFNA	5.28	1.000	97577.3		A	13C9-PFNA	5.28	685124.5	0.142	0.566
PFNS	5.56	1.060	26611.4		A	13C8-PFOS	5.26	338685.7	0.079	0.500
PFDA	5.58	1.000	90078.4		A	13C6-PFDA	5.58	879280.0	0.102	0.529
8:2-FTS	5.58	1.000	11537.9		A	13C2-8:2-FTS	5.58	41608.9	0.277	0.558
PFOSA	5.65	1.000	68595.3		A	13C8-PFOSA	5.65	632676.2	0.108	0.542
NMeFOSAA	5.72	1.000	17242.8		M	d3-NMeFOSAA	5.71	202378.7	0.085	0.530
PFDS	5.81	1.100	21511.2		A	13C8-PFOS	5.26	338685.7	0.064	0.521
PFUnDA	5.83	1.000	97436.6		A	13C7-PFUnDA	5.84	605028.9	0.161	0.533
NEtFOSAA	5.85	1.000	17285.4		M	d5-NEtFOSAA	5.84	176057.5	0.098	0.500
PFDoDA	6.06	1.000	123420.5		A	13C2-PFDoDA	6.06	1238000.4	0.100	0.502
10:2-FTS	6.08	1.090	9993.2		A	13C2-8:2-FTS	5.58	41608.9	0.240	0.489
NMePFOSAE	6.10	1.000	33183.2		A	d7-NMePFOSAE	6.09	265585.1	0.125	0.551
NMePFOSA	6.11	1.000	9304.1		A	d3-NMePFOSA	6.11	81809.0	0.114	0.574
PFDoS	6.23	1.180	9816.3		A	13C8-PFOS	5.26	338685.7	0.029	0.439
NEtPFOSAE	6.26	1.000	36673.9		A	d9-NEtPFOSAE	6.25	235788.2	0.156	0.508
NEtPFOSA	6.28	1.000	8488.3		A	d5-NEtPFOSA	6.27	69823.4	0.122	0.569
PFTrDA	6.26	1.030	129114.4		A	13C2-PFDoDA	6.06	1238000.4	0.104	0.535
PFTeDA	6.44	1.000	90148.4		A	13C2-PFTeDA	6.44	905389.6	0.100	0.536
PFHxDA	6.74	1.050	47073.3		A	13C2-PFTeDA	6.44	905389.6	0.052	0.571
PFODA	7.01	1.090	35177.4		A	13C2-PFTeDA	6.44	905389.6	0.039	0.558

Total Ion Chromatogram

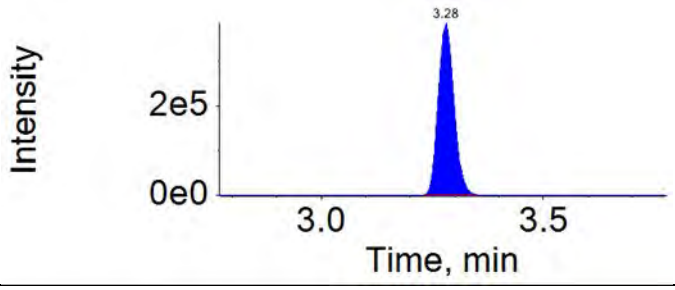


APPROVED
By MCD at 7:31 pm, 12/19/18

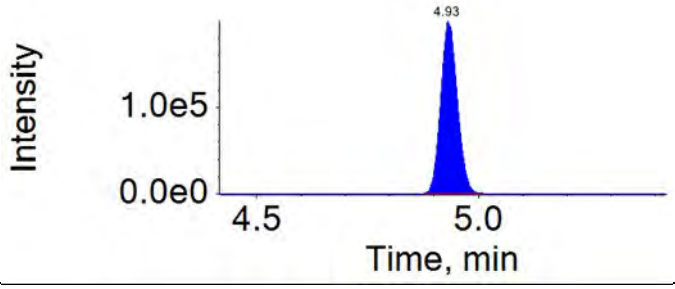
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

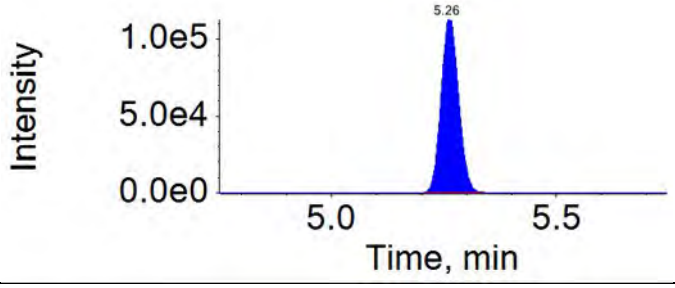
Injection Standard: 13C3-PFBA
216.0 / 172.0



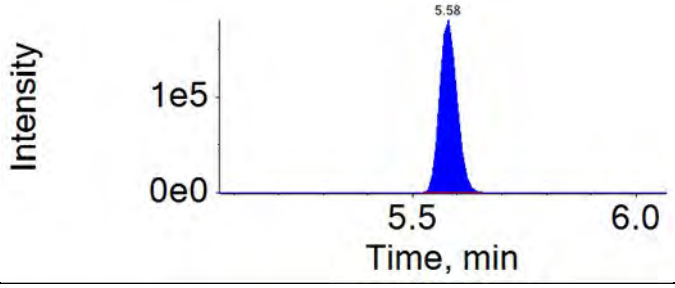
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



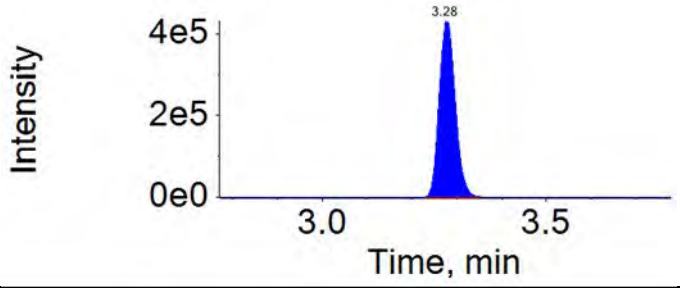
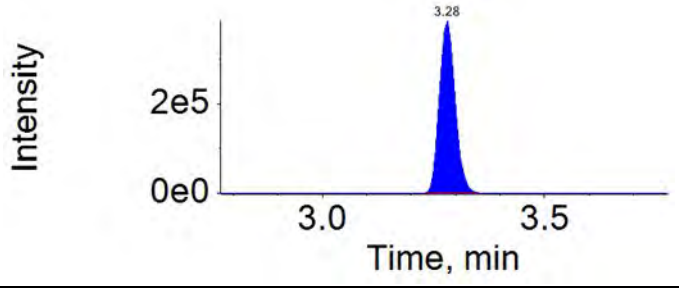
Injection Standard: 13C2-PFDA
515.0 / 470.0

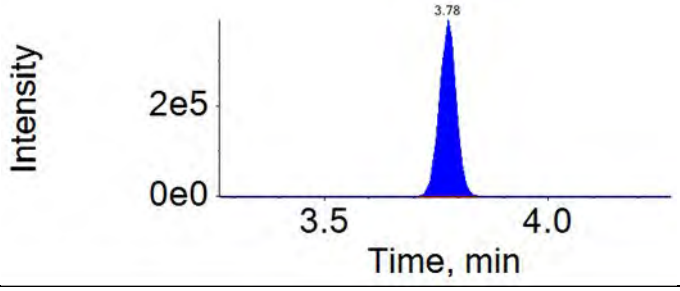
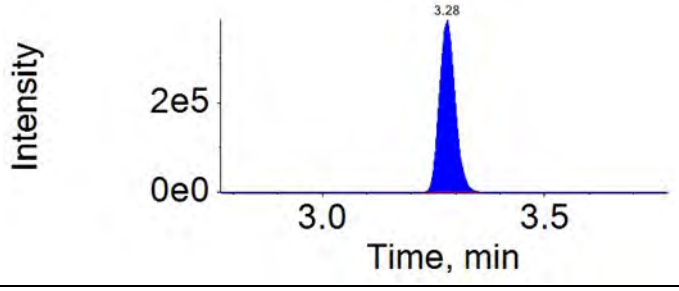


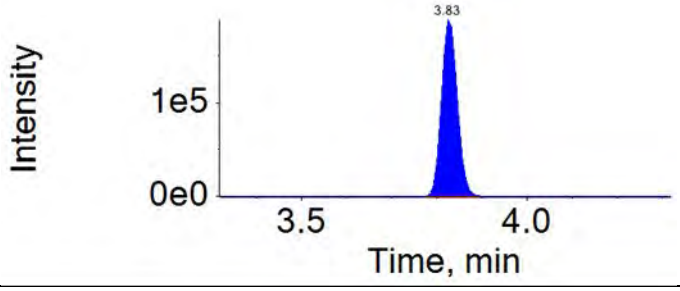
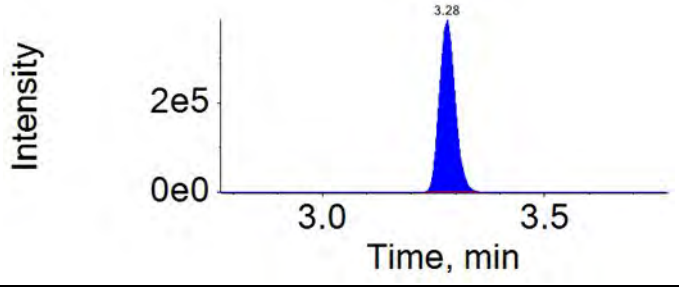
APPROVED
By MCD at 7:31 pm, 12/19/18

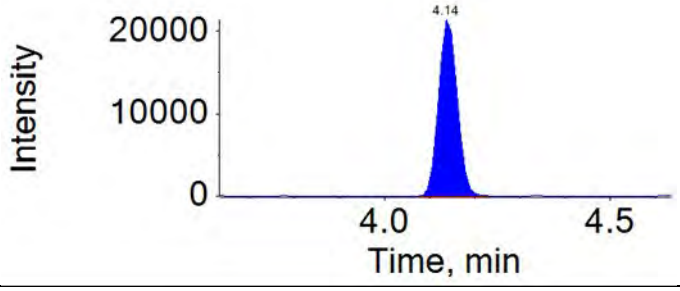
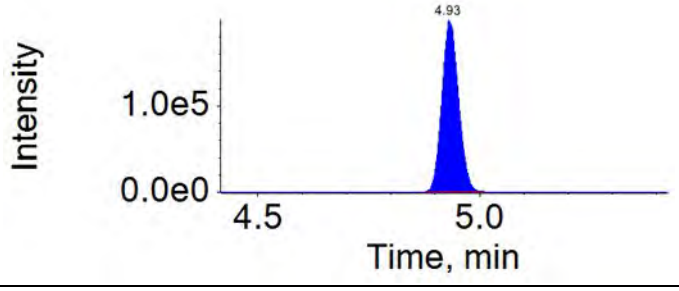
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

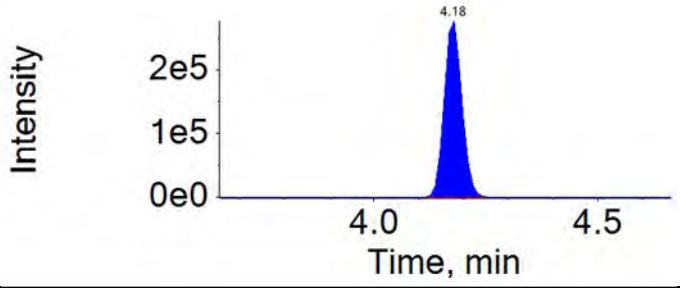
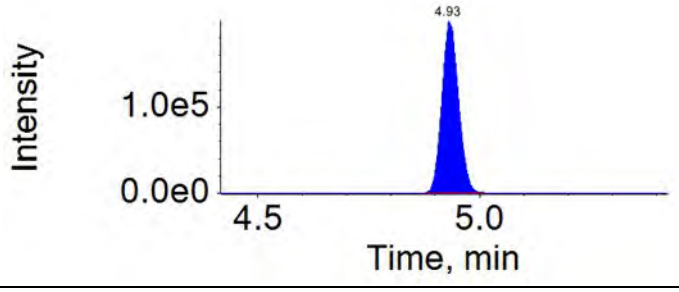
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

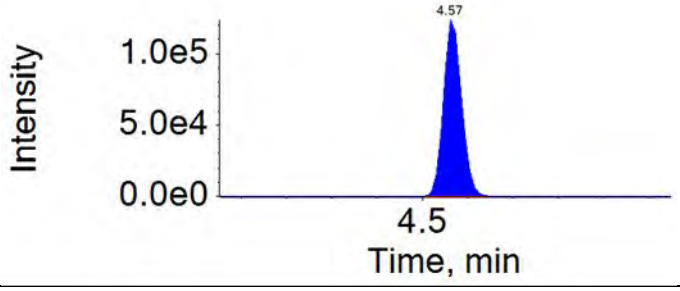
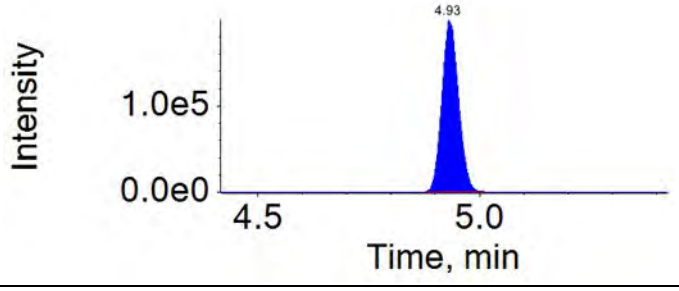
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

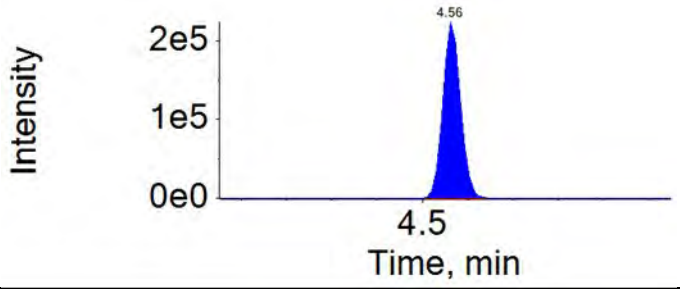
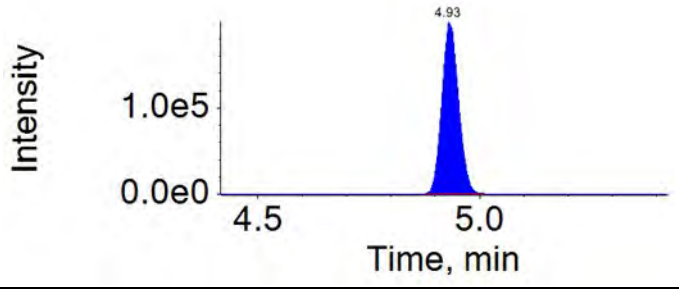
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

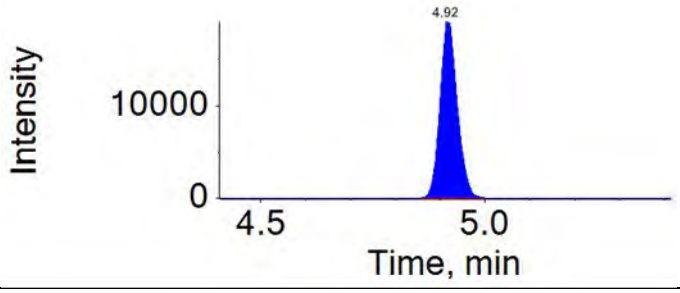
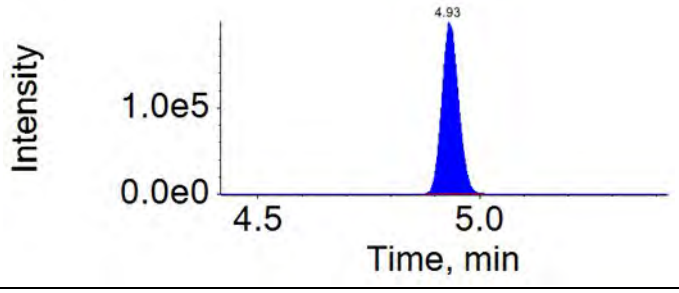
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

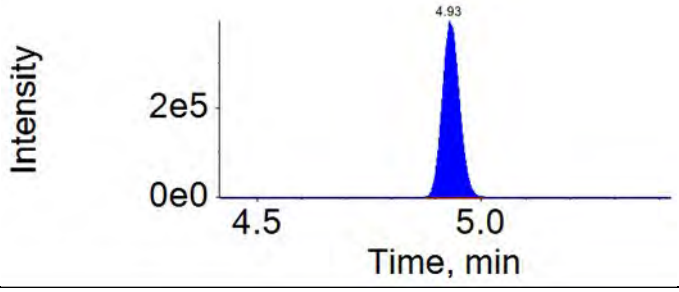
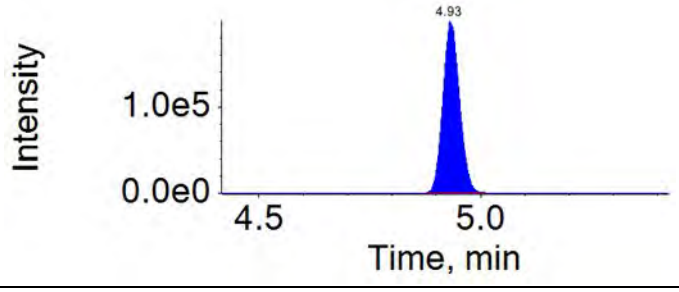
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

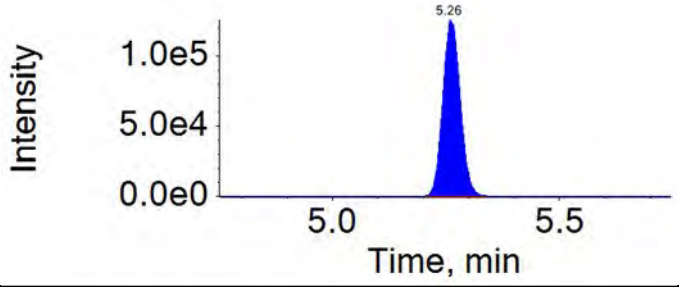
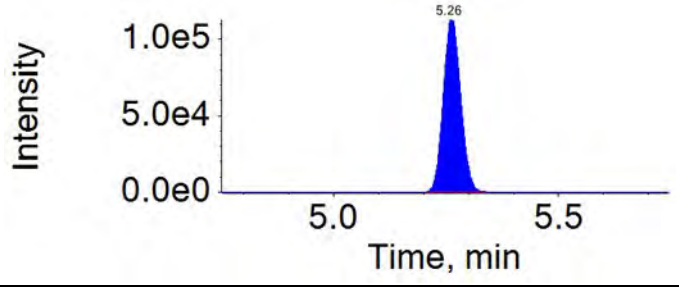
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

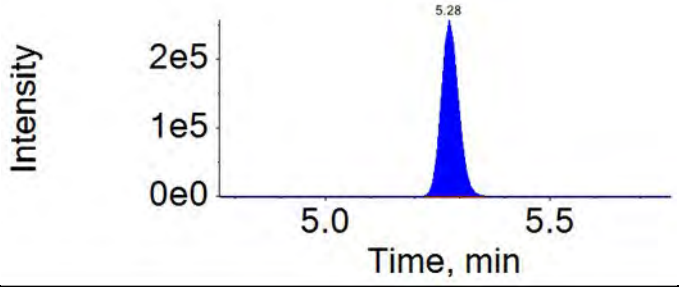
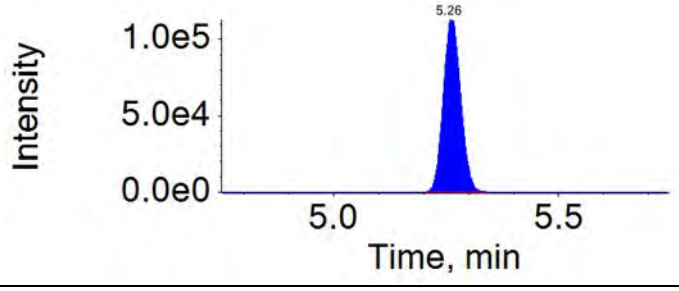
APPROVED
By MCD at 7:31 pm, 12/19/18

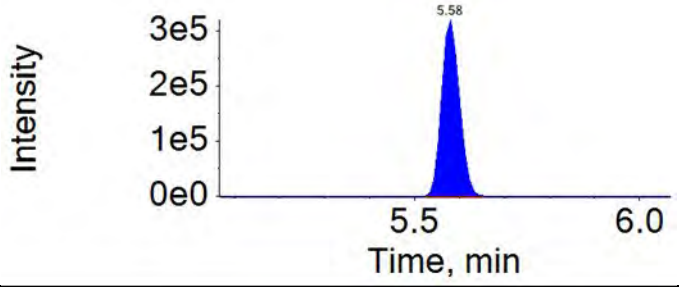
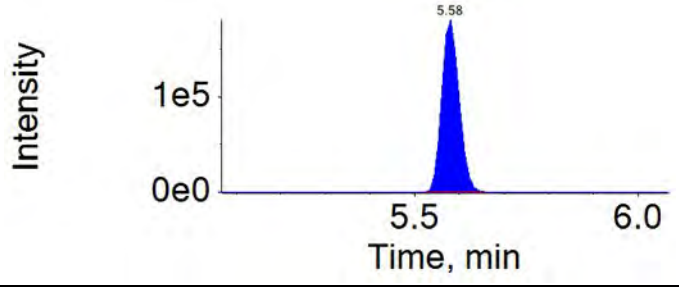
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

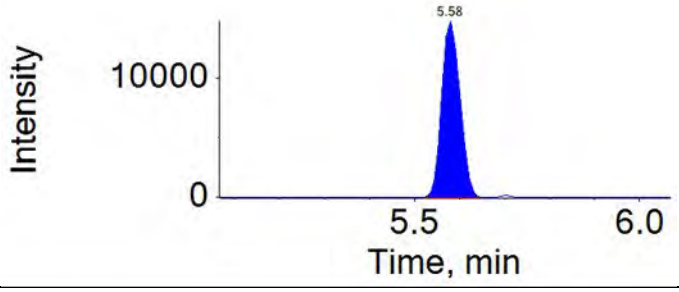
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

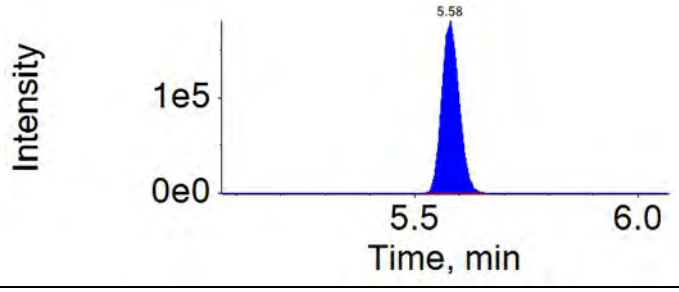
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

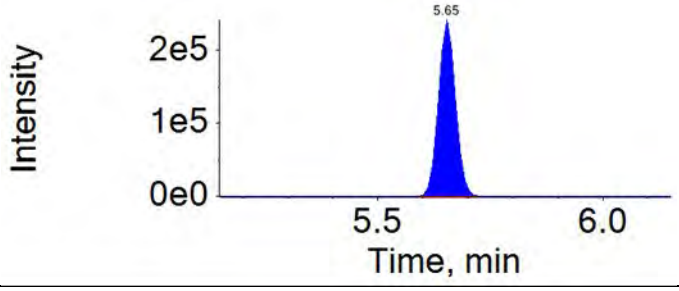
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

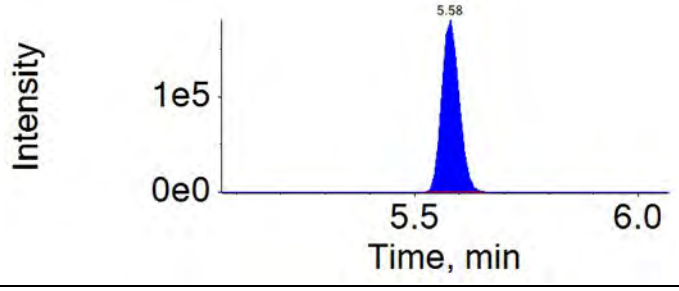
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



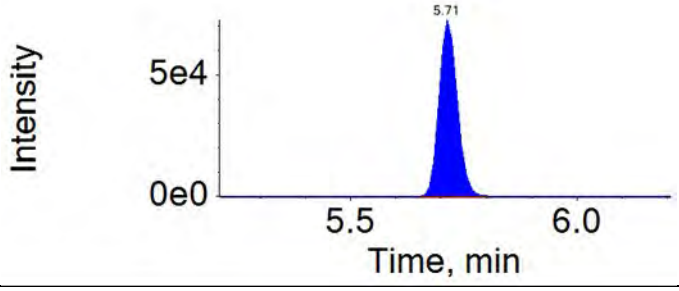


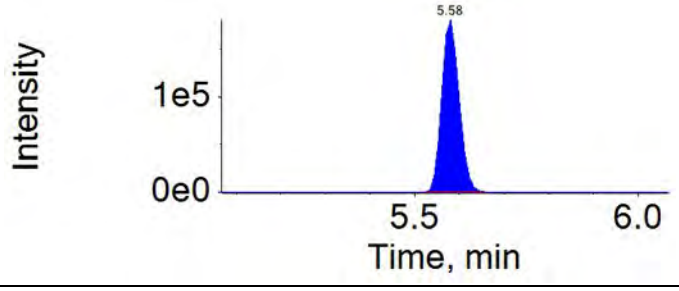
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



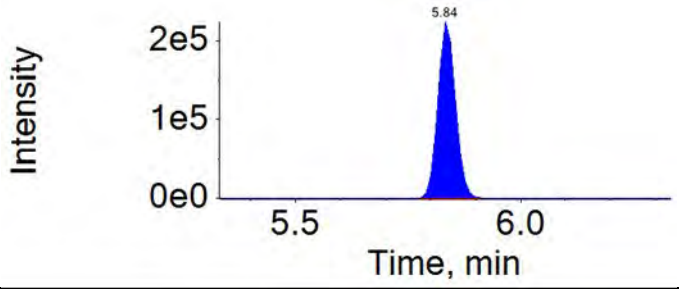


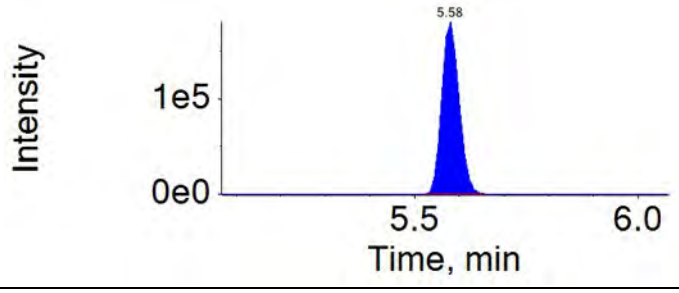
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



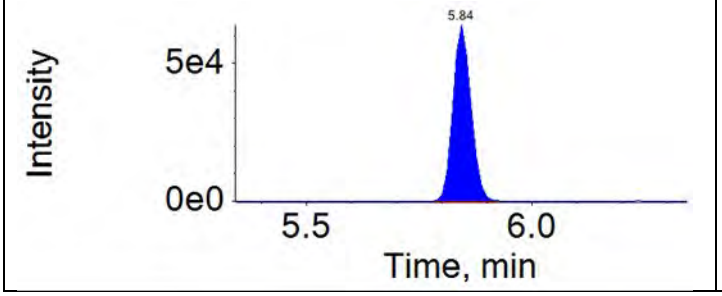


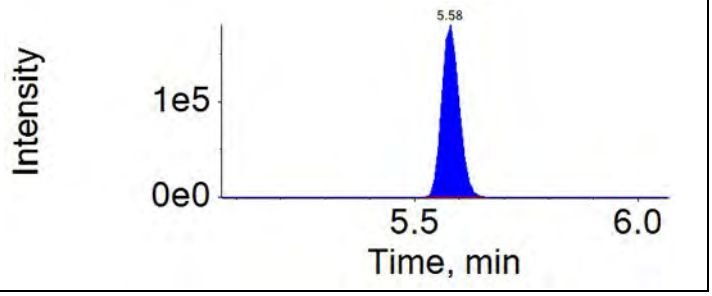
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

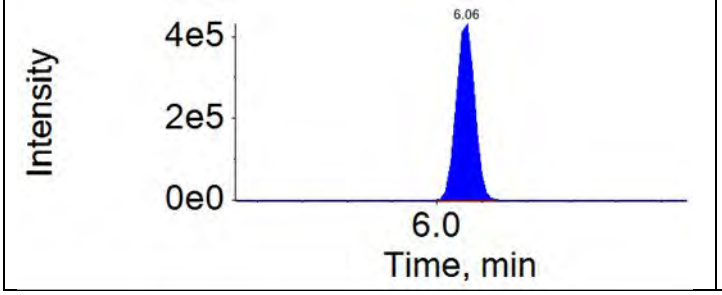
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

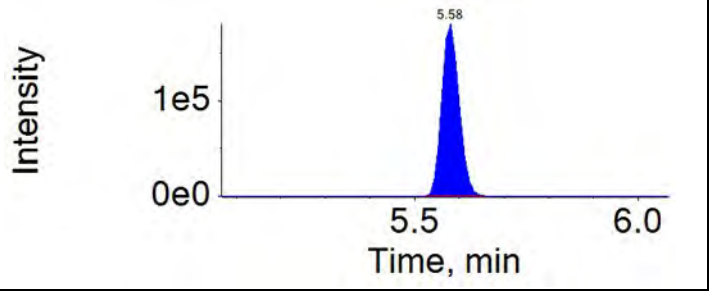
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



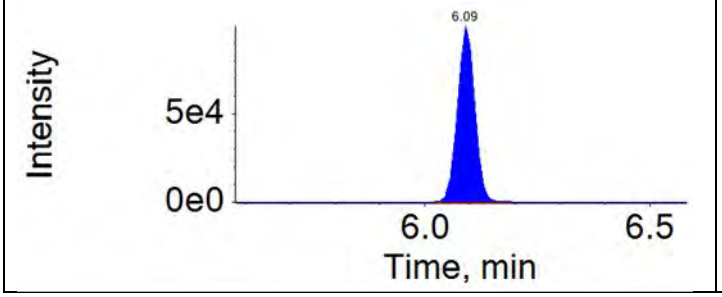


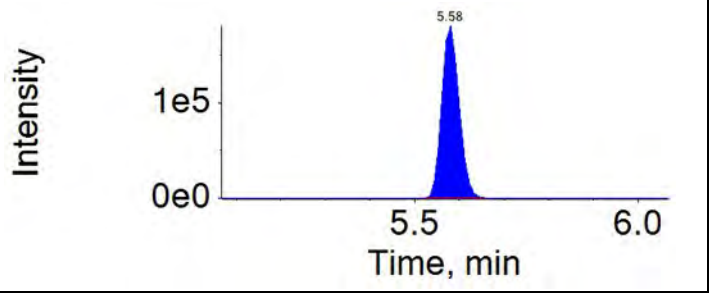
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



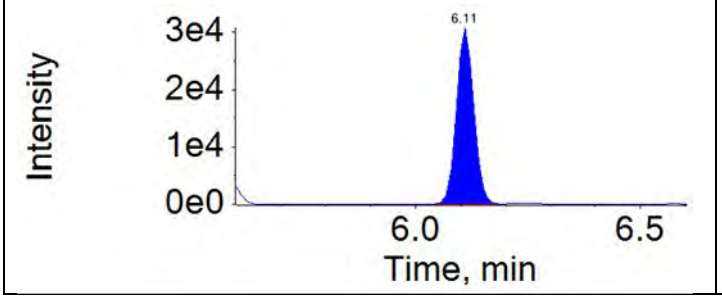


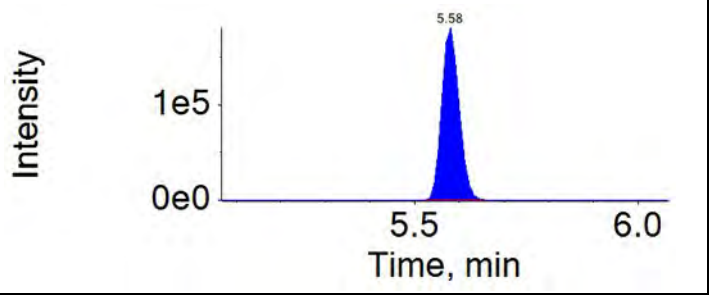
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



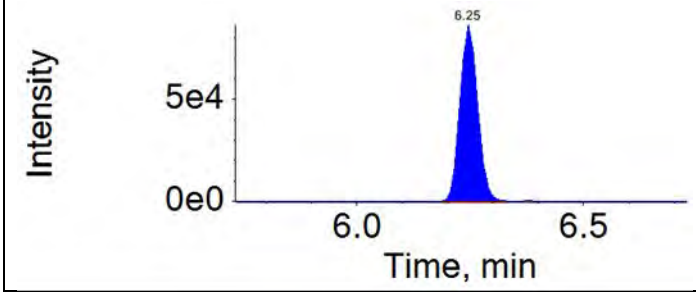


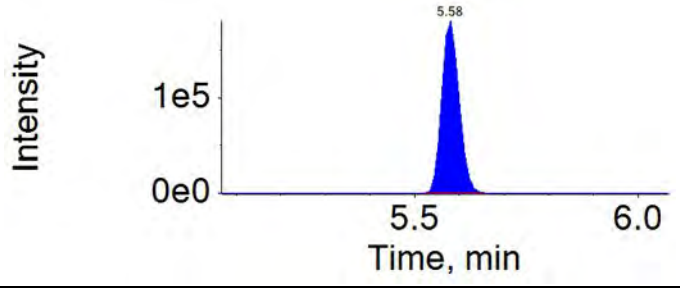
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

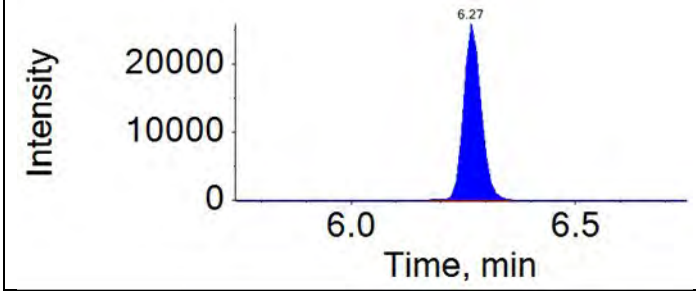
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

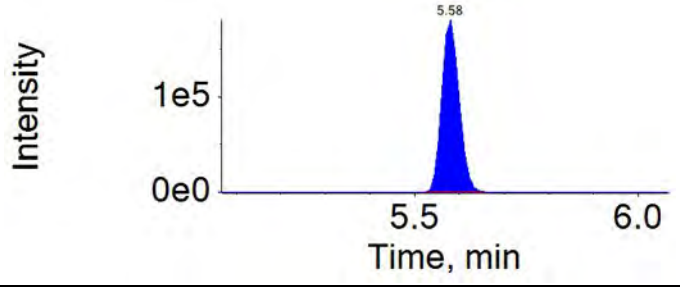
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



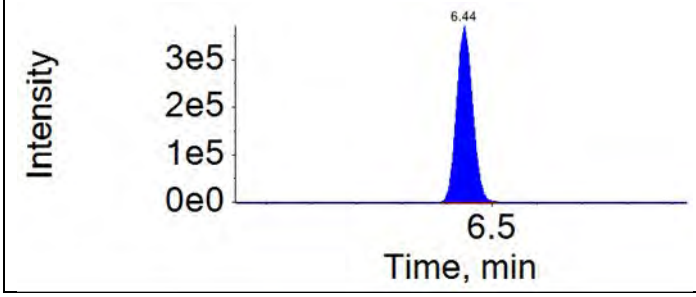


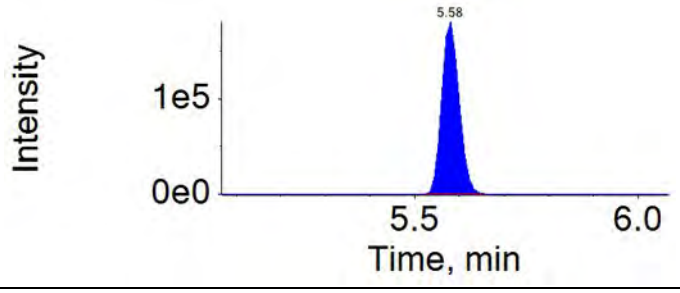
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

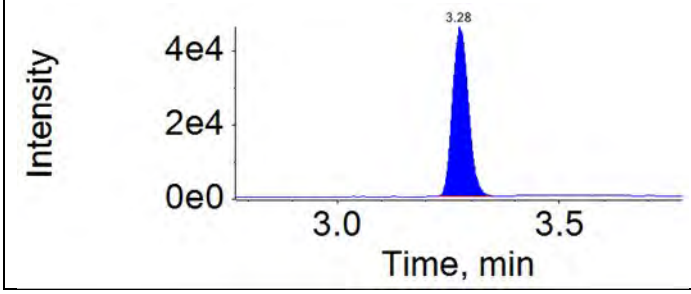
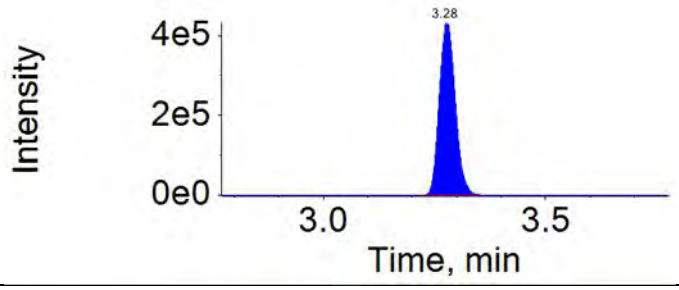


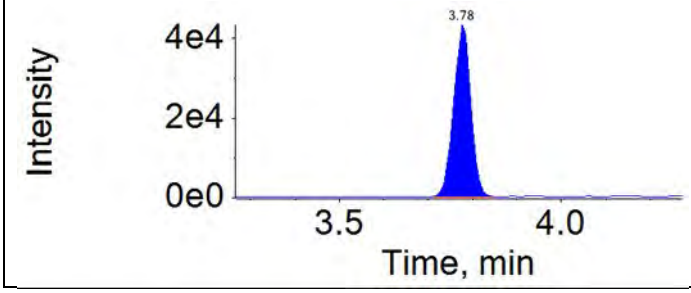
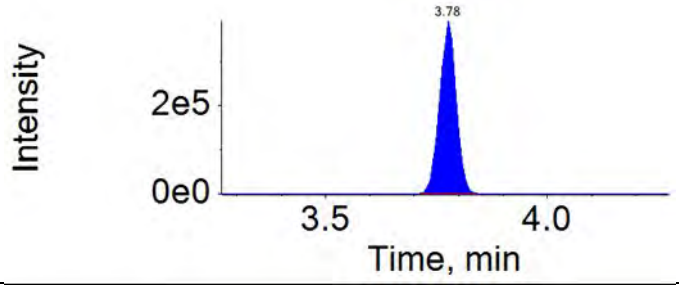


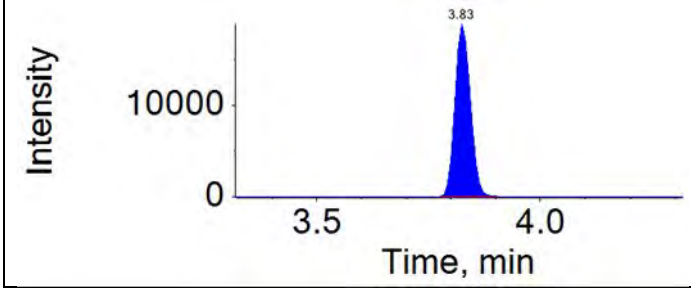
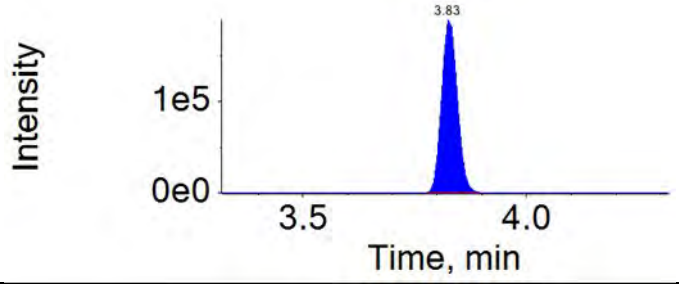
APPROVED
By MCD at 7:31 pm, 12/19/18

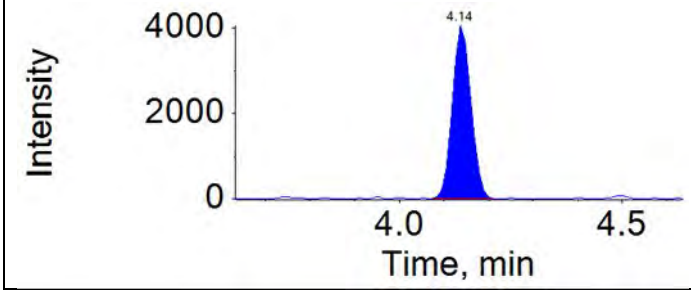
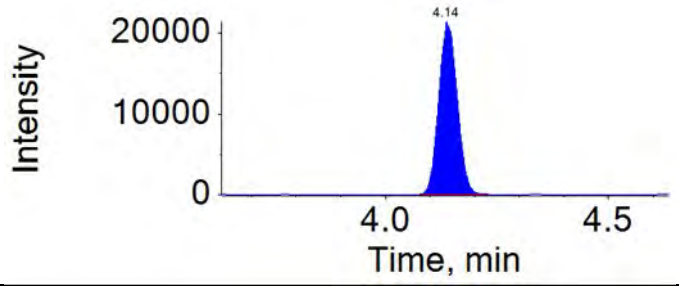
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

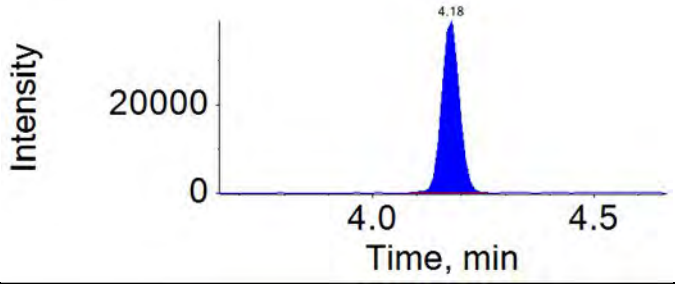
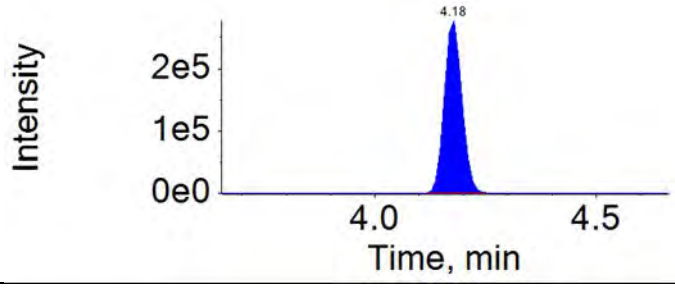
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

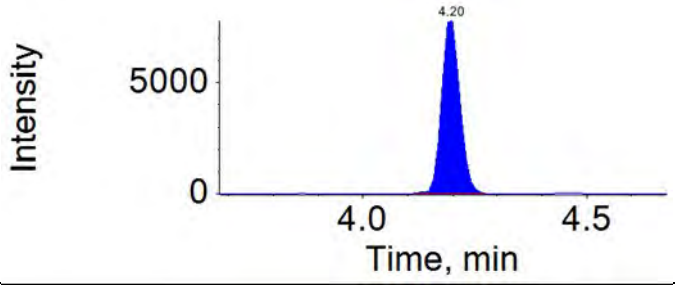
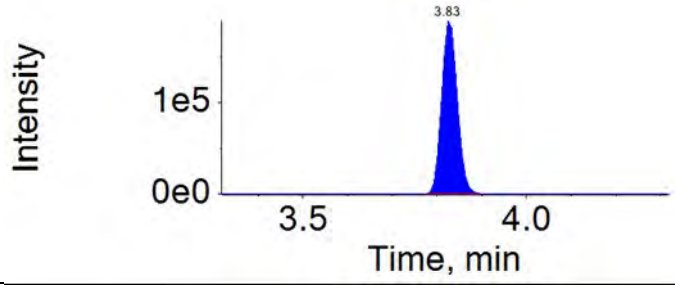
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

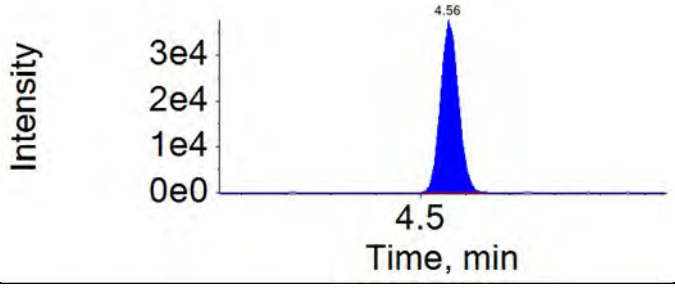
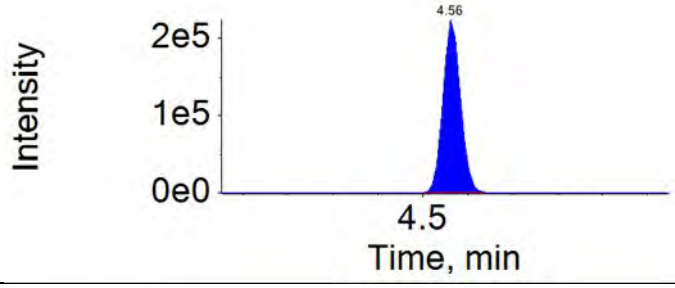
APPROVED
By MCD at 7:31 pm, 12/19/18

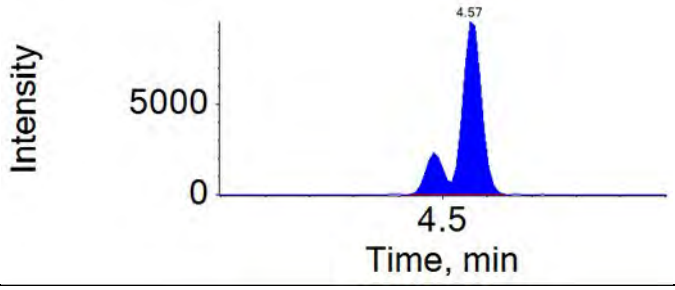
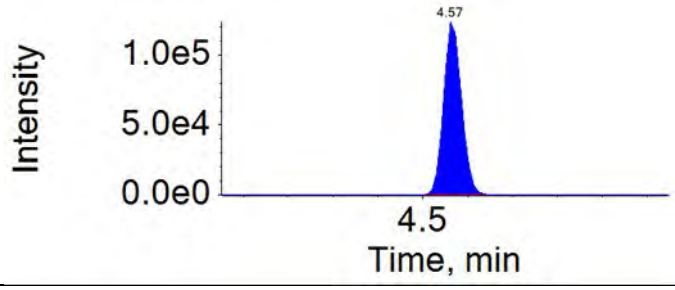
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

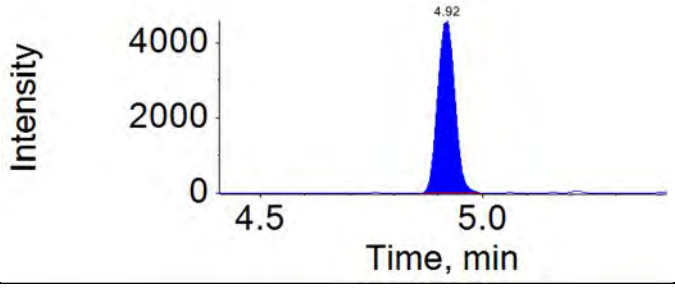
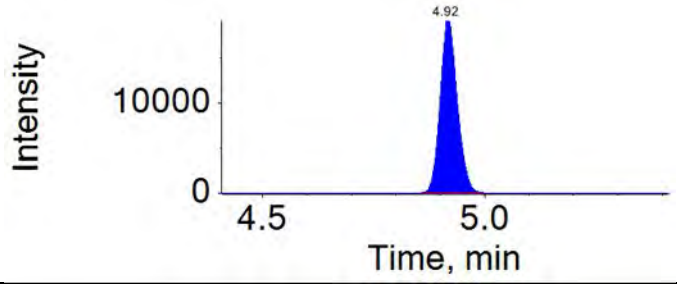
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

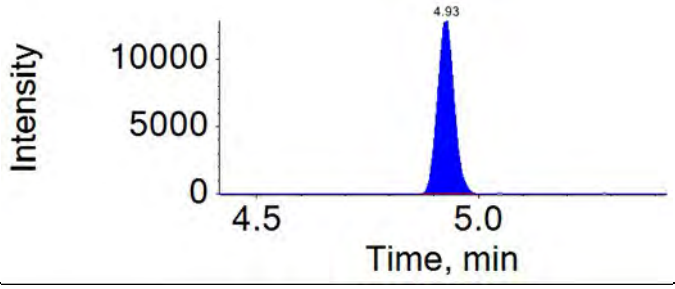
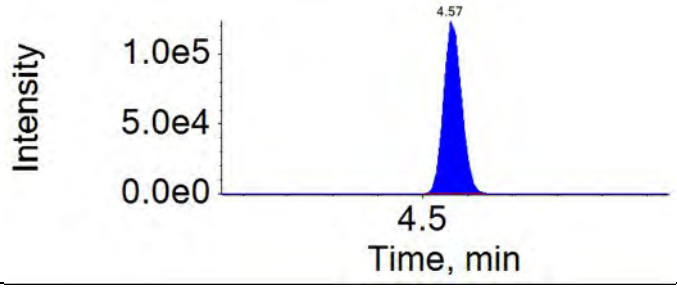
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

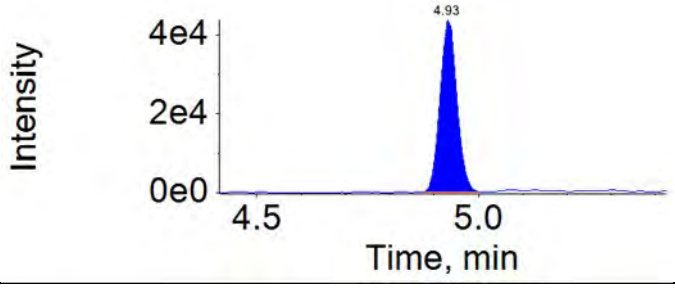
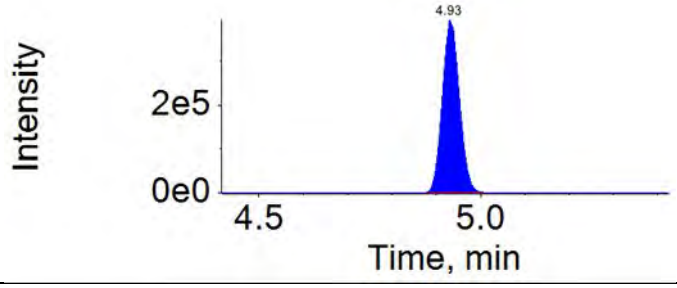
APPROVED
By MCD at 7:31 pm, 12/19/18

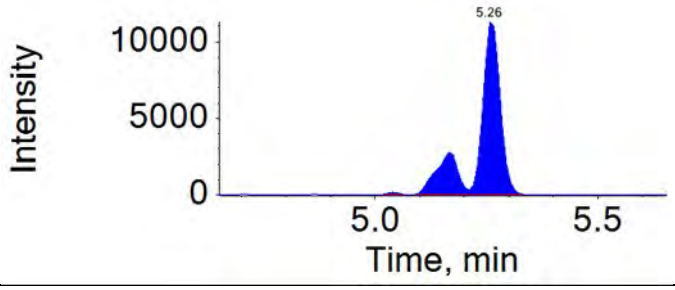
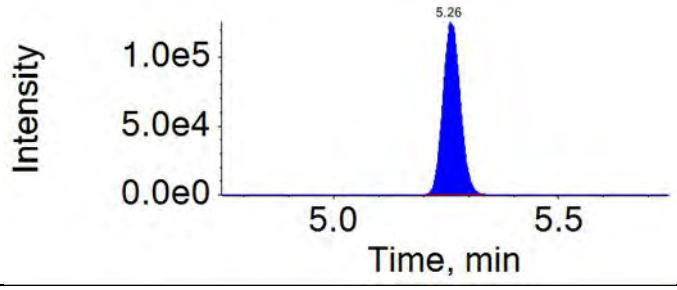
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

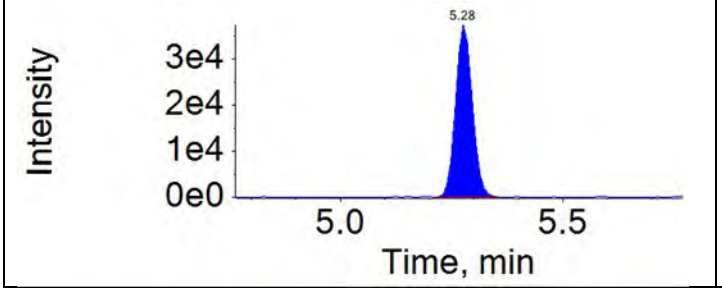
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

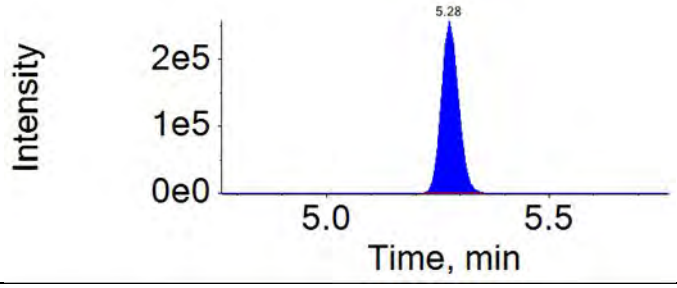
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

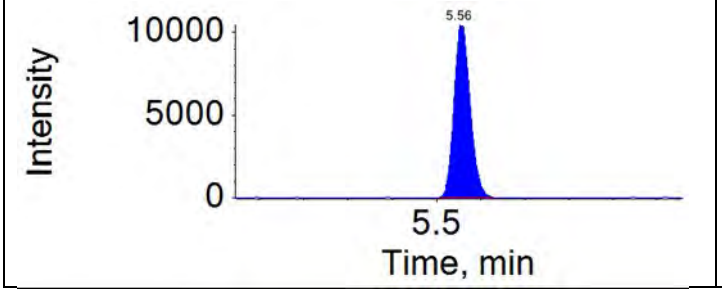
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

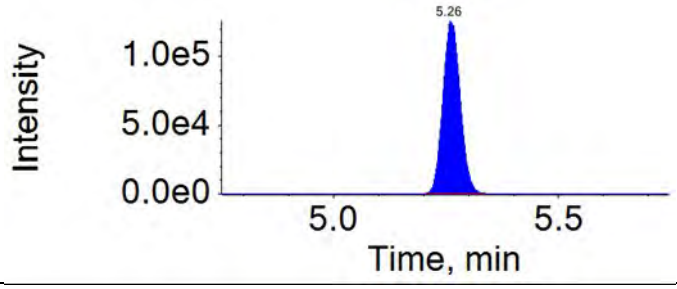
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



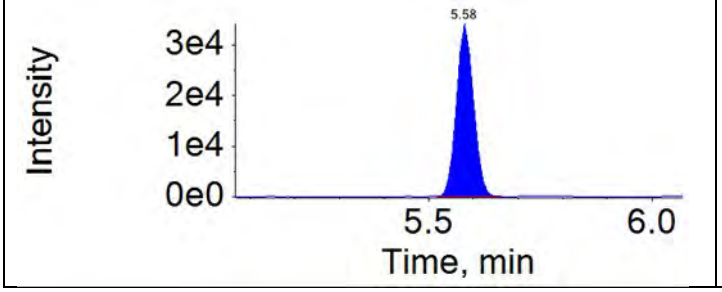


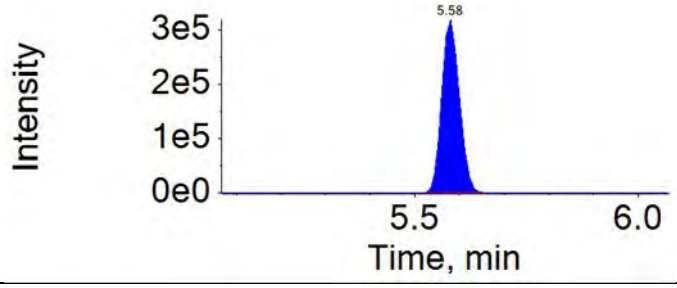
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



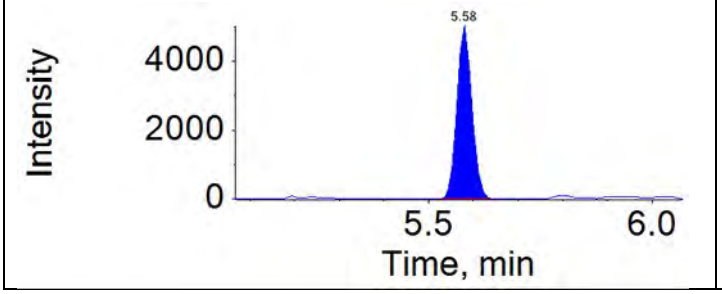


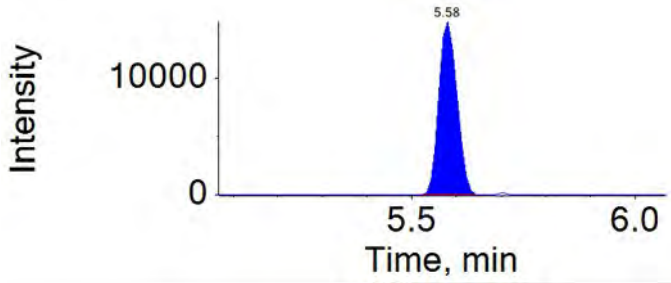
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

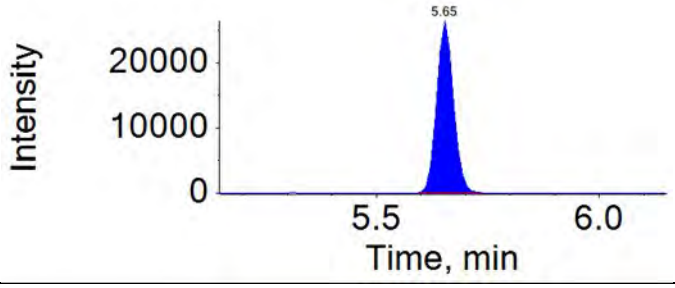
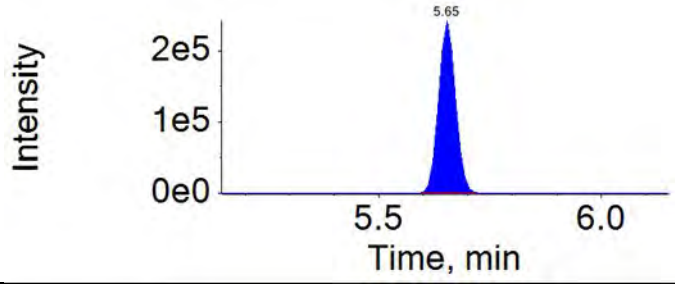


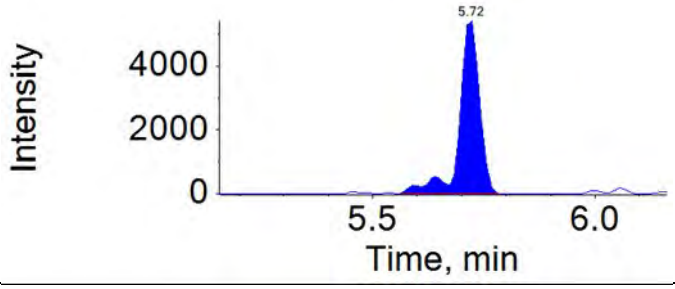
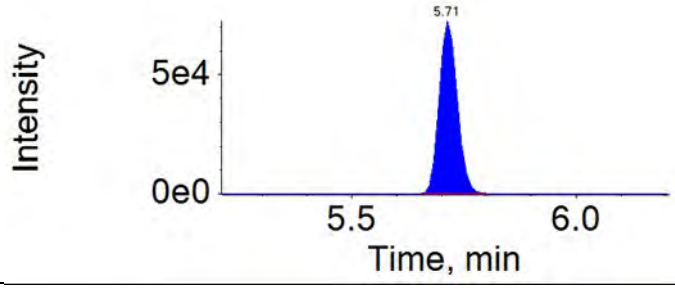


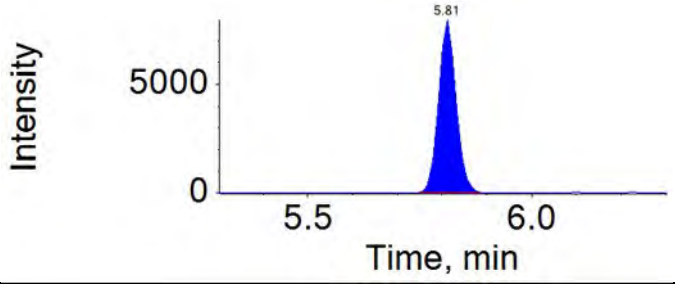
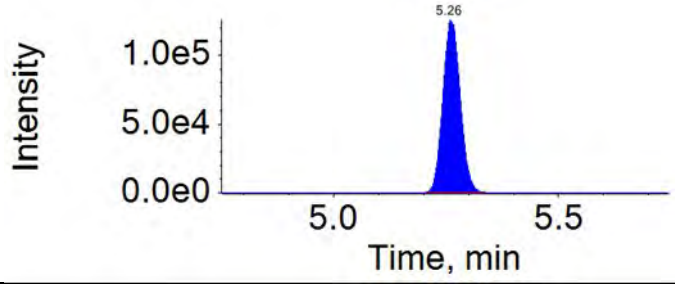
APPROVED
By MCD at 7:31 pm, 12/19/18

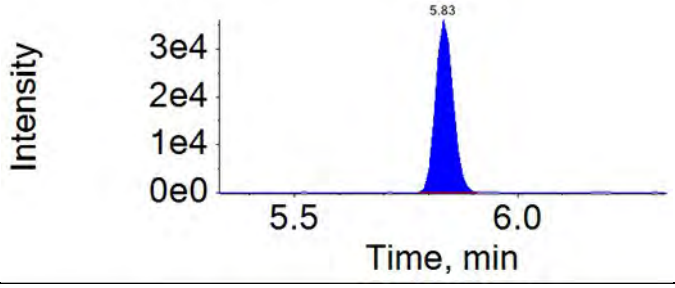
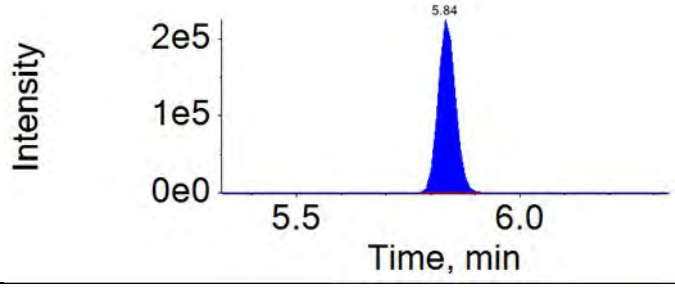
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

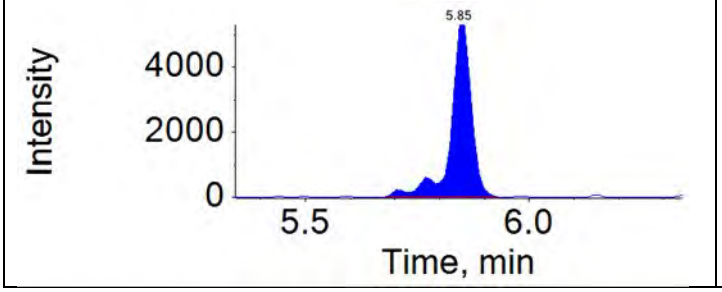
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

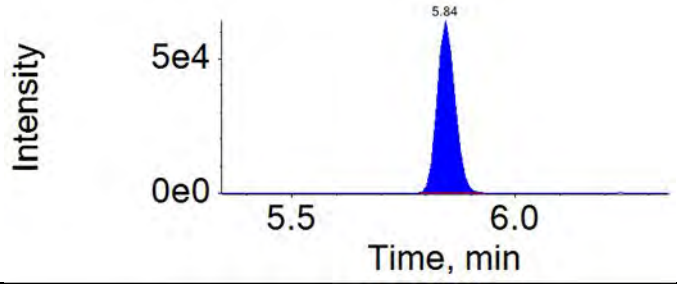
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

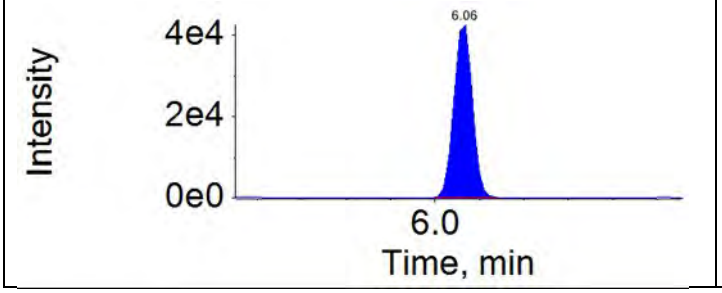
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

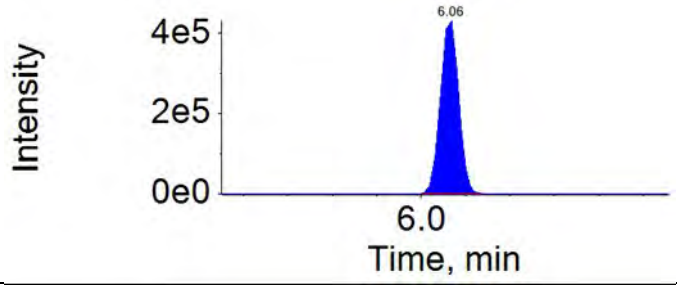
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



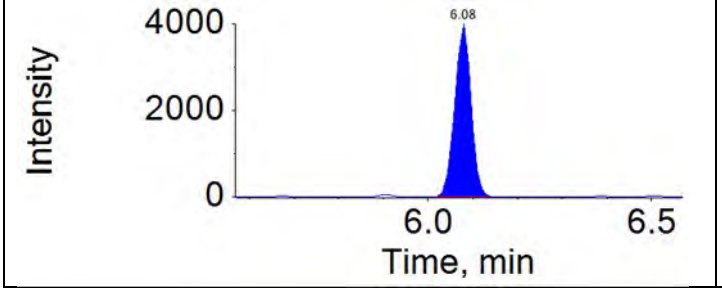


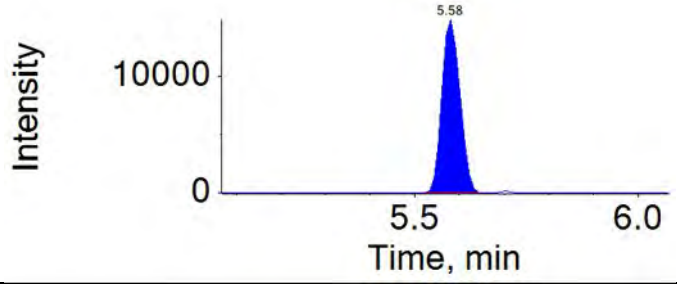
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



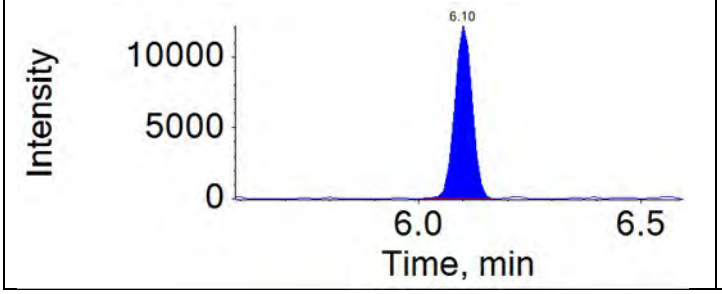


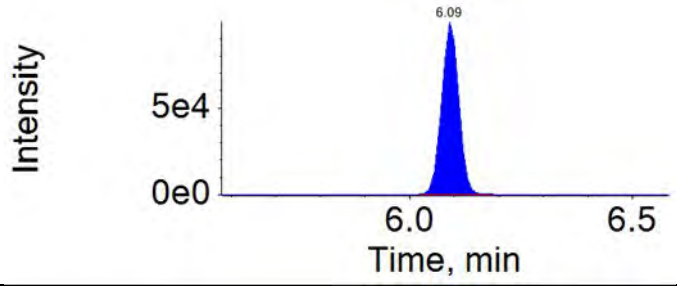
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

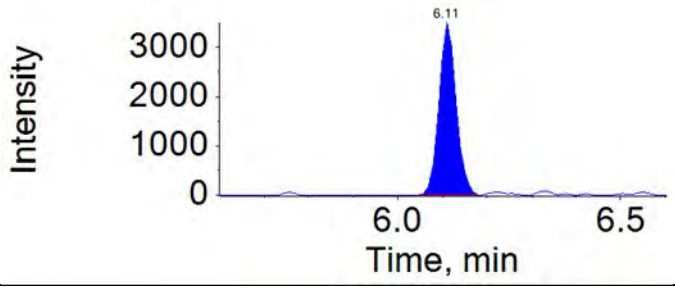
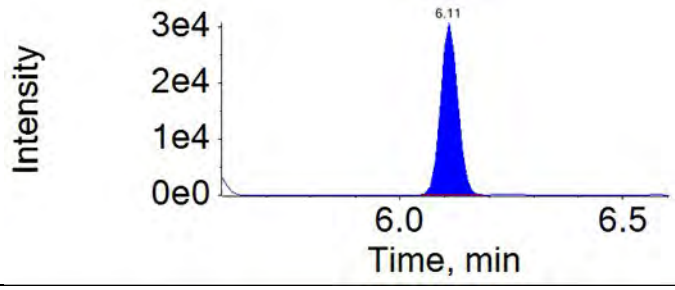


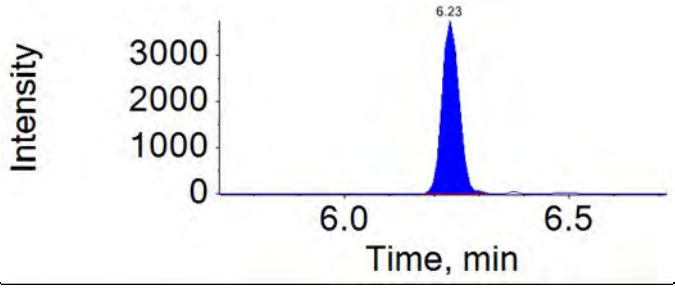
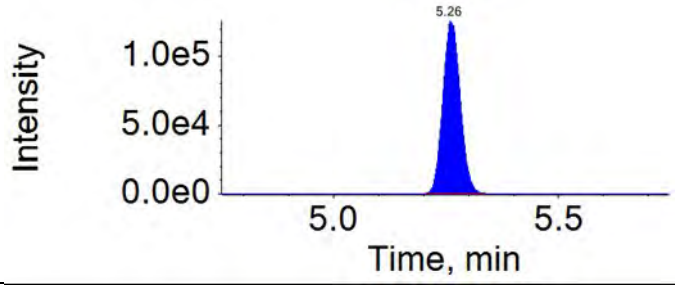


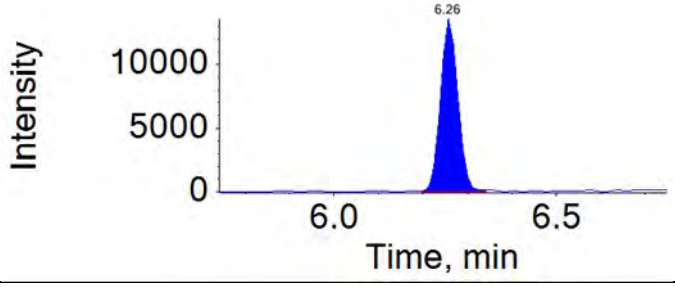
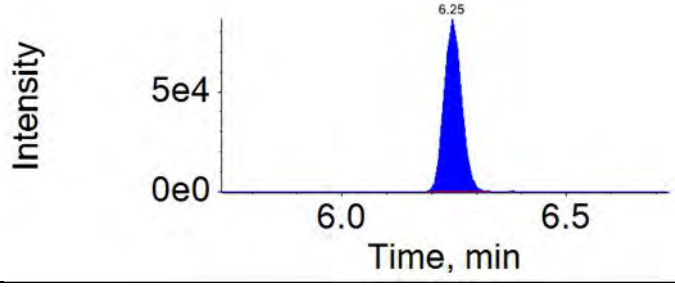
APPROVED
By MCD at 7:31 pm, 12/19/18

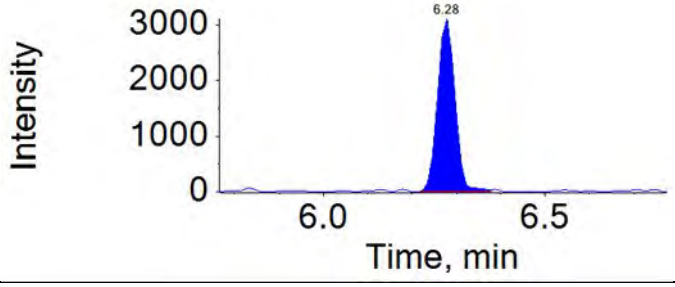
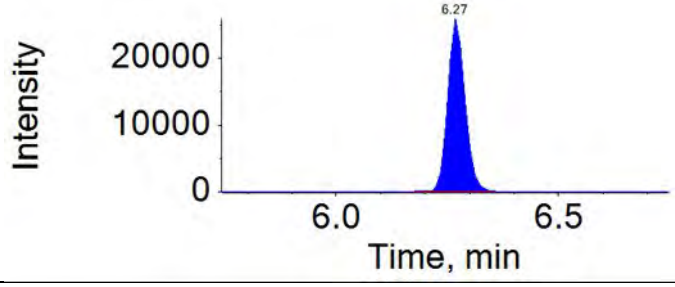
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

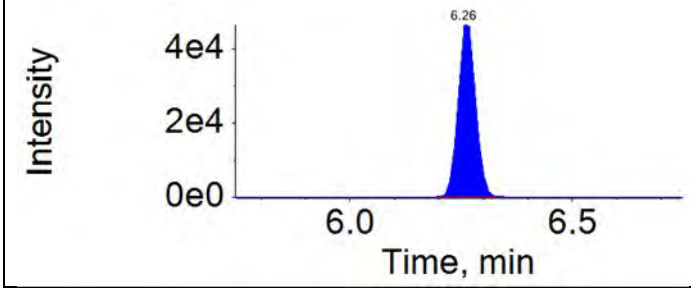
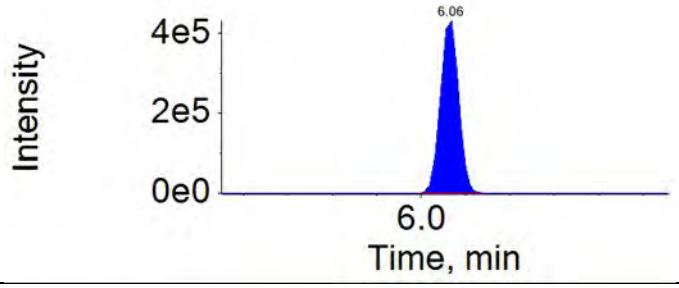
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0
	

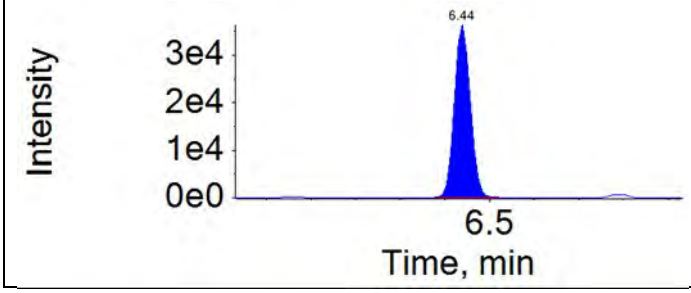
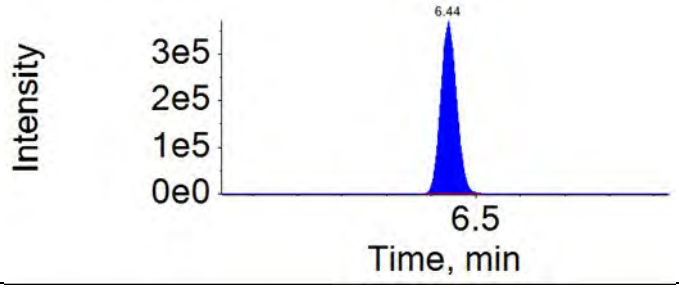
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0
	

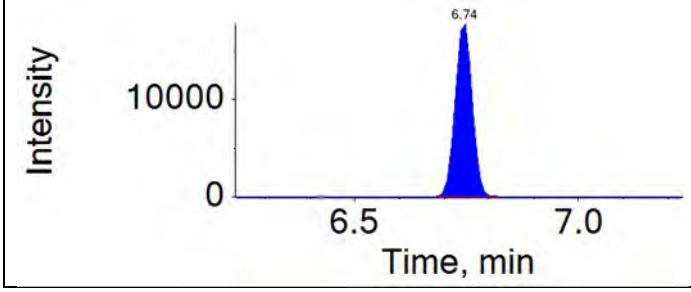
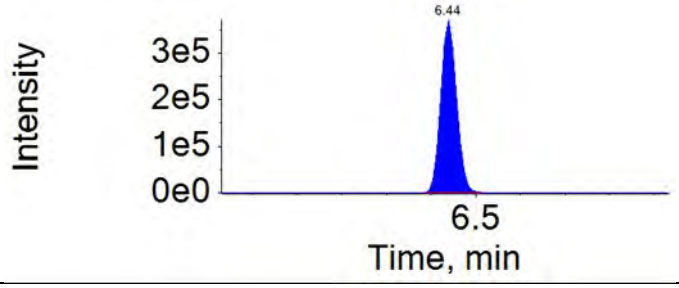
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0
	

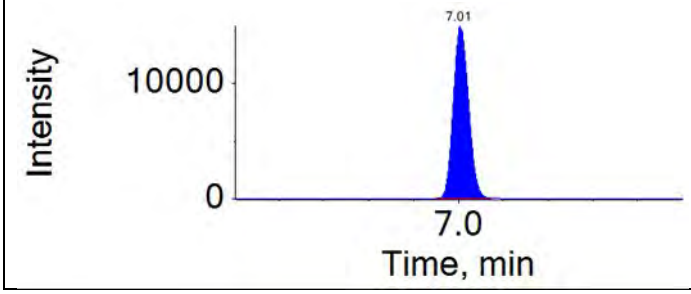
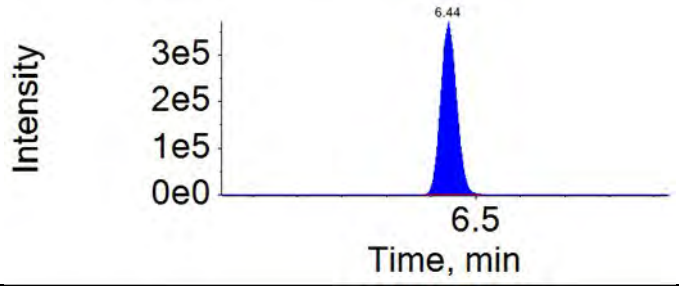
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

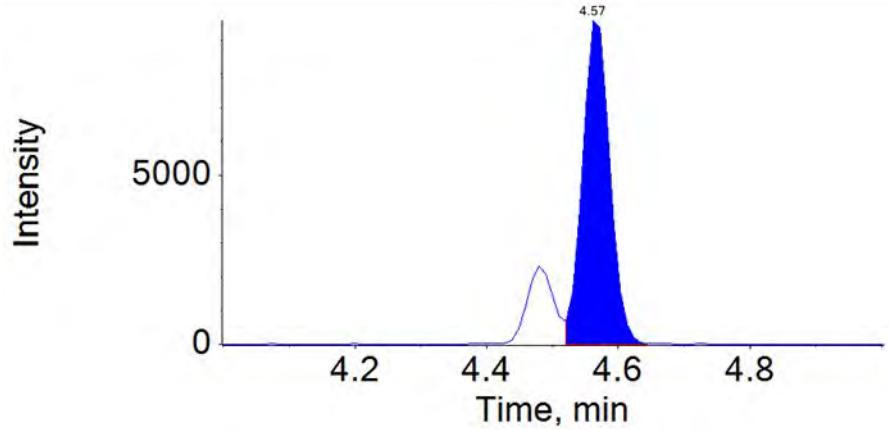
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

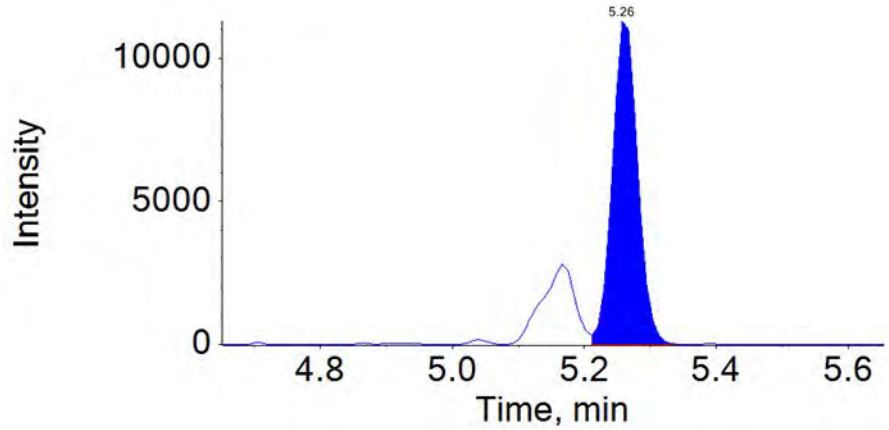
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.57
Peak Area:
27770.0
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



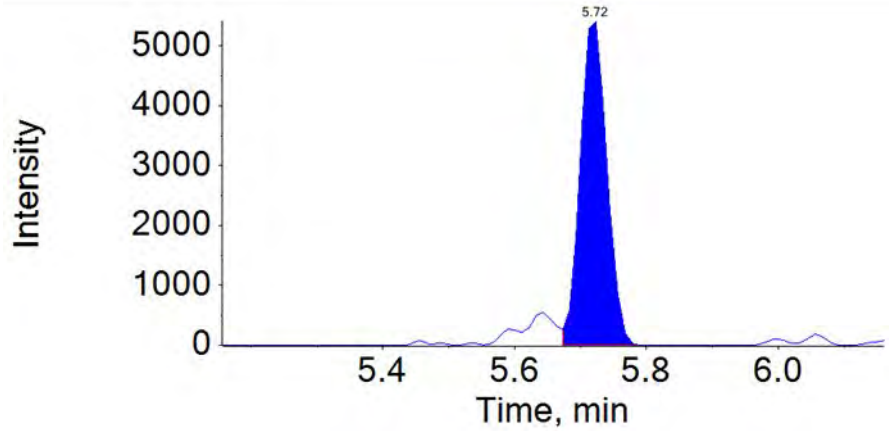
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.26
Peak Area:
30092.9
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.72
Peak Area:
15221.8
Mass Range:
570.0 / 419.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



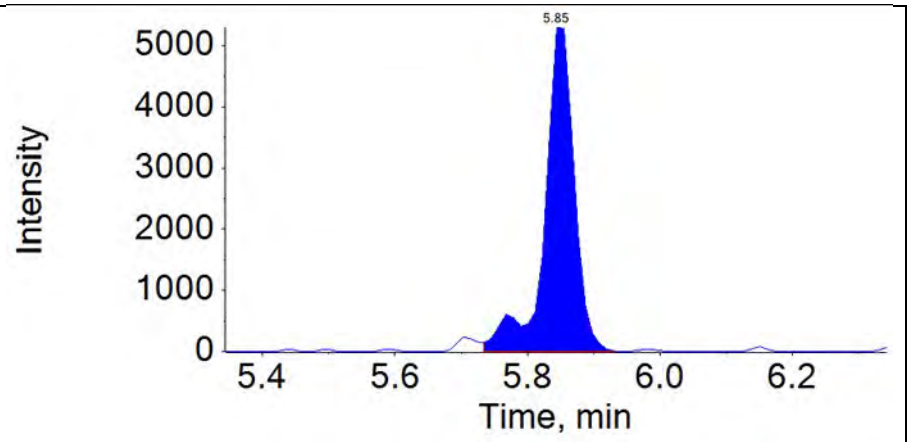
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

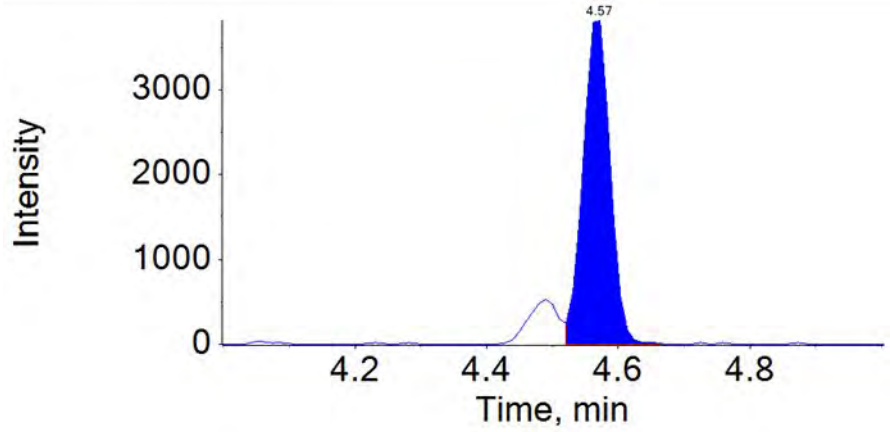
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.85
Peak Area:
16784.2
Mass Range:
584.0 / 419.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



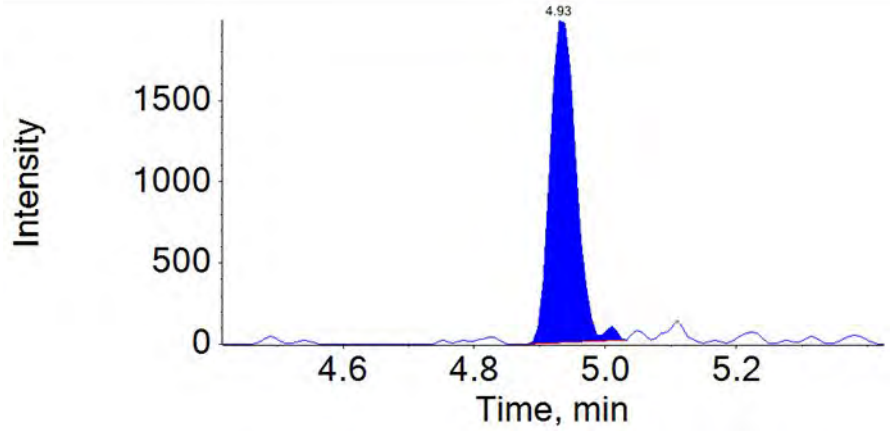
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.57
Peak Area:
11034.0
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.93
Peak Area:
5484.7
Mass Range:
413.0 / 169.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



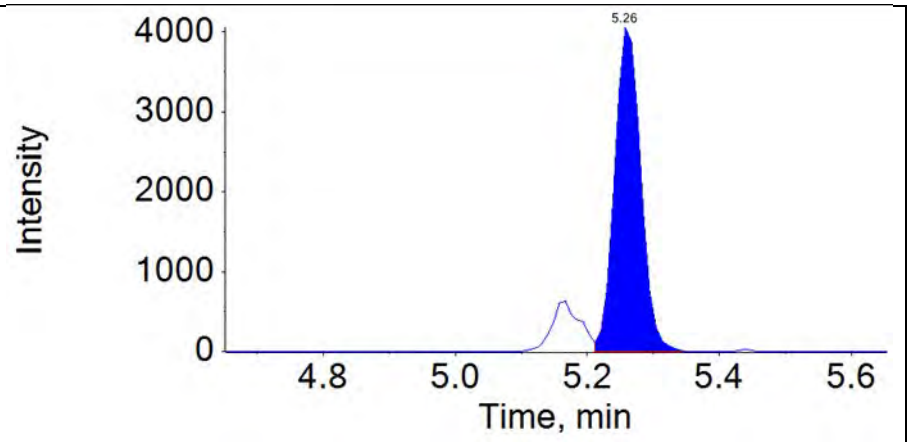
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

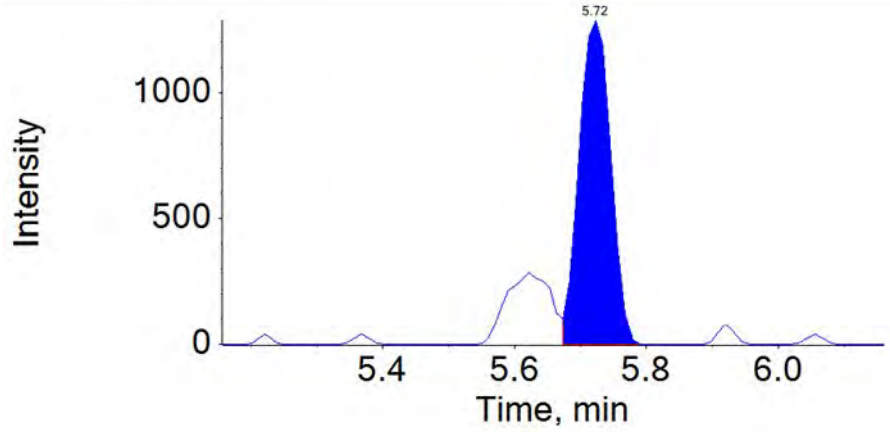
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFOS_2
RT (min.): 5.26
Peak Area: 11183.9
Mass Range: 499.0 / 99.0
File Name: 18DEC19D-05.wiff
Sample Name: CCV1_ISC_CAL2



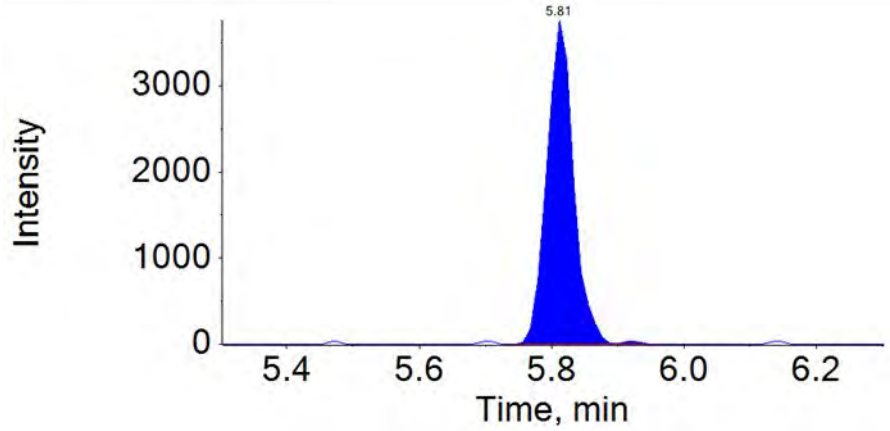
Integration Comment: incorrect integration

Component Name: NMeFOSAA_2
RT (min.): 5.72
Peak Area: 4300.4
Mass Range: 570.0 / 483.0
File Name: 18DEC19D-05.wiff
Sample Name: CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name: PFDS_2
RT (min.): 5.81
Peak Area: 10629.3
Mass Range: 599.0 / 99.0
File Name: 18DEC19D-05.wiff
Sample Name: CCV1_ISC_CAL2



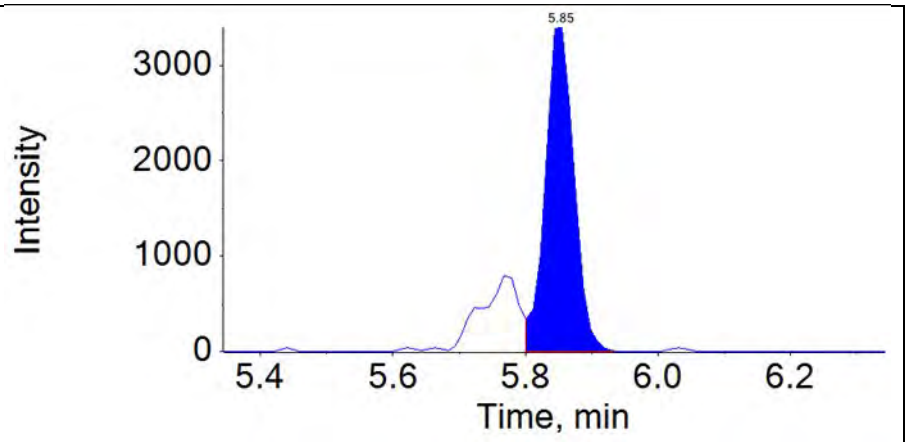
Integration Comment: incorrect integration

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By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.85
Peak Area:
10282.2
Mass Range:
584.0 / 526.0
File Name:
18DEC19D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Ion Ratio Report

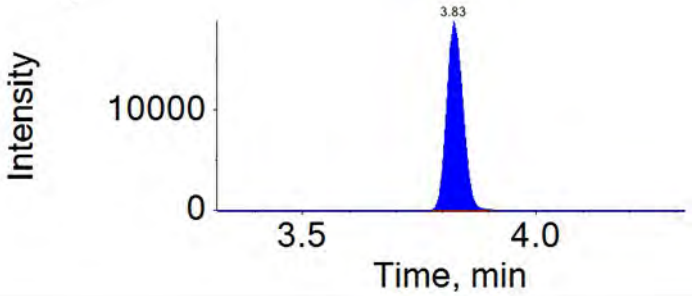
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC19D-05.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.83	1.00	44925.3	A	N/A	0.3610			
PFBS_2	3.83	1.00	16217.5	A	N/A	0.3610	-1	50	
4:2-FTS	4.14	1.00	11736.4	A	N/A	0.6490			
4:2-FTS_2	4.14	1.00	7616.8	A	N/A	0.6490	7	50	
PFHxA	4.18	1.00	107079.2	A	N/A	0.0116			
PFHxA_2	4.18	1.00	1237.4	A	N/A	0.0116	6	50	
PFPeS	4.20	1.10	22247.6	A	N/A	0.5216			
PFPeS_2	4.19	1.10	11604.2	A	N/A	0.5216	-1	50	
PFHpA	4.56	1.00	103683.1	A	N/A	0.0665			
PFHpA_2	4.57	1.00	6897.7	A	N/A	0.0665	27	50	
PFHxS	4.57	1.00	34370.8	M	N/A	0.3693			
PFHxS_2	4.57	1.00	12694.2	M	N/A	0.3693	12	50	
6:2-FTS	4.92	1.00	12373.1	A	N/A	0.6331			
6:2-FTS_2	4.92	1.00	7833.6	A	N/A	0.6331	0	50	
PFHpS	4.93	1.08	33553.7	A	N/A	0.4419			
PFHpS_2	4.93	1.08	14826.8	A	N/A	0.4419	7	50	
PFOA	4.93	1.00	114562.0	A	N/A	0.0476			
PFOA_2	4.93	1.00	5452.7	M	N/A	0.0476	-16	50	
PFOS	5.26	1.00	40193.8	M	N/A	0.3250			
PFOS_2	5.26	1.00	13063.4	M	N/A	0.3250	10	50	
PFNA	5.28	1.00	97577.3	A	N/A	0.0212			
PFNA_2	5.28	1.00	2068.8	A	N/A	0.0212	0	50	
PFNS	5.56	1.06	26611.4	A	N/A	0.3935			
PFNS_2	5.56	1.06	10471.7	A	N/A	0.3935	-15	50	
PFDA	5.58	1.00	90078.4	A	N/A	0.0126			
PFDA_2	5.59	1.00	1131.9	A	N/A	0.0126	111	50	OOS
8:2-FTS	5.58	1.00	11537.9	A	N/A	0.6891			
8:2-FTS_2	5.58	1.00	7951.2	A	N/A	0.6891	18	50	
NMeFOSAA	5.72	1.00	17242.8	M	N/A	0.3274			
NMeFOSAA_2	5.72	1.00	5645.7	M	N/A	0.3274	26	50	
PFDS	5.81	1.10	21511.2	A	N/A	0.4910			
PFDS_2	5.81	1.10	10561.2	M	N/A	0.4910	-1	50	
PFUnDA	5.83	1.00	97436.6	A	N/A	0.0087			
PFUnDA_2	5.84	1.00	844.7	A	N/A	0.0087	173	50	OOS
NEtFOSAA	5.85	1.00	17285.4	M	N/A	0.7776			
NEtFOSAA_2	5.85	1.00	13441.7	M	N/A	0.7776	14	50	
PFDoDA	6.06	1.00	123420.5	A	N/A	0.0146			
PFDoDA_2	6.06	1.00	1806.8	A	N/A	0.0146	17	50	
10:2-FTS	6.08	1.09	9993.2	A	N/A	0.8305			
10:2-FTS_2	6.08	1.09	8298.9	A	N/A	0.8305	19	50	
PFTrDA	6.26	1.03	129114.4	A	N/A	0.0076			
PFTrDA_2	6.27	1.03	976.2	A	N/A	0.0076	-14	50	
PFTeDA	6.44	1.00	90148.4	A	N/A	0.0073			
PFTeDA_2	6.44	1.00	661.1	A	N/A	0.0073	35	50	
PFHxDA	6.74	1.05	47073.3	A	N/A	0.0633			
PFHxDA_2	6.74	1.05	2978.3	A	N/A	0.0633	-4	50	
PFODA	7.01	1.09	35177.4	A	N/A	0.0245			
PFODA_2	7.01	1.09	861.0	A	N/A	0.0245	-10	50	

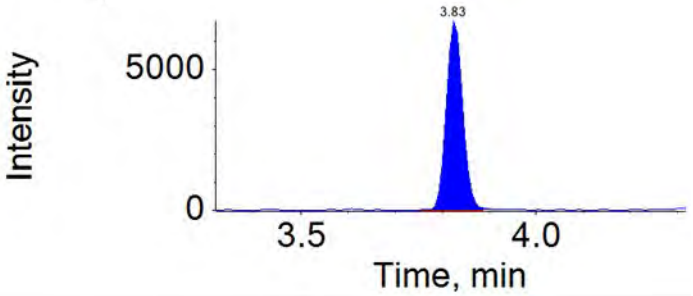
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

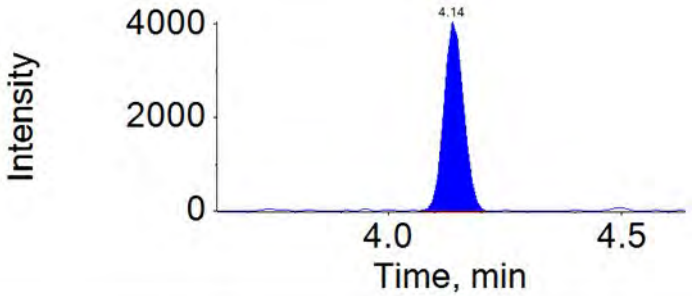
Component: PFBS
Primary Mass: 299.0 / 80.0



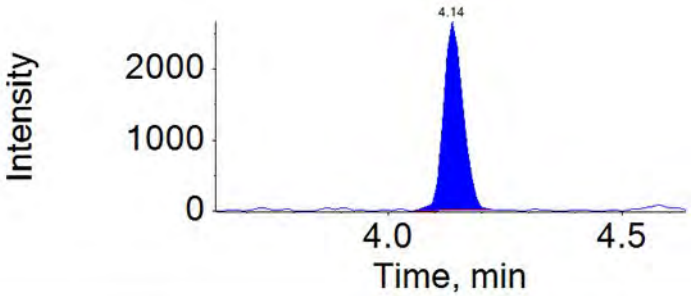
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



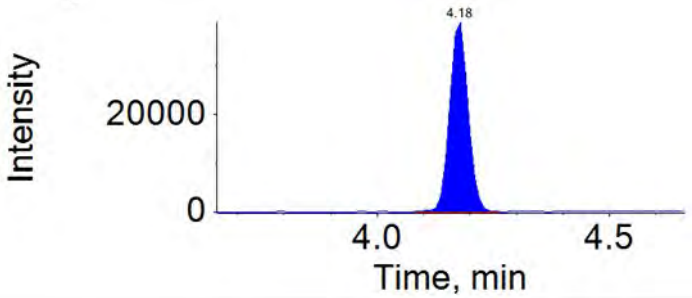
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



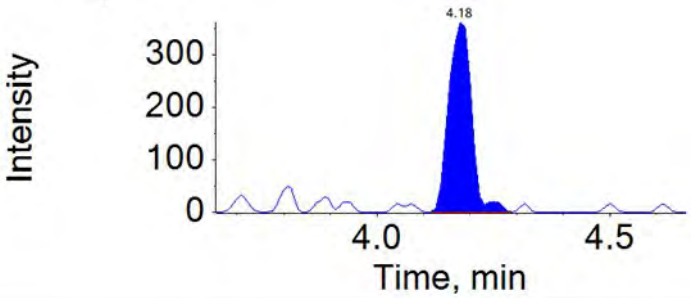
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



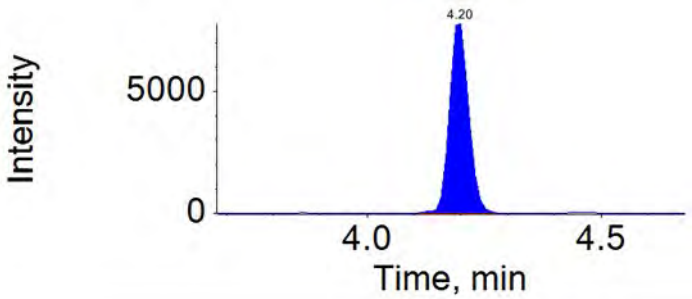
Component: PFHxA
Primary Mass: 313.0 / 269.0



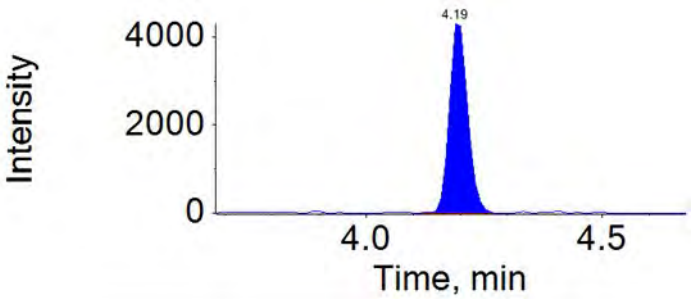
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



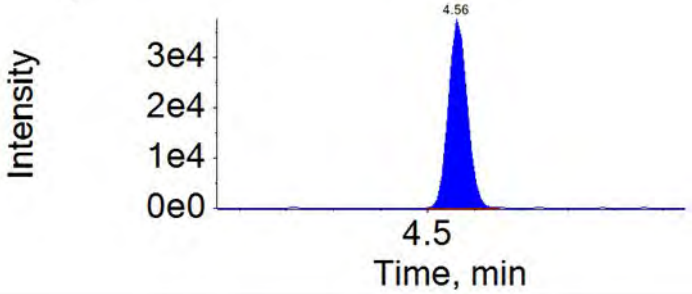
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



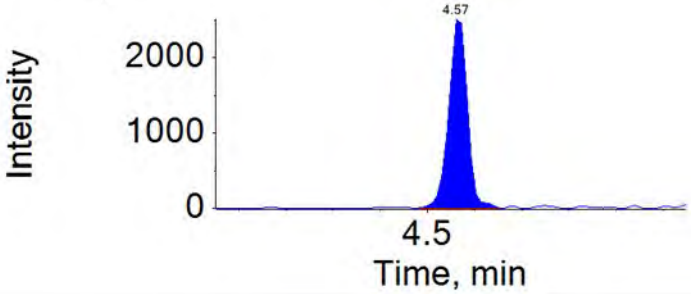
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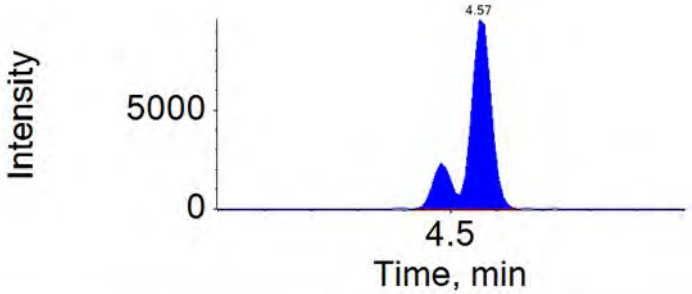
Component: PFHpA
Primary Mass: 363.0 / 319.0



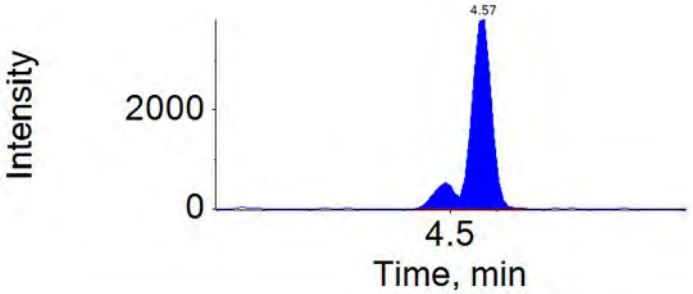
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



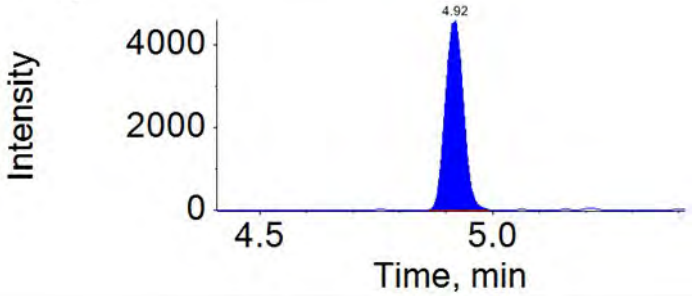
Component: PFHxS
Primary Mass: 399.0 / 80.0



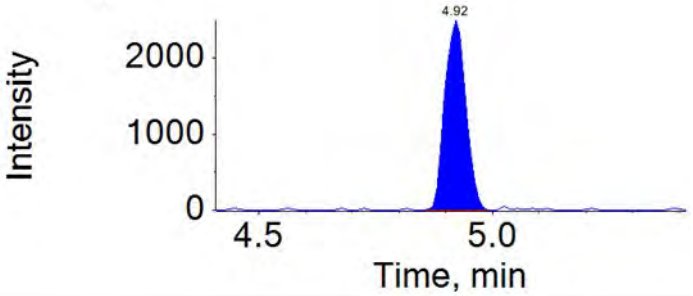
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



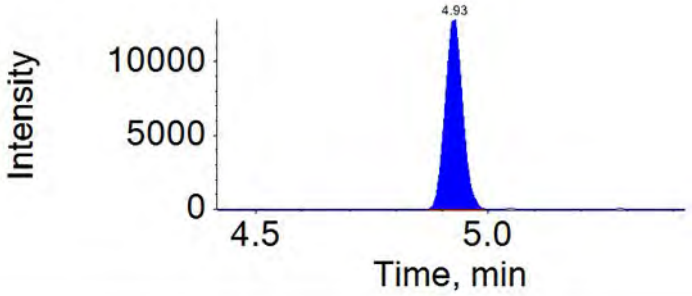
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



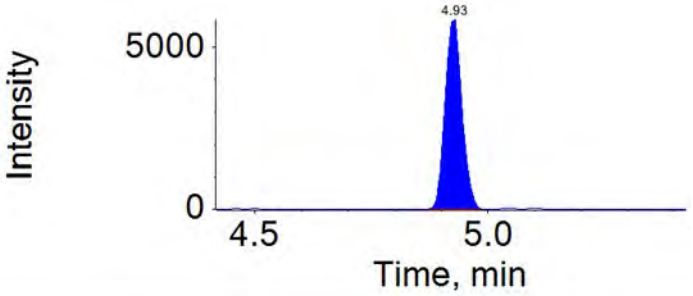
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



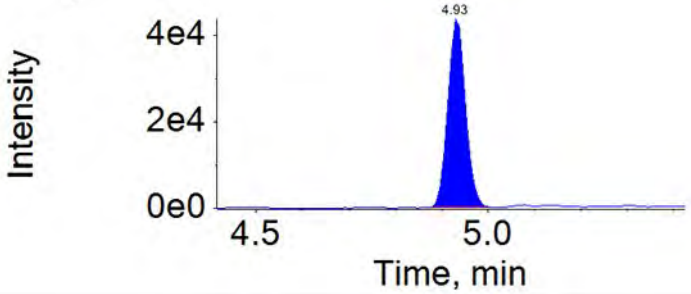
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



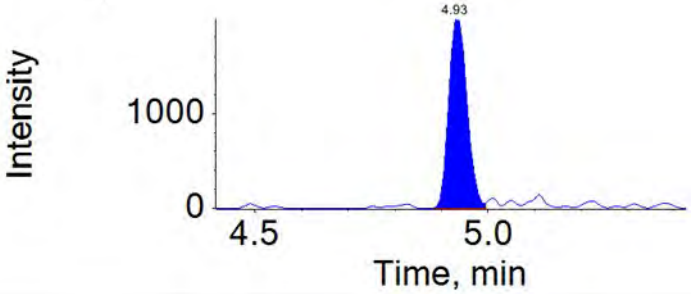
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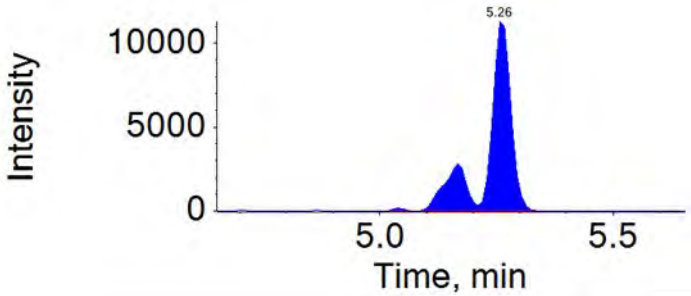
Component: PFOA
Primary Mass: 413.0 / 369.0



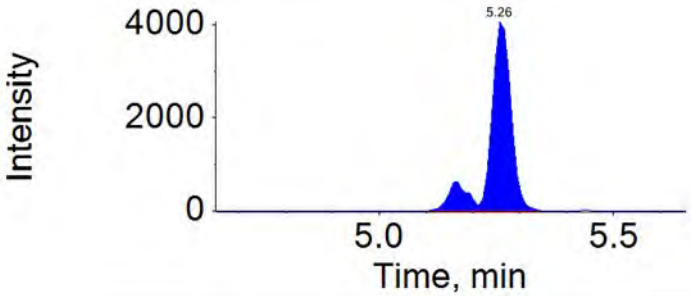
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



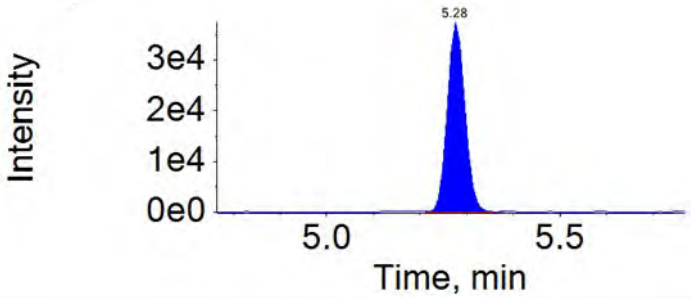
Component: PFOS
Primary Mass: 499.0 / 80.0



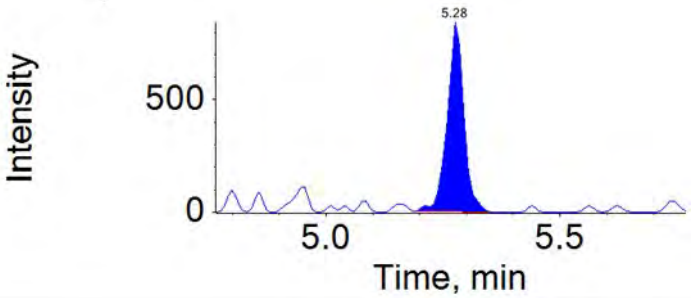
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



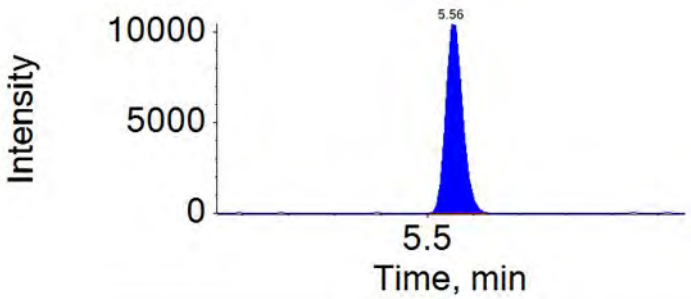
Component: PFNA
Primary Mass: 463.0 / 419.0



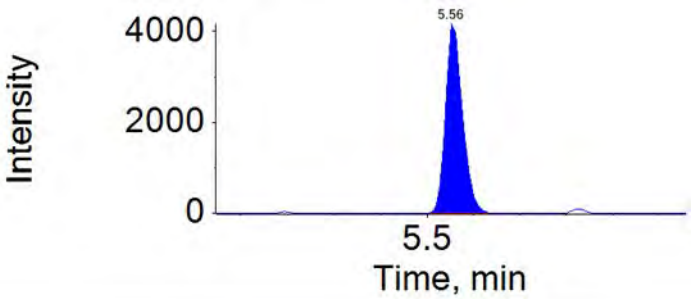
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



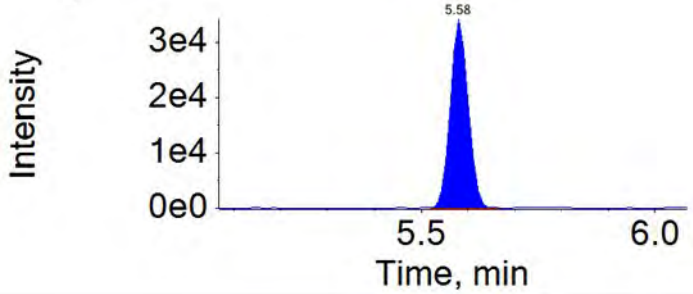
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



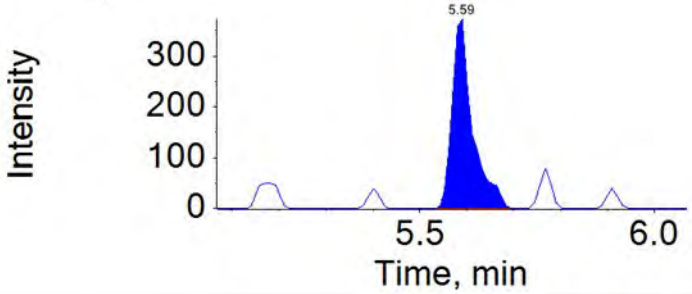
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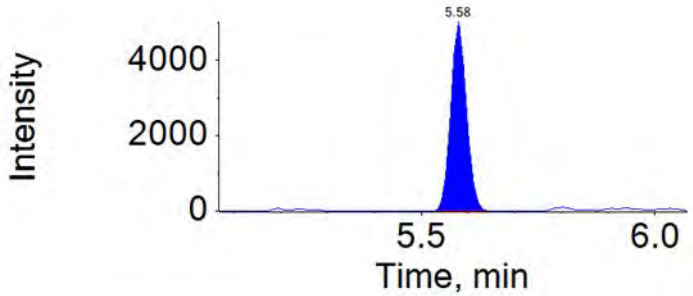
Component: PFDA
Primary Mass: 513.0 / 469.0



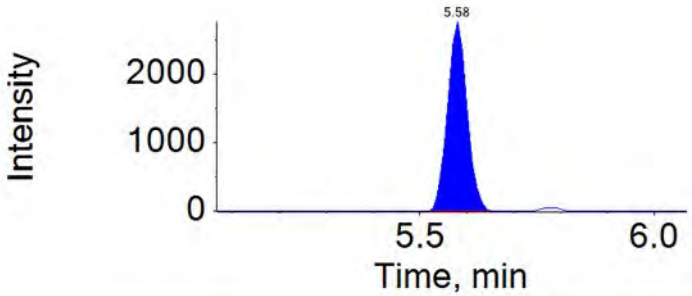
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



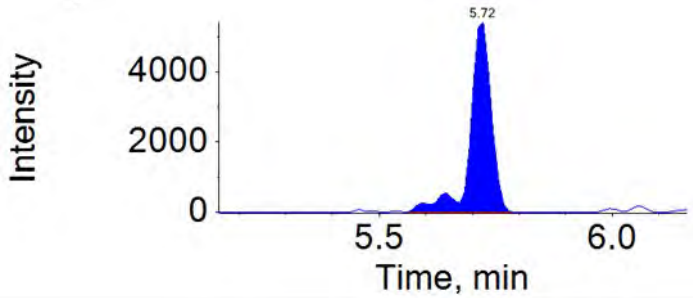
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



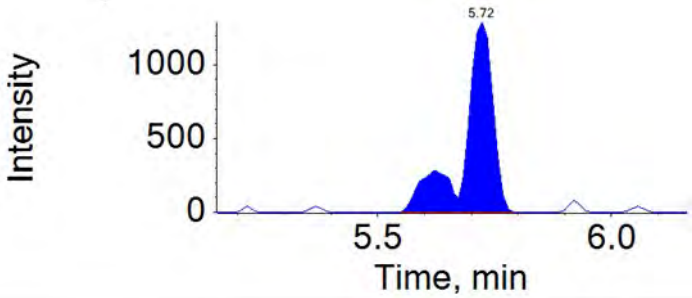
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



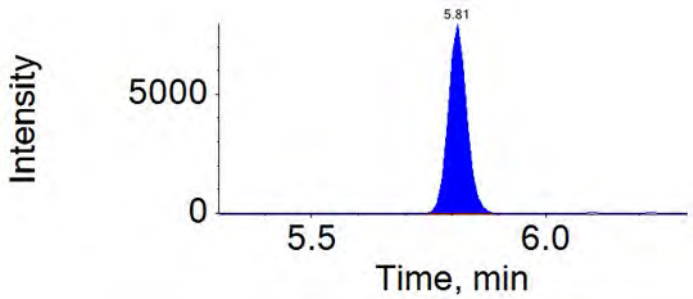
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



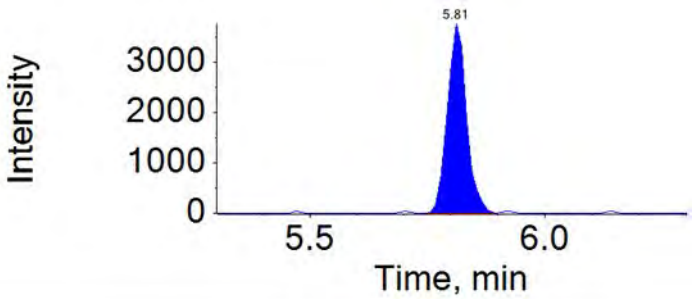
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



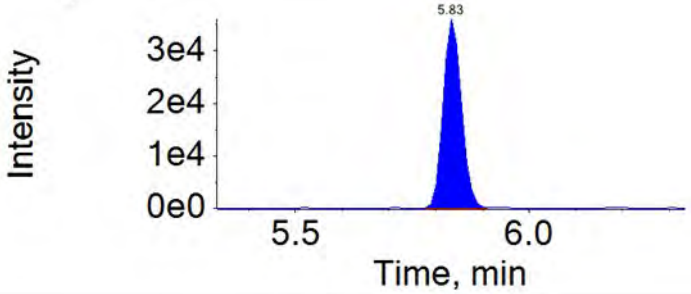
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Secondary Mass: 599.0 / 99.0



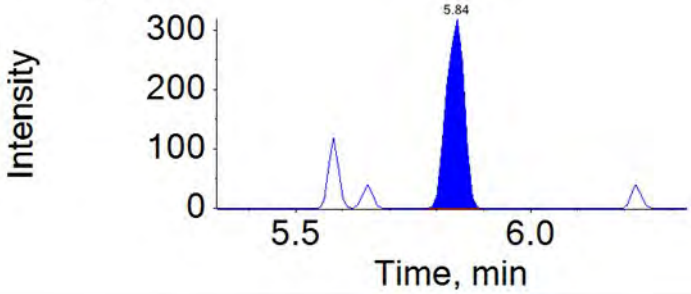
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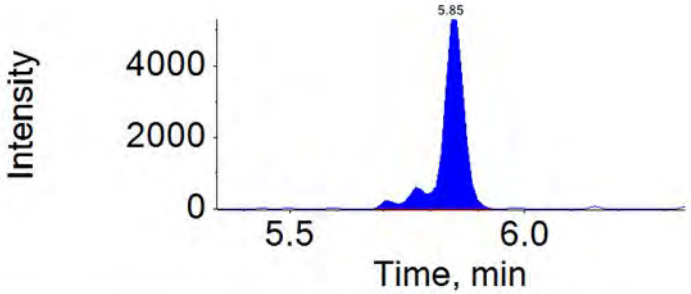
Component: PFUnDA
Primary Mass: 563.0 / 519.0



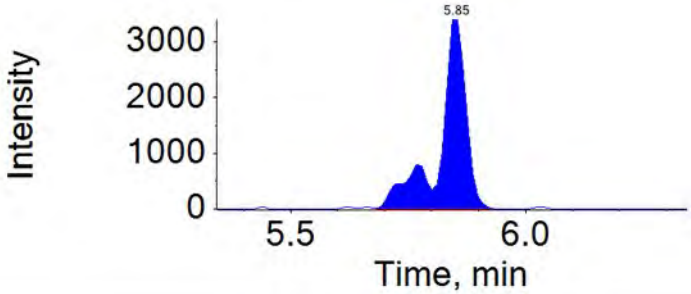
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



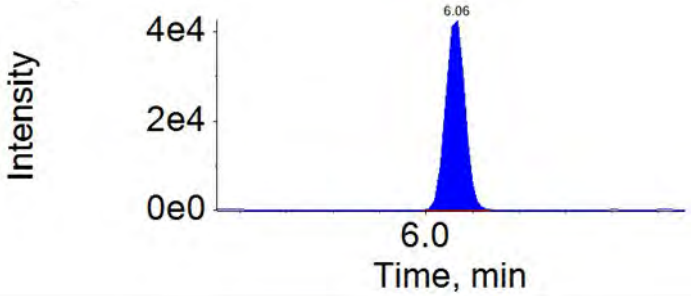
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



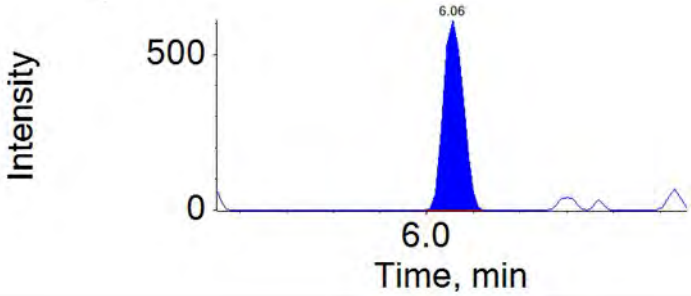
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



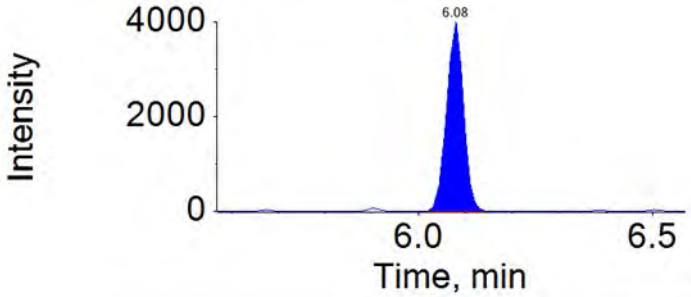
Component: PFDoDA
Primary Mass: 613.0 / 569.0



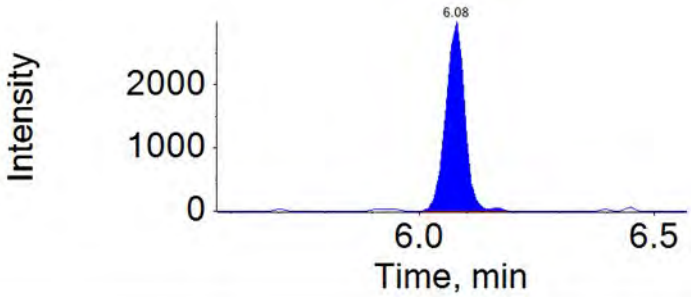
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



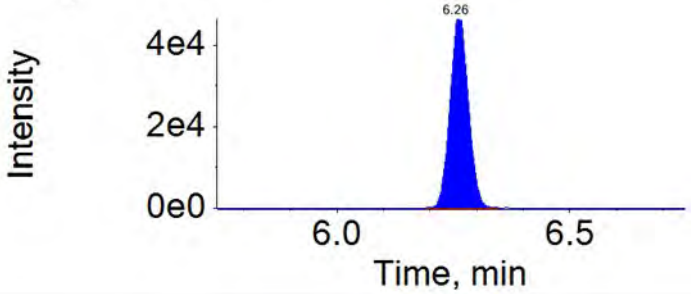
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



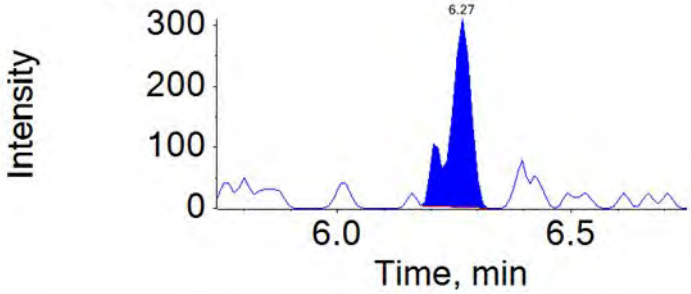
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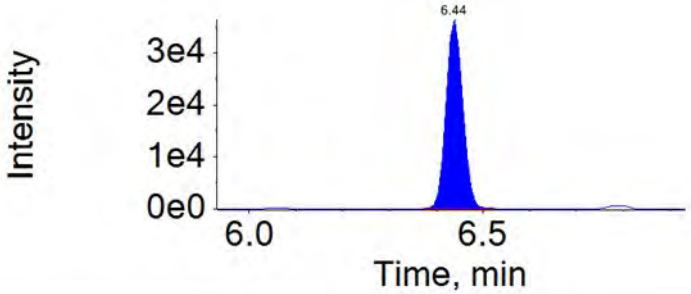
Component: PFTrDA
Primary Mass: 663.0 / 619.0



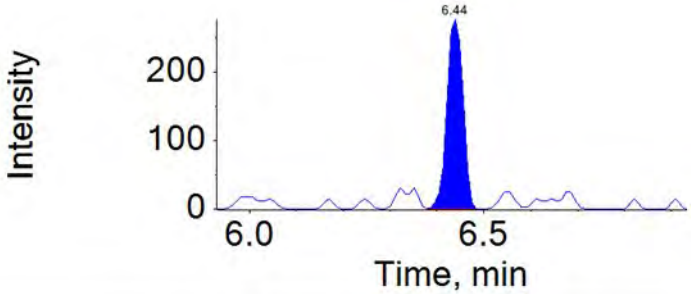
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Secondary Mass: 663.0 / 169.0



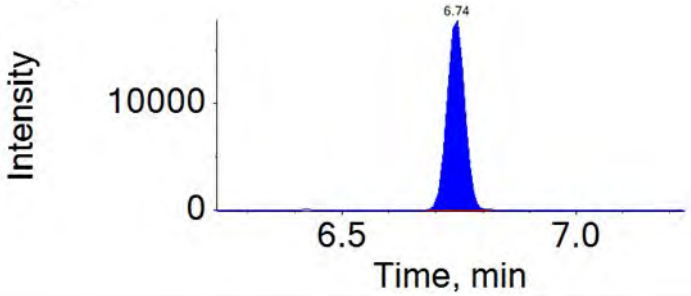
Component: PFTeDA
Primary Mass: 713.0 / 669.0



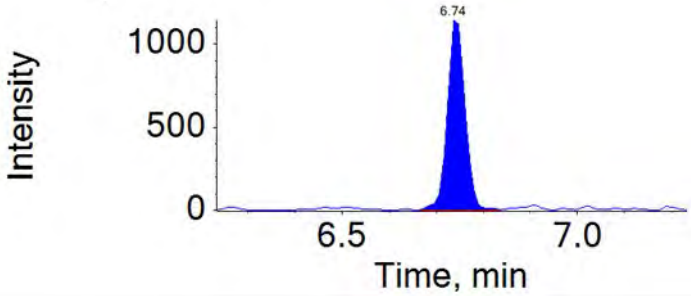
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



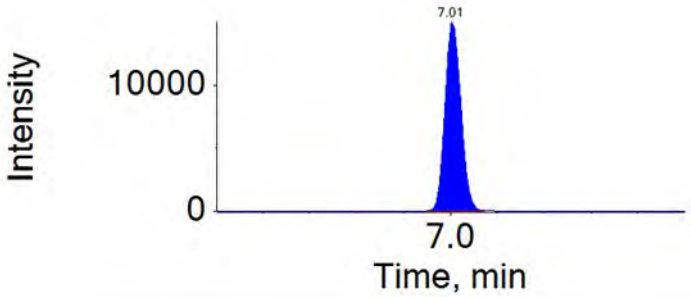
Component: PFHxDA
Primary Mass: 813.0 / 769.0



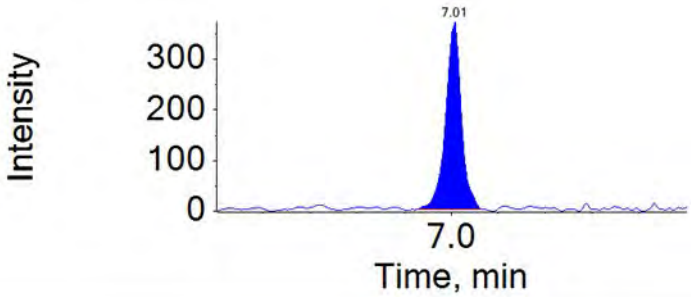
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument blank			**Data File:**		18DEC19D-06.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-12-19T10:52:56
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC19DCCV1-5
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1065859.6	942675.8	13	50	
13C2-PFOA	5.0	609460.8	520268.5	17	50	
13C4-PFOS	4.8	342305.3	307968.9	11	50	
13C2-PFDA	5.0	561481.4	487375.3	15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1168579.9	13C3-PFBA	1065859.6	1.096	5.000	4.855	97	70-130	
E13C5-PFPeA	1104717.7	13C3-PFBA	1065859.6	1.036	5.000	4.833	97	70-130	
E13C3-PFBS	459920.1	13C3-PFBA	1065859.6	0.432	4.650	4.202	90	70-130	
E13C2-4:2-FTS	66944.3	13C2-PFOA	609460.8	0.110	4.670	4.172	89	70-130	
E13C5-PFHxA	810344.6	13C2-PFOA	609460.8	1.330	5.000	4.756	95	70-130	
E13C3-PFHxS	355337.3	13C2-PFOA	609460.8	0.583	4.730	4.412	93	70-130	
E13C4-PFHpA	633375.9	13C2-PFOA	609460.8	1.039	5.000	4.489	90	70-130	
E13C2-6:2-FTS	53536.4	13C2-PFOA	609460.8	0.088	4.750	4.420	93	70-130	
E13C8-PFOA	1145930.7	13C2-PFOA	609460.8	1.880	5.000	5.170	103	70-130	
E13C8-PFOS	350938.0	13C4-PFOS	342305.3	1.025	4.780	4.585	96	70-130	
E13C9-PFNA	700684.7	13C4-PFOS	342305.3	2.047	5.000	4.657	93	70-130	
E13C6-PFDA	996746.8	13C2-PFDA	561481.4	1.775	5.000	5.057	101	70-130	
E13C2-8:2-FTS	49207.1	13C2-PFDA	561481.4	0.088	4.790	4.517	94	70-130	
E13C8-PFOSA	755686.1	13C2-PFDA	561481.4	1.346	5.000	5.241	105	70-130	
Ed3-NMeFOSAA	269891.4	13C2-PFDA	561481.4	0.481	5.000	5.288	106	70-130	
E13C7-PFUnDA	640215.1	13C2-PFDA	561481.4	1.140	5.000	4.773	95	70-130	
Ed5-NEtFOSAA	187271.4	13C2-PFDA	561481.4	0.334	5.000	4.914	98	70-130	
E13C2-PFDoDA	1343218.4	13C2-PFDA	561481.4	2.392	5.000	5.033	101	70-130	
Ed7-NMePFOSAE	269906.1	13C2-PFDA	561481.4	0.481	5.000	4.295	86	70-130	
Ed3-NMePFOSA	92114.7	13C2-PFDA	561481.4	0.164	5.000	4.508	90	70-130	
Ed9-NEtPFOSAE	257907.1	13C2-PFDA	561481.4	0.459	5.000	4.696	94	70-130	
Ed5-NEtPFOSA	77073.0	13C2-PFDA	561481.4	0.137	5.000	4.761	95	70-130	
E13C2-PFTeDA	957950.1	13C2-PFDA	561481.4	1.706	5.000	4.808	96	70-130	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

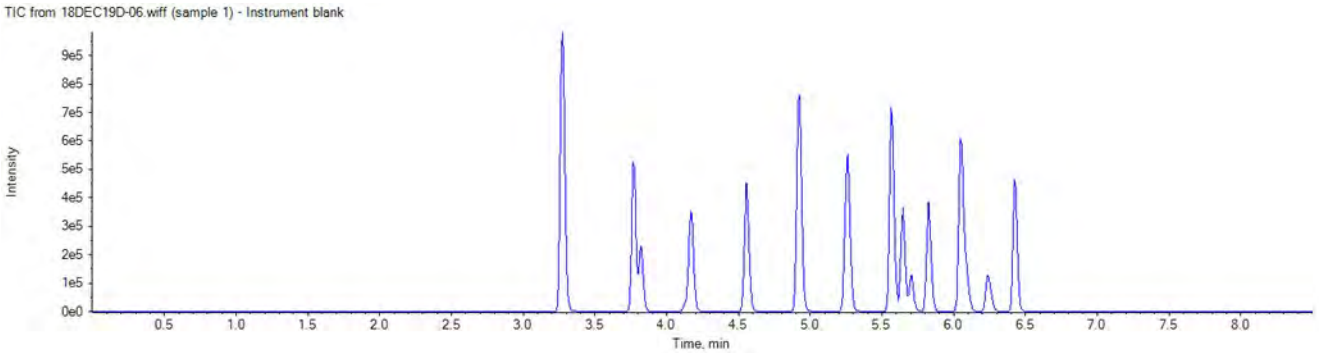
Analyte Quantitation Peak Table

Sample Name: Instrument blank **Instrument Name:** LM27631 **File Name:** 18DEC19D-06.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.27	1168579.9	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	1104717.7	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	459920.1	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	66944.3	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	810344.6	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	459920.1	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.56	633375.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	355337.3	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	53536.4	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	355337.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	1145930.7	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	350938.0	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	700684.7	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	350938.0	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	996746.8	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	49207.1	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	755686.1	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	269891.4	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	350938.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	640215.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	187271.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1343218.4	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	49207.1	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	269906.1	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.10	92114.7	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	350938.0	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	257907.1	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	77073.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1343218.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	957950.1	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	957950.1	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	957950.1	N/A	

Total Ion Chromatogram

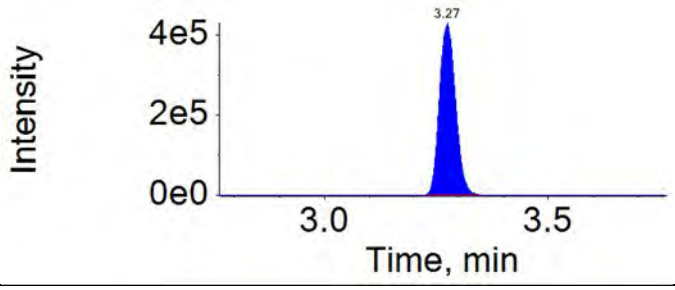


APPROVED
By MCD at 7:32 pm, 12/19/18

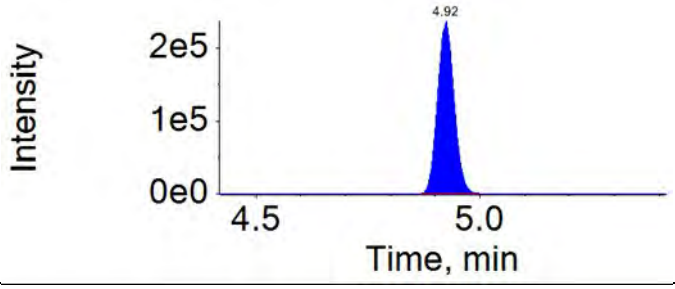
REVIEWED
By umar at 2:10 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

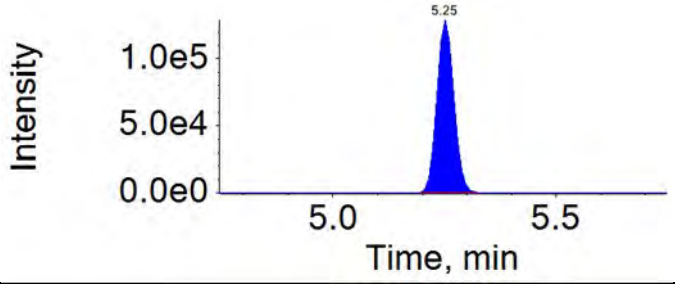
Injection Standard: 13C3-PFBA
216.0 / 172.0



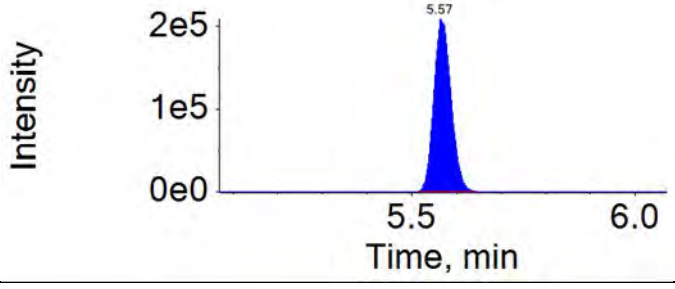
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

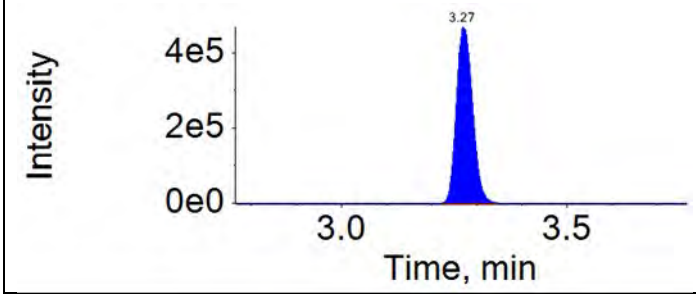


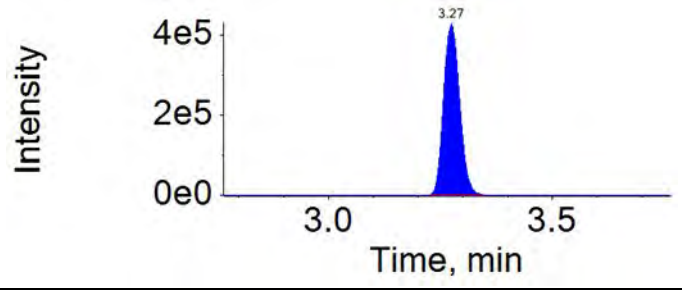
Injection Standard: 13C2-PFDA
515.0 / 470.0



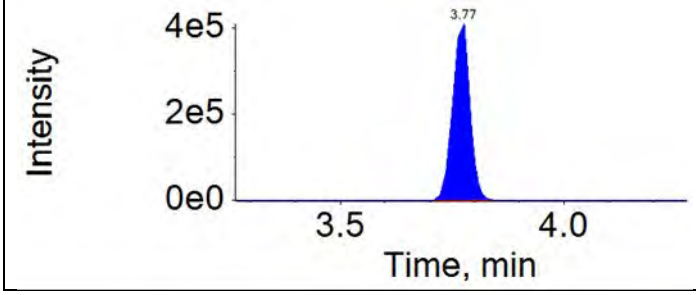
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

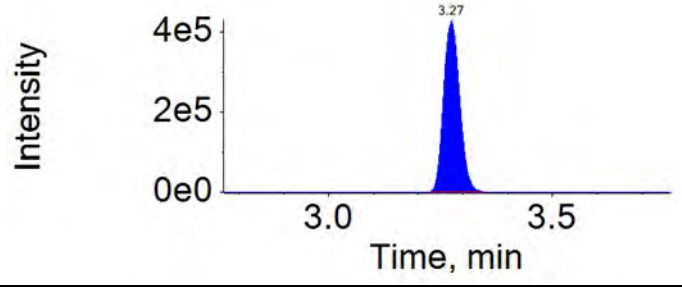
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



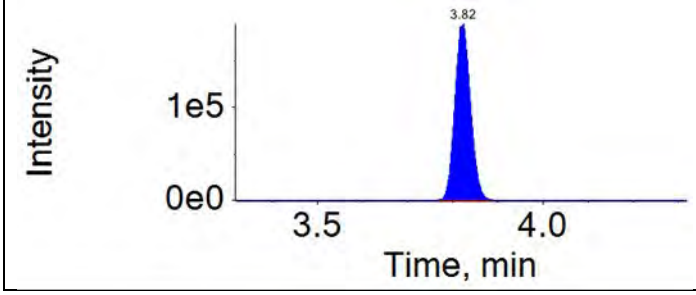


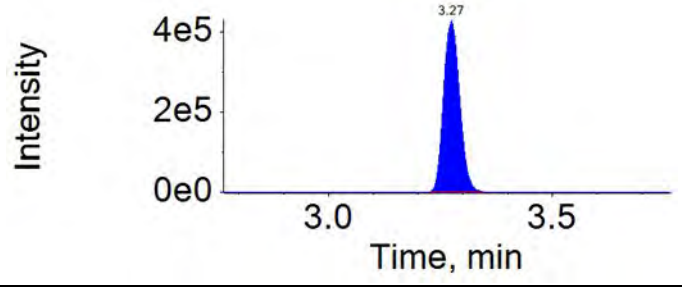
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



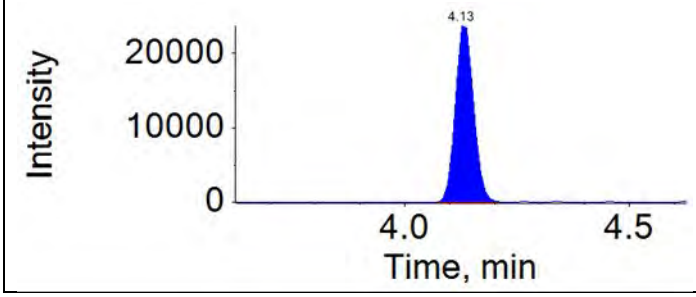


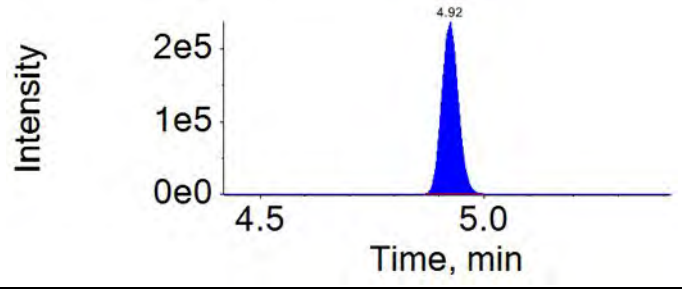
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





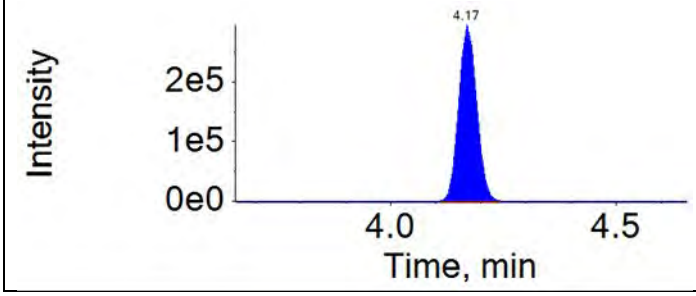
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

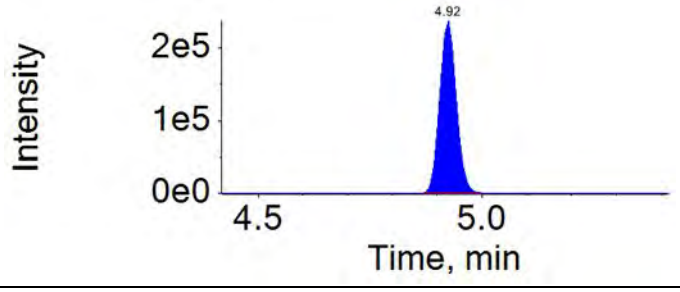




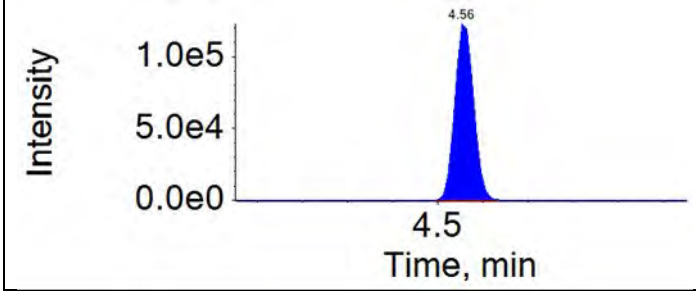
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

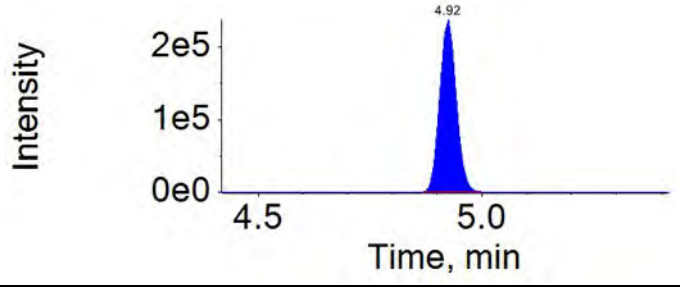
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



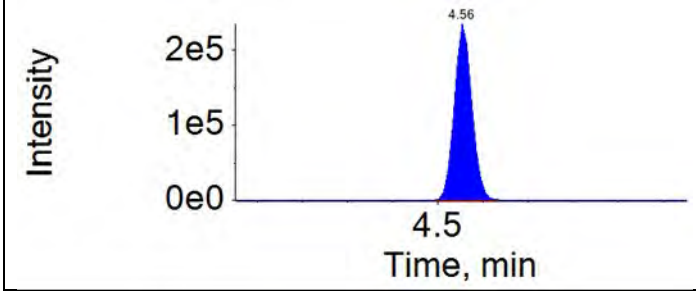


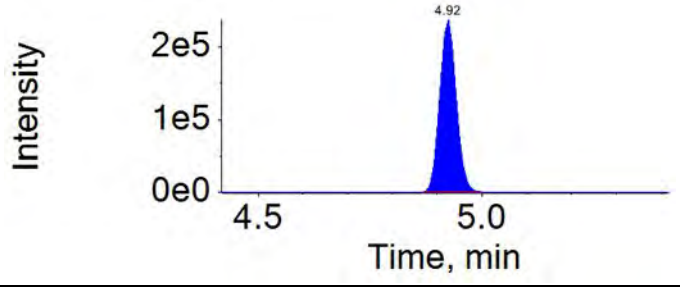
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



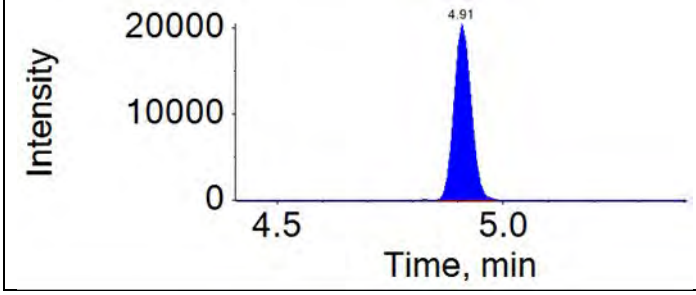


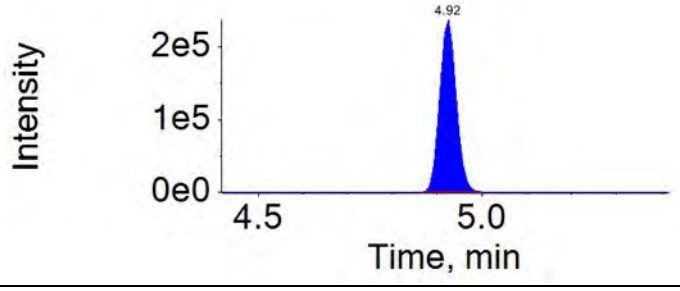
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



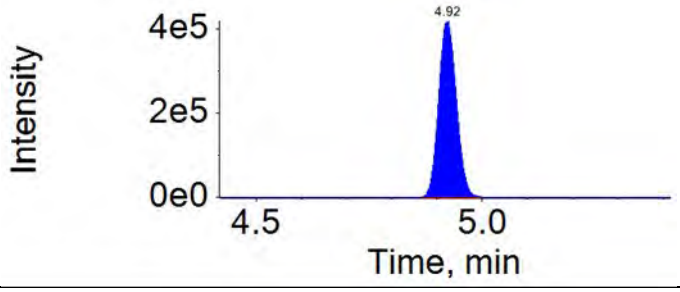
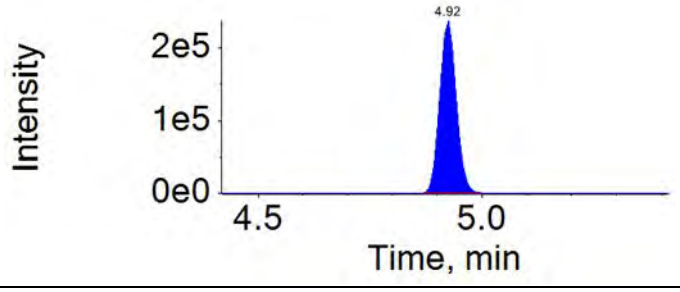


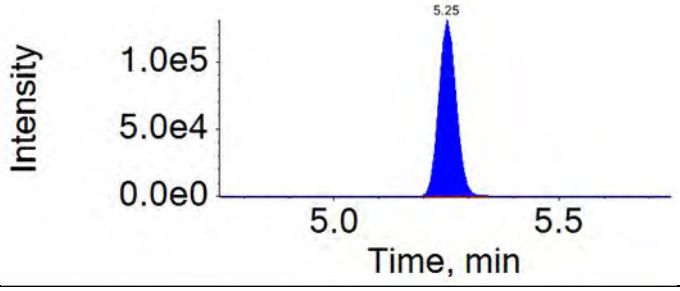
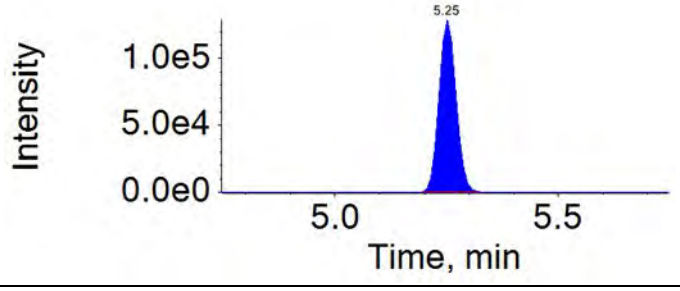
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

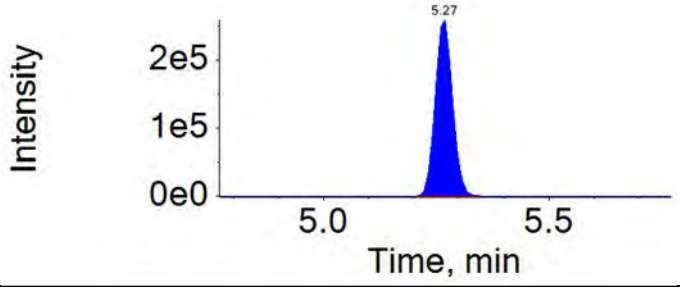
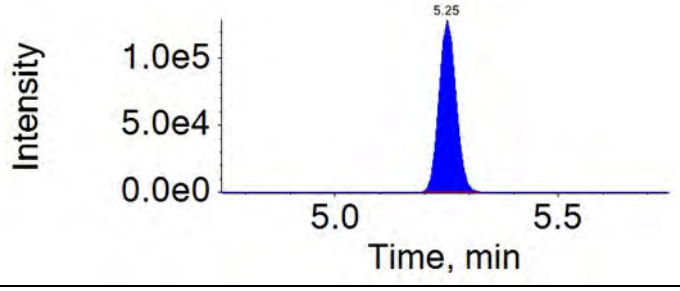


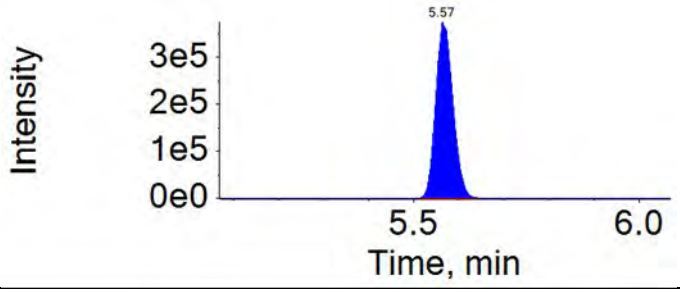
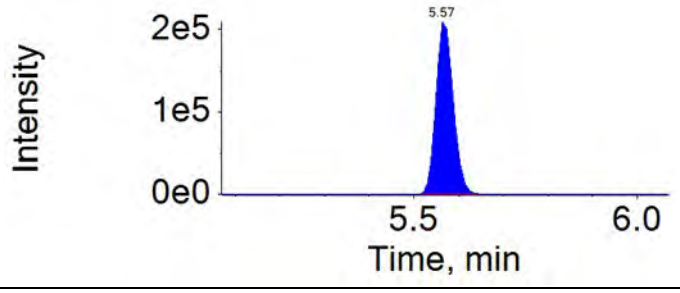


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

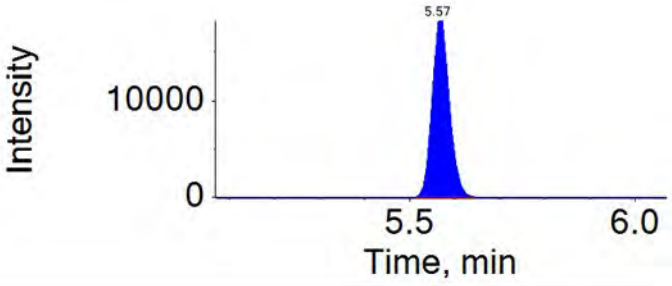
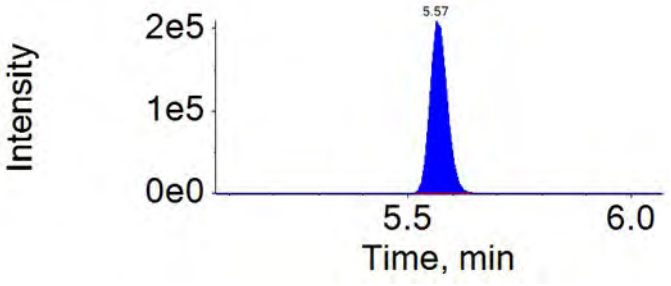
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

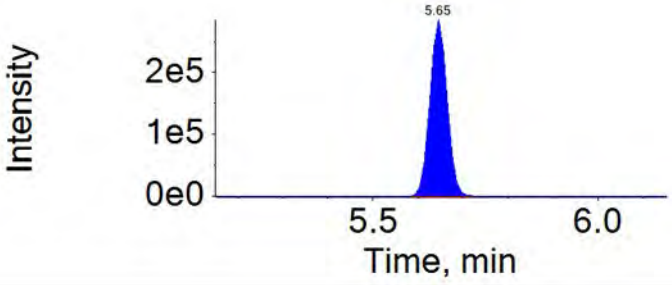
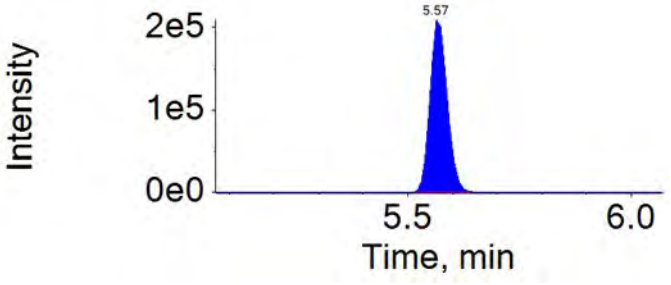
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

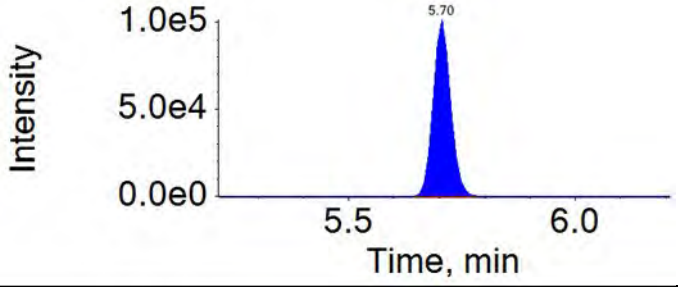
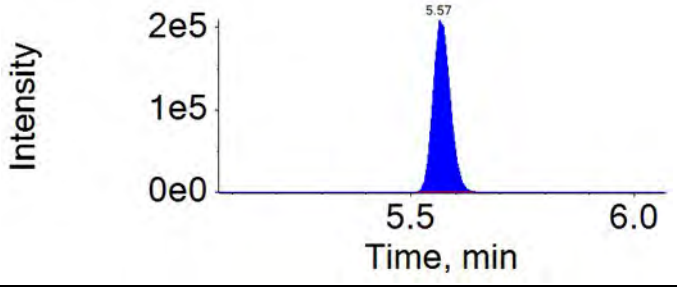
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

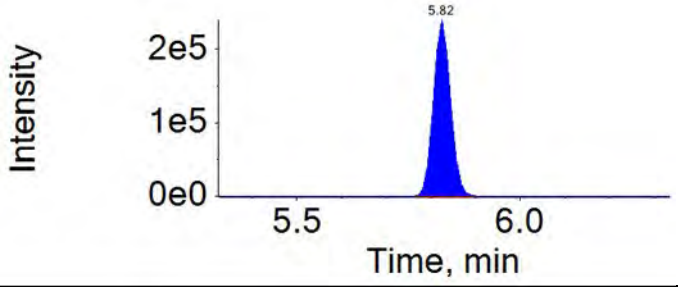
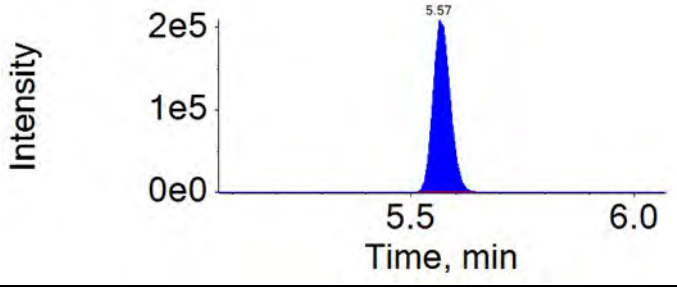
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

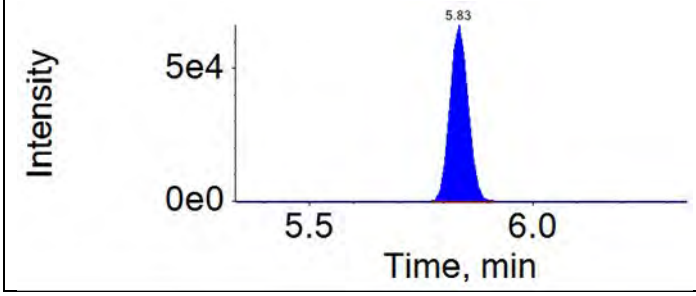
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

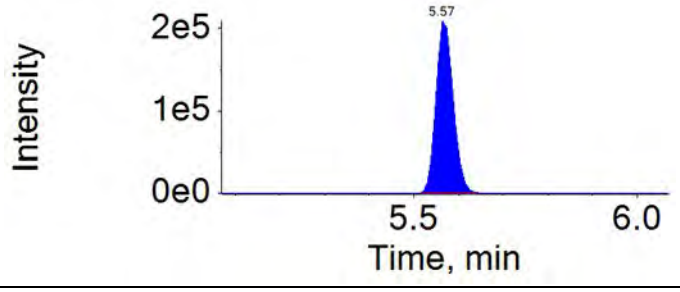
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

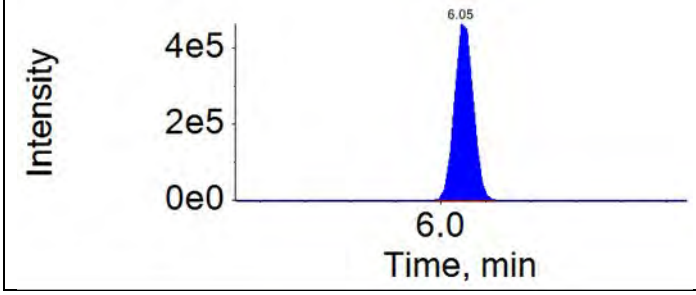
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

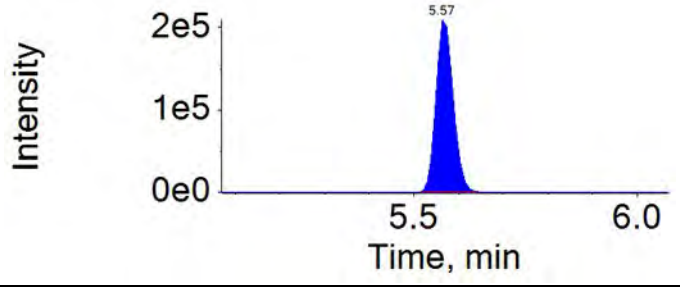
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



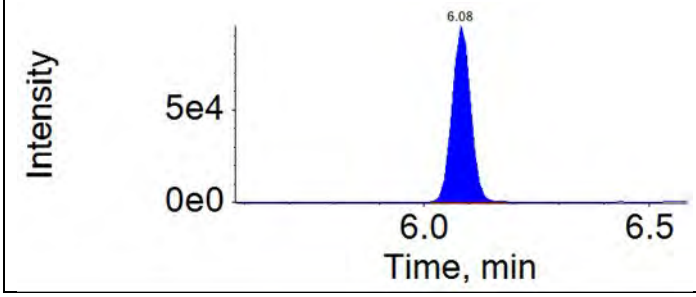


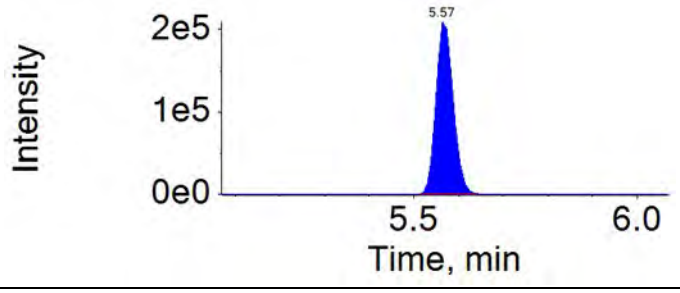
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



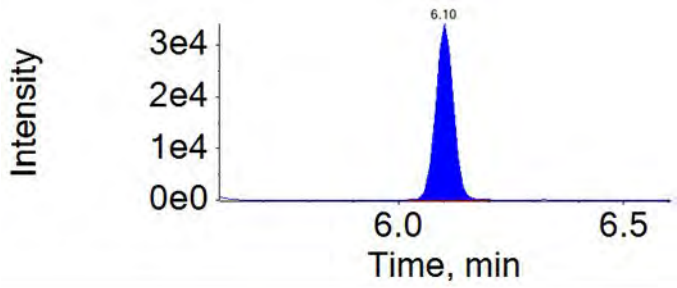


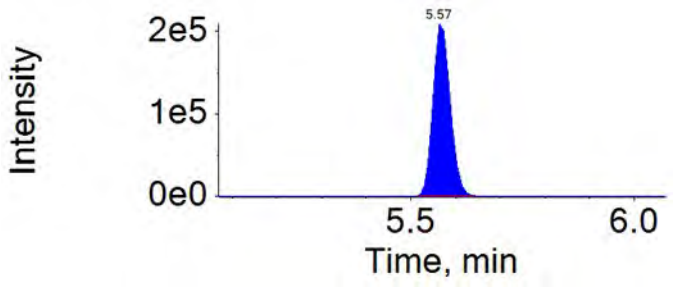
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





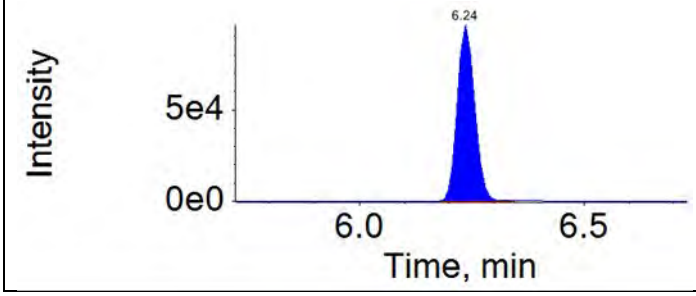
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

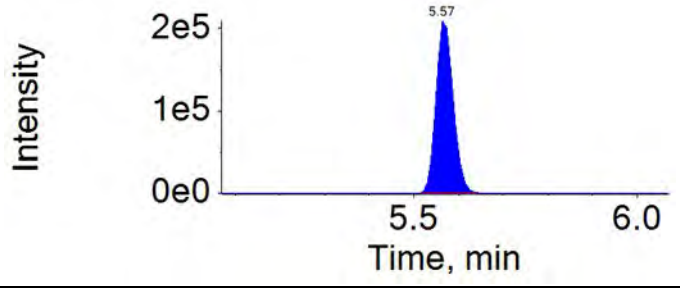




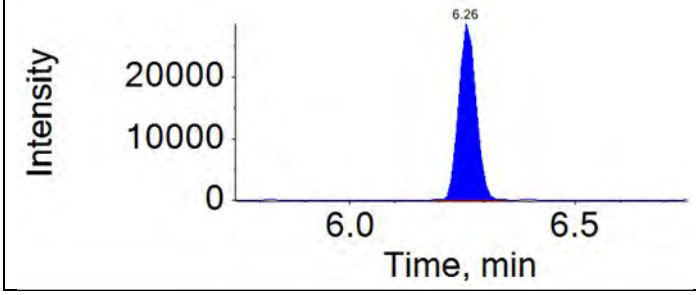
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

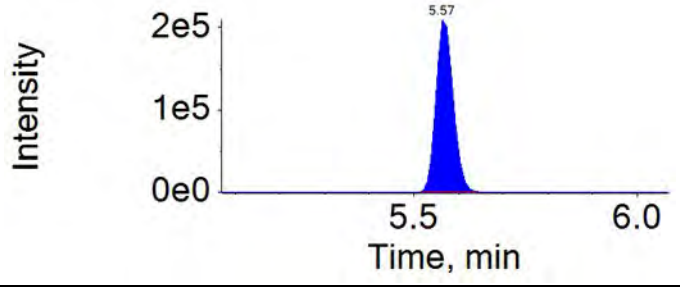
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



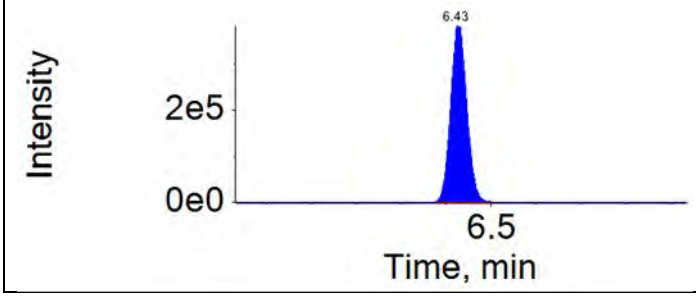


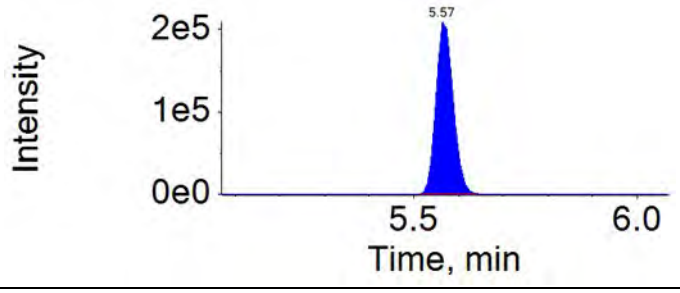
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





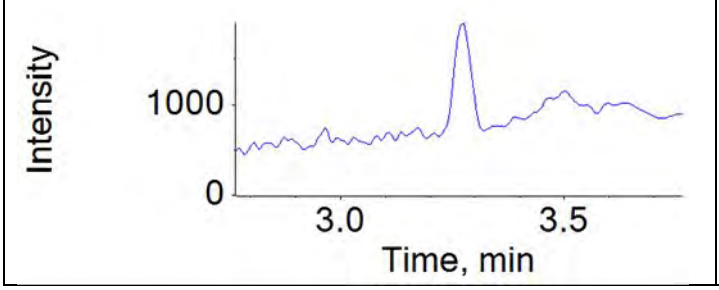
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

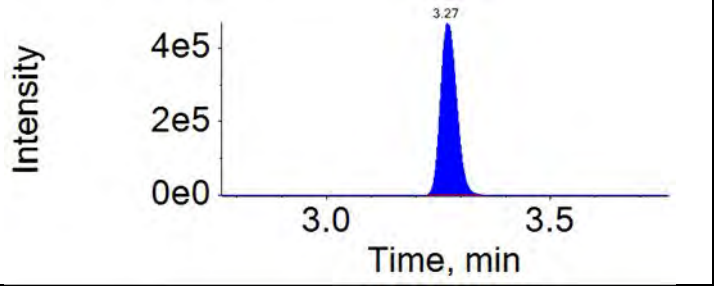




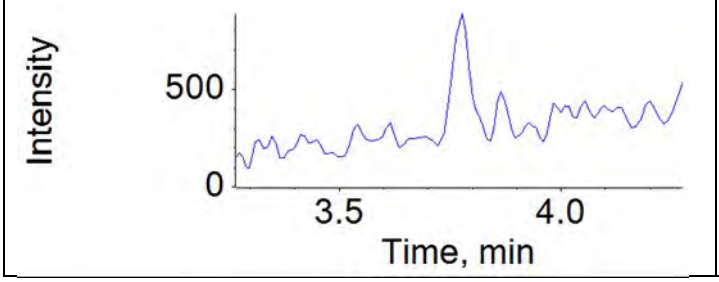
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

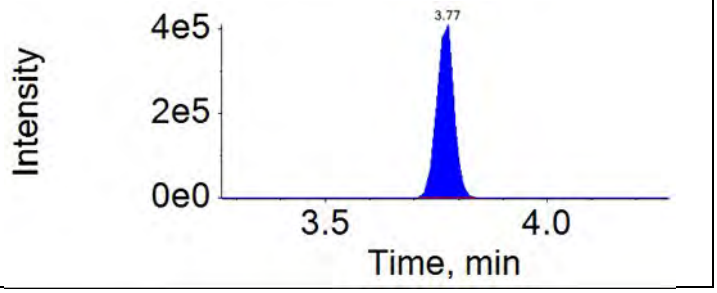
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



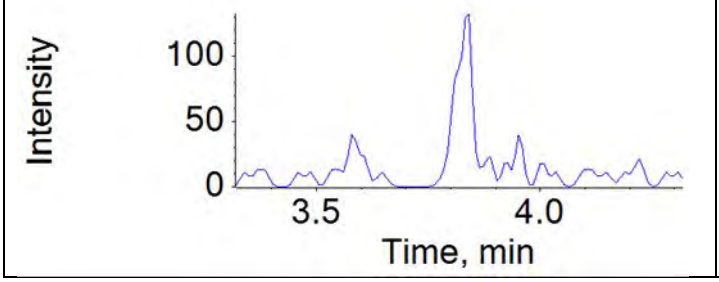


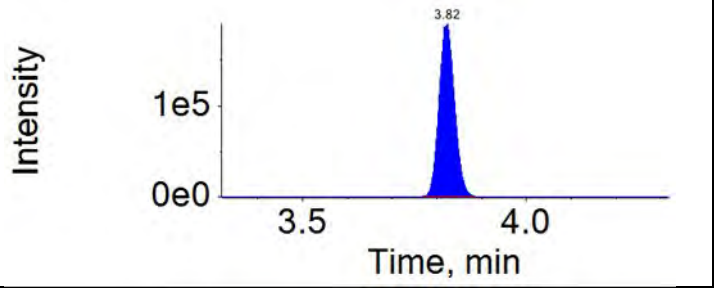
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



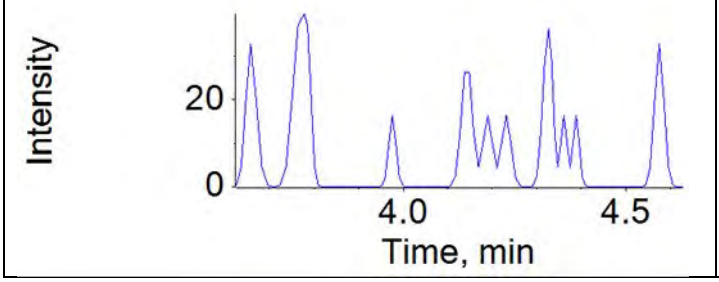


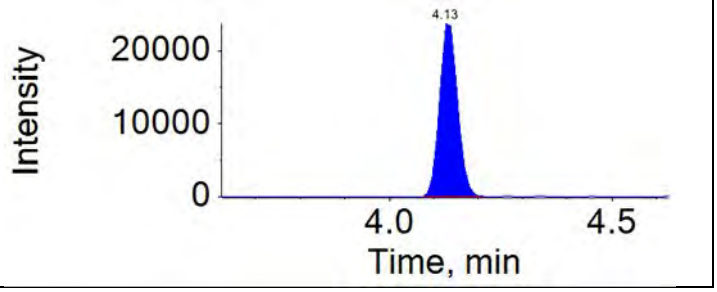
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





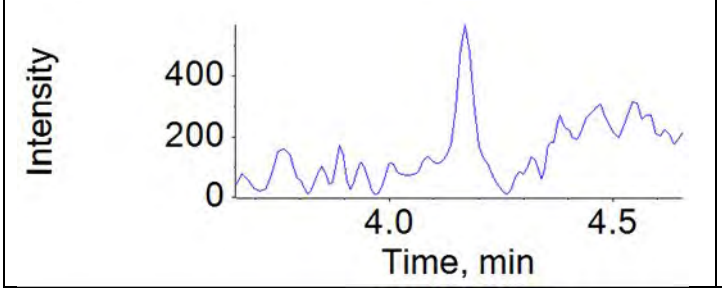
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

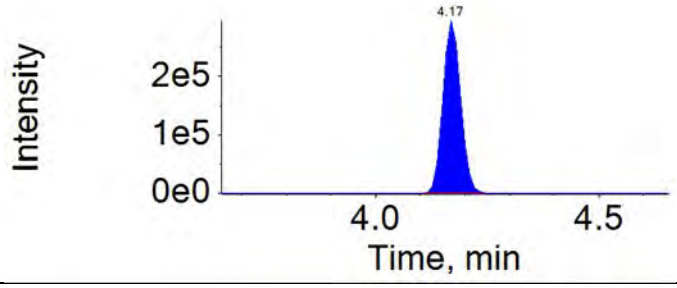




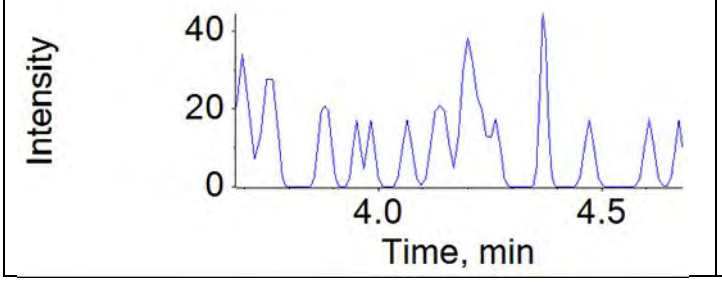
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

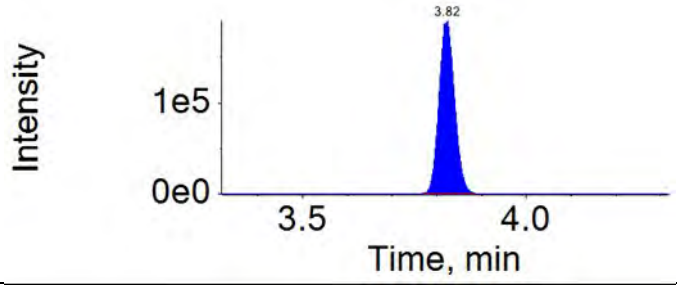
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



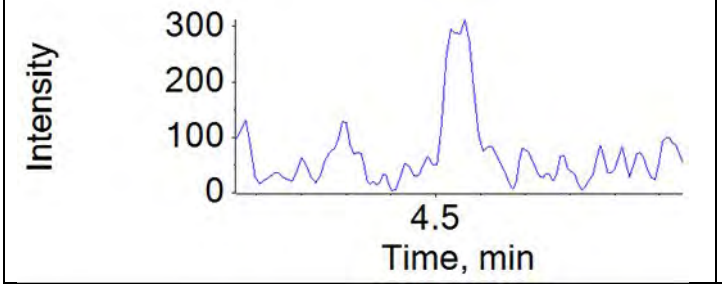


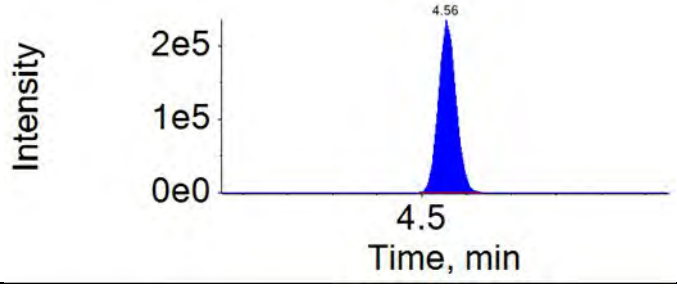
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



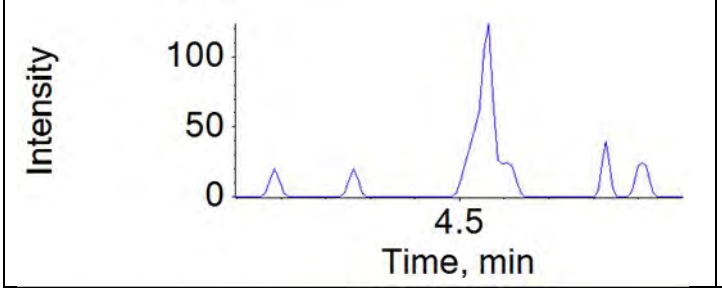


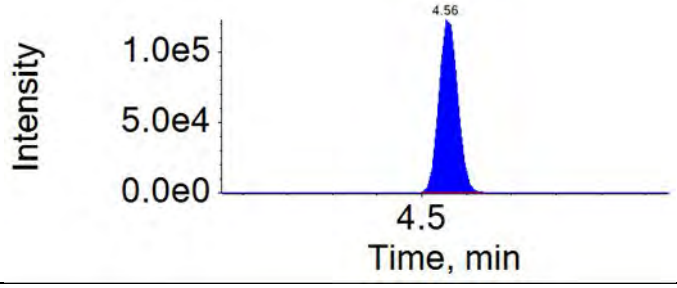
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





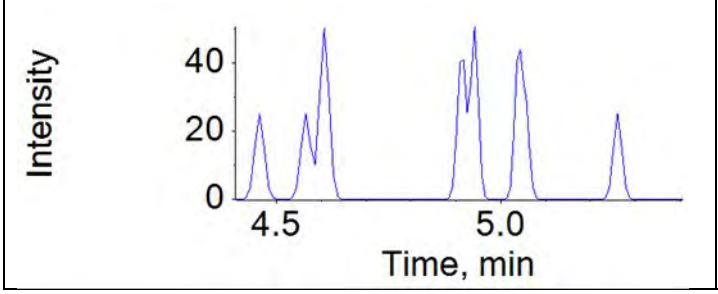
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

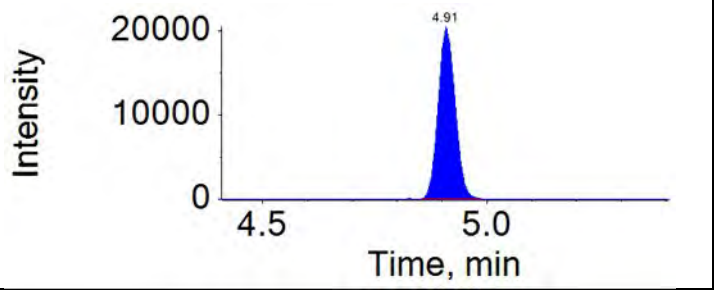




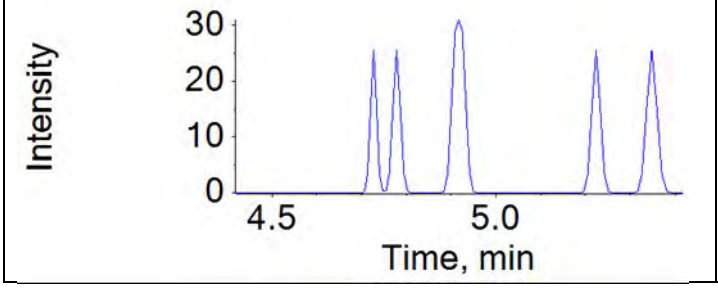
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

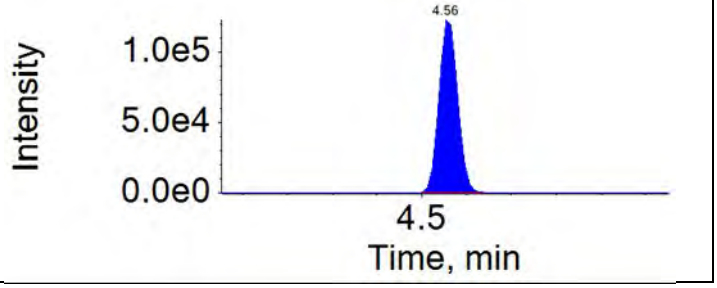
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



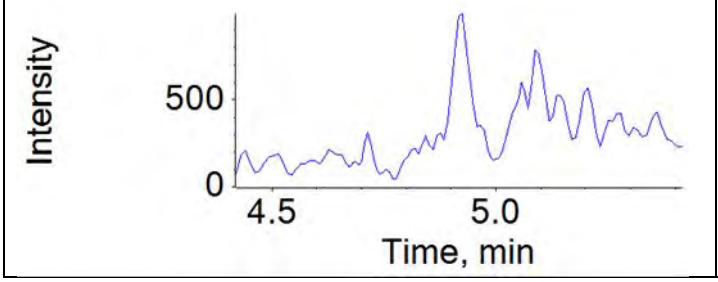


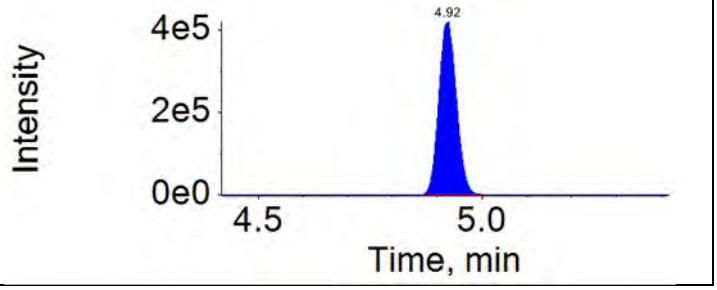
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



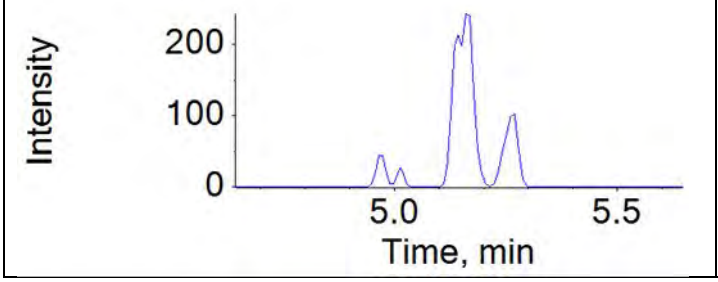


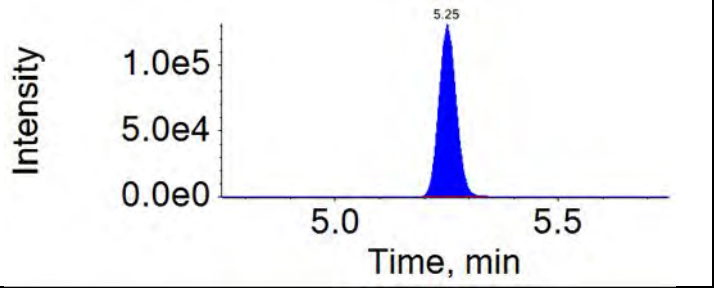
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





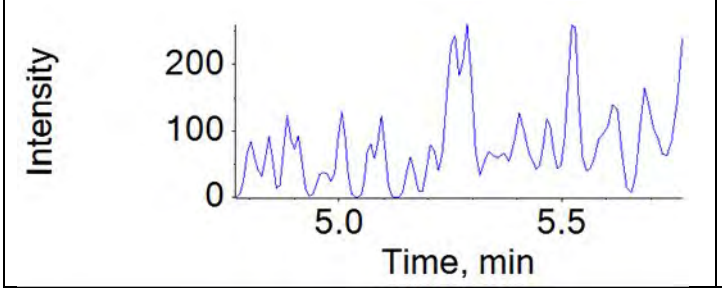
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

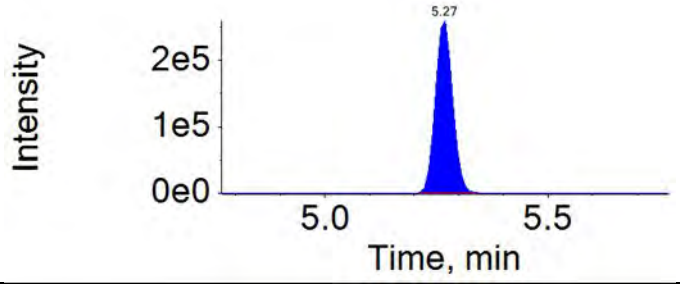




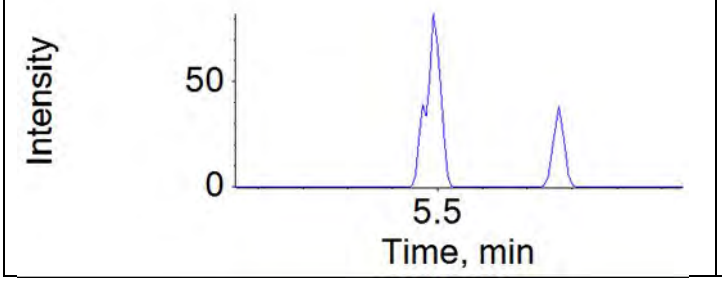
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

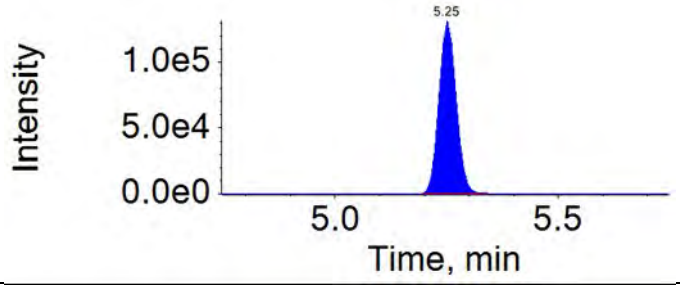
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



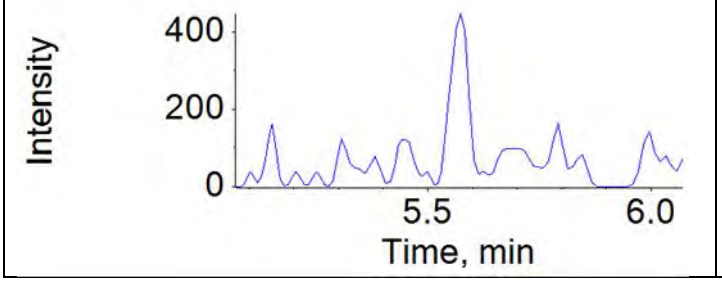


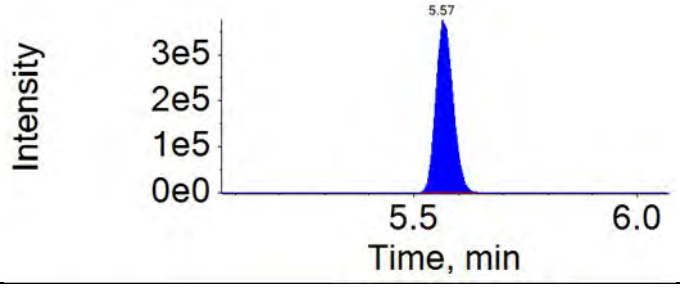
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



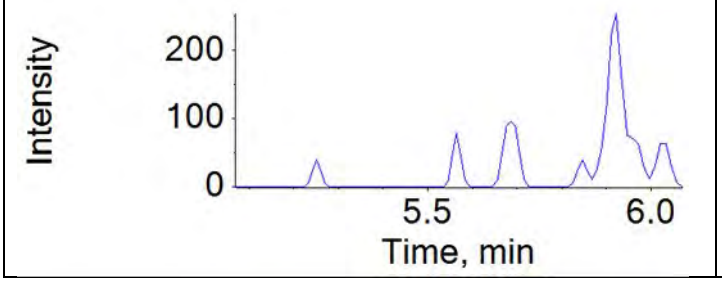


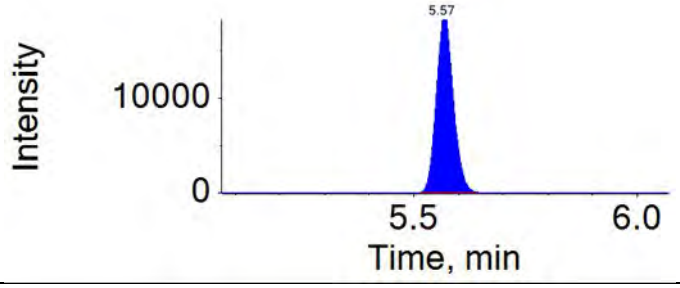
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





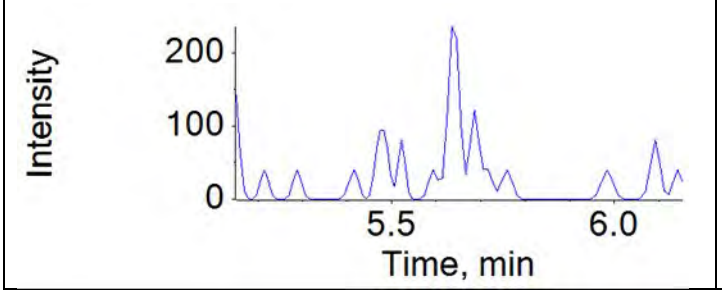
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

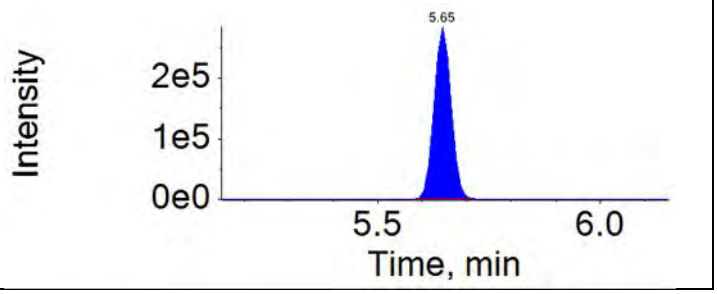




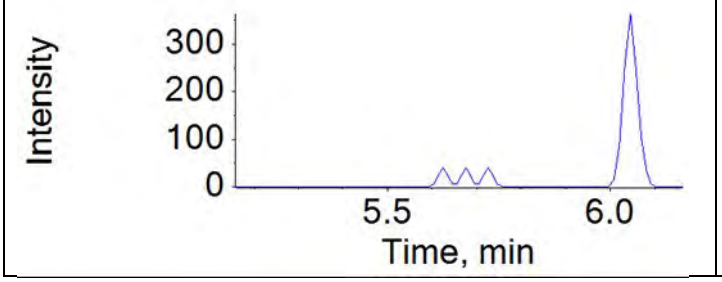
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

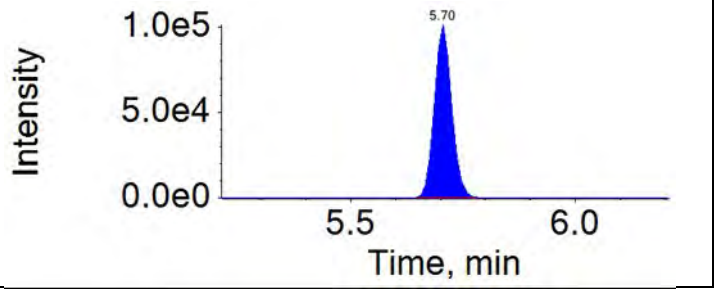
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



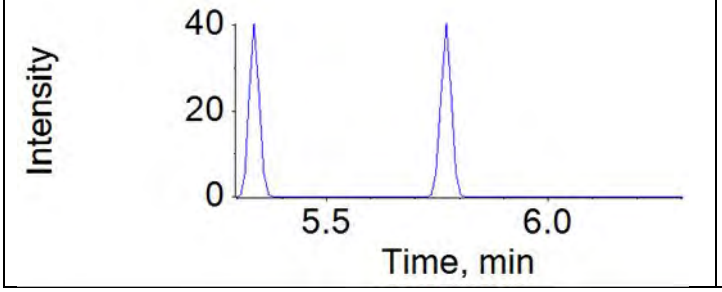


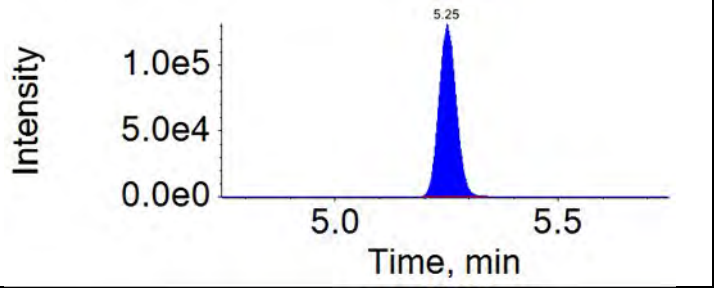
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



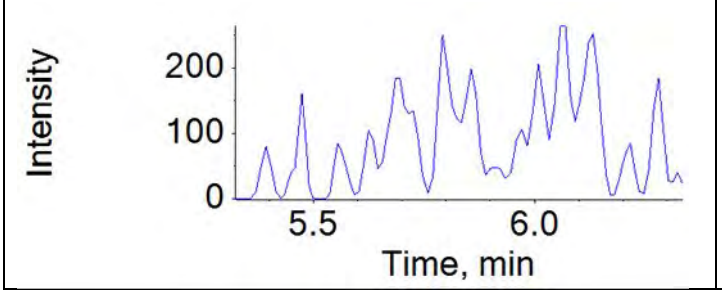


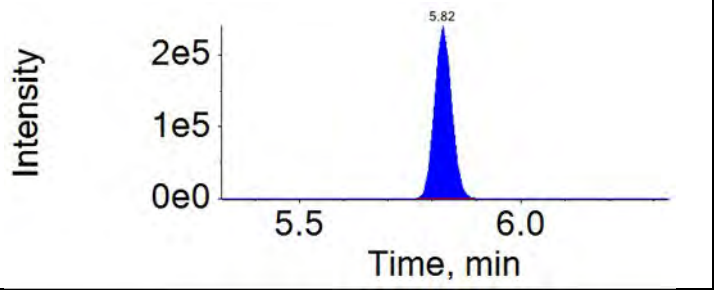
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





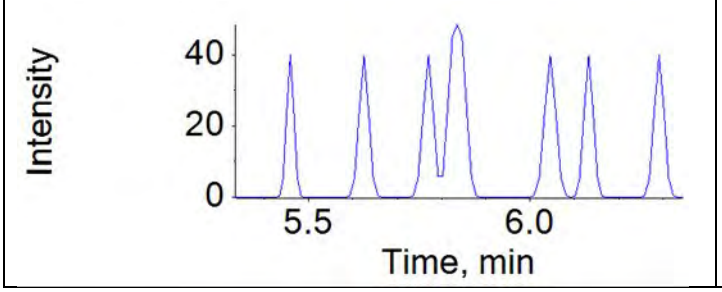
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

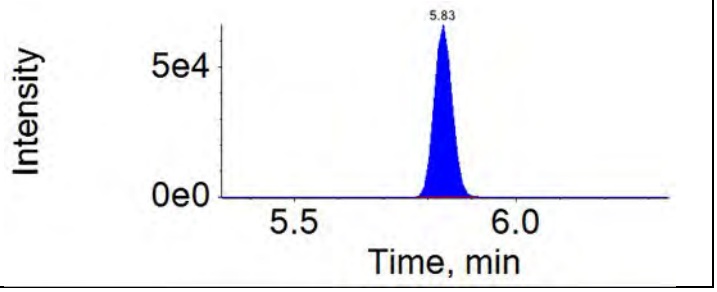




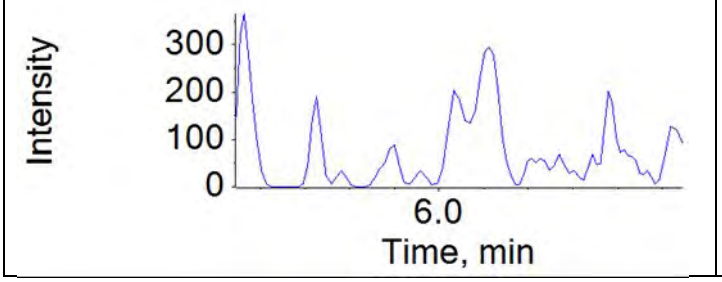
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

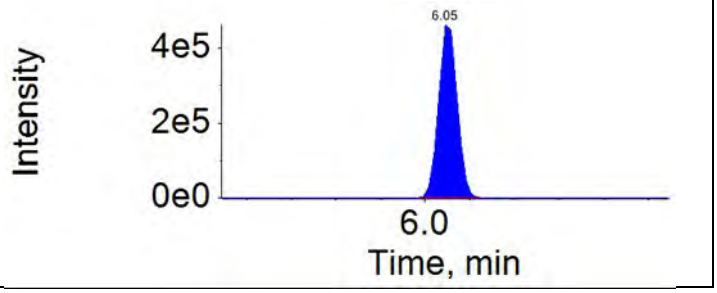
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



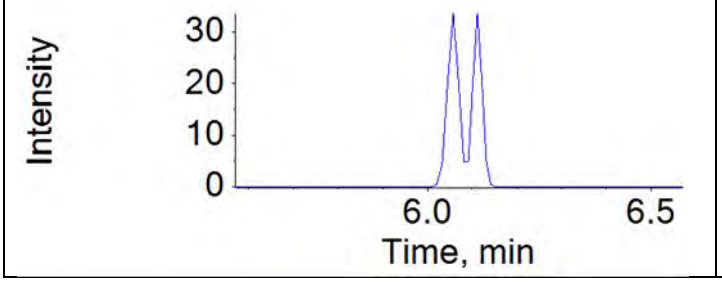


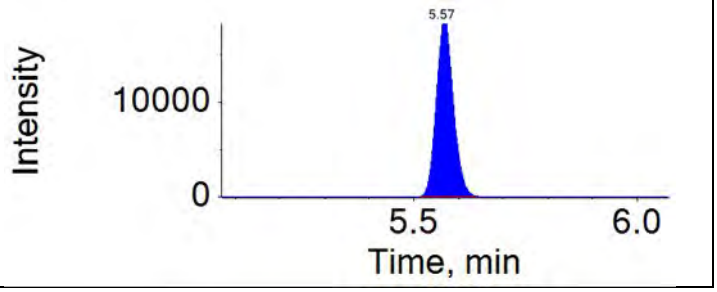
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



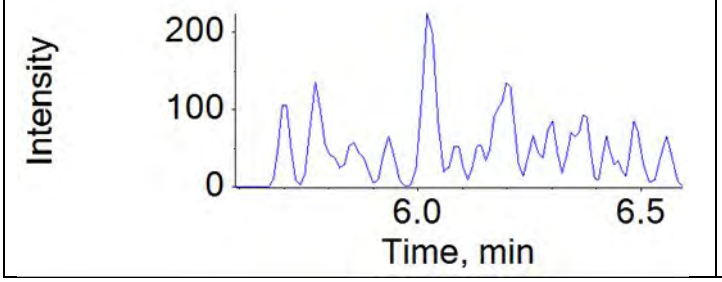


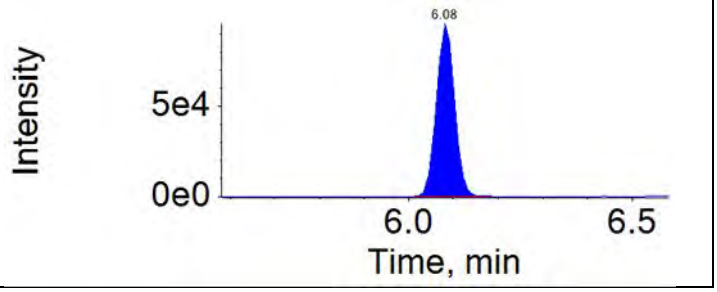
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





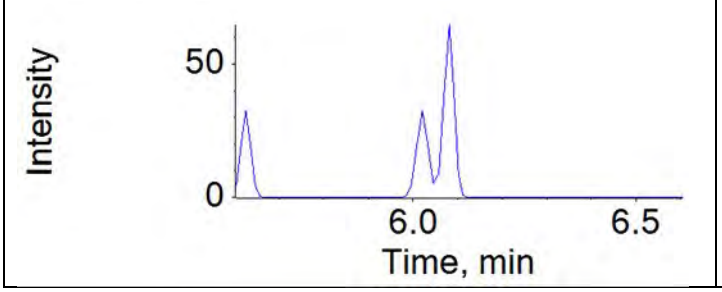
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

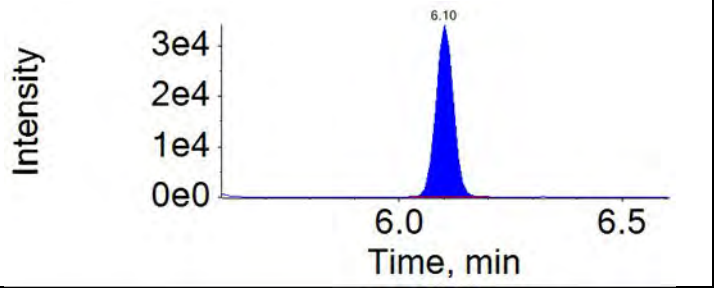




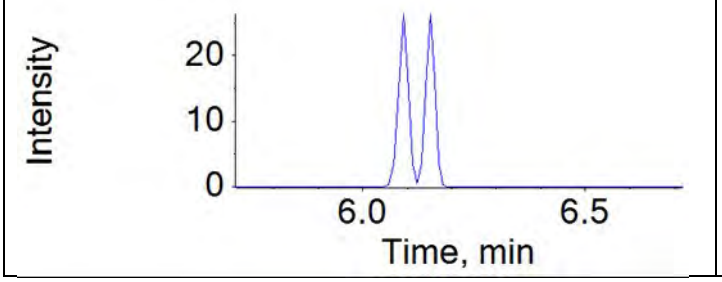
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

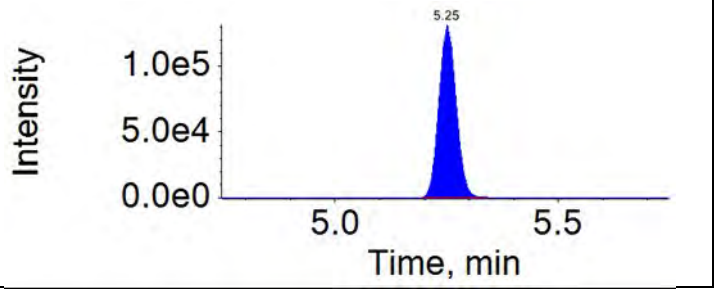
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



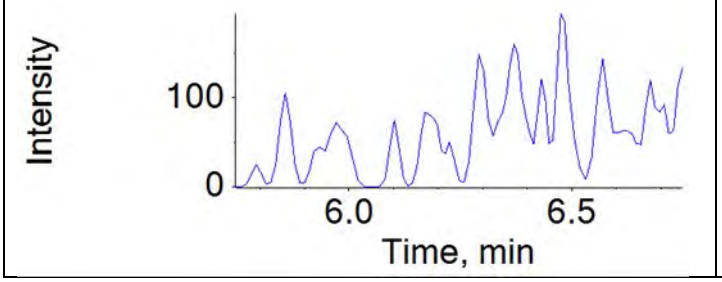


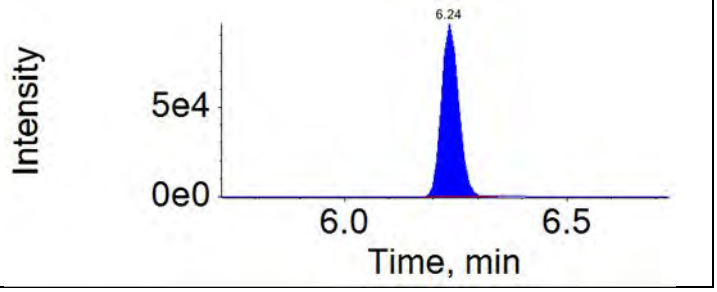
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



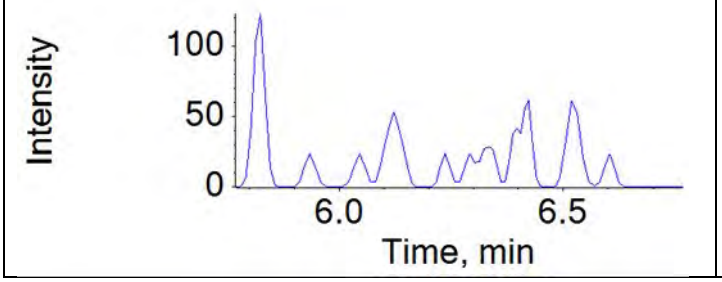


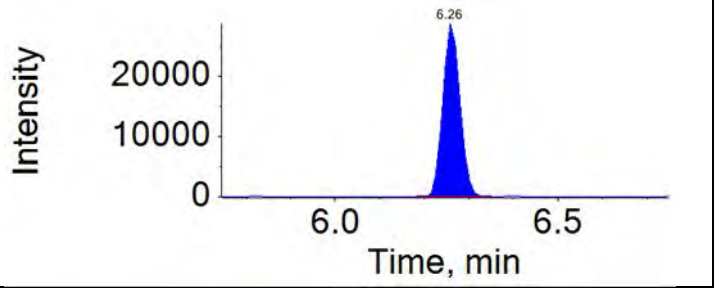
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

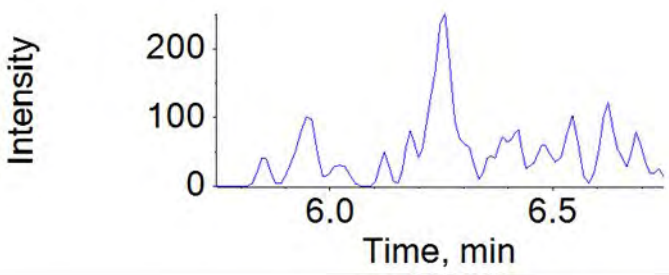
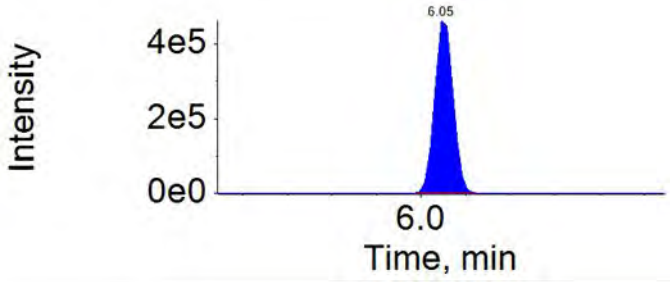


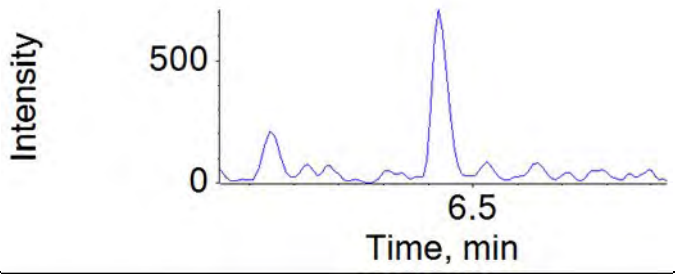
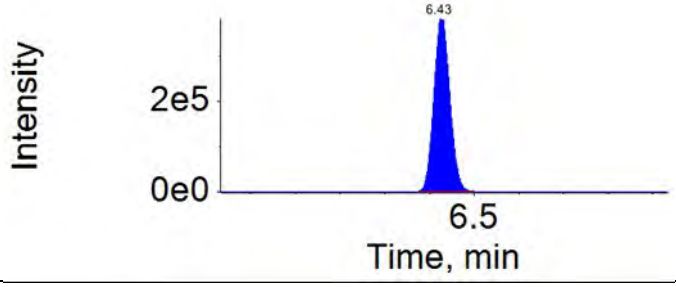


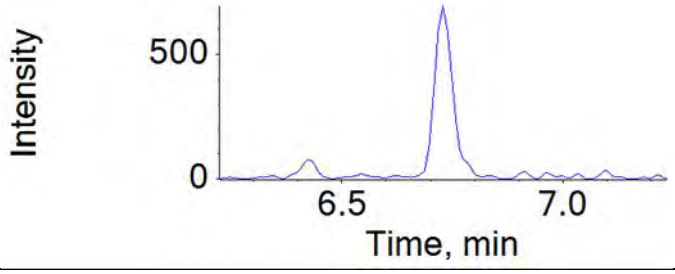
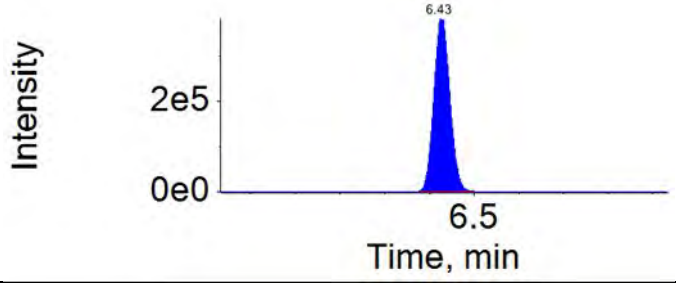
APPROVED
By MCD at 7:32 pm, 12/19/18

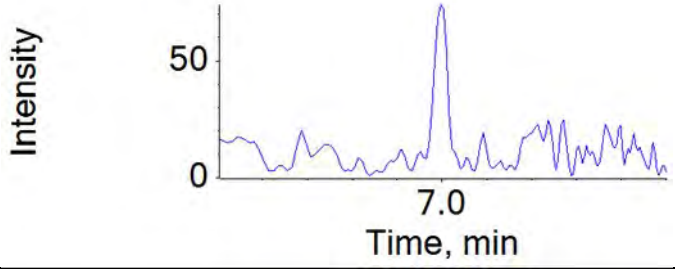
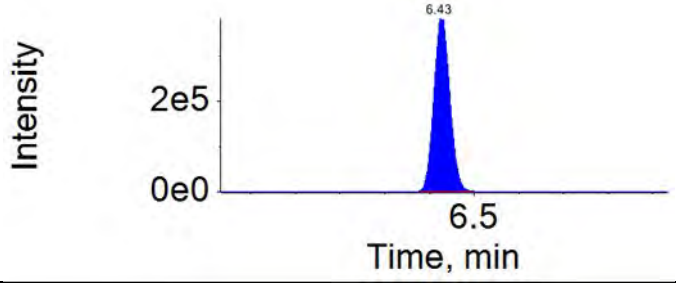
REVIEWED
By umar at 2:10 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

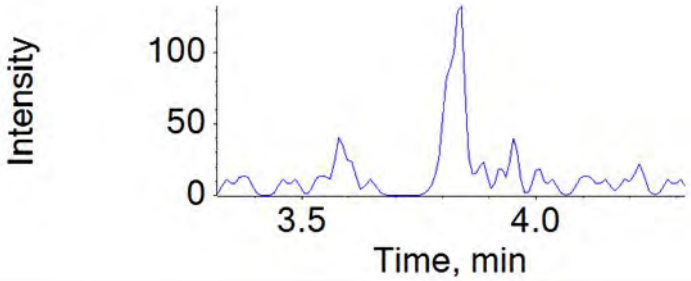
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

Ion Ratio Report

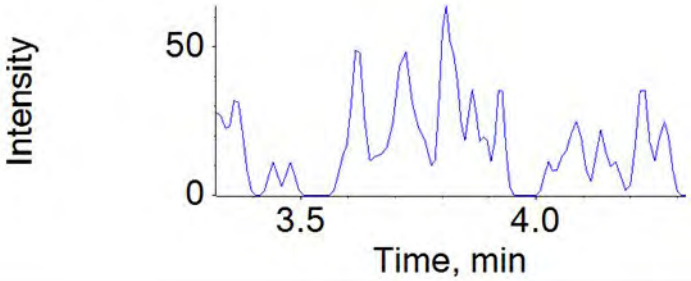
Sample Name: Instrument blank **Instrument Name:** LM27631 **File Name:** 18DEC19D-06.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

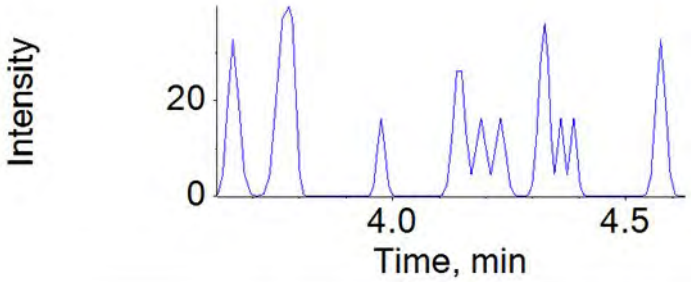
Component: PFBS
Primary Mass: 299.0 / 80.0



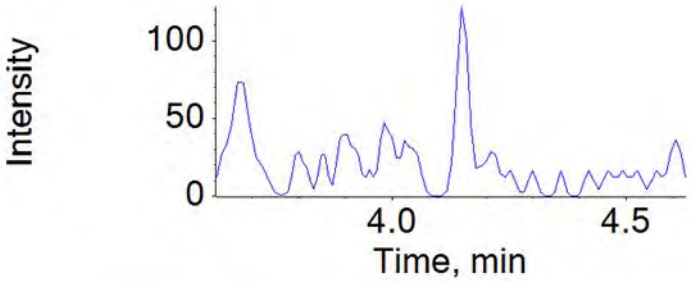
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



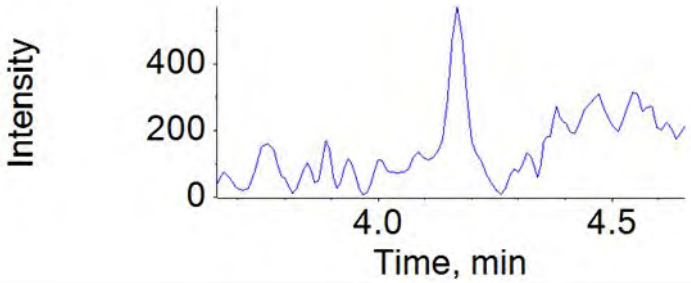
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



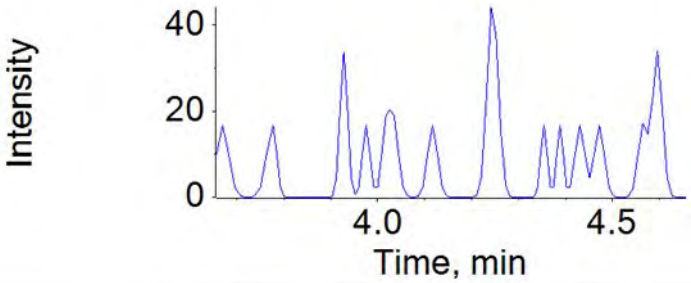
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



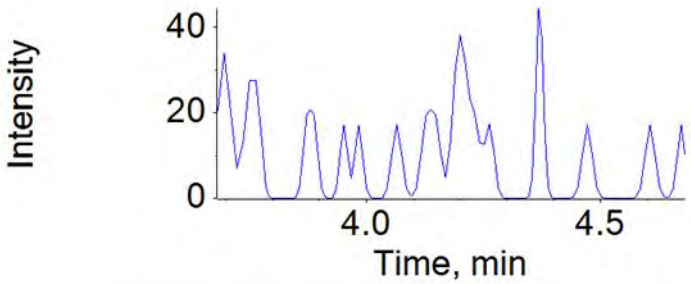
Component: PFHxA
Primary Mass: 313.0 / 269.0



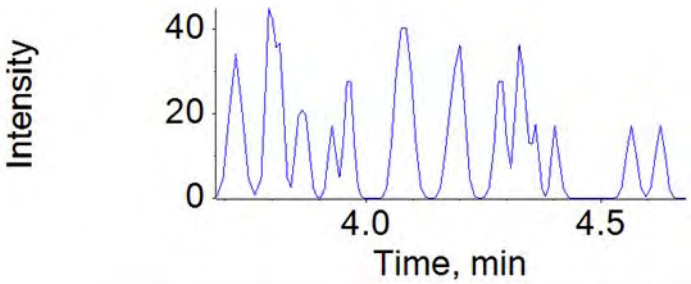
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



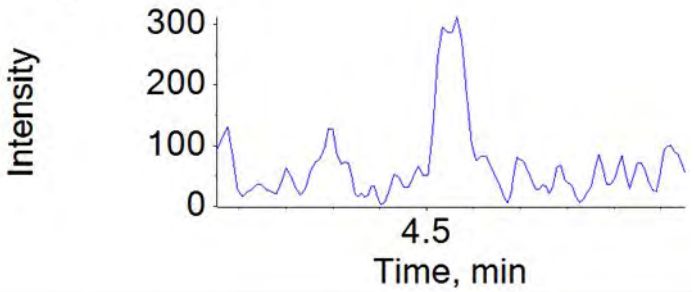
Component: PFPeS
Primary Mass: 349.0 / 80.0



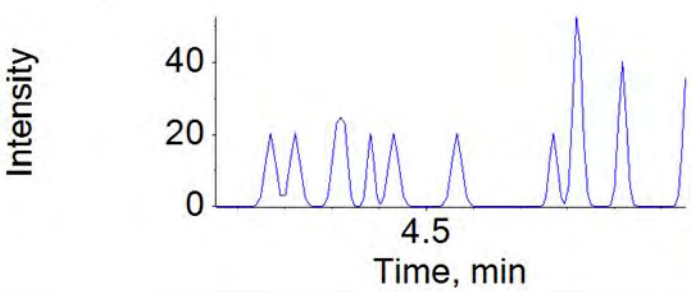
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



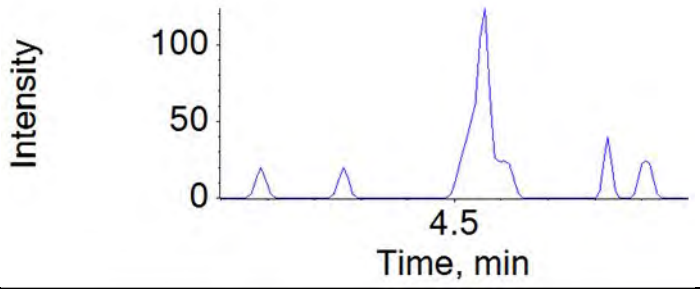
Component: PFHpA
Primary Mass: 363.0 / 319.0



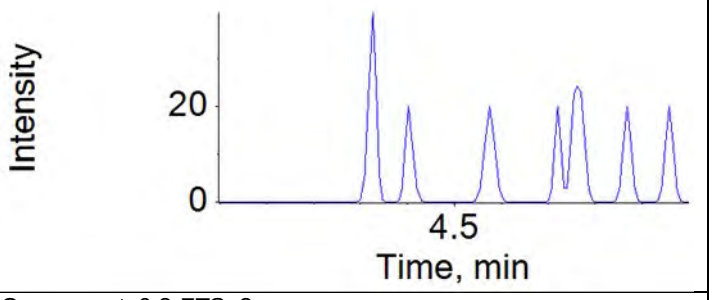
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



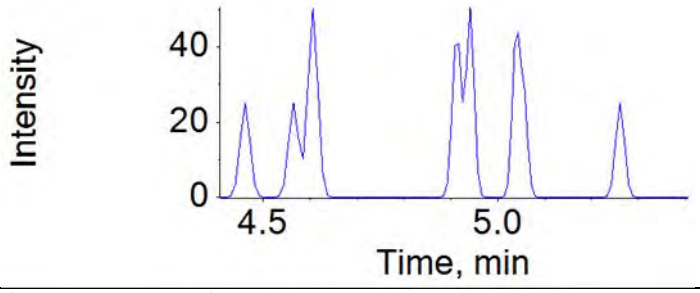
Component: PFHxS
Primary Mass: 399.0 / 80.0



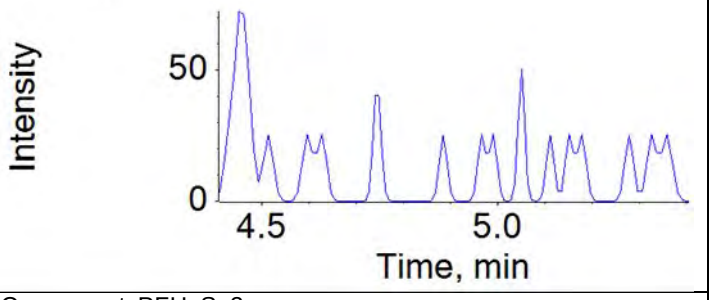
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



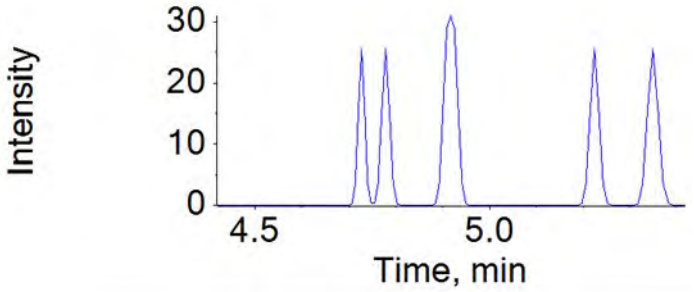
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



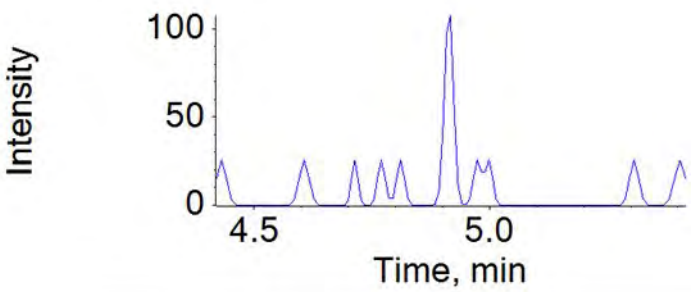
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



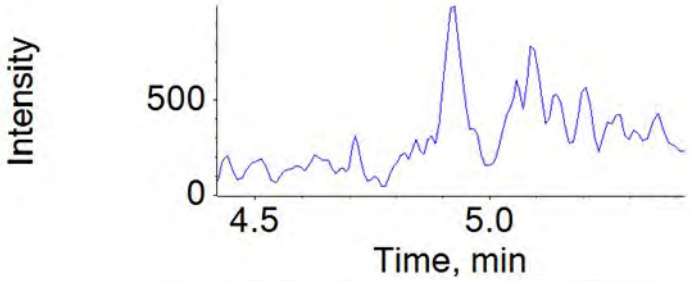
Component: PFHpS
Primary Mass: 449.0 / 80.0



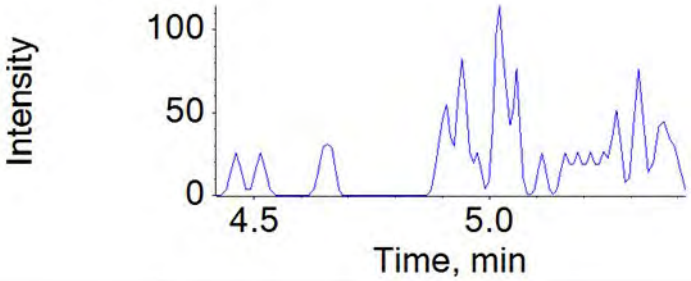
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



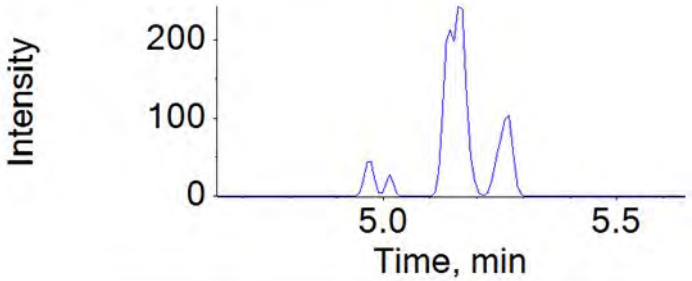
Component: PFOA
Primary Mass: 413.0 / 369.0



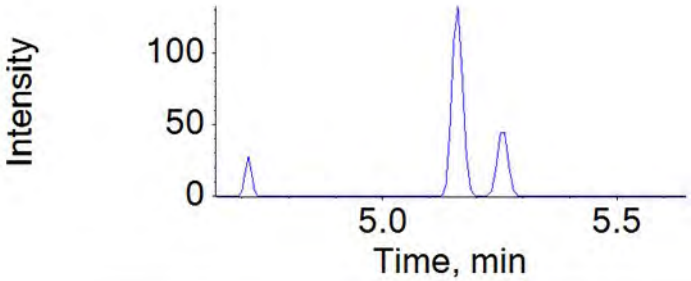
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



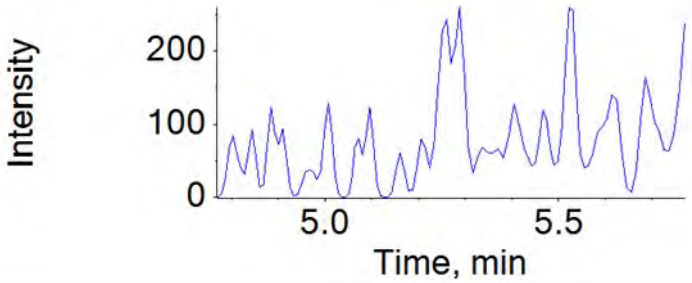
Component: PFOS
Primary Mass: 499.0 / 80.0



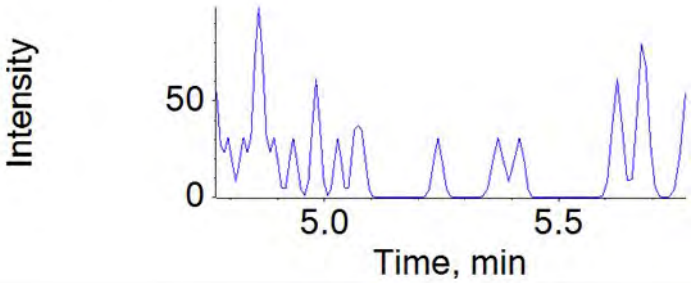
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



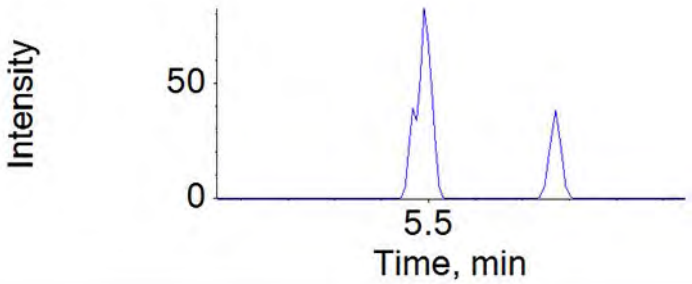
Component: PFNA
Primary Mass: 463.0 / 419.0



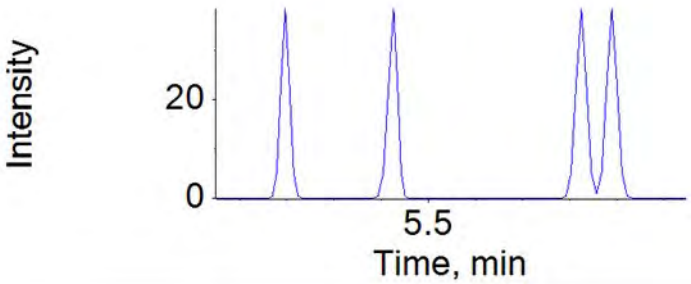
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



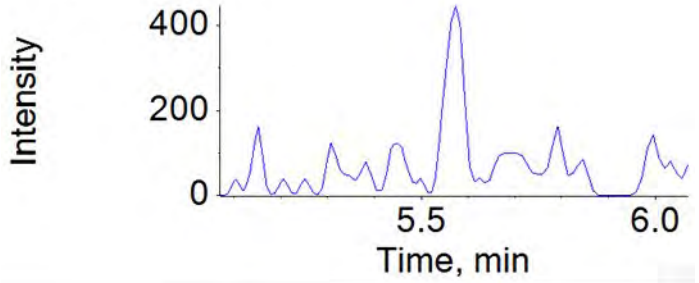
Component: PFNS
Primary Mass: 549.0 / 80.0



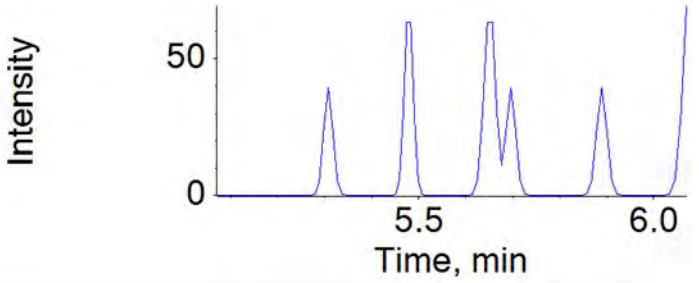
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



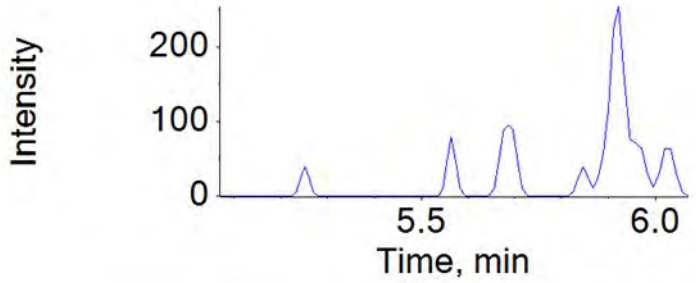
Component: PFDA
Primary Mass: 513.0 / 469.0



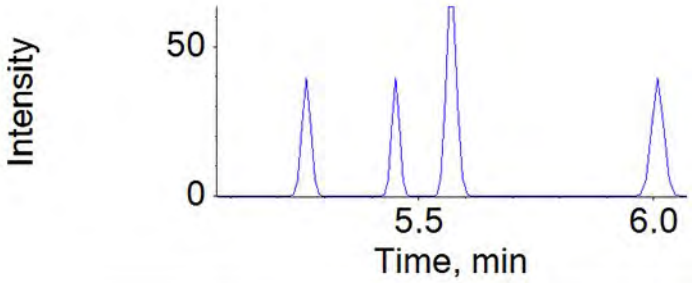
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



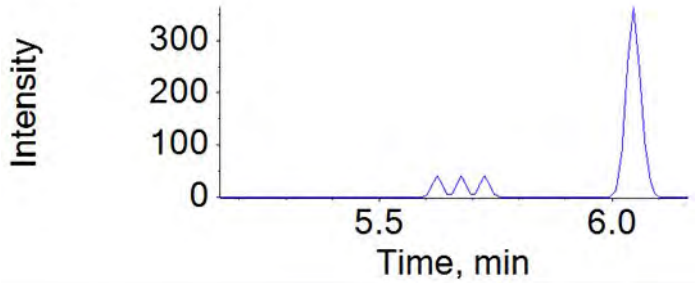
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



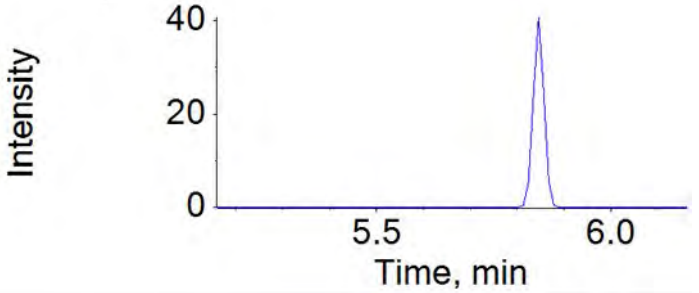
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



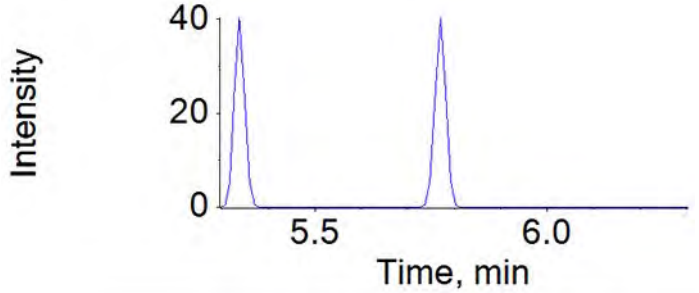
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



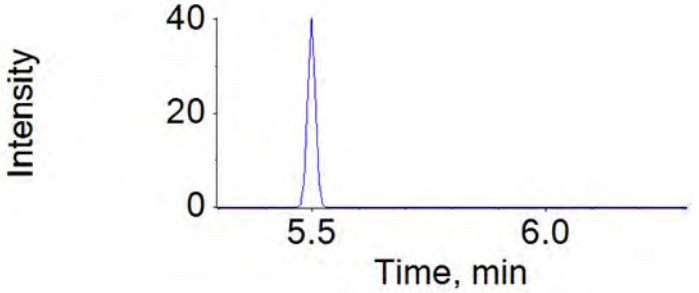
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



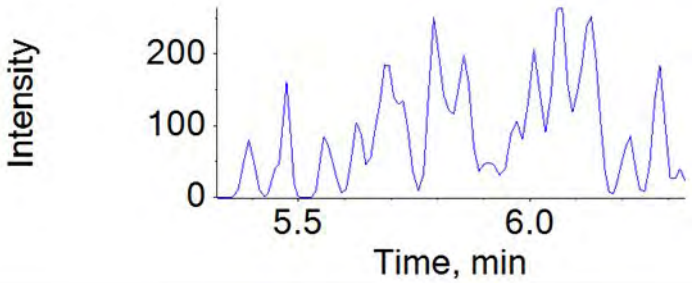
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



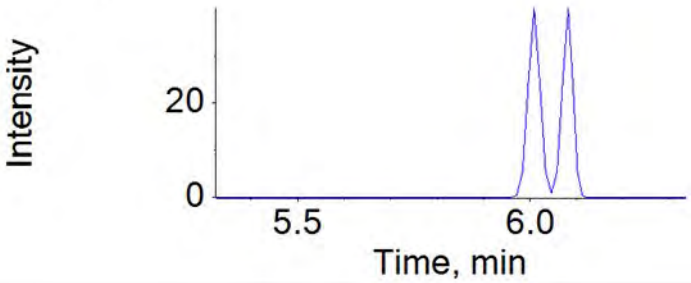
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

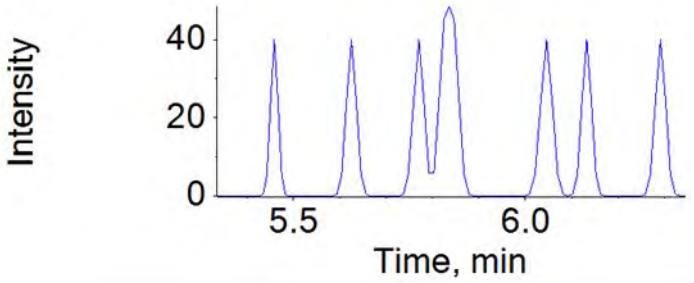
Component: PFUnDA
Primary Mass: 563.0 / 519.0



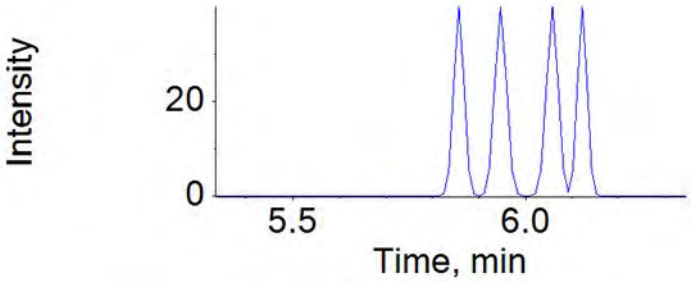
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



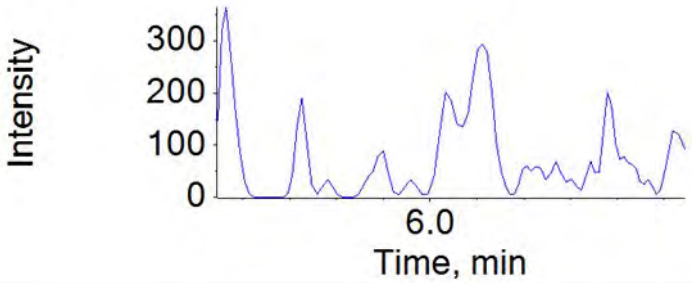
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



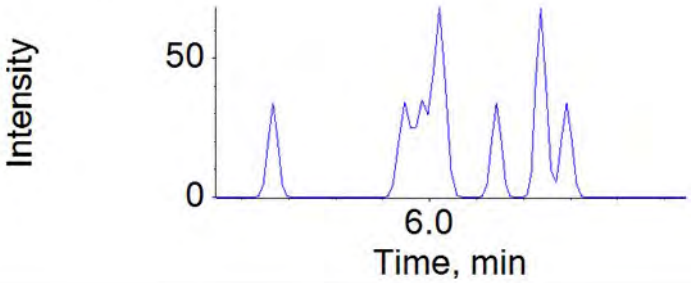
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



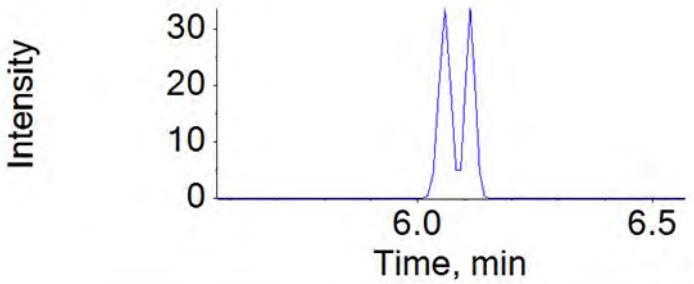
Component: PFDoDA
Primary Mass: 613.0 / 569.0



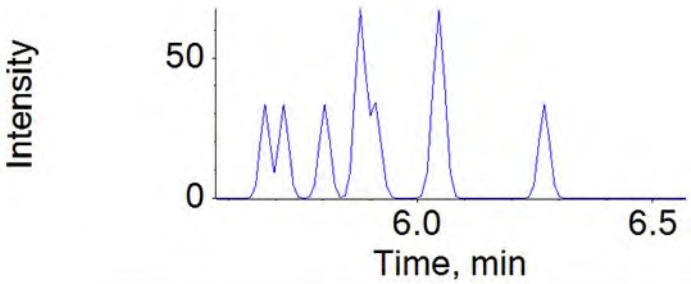
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



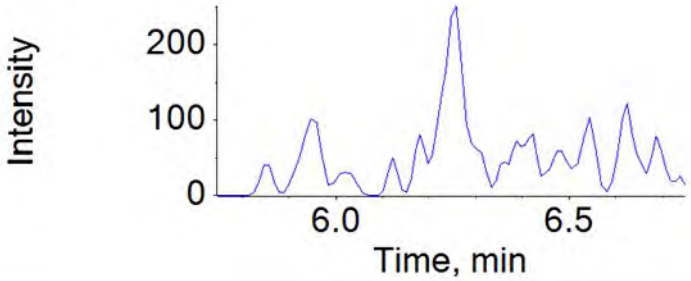
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



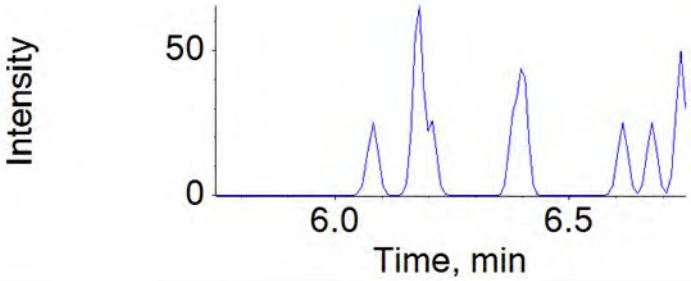
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

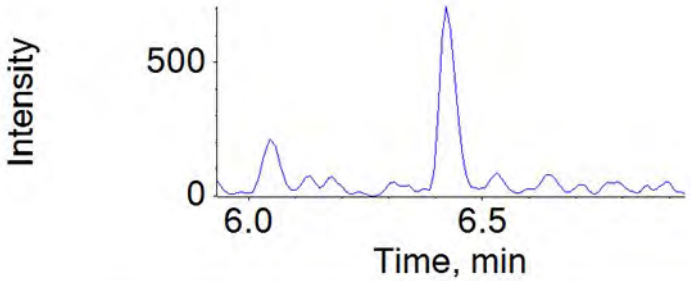
Component: PFTrDA
Primary Mass: 663.0 / 619.0



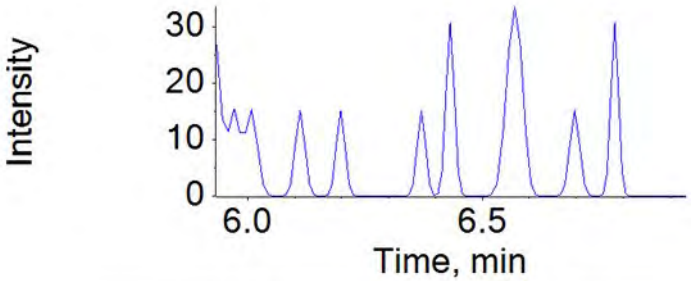
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



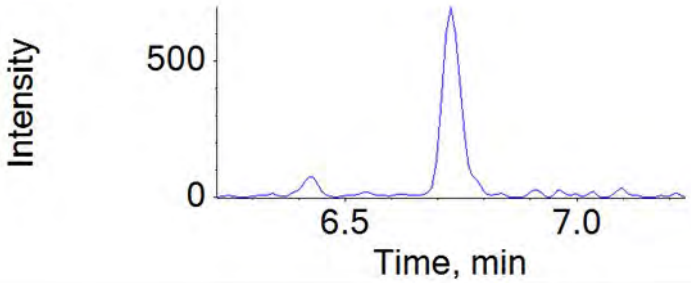
Component: PFTeDA
Primary Mass: 713.0 / 669.0



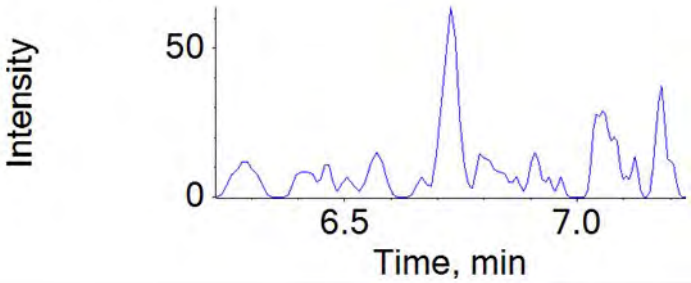
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



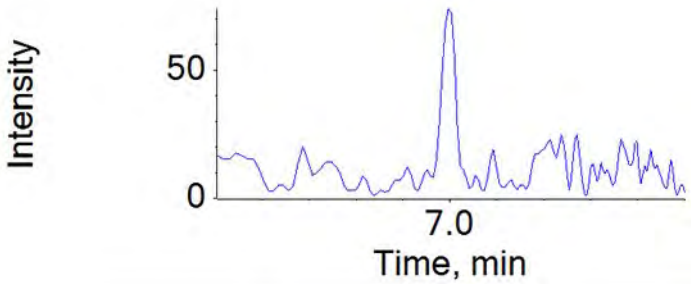
Component: PFHxDA
Primary Mass: 813.0 / 769.0



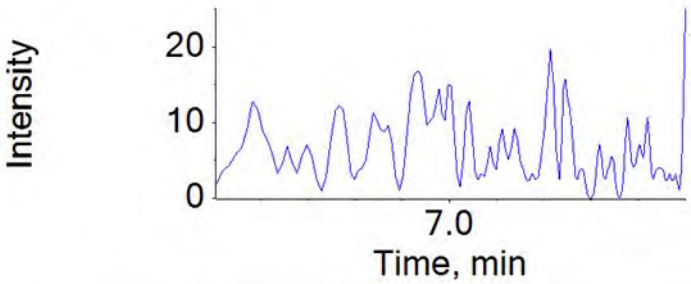
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



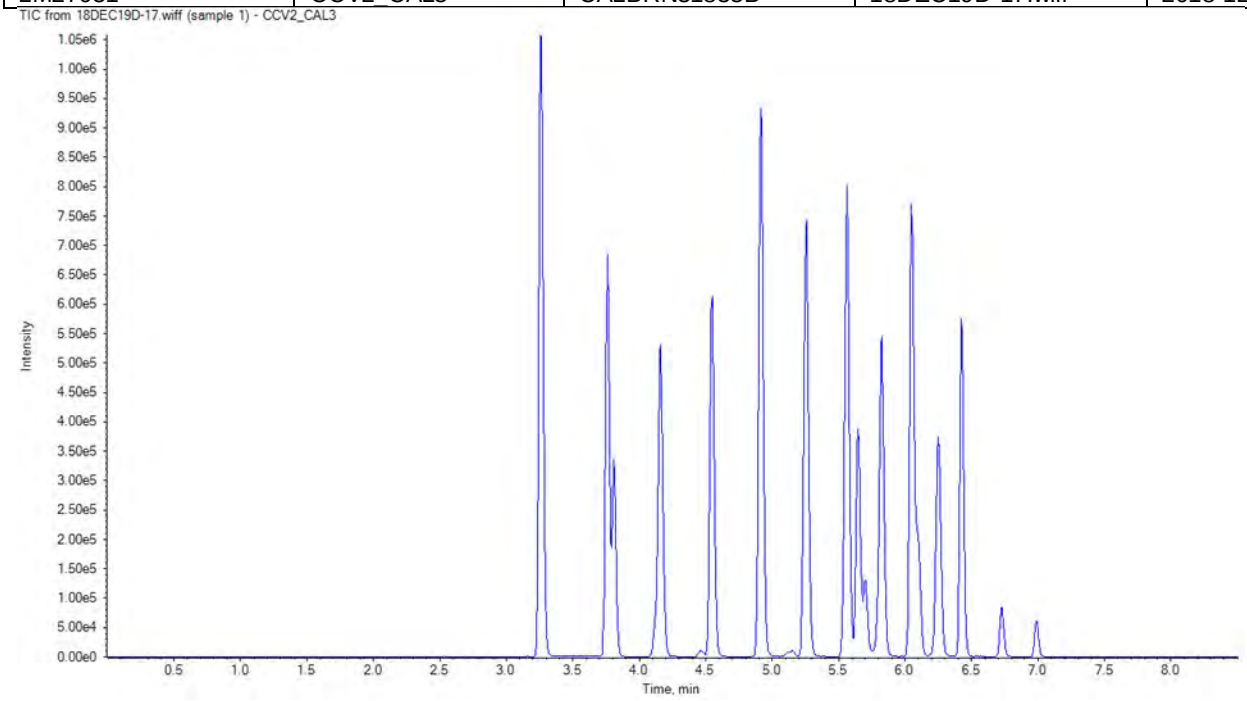
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV2_CAL3	CALBRN31833B	18DEC19D-17.wiff	2018-12-19T12:32:05



Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	921359.9	942675.8	-2	50	
13C2-PFOA	5.0	499231.7	520268.5	-4	50	
13C4-PFOS	4.8	304937.8	307968.9	-1	50	
13C2-PFDA	5.0	444282.3	487375.3	-9	50	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV2_CAL3	CALBRN31833B	18DEC19D-17.wiff	2018-12-19T12:32:05

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	422962.8	10	13C4-PFBA	1041459.2	5.0	0.406	3.26	1.000	2.000	2.156	8	30	
PFPeA	415736.1	11	13C5-PFPeA	991244.2	5.0	0.419	3.76	1.000	2.000	2.165	8	30	
PFBS	172638.8	10	13C3-PFBS	430435.8	4.7	0.401	3.81	1.000	1.770	1.980	12	30	
4:2-FTS	48437.0	11	13C2-4:2-FTS	62715.7	4.7	0.772	4.12	1.000	1.870	2.026	8	30	
PFHxA	394612.5	11	13C5-PFHxA	710233.2	5.0	0.556	4.16	1.000	2.000	2.289	14	30	
PFPeS	85897.1	11	13C3-PFBS	430435.8	4.7	0.200	4.18	1.100	1.880	2.032	8	30	
PFHpA	395165.7	11	13C4-PFHpA	540874.0	5.0	0.731	4.55	1.000	2.000	2.423	21	30	
PFHxS	129625.2	19	13C3-PFHxS	338483.6	4.7	0.383	4.55	1.000	1.820	1.863	2	30	
6:2-FTS	42693.2	11	13C2-6:2-FTS	45597.3	4.8	0.936	4.90	1.000	1.900	2.331	23	30	
PFHpS	129595.0	10	13C3-PFHxS	338483.6	4.7	0.383	4.91	1.080	1.900	2.025	7	30	
PFOA	410966.0	11	13C8-PFOA	977096.9	5.0	0.421	4.92	1.000	2.000	2.228	11	30	
PFOS	138194.6	22	13C8-PFOS	323744.9	4.8	0.427	5.25	1.000	1.850	1.869	1	30	
PFNA	394301.3	11	13C9-PFNA	653790.8	5.0	0.603	5.26	1.000	2.000	2.397	20	30	
PFNS	97632.6	10	13C8-PFOS	323744.9	4.8	0.302	5.54	1.060	1.920	1.918	0	30	
PFDA	354163.8	11	13C6-PFDA	833860.3	5.0	0.425	5.56	1.000	2.000	2.194	10	30	
8:2-FTS	46161.7	11	13C2-8:2-FTS	48843.8	4.8	0.945	5.57	1.000	1.920	1.902	-1	30	
PFOSA	258929.7	11	13C8-PFOSA	621051.1	5.0	0.417	5.65	1.000	2.000	2.085	4	30	
NMeFOSAA	74530.0	18	d3-NMeFOSAA	211669.9	5.0	0.352	5.70	1.000	2.000	2.188	9	30	
PFDS	80356.0	11	13C8-PFOS	323744.9	4.8	0.248	5.80	1.100	1.930	2.038	6	30	
PFUnDA	365394.2	11	13C7-PFUnDA	556397.6	5.0	0.657	5.82	1.000	2.000	2.175	9	30	
NEtFOSAA	78019.8	21	d5-NEtFOSAA	185772.3	5.0	0.420	5.84	1.000	2.000	2.141	7	30	
PFDoDA	525708.8	11	13C2-PFDoDA	1141978.4	5.0	0.460	6.05	1.000	2.000	2.319	16	30	
10:2-FTS	43377.8	11	13C2-8:2-FTS	48843.8	4.8	0.888	6.07	1.090	1.930	1.809	-6	30	
NMePFOSAE	139498.0	11	d7-NMePFOSAE	235720.4	5.0	0.592	6.10	1.000	2.000	2.611	31	30	OOS
NMePFOSA	36085.8	11	d3-NMePFOSA	84477.0	5.0	0.427	6.11	1.000	2.000	2.156	8	30	
PFDoS	41285.2	11	13C8-PFOS	323744.9	4.8	0.128	6.22	1.190	1.940	1.932	0	30	
NEtPFOSAE	141602.3	11	d9-NEtPFOSAE	222699.5	5.0	0.636	6.26	1.000	2.000	2.077	4	30	
NEtPFOSA	34381.7	11	d5-NEtPFOSA	67398.2	5.0	0.510	6.27	1.000	2.000	2.386	19	30	
PFTrDA	470034.5	11	13C2-PFDoDA	1141978.4	5.0	0.412	6.25	1.030	2.000	2.112	6	30	
PFTeDA	338043.0	10	13C2-PFTeDA	845410.2	5.0	0.400	6.43	1.000	2.000	2.153	8	30	
PFHxDA	164786.3	11	13C2-PFTeDA	845410.2	5.0	0.195	6.73	1.050	2.000	2.140	7	30	
PFODA	127400.5	10	13C2-PFTeDA	845410.2	5.0	0.151	6.99	1.090	2.000	2.165	8	30	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM

Result Table: 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV2_CAL3			**Data File:**		18DEC19D-17.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-19T12:32:05
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC19DCCV1-5
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	921359.9	942675.8	-2	50	
13C2-PFOA	5.0	499231.7	520268.5	-4	50	
13C4-PFOS	4.8	304937.8	307968.9	-1	50	
13C2-PFDA	5.0	444282.3	487375.3	-9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1041459.2	13C3-PFBA	921359.9	1.130	5.000	5.005	100	70-130	
E13C5-PFPeA	991244.2	13C3-PFBA	921359.9	1.076	5.000	5.017	100	70-130	
E13C3-PFBS	430435.8	13C3-PFBA	921359.9	0.467	4.650	4.549	98	70-130	
E13C2-4:2-FTS	62715.7	13C2-PFOA	499231.7	0.126	4.670	4.771	102	70-130	
E13C5-PFHxA	710233.2	13C2-PFOA	499231.7	1.423	5.000	5.089	102	70-130	
E13C3-PFHxS	338483.6	13C2-PFOA	499231.7	0.678	4.730	5.131	108	70-130	
E13C4-PFHpA	540874.0	13C2-PFOA	499231.7	1.083	5.000	4.680	94	70-130	
E13C2-6:2-FTS	45597.3	13C2-PFOA	499231.7	0.091	4.750	4.595	97	70-130	
E13C8-PFOA	977096.9	13C2-PFOA	499231.7	1.957	5.000	5.382	108	70-130	
E13C8-PFOS	323744.9	13C4-PFOS	304937.8	1.062	4.780	4.748	99	70-130	
E13C9-PFNA	653790.8	13C4-PFOS	304937.8	2.144	5.000	4.877	98	70-130	
E13C6-PFDA	833860.3	13C2-PFDA	444282.3	1.877	5.000	5.346	107	70-130	
E13C2-8:2-FTS	48843.8	13C2-PFDA	444282.3	0.110	4.790	5.666	118	70-130	
E13C8-PFOSA	621051.1	13C2-PFDA	444282.3	1.398	5.000	5.443	109	70-130	
Ed3-NMeFOSAA	211669.9	13C2-PFDA	444282.3	0.476	5.000	5.242	105	70-130	
E13C7-PFUnDA	556397.6	13C2-PFDA	444282.3	1.252	5.000	5.242	105	70-130	
Ed5-NEtFOSAA	185772.3	13C2-PFDA	444282.3	0.418	5.000	6.160	123	70-130	
E13C2-PFDoDA	1141978.4	13C2-PFDA	444282.3	2.570	5.000	5.408	108	70-130	
Ed7-NMePFOSAE	235720.4	13C2-PFDA	444282.3	0.531	5.000	4.741	95	70-130	
Ed3-NMePFOSA	84477.0	13C2-PFDA	444282.3	0.190	5.000	5.225	104	70-130	
Ed9-NEtPFOSAE	222699.5	13C2-PFDA	444282.3	0.501	5.000	5.125	102	70-130	
Ed5-NEtPFOSA	67398.2	13C2-PFDA	444282.3	0.152	5.000	5.262	105	70-130	
E13C2-PFTeDA	845410.2	13C2-PFDA	444282.3	1.903	5.000	5.362	107	70-130	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

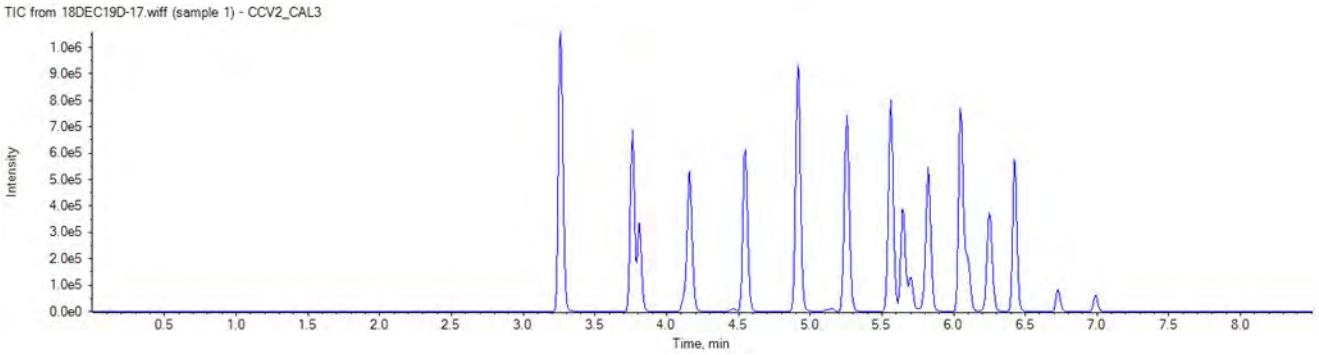
Analyte Quantitation Peak Table

Sample Name: CCV2_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC19D-17.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	422962.8		A	13C4-PFBA	3.26	1041459.2	0.406	2.156
PFPeA	3.76	1.000	415736.1		A	13C5-PFPeA	3.76	991244.2	0.419	2.165
PFBS	3.81	1.000	172638.8		A	13C3-PFBS	3.81	430435.8	0.401	1.980
4:2-FTS	4.12	1.000	48437.0		A	13C2-4:2-FTS	4.12	62715.7	0.772	2.026
PFHxA	4.16	1.000	394612.5		A	13C5-PFHxA	4.16	710233.2	0.556	2.289
PFPeS	4.18	1.100	85897.1		A	13C3-PFBS	3.81	430435.8	0.200	2.032
PFHpA	4.55	1.000	395165.7		A	13C4-PFHpA	4.55	540874.0	0.731	2.423
PFHxS	4.55	1.000	129625.2		M	13C3-PFHxS	4.55	338483.6	0.383	1.863
6:2-FTS	4.90	1.000	42693.2		A	13C2-6:2-FTS	4.90	45597.3	0.936	2.331
PFHpS	4.91	1.080	129595.0		A	13C3-PFHxS	4.55	338483.6	0.383	2.025
PFOA	4.92	1.000	410966.0		A	13C8-PFOA	4.92	977096.9	0.421	2.228
PFOS	5.25	1.000	138194.6		M	13C8-PFOS	5.25	323744.9	0.427	1.869
PFNA	5.26	1.000	394301.3		A	13C9-PFNA	5.26	653790.8	0.603	2.397
PFNS	5.54	1.060	97632.6		A	13C8-PFOS	5.25	323744.9	0.302	1.918
PFDA	5.56	1.000	354163.8		A	13C6-PFDA	5.56	833860.3	0.425	2.194
8:2-FTS	5.57	1.000	46161.7		A	13C2-8:2-FTS	5.57	48843.8	0.945	1.902
PFOSA	5.65	1.000	258929.7		A	13C8-PFOSA	5.65	621051.1	0.417	2.085
NMeFOSAA	5.70	1.000	74530.0		M	d3-NMeFOSAA	5.70	211669.9	0.352	2.188
PFDS	5.80	1.100	80356.0		A	13C8-PFOS	5.25	323744.9	0.248	2.038
PFUnDA	5.82	1.000	365394.2		A	13C7-PFUnDA	5.82	556397.6	0.657	2.175
NEtFOSAA	5.84	1.000	78019.8		M	d5-NEtFOSAA	5.83	185772.3	0.420	2.141
PFDoDA	6.05	1.000	525708.8		A	13C2-PFDoDA	6.05	1141978.4	0.460	2.319
10:2-FTS	6.07	1.090	43377.8		A	13C2-8:2-FTS	5.57	48843.8	0.888	1.809
NMePFOSAE	6.10	1.000	139498.0		A	d7-NMePFOSAE	6.09	235720.4	0.592	2.611
NMePFOSA	6.11	1.000	36085.8		A	d3-NMePFOSA	6.11	84477.0	0.427	2.156
PFDoS	6.22	1.190	41285.2		A	13C8-PFOS	5.25	323744.9	0.128	1.932
NEtPFOSAE	6.26	1.000	141602.3		A	d9-NEtPFOSAE	6.24	222699.5	0.636	2.077
NEtPFOSA	6.27	1.000	34381.7		A	d5-NEtPFOSA	6.27	67398.2	0.510	2.386
PFTrDA	6.25	1.030	470034.5		A	13C2-PFDoDA	6.05	1141978.4	0.412	2.112
PFTeDA	6.43	1.000	338043.0		A	13C2-PFTeDA	6.43	845410.2	0.400	2.153
PFHxDA	6.73	1.050	164786.3		A	13C2-PFTeDA	6.43	845410.2	0.195	2.140
PFODA	6.99	1.090	127400.5		A	13C2-PFTeDA	6.43	845410.2	0.151	2.165

Total Ion Chromatogram

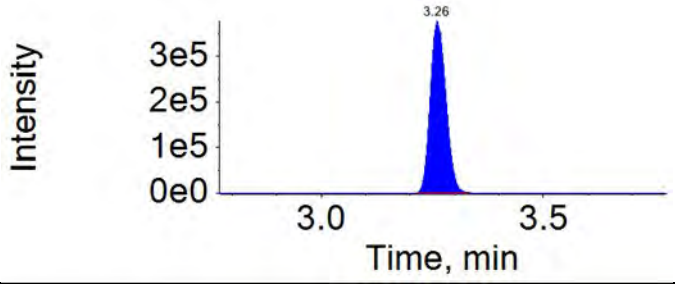


APPROVED
By MCD at 7:31 pm, 12/19/18

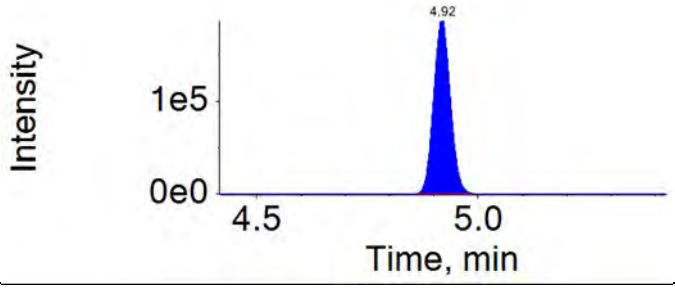
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

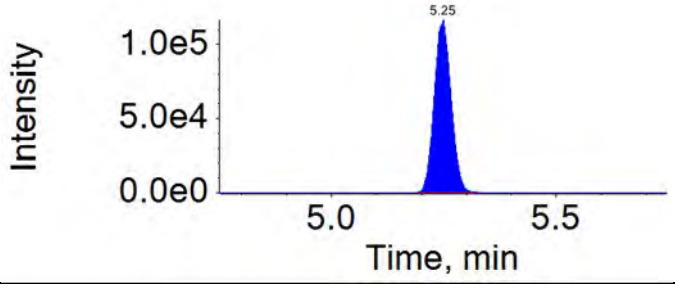
Injection Standard: 13C3-PFBA
216.0 / 172.0



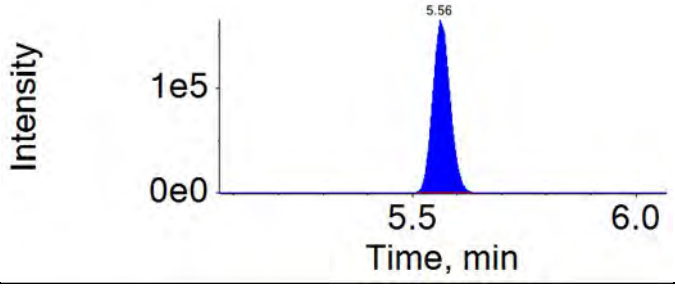
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



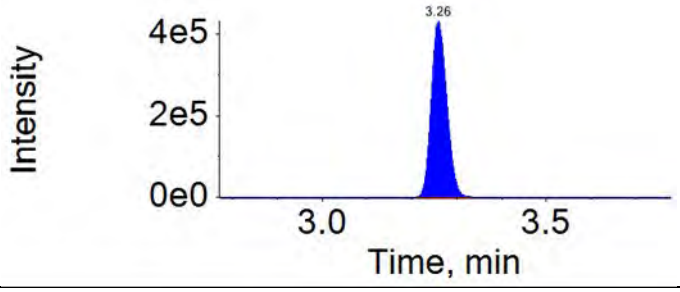
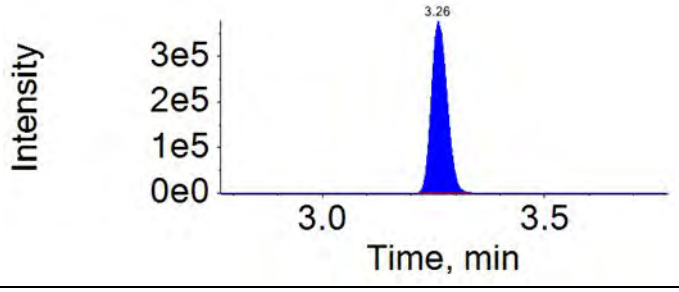
Injection Standard: 13C2-PFDA
515.0 / 470.0

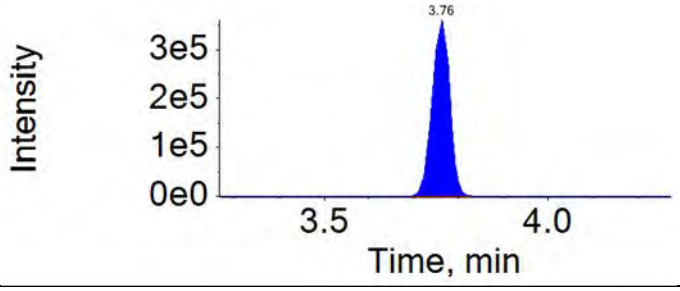
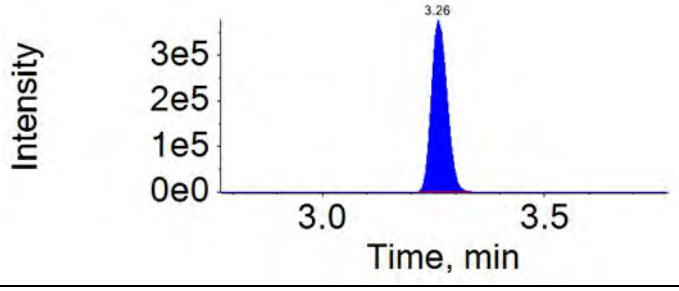


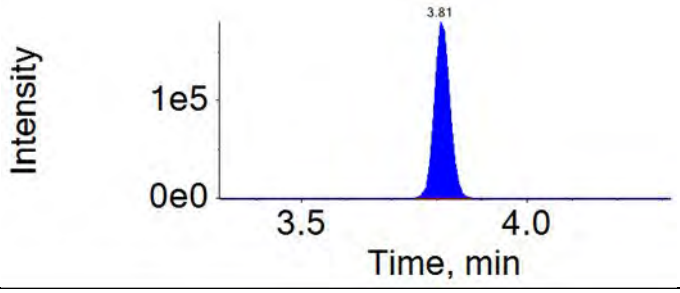
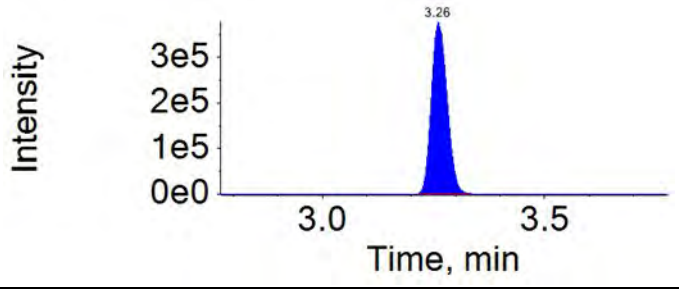
APPROVED
By MCD at 7:31 pm, 12/19/18

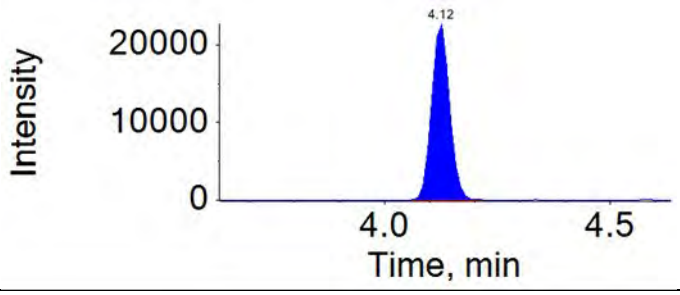
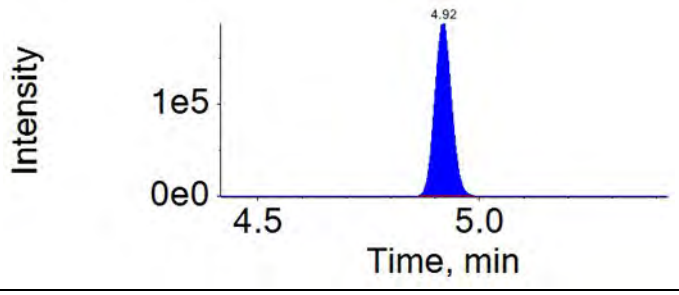
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

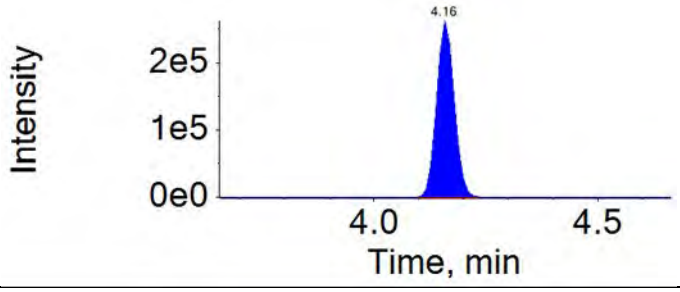
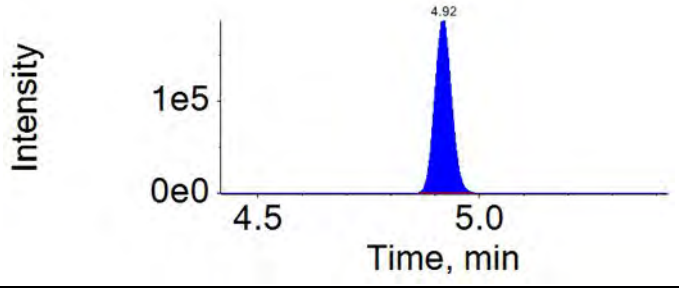
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

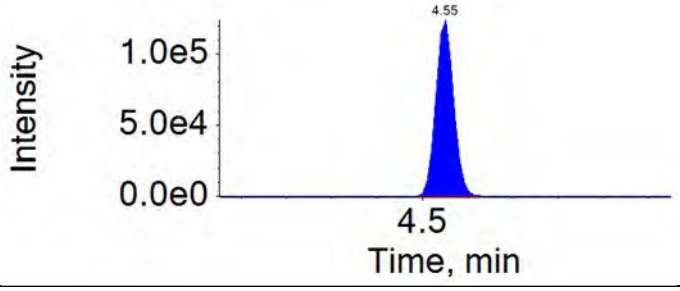
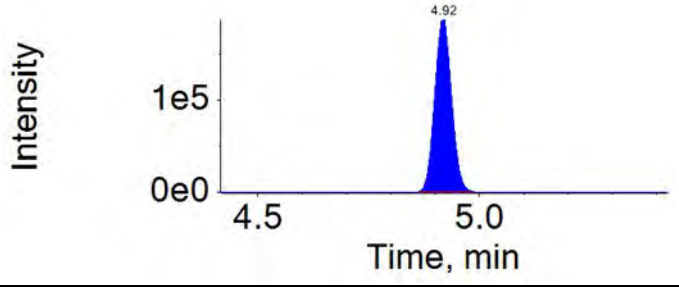
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

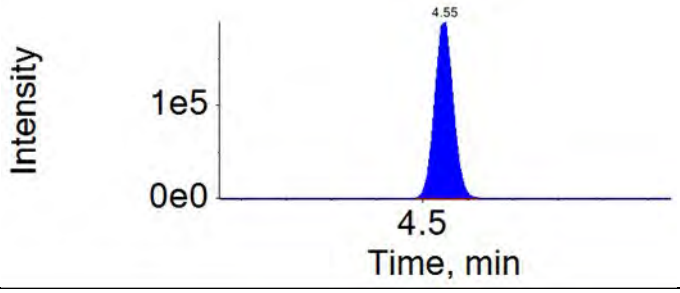
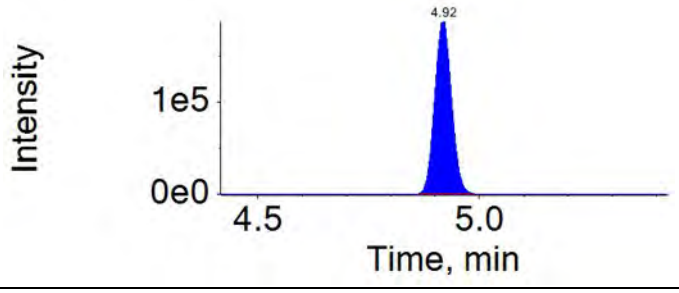
APPROVED
By MCD at 7:31 pm, 12/19/18

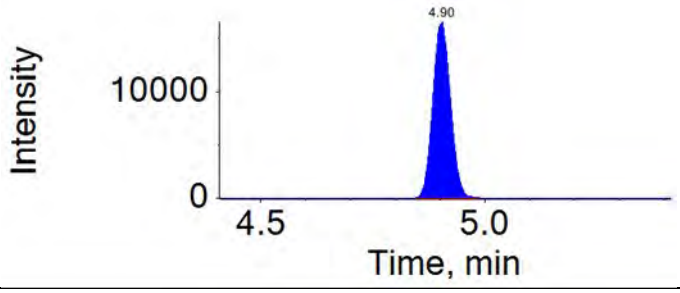
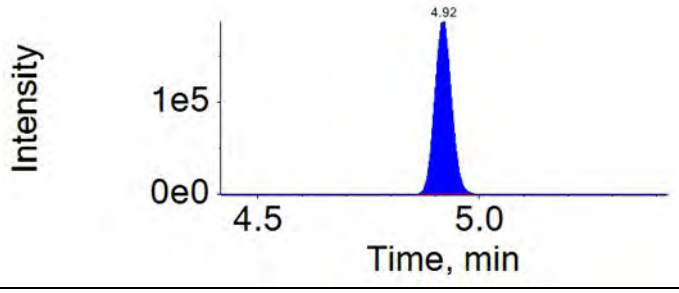
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0
	

Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

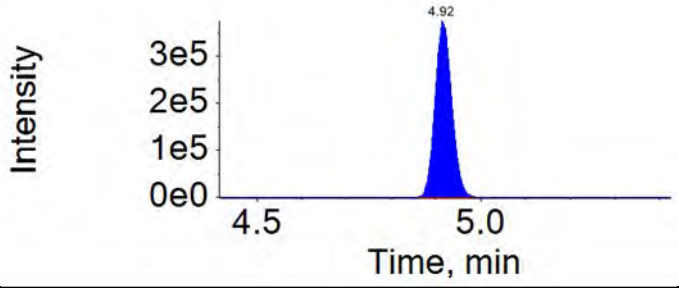
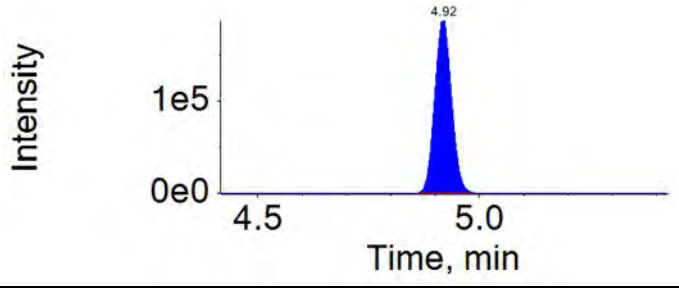
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

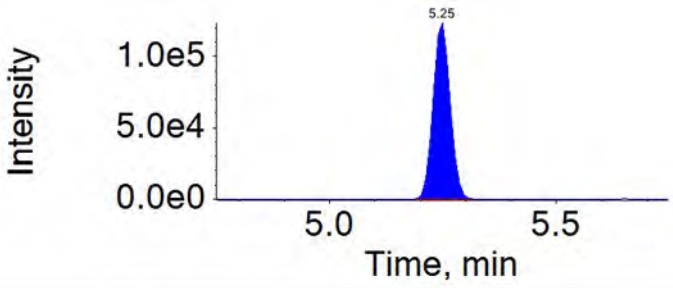
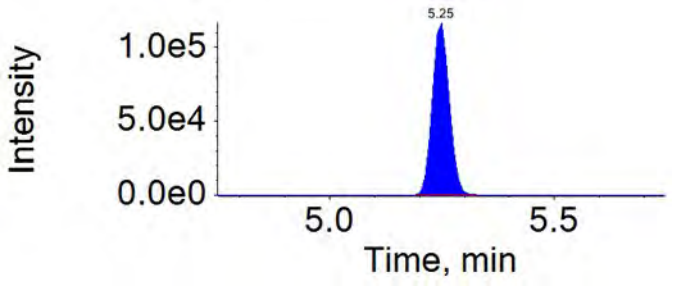
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

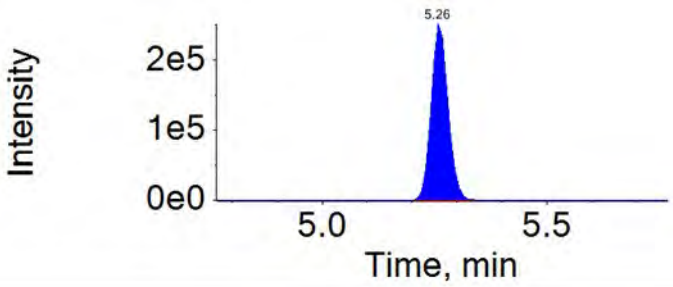
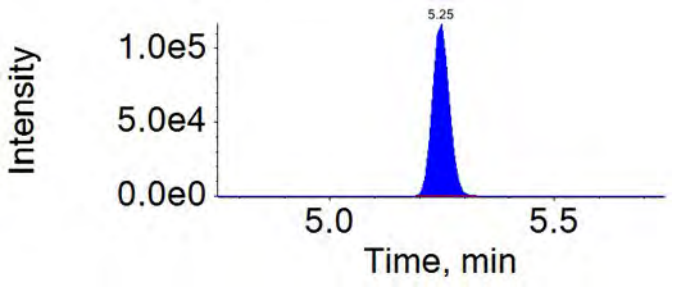
APPROVED
By MCD at 7:31 pm, 12/19/18

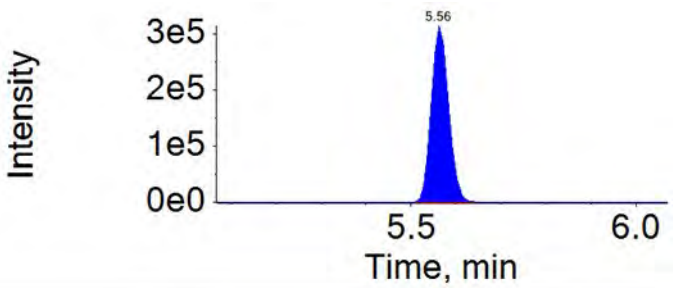
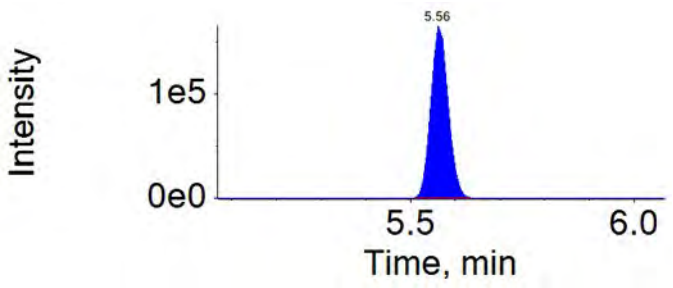
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

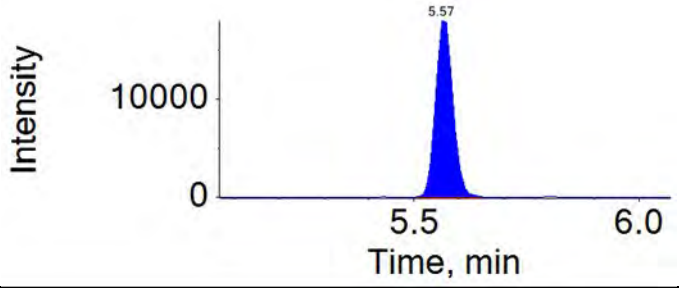
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

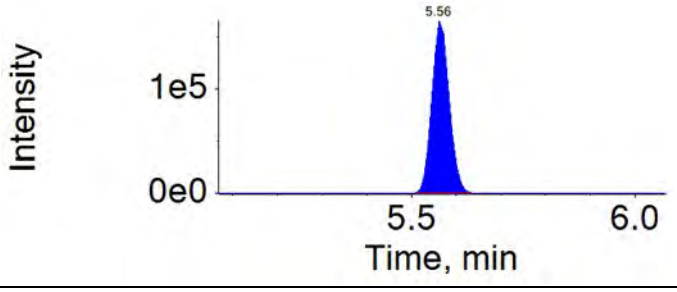
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

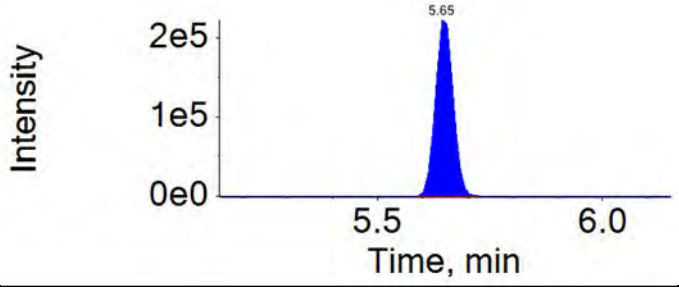
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

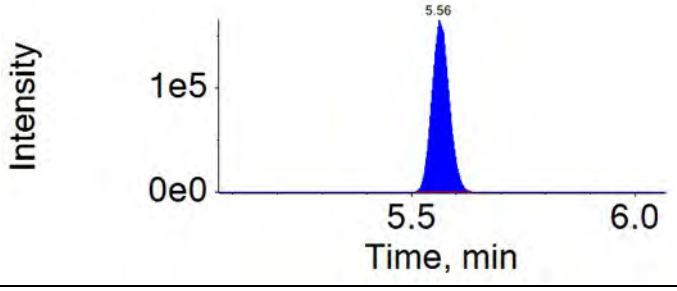
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



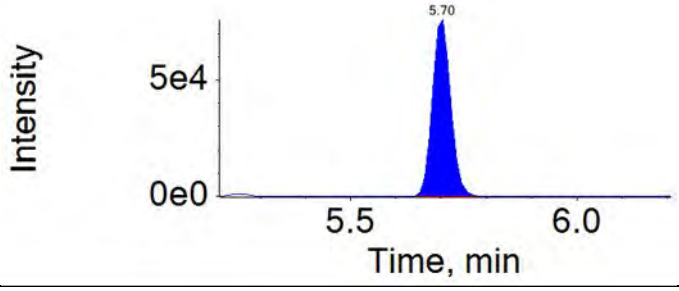


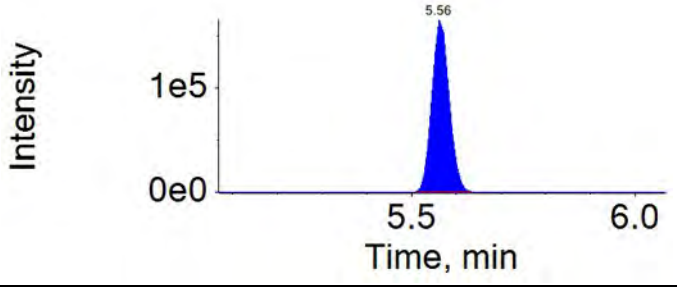
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



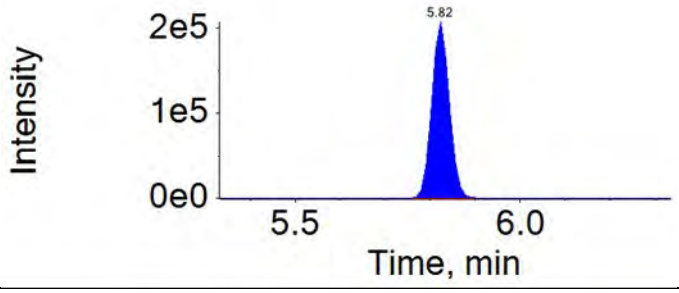


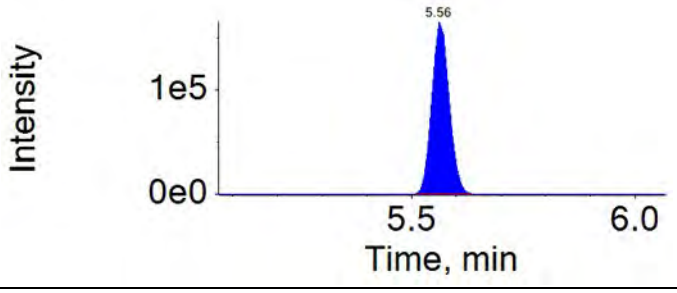
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

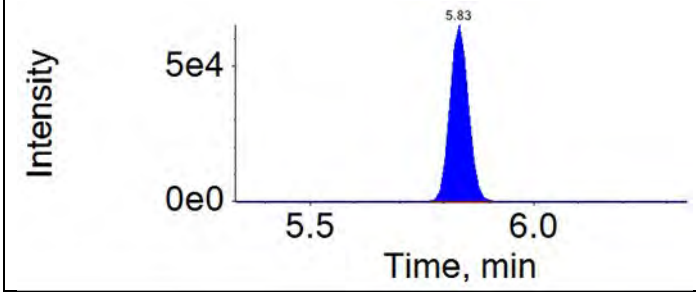
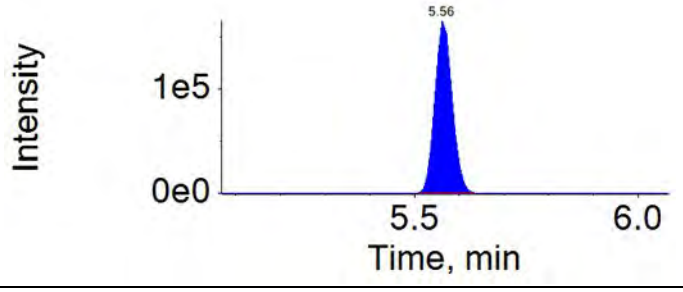


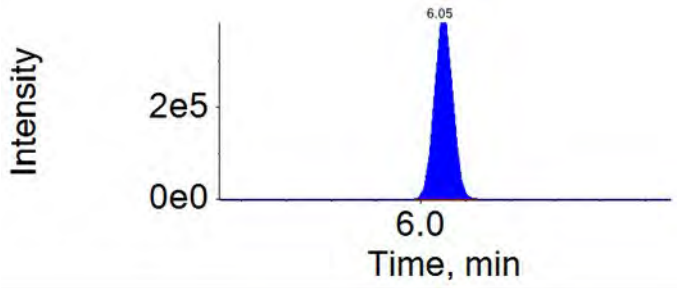
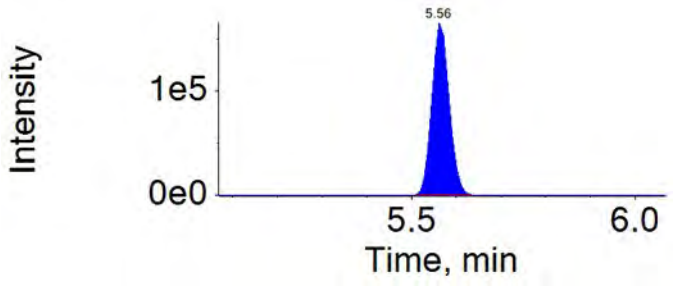


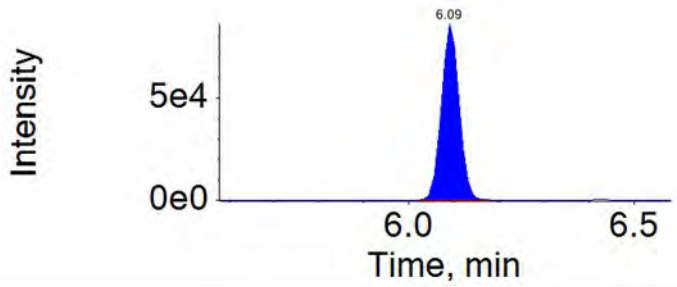
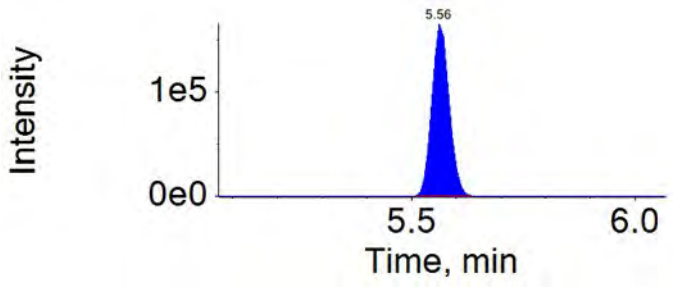
APPROVED
By MCD at 7:31 pm, 12/19/18

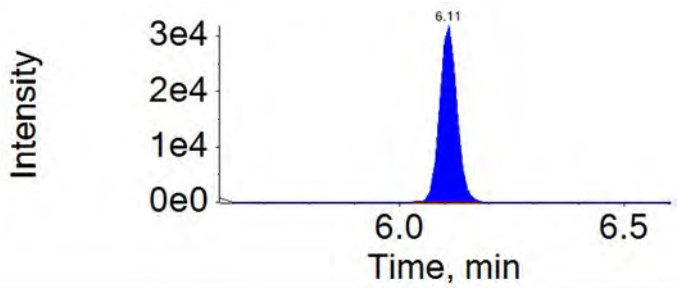
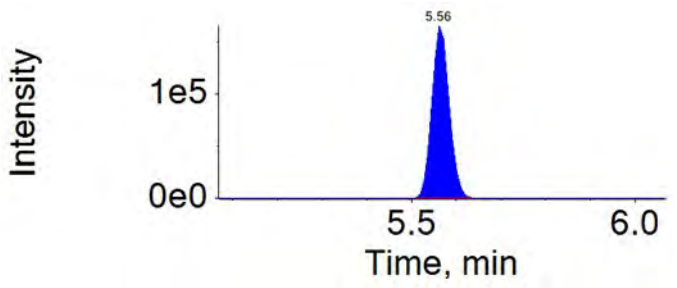
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

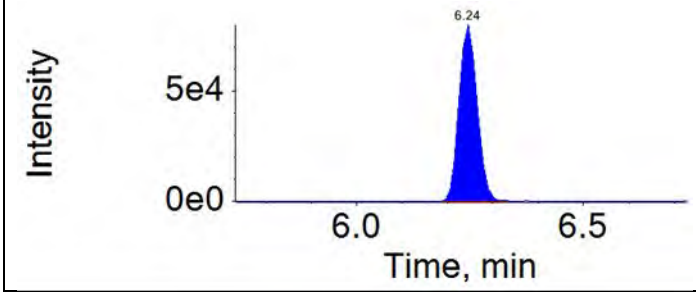
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

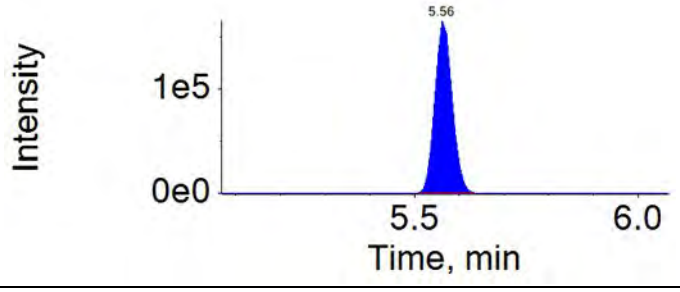
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

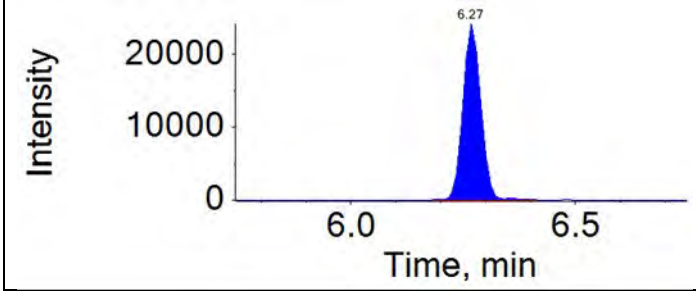
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

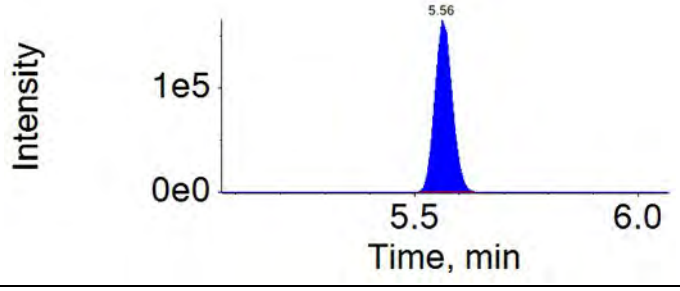
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



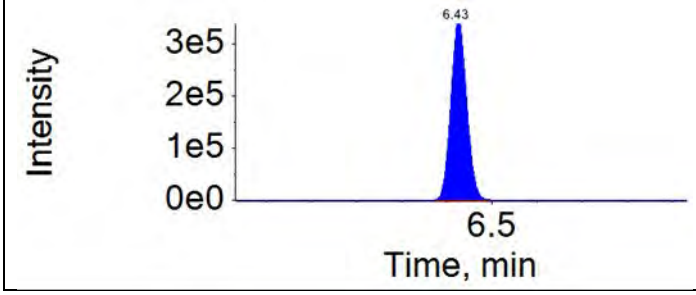


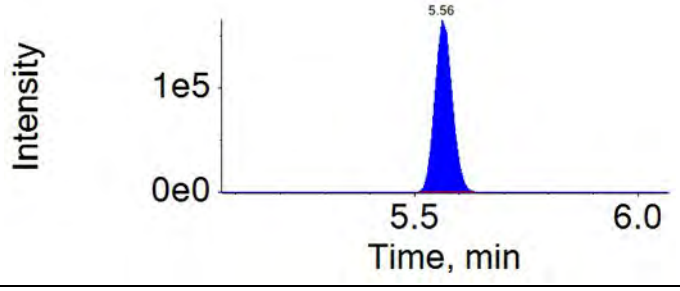
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



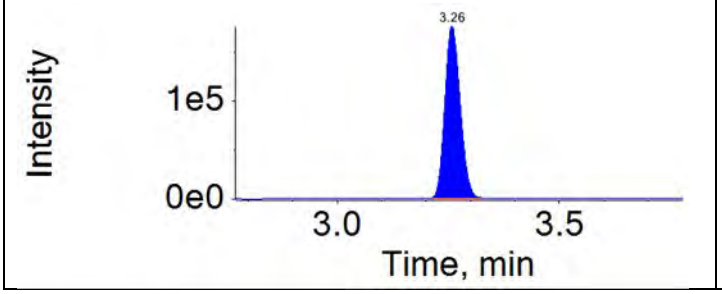


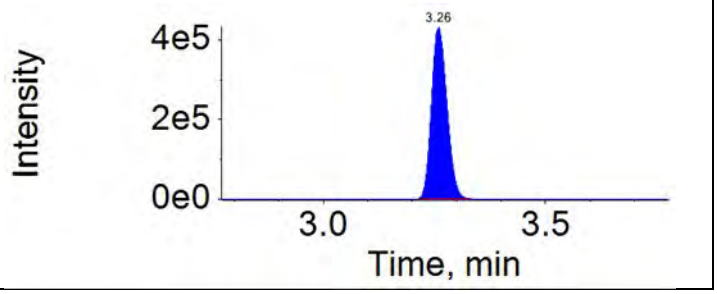
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

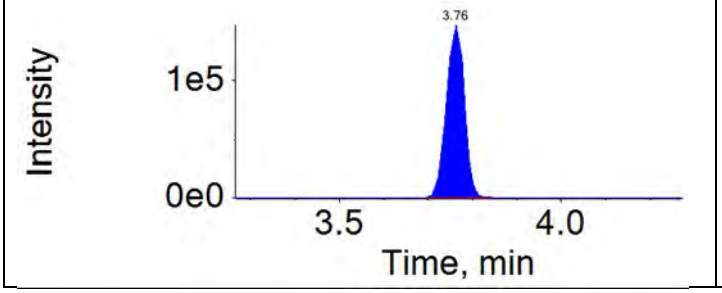
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

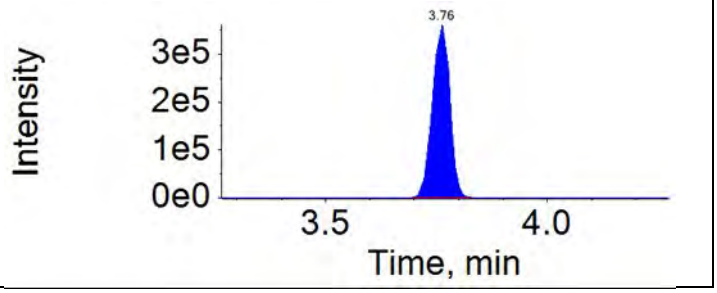
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



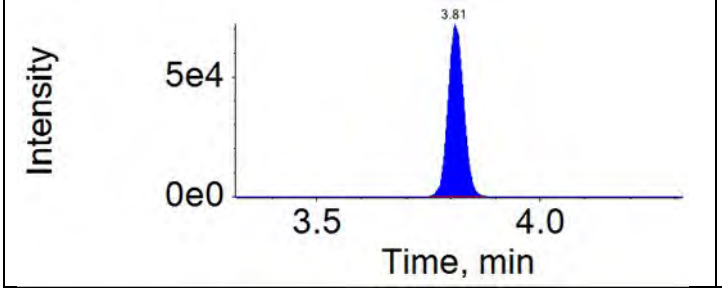


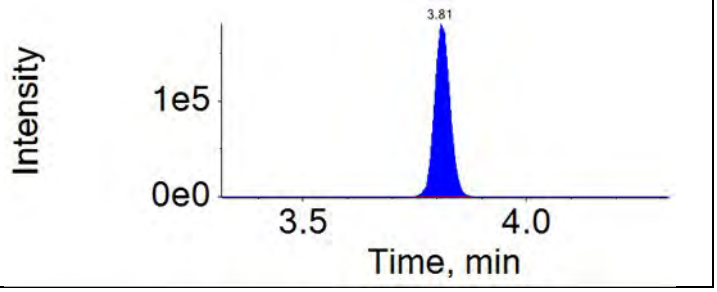
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



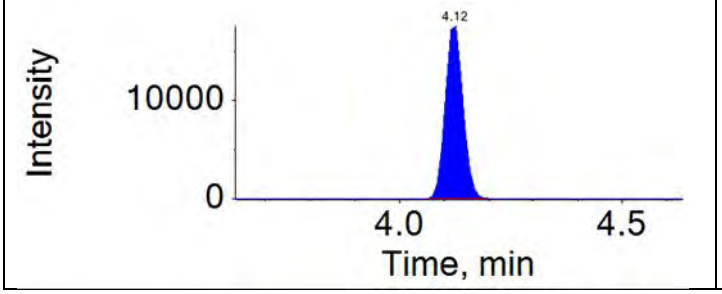


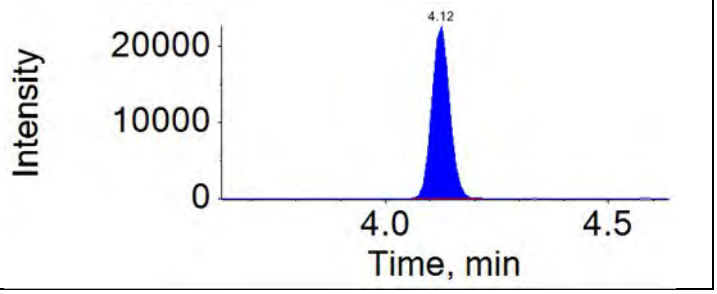
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

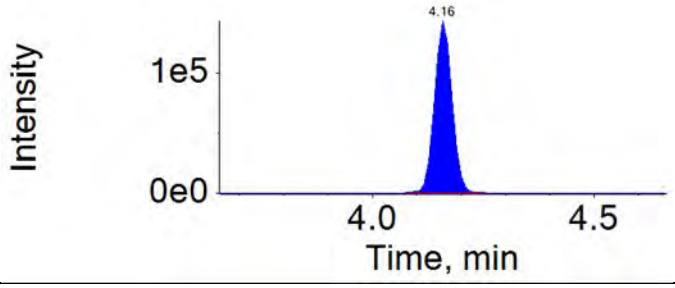
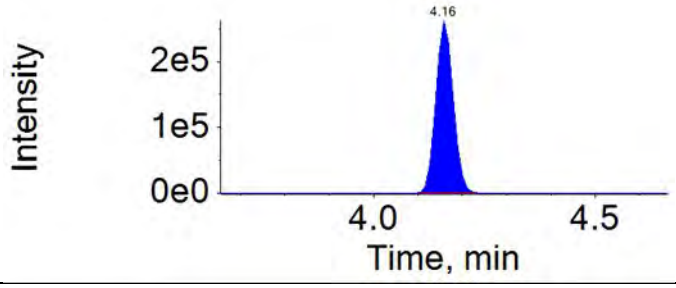


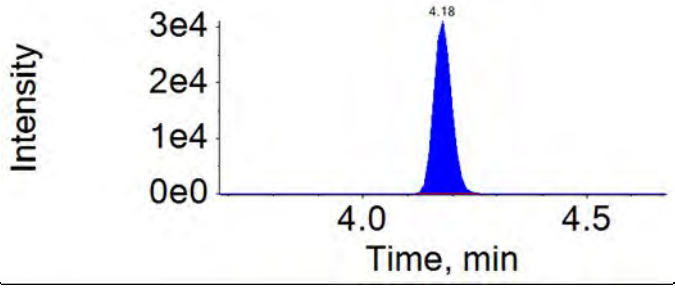
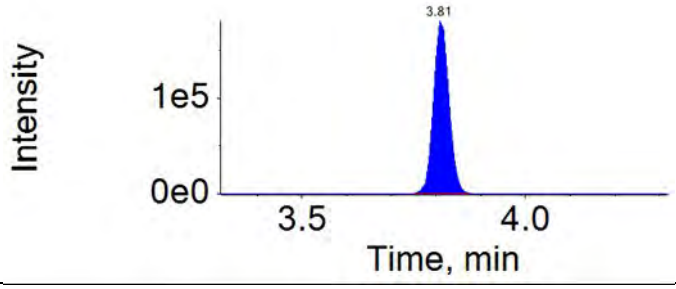


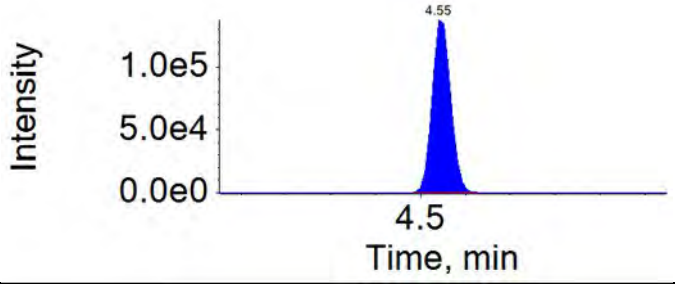
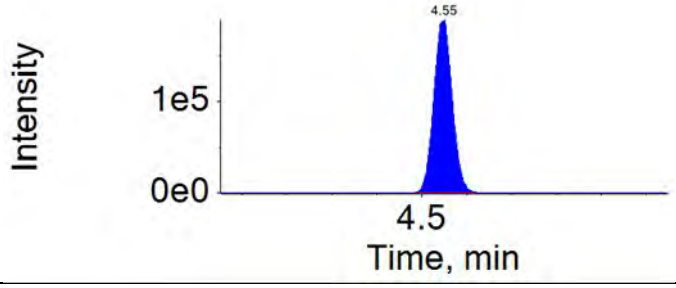
APPROVED
By MCD at 7:31 pm, 12/19/18

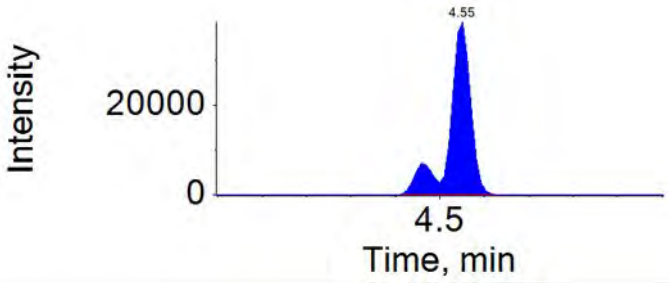
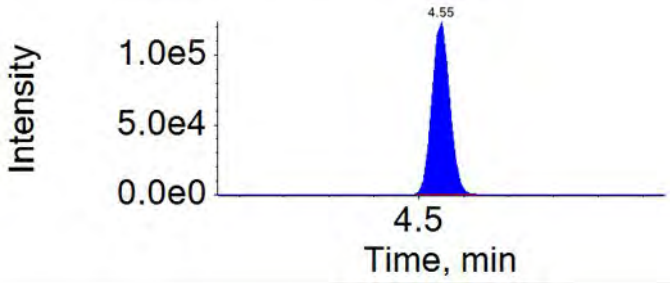
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

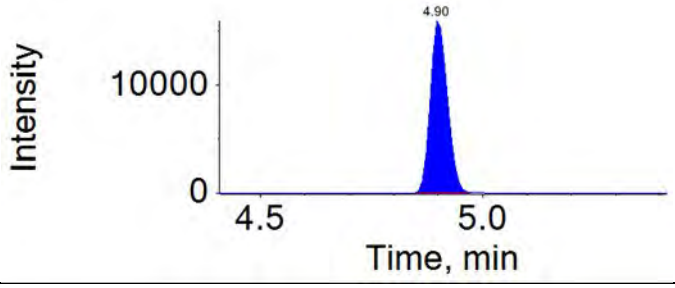
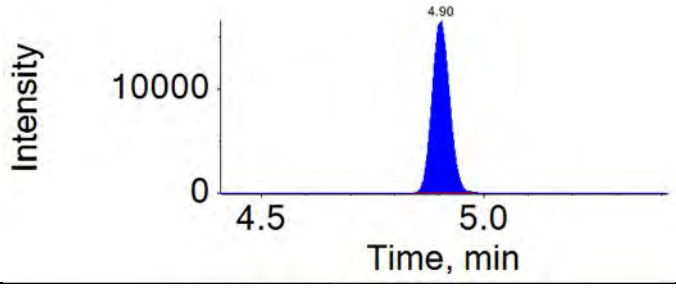
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

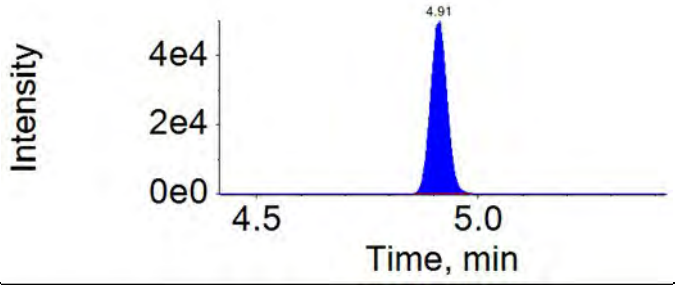
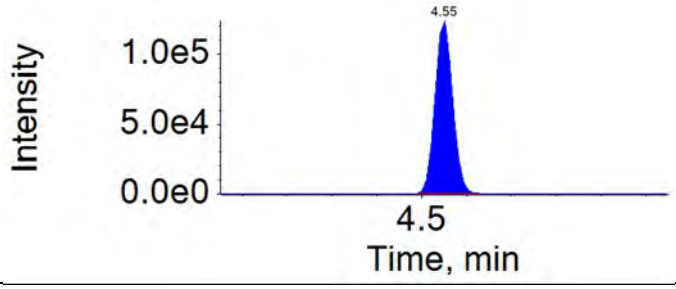
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

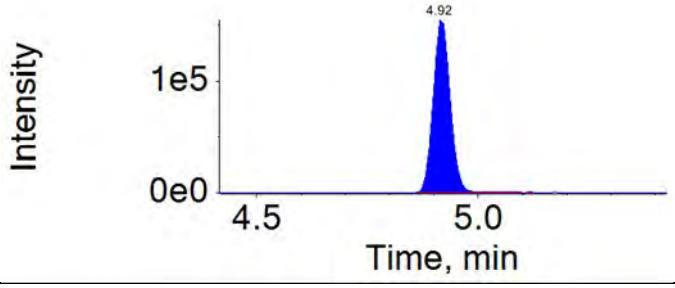
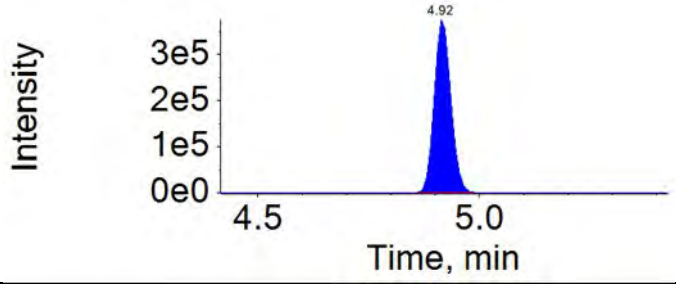
APPROVED
By MCD at 7:31 pm, 12/19/18

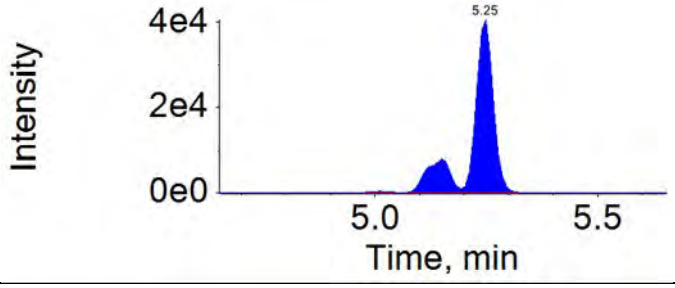
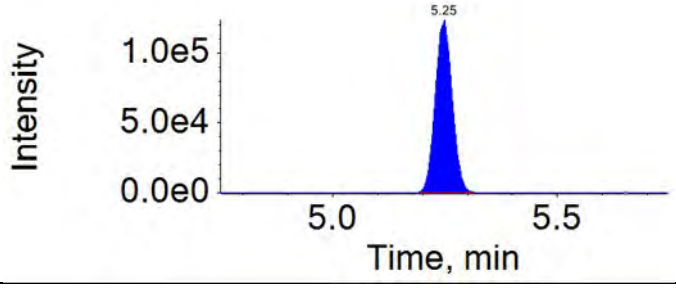
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

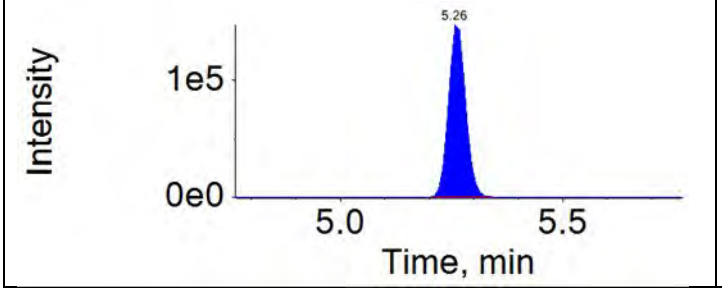
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

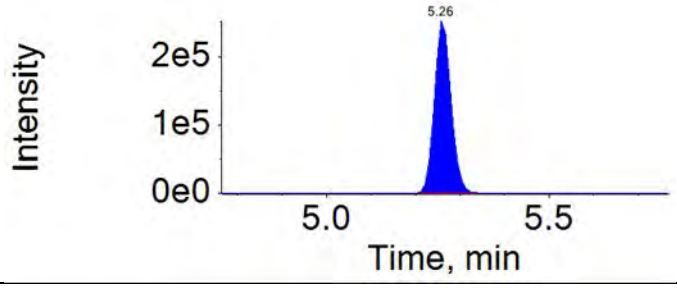
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

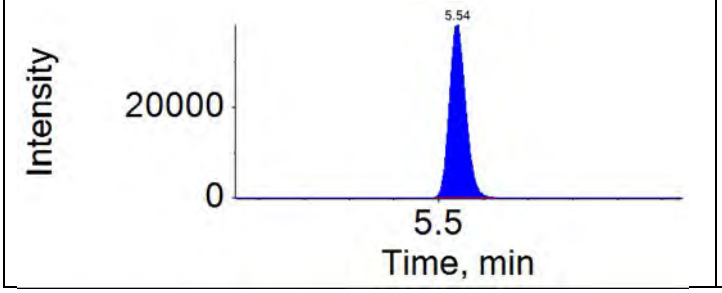
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

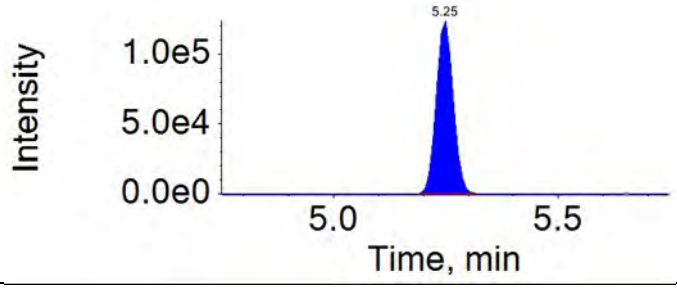
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



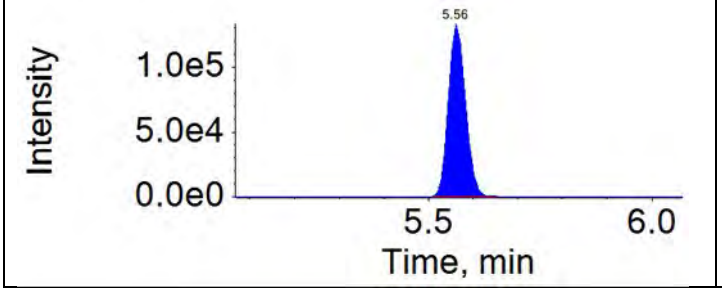


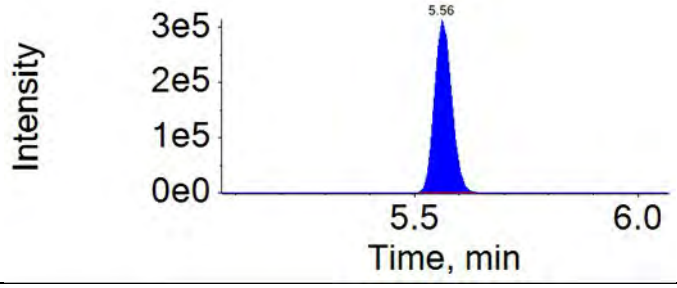
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



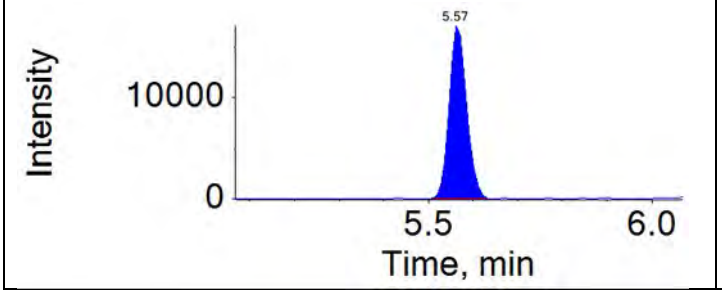


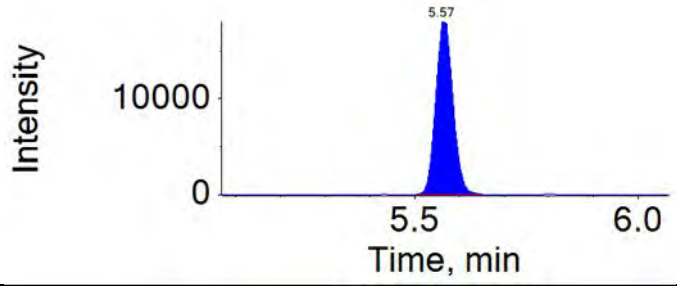
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

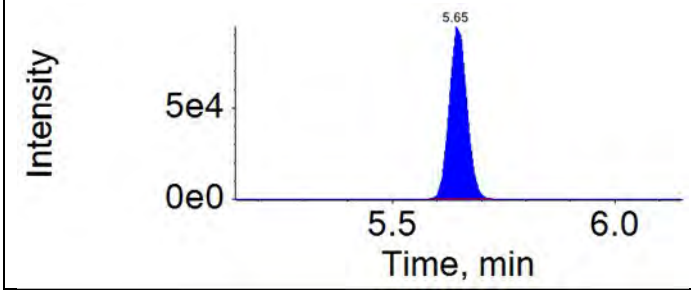
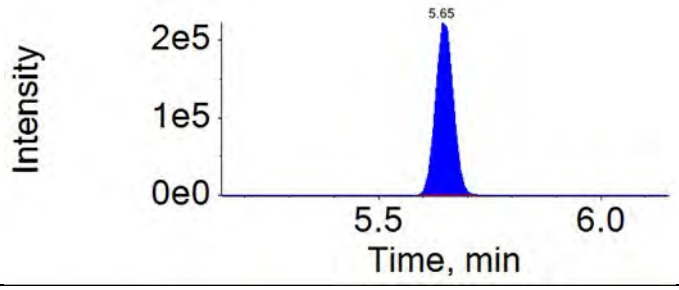


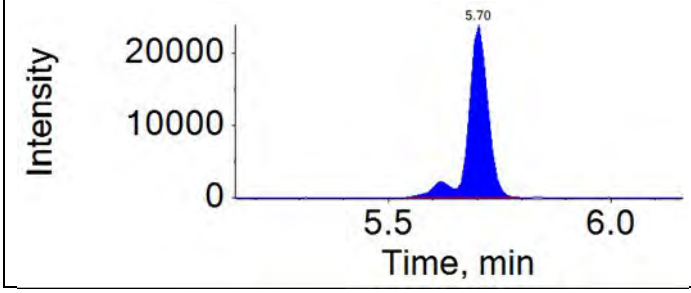
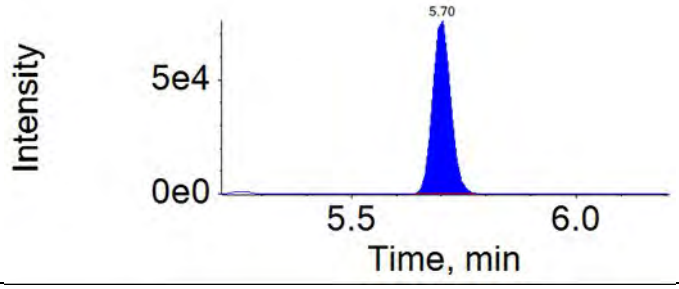


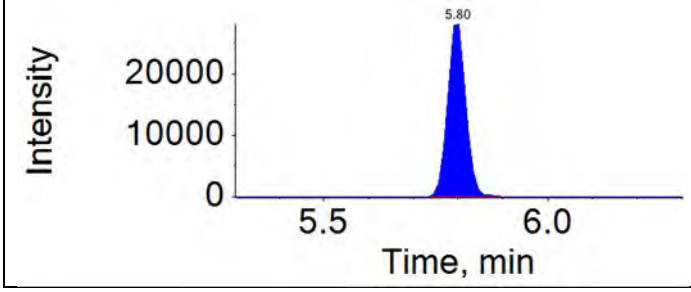
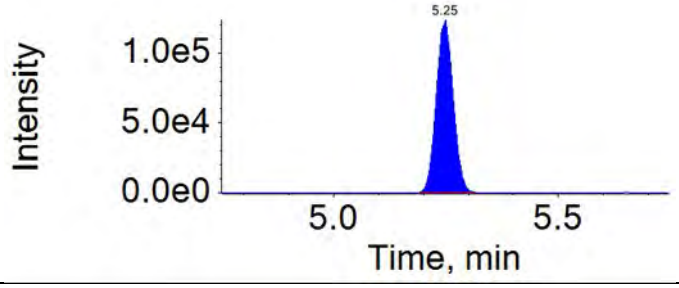
APPROVED
By MCD at 7:31 pm, 12/19/18

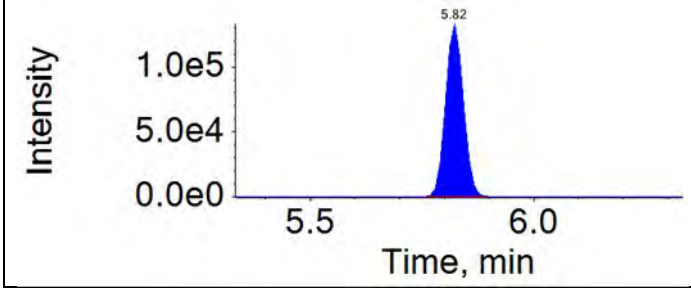
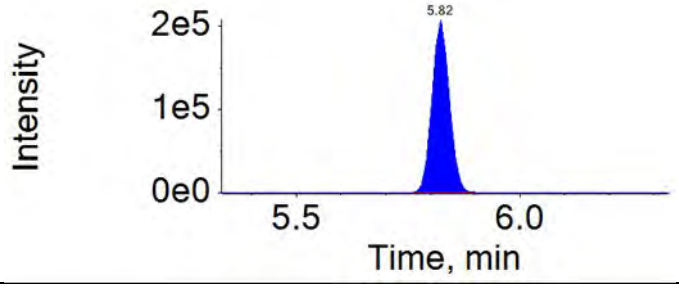
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

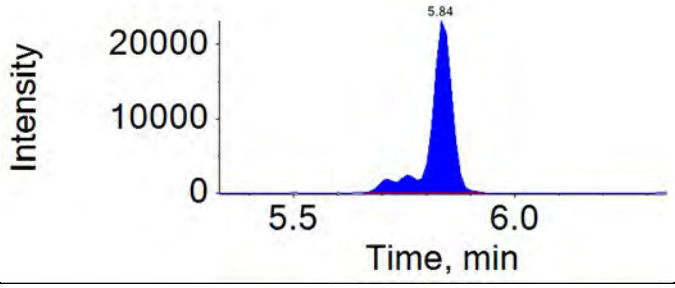
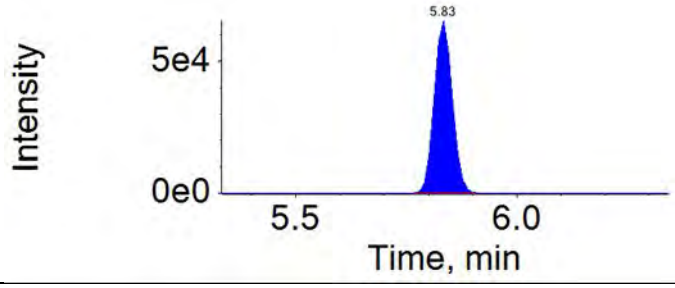
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

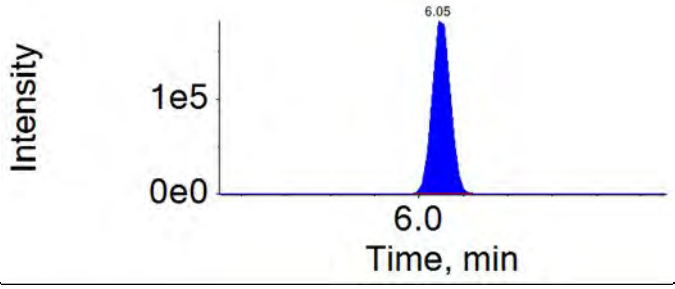
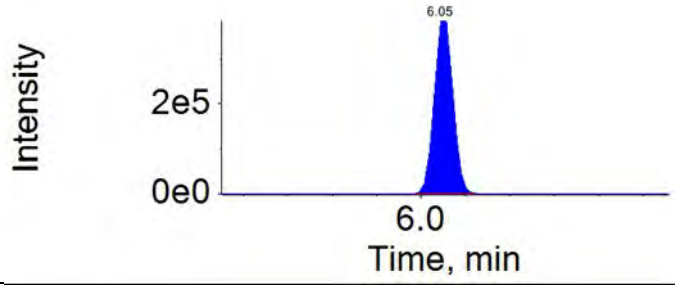
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

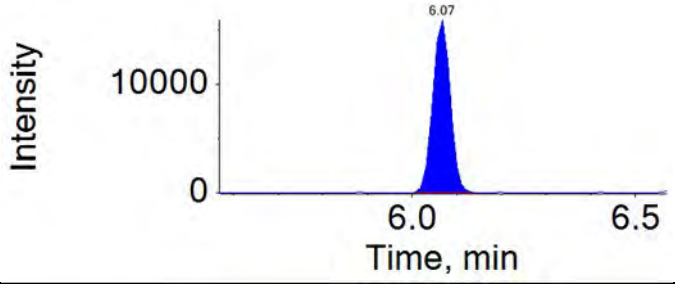
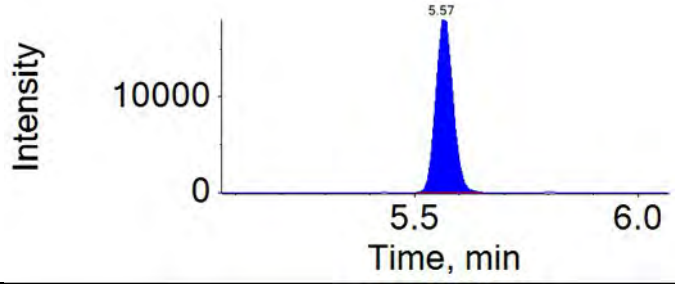
APPROVED
By MCD at 7:31 pm, 12/19/18

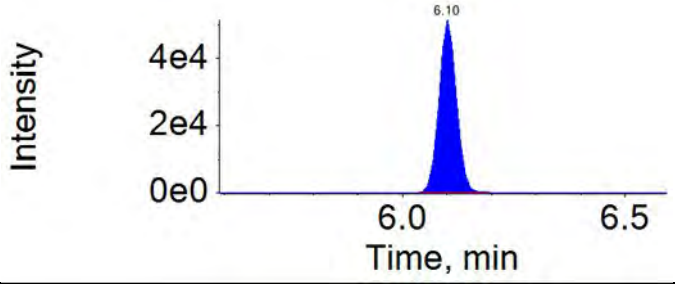
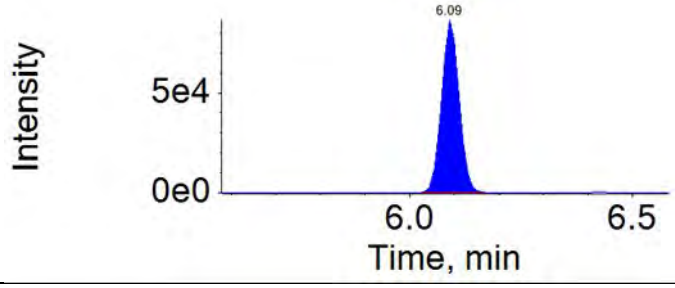
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

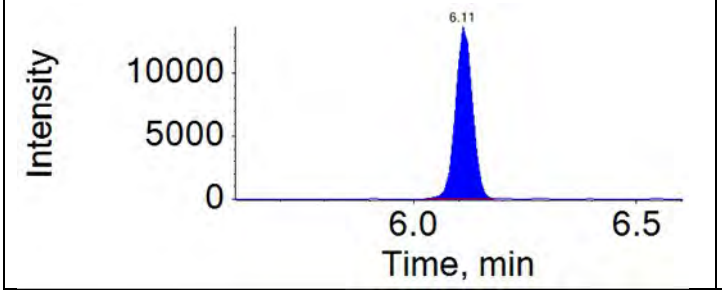
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

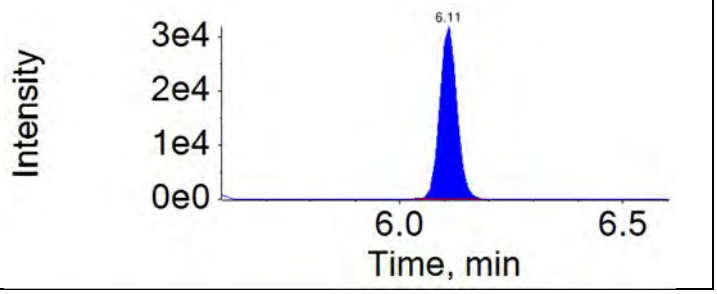
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

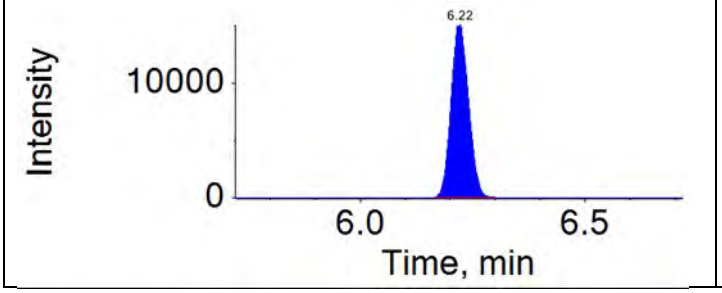
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

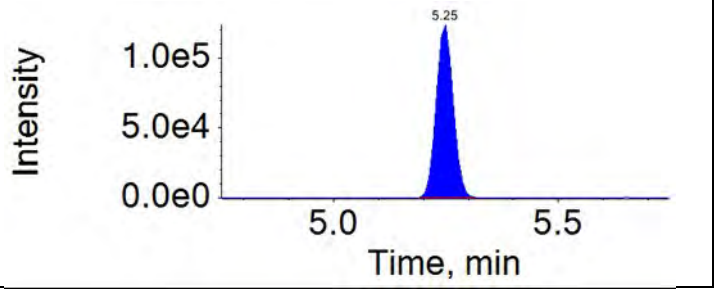
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



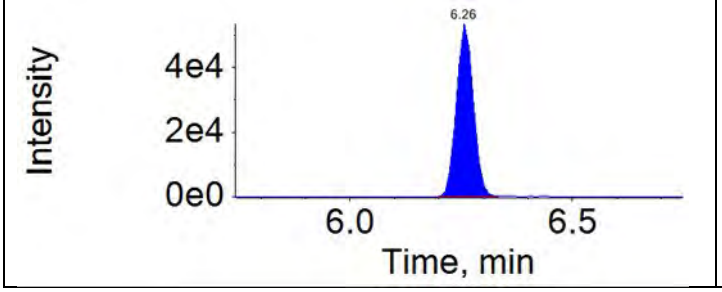


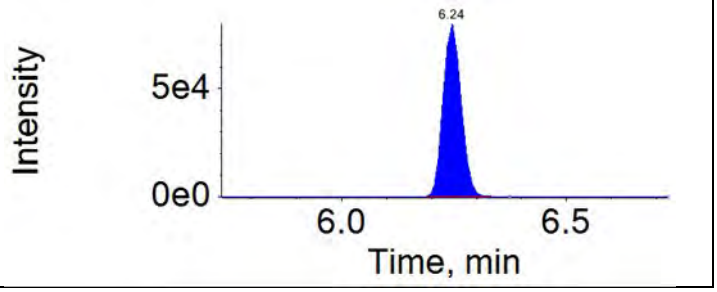
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



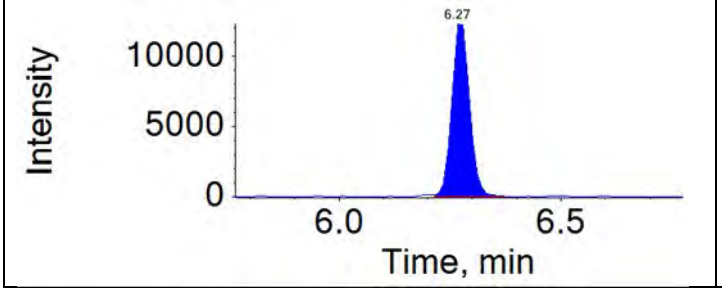


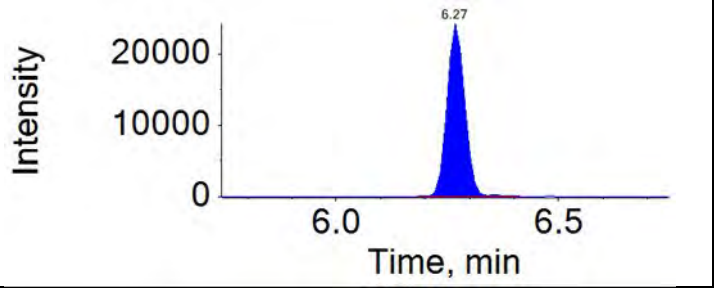
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

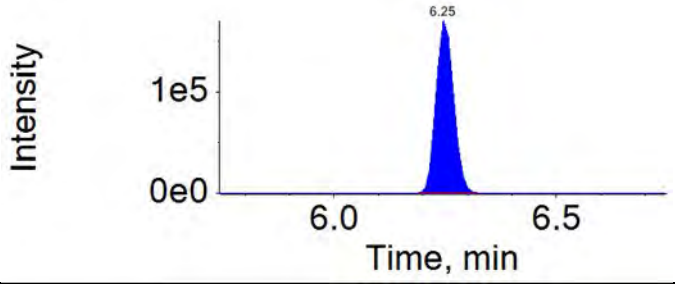
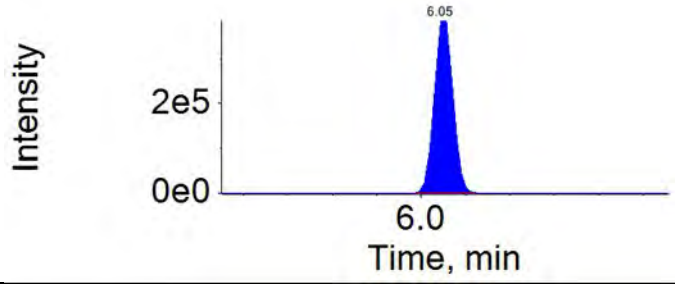


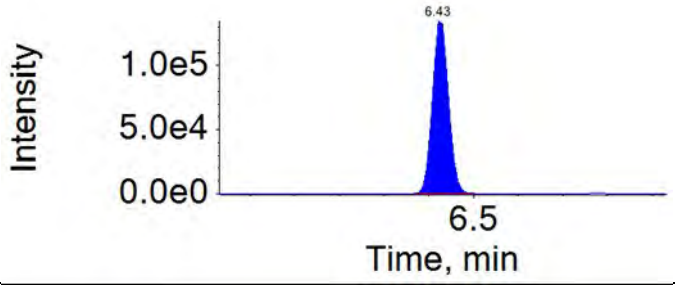
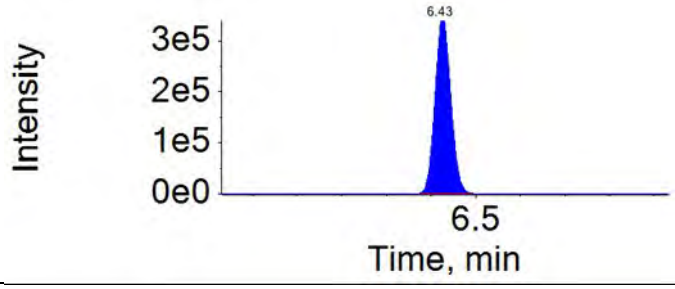


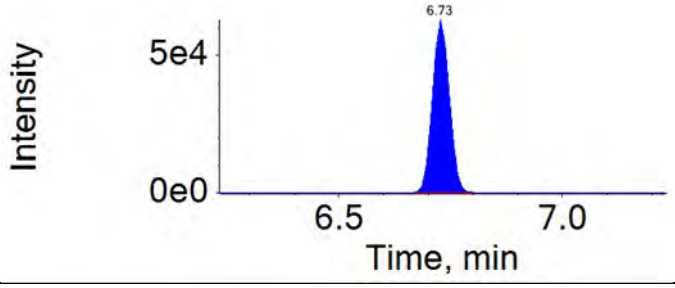
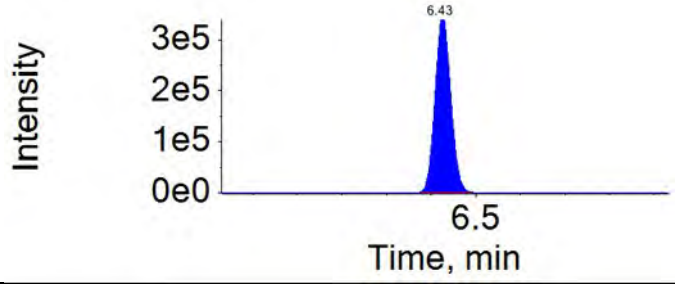
APPROVED
By MCD at 7:31 pm, 12/19/18

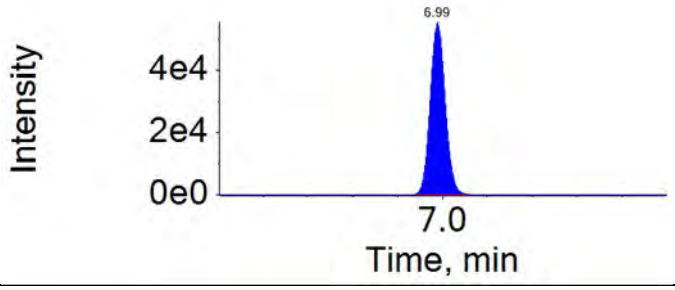
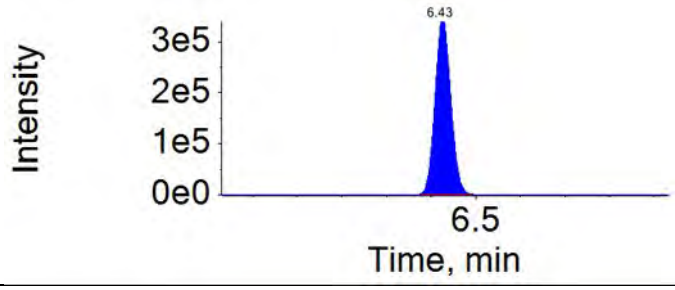
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

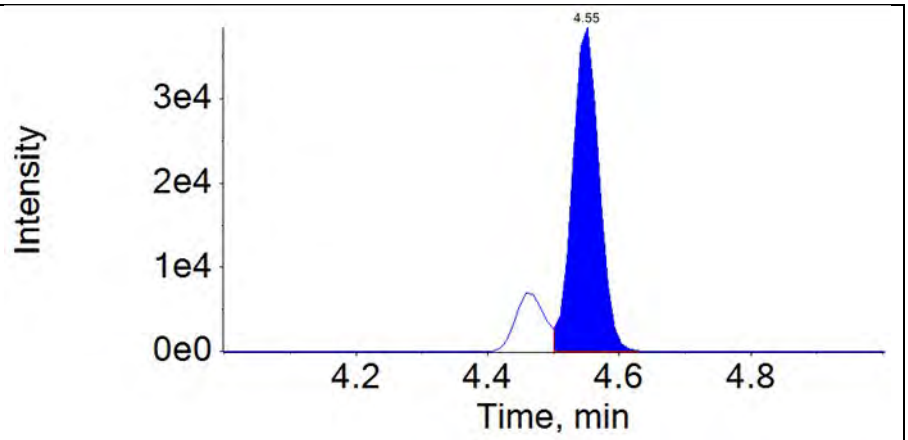
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

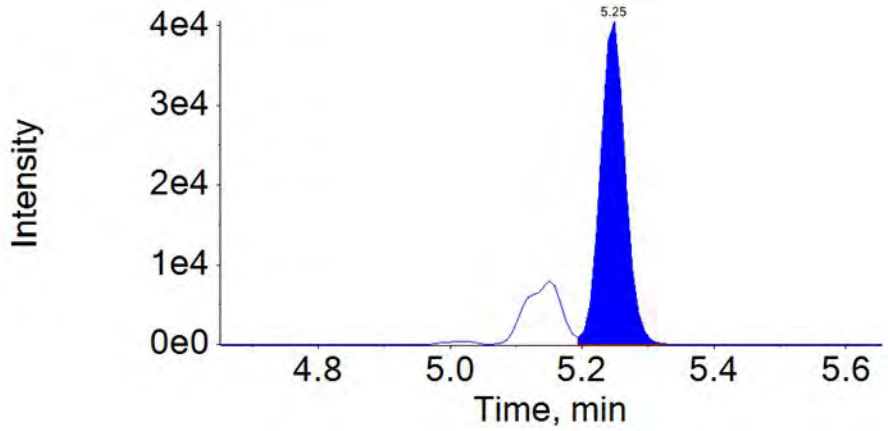
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
108552.6
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



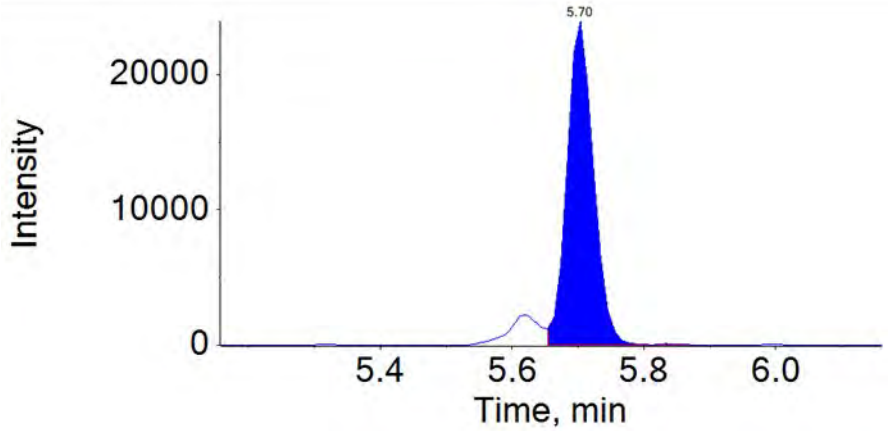
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
106432.9
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
67264.9
Mass Range:
570.0 / 419.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



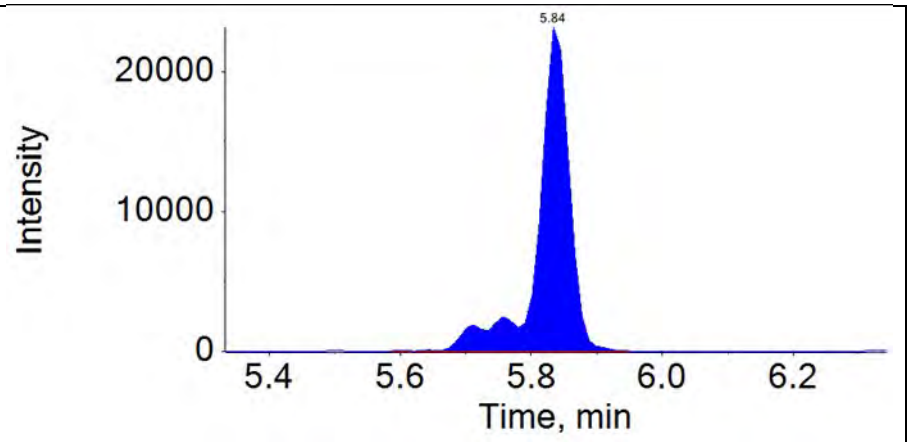
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

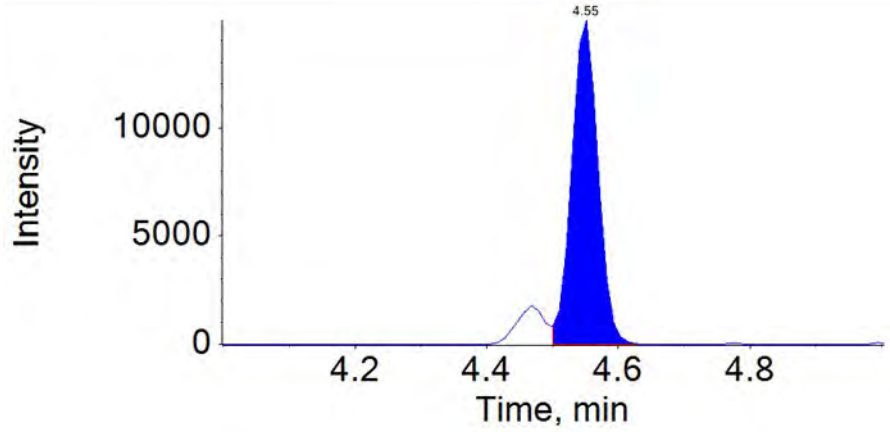
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
78131.3
Mass Range:
584.0 / 419.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



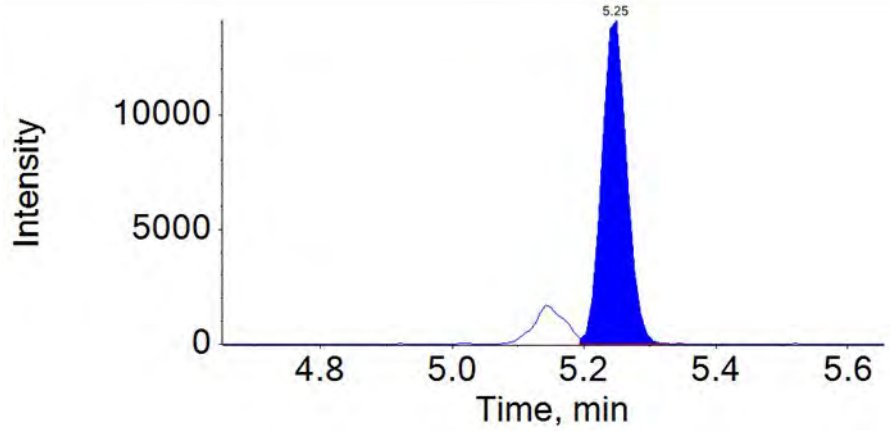
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
41622.8
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
37462.7
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



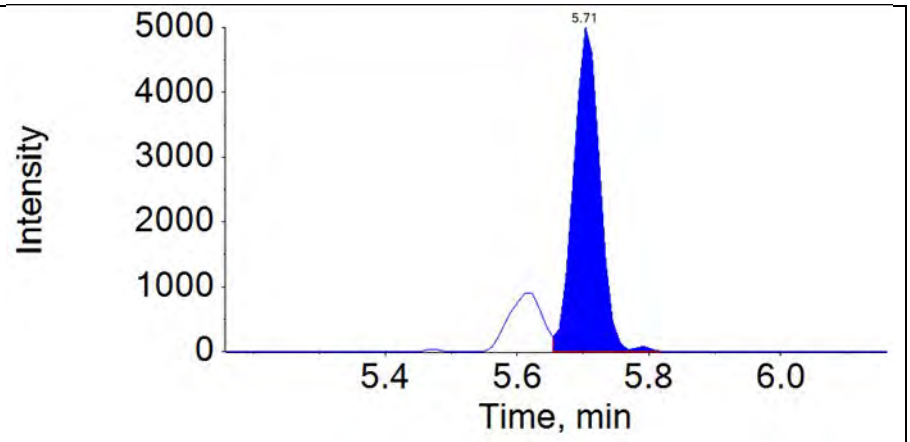
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

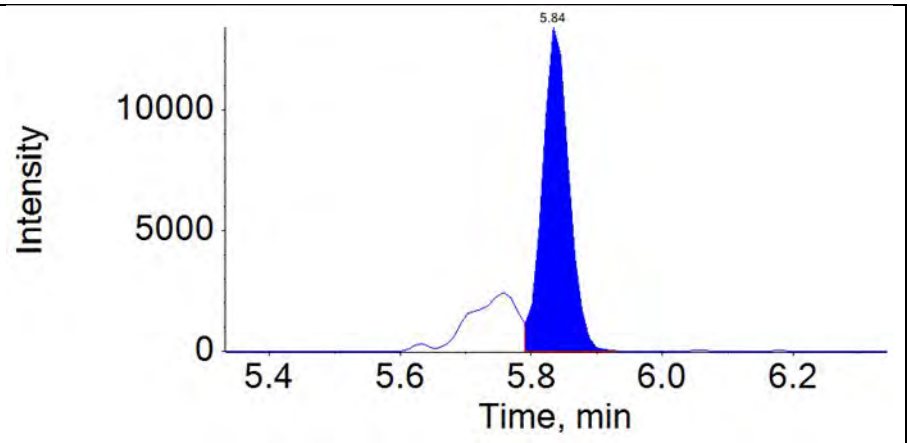
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
13874.0
Mass Range:
570.0 / 483.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



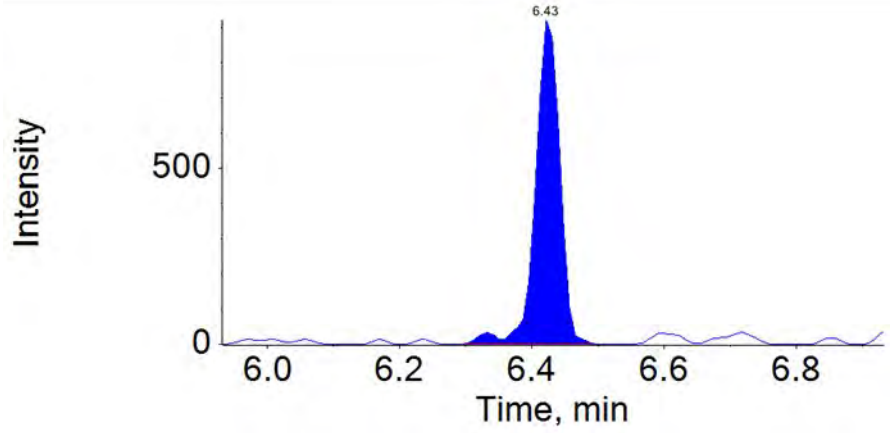
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
37494.1
Mass Range:
584.0 / 526.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
6.43
Peak Area:
2378.2
Mass Range:
713.0 / 169.0
File Name:
18DEC19D-17.wiff
Sample Name:
CCV2_CAL3



Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

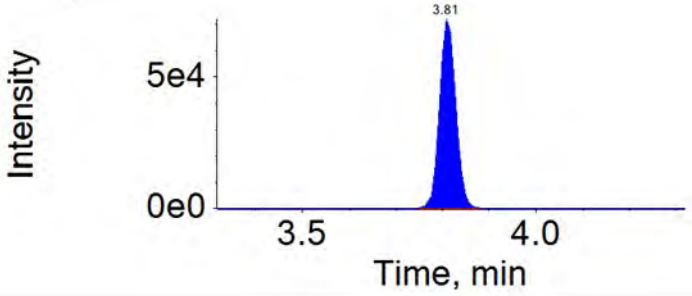
Sample Name: CCV2_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC19D-17.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	172638.8	A	N/A	0.3513			
PFBS_2	3.81	1.00	60648.1	A	N/A	0.3513	-4	50	
4:2-FTS	4.12	1.00	48437.0	A	N/A	0.5881			
4:2-FTS_2	4.12	1.00	28488.2	A	N/A	0.5881	-3	50	
PFHxA	4.16	1.00	394612.5	A	N/A	0.0113			
PFHxA_2	4.16	1.00	4461.1	A	N/A	0.0113	4	50	
PFPeS	4.18	1.10	85897.1	A	N/A	0.5127			
PFPeS_2	4.18	1.10	44043.6	A	N/A	0.5127	-3	50	
PFHpA	4.55	1.00	395165.7	A	N/A	0.0611			
PFHpA_2	4.55	1.00	24162.6	A	N/A	0.0611	16	50	
PFHxS	4.55	1.00	129625.2	M	N/A	0.3617			
PFHxS_2	4.55	1.00	46891.2	M	N/A	0.3617	9	50	
6:2-FTS	4.90	1.00	42693.2	A	N/A	0.6823			
6:2-FTS_2	4.90	1.00	29128.0	A	N/A	0.6823	7	50	
PFHpS	4.91	1.08	129595.0	A	N/A	0.3915			
PFHpS_2	4.91	1.08	50739.6	A	N/A	0.3915	-5	50	
PFOA	4.92	1.00	410966.0	A	N/A	0.0605			
PFOA_2	4.92	1.00	24880.0	A	N/A	0.0605	7	50	
PFOS	5.25	1.00	138194.6	M	N/A	0.3117			
PFOS_2	5.25	1.00	43075.4	M	N/A	0.3117	5	50	
PFNA	5.26	1.00	394301.3	A	N/A	0.0189			
PFNA_2	5.26	1.00	7451.0	A	N/A	0.0189	-11	50	
PFNS	5.54	1.06	97632.6	A	N/A	0.4768			
PFNS_2	5.54	1.06	46550.3	A	N/A	0.4768	3	50	
PFDA	5.56	1.00	354163.8	A	N/A	0.0063			
PFDA_2	5.56	1.00	2213.7	A	N/A	0.0063	5	50	
8:2-FTS	5.57	1.00	46161.7	A	N/A	0.6048			
8:2-FTS_2	5.56	1.00	27920.4	A	N/A	0.6048	4	50	
NMeFOSAA	5.70	1.00	74530.0	M	N/A	0.2271			
NMeFOSAA_2	5.71	1.00	16928.8	M	N/A	0.2271	-13	50	
PFDS	5.80	1.10	80356.0	A	N/A	0.5046			
PFDS_2	5.80	1.11	40550.3	A	N/A	0.5046	2	50	
PFUnDA	5.82	1.00	365394.2	A	N/A	0.0059			
PFUnDA_2	5.82	1.00	2145.9	A	N/A	0.0059	85	50	OOS
NEtFOSAA	5.84	1.00	78019.8	M	N/A	0.6341			
NEtFOSAA_2	5.84	1.00	49475.3	M	N/A	0.6341	-7	50	
PFDoDA	6.05	1.00	525708.8	A	N/A	0.0139			
PFDoDA_2	6.05	1.00	7313.4	A	N/A	0.0139	11	50	
10:2-FTS	6.07	1.09	43377.8	A	N/A	0.7102			
10:2-FTS_2	6.07	1.09	30807.3	A	N/A	0.7102	2	50	
PFTrDA	6.25	1.03	470034.5	A	N/A	0.0083			
PFTrDA_2	6.25	1.03	3918.1	A	N/A	0.0083	-6	50	
PFTeDA	6.43	1.00	338043.0	A	N/A	0.0068			
PFTeDA_2	6.43	1.00	2315.1	M	N/A	0.0068	26	50	
PFHxDA	6.73	1.05	164786.3	A	N/A	0.0696			
PFHxDA_2	6.73	1.05	11473.1	A	N/A	0.0696	6	50	
PFODA	6.99	1.09	127400.5	A	N/A	0.0258			
PFODA_2	6.99	1.09	3291.6	A	N/A	0.0258	-5	50	

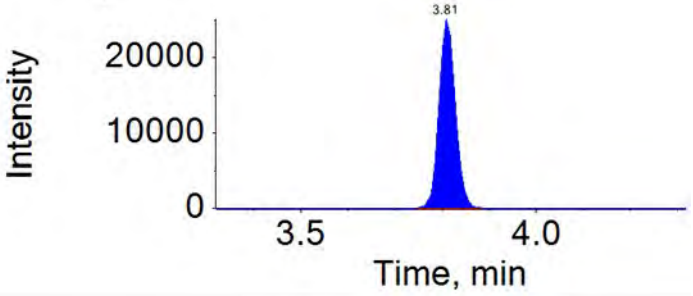
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

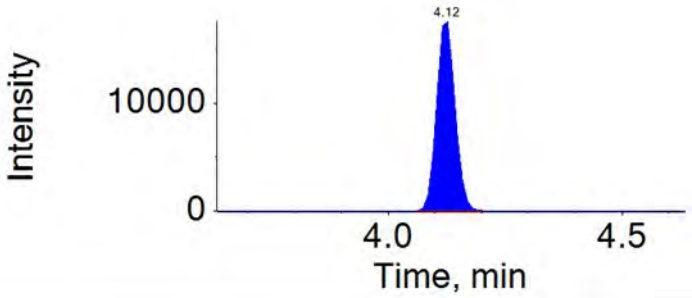
Component: PFBS
Primary Mass: 299.0 / 80.0



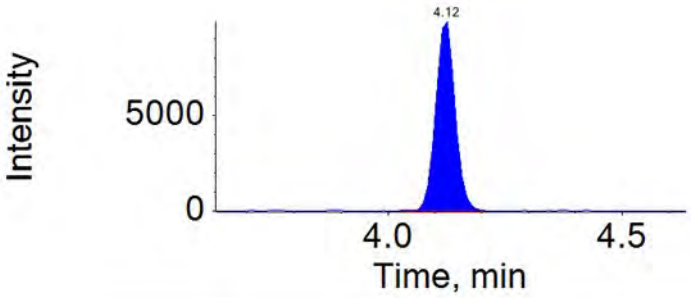
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



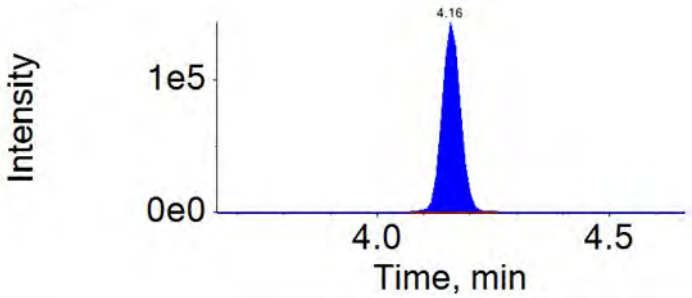
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



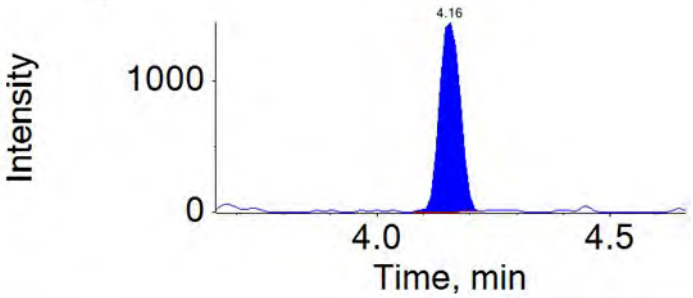
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



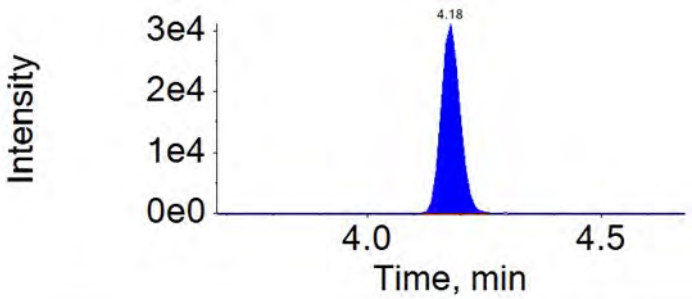
Component: PFHxA
Primary Mass: 313.0 / 269.0



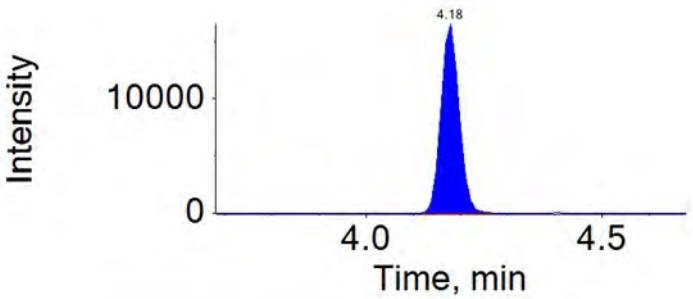
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



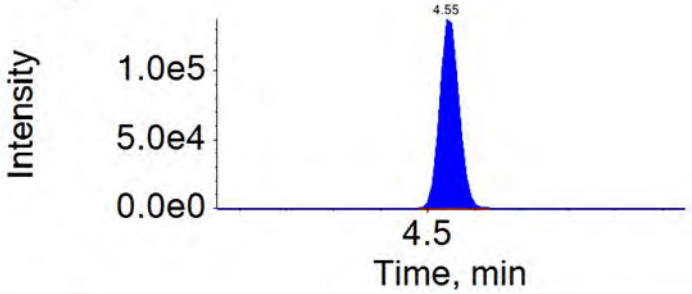
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



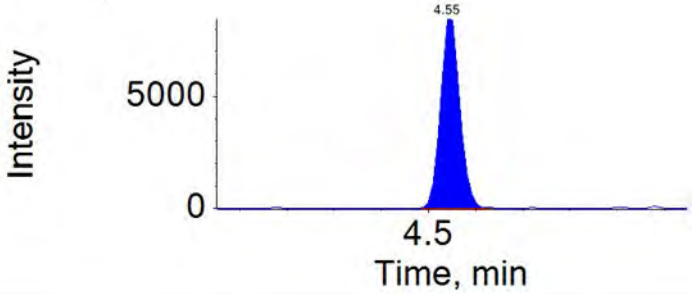
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

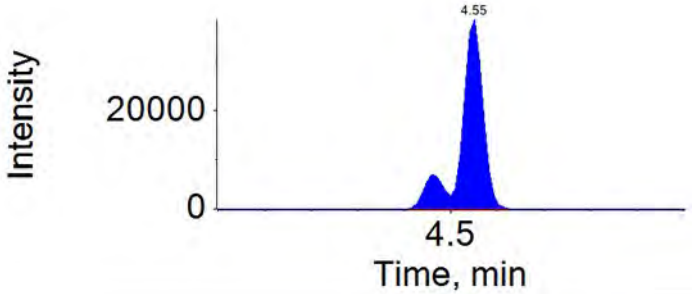
Component: PFHpA
Primary Mass: 363.0 / 319.0



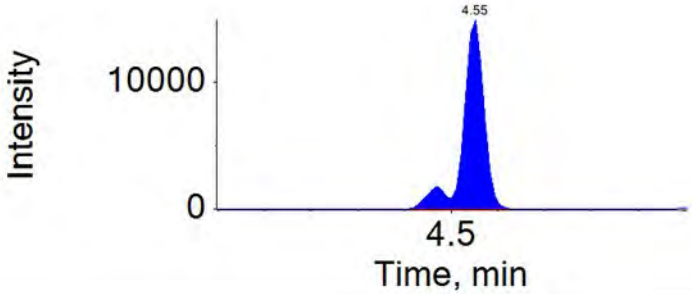
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



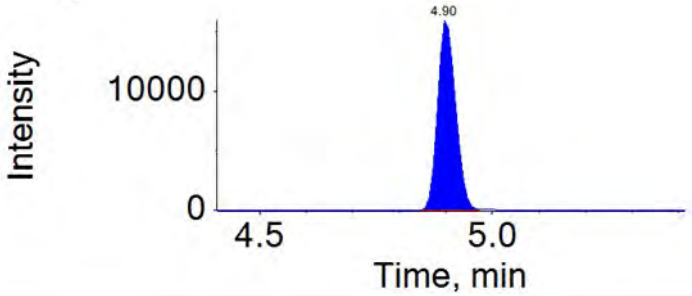
Component: PFHxS
Primary Mass: 399.0 / 80.0



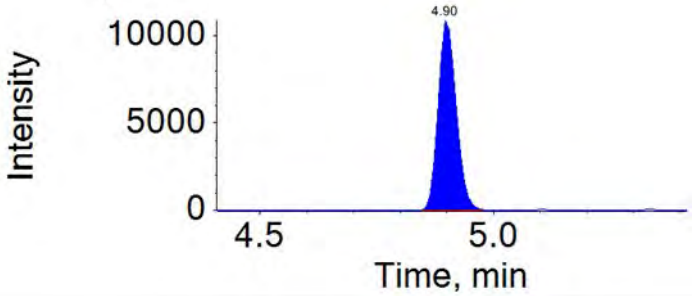
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



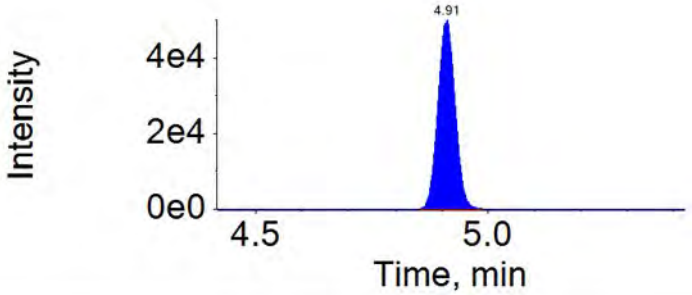
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



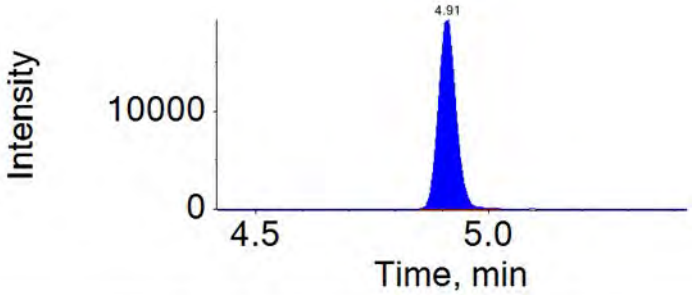
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



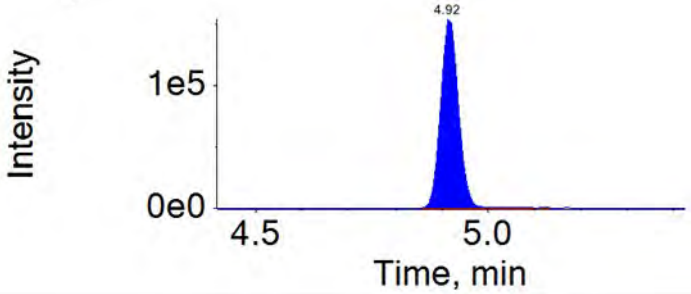
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



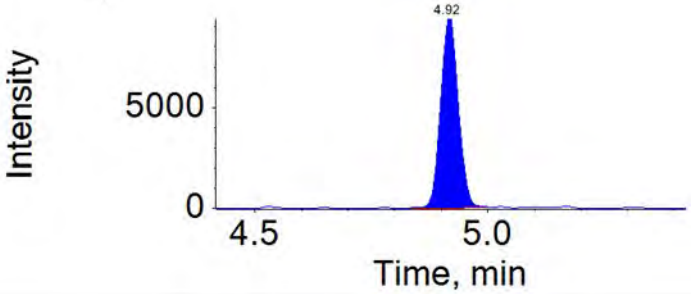
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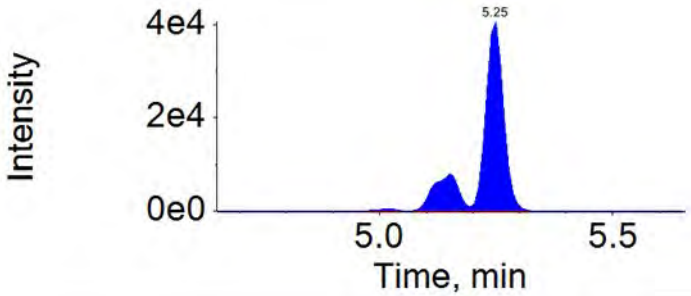
Component: PFOA
Primary Mass: 413.0 / 369.0



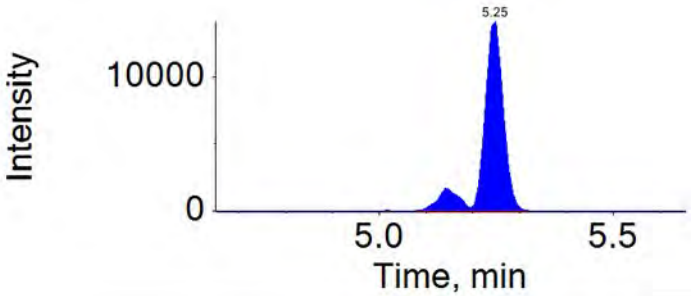
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



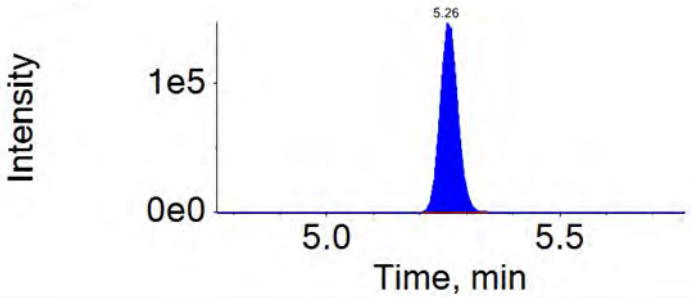
Component: PFOS
Primary Mass: 499.0 / 80.0



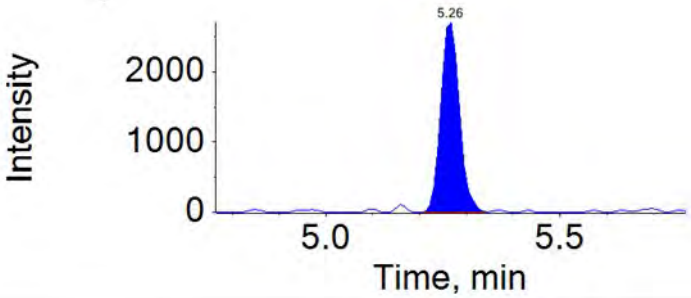
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



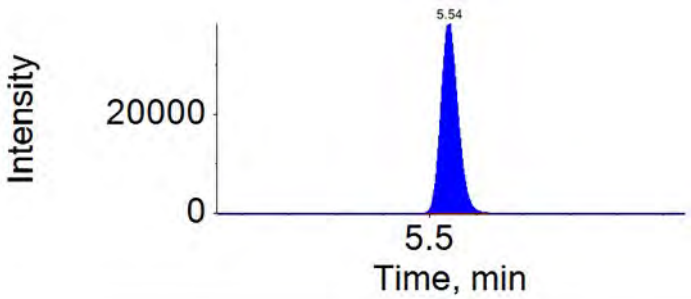
Component: PFNA
Primary Mass: 463.0 / 419.0



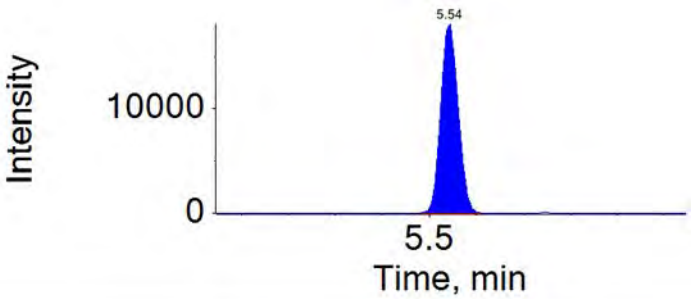
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



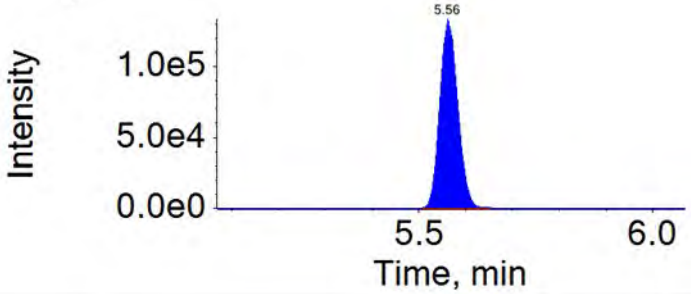
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



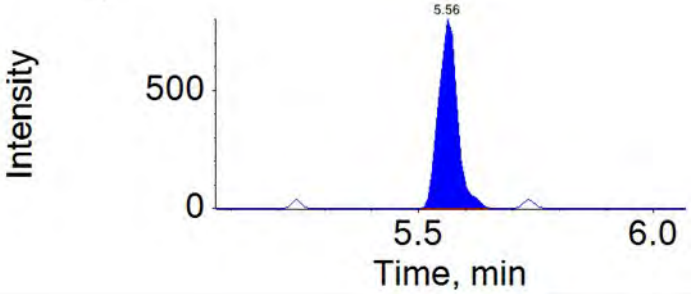
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

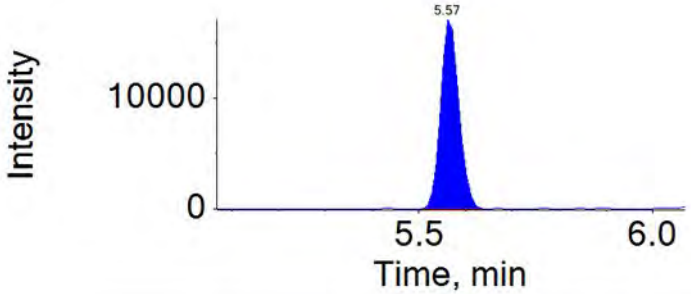
Component: PFDA
Primary Mass: 513.0 / 469.0



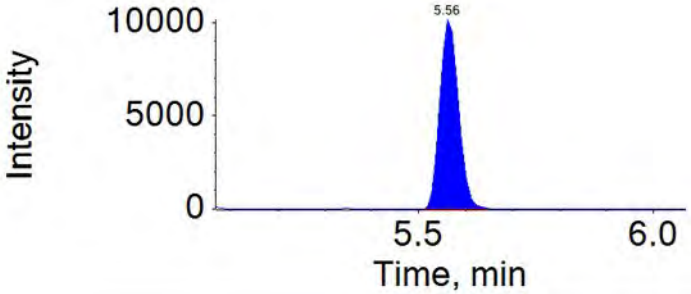
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



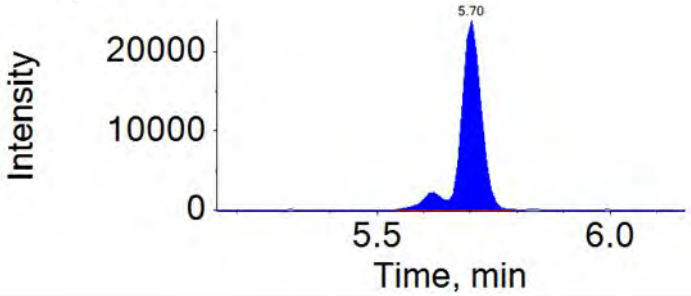
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



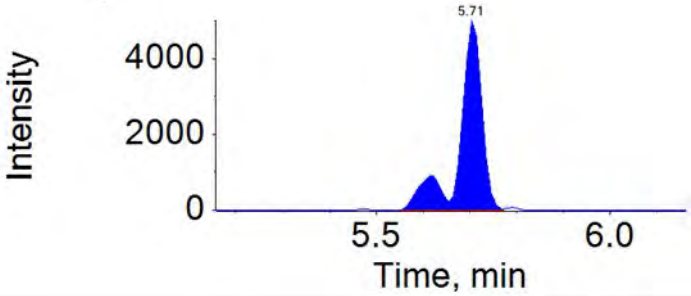
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



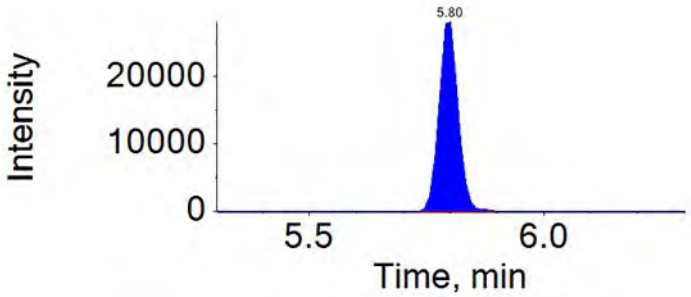
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



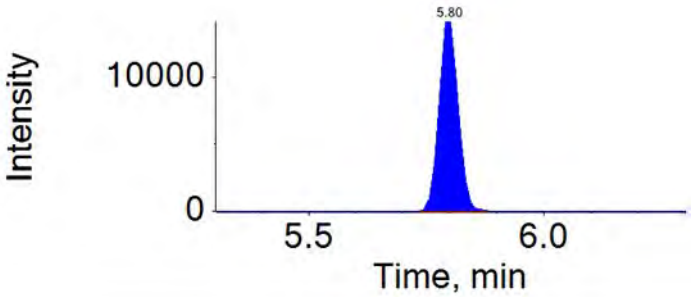
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



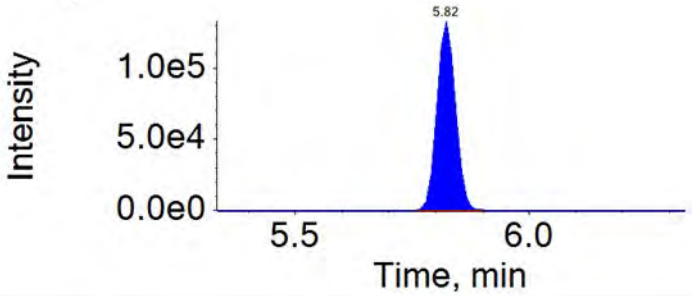
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



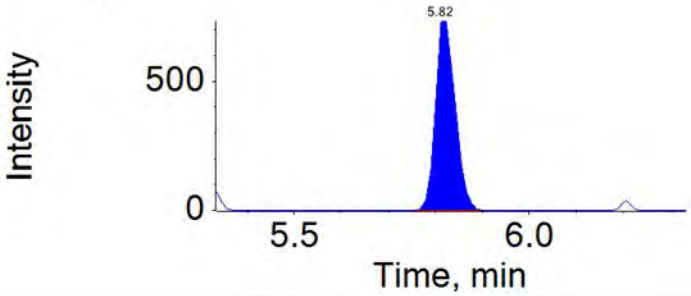
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

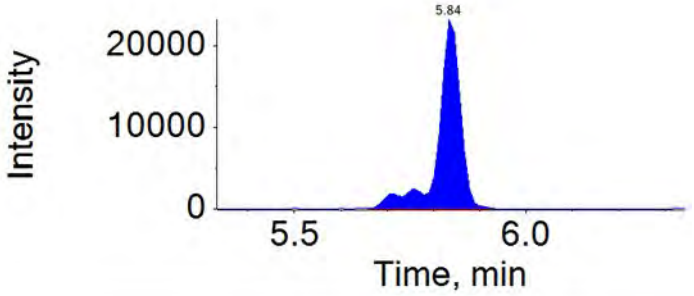
Component: PFUnDA
Primary Mass: 563.0 / 519.0



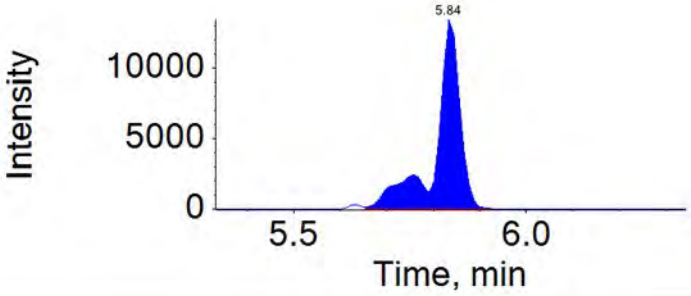
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



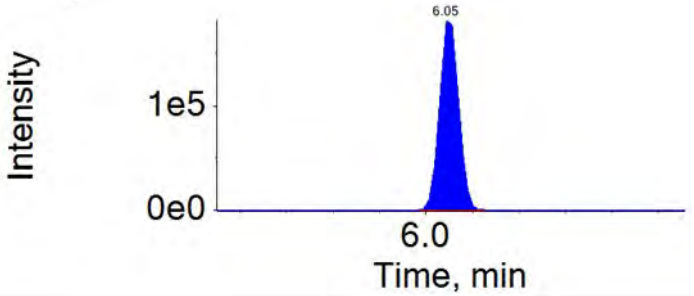
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



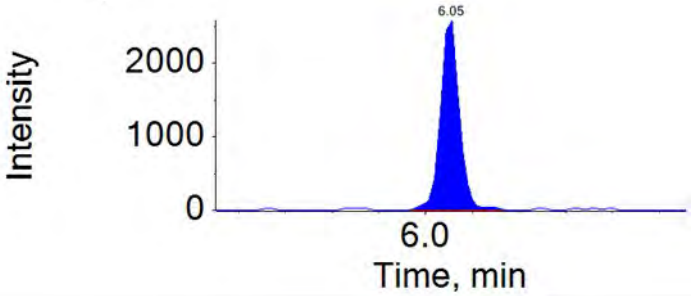
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



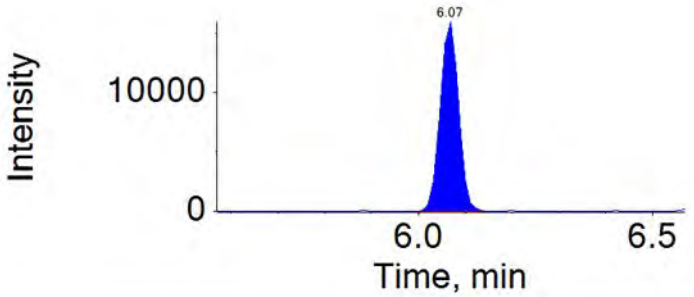
Component: PFDoDA
Primary Mass: 613.0 / 569.0



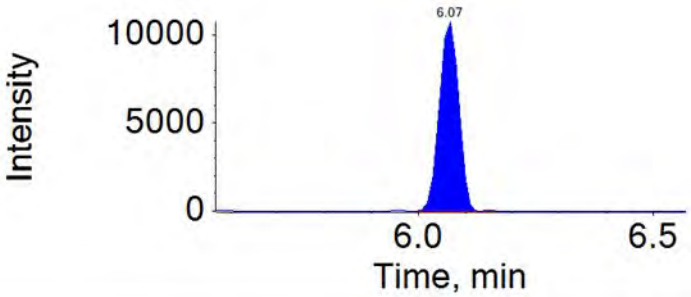
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



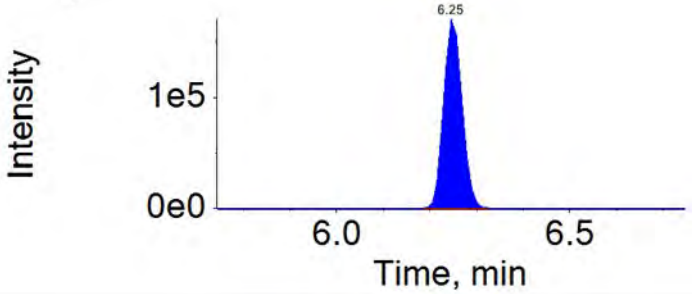
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



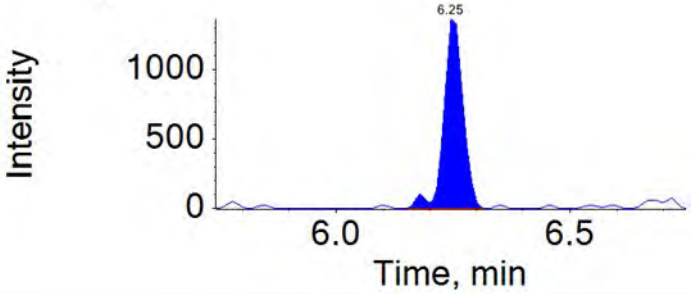
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

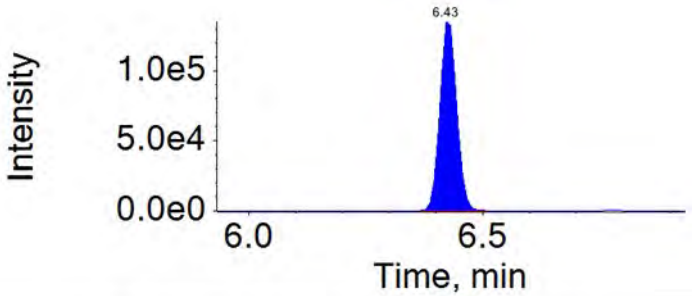
Component: PFTrDA
Primary Mass: 663.0 / 619.0



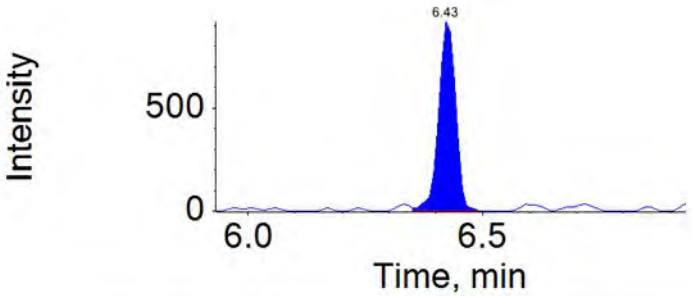
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



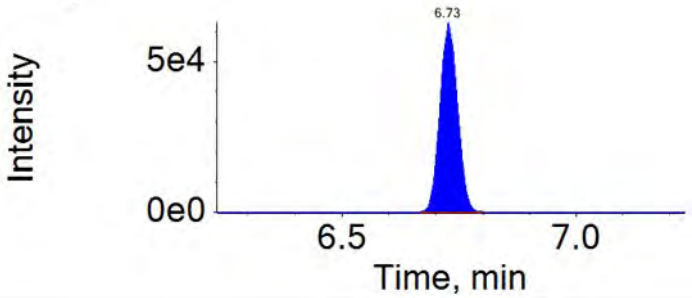
Component: PFTeDA
Primary Mass: 713.0 / 669.0



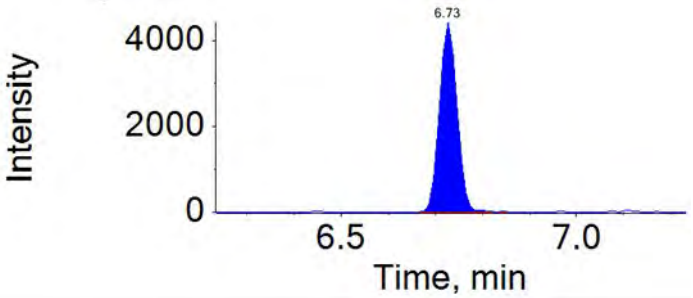
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



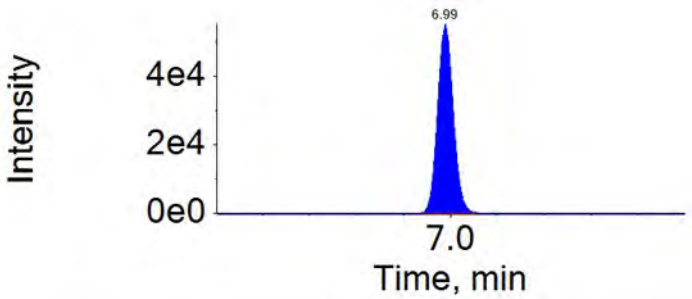
Component: PFHxDA
Primary Mass: 813.0 / 769.0



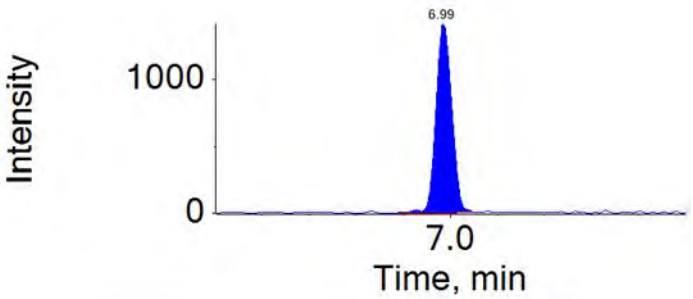
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



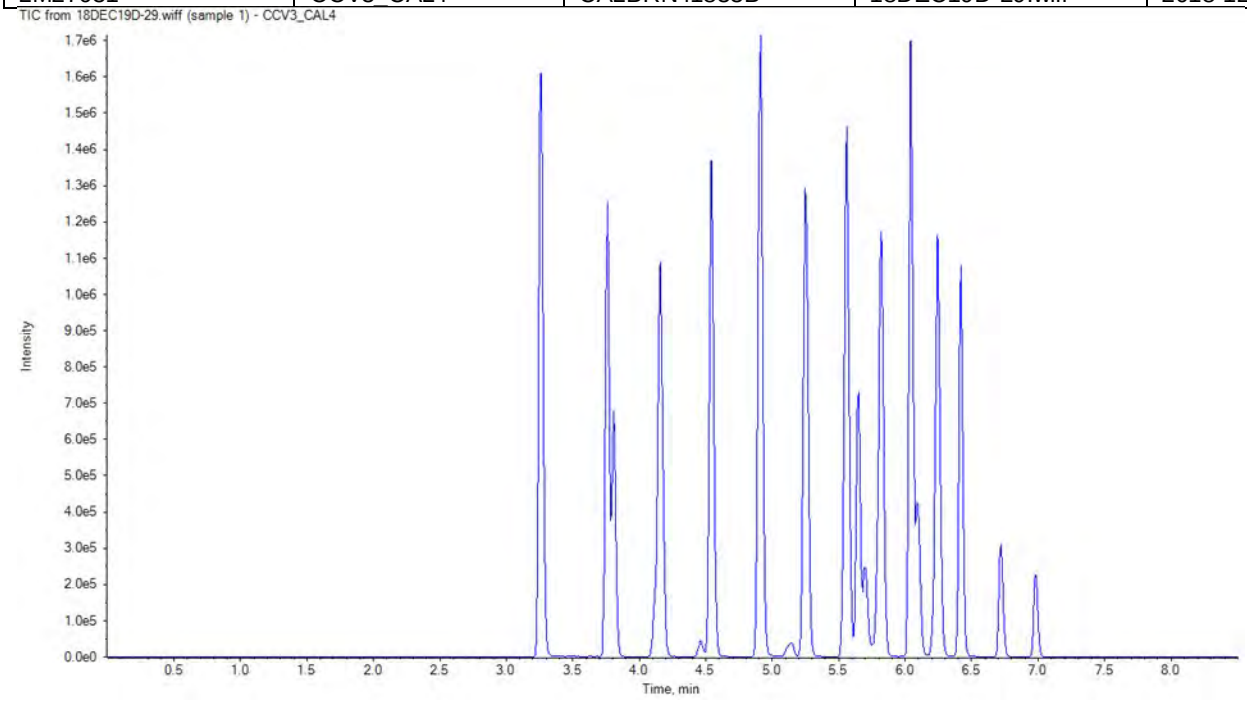
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV3_CAL4	CALBRN41833B	18DEC19D-29.wiff	2018-12-19T14:20:11



Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1002788.6	942675.8	6	50	
13C2-PFOA	5.0	550833.0	520268.5	6	50	
13C4-PFOS	4.8	316395.3	307968.9	3	50	
13C2-PFDA	5.0	490342.9	487375.3	1	50	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV3_CAL4	CALBRN41833B	18DEC19D-29.wiff	2018-12-19T14:20:11

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	1597479.1	10	13C4-PFBA	1085064.1	5.0	1.472	3.26	1.000	8.000	7.817	-2	30	
PFPeA	1565451.5	11	13C5-PFPeA	1032018.6	5.0	1.517	3.76	1.000	8.000	7.830	-2	30	
PFBS	653396.2	10	13C3-PFBS	455818.8	4.7	1.433	3.81	1.000	7.080	7.076	0	30	
4:2-FTS	180828.4	11	13C2-4:2-FTS	65027.7	4.7	2.781	4.12	1.000	7.470	7.296	-2	30	
PFHxA	1396819.3	12	13C5-PFHxA	765878.3	5.0	1.824	4.16	1.000	8.000	7.513	-6	30	
PFPeS	332457.4	11	13C3-PFBS	455818.8	4.7	0.729	4.17	1.100	7.500	7.425	-1	30	
PFHpA	1502687.8	11	13C4-PFHpA	613136.8	5.0	2.451	4.54	1.000	8.000	8.127	2	30	
PFHxS	496304.8	19	13C3-PFHxS	356555.1	4.7	1.392	4.55	1.000	7.300	6.770	-7	30	
6:2-FTS	158075.4	11	13C2-6:2-FTS	54797.3	4.8	2.885	4.90	1.000	7.580	7.181	-5	30	
PFHpS	490917.1	11	13C3-PFHxS	356555.1	4.7	1.377	4.90	1.080	7.610	7.283	-4	30	
PFOA	1504971.5	11	13C8-PFOA	1008590.9	5.0	1.492	4.91	1.000	8.000	7.905	-1	30	
PFOS	531547.6	22	13C8-PFOS	333209.5	4.8	1.595	5.24	1.000	7.400	6.984	-6	30	
PFNA	1451121.1	11	13C9-PFNA	653602.6	5.0	2.220	5.26	1.000	8.000	8.824	10	30	
PFNS	385325.4	10	13C8-PFOS	333209.5	4.8	1.156	5.54	1.060	7.680	7.353	-4	30	
PFDA	1318623.9	11	13C6-PFDA	896851.3	5.0	1.470	5.56	1.000	8.000	7.593	-5	30	
8:2-FTS	167074.7	11	13C2-8:2-FTS	42481.8	4.8	3.933	5.56	1.000	7.660	7.916	3	30	
PFOSA	979943.8	11	13C8-PFOSA	652865.0	5.0	1.501	5.65	1.000	8.000	7.507	-6	30	
NMeFOSAA	298989.3	18	d3-NMeFOSAA	218623.3	5.0	1.368	5.70	1.000	8.000	8.500	6	30	
PFDS	326186.1	11	13C8-PFOS	333209.5	4.8	0.979	5.80	1.110	7.700	8.036	4	30	
PFUnDA	1450270.9	11	13C7-PFUnDA	596287.2	5.0	2.432	5.82	1.000	8.000	8.055	1	30	
NEtFOSAA	295766.0	21	d5-NEtFOSAA	204670.1	5.0	1.445	5.83	1.000	8.000	7.365	-8	30	
PFDoDA	1954227.8	11	13C2-PFDoDA	1214911.6	5.0	1.609	6.04	1.000	8.000	8.103	1	30	
10:2-FTS	162345.3	11	13C2-8:2-FTS	42481.8	4.8	3.822	6.06	1.090	7.710	7.783	1	30	
NMePFOSAE	524404.0	11	d7-NMePFOSAE	269543.2	5.0	1.946	6.10	1.000	8.000	8.584	7	30	
NMePFOSA	138727.6	11	d3-NMePFOSA	88868.3	5.0	1.561	6.11	1.000	8.000	7.881	-1	30	
PFDoS	162134.7	11	13C8-PFOS	333209.5	4.8	0.487	6.21	1.180	7.740	7.372	-5	30	
NEtPFOSAE	547559.2	11	d9-NEtPFOSAE	239340.9	5.0	2.288	6.25	1.000	8.000	7.474	-7	30	
NEtPFOSA	112234.1	11	d5-NEtPFOSA	69951.9	5.0	1.604	6.27	1.000	8.000	7.505	-6	30	
PFTrDA	1717721.1	11	13C2-PFDoDA	1214911.6	5.0	1.414	6.24	1.030	8.000	7.253	-9	30	
PFTeDA	1272846.9	10	13C2-PFTeDA	895046.0	5.0	1.422	6.42	1.000	8.000	7.658	-4	30	
PFHxDA	645103.5	11	13C2-PFTeDA	895046.0	5.0	0.721	6.72	1.050	8.000	7.915	-1	30	
PFODA	490544.0	10	13C2-PFTeDA	895046.0	5.0	0.548	6.98	1.090	8.000	7.875	-2	30	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM

Result Table: 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CCV3_CAL4			**Data File:**		18DEC19D-29.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-19T14:20:11
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC19DCCV1-5
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1002788.6	942675.8	6	50	
13C2-PFOA	5.0	550833.0	520268.5	6	50	
13C4-PFOS	4.8	316395.3	307968.9	3	50	
13C2-PFDA	5.0	490342.9	487375.3	1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1085064.1	13C3-PFBA	1002788.6	1.082	5.000	4.792	96	70-130	
E13C5-PFPeA	1032018.6	13C3-PFBA	1002788.6	1.029	5.000	4.799	96	70-130	
E13C3-PFBS	455818.8	13C3-PFBA	1002788.6	0.455	4.650	4.426	95	70-130	
E13C2-4:2-FTS	65027.7	13C2-PFOA	550833.0	0.118	4.670	4.484	96	70-130	
E13C5-PFHxA	765878.3	13C2-PFOA	550833.0	1.390	5.000	4.973	99	70-130	
E13C3-PFHxS	356555.1	13C2-PFOA	550833.0	0.647	4.730	4.898	104	70-130	
E13C4-PFHpA	613136.8	13C2-PFOA	550833.0	1.113	5.000	4.808	96	70-130	
E13C2-6:2-FTS	54797.3	13C2-PFOA	550833.0	0.099	4.750	5.005	105	70-130	
E13C8-PFOA	1008590.9	13C2-PFOA	550833.0	1.831	5.000	5.035	101	70-130	
E13C8-PFOS	333209.5	13C4-PFOS	316395.3	1.053	4.780	4.710	99	70-130	
E13C9-PFNA	653602.6	13C4-PFOS	316395.3	2.066	5.000	4.699	94	70-130	
E13C6-PFDA	896851.3	13C2-PFDA	490342.9	1.829	5.000	5.210	104	70-130	
E13C2-8:2-FTS	42481.8	13C2-PFDA	490342.9	0.087	4.790	4.465	93	70-130	
E13C8-PFOSA	652865.0	13C2-PFDA	490342.9	1.331	5.000	5.185	104	70-130	
Ed3-NMeFOSAA	218623.3	13C2-PFDA	490342.9	0.446	5.000	4.905	98	70-130	
E13C7-PFUnDA	596287.2	13C2-PFDA	490342.9	1.216	5.000	5.090	102	70-130	
Ed5-NEtFOSAA	204670.1	13C2-PFDA	490342.9	0.417	5.000	6.149	123	70-130	
E13C2-PFDoDA	1214911.6	13C2-PFDA	490342.9	2.478	5.000	5.213	104	70-130	
Ed7-NMePFOSAE	269543.2	13C2-PFDA	490342.9	0.550	5.000	4.912	98	70-130	
Ed3-NMePFOSA	88868.3	13C2-PFDA	490342.9	0.181	5.000	4.980	100	70-130	
Ed9-NEtPFOSAE	239340.9	13C2-PFDA	490342.9	0.488	5.000	4.990	100	70-130	
Ed5-NEtPFOSA	69951.9	13C2-PFDA	490342.9	0.143	5.000	4.948	99	70-130	
E13C2-PFTeDA	895046.0	13C2-PFDA	490342.9	1.825	5.000	5.144	103	70-130	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

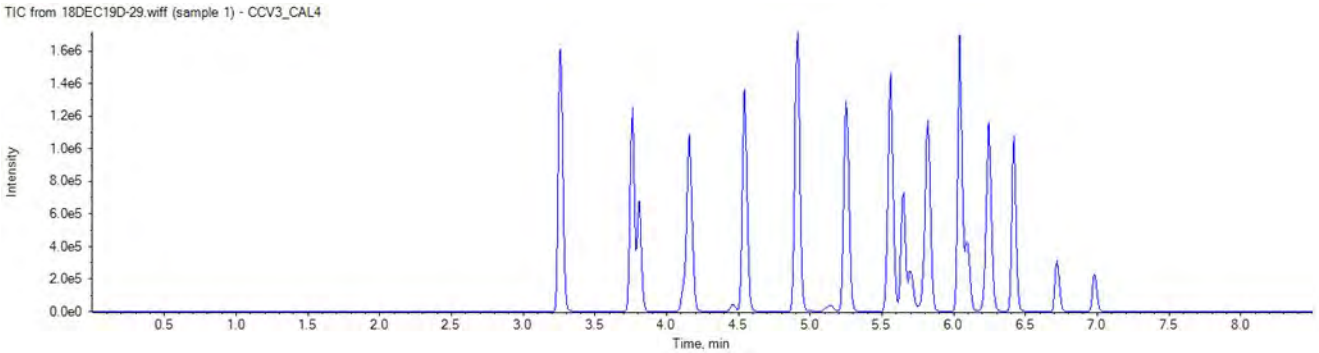
Analyte Quantitation Peak Table

Sample Name: CCV3_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC19D-29.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	1597479.1		A	13C4-PFBA	3.26	1085064.1	1.472	7.817
PFPeA	3.76	1.000	1565451.5		A	13C5-PFPeA	3.76	1032018.6	1.517	7.830
PFBS	3.81	1.000	653396.2		A	13C3-PFBS	3.81	455818.8	1.433	7.076
4:2-FTS	4.12	1.000	180828.4		A	13C2-4:2-FTS	4.12	65027.7	2.781	7.296
PFHxA	4.16	1.000	1396819.3		A	13C5-PFHxA	4.16	765878.3	1.824	7.513
PFPeS	4.17	1.100	332457.4		A	13C3-PFBS	3.81	455818.8	0.729	7.425
PFHpA	4.54	1.000	1502687.8		A	13C4-PFHpA	4.54	613136.8	2.451	8.127
PFHxS	4.55	1.000	496304.8		M	13C3-PFHxS	4.55	356555.1	1.392	6.770
6:2-FTS	4.90	1.000	158075.4		A	13C2-6:2-FTS	4.90	54797.3	2.885	7.181
PFHpS	4.90	1.080	490917.1		A	13C3-PFHxS	4.55	356555.1	1.377	7.283
PFOA	4.91	1.000	1504971.5		A	13C8-PFOA	4.91	1008590.9	1.492	7.905
PFOS	5.24	1.000	531547.6		M	13C8-PFOS	5.24	333209.5	1.595	6.984
PFNA	5.26	1.000	1451121.1		A	13C9-PFNA	5.26	653602.6	2.220	8.824
PFNS	5.54	1.060	385325.4		A	13C8-PFOS	5.24	333209.5	1.156	7.353
PFDA	5.56	1.000	1318623.9		A	13C6-PFDA	5.56	896851.3	1.470	7.593
8:2-FTS	5.56	1.000	167074.7		A	13C2-8:2-FTS	5.56	42481.8	3.933	7.916
PFOSA	5.65	1.000	979943.8		A	13C8-PFOSA	5.65	652865.0	1.501	7.507
NMeFOSAA	5.70	1.000	298989.3		M	d3-NMeFOSAA	5.70	218623.3	1.368	8.500
PFDS	5.80	1.110	326186.1		A	13C8-PFOS	5.24	333209.5	0.979	8.036
PFUnDA	5.82	1.000	1450270.9		A	13C7-PFUnDA	5.82	596287.2	2.432	8.055
NEtFOSAA	5.83	1.000	295766.0		M	d5-NEtFOSAA	5.83	204670.1	1.445	7.365
PFDoDA	6.04	1.000	1954227.8		A	13C2-PFDoDA	6.04	1214911.6	1.609	8.103
10:2-FTS	6.06	1.090	162345.3		A	13C2-8:2-FTS	5.56	42481.8	3.822	7.783
NMePFOSAE	6.10	1.000	524404.0		A	d7-NMePFOSAE	6.09	269543.2	1.946	8.584
NMePFOSA	6.11	1.000	138727.6		A	d3-NMePFOSA	6.10	88868.3	1.561	7.881
PFDoS	6.21	1.180	162134.7		A	13C8-PFOS	5.24	333209.5	0.487	7.372
NEtPFOSAE	6.25	1.000	547559.2		A	d9-NEtPFOSAE	6.24	239340.9	2.288	7.474
NEtPFOSA	6.27	1.000	112234.1		A	d5-NEtPFOSA	6.26	69951.9	1.604	7.505
PFTrDA	6.24	1.030	1717721.1		A	13C2-PFDoDA	6.04	1214911.6	1.414	7.253
PFTeDA	6.42	1.000	1272846.9		A	13C2-PFTeDA	6.42	895046.0	1.422	7.658
PFHxDA	6.72	1.050	645103.5		A	13C2-PFTeDA	6.42	895046.0	0.721	7.915
PFODA	6.98	1.090	490544.0		A	13C2-PFTeDA	6.42	895046.0	0.548	7.875

Total Ion Chromatogram

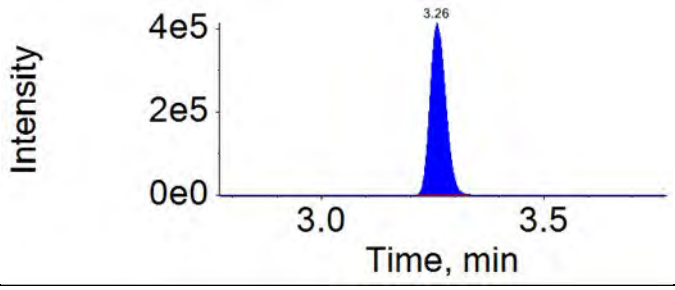


APPROVED
By MCD at 7:31 pm, 12/19/18

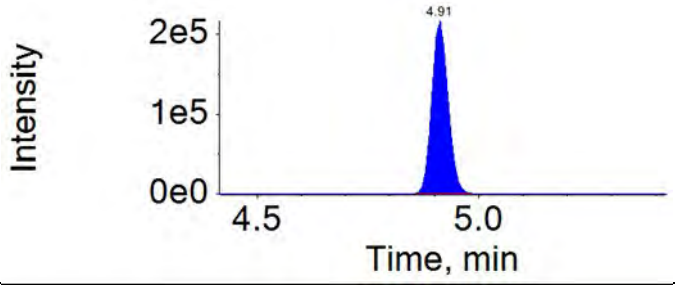
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

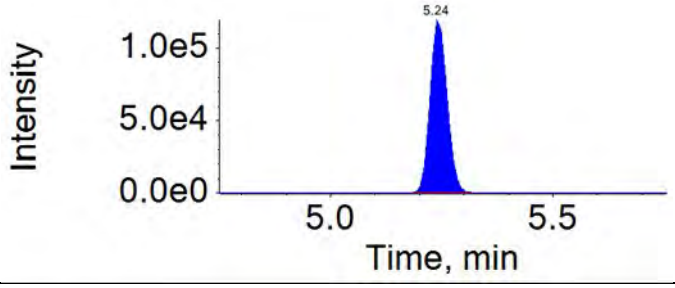
Injection Standard: 13C3-PFBA
216.0 / 172.0



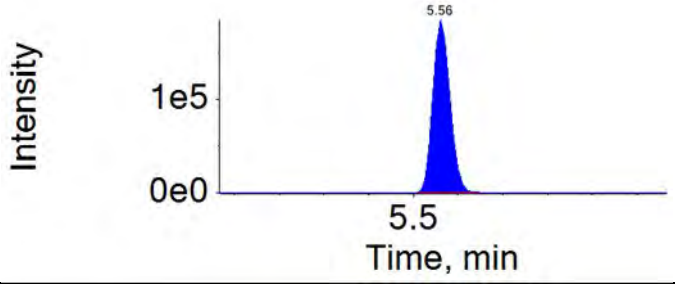
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



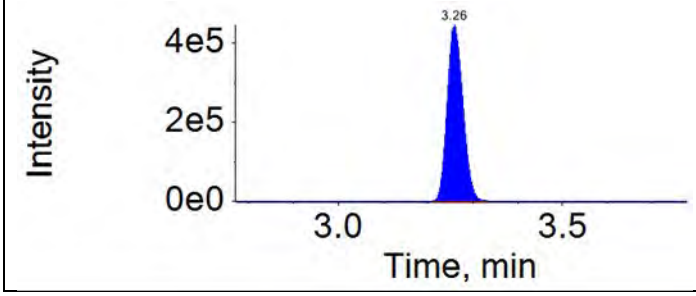
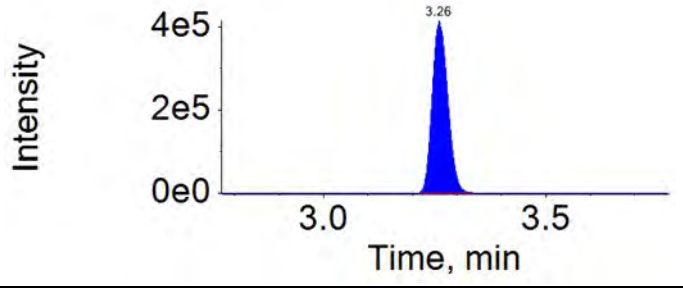
Injection Standard: 13C2-PFDA
515.0 / 470.0

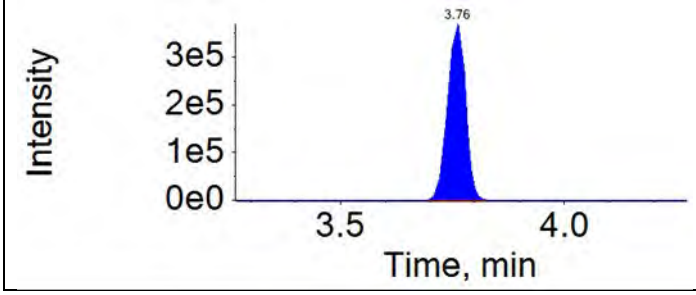
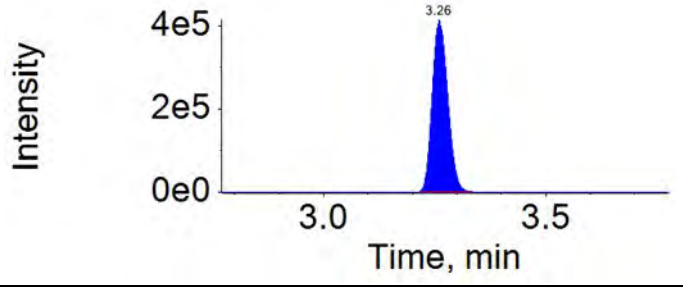


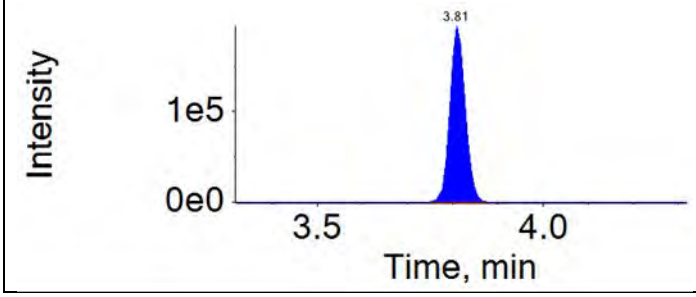
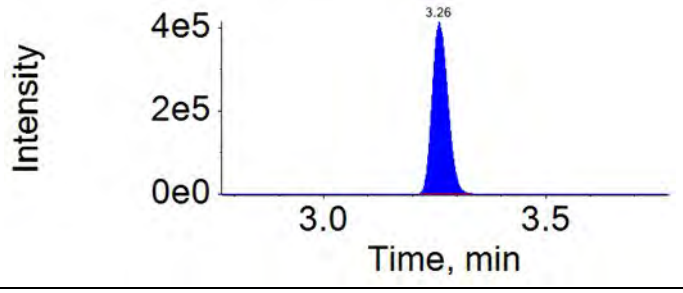
APPROVED
By MCD at 7:31 pm, 12/19/18

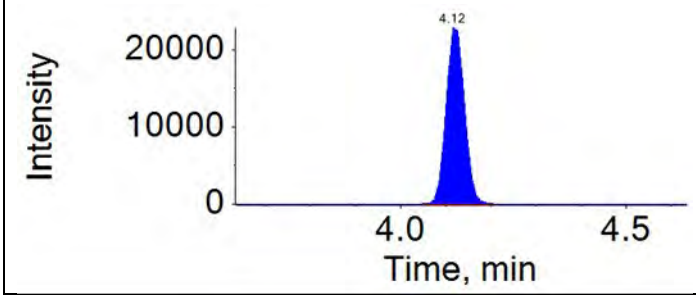
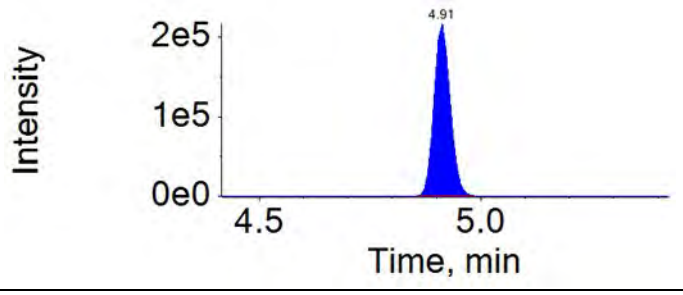
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

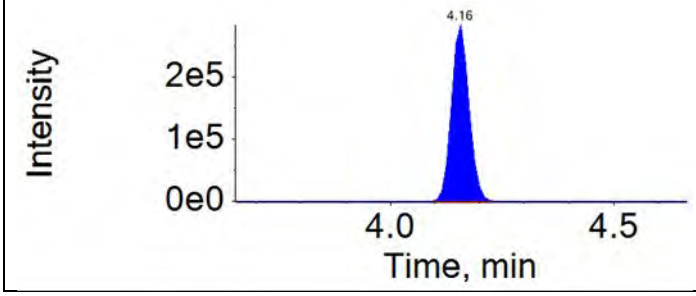
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

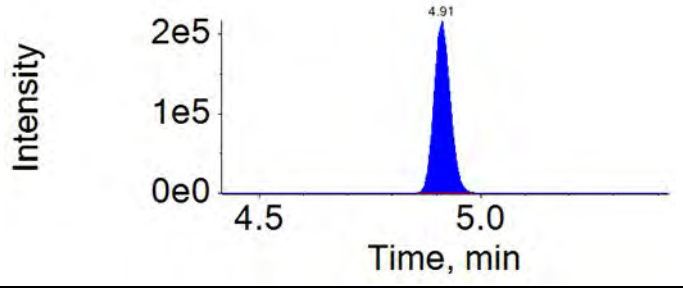
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

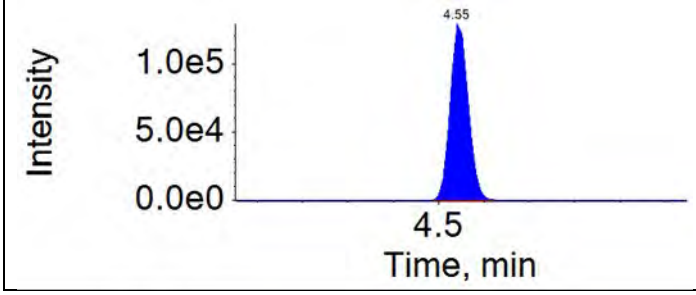
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

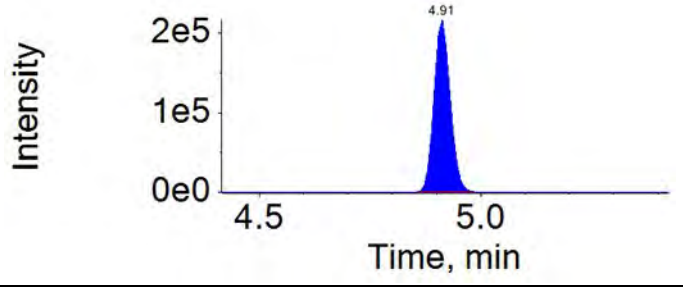
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



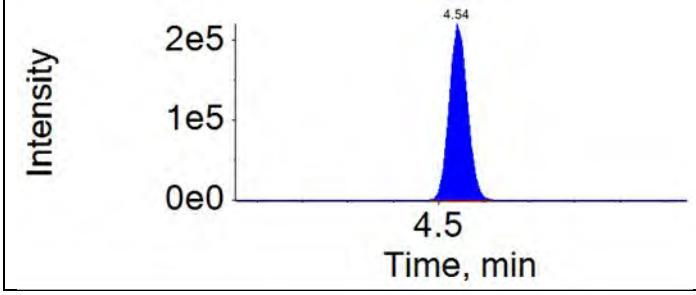


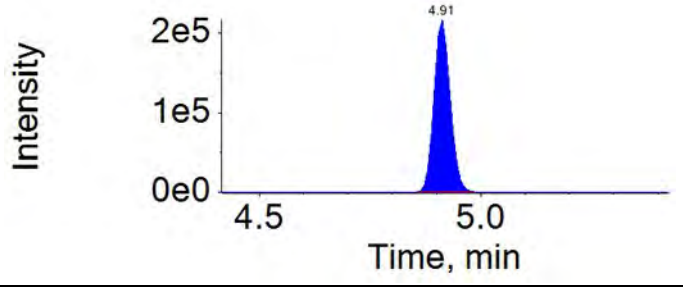
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



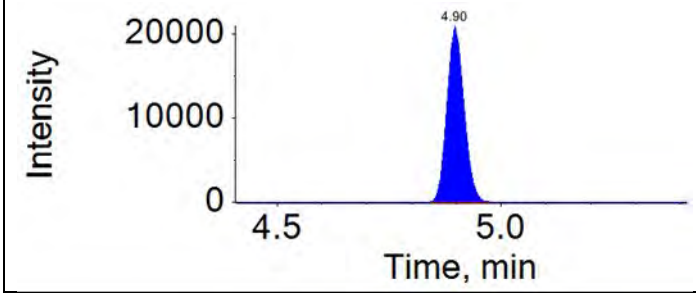


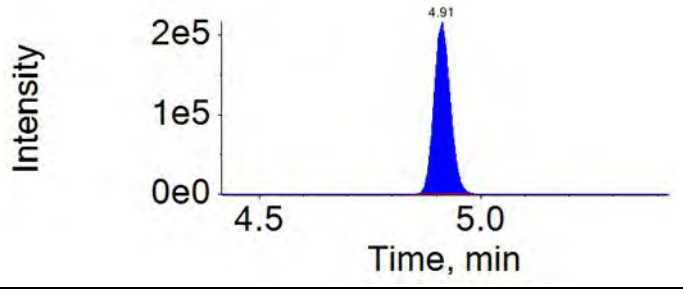
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

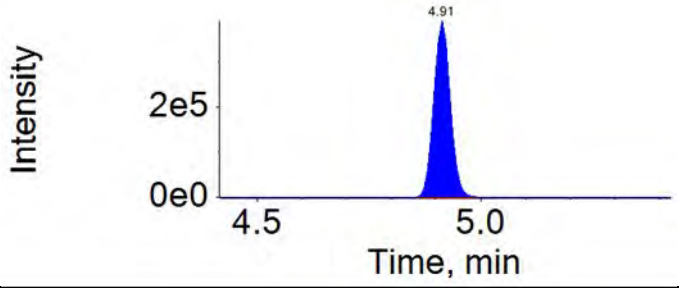
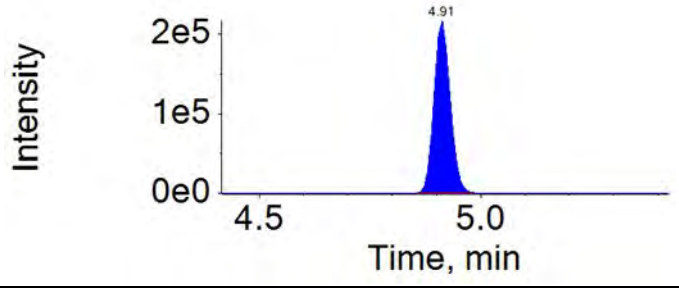


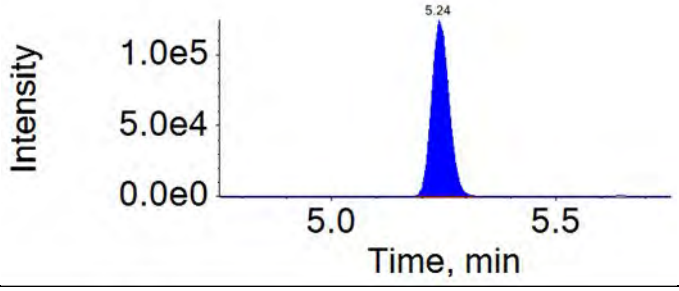
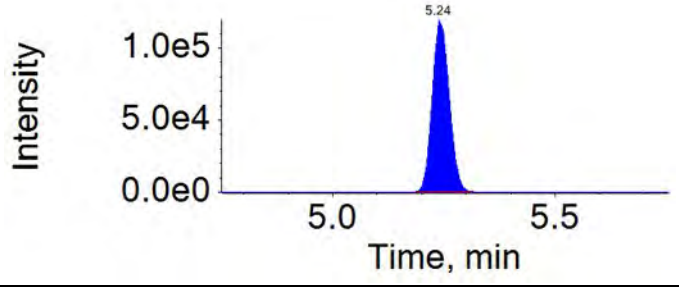


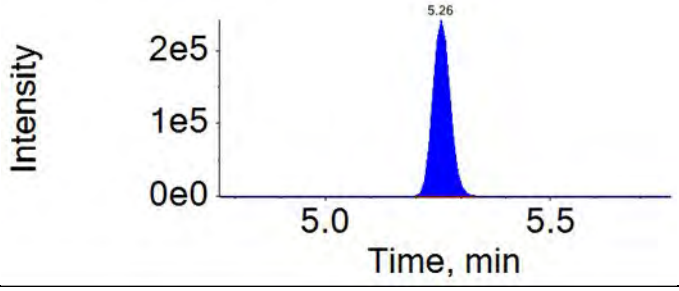
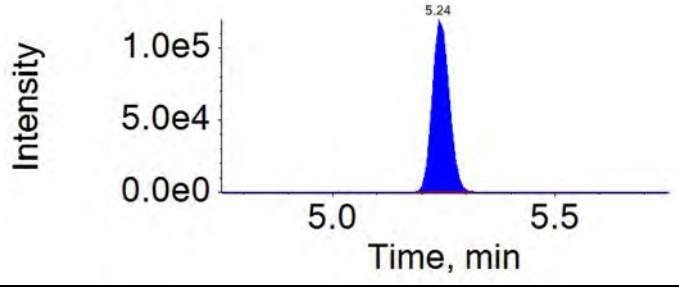
APPROVED
By MCD at 7:31 pm, 12/19/18

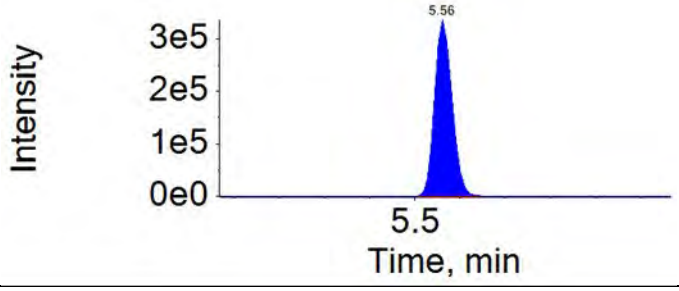
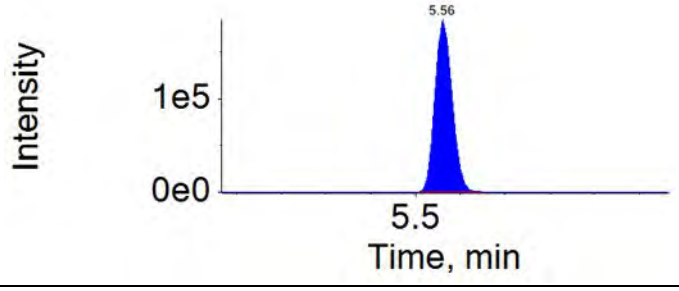
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

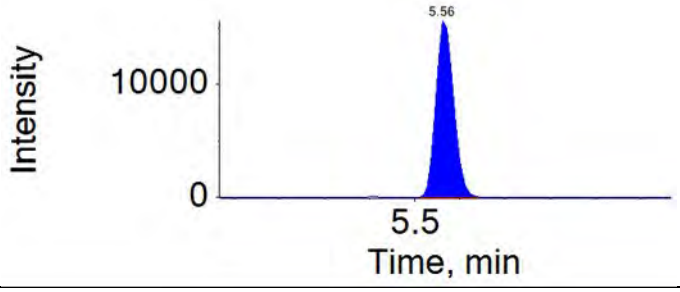
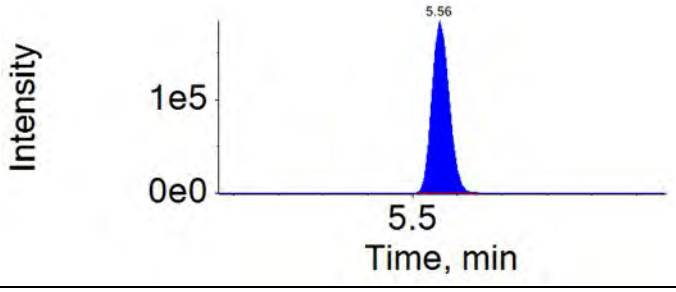
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

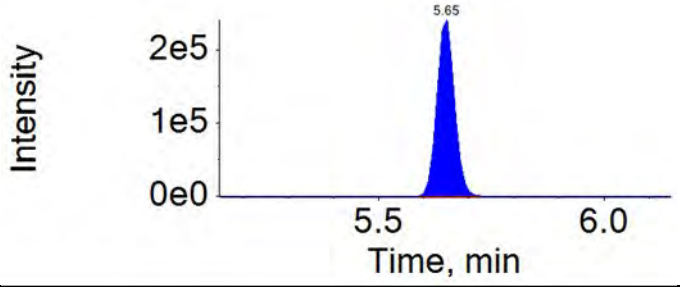
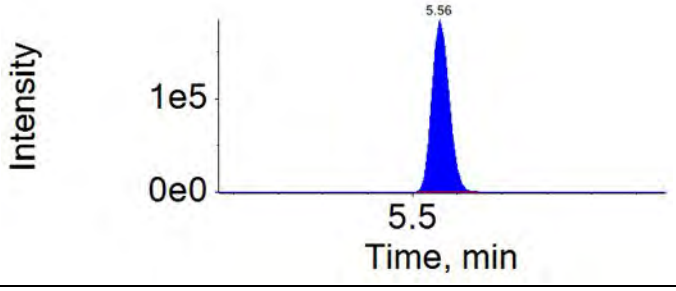
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

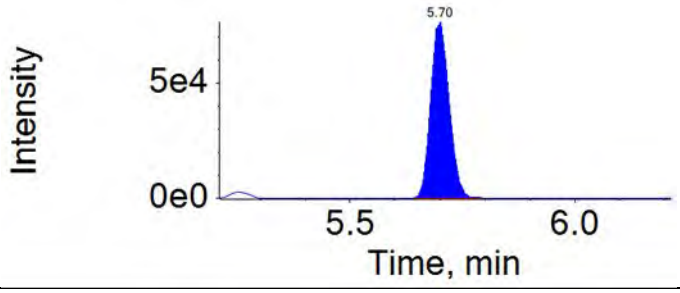
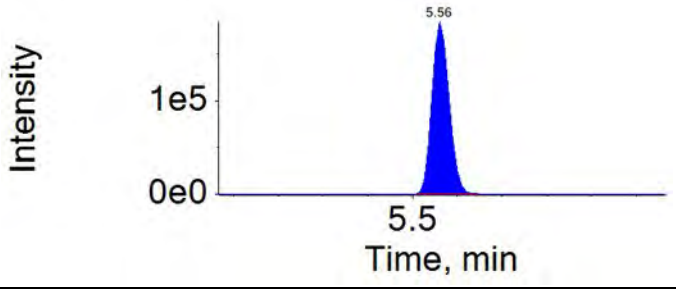
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

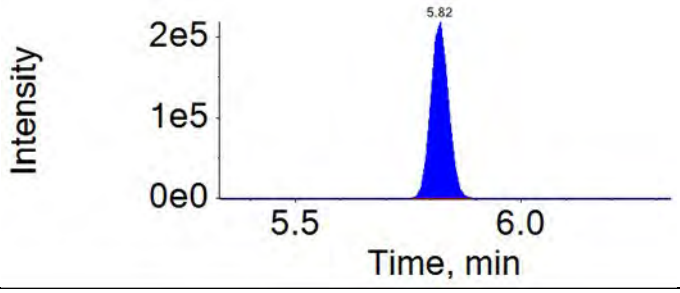
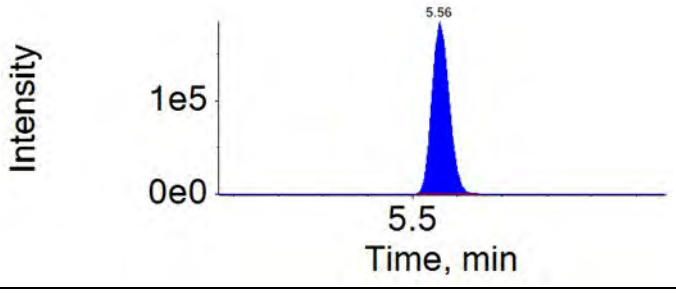
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

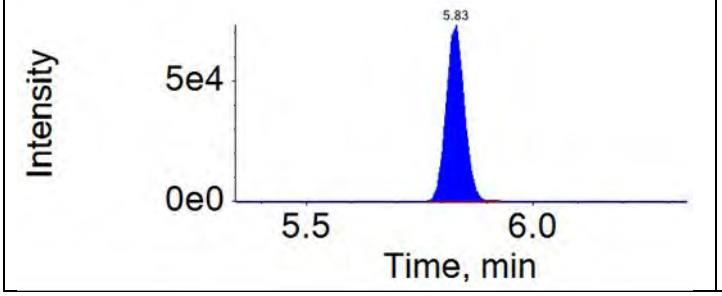
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

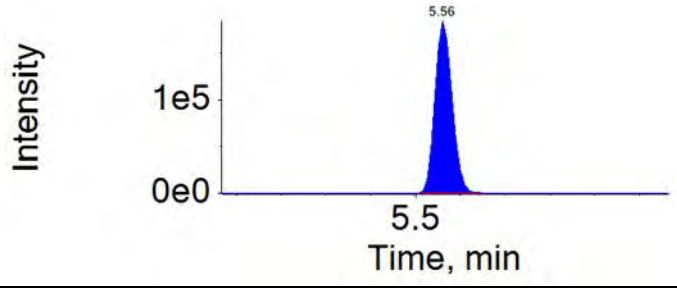
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

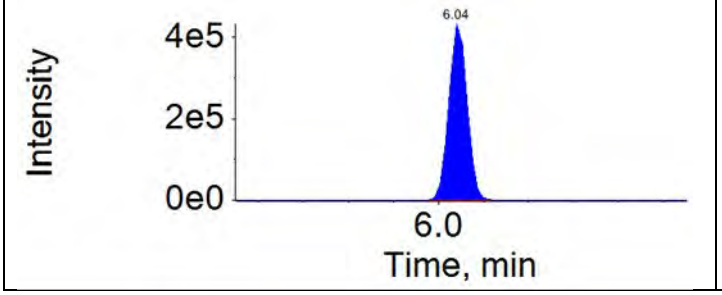
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

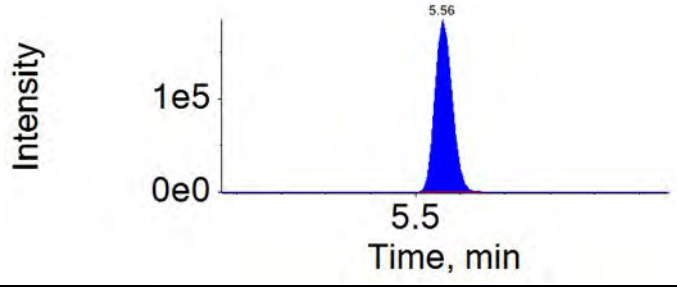
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



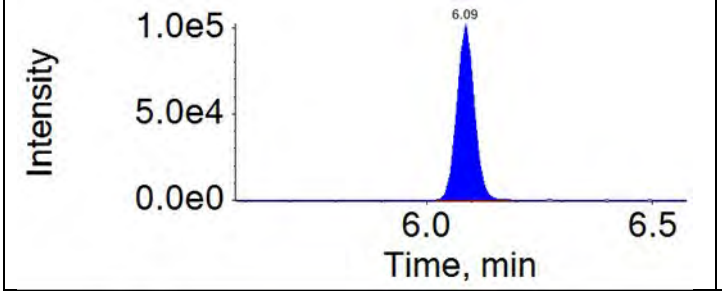


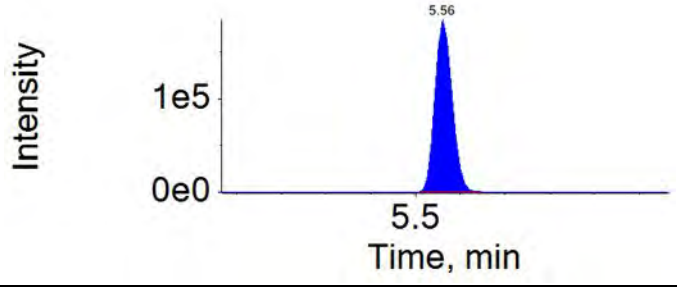
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



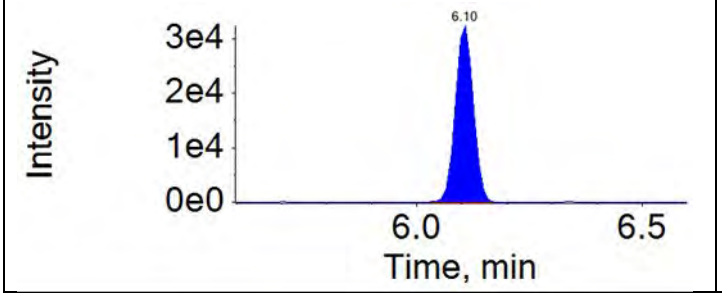


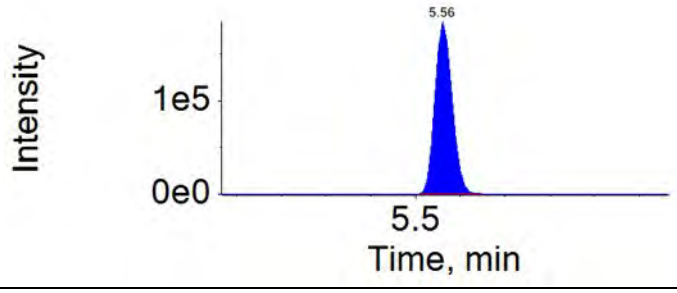
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



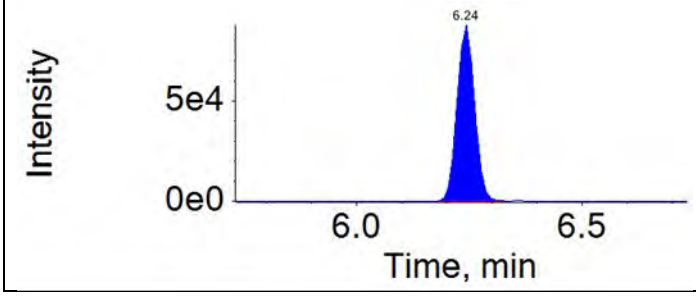


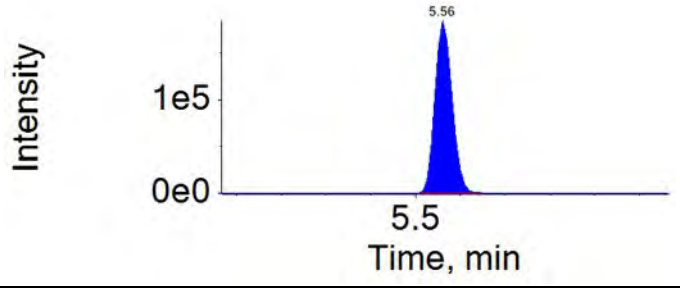
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

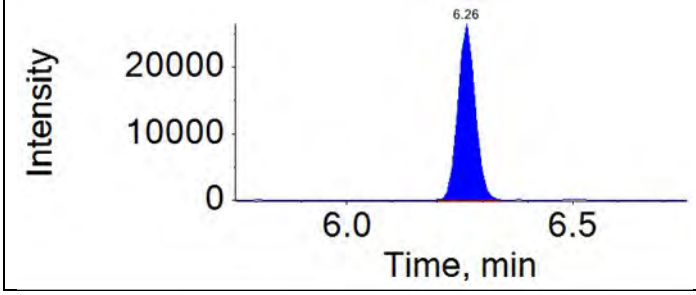
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

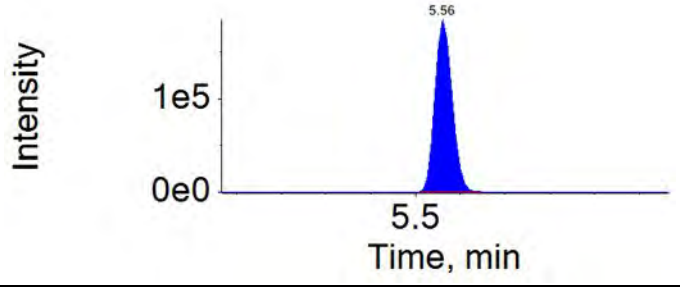
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



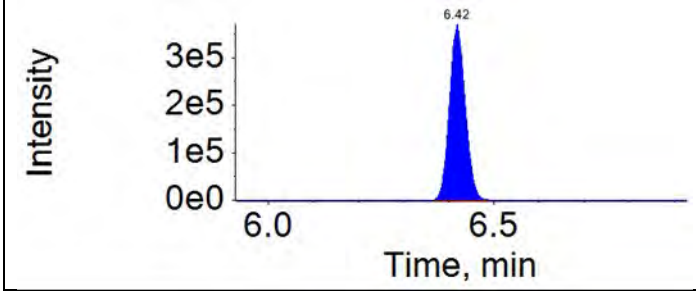


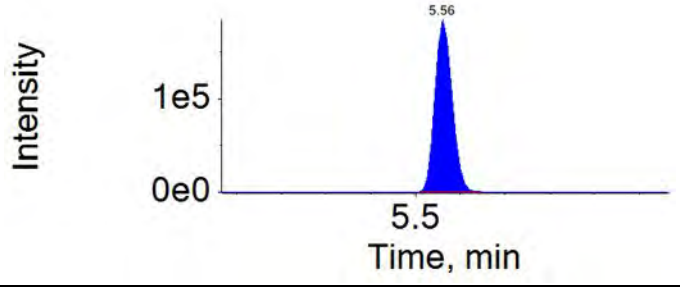
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

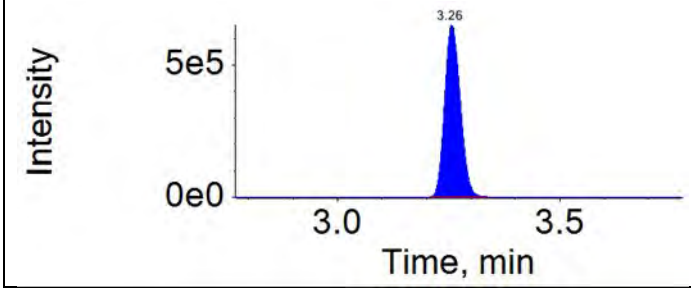
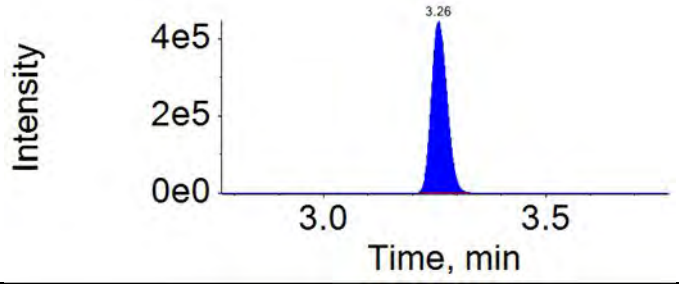


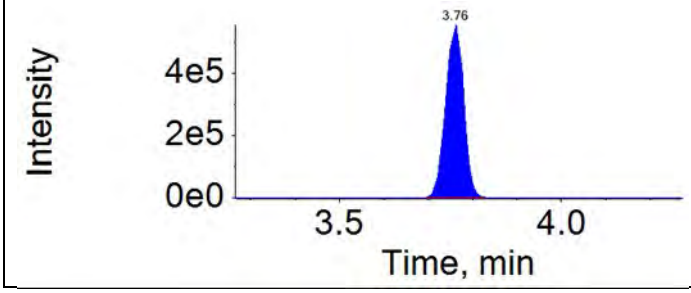
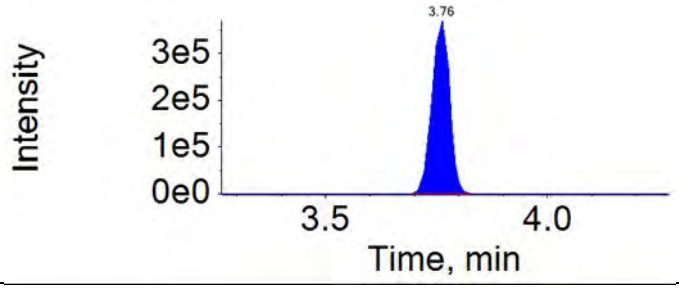


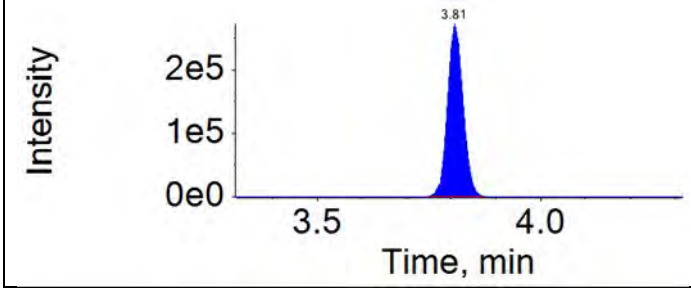
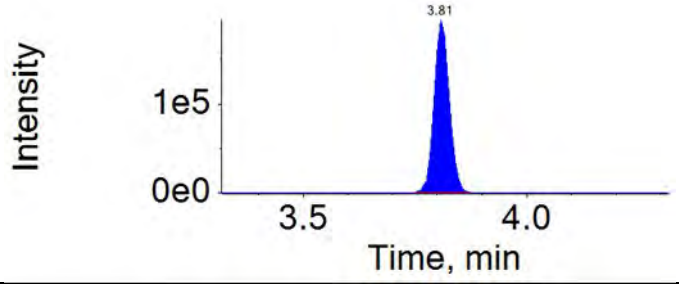
APPROVED
By MCD at 7:31 pm, 12/19/18

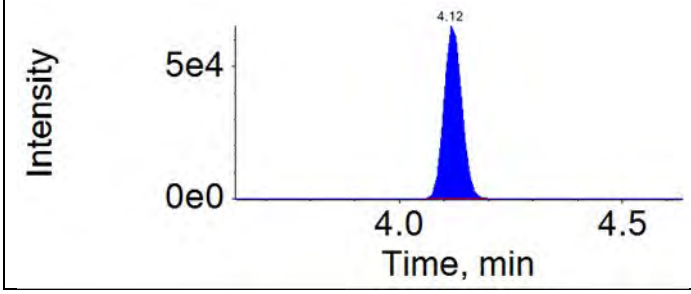
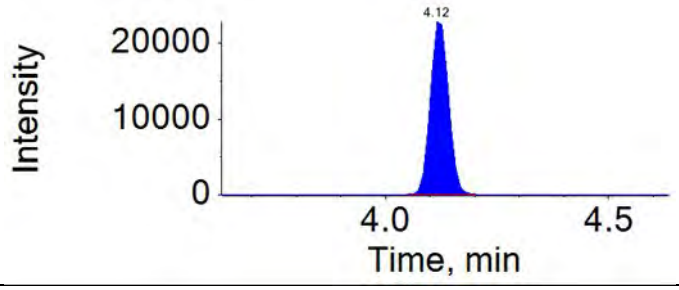
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

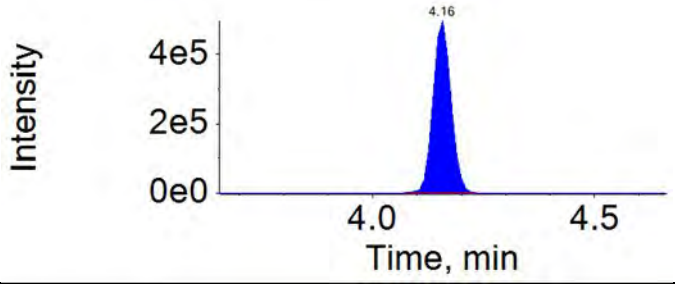
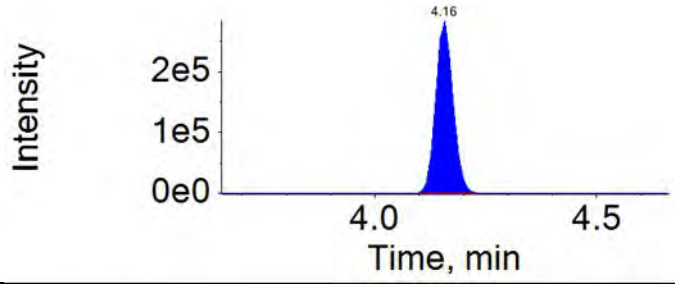
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

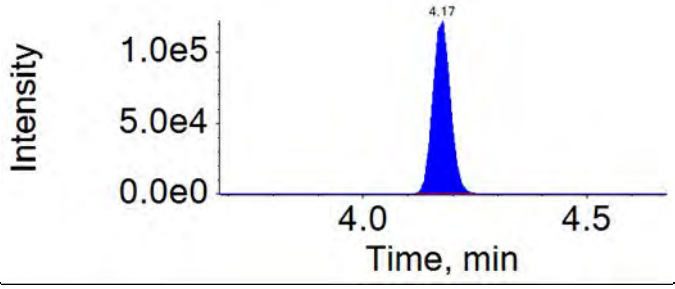
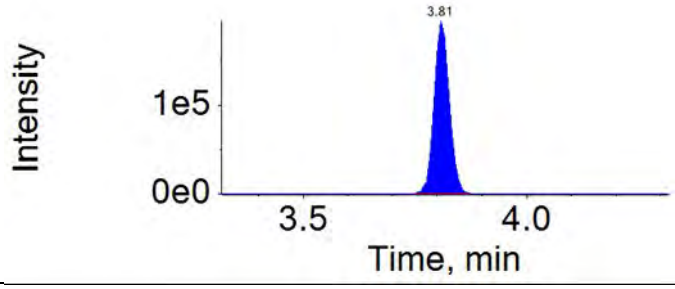
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

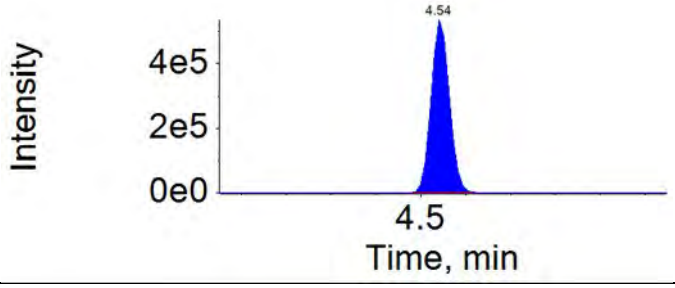
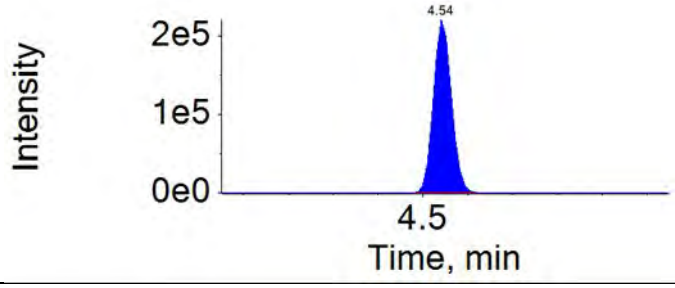
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

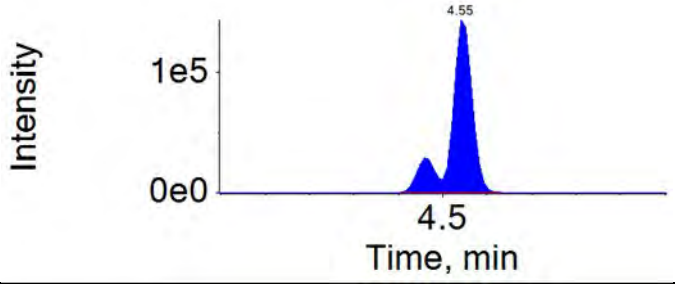
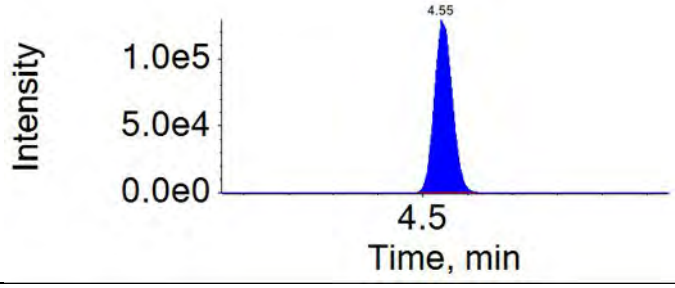
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

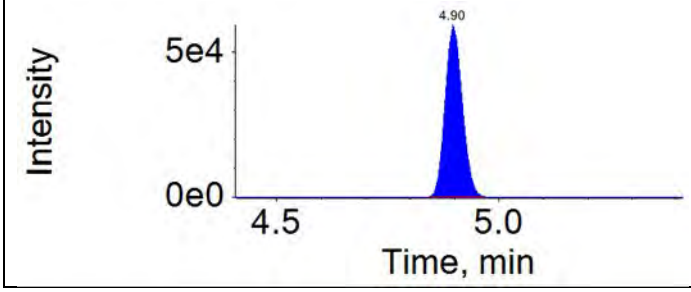
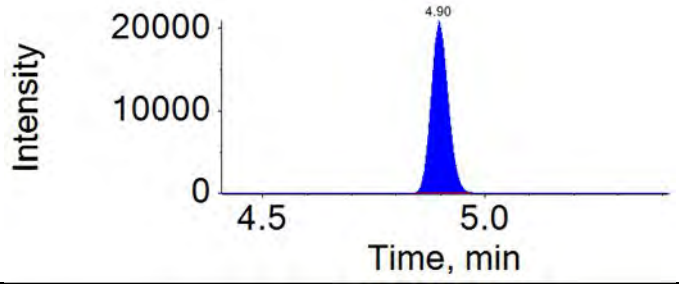
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

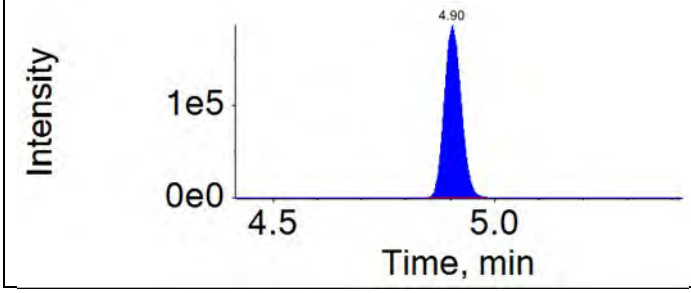
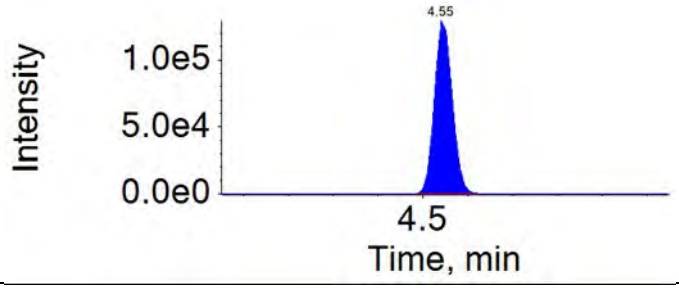
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

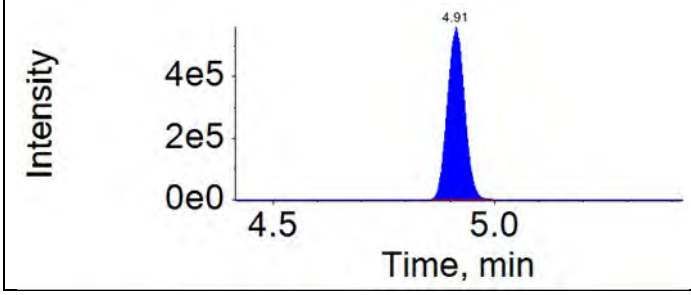
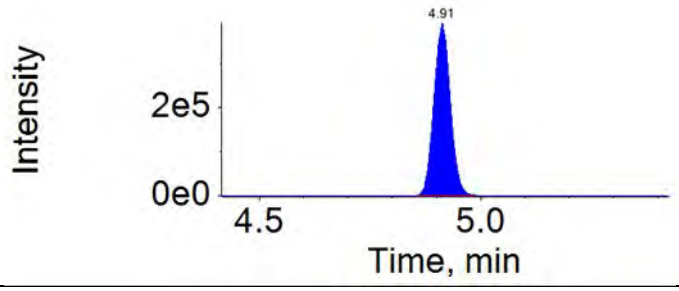
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By MCD at 7:31 pm, 12/19/18

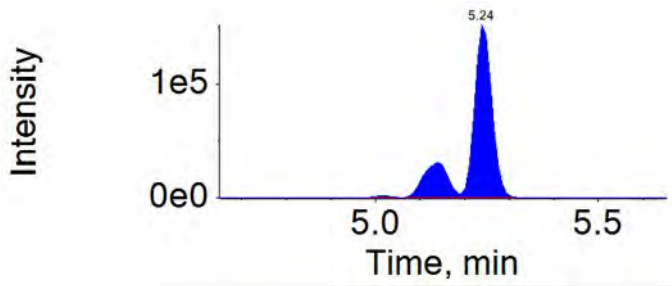
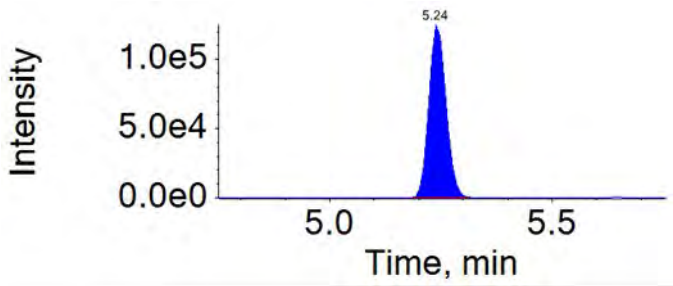
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

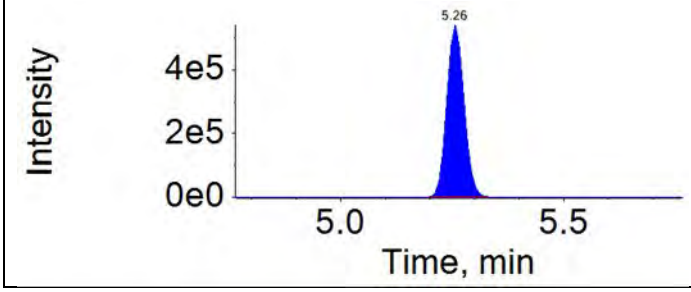
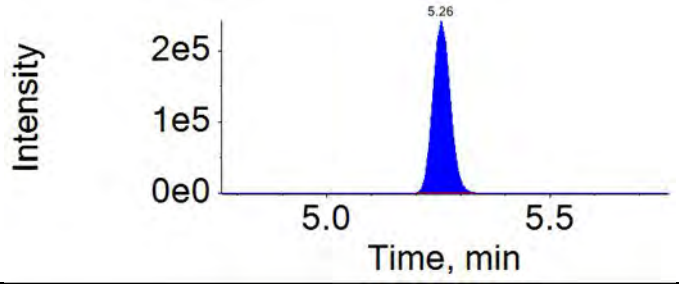
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

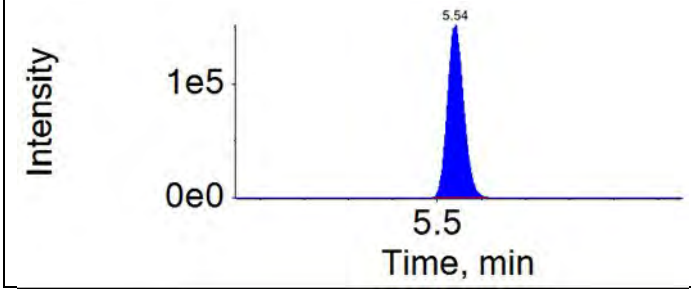
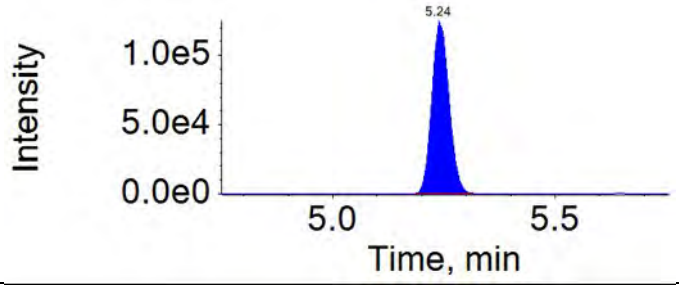
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

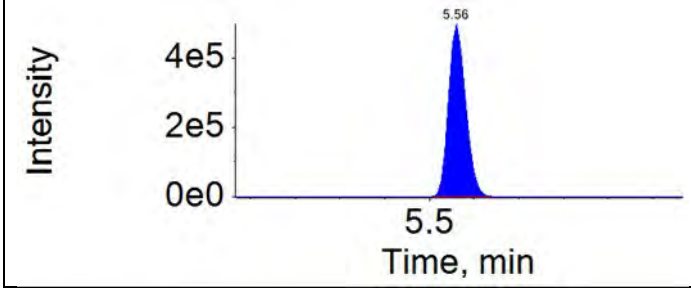
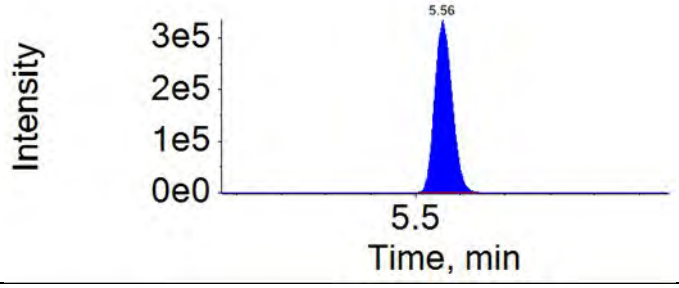
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

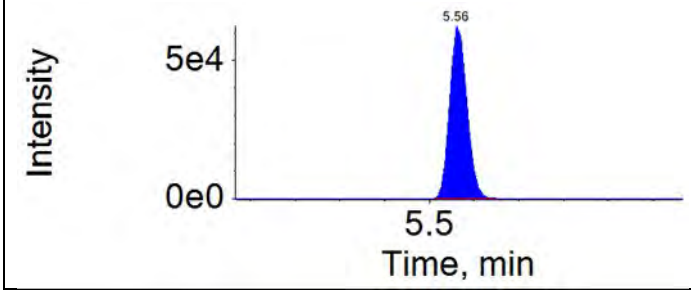
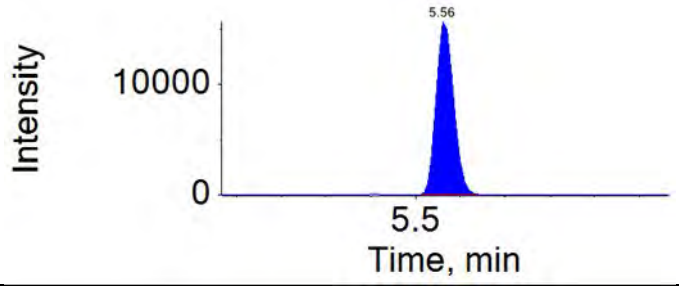
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0
	

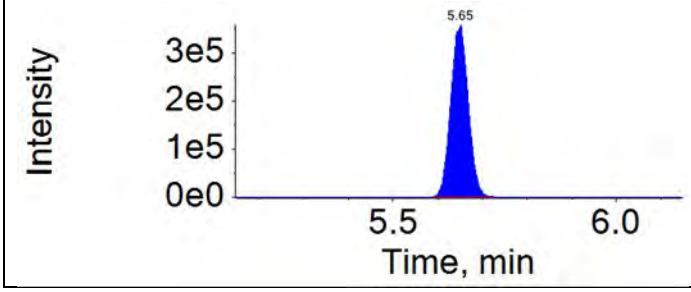
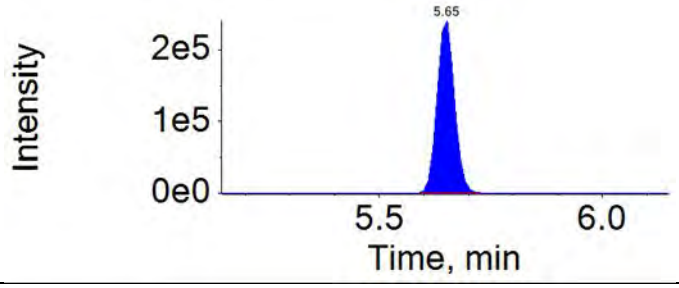
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

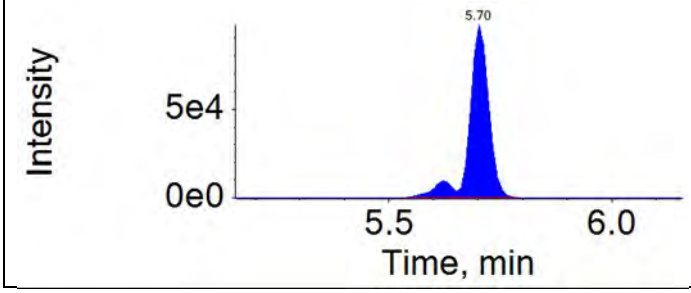
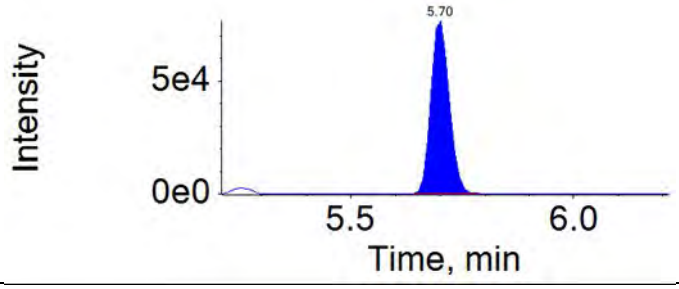
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

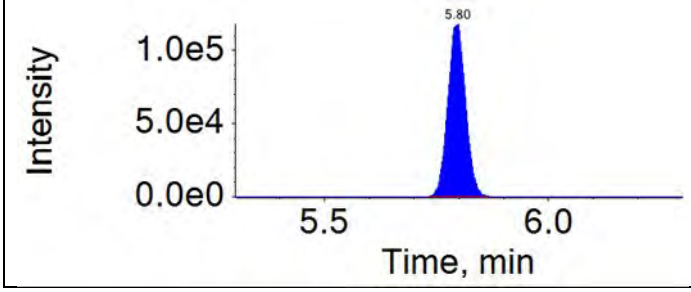
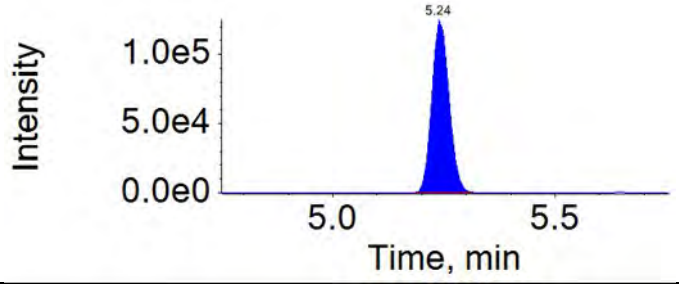
APPROVED
By MCD at 7:31 pm, 12/19/18

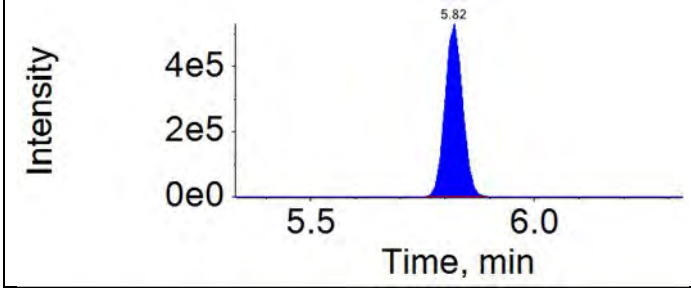
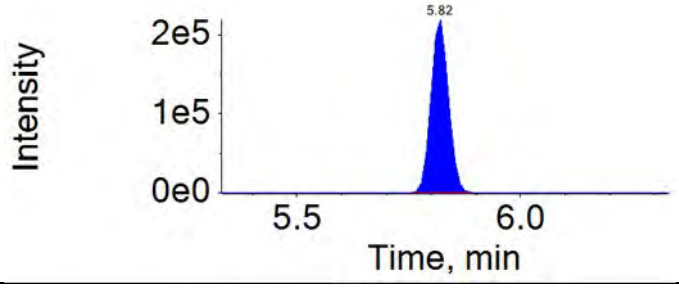
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

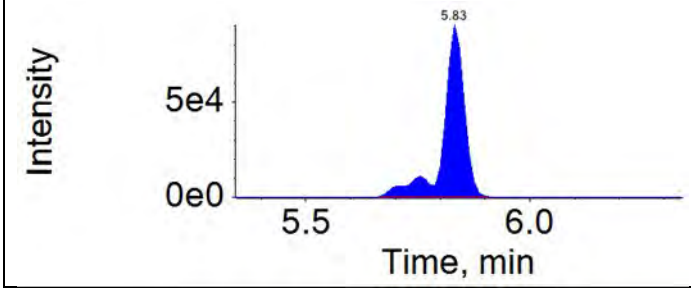
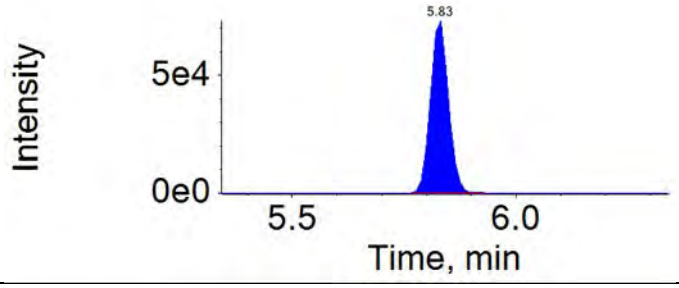
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

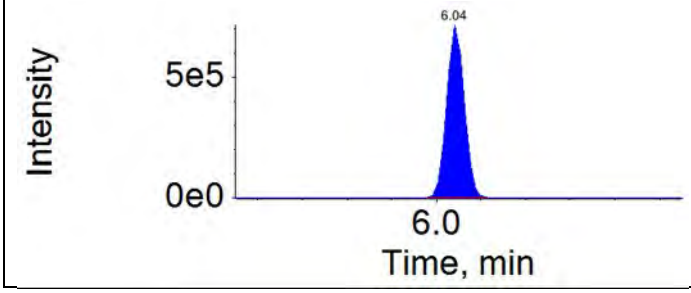
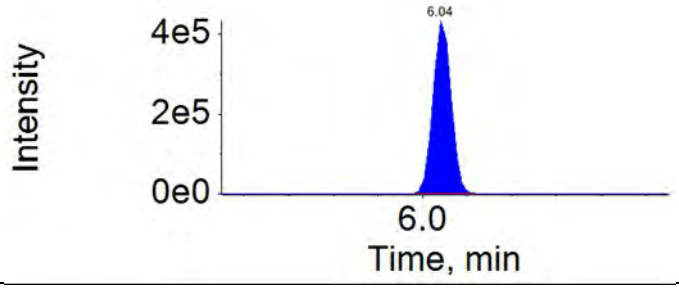
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

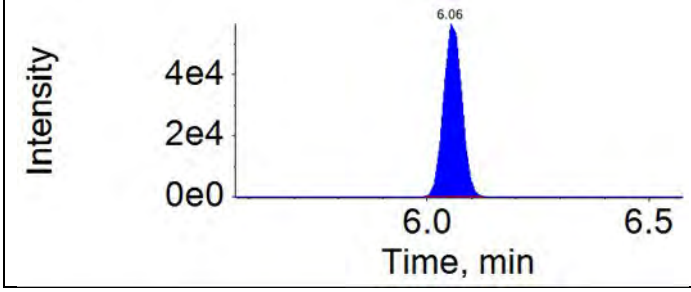
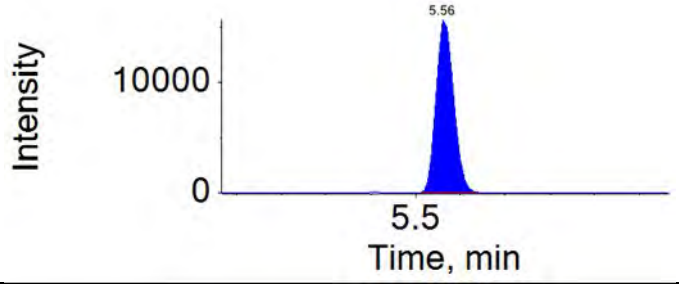
APPROVED
By MCD at 7:31 pm, 12/19/18

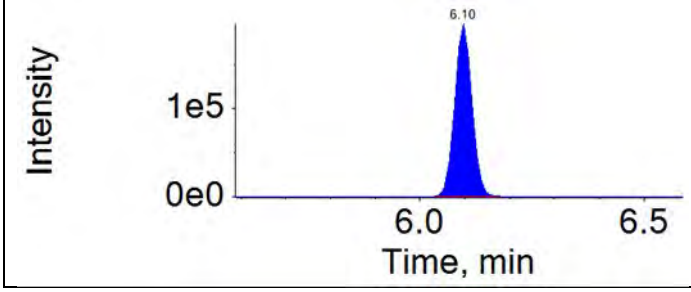
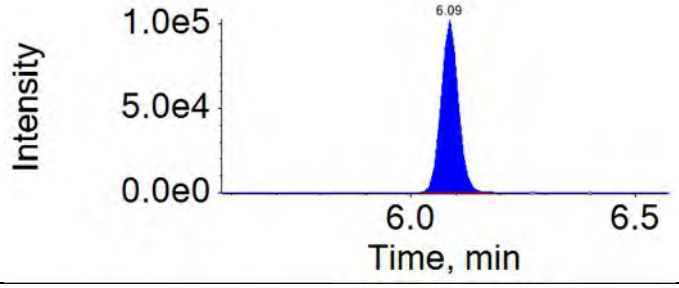
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

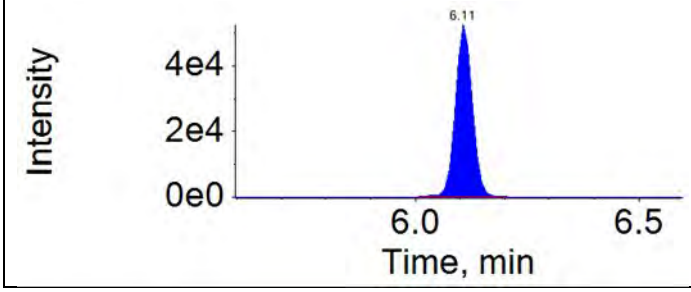
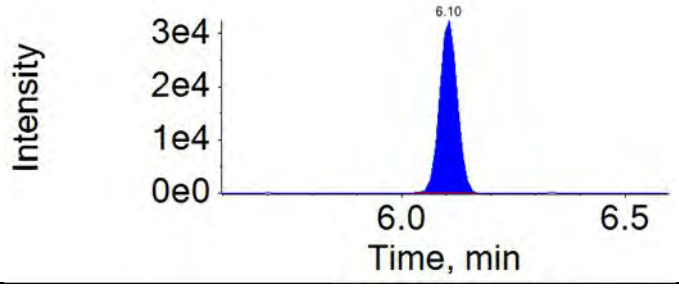
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

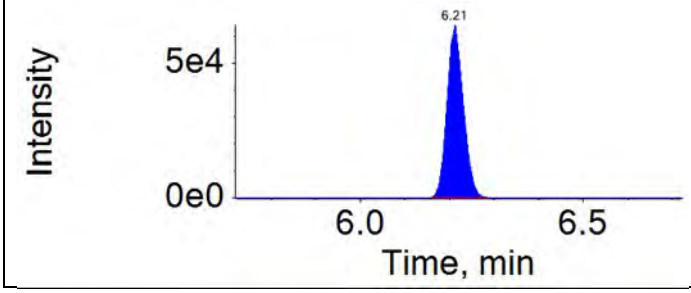
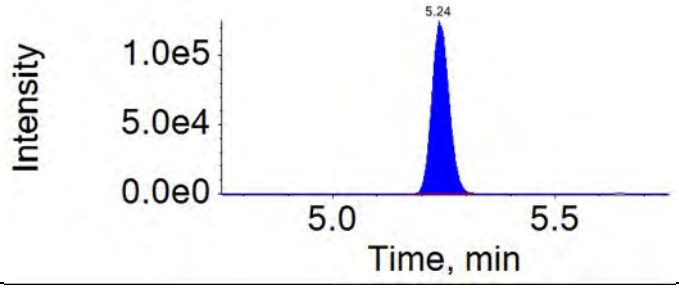
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

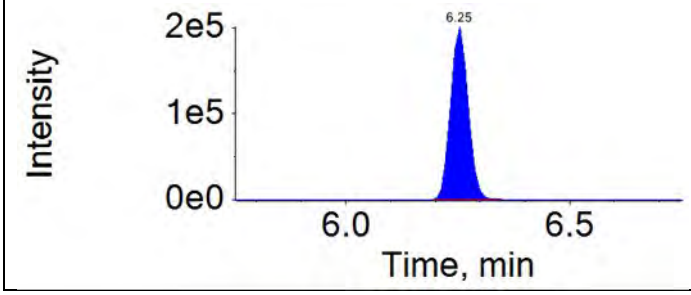
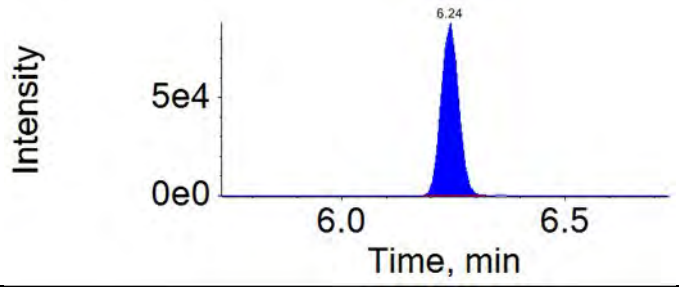
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

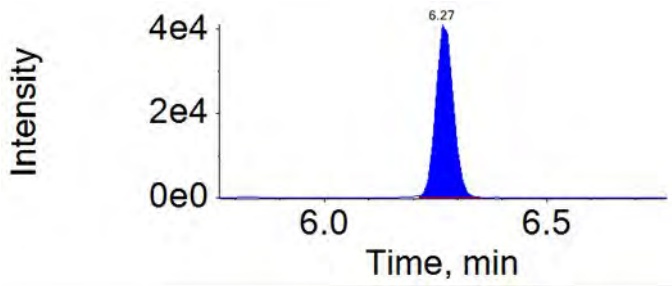
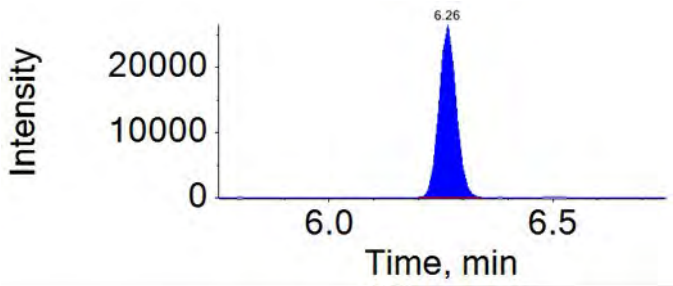
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0
	

Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0
	

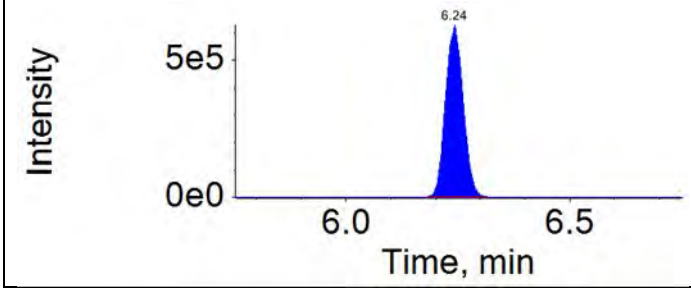
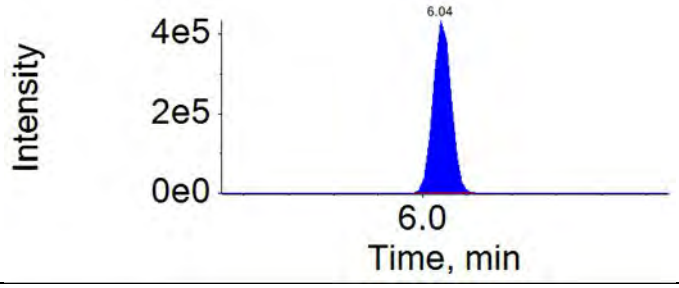
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0
	

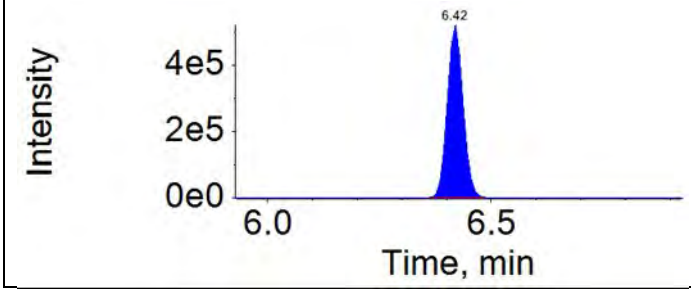
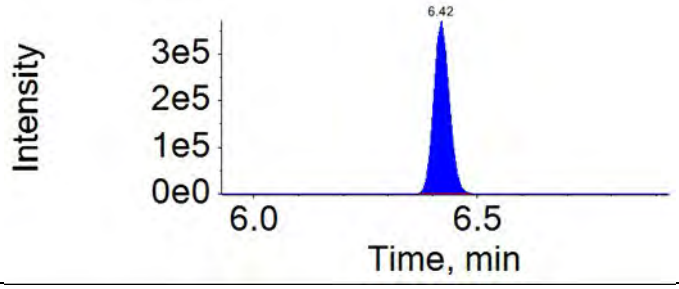
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0
	

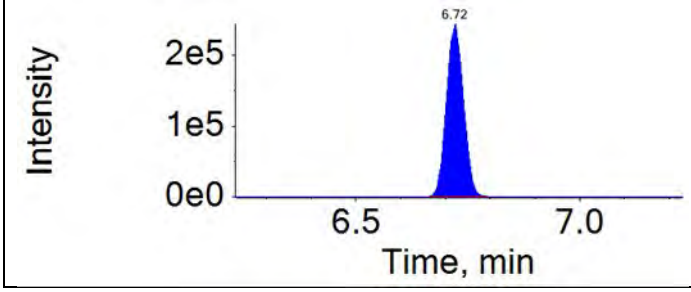
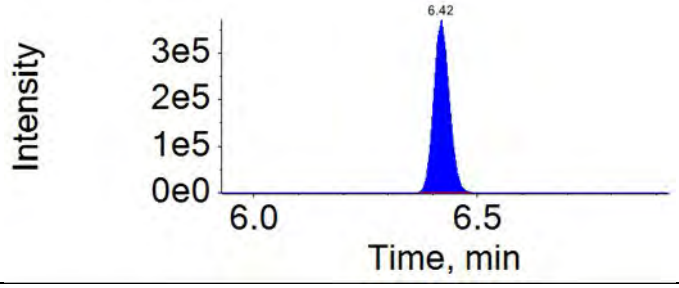
APPROVED
By MCD at 7:31 pm, 12/19/18

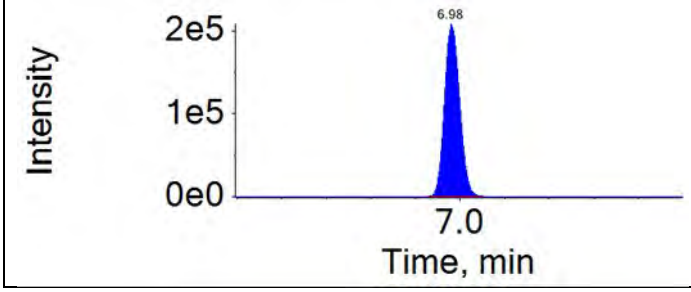
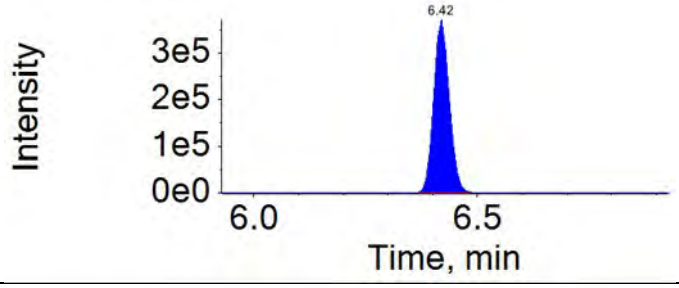
REVIEWED
By HMK at 12:23 pm, 12/21/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

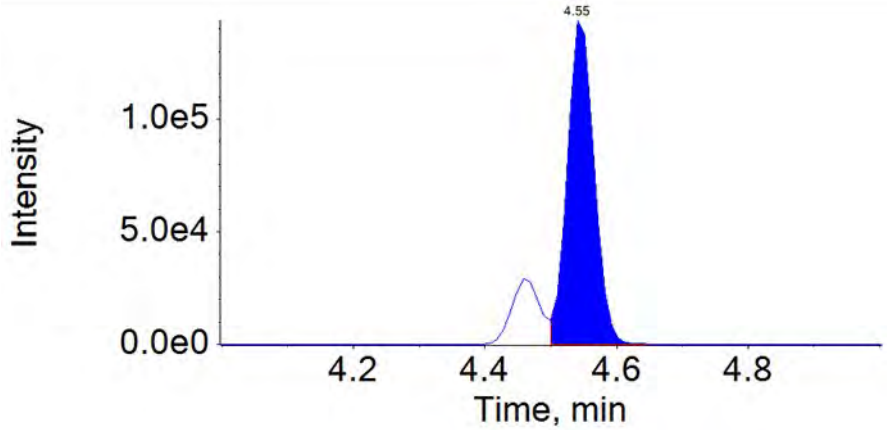
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

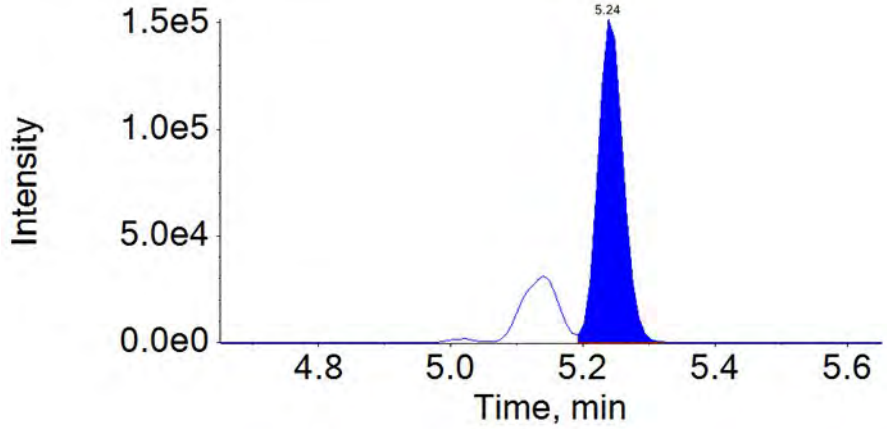
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
408776.8
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



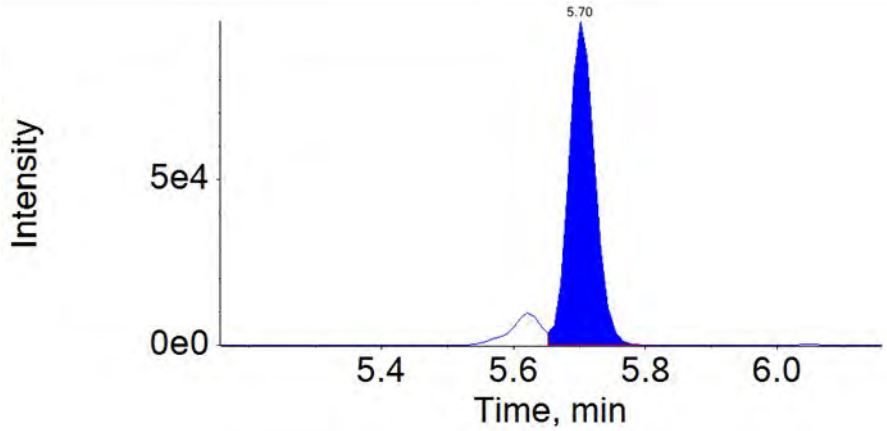
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
405842.1
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
268320.1
Mass Range:
570.0 / 419.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



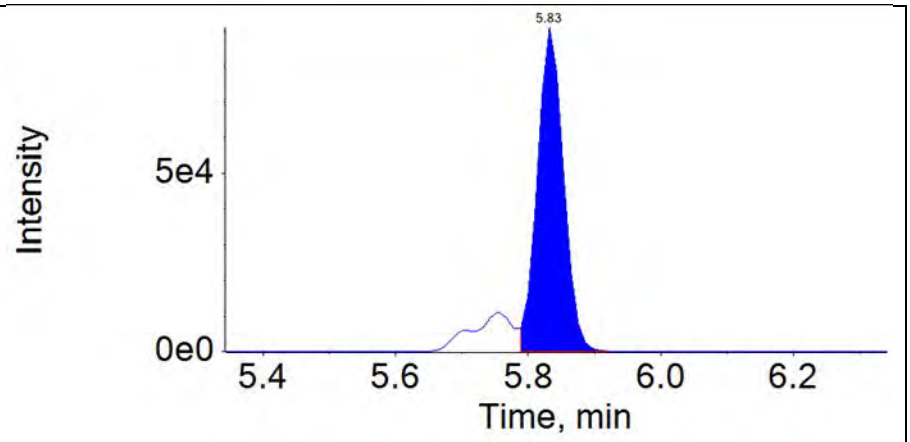
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

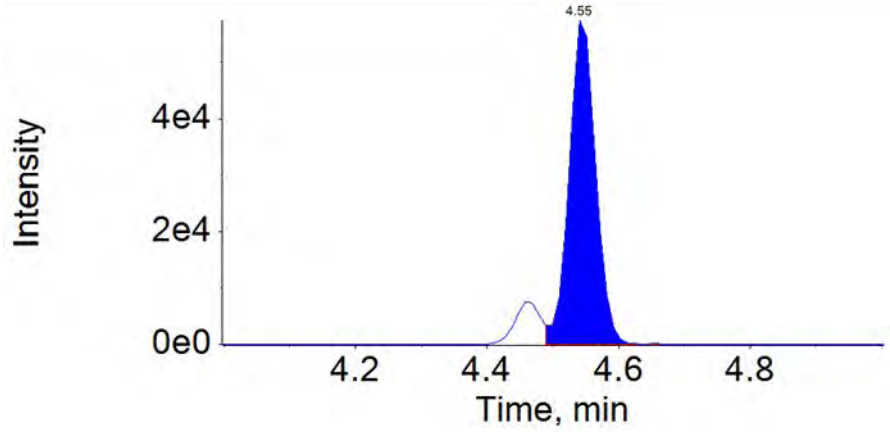
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
248318.4
Mass Range:
584.0 / 419.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



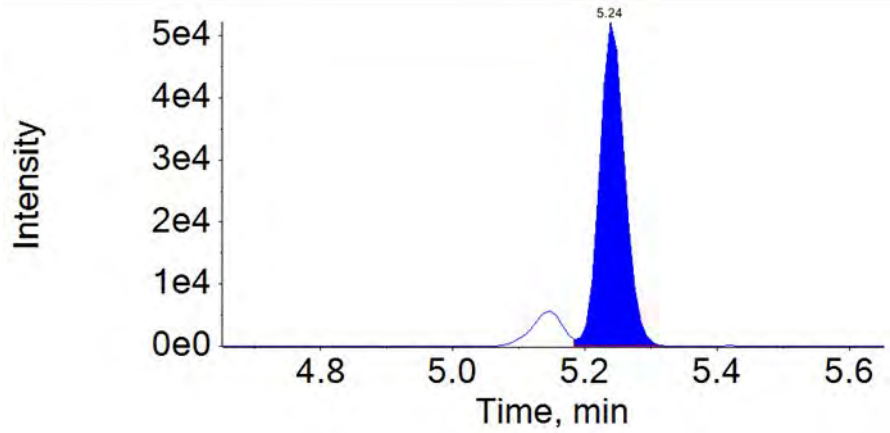
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
161124.7
Mass Range:
399.0 / 99.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
138659.8
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



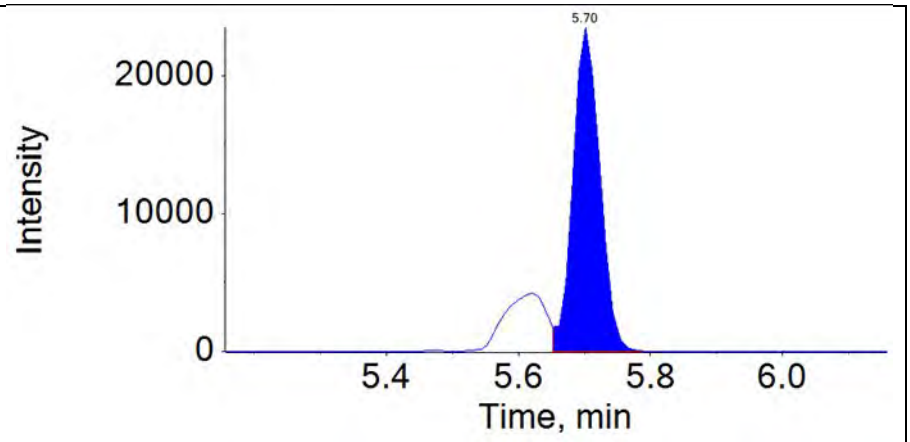
Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

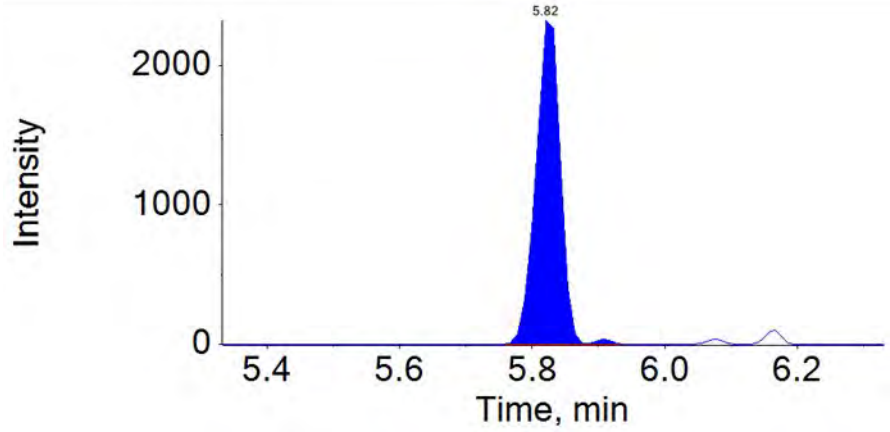
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
66674.5
Mass Range:
570.0 / 483.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



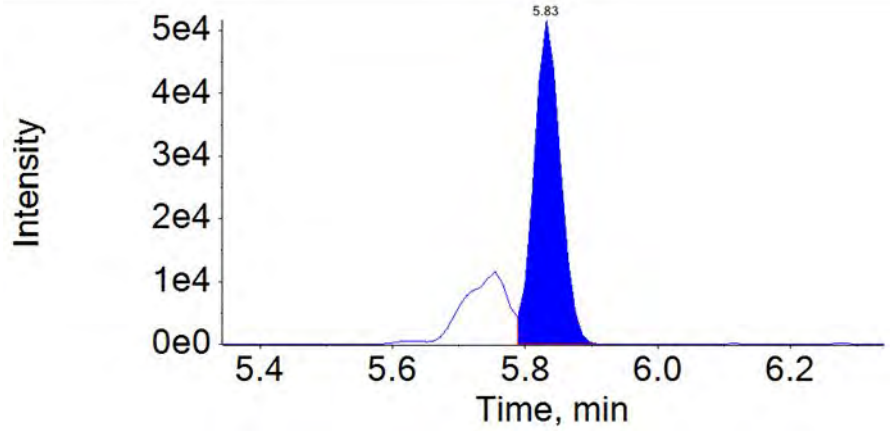
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.82
Peak Area:
6046.6
Mass Range:
563.0 / 169.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
143250.0
Mass Range:
584.0 / 526.0
File Name:
18DEC19D-29.wiff
Sample Name:
CCV3_CAL4



Integration Comment: incorrect integration

APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

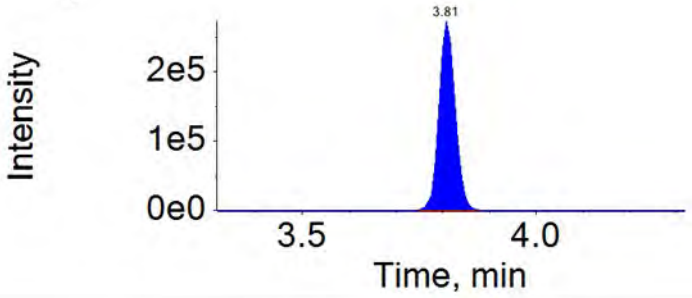
Sample Name: CCV3_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC19D-29.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	653396.2	A	N/A	0.3699			
PFBS_2	3.81	1.00	241667.3	A	N/A	0.3699	1	50	
4:2-FTS	4.12	1.00	180828.4	A	N/A	0.6177			
4:2-FTS_2	4.12	1.00	111705.2	A	N/A	0.6177	2	50	
PFHxA	4.16	1.00	1396819.3	A	N/A	0.0123			
PFHxA_2	4.15	1.00	17135.9	A	N/A	0.0123	12	50	
PFPeS	4.17	1.10	332457.4	A	N/A	0.5205			
PFPeS_2	4.17	1.10	173059.0	A	N/A	0.5205	-1	50	
PFHpA	4.54	1.00	1502687.8	A	N/A	0.0554			
PFHpA_2	4.54	1.00	83270.2	A	N/A	0.0554	6	50	
PFHxS	4.55	1.00	496304.8	M	N/A	0.3644			
PFHxS_2	4.55	1.00	180843.8	M	N/A	0.3644	10	50	
6:2-FTS	4.90	1.00	158075.4	A	N/A	0.6580			
6:2-FTS_2	4.90	1.00	104019.0	A	N/A	0.6580	4	50	
PFHpS	4.90	1.08	490917.1	A	N/A	0.4223			
PFHpS_2	4.90	1.08	207308.1	A	N/A	0.4223	2	50	
PFOA	4.91	1.00	1504971.5	A	N/A	0.0617			
PFOA_2	4.91	1.00	92859.0	A	N/A	0.0617	9	50	
PFOS	5.24	1.00	531547.6	M	N/A	0.2959			
PFOS_2	5.24	1.00	157265.7	M	N/A	0.2959	0	50	
PFNA	5.26	1.00	1451121.1	A	N/A	0.0178			
PFNA_2	5.26	1.00	25795.5	A	N/A	0.0178	-16	50	
PFNS	5.54	1.06	385325.4	A	N/A	0.4543			
PFNS_2	5.54	1.06	175038.8	A	N/A	0.4543	-1	50	
PFDA	5.56	1.00	1318623.9	A	N/A	0.0069			
PFDA_2	5.56	1.00	9102.4	A	N/A	0.0069	16	50	
8:2-FTS	5.56	1.00	167074.7	A	N/A	0.5669			
8:2-FTS_2	5.57	1.00	94718.0	A	N/A	0.5669	-3	50	
NMeFOSAA	5.70	1.00	298989.3	M	N/A	0.2842			
NMeFOSAA_2	5.70	1.00	84971.9	M	N/A	0.2842	9	50	
PFDS	5.80	1.11	326186.1	A	N/A	0.4848			
PFDS_2	5.80	1.11	158141.7	A	N/A	0.4848	-2	50	
PFUnDA	5.82	1.00	1450270.9	A	N/A	0.0041			
PFUnDA_2	5.82	1.00	5983.7	M	N/A	0.0041	30	50	
NEtFOSAA	5.83	1.00	295766.0	M	N/A	0.6600			
NEtFOSAA_2	5.83	1.00	195212.6	M	N/A	0.6600	-4	50	
PFDoDA	6.04	1.00	1954227.8	A	N/A	0.0114			
PFDoDA_2	6.04	1.00	22182.0	A	N/A	0.0114	-9	50	
10:2-FTS	6.06	1.09	162345.3	A	N/A	0.7194			
10:2-FTS_2	6.06	1.09	116786.1	A	N/A	0.7194	3	50	
PFTrDA	6.24	1.03	1717721.1	A	N/A	0.0093			
PFTrDA_2	6.24	1.03	16020.0	A	N/A	0.0093	6	50	
PFTeDA	6.42	1.00	1272846.9	A	N/A	0.0061			
PFTeDA_2	6.42	1.00	7822.4	A	N/A	0.0061	13	50	
PFHxDA	6.72	1.05	645103.5	A	N/A	0.0618			
PFHxDA_2	6.72	1.05	39869.3	A	N/A	0.0618	-6	50	
PFODA	6.98	1.09	490544.0	A	N/A	0.0255			
PFODA_2	6.98	1.09	12521.1	A	N/A	0.0255	-7	50	

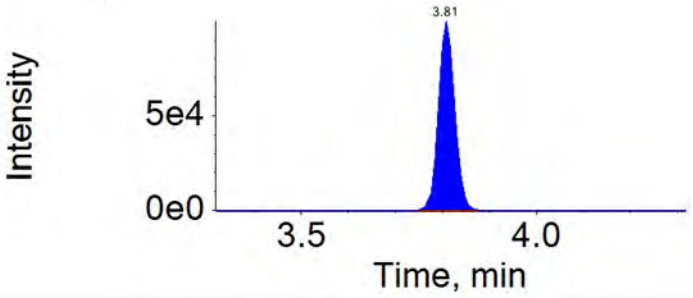
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

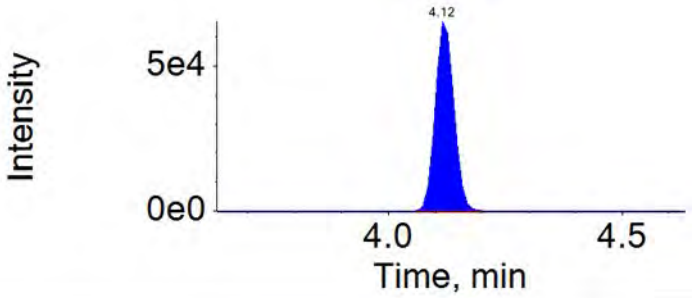
Component: PFBS
Primary Mass: 299.0 / 80.0



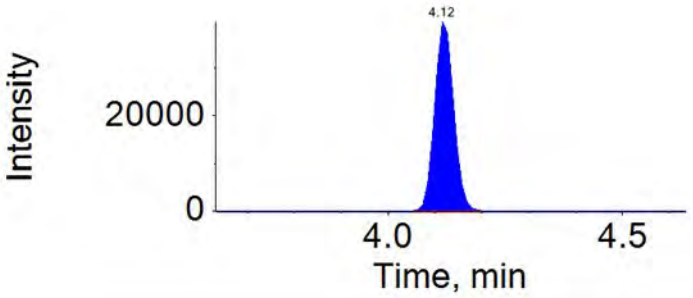
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



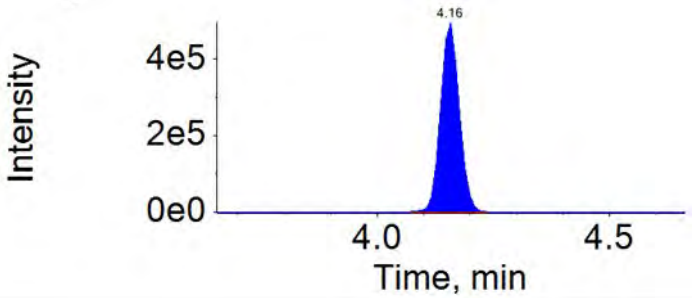
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



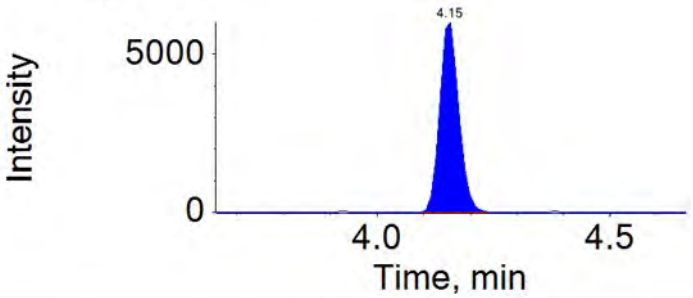
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



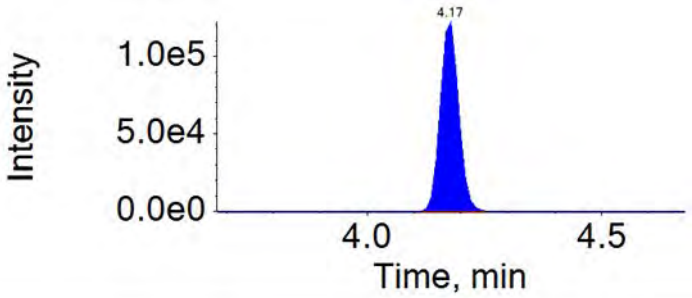
Component: PFHxA
Primary Mass: 313.0 / 269.0



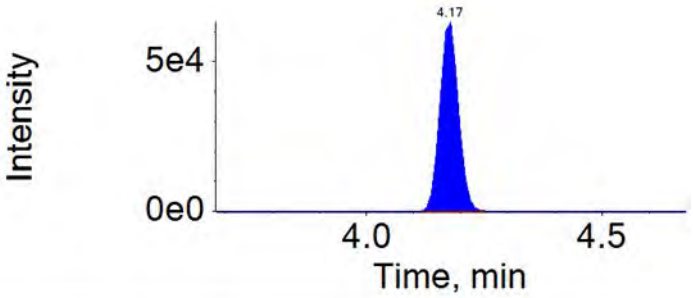
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



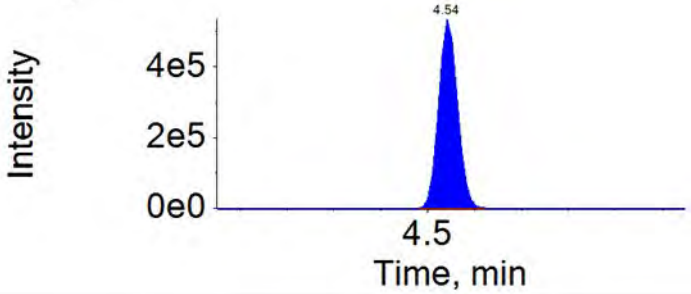
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



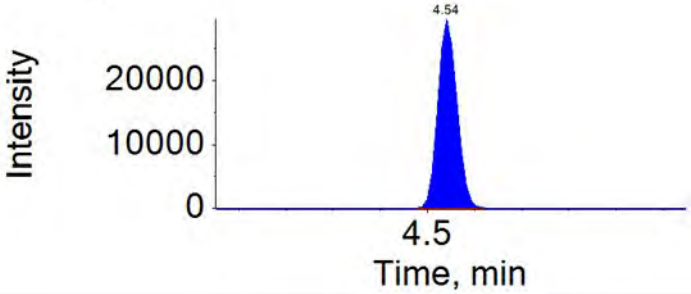
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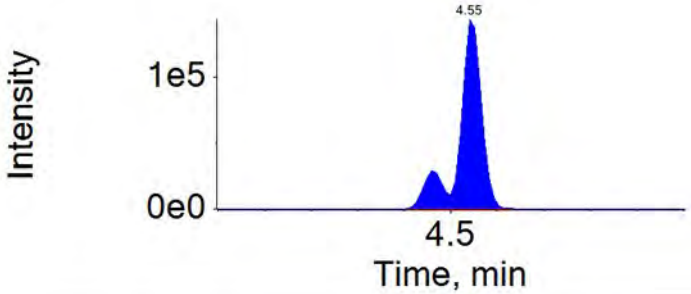
Component: PFHpA
Primary Mass: 363.0 / 319.0



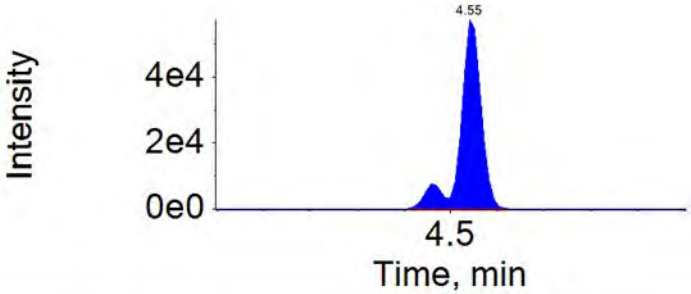
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



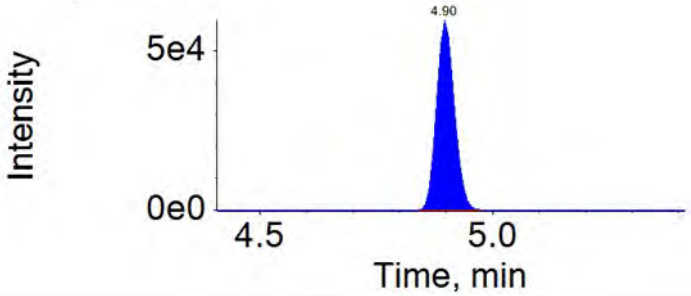
Component: PFHxS
Primary Mass: 399.0 / 80.0



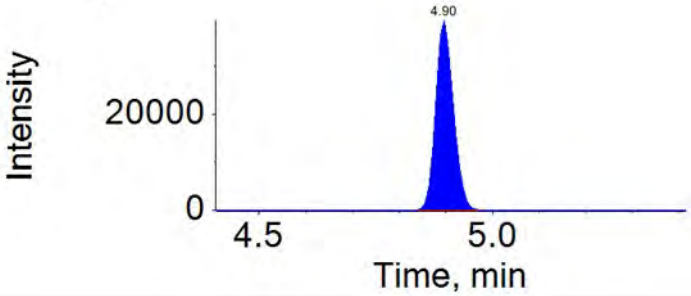
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



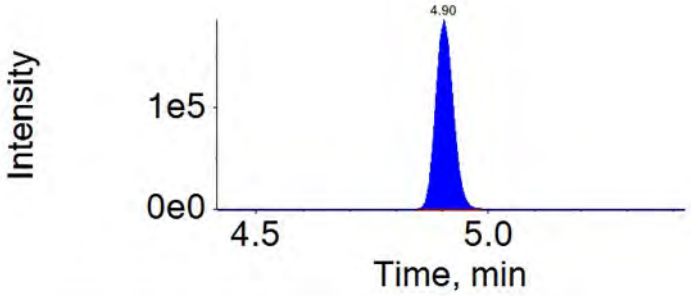
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



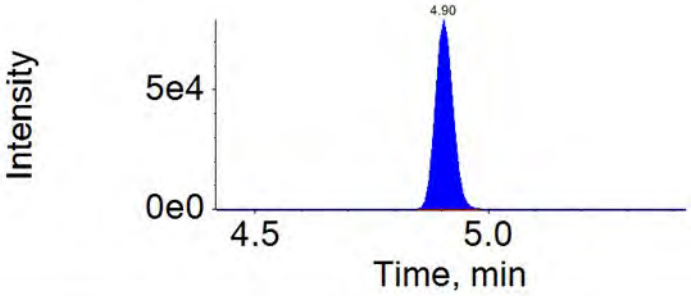
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



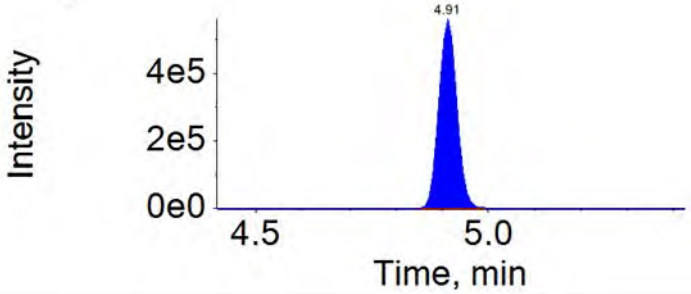
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



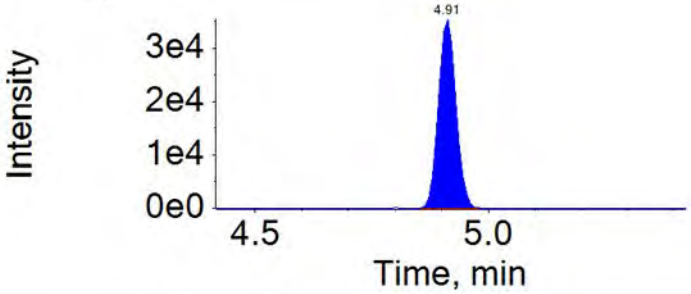
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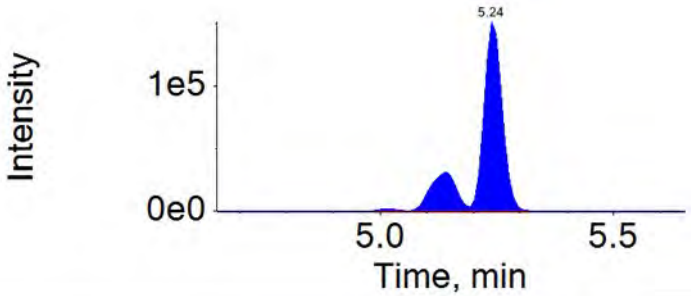
Component: PFOA
Primary Mass: 413.0 / 369.0



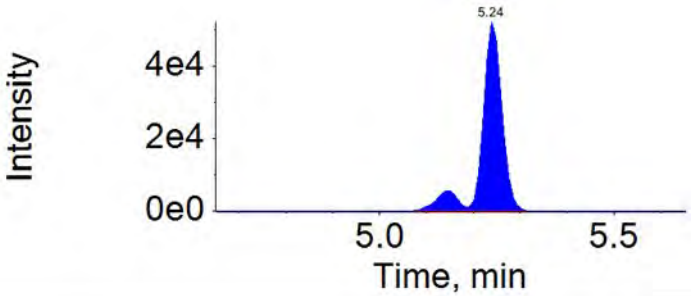
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



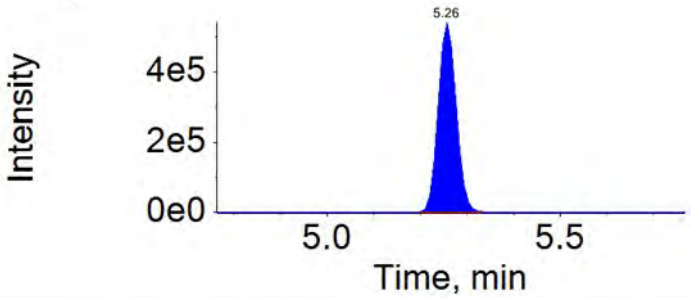
Component: PFOS
Primary Mass: 499.0 / 80.0



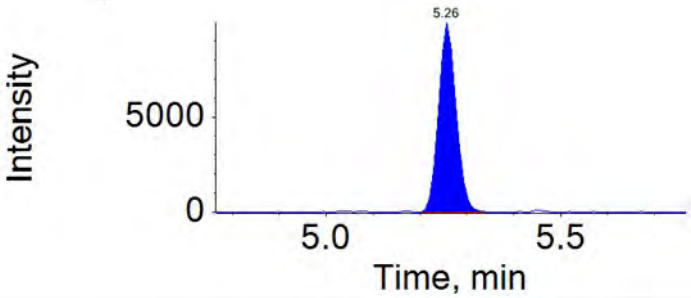
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



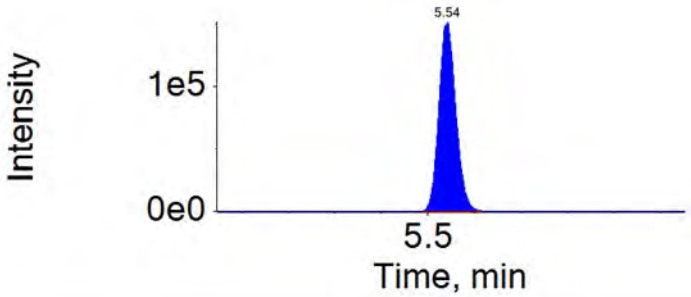
Component: PFNA
Primary Mass: 463.0 / 419.0



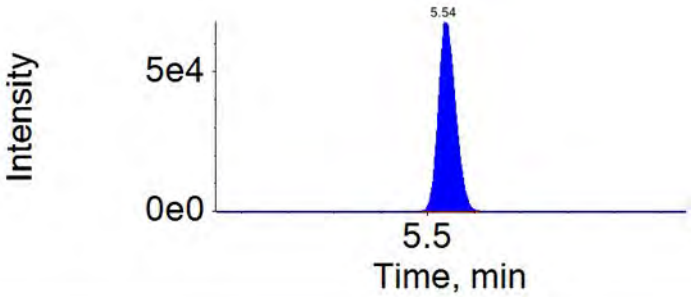
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



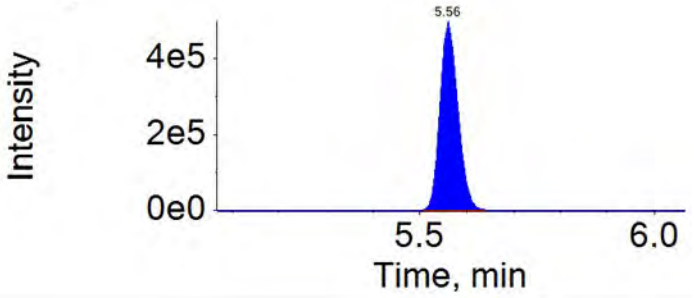
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



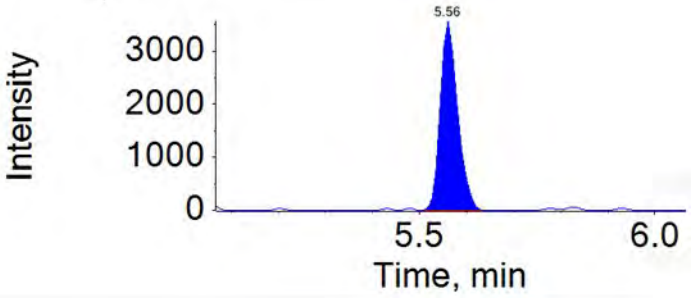
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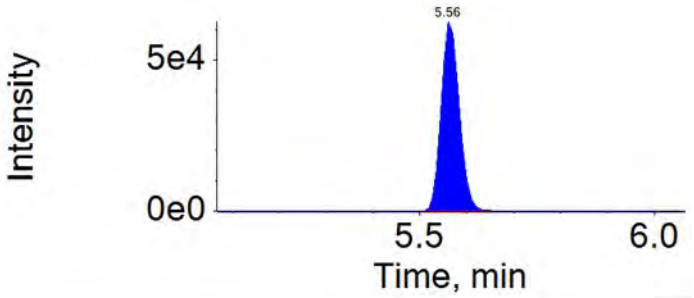
Component: PFDA
Primary Mass: 513.0 / 469.0



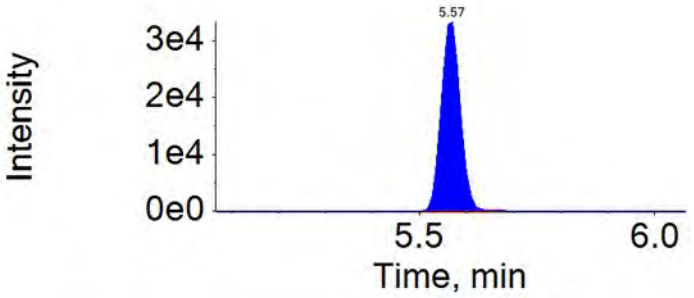
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



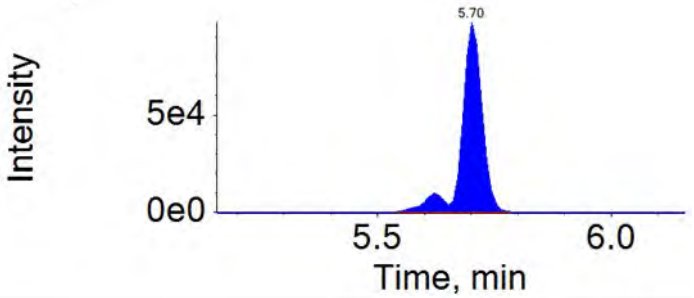
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



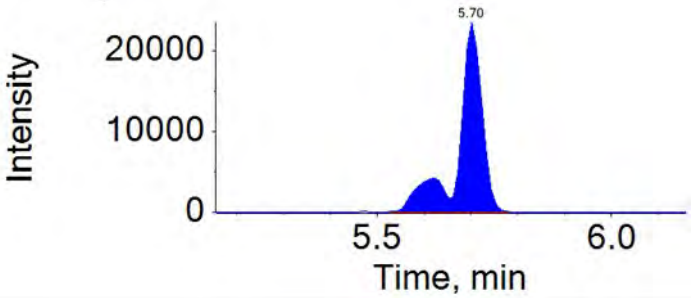
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



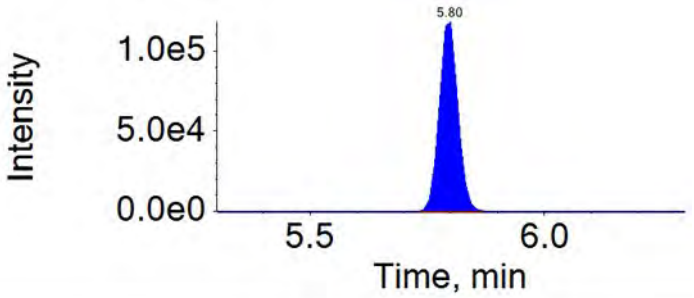
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



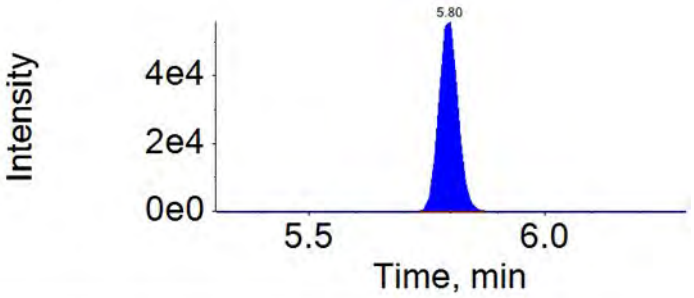
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



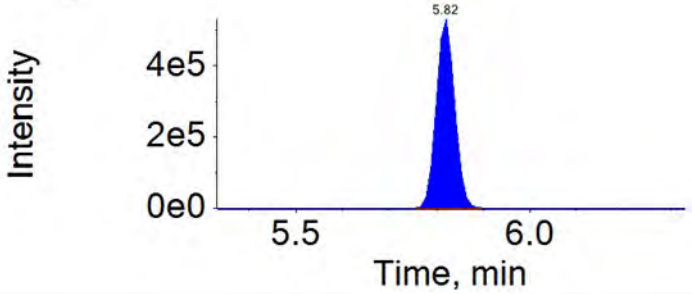
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



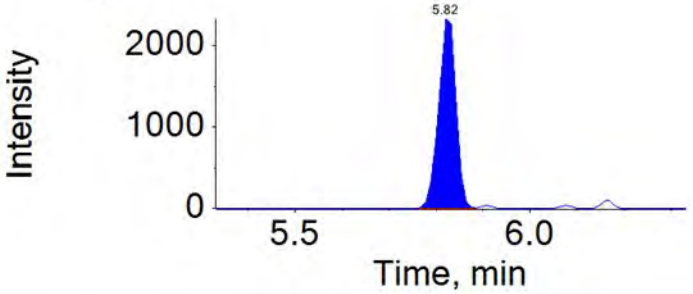
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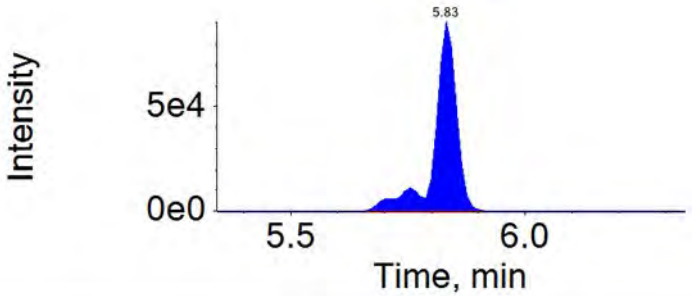
Component: PFUnDA
Primary Mass: 563.0 / 519.0



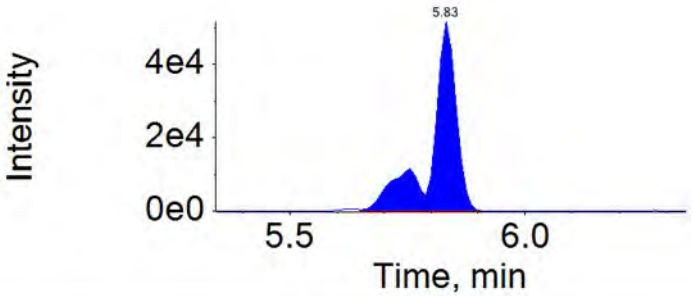
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



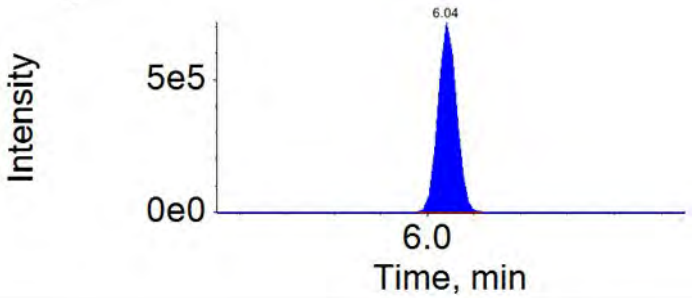
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



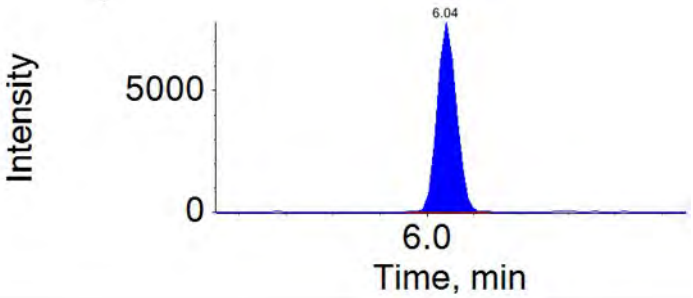
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



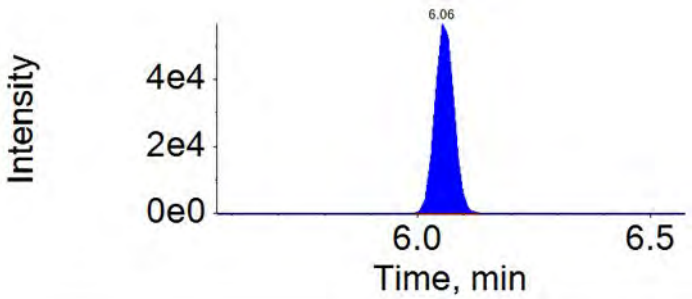
Component: PFDoDA
Primary Mass: 613.0 / 569.0



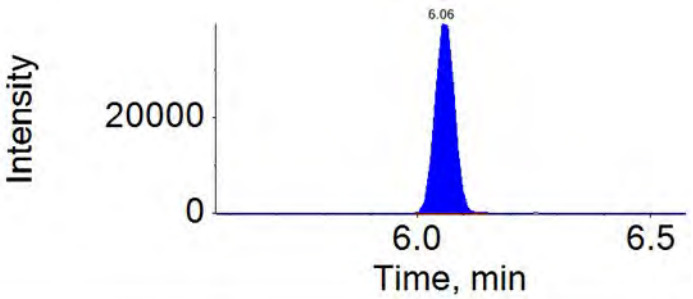
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



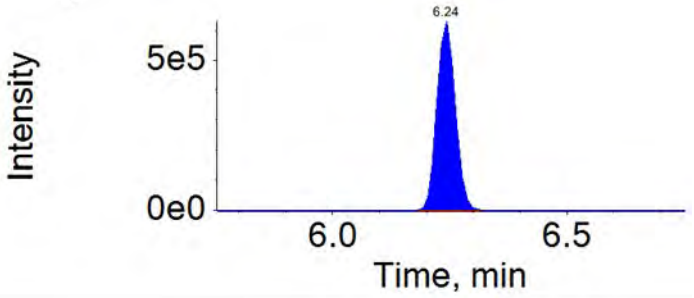
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



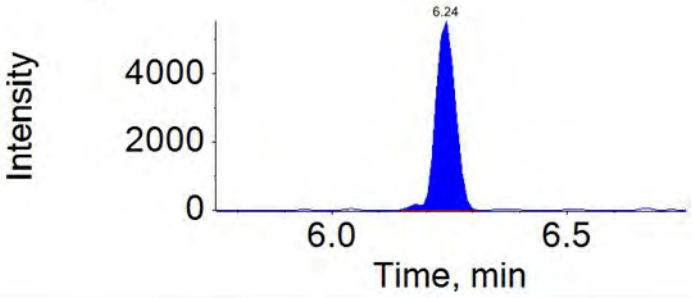
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



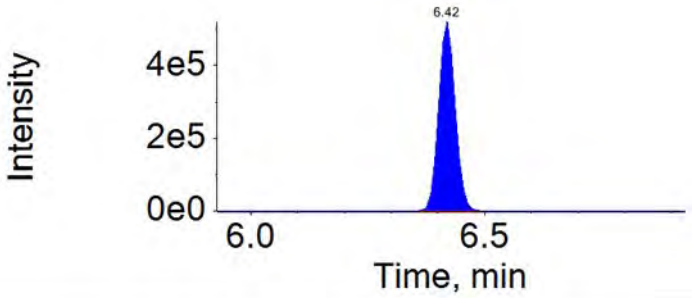
Component: PFTrDA
Primary Mass: 663.0 / 619.0



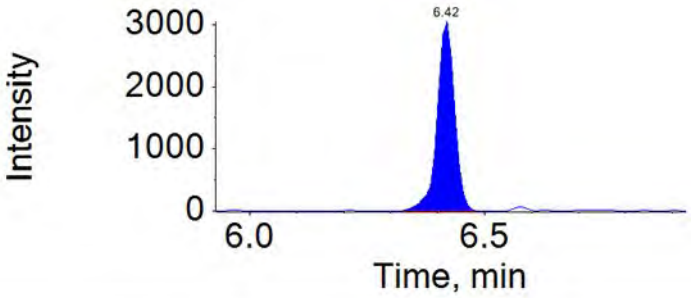
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



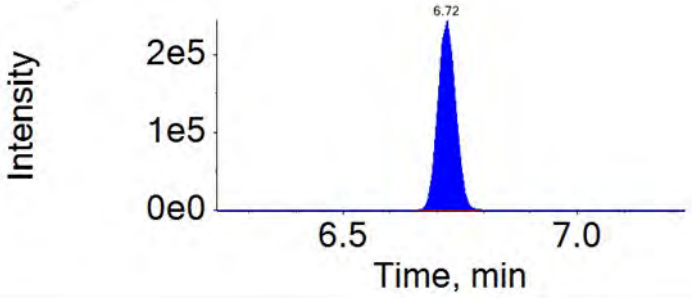
Component: PFTeDA
Primary Mass: 713.0 / 669.0



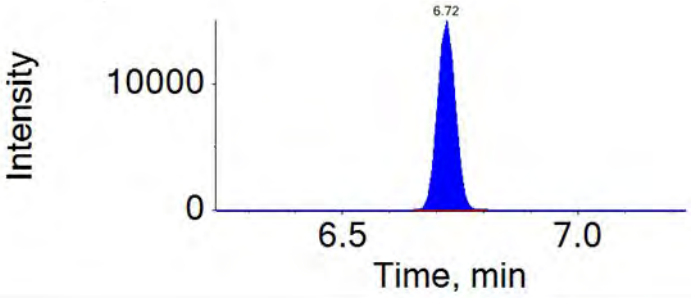
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



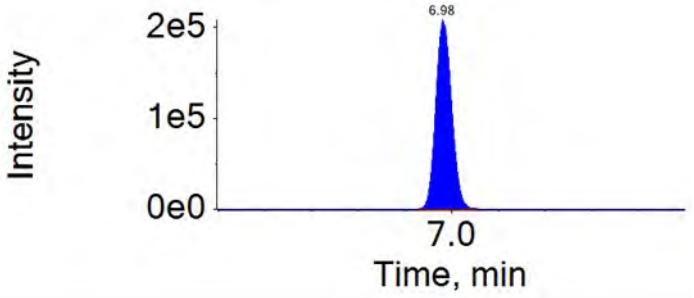
Component: PFHxDA
Primary Mass: 813.0 / 769.0



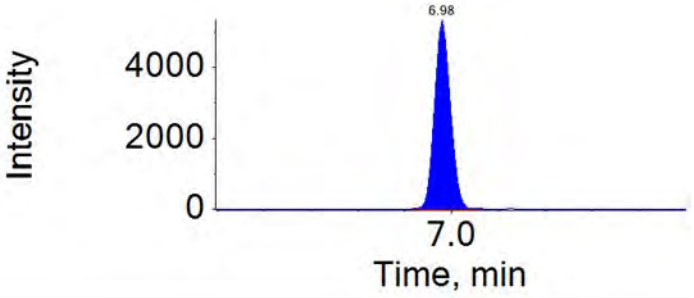
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



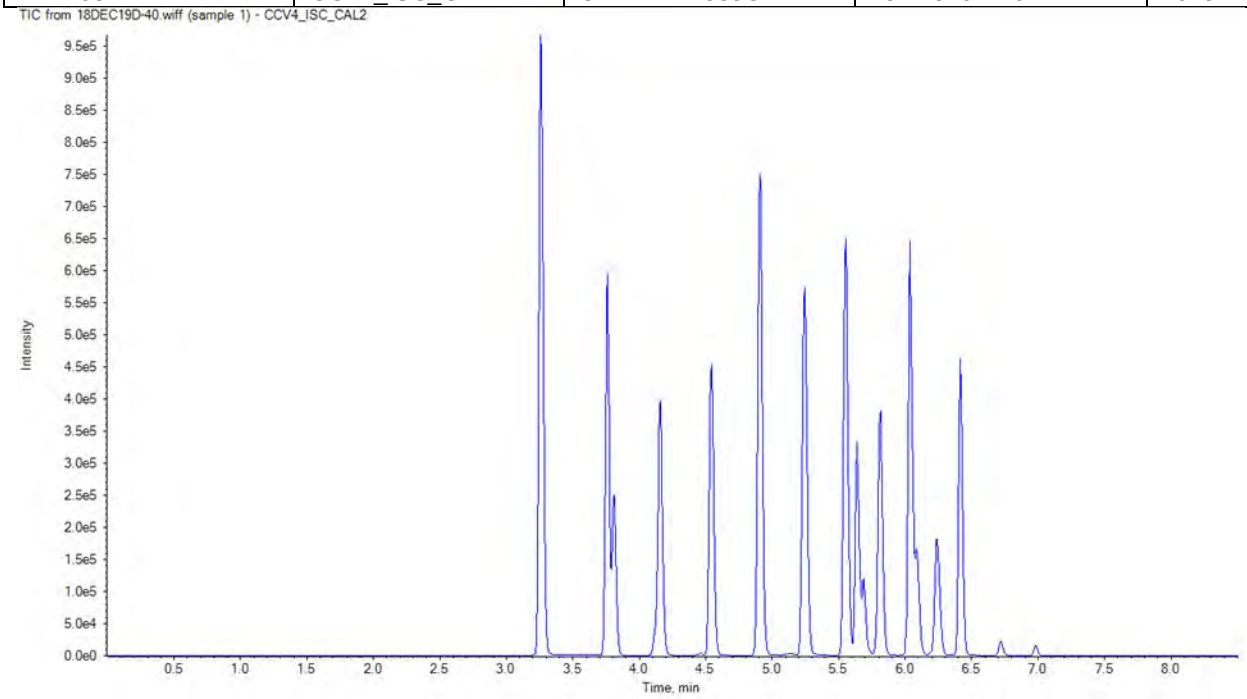
APPROVED
By MCD at 7:31 pm, 12/19/18

REVIEWED
By HMK at 12:23 pm, 12/21/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV4_ISC_CAL2	CALBRN21833C	18DEC19D-40.wiff	2018-12-19T15:59:21



Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	945497.5	942675.8	0	50	
13C2-PFOA	5.0	504591.1	520268.5	-3	50	
13C4-PFOS	4.8	301321.3	307968.9	-2	50	
13C2-PFDA	5.0	452957.0	487375.3	-7	50	

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV4_ISC_CAL2	CALBRN21833C	18DEC19D-40.wiff	2018-12-19T15:59:21

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	114134.4	10	13C4-PFBA	1081707.0	5.0	0.106	3.26	1.000	0.500	0.560	12	30	
PFPeA	111326.0	11	13C5-PFPeA	1025201.3	5.0	0.109	3.76	1.000	0.500	0.561	12	30	
PFBS	43338.7	10	13C3-PFBS	446793.9	4.7	0.097	3.81	1.000	0.443	0.479	8	30	
4:2-FTS	12251.1	11	13C2-4:2-FTS	62862.6	4.7	0.195	4.12	1.000	0.467	0.511	9	30	
PFHxA	106332.7	11	13C5-PFHxA	748515.1	5.0	0.142	4.16	1.000	0.500	0.585	17	30	
PFPeS	25937.0	11	13C3-PFBS	446793.9	4.7	0.058	4.18	1.100	0.469	0.591	26	30	
PFHpA	108377.1	11	13C4-PFHpA	596422.7	5.0	0.182	4.54	1.000	0.500	0.603	21	30	
PFHxS	34258.8	18	13C3-PFHxS	338036.7	4.7	0.101	4.54	1.000	0.474	0.493	4	30	
6:2-FTS	11691.0	11	13C2-6:2-FTS	53433.0	4.8	0.219	4.90	1.000	0.474	0.545	15	30	
PFHpS	32586.5	11	13C3-PFHxS	338036.7	4.7	0.096	4.90	1.080	0.476	0.510	7	30	
PFOA	107496.5	11	13C8-PFOA	1009357.8	5.0	0.106	4.91	1.000	0.500	0.564	13	30	
PFOS	37896.1	21	13C8-PFOS	338935.1	4.8	0.112	5.24	1.000	0.463	0.490	6	30	
PFNA	97237.2	11	13C9-PFNA	665790.1	5.0	0.146	5.25	1.000	0.500	0.580	16	30	
PFNS	24550.6	11	13C8-PFOS	338935.1	4.8	0.072	5.53	1.060	0.480	0.461	-4	30	
PFDA	94403.0	11	13C6-PFDA	879570.9	5.0	0.107	5.55	1.000	0.500	0.554	11	30	
8:2-FTS	11345.9	11	13C2-8:2-FTS	46325.4	4.8	0.245	5.55	1.000	0.479	0.493	3	30	
PFOSA	62752.4	11	13C8-PFOSA	631545.7	5.0	0.099	5.64	1.000	0.500	0.497	-1	30	
NMeFOSAA	22096.2	18	d3-NMeFOSAA	212544.3	5.0	0.104	5.69	1.000	0.500	0.646	29	30	
PFDS	18341.8	11	13C8-PFOS	338935.1	4.8	0.054	5.79	1.110	0.482	0.444	-8	30	
PFUnDA	96157.1	11	13C7-PFUnDA	581478.9	5.0	0.165	5.81	1.000	0.500	0.548	10	30	
NEtFOSAA	20404.3	22	d5-NEtFOSAA	190973.0	5.0	0.107	5.83	1.000	0.500	0.545	9	30	
PFDoDA	129520.4	12	13C2-PFDoDA	1167027.7	5.0	0.111	6.04	1.000	0.500	0.559	12	30	
10:2-FTS	9826.9	11	13C2-8:2-FTS	46325.4	4.8	0.212	6.06	1.090	0.482	0.432	-10	30	
NMePFOSAE	39012.0	11	d7-NMePFOSAE	257331.3	5.0	0.152	6.09	1.000	0.500	0.669	34	30	OOS
NMePFOSA	8658.4	11	d3-NMePFOSA	88597.4	5.0	0.098	6.10	1.000	0.500	0.493	-1	30	
PFDoS	10633.8	11	13C8-PFOS	338935.1	4.8	0.031	6.20	1.180	0.482	0.475	-1	30	
NEtPFOSAE	35672.5	11	d9-NEtPFOSAE	225933.0	5.0	0.158	6.25	1.000	0.500	0.516	3	30	
NEtPFOSA	7021.3	11	d5-NEtPFOSA	71630.7	5.0	0.098	6.27	1.000	0.500	0.458	-8	30	
PFTrDA	127189.9	11	13C2-PFDoDA	1167027.7	5.0	0.109	6.24	1.030	0.500	0.559	12	30	
PFTeDA	85329.6	10	13C2-PFTeDA	854465.7	5.0	0.100	6.42	1.000	0.500	0.538	8	30	
PFHxDA	45528.8	11	13C2-PFTeDA	854465.7	5.0	0.053	6.72	1.050	0.500	0.585	17	30	
PFODA	32574.4	10	13C2-PFTeDA	854465.7	5.0	0.038	6.98	1.090	0.500	0.548	10	30	

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:21:42 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV4_ISC_CAL2			**Data File:**		18DEC19D-40.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-19T15:59:21
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC19DCCV1-5
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	N/A			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	945497.5	942675.8	0	50	
13C2-PFOA	5.0	504591.1	520268.5	-3	50	
13C4-PFOS	4.8	301321.3	307968.9	-2	50	
13C2-PFDA	5.0	452957.0	487375.3	-7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1081707.0	13C3-PFBA	945497.5	1.144	5.000	5.066	101	70-130	
E13C5-PFPeA	1025201.3	13C3-PFBA	945497.5	1.084	5.000	5.056	101	70-130	
E13C3-PFBS	446793.9	13C3-PFBA	945497.5	0.473	4.650	4.601	99	70-130	
E13C2-4:2-FTS	62862.6	13C2-PFOA	504591.1	0.125	4.670	4.732	101	70-130	
E13C5-PFHxA	748515.1	13C2-PFOA	504591.1	1.483	5.000	5.306	106	70-130	
E13C3-PFHxS	338036.7	13C2-PFOA	504591.1	0.670	4.730	5.069	107	70-130	
E13C4-PFHpA	596422.7	13C2-PFOA	504591.1	1.182	5.000	5.106	102	70-130	
E13C2-6:2-FTS	53433.0	13C2-PFOA	504591.1	0.106	4.750	5.328	112	70-130	
E13C8-PFOA	1009357.8	13C2-PFOA	504591.1	2.000	5.000	5.500	110	70-130	
E13C8-PFOS	338935.1	13C4-PFOS	301321.3	1.125	4.780	5.030	105	70-130	
E13C9-PFNA	665790.1	13C4-PFOS	301321.3	2.210	5.000	5.027	101	70-130	
E13C6-PFDA	879570.9	13C2-PFDA	452957.0	1.942	5.000	5.531	111	70-130	
E13C2-8:2-FTS	46325.4	13C2-PFDA	452957.0	0.102	4.790	5.271	110	70-130	
E13C8-PFOSA	631545.7	13C2-PFDA	452957.0	1.394	5.000	5.429	109	70-130	
Ed3-NMeFOSAA	212544.3	13C2-PFDA	452957.0	0.469	5.000	5.162	103	70-130	
E13C7-PFUnDA	581478.9	13C2-PFDA	452957.0	1.284	5.000	5.374	107	70-130	
Ed5-NEtFOSAA	190973.0	13C2-PFDA	452957.0	0.422	5.000	6.211	124	70-130	
E13C2-PFDoDA	1167027.7	13C2-PFDA	452957.0	2.576	5.000	5.420	108	70-130	
Ed7-NMePFOSAE	257331.3	13C2-PFDA	452957.0	0.568	5.000	5.076	102	70-130	
Ed3-NMePFOSA	88597.4	13C2-PFDA	452957.0	0.196	5.000	5.374	107	70-130	
Ed9-NEtPFOSAE	225933.0	13C2-PFDA	452957.0	0.499	5.000	5.100	102	70-130	
Ed5-NEtPFOSA	71630.7	13C2-PFDA	452957.0	0.158	5.000	5.485	110	70-130	
E13C2-PFTeDA	854465.7	13C2-PFDA	452957.0	1.886	5.000	5.316	106	70-130	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

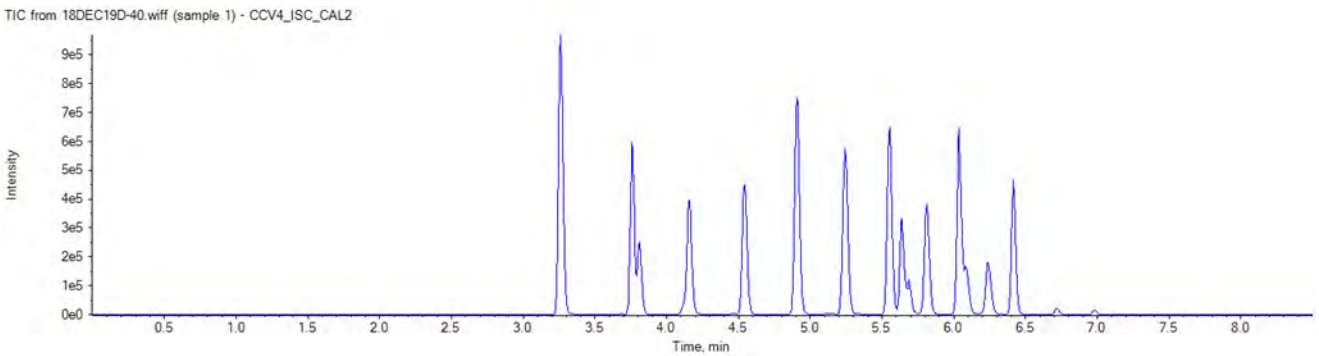
Analyte Quantitation Peak Table

Sample Name: CCV4_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC19D-40.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

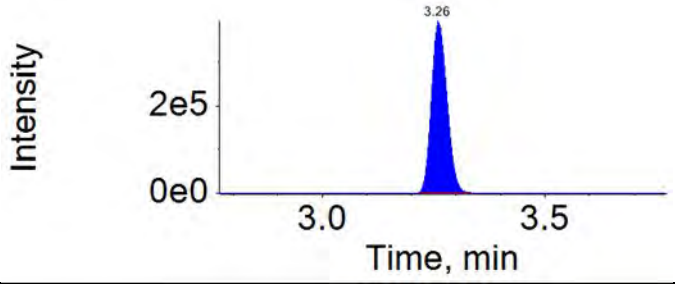
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	114134.4		A	13C4-PFBA	3.26	1081707.0	0.106	0.560
PFPeA	3.76	1.000	111326.0		A	13C5-PFPeA	3.76	1025201.3	0.109	0.561
PFBS	3.81	1.000	43338.7		A	13C3-PFBS	3.81	446793.9	0.097	0.479
4:2-FTS	4.12	1.000	12251.1		A	13C2-4:2-FTS	4.12	62862.6	0.195	0.511
PFHxA	4.16	1.000	106332.7		A	13C5-PFHxA	4.16	748515.1	0.142	0.585
PFPeS	4.18	1.100	25937.0		A	13C3-PFBS	3.81	446793.9	0.058	0.591
PFHpA	4.54	1.000	108377.1		A	13C4-PFHpA	4.54	596422.7	0.182	0.603
PFHxS	4.54	1.000	34258.8		M	13C3-PFHxS	4.54	338036.7	0.101	0.493
6:2-FTS	4.90	1.000	11691.0		A	13C2-6:2-FTS	4.89	53433.0	0.219	0.545
PFHpS	4.90	1.080	32586.5		A	13C3-PFHxS	4.54	338036.7	0.096	0.510
PFOA	4.91	1.000	107496.5		A	13C8-PFOA	4.91	1009357.8	0.106	0.564
PFOS	5.24	1.000	37896.1		M	13C8-PFOS	5.24	338935.1	0.112	0.490
PFNA	5.25	1.000	97237.2		A	13C9-PFNA	5.25	665790.1	0.146	0.580
PFNS	5.53	1.060	24550.6		A	13C8-PFOS	5.24	338935.1	0.072	0.461
PFDA	5.55	1.000	94403.0		A	13C6-PFDA	5.55	879570.9	0.107	0.554
8:2-FTS	5.55	1.000	11345.9		A	13C2-8:2-FTS	5.55	46325.4	0.245	0.493
PFOSA	5.64	1.000	62752.4		A	13C8-PFOSA	5.64	631545.7	0.099	0.497
NMeFOSAA	5.69	1.000	22096.2		M	d3-NMeFOSAA	5.69	212544.3	0.104	0.646
PFDS	5.79	1.110	18341.8		A	13C8-PFOS	5.24	338935.1	0.054	0.444
PFUnDA	5.81	1.000	96157.1		A	13C7-PFUnDA	5.81	581478.9	0.165	0.548
NEtFOSAA	5.83	1.000	20404.3		M	d5-NEtFOSAA	5.82	190973.0	0.107	0.545
PFDoDA	6.04	1.000	129520.4		A	13C2-PFDoDA	6.04	1167027.7	0.111	0.559
10:2-FTS	6.06	1.090	9826.9		A	13C2-8:2-FTS	5.55	46325.4	0.212	0.432
NMePFOSAE	6.09	1.000	39012.0		A	d7-NMePFOSAE	6.08	257331.3	0.152	0.669
NMePFOSA	6.10	1.000	8658.4		A	d3-NMePFOSA	6.10	88597.4	0.098	0.493
PFDoS	6.20	1.180	10633.8		A	13C8-PFOS	5.24	338935.1	0.031	0.475
NEtPFOSAE	6.25	1.000	35672.5		A	d9-NEtPFOSAE	6.24	225933.0	0.158	0.516
NEtPFOSA	6.27	1.000	7021.3		A	d5-NEtPFOSA	6.26	71630.7	0.098	0.458
PFTrDA	6.24	1.030	127189.9		A	13C2-PFDoDA	6.04	1167027.7	0.109	0.559
PFTeDA	6.42	1.000	85329.6		A	13C2-PFTeDA	6.42	854465.7	0.100	0.538
PFHxDA	6.72	1.050	45528.8		A	13C2-PFTeDA	6.42	854465.7	0.053	0.585
PFODA	6.98	1.090	32574.4		A	13C2-PFTeDA	6.42	854465.7	0.038	0.548

Total Ion Chromatogram

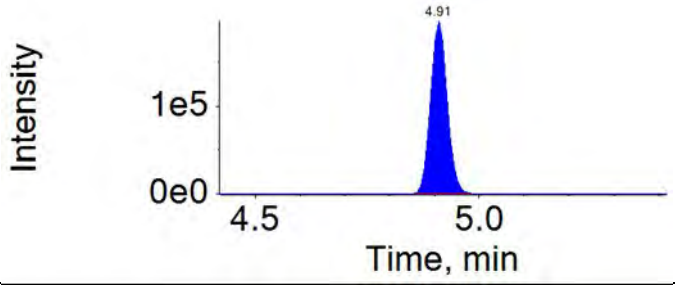


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

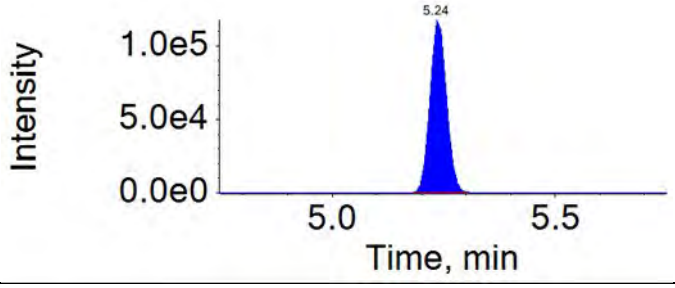
Injection Standard: 13C3-PFBA
216.0 / 172.0



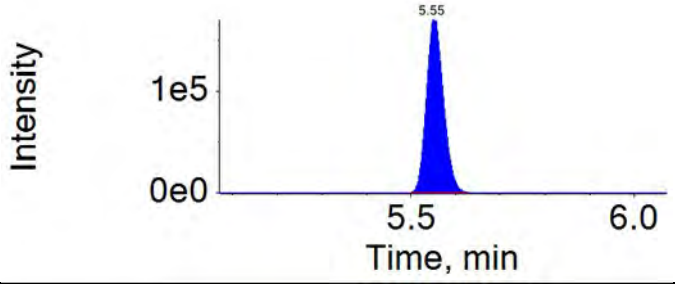
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415.0 / 370.0



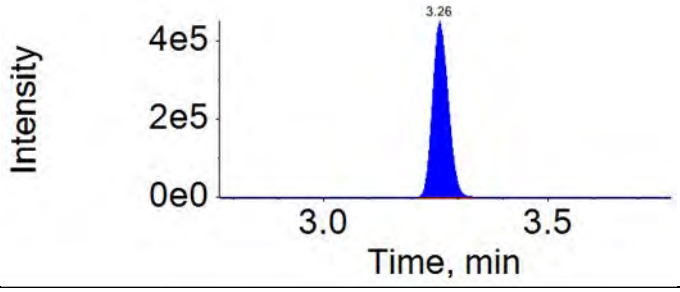
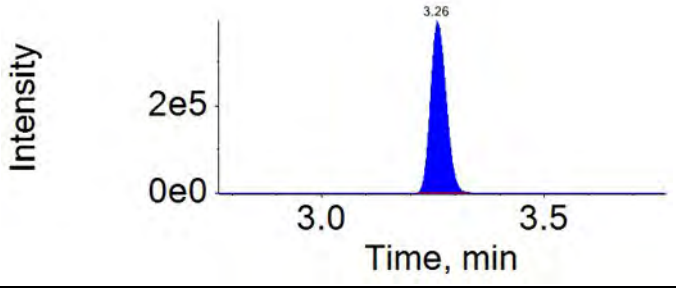
Injection Standard: 13C4-PFOS
503.0 / 80.0

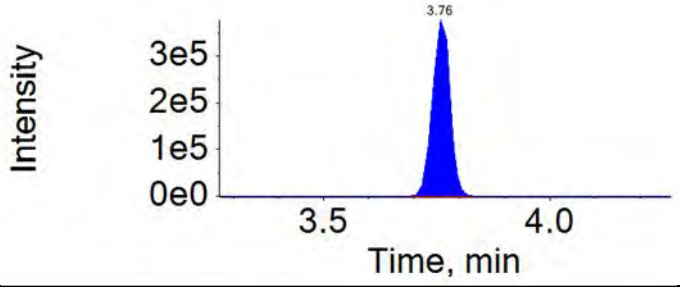
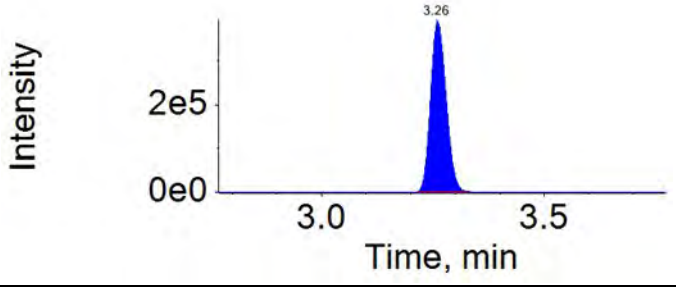


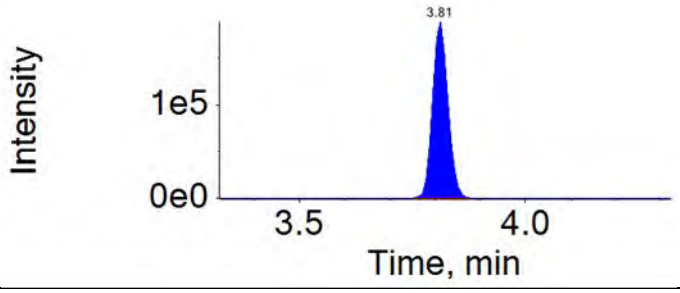
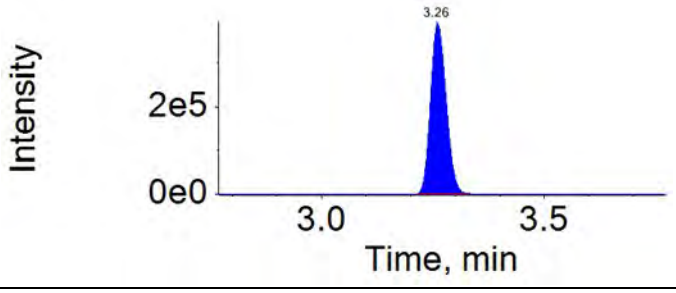
Injection Standard: 13C2-PFDA
515.0 / 470.0

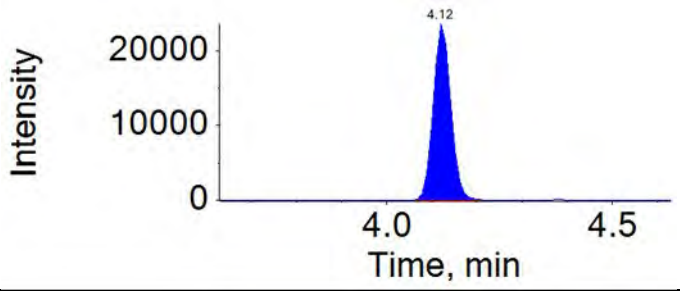
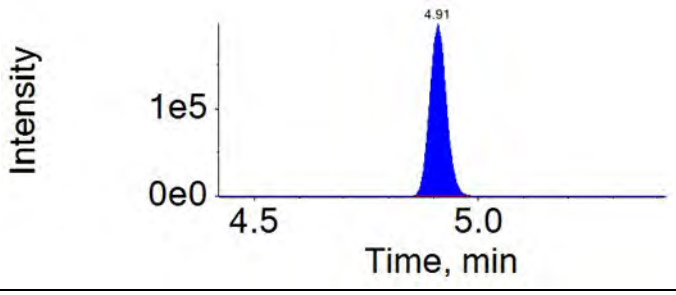


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

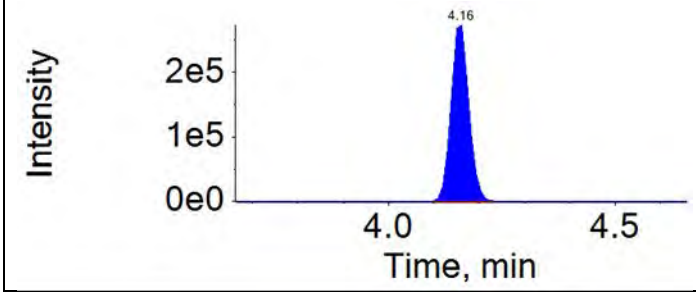
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

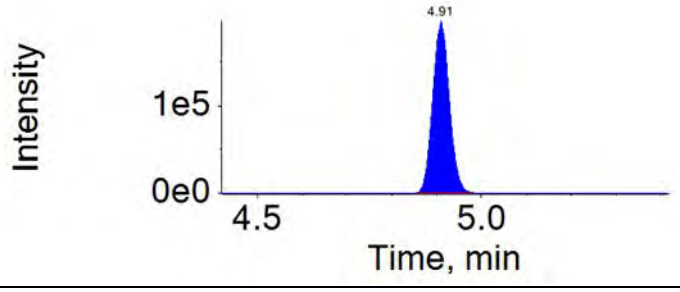
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

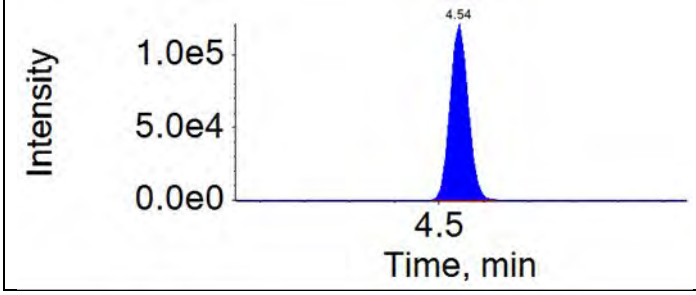
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

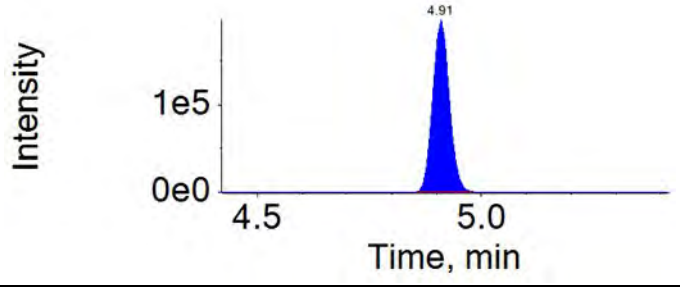
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



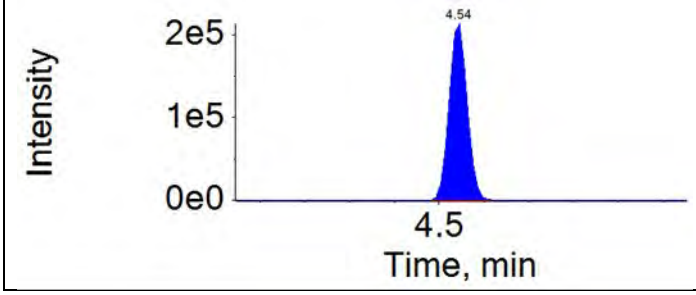


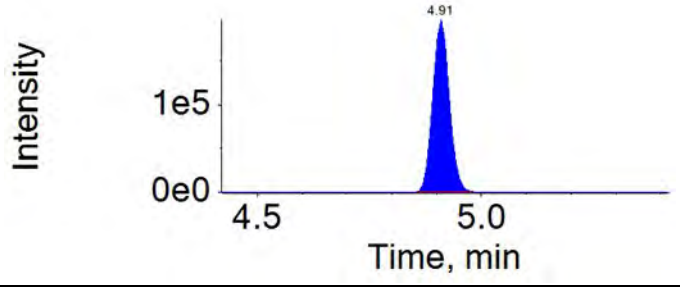
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



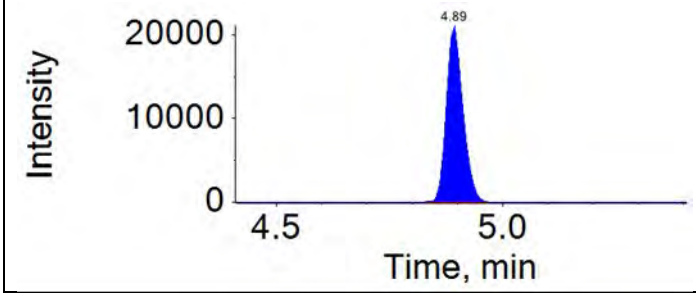


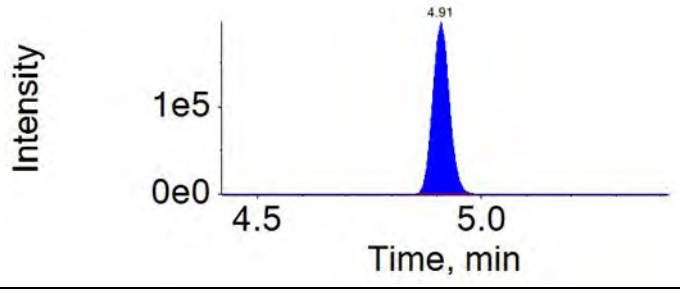
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





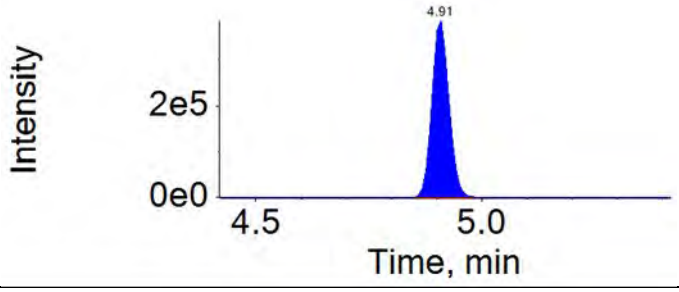
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

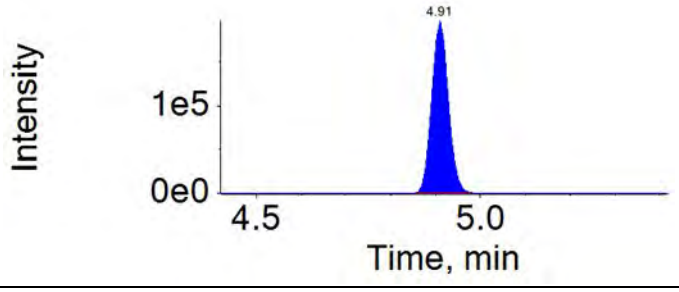




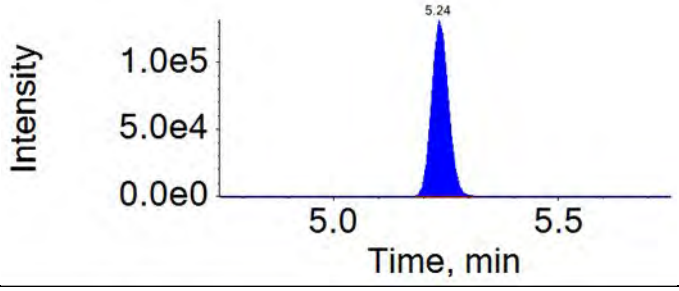
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

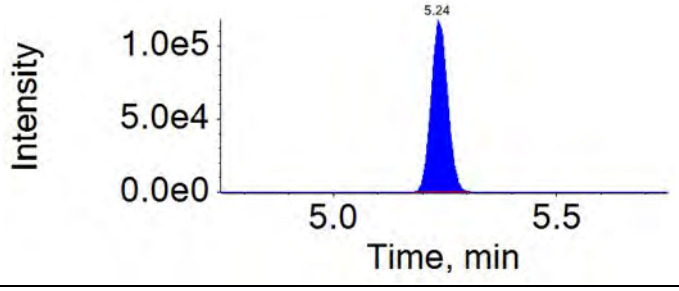
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



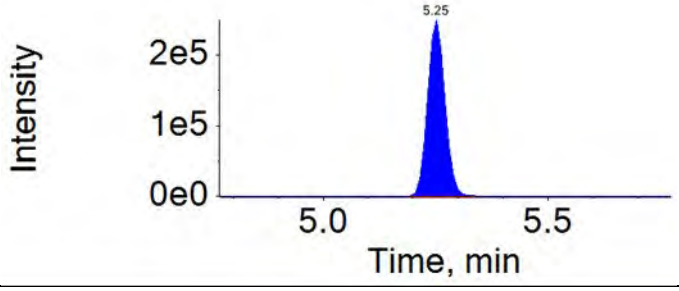


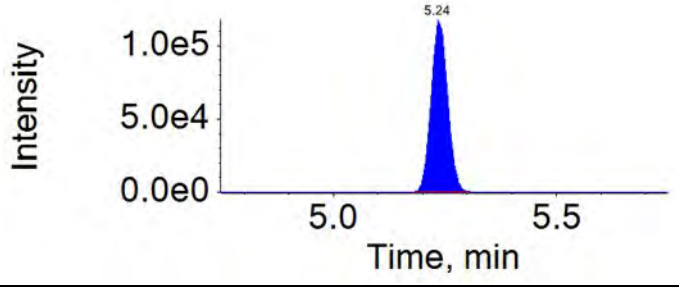
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



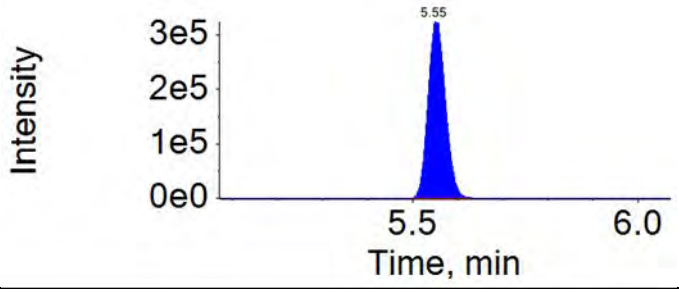


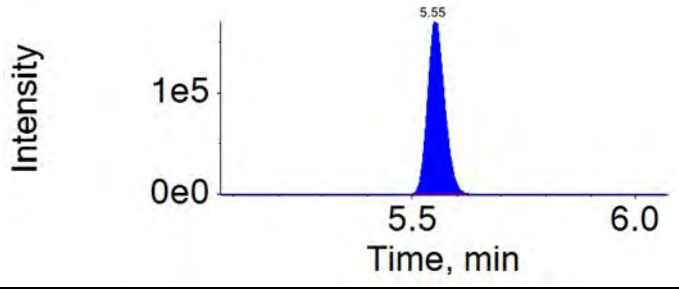
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0



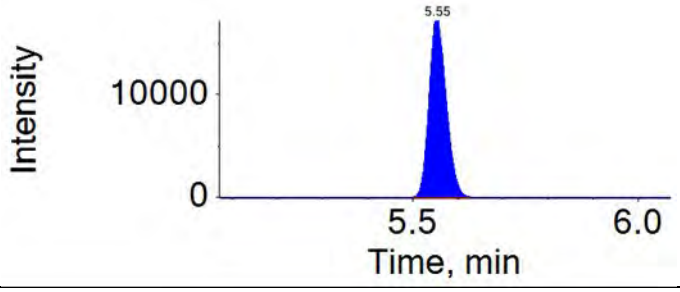
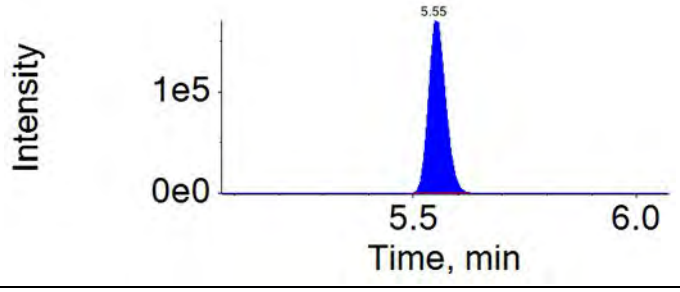


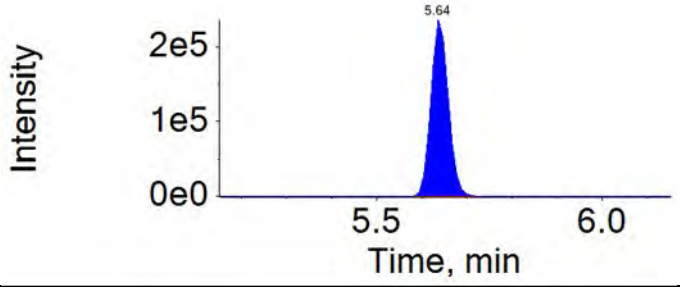
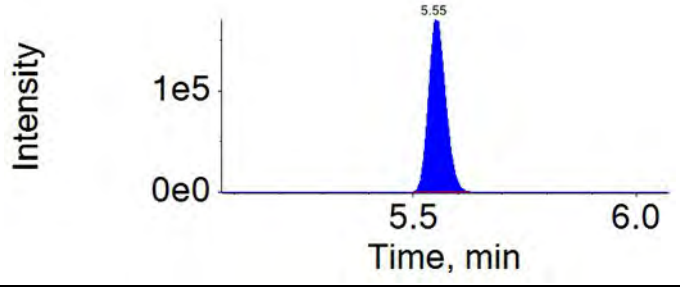
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

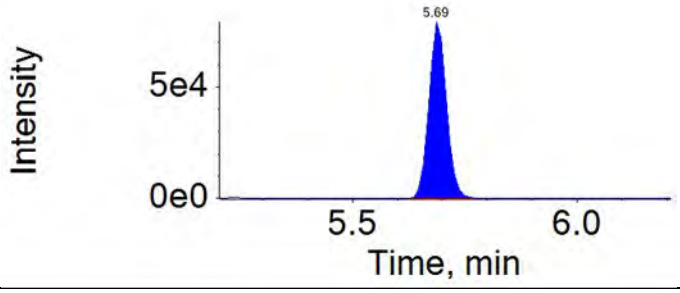
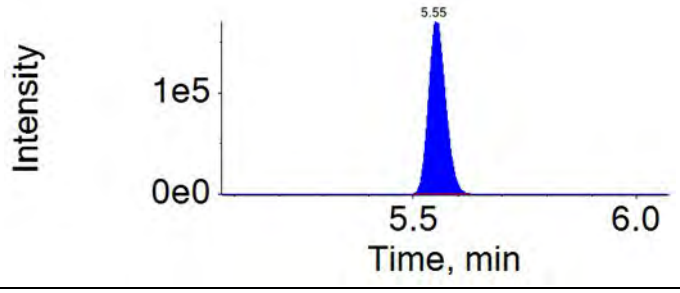


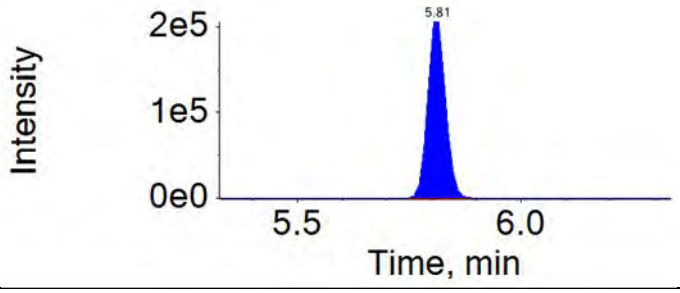
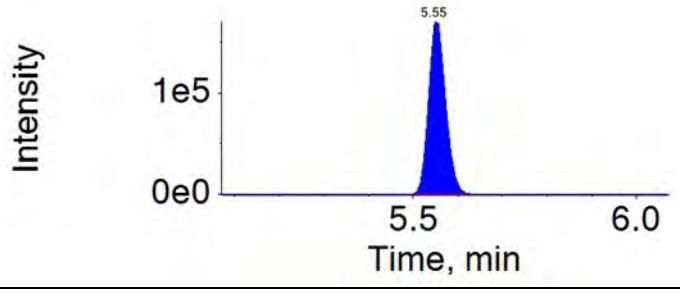


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

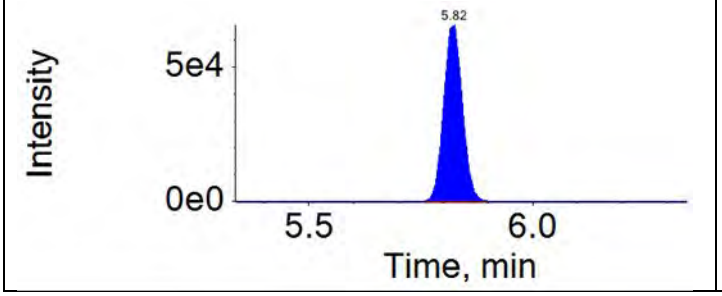
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

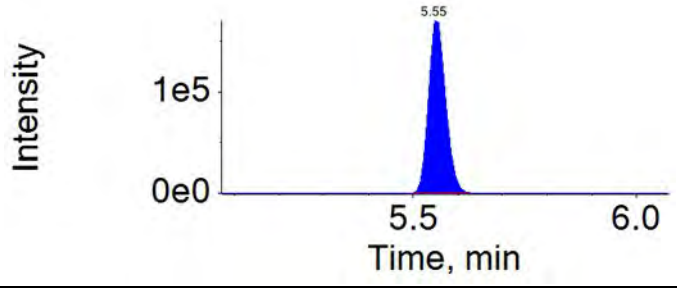
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

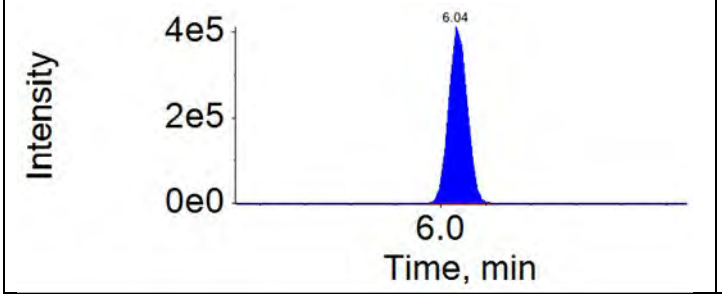
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

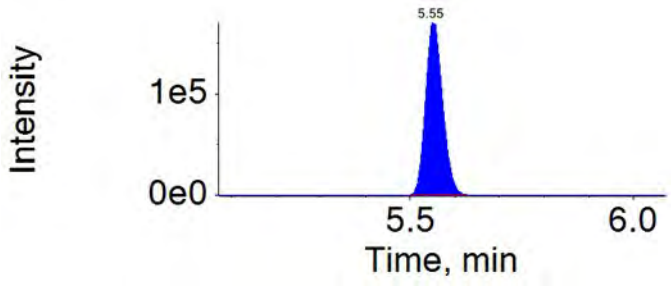
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



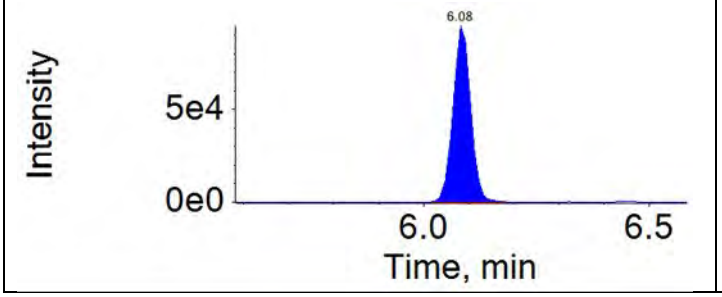


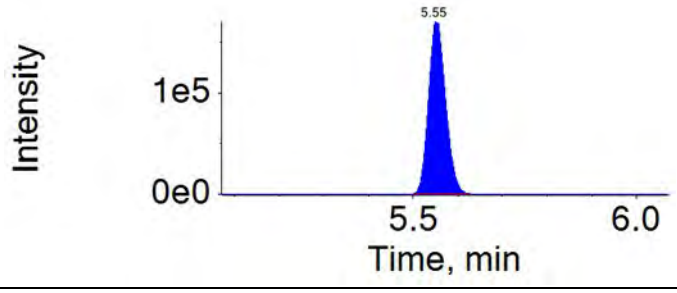
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



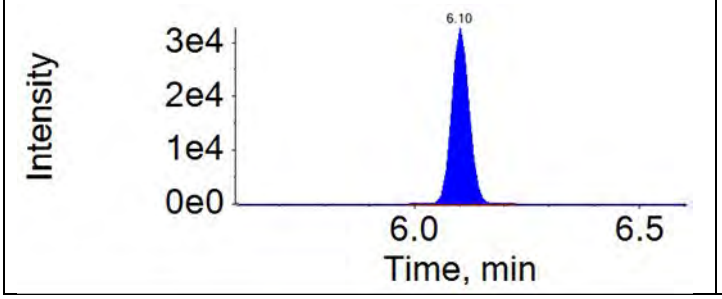


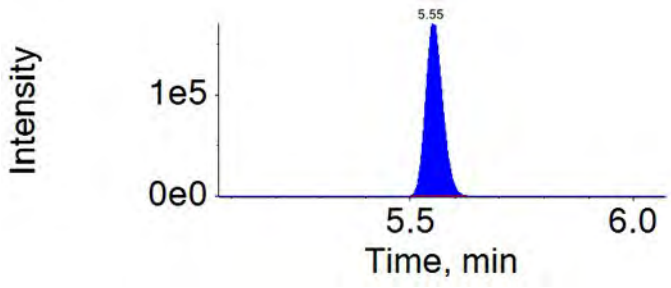
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





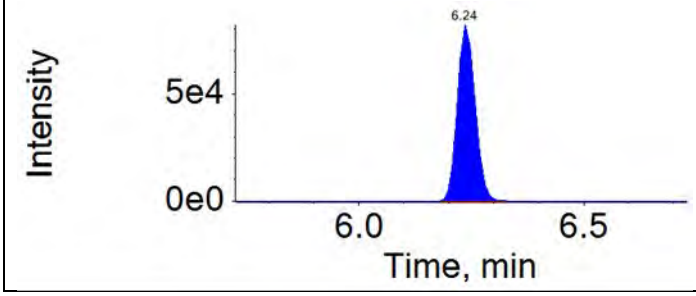
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

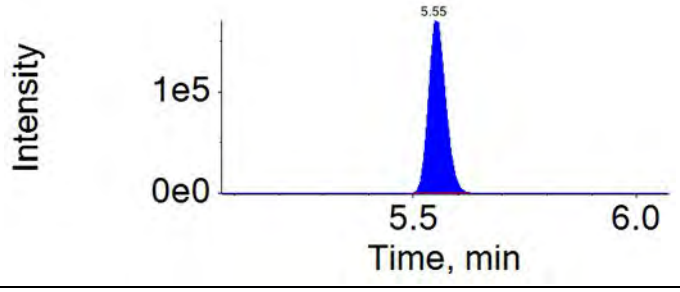




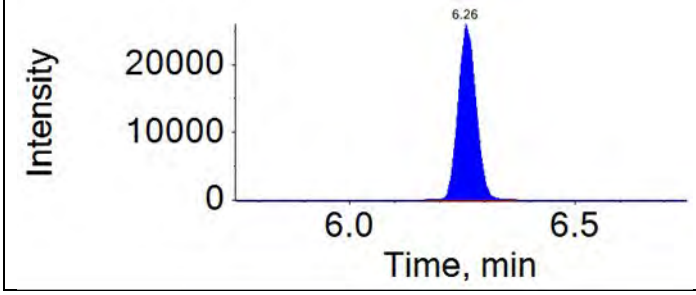
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

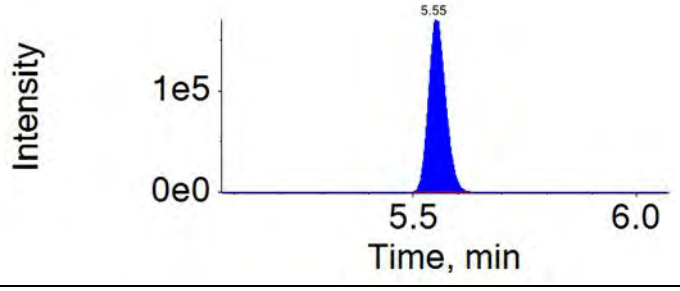
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



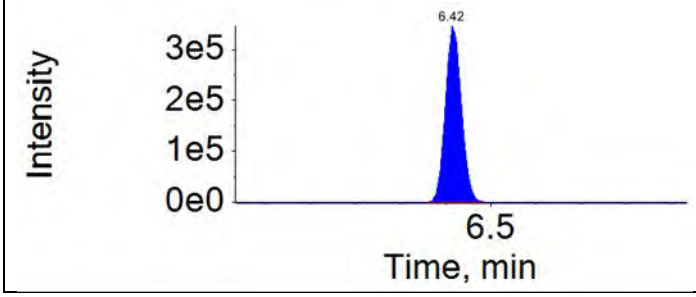


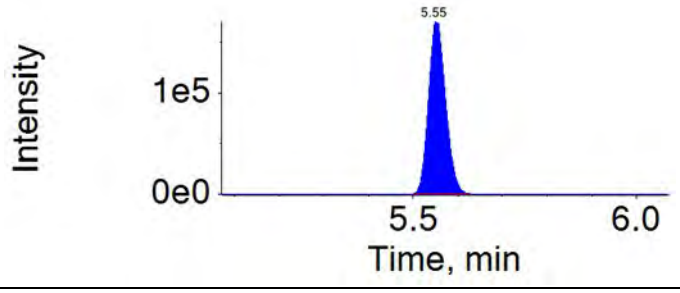
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





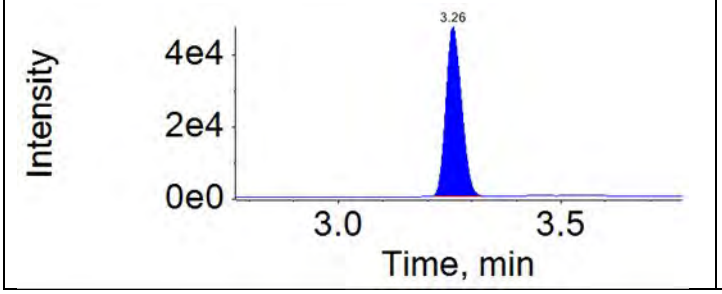
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

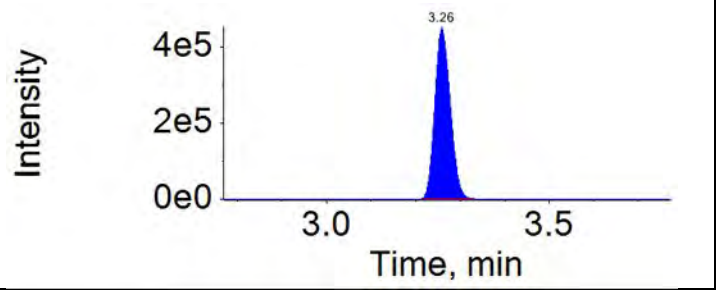




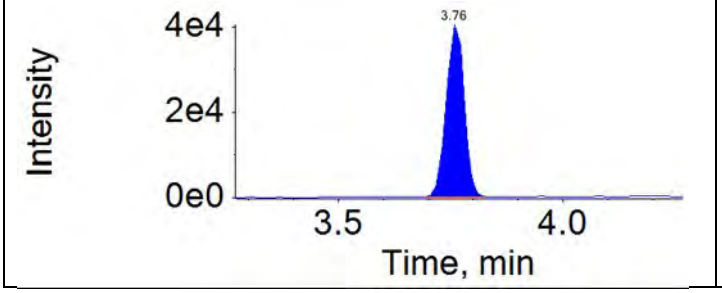
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

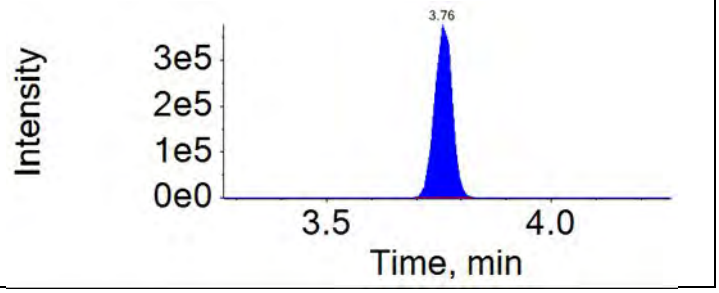
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



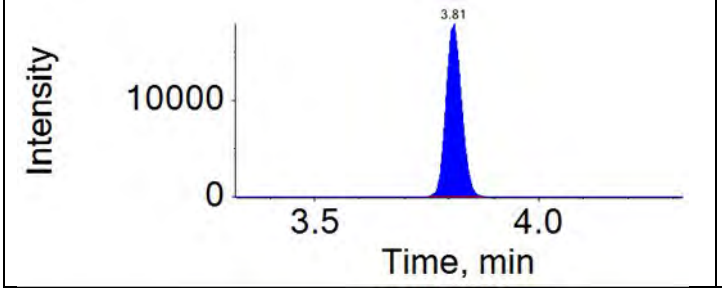


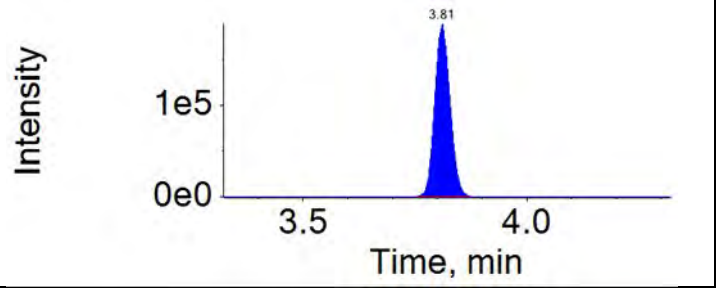
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



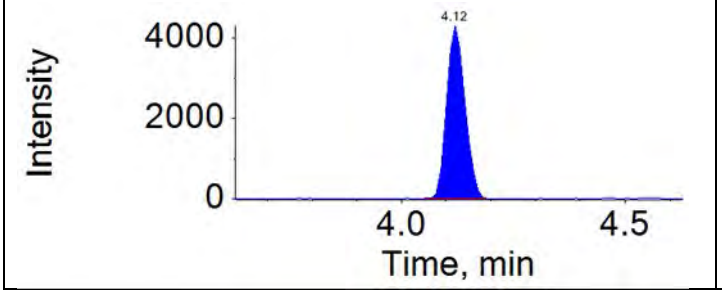


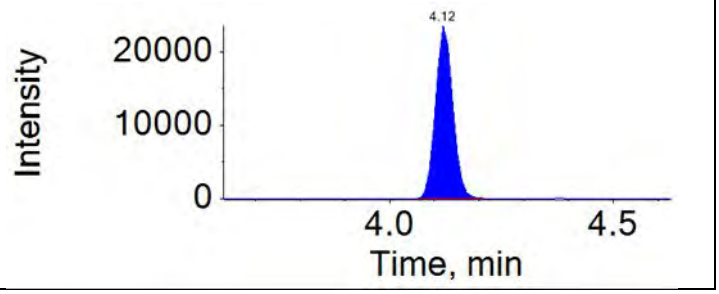
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





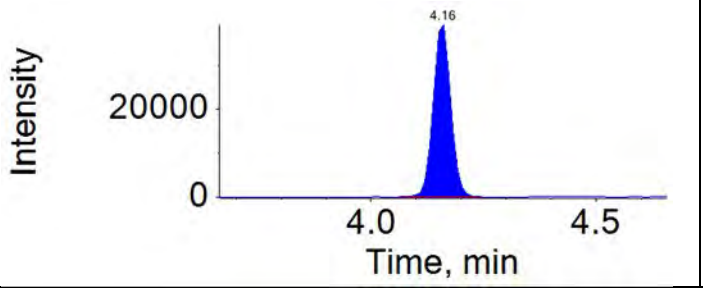
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

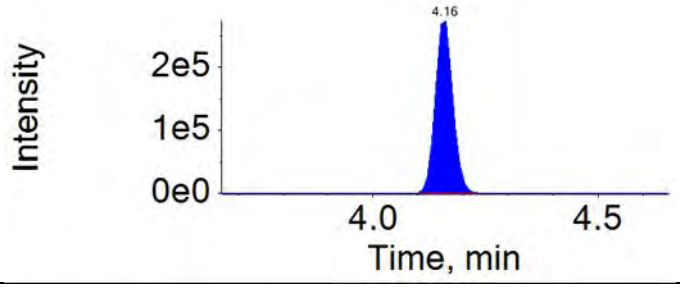




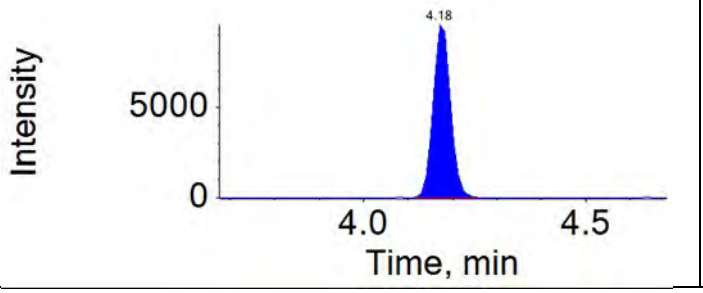
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

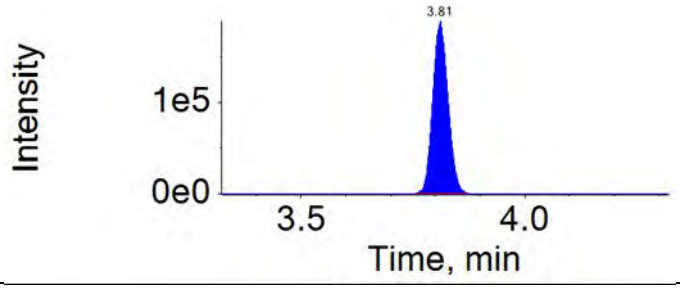
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



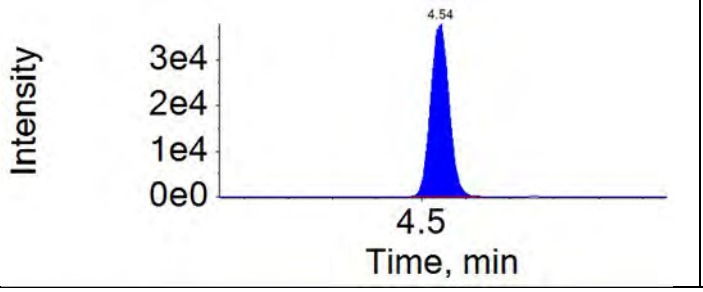


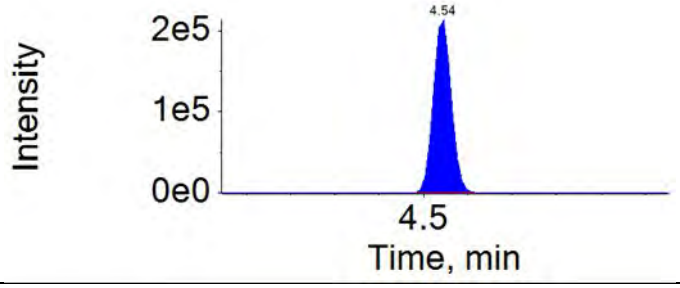
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



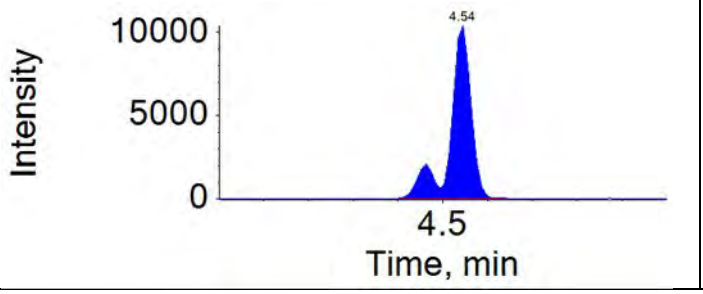


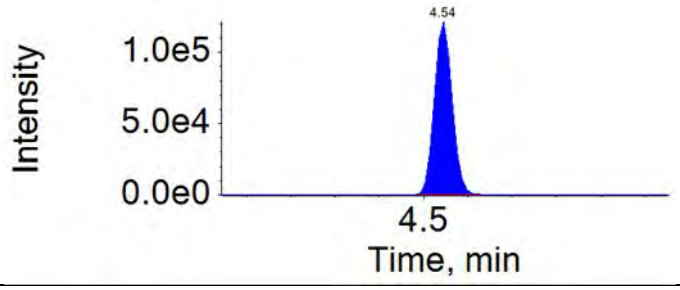
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

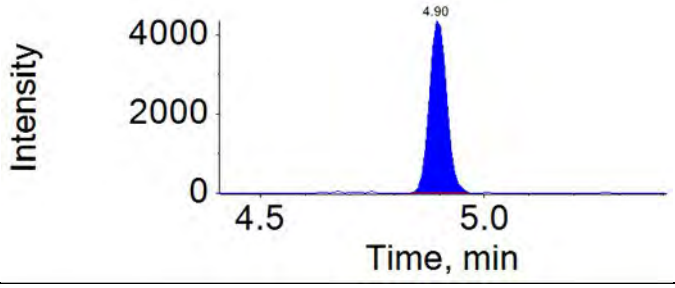
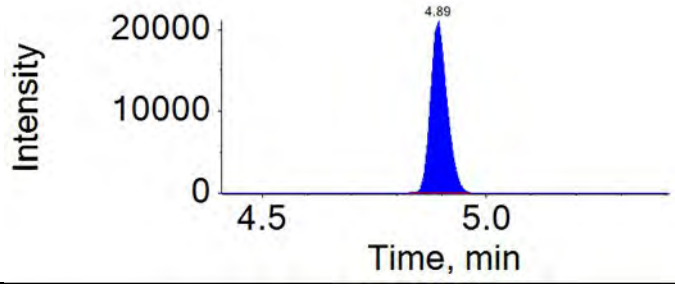


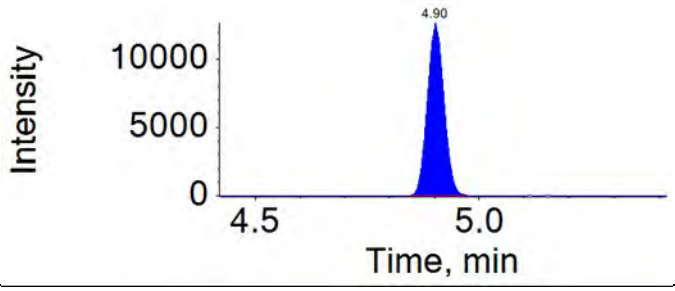
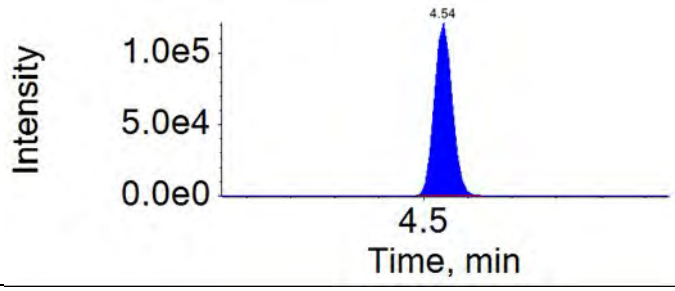


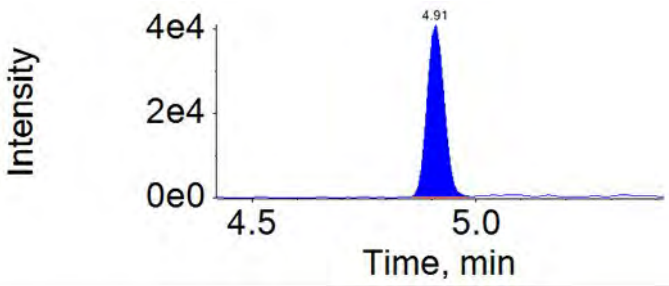
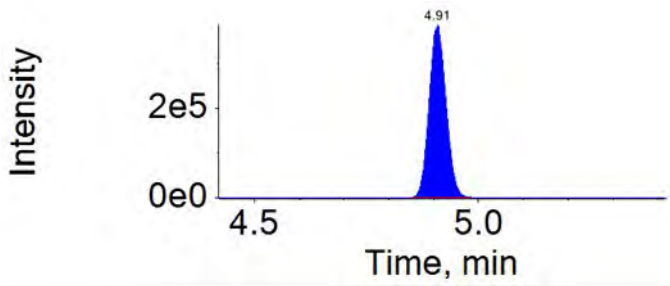
APPROVED
By MCD at 7:32 pm, 12/19/18

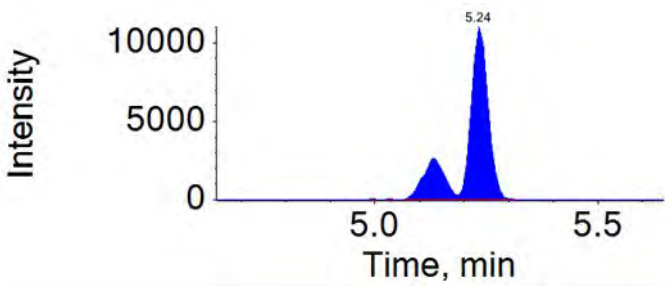
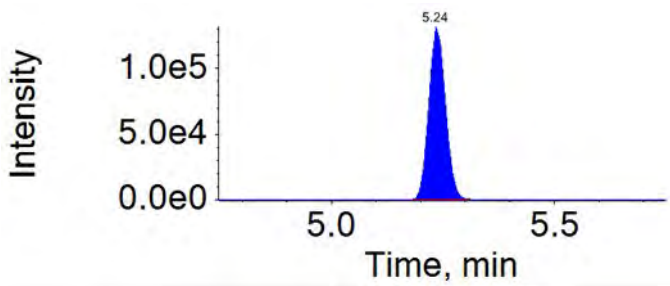
REVIEWED
By umar at 2:10 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

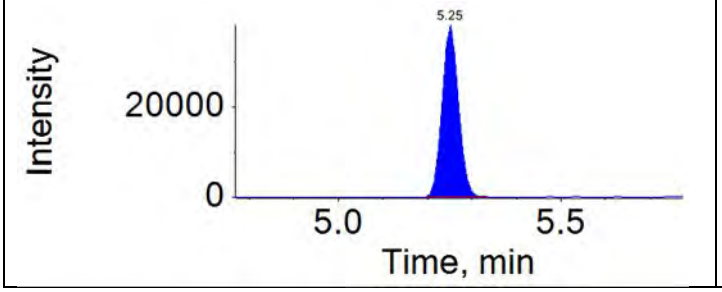
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

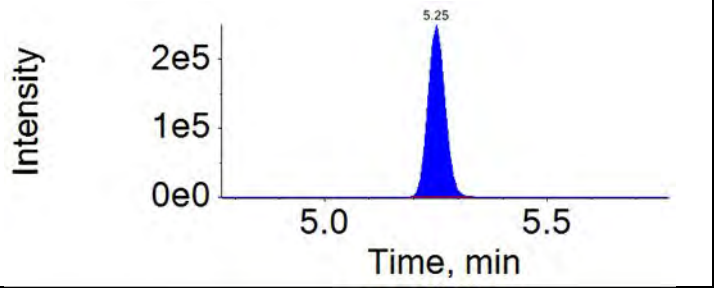
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

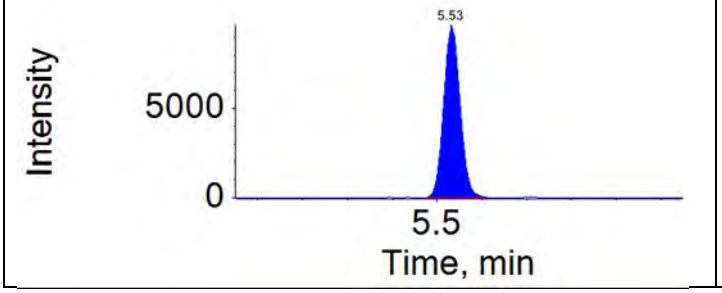
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

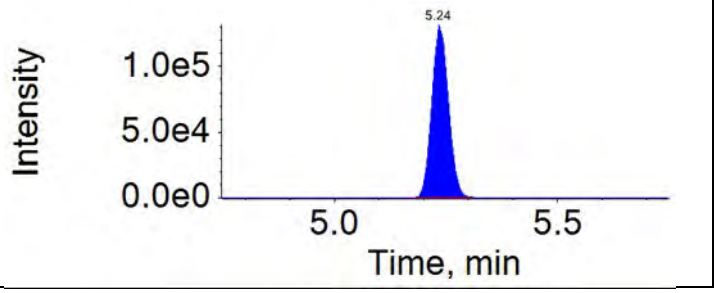
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



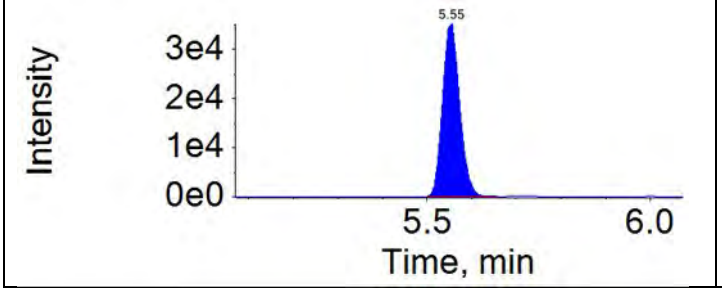


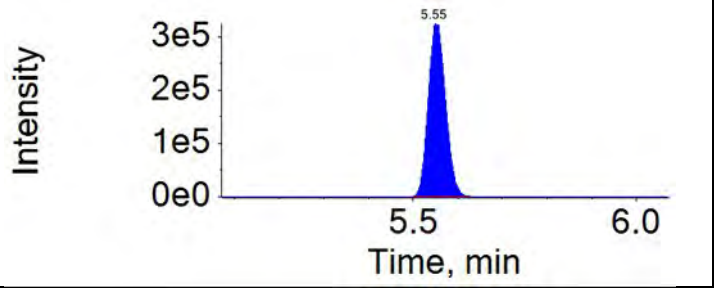
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



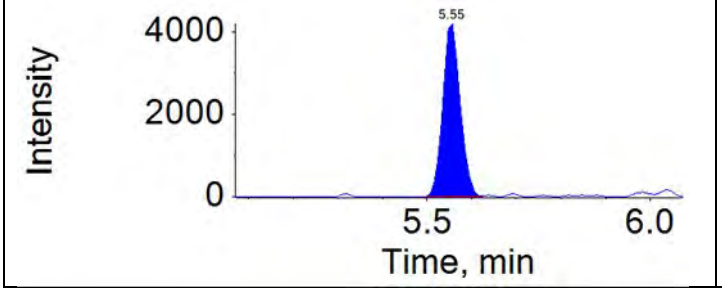


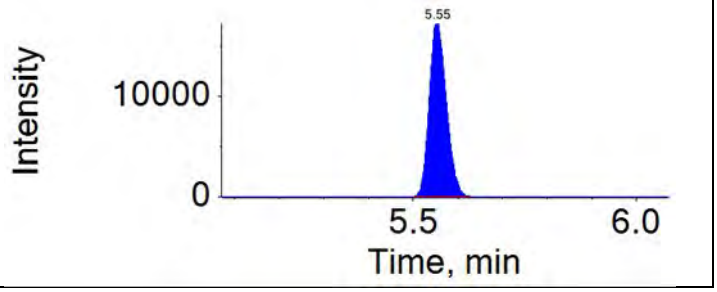
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



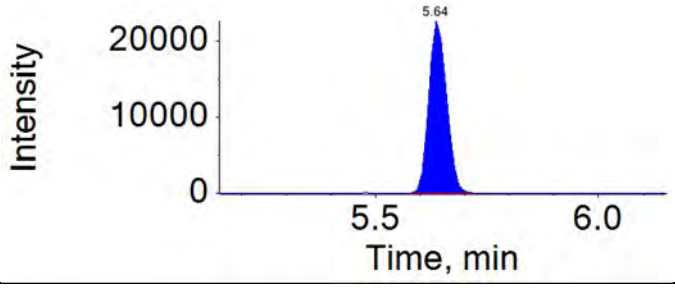
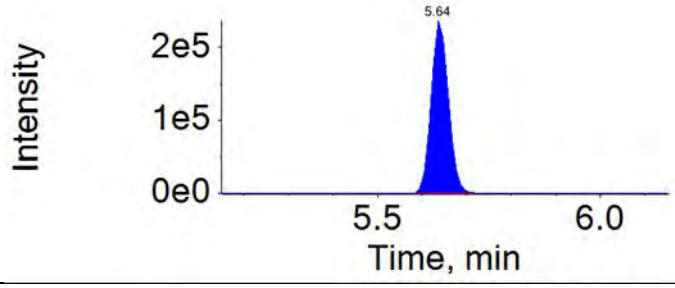


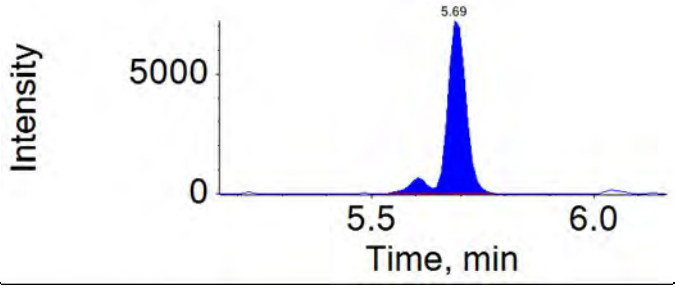
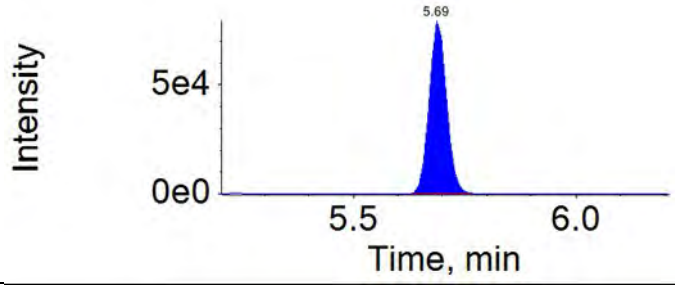
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

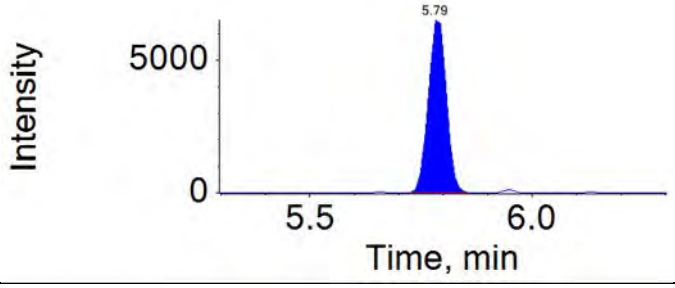
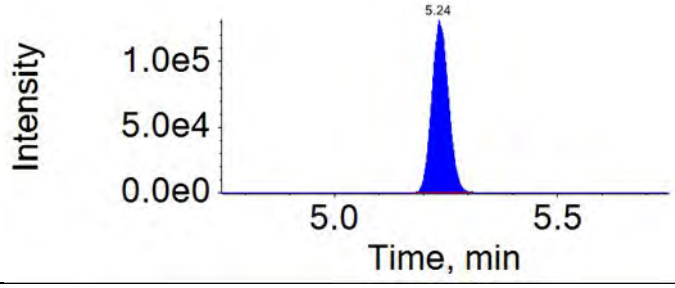


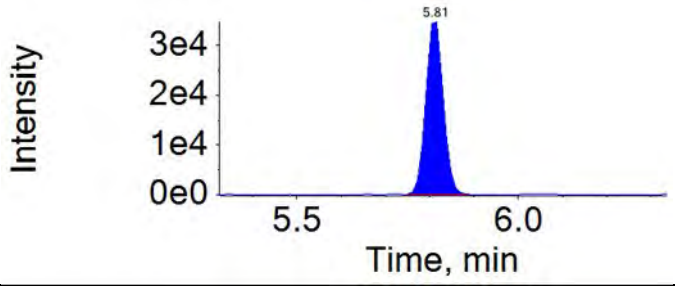
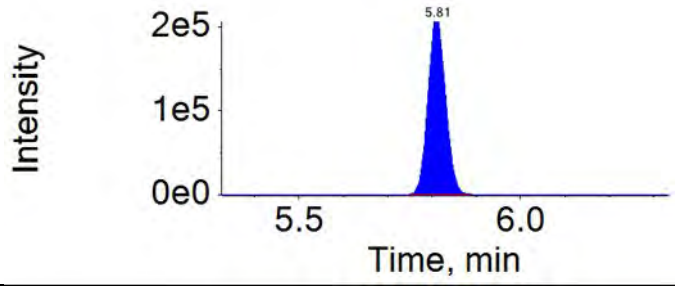


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

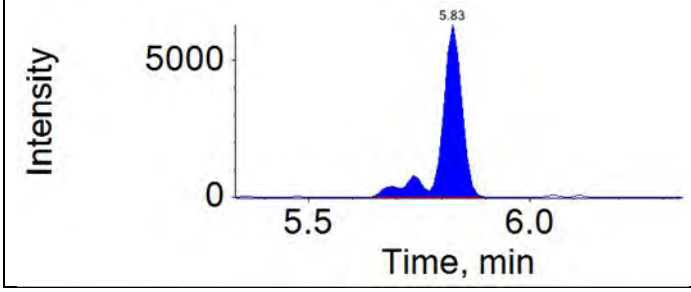
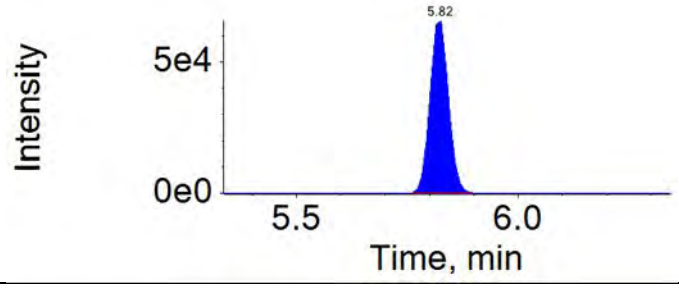
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

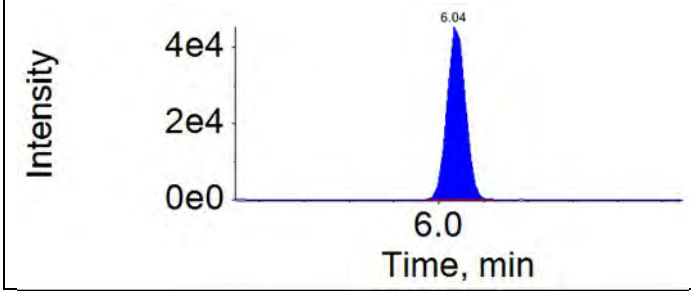
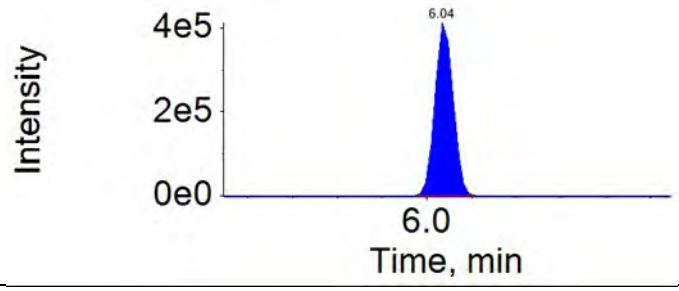
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

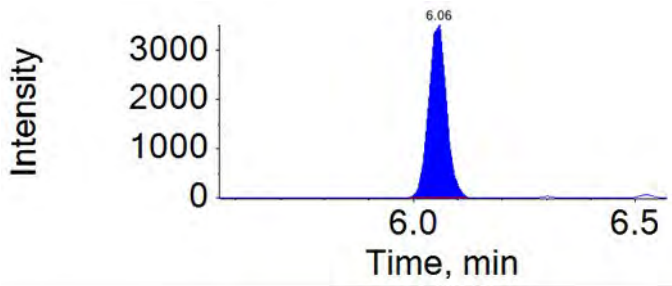
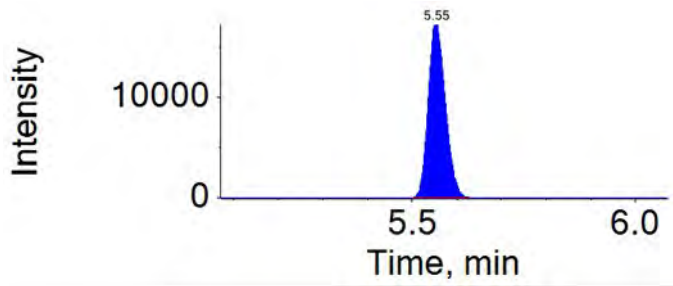
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

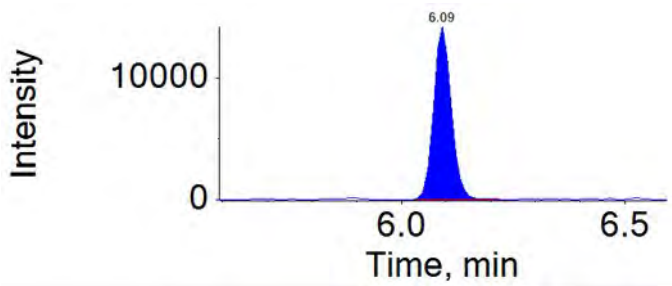
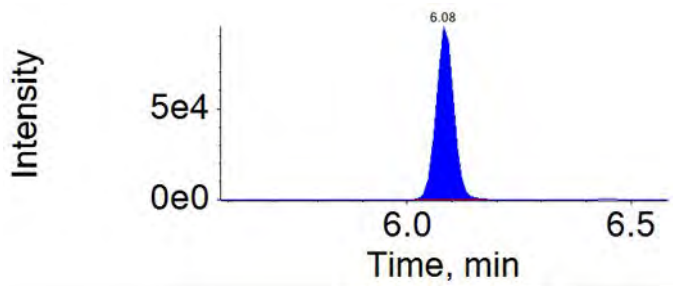
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

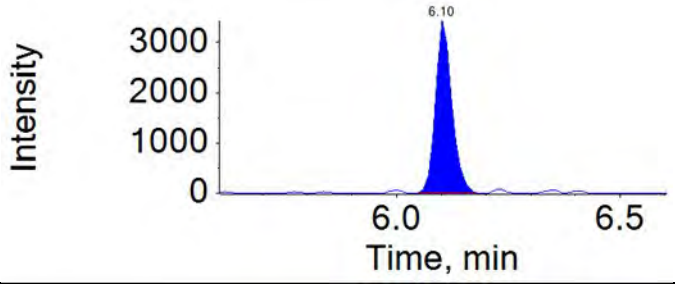
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

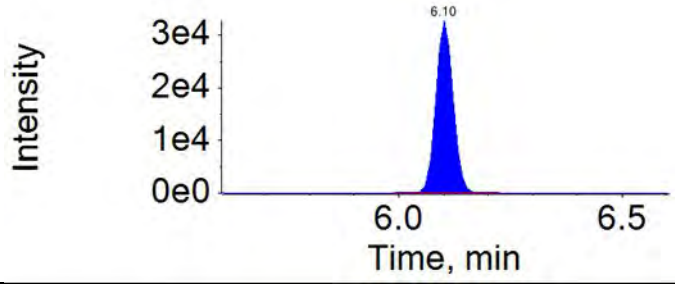
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

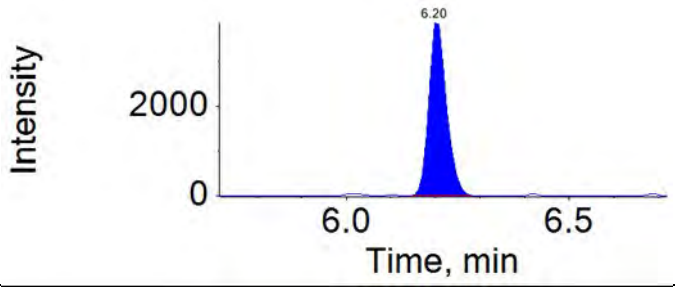
ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

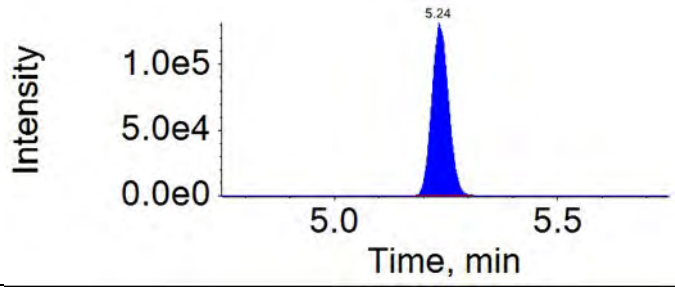
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



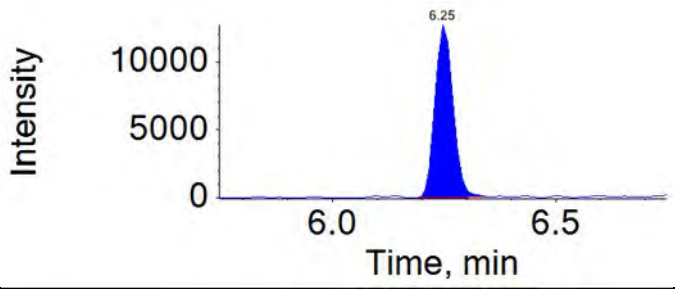


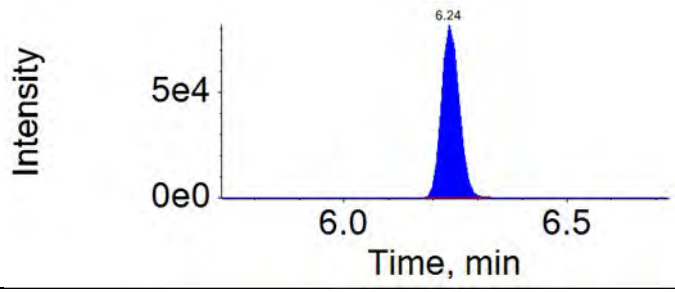
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



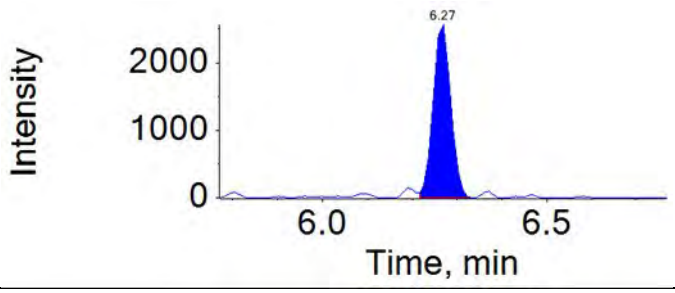


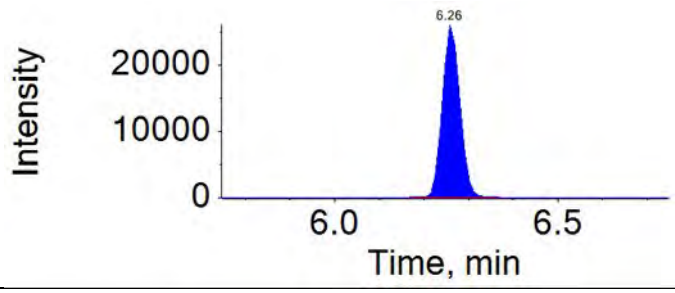
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



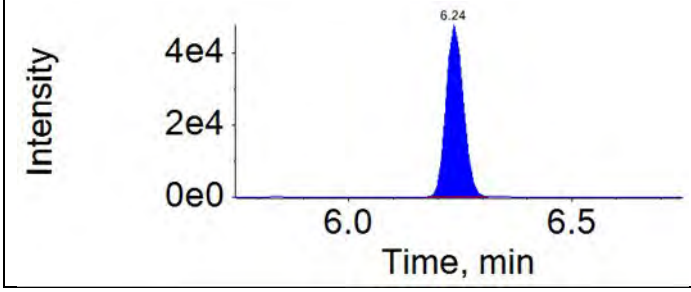
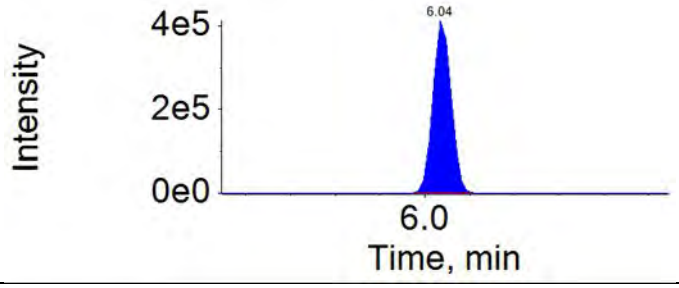


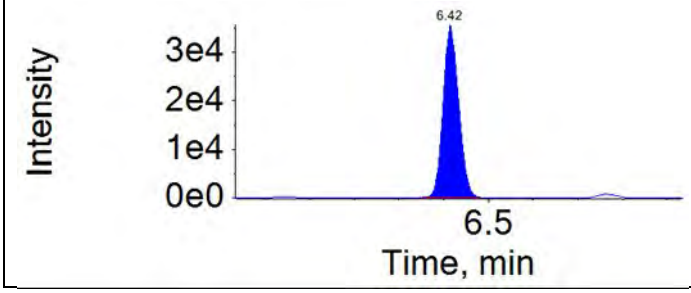
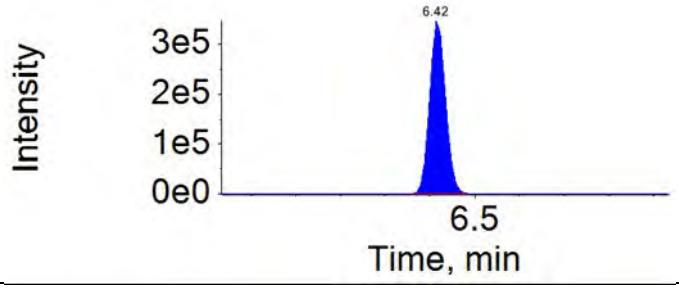
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

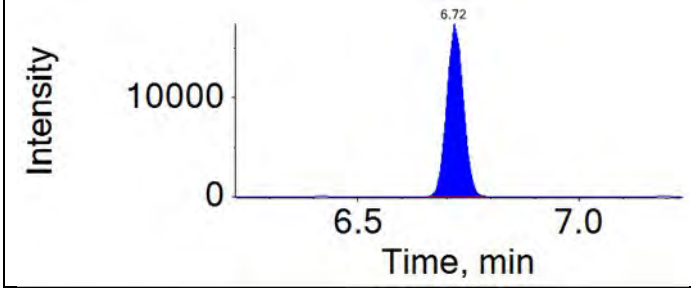
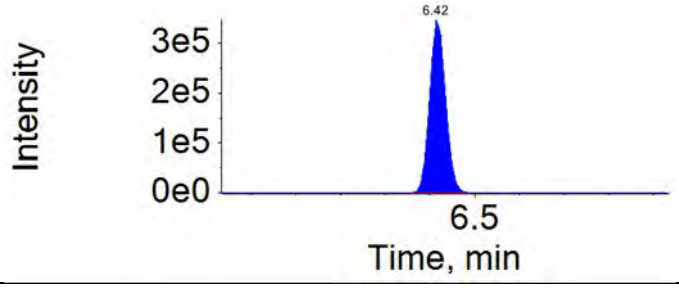


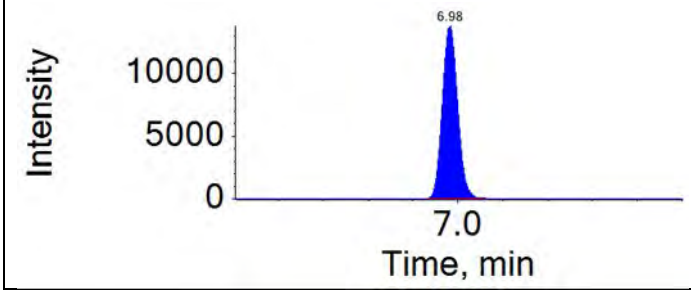
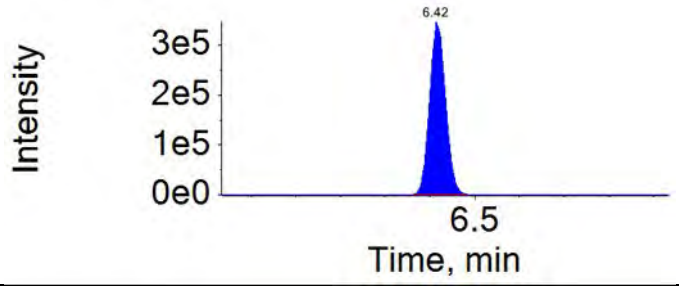


ICAL Name: 18DEC18DCAL **Result Table:** 18DEC19DCCV1-5 12/19/2018 7:24:29 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

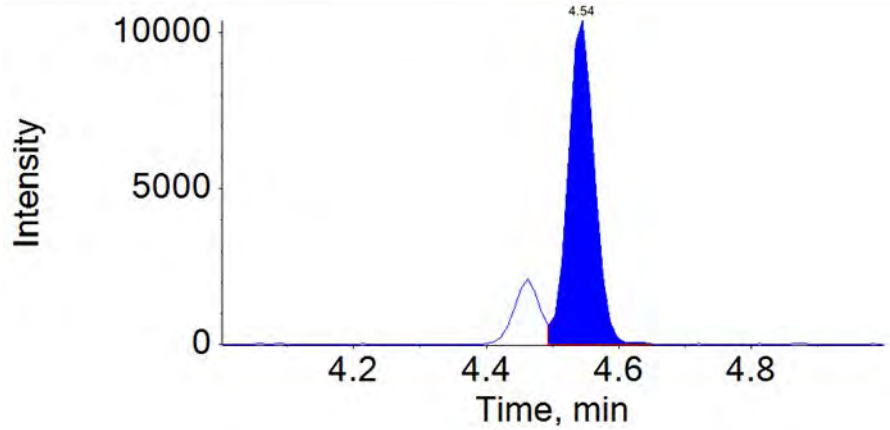
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

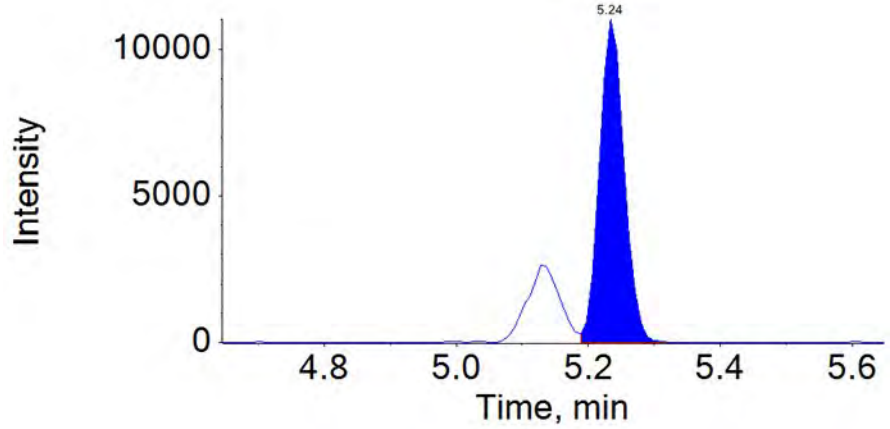
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
28717.5
Mass Range:
399.0 / 80.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



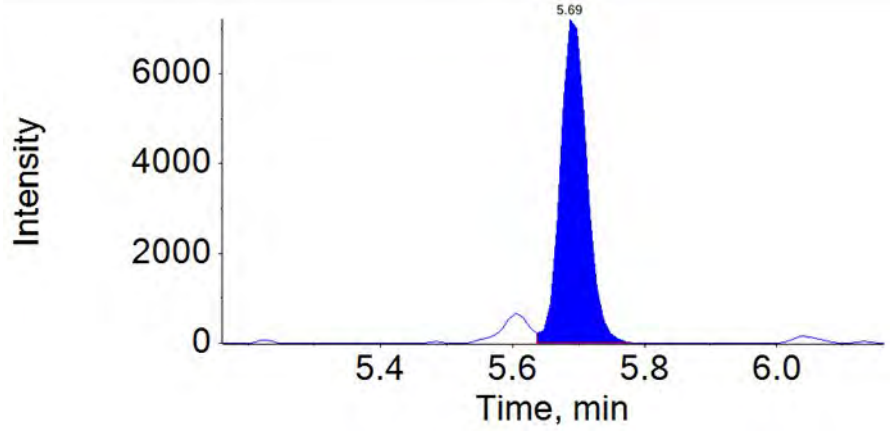
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
28613.0
Mass Range:
499.0 / 80.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

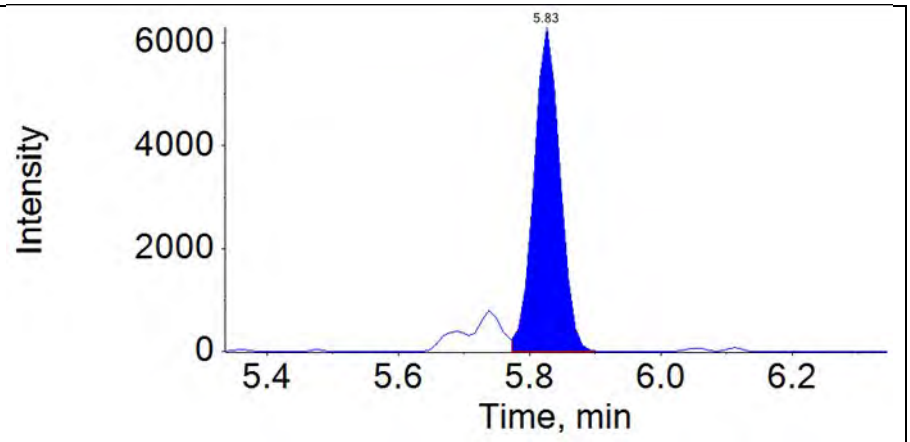
Component Name:
NMeFOSAA
RT (min.):
5.69
Peak Area:
20193.5
Mass Range:
570.0 / 419.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

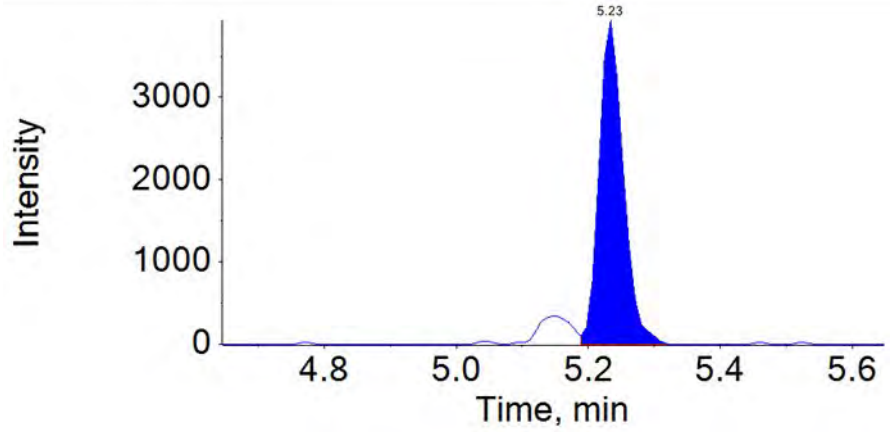
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
17372.4
Mass Range:
584.0 / 419.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



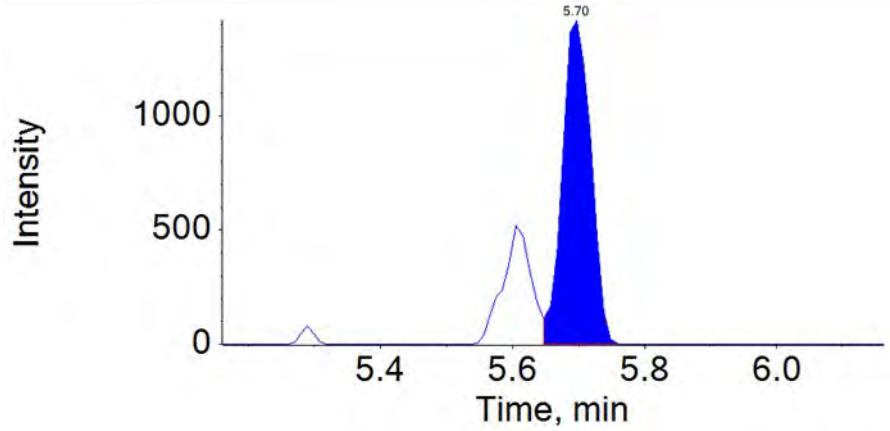
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
10062.2
Mass Range:
499.0 / 99.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

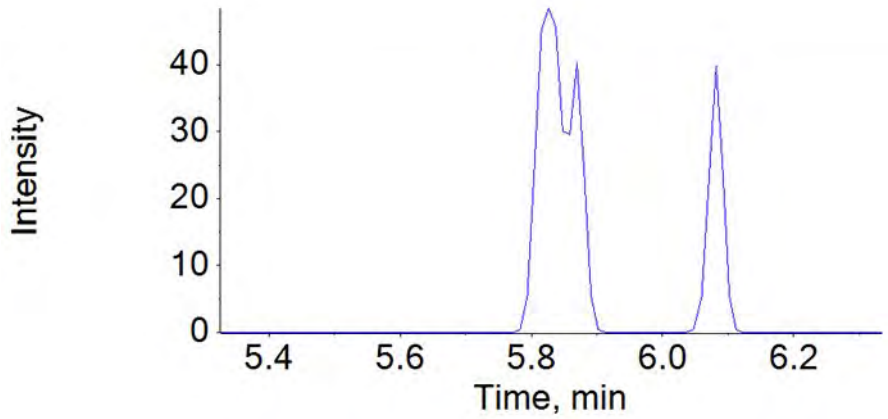
Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
4270.4
Mass Range:
570.0 / 483.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

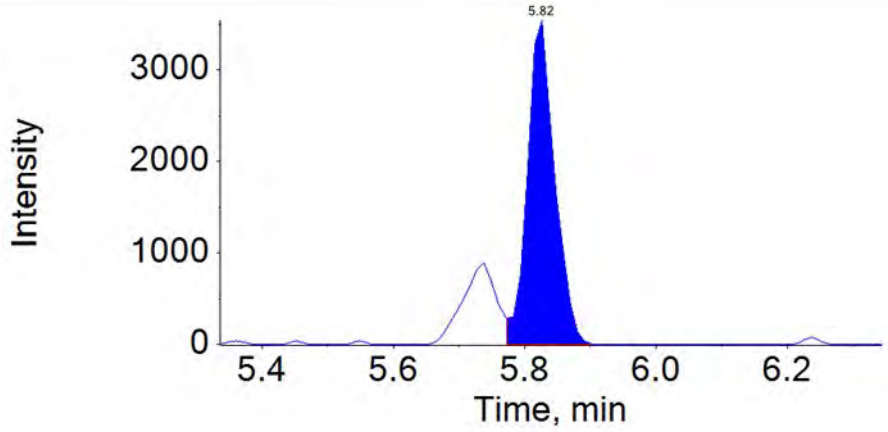
Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



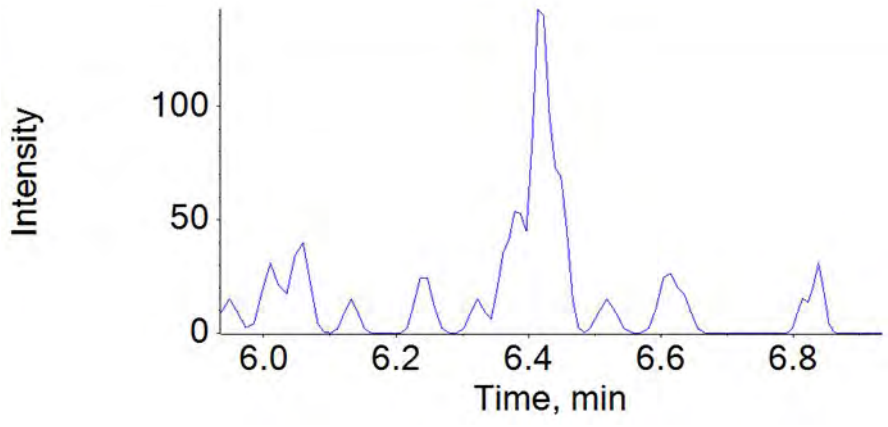
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.82
Peak Area:
10250.1
Mass Range:
584.0 / 526.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC19D-40.wiff
Sample Name:
CCV4_ISC_CAL2



Integration Comment: incorrect integration

Results Table Name: 18DEC19DCCV1-5
Results Table Date: 12/19/2018 7:24:29 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

Ion Ratio Report

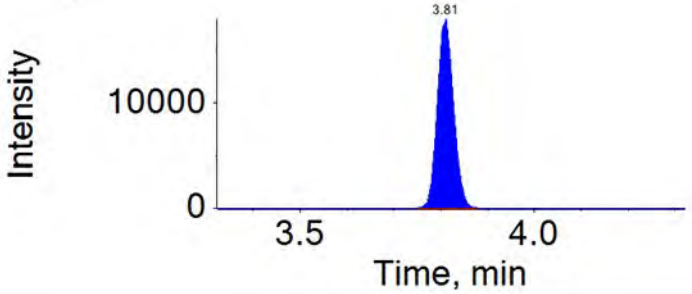
Sample Name: CCV4_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC19D-40.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	43338.7	A	N/A	0.3653			
PFBS_2	3.81	1.00	15830.5	A	N/A	0.3653	0	50	
4:2-FTS	4.12	1.00	12251.1	A	N/A	0.6650			
4:2-FTS_2	4.12	1.00	8147.0	A	N/A	0.6650	9	50	
PFHxA	4.16	1.00	106332.7	A	N/A	0.0100			
PFHxA_2	4.16	1.00	1063.7	A	N/A	0.0100	-8	50	
PFPeS	4.18	1.10	25937.0	A	N/A	0.4723			
PFPeS_2	4.17	1.10	12249.4	A	N/A	0.4723	-10	50	
PFHpA	4.54	1.00	108377.1	A	N/A	0.0437			
PFHpA_2	4.54	1.00	4734.1	A	N/A	0.0437	-17	50	
PFHxS	4.54	1.00	34258.8	M	N/A	0.3058			
PFHxS_2	4.54	1.00	10475.0	A	N/A	0.3058	-7	50	
6:2-FTS	4.90	1.00	11691.0	A	N/A	0.6201			
6:2-FTS_2	4.89	1.00	7249.6	A	N/A	0.6201	-2	50	
PFHpS	4.90	1.08	32586.5	A	N/A	0.4061			
PFHpS_2	4.90	1.08	13232.5	A	N/A	0.4061	-2	50	
PFOA	4.91	1.00	107496.5	A	N/A	0.0636			
PFOA_2	4.91	1.00	6832.0	A	N/A	0.0636	12	50	
PFOS	5.24	1.00	37896.1	M	N/A	0.2989			
PFOS_2	5.23	1.00	11325.5	M	N/A	0.2989	1	50	
PFNA	5.25	1.00	97237.2	A	N/A	0.0255			
PFNA_2	5.25	1.00	2475.7	A	N/A	0.0255	21	50	
PFNS	5.53	1.06	24550.6	A	N/A	0.4602			
PFNS_2	5.53	1.06	11297.3	A	N/A	0.4602	0	50	
PFDA	5.55	1.00	94403.0	A	N/A	0.0026			
PFDA_2	5.55	1.00	249.5	A	N/A	0.0026	-56	50	OOS
8:2-FTS	5.55	1.00	11345.9	A	N/A	0.7377			
8:2-FTS_2	5.55	1.00	8370.1	A	N/A	0.7377	26	50	
NMeFOSAA	5.69	1.00	22096.2	M	N/A	0.2635			
NMeFOSAA_2	5.70	1.00	5823.0	M	N/A	0.2635	1	50	
PFDS	5.79	1.11	18341.8	A	N/A	0.5768			
PFDS_2	5.79	1.10	10578.6	A	N/A	0.5768	16	50	
PFUnDA	5.81	1.00	96157.1	A	N/A	0.0020			
PFUnDA_2	5.84	1.00	194.7	M	N/A	0.0020	-36	50	
NEtFOSAA	5.83	1.00	20404.3	M	N/A	0.6553			
NEtFOSAA_2	5.82	1.00	13371.8	M	N/A	0.6553	-4	50	
PFDoDA	6.04	1.00	129520.4	A	N/A	0.0155			
PFDoDA_2	6.04	1.00	2001.7	A	N/A	0.0155	24	50	
10:2-FTS	6.06	1.09	9826.9	A	N/A	0.6771			
10:2-FTS_2	6.05	1.09	6654.1	A	N/A	0.6771	-3	50	
PFTrDA	6.24	1.03	127189.9	A	N/A	0.0072			
PFTrDA_2	6.23	1.03	916.8	A	N/A	0.0072	-18	50	
PFTeDA	6.42	1.00	85329.6	A	N/A	0.0057			
PFTeDA_2	6.42	1.00	483.8	M	N/A	0.0057	4	50	
PFHxDA	6.72	1.05	45528.8	A	N/A	0.0607			
PFHxDA_2	6.72	1.05	2761.5	A	N/A	0.0607	-8	50	
PFODA	6.98	1.09	32574.4	A	N/A	0.0274			
PFODA_2	6.98	1.09	891.1	A	N/A	0.0274	0	50	

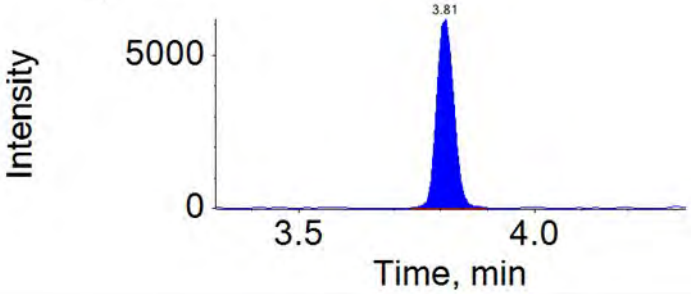
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

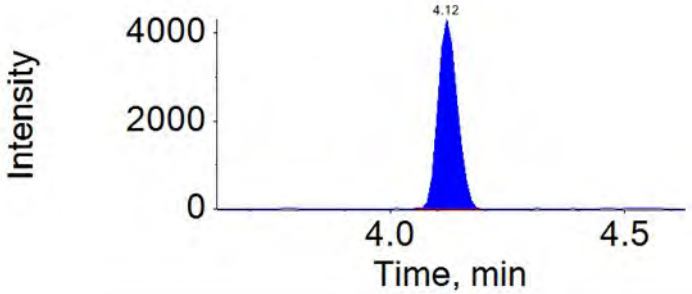
Component: PFBS
Primary Mass: 299.0 / 80.0



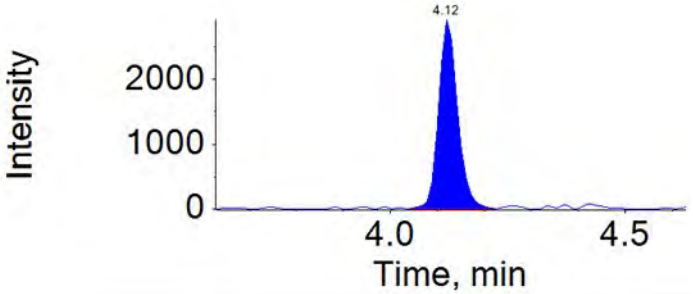
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



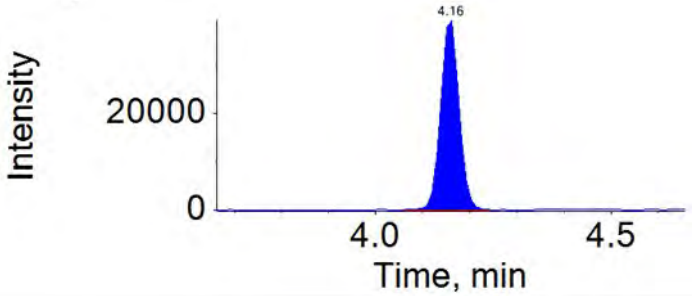
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



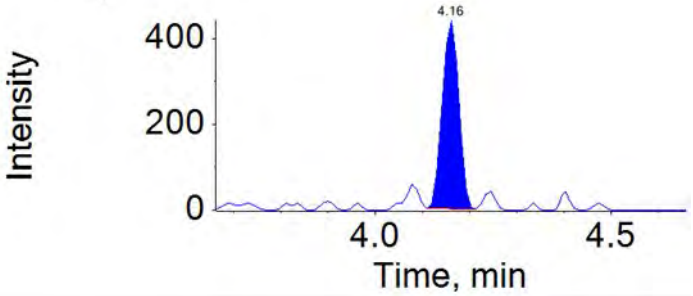
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



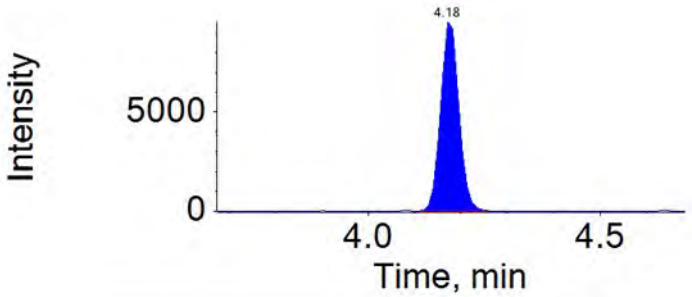
Component: PFHxA
Primary Mass: 313.0 / 269.0



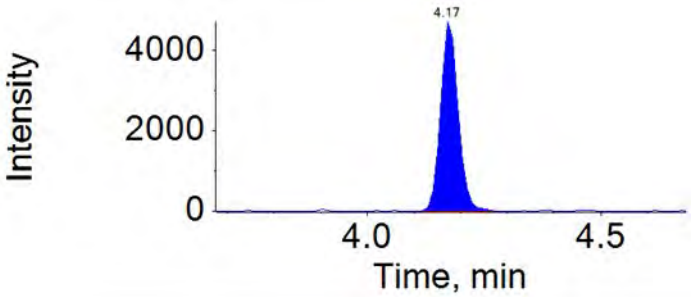
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



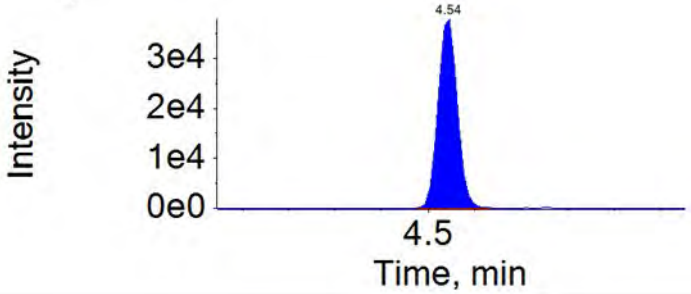
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



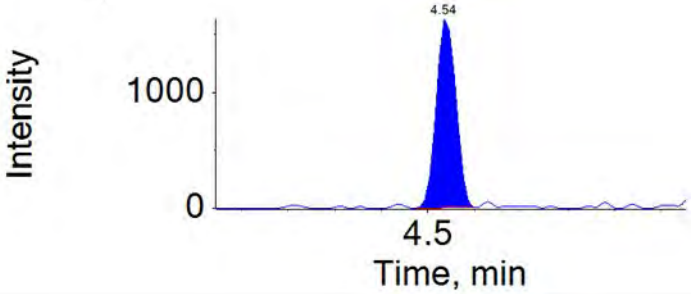
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

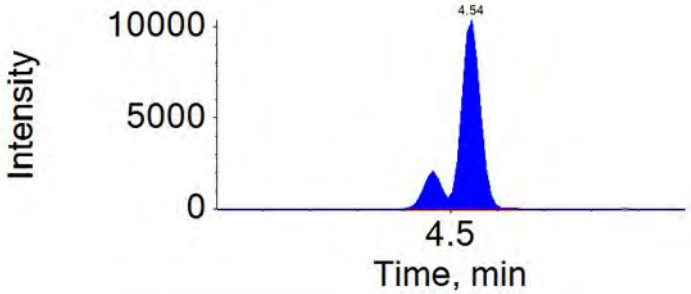
Component: PFHpA
Primary Mass: 363.0 / 319.0



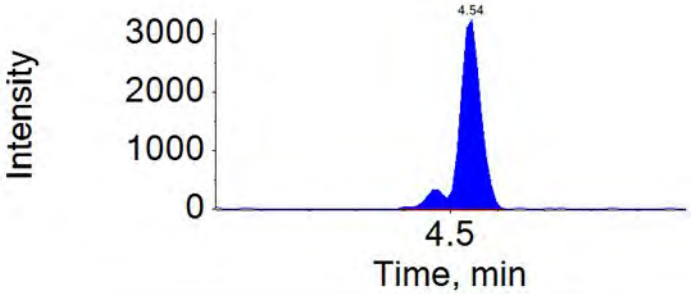
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



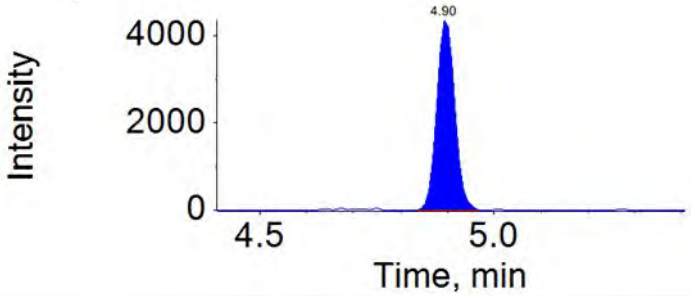
Component: PFHxS
Primary Mass: 399.0 / 80.0



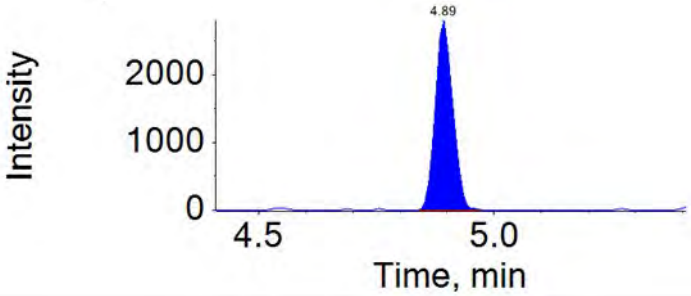
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



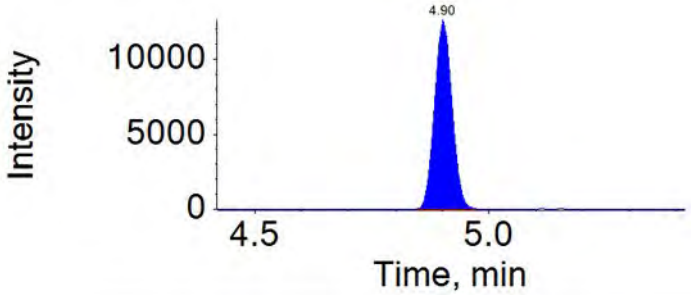
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



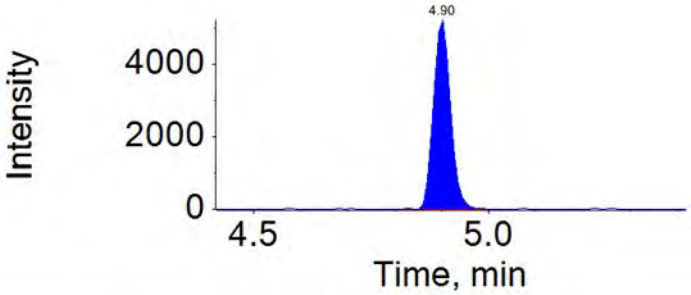
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



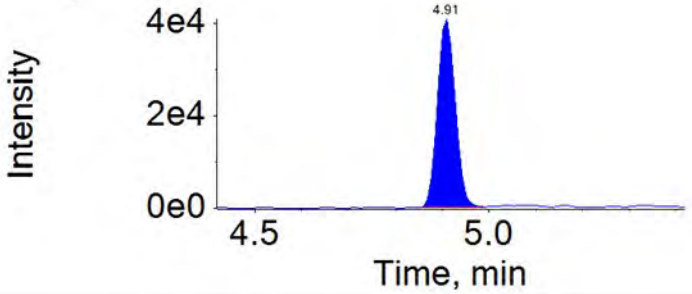
Component: PFHpS
Primary Mass: 449.0 / 80.0



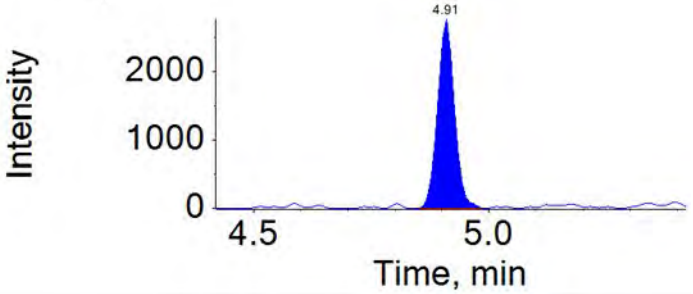
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



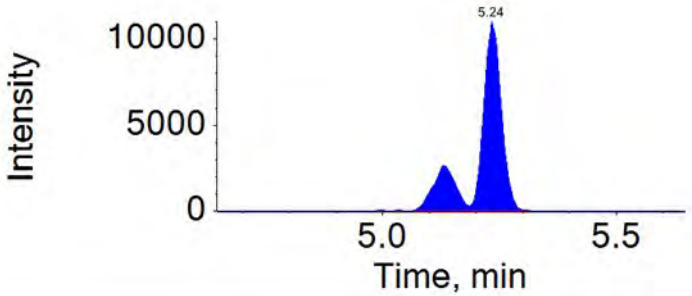
Component: PFOA
Primary Mass: 413.0 / 369.0



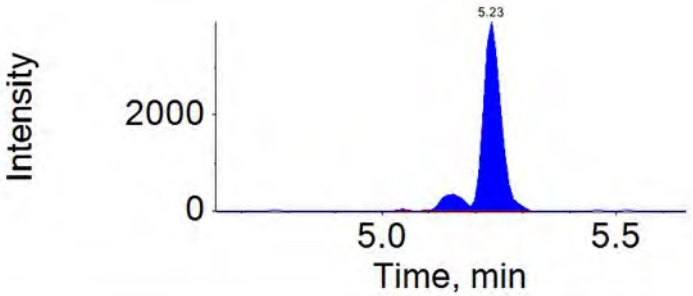
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



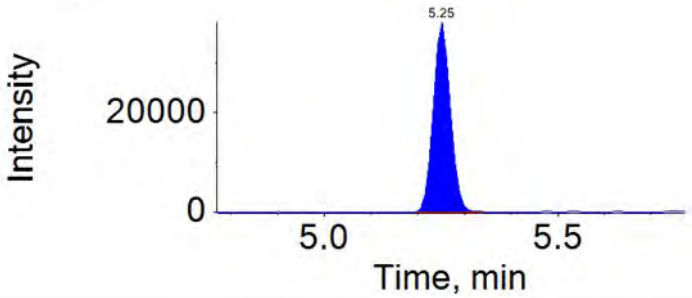
Component: PFOS
Primary Mass: 499.0 / 80.0



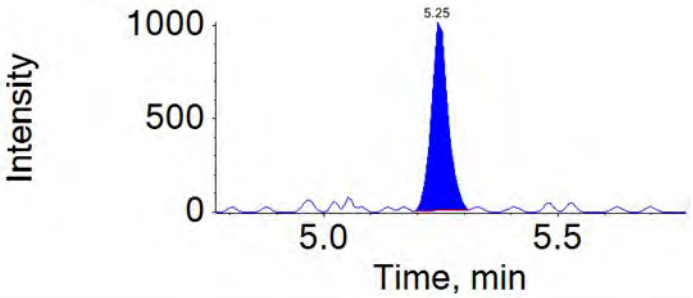
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



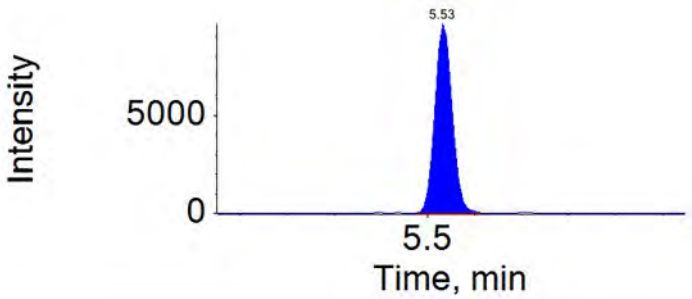
Component: PFNA
Primary Mass: 463.0 / 419.0



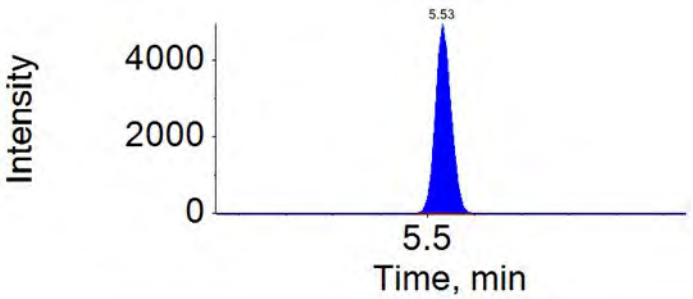
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



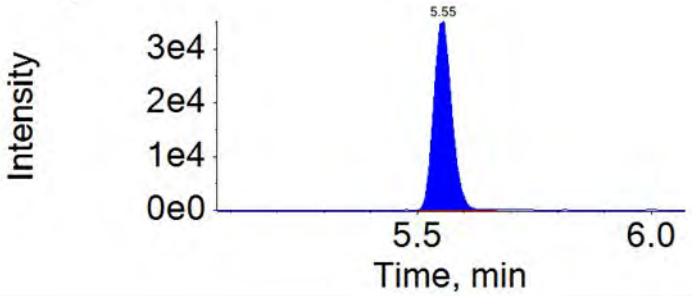
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



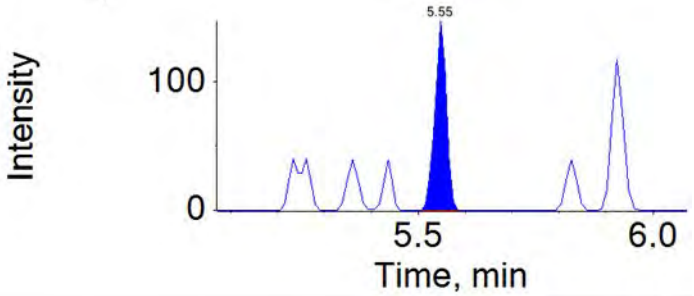
APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

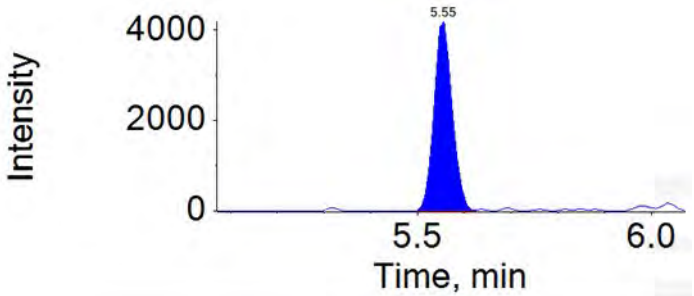
Component: PFDA
Primary Mass: 513.0 / 469.0



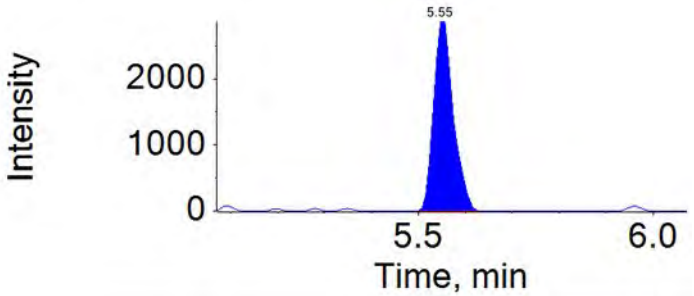
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



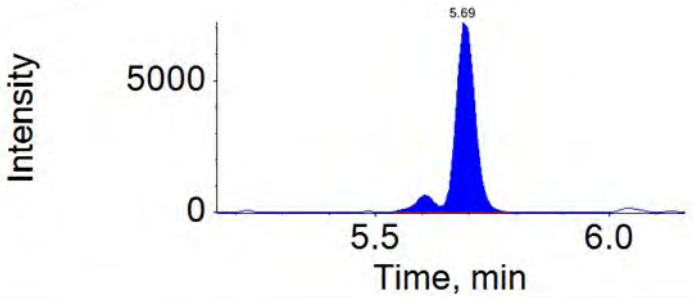
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



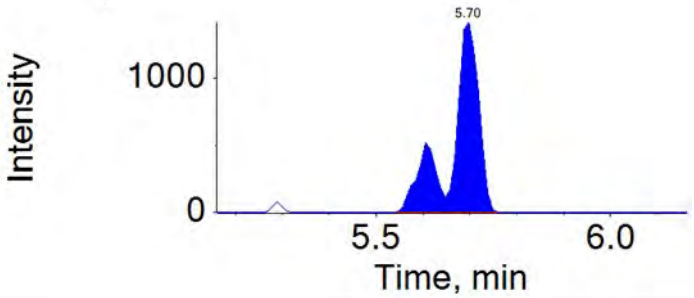
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



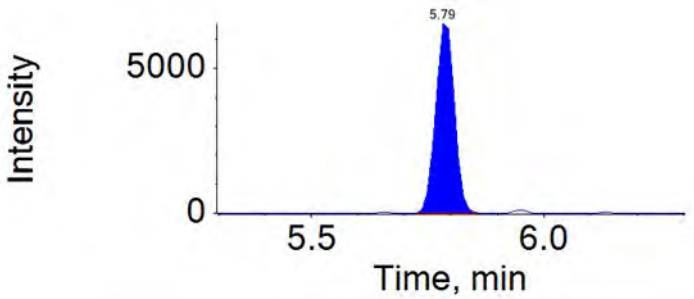
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



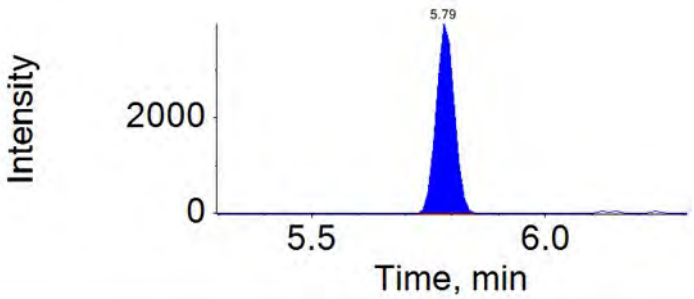
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



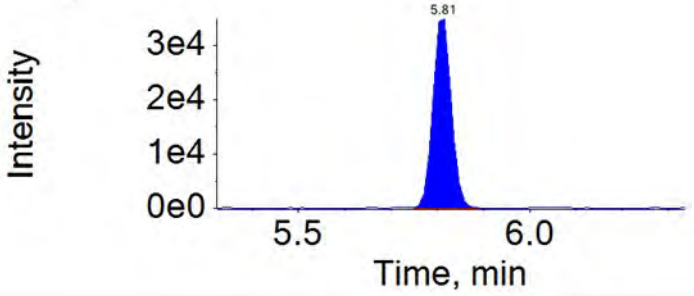
Component: PFDS
Primary Mass: 599.0 / 80.0



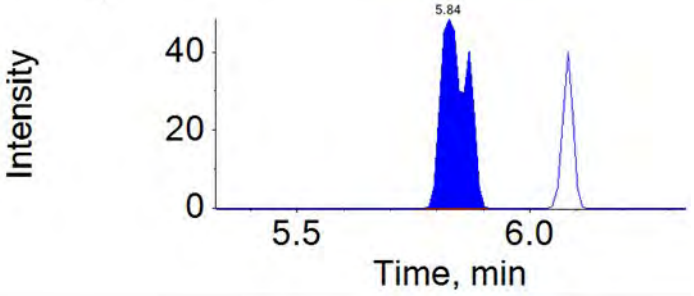
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



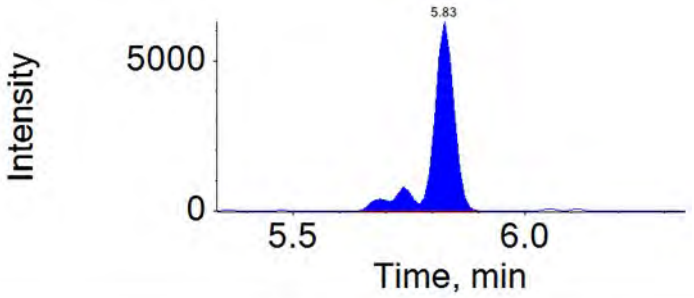
Component: PFUnDA
Primary Mass: 563.0 / 519.0



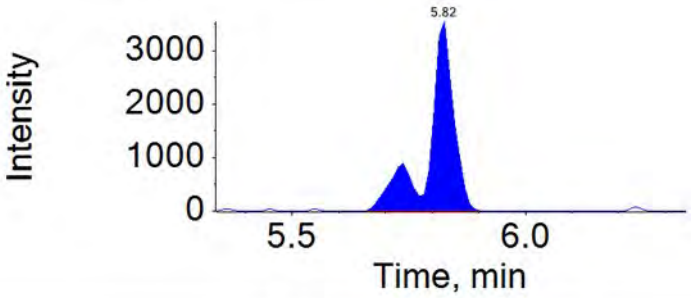
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



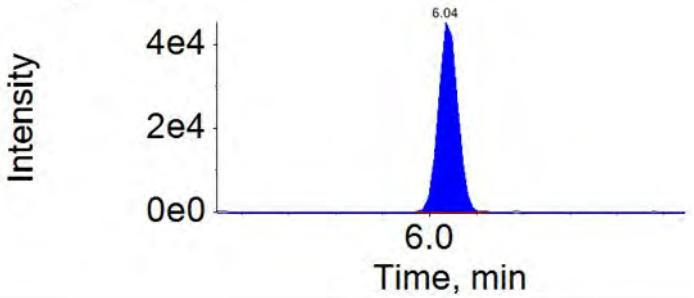
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



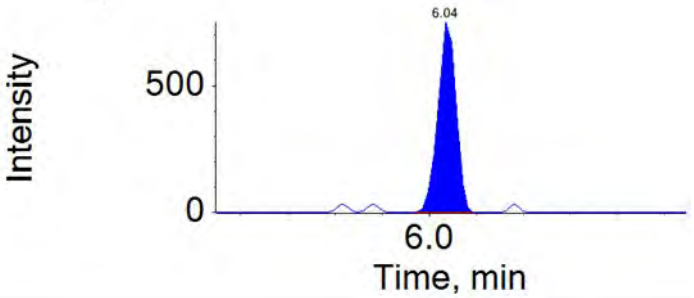
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



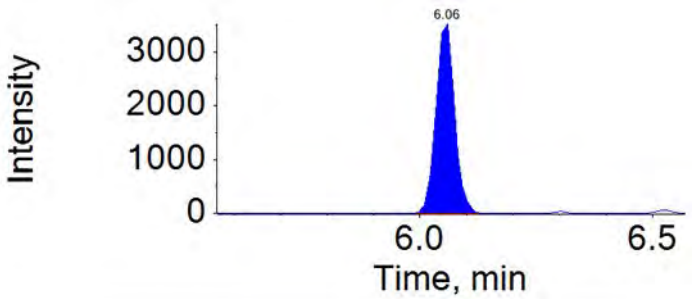
Component: PFDoDA
Primary Mass: 613.0 / 569.0



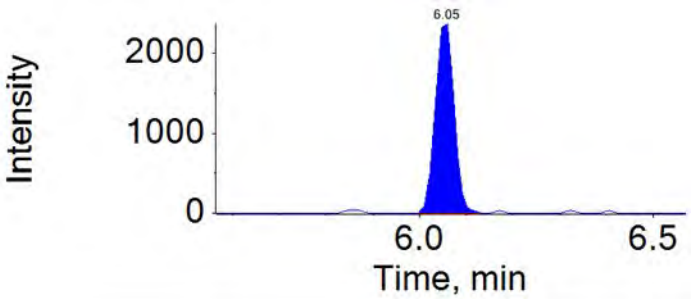
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



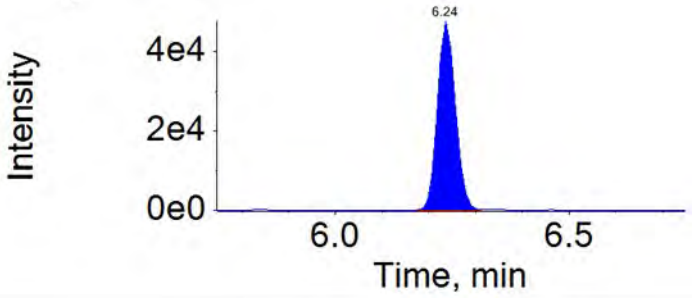
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



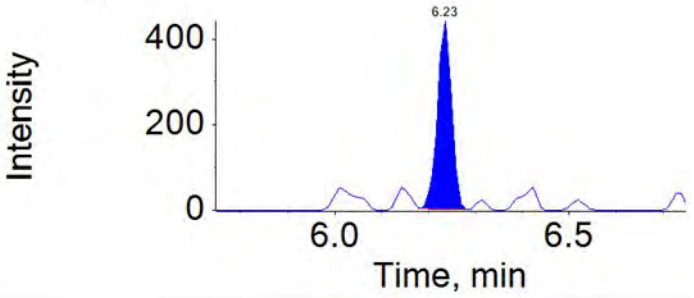
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



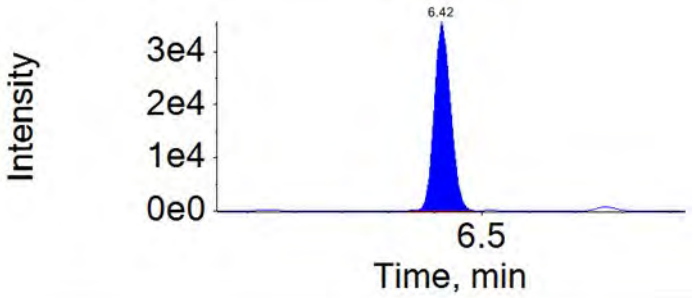
Component: PFTrDA
Primary Mass: 663.0 / 619.0



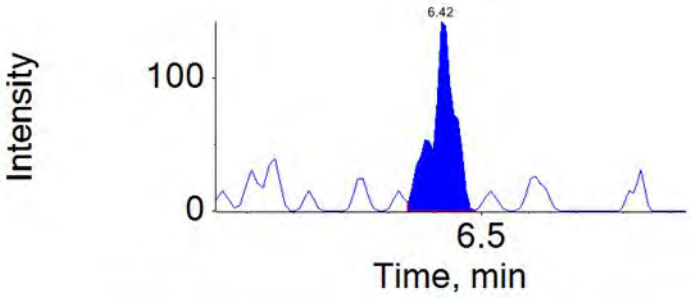
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



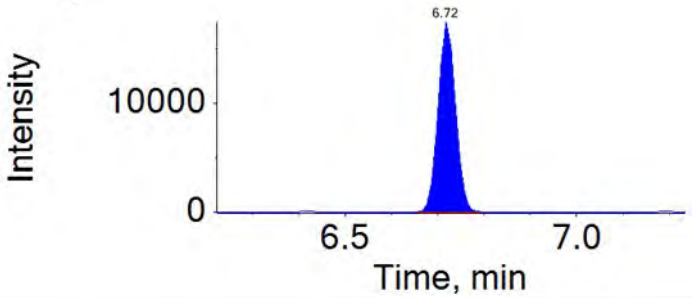
Component: PFTeDA
Primary Mass: 713.0 / 669.0



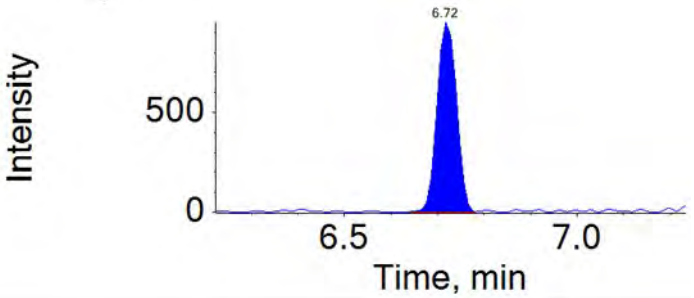
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



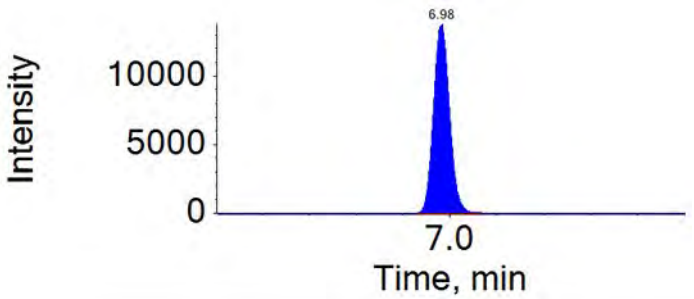
Component: PFHxDA
Primary Mass: 813.0 / 769.0



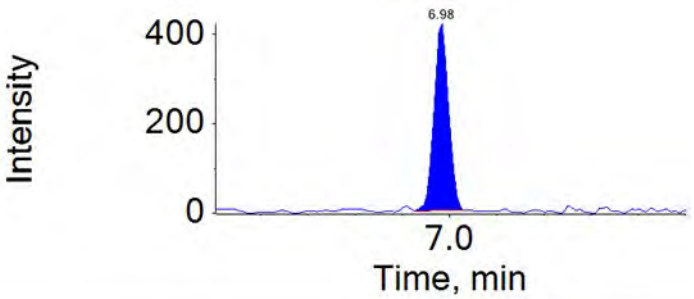
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 7:32 pm, 12/19/18

REVIEWED
By umar at 2:10 pm, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample File Name	Acquisition Date	Sample ID	Sample Name
18DEC26DCAL-06.wiff	12/26/2018 1:37:19 PM	CALBRN11833C	CAL1
18DEC26DCAL-07.wiff	12/26/2018 1:46:22 PM	CALBRN21833C	CAL2
18DEC26DCAL-08.wiff	12/26/2018 1:55:25 PM	CALBRN31833B	CAL3
18DEC26DCAL-09.wiff	12/26/2018 2:04:28 PM	CALBRN41833B	CAL4
18DEC26DCAL-10.wiff	12/26/2018 2:13:31 PM	CALBRN51833B	CAL5
18DEC26DCAL-11.wiff	12/26/2018 2:22:31 PM	CALBRN61833B	CAL6
18DEC26DCAL-12.wiff	12/26/2018 2:31:31 PM	CALBRN71833B	CAL7

CAL3 Injection Standard Areas

Sample Name	Injection Std Name	Injection Std Area
CAL3	13C3-PFBA	965438.2
CAL3	13C2-PFOA	527066.0
CAL3	13C4-PFOS	307230.6
CAL3	13C2-PFDA	493258.9

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Response Factor Table

Analyte Name	CAL 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7	%RSD	Limit	OOS	r^2	OOS
PFBA	1.050	1.006	1.028	0.927	0.944	N/A	N/A	5	20		0.999	
PFPeA	1.160	1.134	1.195	0.895	1.029	N/A	N/A	10	20		0.994	
PFBS	1.092	1.028	1.047	0.933	0.974	0.957	0.917	6	20		0.999	
4:2-FTS	1.839	2.086	1.892	1.821	1.935	N/A	N/A	5	20		0.999	
PFHxA	1.373	1.349	1.366	1.196	1.207	N/A	N/A	6	20		0.999	
PFPeS	0.508	0.492	0.526	0.464	0.494	0.462	0.453	5	20		0.999	
PFHpA	1.881	1.840	1.901	1.549	1.554	N/A	N/A	9	20		0.997	
PFHxS	0.993	1.048	1.027	0.958	0.985	0.952	1.050	4	20		0.998	
6:2-FTS	2.011	2.320	2.188	2.046	1.926	N/A	N/A	7	20		0.998	
PFHpS	0.968	1.038	0.978	0.866	0.947	0.854	0.920	6	20		0.999	
PFOA	1.107	1.056	1.090	0.974	1.000	0.911	N/A	7	20		0.998	
PFOS	1.269	1.188	1.130	1.050	1.084	1.066	1.119	6	20		0.999	
PFNA	1.491	1.453	1.546	1.306	1.317	1.190	N/A	9	20		0.997	
PFNS	0.885	0.739	0.788	0.684	0.708	0.689	0.702	9	20		1.000	
PFDA	1.065	1.061	1.073	0.913	0.912	0.882	0.842	9	20		0.999	
8:2-FTS	2.443	3.136	2.756	2.442	2.366	N/A	N/A	11	20		0.998	
PFOSA	1.165	1.068	1.105	0.975	1.043	0.968	0.917	8	20		0.998	
NMeFOSAA	0.803	0.952	0.903	0.790	0.862	0.864	N/A	6	20		0.999	
PFDS	0.655	0.570	0.630	0.573	0.581	0.554	0.592	6	20		0.999	
PFUnDA	1.584	1.682	1.604	1.453	1.469	1.327	1.245	10	20		0.996	
NEtFOSAA	1.002	0.986	1.126	0.905	1.045	0.995	0.949	7	20		0.998	
PFDoDA	1.123	1.116	1.116	0.981	0.961	N/A	N/A	7	20		0.999	
10:2-FTS	2.442	2.972	2.432	2.294	2.342	N/A	N/A	10	20		0.999	
NMePFOSAE	1.352	1.386	1.300	1.185	1.185	1.174	N/A	7	20		1.000	
NMePFOSA	1.090	1.059	0.997	1.055	1.032	0.981	N/A	4	20		0.999	
PFDoS	0.315	0.323	0.313	0.298	0.320	0.308	0.328	3	20		0.999	
NEtPFOSAE	1.716	1.696	1.587	1.589	1.593	1.460	N/A	5	20		0.998	
NEtPFOSA	1.055	1.034	1.144	1.006	1.022	1.133	1.040	5	20		0.998	
PFTrDA	1.109	1.052	1.021	0.991	0.906	N/A	N/A	7	20		0.998	
PFTeDA	1.093	0.977	1.010	0.915	0.906	0.856	N/A	8	20		0.999	
PFHxDA	0.554	0.529	0.520	0.475	0.455	0.436	0.423	10	20		0.999	
PFODA	0.397	0.389	0.363	0.347	0.350	0.337	0.335	6	20		1.000	

APPROVED
By MSM at 1:33 pm, 12/27/18

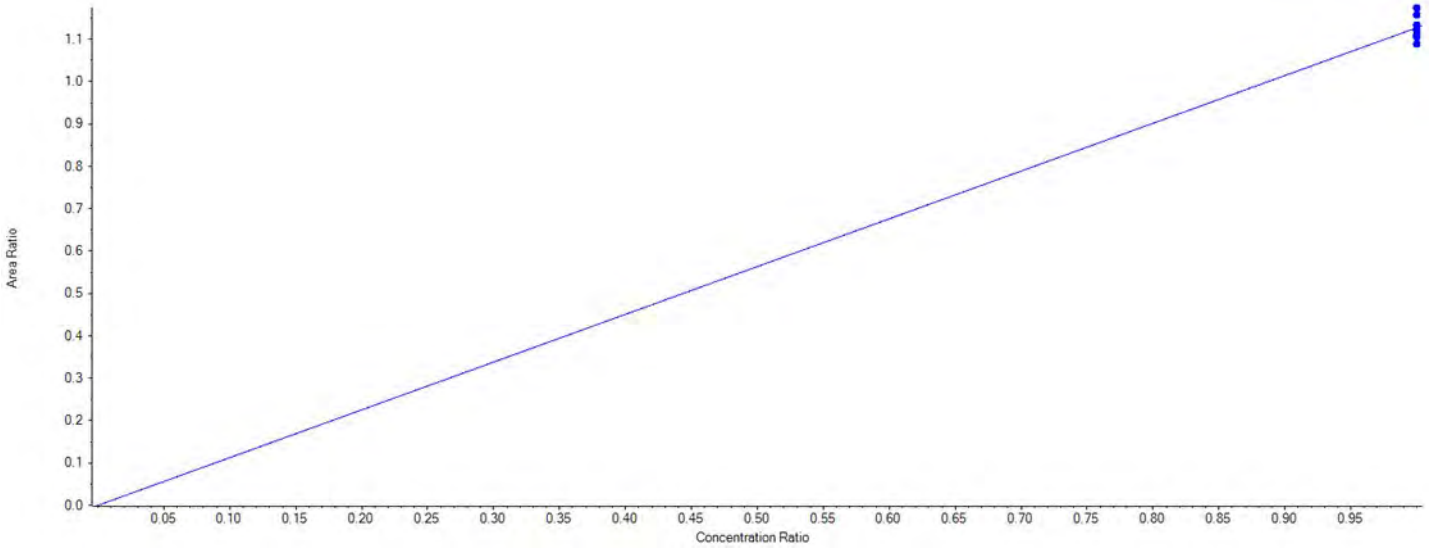
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFBA

y = 1.12696 x (std. dev. = 0.03019) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFBA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1112725.47	1003304.03	True	5.00	1.109	3.27	1.000	5.000	4.921	-2	30	
CAL2	1166730.36	993997.72	True	5.00	1.174	3.27	1.000	5.000	5.208	4	30	
CAL3	1082113.94	965438.24	True	5.00	1.121	3.27	1.000	5.000	4.973	-1	30	
CAL4	1067692.77	981107.48	True	5.00	1.088	3.25	1.000	5.000	4.828	-3	30	
CAL5	1075857.89	973046.27	True	5.00	1.106	3.27	1.000	5.000	4.906	-2	30	
CAL6	995418.39	860143.98	True	5.00	1.157	3.26	1.000	5.000	5.134	3	30	
CAL7	878201.06	774536.71	True	5.00	1.134	3.26	1.000	5.000	5.031	1	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

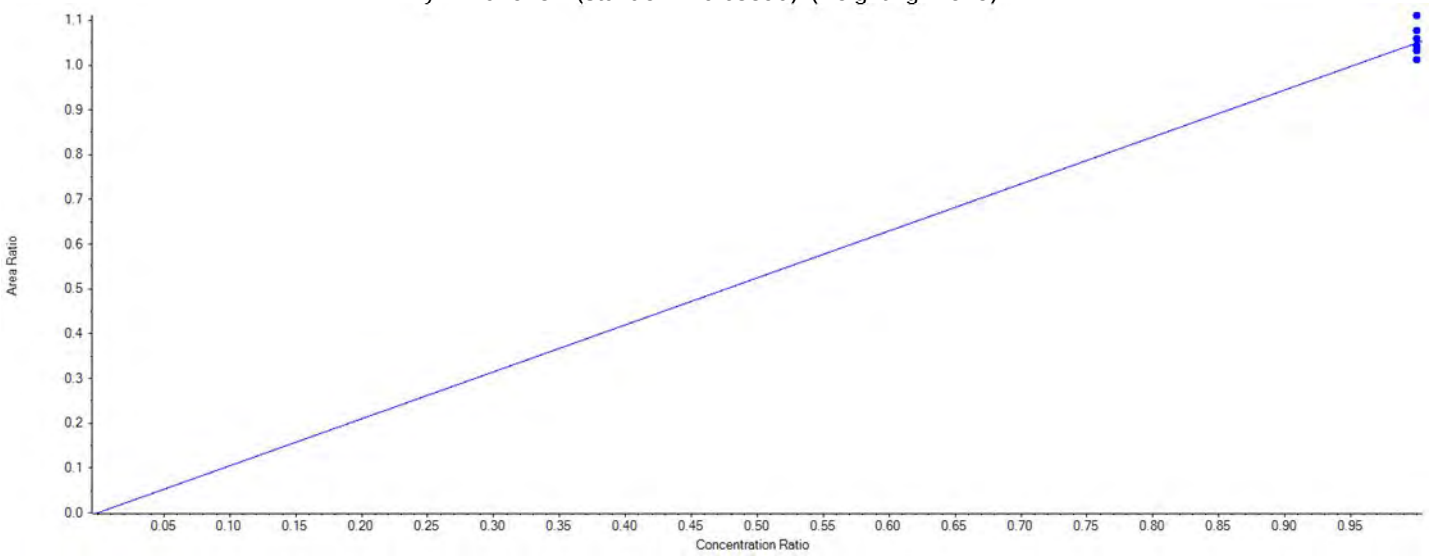
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFPeA

y = 1.04975 x (std. dev. = 0.03590) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFPeA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1035919.44	1003304.03	True	5.00	1.033	3.77	1.150	5.000	4.918	-2	30	
CAL2	1037891.44	993997.72	True	5.00	1.044	3.77	1.150	5.000	4.973	-1	30	
CAL3	977758.75	965438.24	True	5.00	1.013	3.78	1.150	5.000	4.824	-4	30	
CAL4	1089930.23	981107.48	True	5.00	1.111	3.75	1.150	5.000	5.291	6	30	
CAL5	984471.92	973046.27	True	5.00	1.012	3.77	1.150	5.000	4.819	-4	30	
CAL6	926842.43	860143.98	True	5.00	1.078	3.77	1.150	5.000	5.132	3	30	
CAL7	819950.31	774536.71	True	5.00	1.059	3.76	1.150	5.000	5.042	1	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

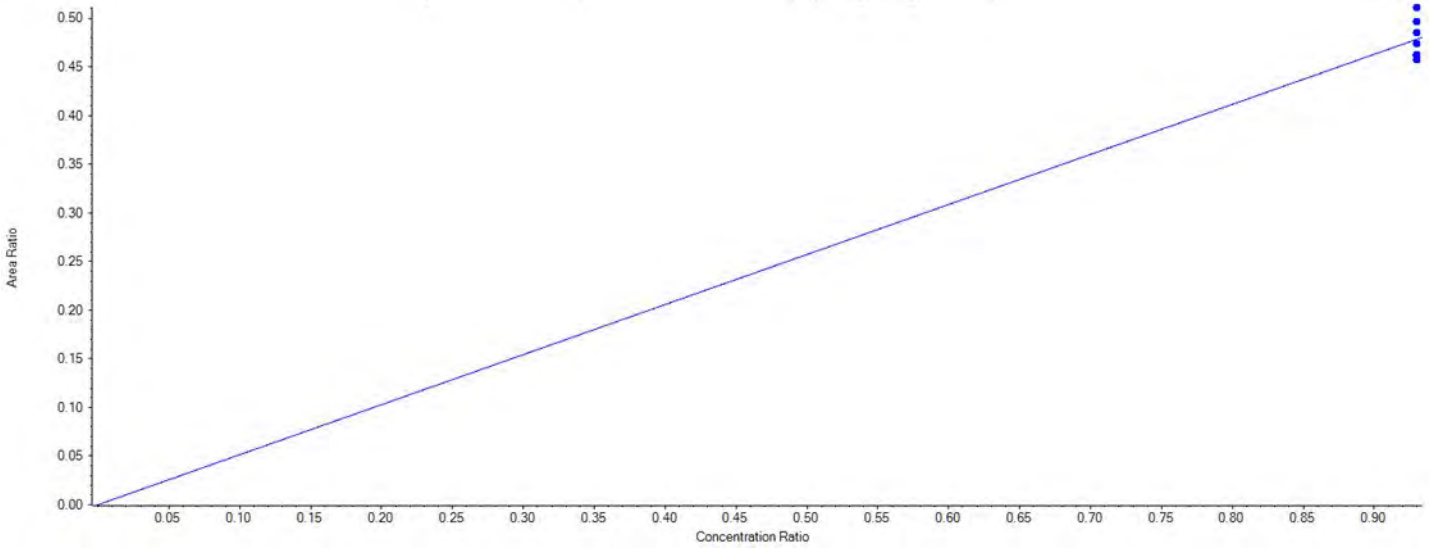
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFBS

y = 0.51464 x (std. dev. = 0.02174) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C3-PFBS Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	459363.87	1003304.03	True	5.00	0.458	3.81	1.170	4.650	4.448	-4	30	
CAL2	471532.38	993997.72	True	5.00	0.474	3.82	1.170	4.650	4.609	-1	30	
CAL3	446654.43	965438.24	True	5.00	0.463	3.83	1.170	4.650	4.495	-3	30	
CAL4	476473.39	981107.48	True	5.00	0.486	3.80	1.170	4.650	4.718	1	30	
CAL5	448994.44	973046.27	True	5.00	0.461	3.82	1.170	4.650	4.483	-4	30	
CAL6	427594.17	860143.98	True	5.00	0.497	3.82	1.170	4.650	4.830	4	30	
CAL7	395950.71	774536.71	True	5.00	0.511	3.81	1.170	4.650	4.967	7	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

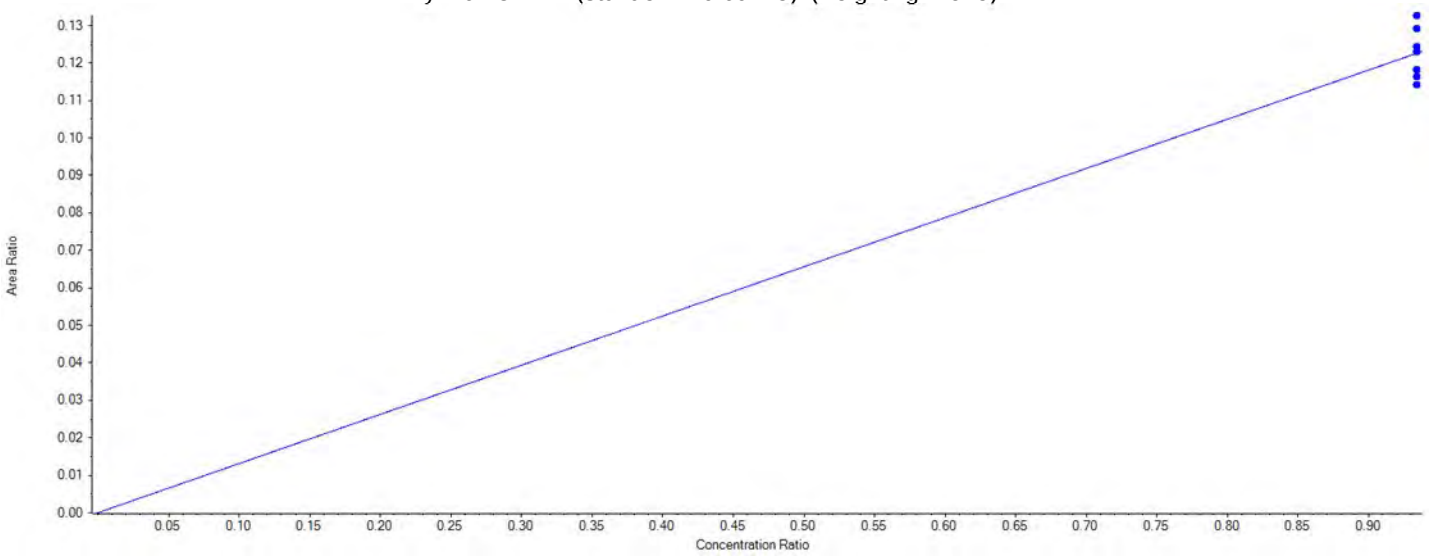
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-4:2-FTS

y = 0.13124 x (std. dev. = 0.00725) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-4:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	68760.17	553415.53	True	5.00	0.124	4.13	0.840	4.670	4.733	1	30	
CAL2	67524.41	548408.19	True	5.00	0.123	4.14	0.840	4.670	4.691	0	30	
CAL3	69912.07	527066.02	True	5.00	0.133	4.14	0.840	4.670	5.053	8	30	
CAL4	65782.20	556294.23	True	5.00	0.118	4.11	0.840	4.670	4.505	-4	30	
CAL5	64436.83	563692.80	True	5.00	0.114	4.14	0.840	4.670	4.355	-7	30	
CAL6	66742.27	516584.13	True	5.00	0.129	4.12	0.840	4.670	4.922	5	30	
CAL7	61448.79	528420.84	True	5.00	0.116	4.12	0.840	4.670	4.430	-5	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

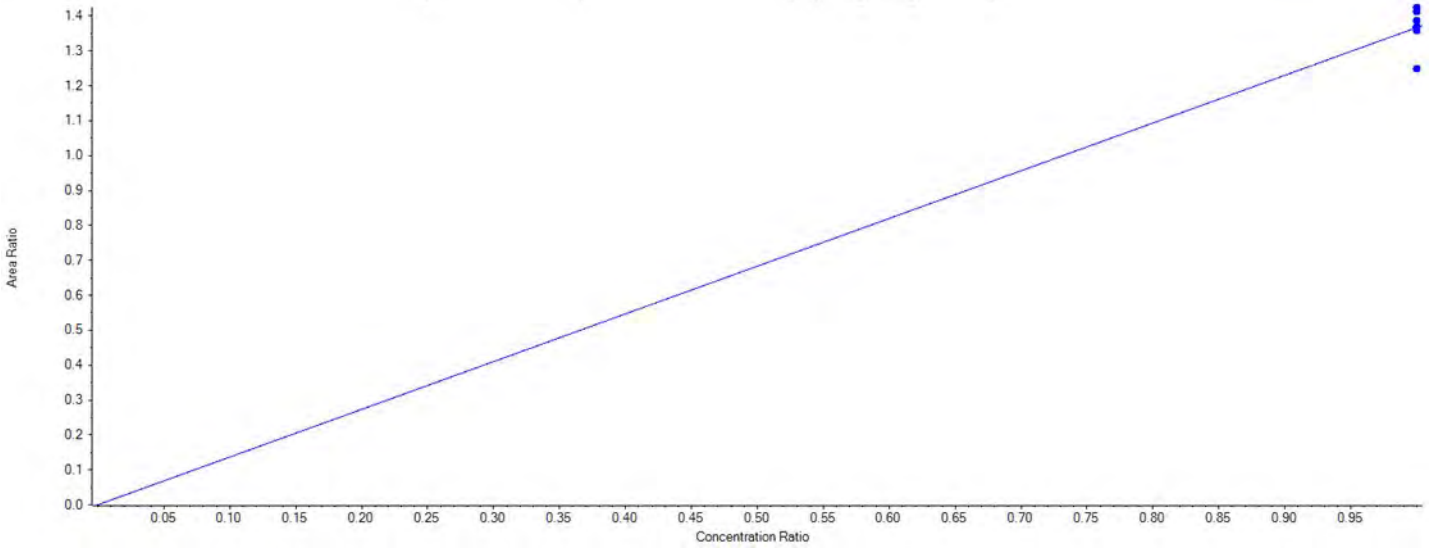
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFHxA

y = 1.36677 x (std. dev. = 0.05716) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C5-PFHxA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	758545.37	553415.53	True	5.00	1.371	4.16	0.850	5.000	5.014	0	30	
CAL2	760252.90	548408.19	True	5.00	1.386	4.17	0.850	5.000	5.071	1	30	
CAL3	744192.74	527066.02	True	5.00	1.412	4.18	0.850	5.000	5.165	3	30	
CAL4	759866.18	556294.23	True	5.00	1.366	4.15	0.850	5.000	4.997	0	30	
CAL5	766202.06	563692.80	True	5.00	1.359	4.17	0.850	5.000	4.973	-1	30	
CAL6	735654.79	516584.13	True	5.00	1.424	4.16	0.850	5.000	5.210	4	30	
CAL7	660093.19	528420.84	True	5.00	1.249	4.15	0.850	5.000	4.570	-9	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

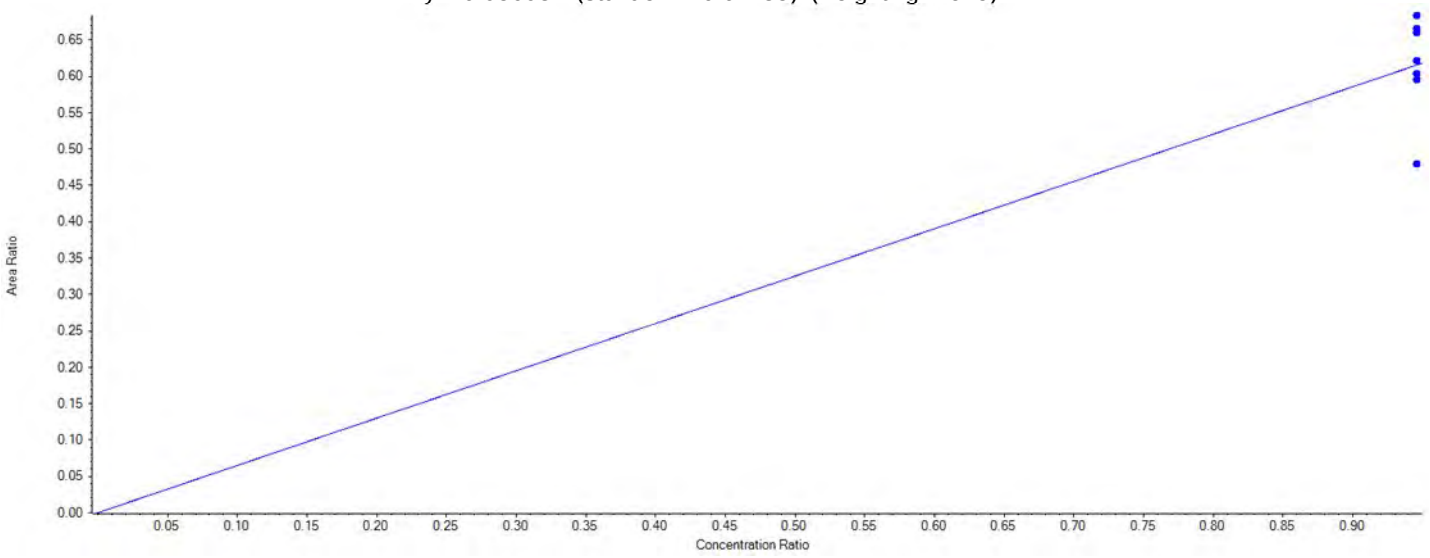
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFHxS

y = 0.65068 x (std. dev. = 0.07235) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C3-PFHxS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	365368.65	553415.53	True	5.00	0.660	4.55	0.930	4.730	5.073	7	30	
CAL2	374890.38	548408.19	True	5.00	0.684	4.56	0.930	4.730	5.253	11	30	
CAL3	350760.24	527066.02	True	5.00	0.665	4.56	0.930	4.730	5.114	8	30	
CAL4	345523.63	556294.23	True	5.00	0.621	4.53	0.930	4.730	4.773	1	30	
CAL5	335508.98	563692.80	True	5.00	0.595	4.56	0.930	4.730	4.574	-3	30	
CAL6	311645.59	516584.13	True	5.00	0.603	4.55	0.930	4.730	4.636	-2	30	
CAL7	253609.29	528420.84	True	5.00	0.480	4.54	0.930	4.730	3.688	-22	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

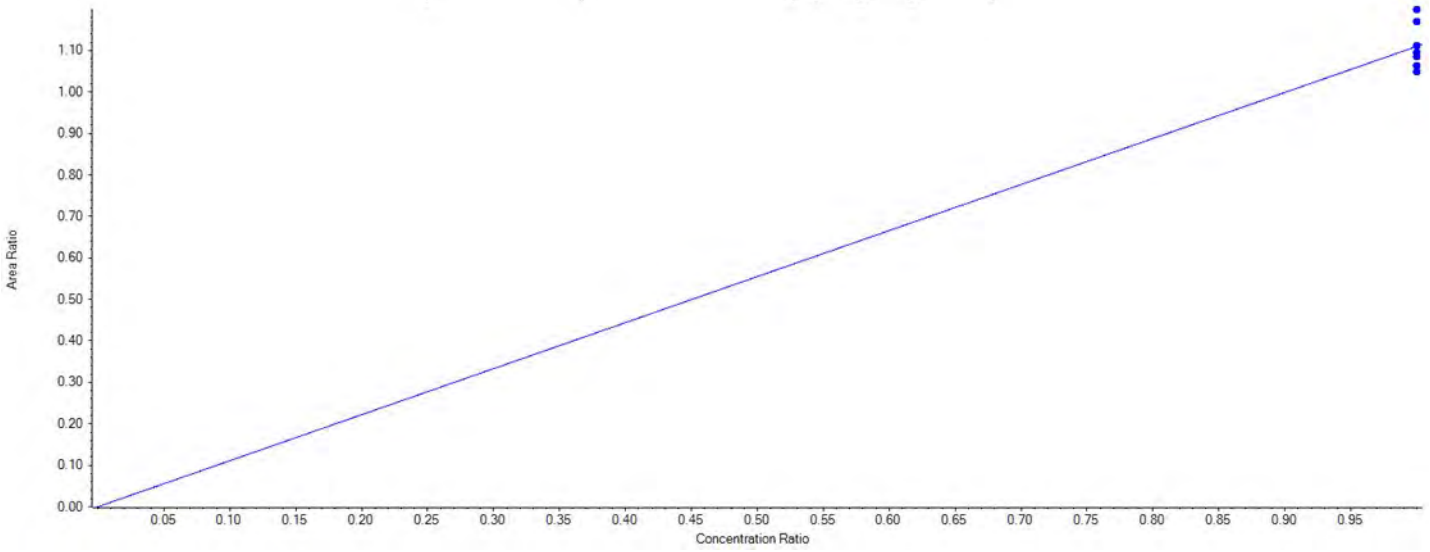
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFHpA

y = 1.10982 x (std. dev. = 0.05489) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C4-PFHpA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	580883.69	553415.53	True	5.00	1.050	4.55	0.930	5.000	4.729	-5	30	
CAL2	640788.03	548408.19	True	5.00	1.168	4.56	0.930	5.000	5.264	5	30	
CAL3	585765.19	527066.02	True	5.00	1.111	4.56	0.930	5.000	5.007	0	30	
CAL4	608458.53	556294.23	True	5.00	1.094	4.53	0.920	5.000	4.928	-1	30	
CAL5	599066.11	563692.80	True	5.00	1.063	4.56	0.930	5.000	4.788	-4	30	
CAL6	619188.13	516584.13	True	5.00	1.199	4.55	0.930	5.000	5.400	8	30	
CAL7	572881.17	528420.84	True	5.00	1.084	4.54	0.930	5.000	4.884	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

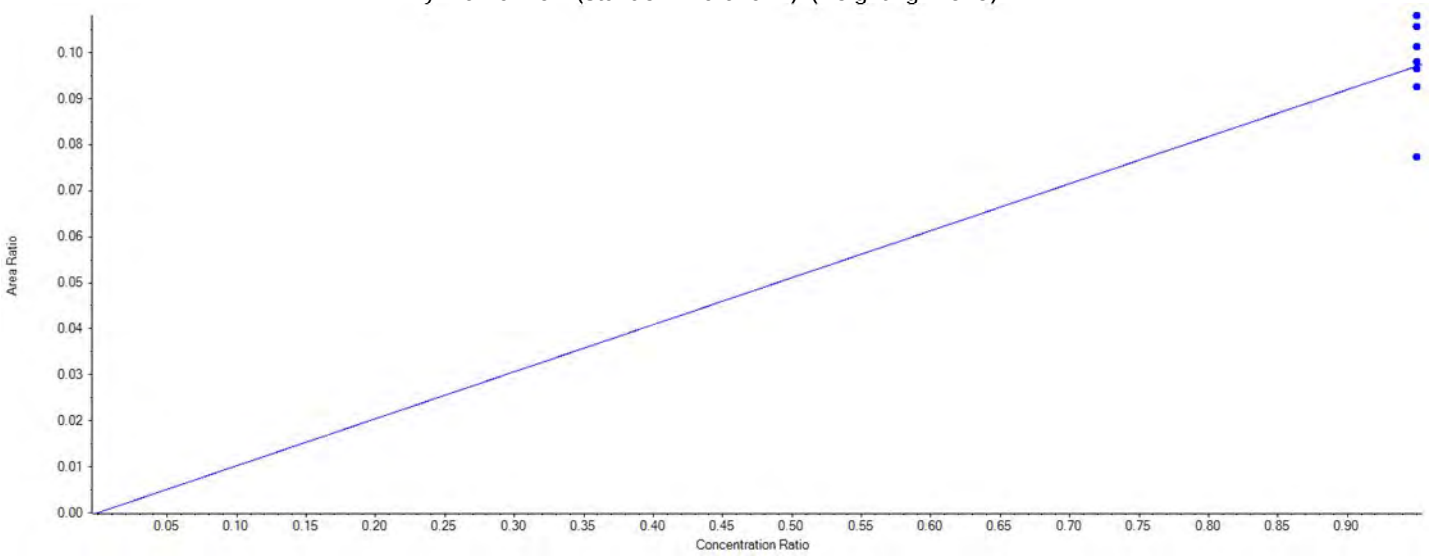
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-6:2-FTS

y = 0.10219 x (std. dev. = 0.01077) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-6:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	59810.66	553415.53	True	5.00	0.108	4.90	1.000	4.750	5.288	11	30	
CAL2	57994.96	548408.19	True	5.00	0.106	4.91	1.000	4.750	5.174	9	30	
CAL3	51706.75	527066.02	True	5.00	0.098	4.91	1.000	4.750	4.800	1	30	
CAL4	56379.02	556294.23	True	5.00	0.101	4.89	1.000	4.750	4.959	4	30	
CAL5	54388.19	563692.80	True	5.00	0.096	4.91	1.000	4.750	4.721	-1	30	
CAL6	47795.14	516584.13	True	5.00	0.093	4.90	1.000	4.750	4.527	-5	30	
CAL7	40843.39	528420.84	True	5.00	0.077	4.89	1.000	4.750	3.782	-20	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

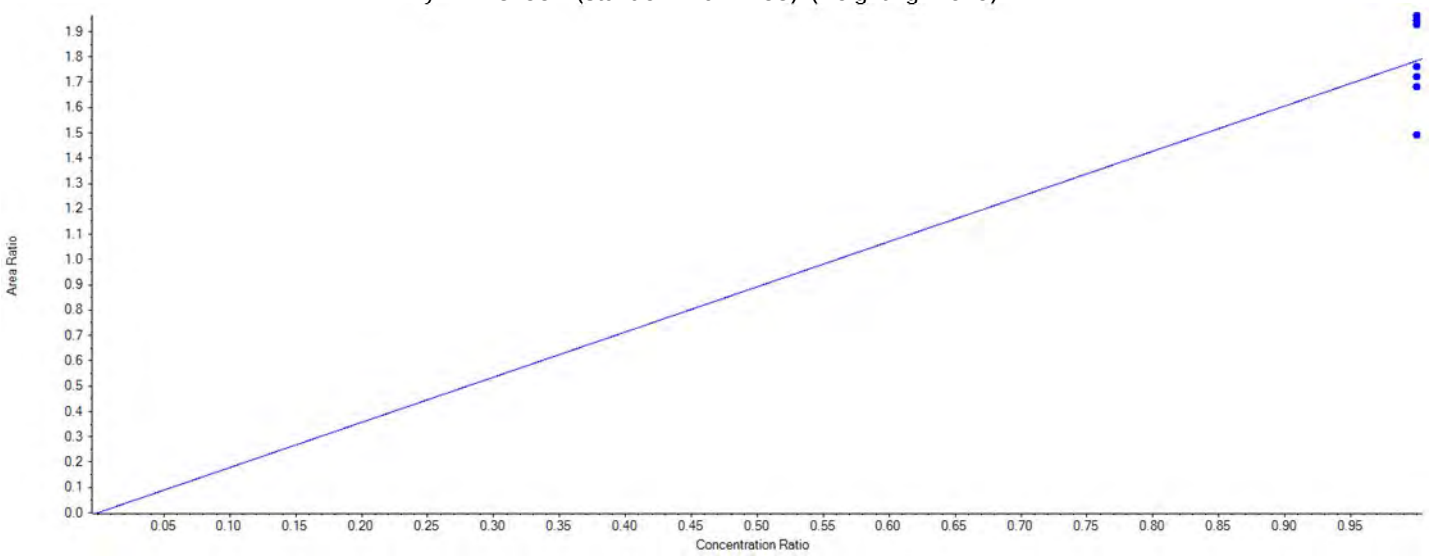
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOA

y = 1.78455 x (std. dev. = 0.17153) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1066092.88	553415.53	True	5.00	1.926	4.91	1.000	5.000	5.397	8	30	
CAL2	1076565.88	548408.19	True	5.00	1.963	4.93	1.000	5.000	5.500	10	30	
CAL3	1023450.20	527066.02	True	5.00	1.942	4.93	1.000	5.000	5.441	9	30	
CAL4	980355.06	556294.23	True	5.00	1.762	4.90	1.000	5.000	4.938	-1	30	
CAL5	970653.92	563692.80	True	5.00	1.722	4.93	1.000	5.000	4.825	-4	30	
CAL6	869853.61	516584.13	True	5.00	1.684	4.91	1.000	5.000	4.718	-6	30	
CAL7	788680.35	528420.84	True	5.00	1.493	4.91	1.000	5.000	4.182	-16	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

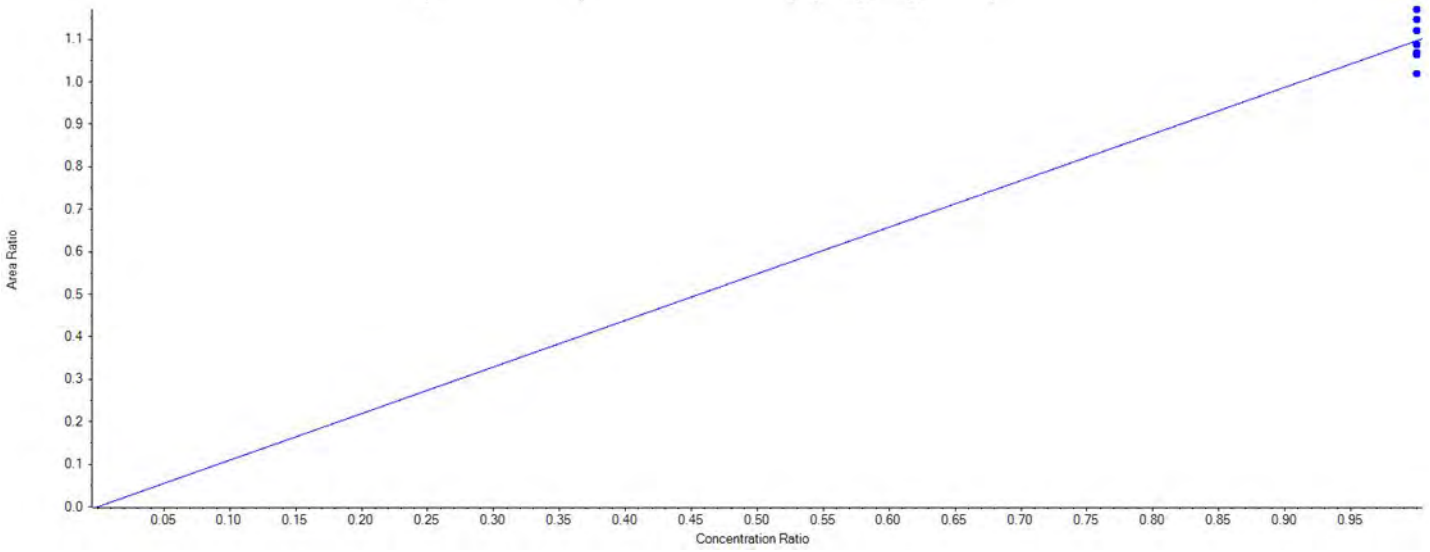
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOS

y = 1.09650 x (std. dev. = 0.05169) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOS Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	336497.35	315083.53	True	4.78	1.068	5.24	1.000	4.780	4.656	-3	30	
CAL2	355971.49	310748.36	True	4.78	1.146	5.25	1.000	4.780	4.994	4	30	
CAL3	343856.80	307230.64	True	4.78	1.119	5.25	1.000	4.780	4.879	2	30	
CAL4	331467.26	324961.96	True	4.78	1.020	5.22	1.000	4.780	4.447	-7	30	
CAL5	329079.56	309046.10	True	4.78	1.065	5.25	1.000	4.780	4.642	-3	30	
CAL6	311201.23	266027.59	True	4.78	1.170	5.24	1.000	4.780	5.100	7	30	
CAL7	268164.66	246440.90	True	4.78	1.088	5.23	1.000	4.780	4.744	-1	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

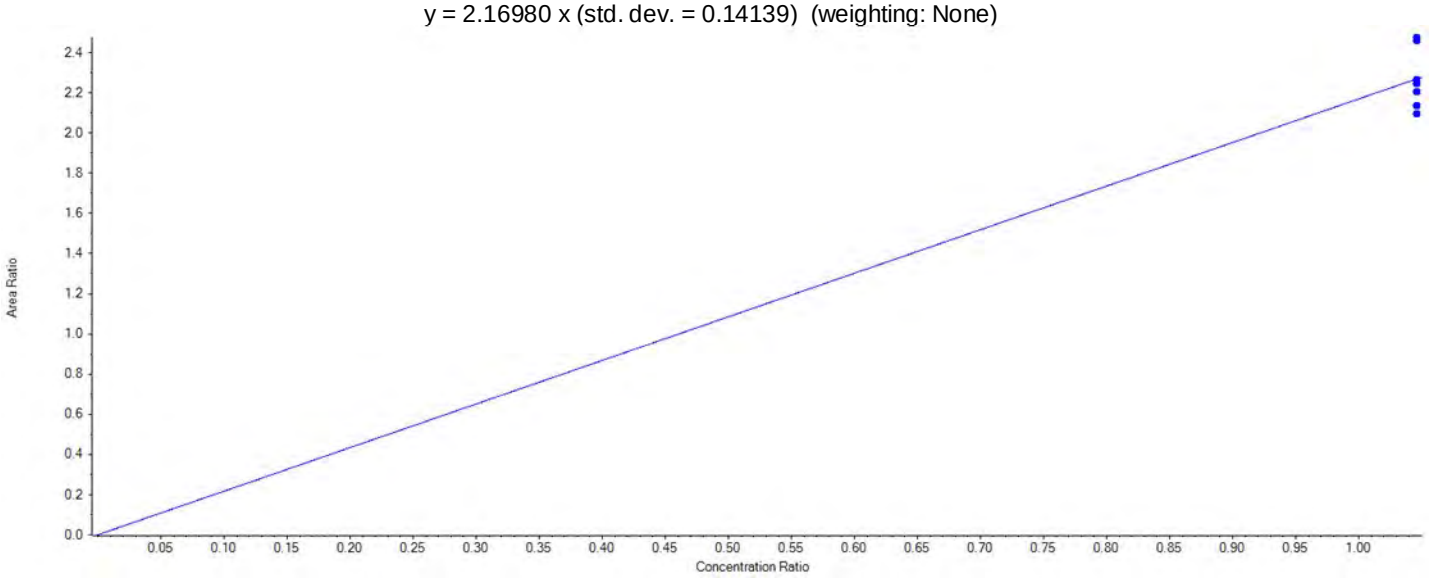
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C9-PFNA

y = 2.16980 x (std. dev. = 0.14139) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C9-PFNA Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	695309.10	315083.53	True	4.78	2.207	5.26	1.000	5.000	4.861	-3	30	
CAL2	697399.51	310748.36	True	4.78	2.244	5.27	1.000	5.000	4.944	-1	30	
CAL3	656638.20	307230.64	True	4.78	2.137	5.27	1.000	5.000	4.708	-6	30	
CAL4	681301.18	324961.96	True	4.78	2.097	5.24	1.000	5.000	4.619	-8	30	
CAL5	700273.02	309046.10	True	4.78	2.266	5.27	1.000	5.000	4.992	0	30	
CAL6	654876.21	266027.59	True	4.78	2.462	5.25	1.000	5.000	5.423	8	30	
CAL7	610002.56	246440.90	True	4.78	2.475	5.25	1.000	5.000	5.453	9	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

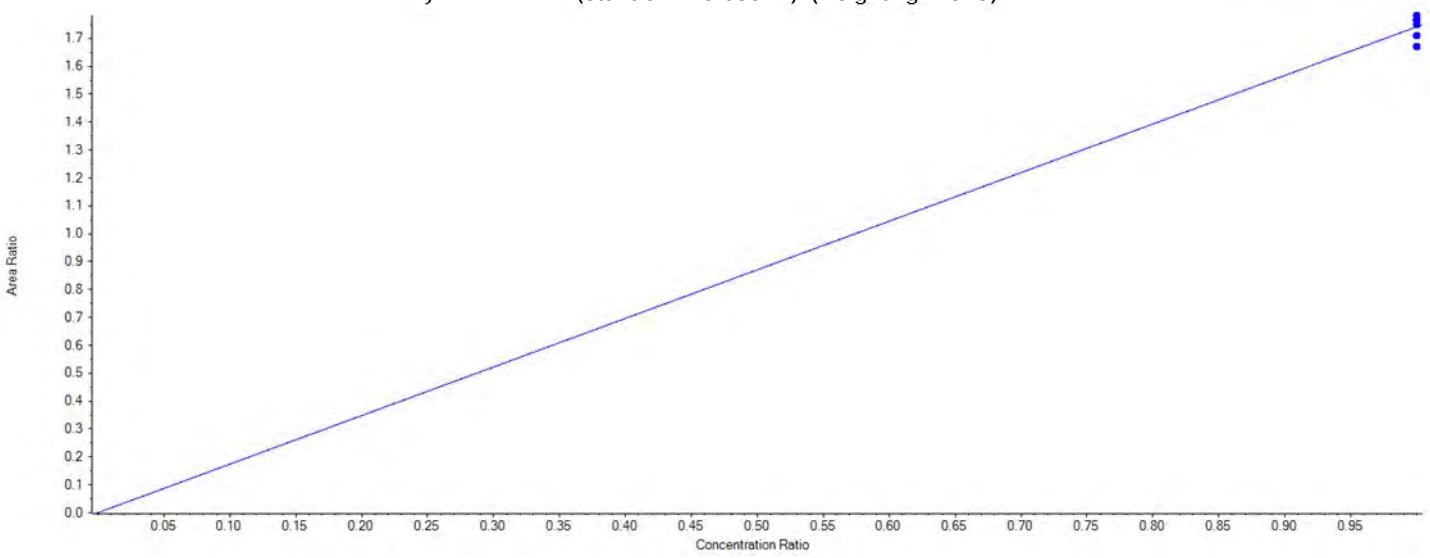
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C6-PFDA

y = 1.74144 x (std. dev. = 0.03922) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C6-PFDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	920912.57	526651.24	True	5.00	1.749	5.55	1.000	5.000	5.021	0	30	
CAL2	930100.93	526082.50	True	5.00	1.768	5.57	1.000	5.000	5.076	2	30	
CAL3	870769.50	493258.85	True	5.00	1.765	5.57	1.000	5.000	5.069	1	30	
CAL4	884857.40	518004.49	True	5.00	1.708	5.54	1.000	5.000	4.905	-2	30	
CAL5	904706.04	507766.78	True	5.00	1.782	5.56	1.000	5.000	5.116	2	30	
CAL6	772368.44	441765.47	True	5.00	1.748	5.55	1.000	5.000	5.020	0	30	
CAL7	674685.97	404042.07	True	5.00	1.670	5.55	1.000	5.000	4.794	-4	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

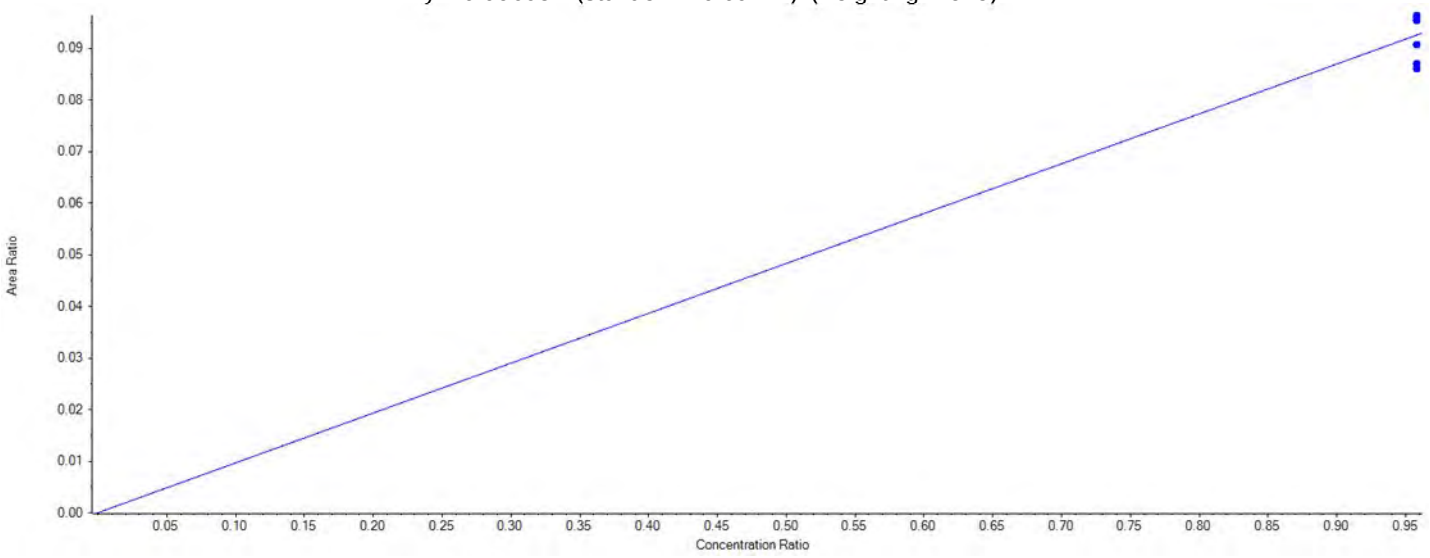
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-8:2-FTS

y = 0.09665 x (std. dev. = 0.00471) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-8:2-FTS Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	50570.79	526651.24	True	5.00	0.096	5.56	1.000	4.790	4.968	4	30	
CAL2	45330.53	526082.50	True	5.00	0.086	5.57	1.000	4.790	4.458	-7	30	
CAL3	47510.08	493258.85	True	5.00	0.096	5.57	1.000	4.790	4.983	4	30	
CAL4	45137.73	518004.49	True	5.00	0.087	5.54	1.000	4.790	4.508	-6	30	
CAL5	46084.94	507766.78	True	5.00	0.091	5.57	1.000	4.790	4.695	-2	30	
CAL6	42574.67	441765.47	True	5.00	0.096	5.56	1.000	4.790	4.986	4	30	
CAL7	38524.65	404042.07	True	5.00	0.095	5.55	1.000	4.790	4.933	3	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

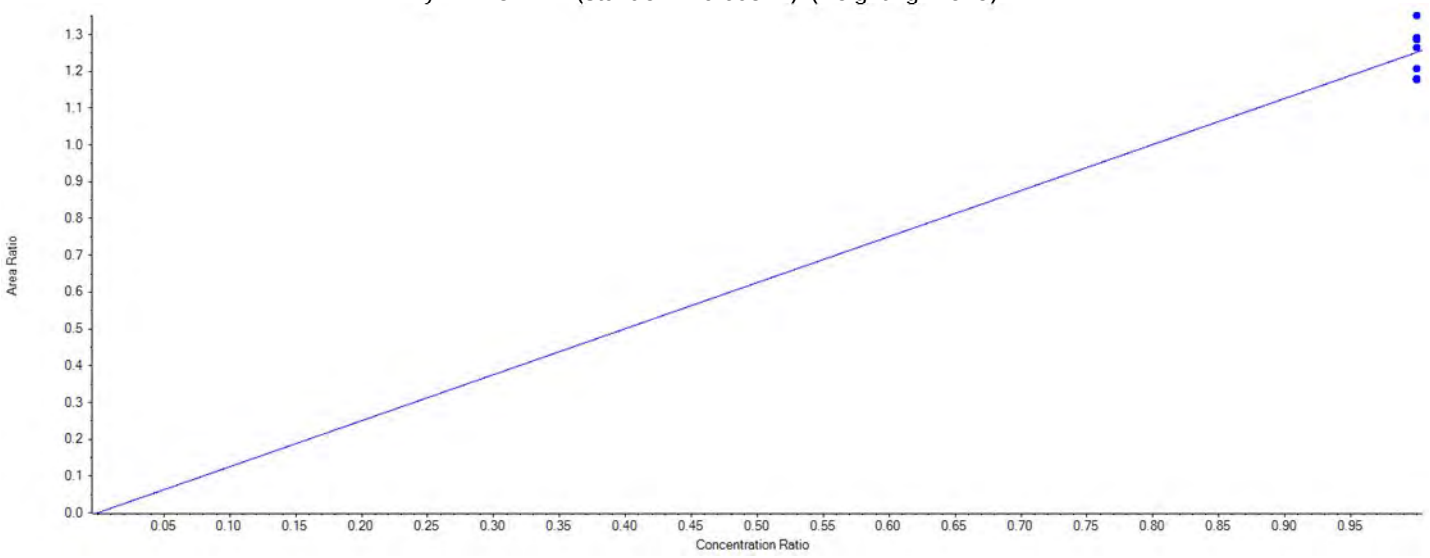
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOSA

y = 1.25177 x (std. dev. = 0.06524) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C8-PFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	636386.99	526651.24	True	5.00	1.208	5.64	1.010	5.000	4.827	-3	30	
CAL2	665796.10	526082.50	True	5.00	1.266	5.65	1.010	5.000	5.055	1	30	
CAL3	637826.10	493258.85	True	5.00	1.293	5.65	1.010	5.000	5.165	3	30	
CAL4	610961.64	518004.49	True	5.00	1.179	5.62	1.010	5.000	4.711	-6	30	
CAL5	598420.87	507766.78	True	5.00	1.179	5.65	1.010	5.000	4.707	-6	30	
CAL6	567875.99	441765.47	True	5.00	1.285	5.64	1.010	5.000	5.135	3	30	
CAL7	546225.72	404042.07	True	5.00	1.352	5.63	1.010	5.000	5.400	8	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

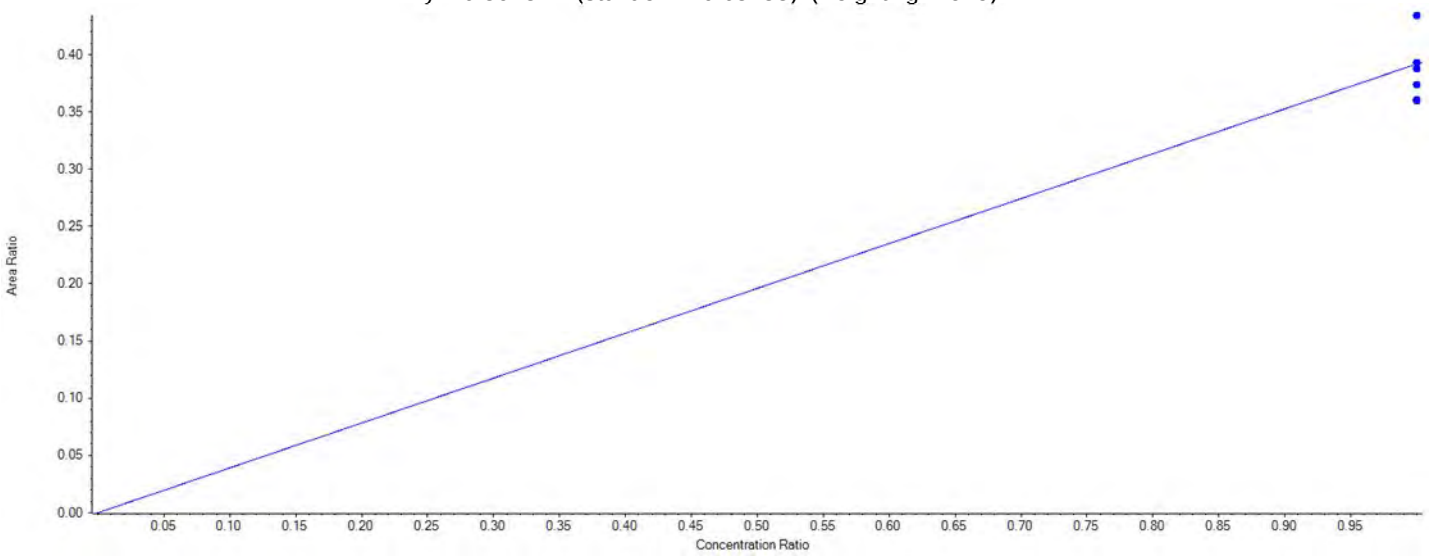
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMeFOSAA

y = 0.39184 x (std. dev. = 0.03138) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMeFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	228616.88	526651.24	True	5.00	0.434	5.69	1.030	5.000	5.539	11	30	
CAL2	204120.56	526082.50	True	5.00	0.388	5.71	1.020	5.000	4.951	-1	30	
CAL3	193745.80	493258.85	True	5.00	0.393	5.70	1.020	5.000	5.012	0	30	
CAL4	193746.65	518004.49	True	5.00	0.374	5.68	1.030	5.000	4.773	-5	30	
CAL5	183112.14	507766.78	True	5.00	0.361	5.70	1.020	5.000	4.602	-8	30	
CAL6	158809.09	441765.47	True	5.00	0.359	5.69	1.020	5.000	4.587	-8	30	
CAL7	175307.12	404042.07	True	5.00	0.434	5.69	1.020	5.000	5.536	11	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

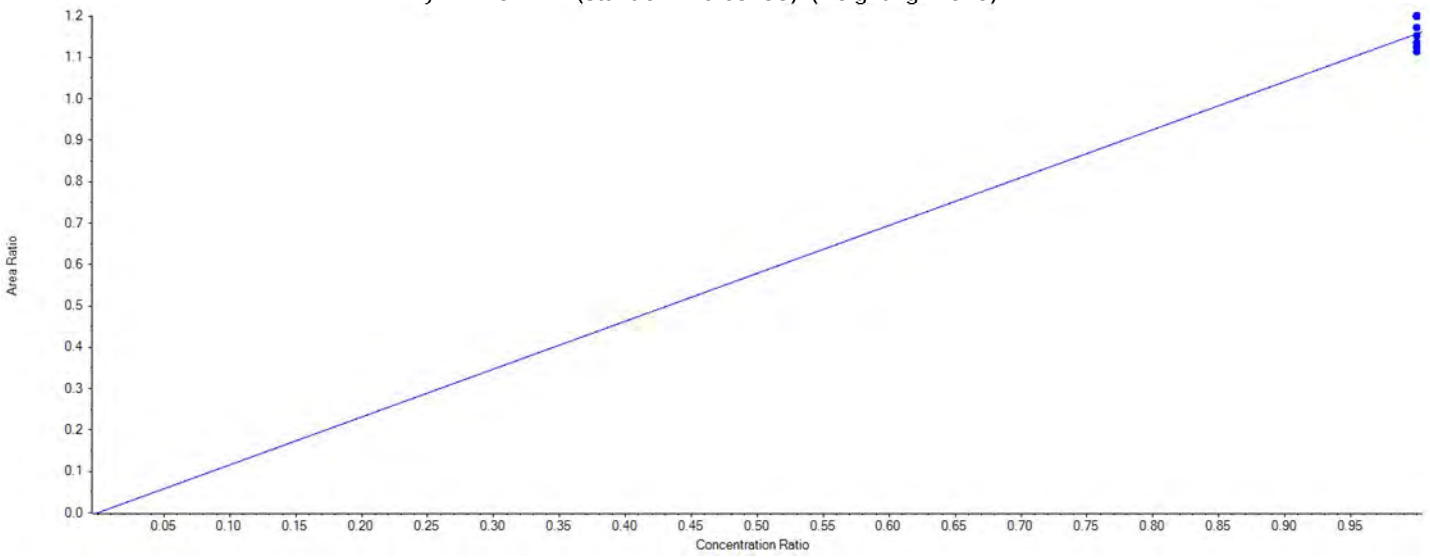
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C7-PFUnDA

y = 1.15717 x (std. dev. = 0.03458) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C7-PFUnDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	607489.22	526651.24	True	5.00	1.153	5.82	1.050	5.000	4.984	0	30	
CAL2	592323.80	526082.50	True	5.00	1.126	5.83	1.050	5.000	4.865	-3	30	
CAL3	592510.69	493258.85	True	5.00	1.201	5.83	1.050	5.000	5.190	4	30	
CAL4	606803.56	518004.49	True	5.00	1.171	5.80	1.050	5.000	5.062	1	30	
CAL5	565503.44	507766.78	True	5.00	1.114	5.83	1.050	5.000	4.812	-4	30	
CAL6	529423.88	441765.47	True	5.00	1.198	5.82	1.050	5.000	5.178	4	30	
CAL7	458994.76	404042.07	True	5.00	1.136	5.81	1.050	5.000	4.909	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

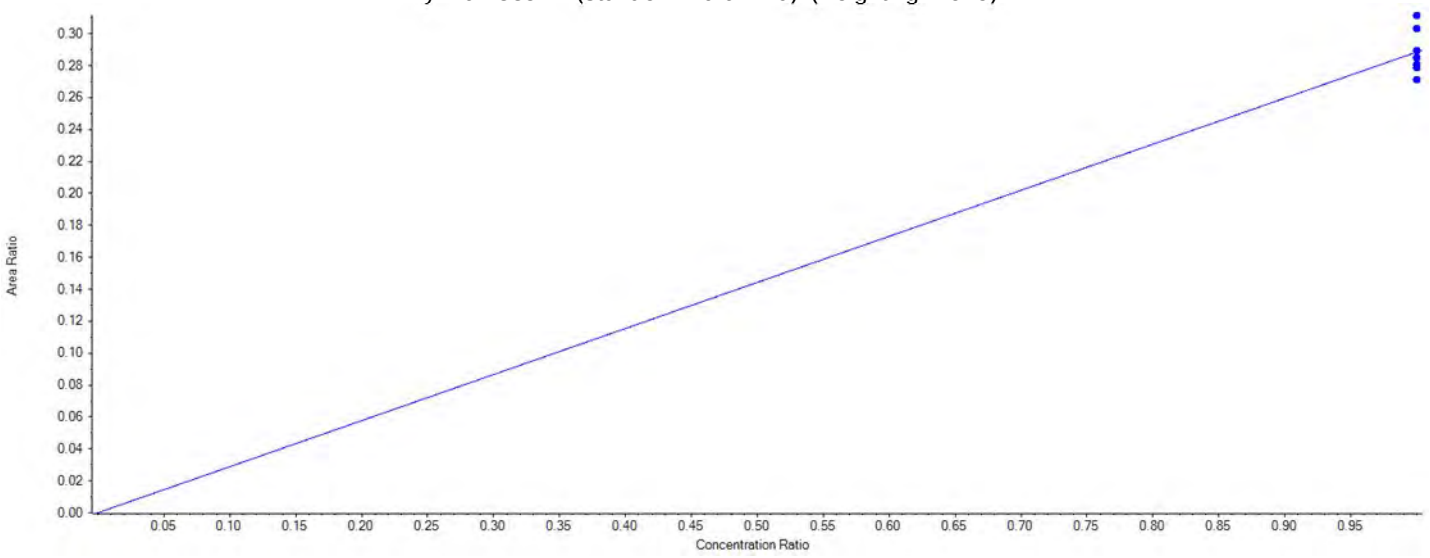
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtFOSAA

y = 0.28857 x (std. dev. = 0.01410) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	146872.95	526651.24	True	5.00	0.279	5.83	1.050	5.000	4.832	-3	30	
CAL2	159433.26	526082.50	True	5.00	0.303	5.84	1.050	5.000	5.251	5	30	
CAL3	142682.62	493258.85	True	5.00	0.289	5.84	1.050	5.000	5.012	0	30	
CAL4	161306.91	518004.49	True	5.00	0.311	5.81	1.050	5.000	5.396	8	30	
CAL5	137802.81	507766.78	True	5.00	0.271	5.84	1.050	5.000	4.702	-6	30	
CAL6	124056.61	441765.47	True	5.00	0.281	5.83	1.050	5.000	4.866	-3	30	
CAL7	115219.29	404042.07	True	5.00	0.285	5.82	1.050	5.000	4.941	-1	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

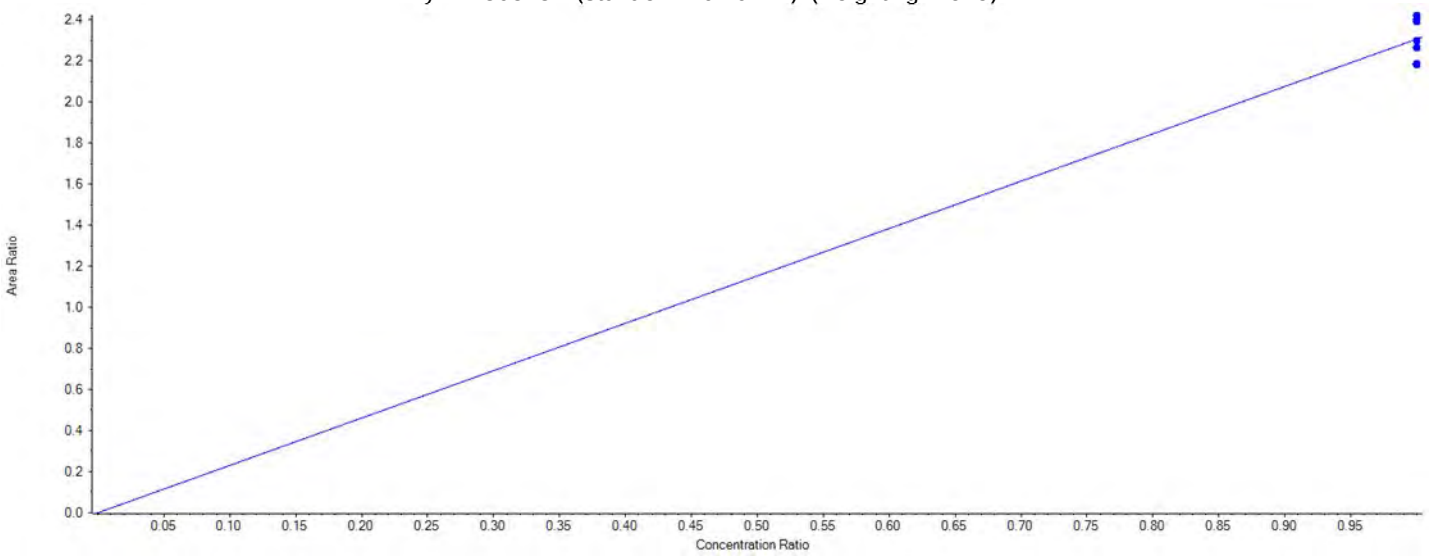
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFDoDA

y = 2.30523 x (std. dev. = 0.10127) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFDoDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1151577.10	526651.24	True	5.00	2.187	6.05	1.090	5.000	4.743	-5	30	
CAL2	1208558.02	526082.50	True	5.00	2.297	6.06	1.090	5.000	4.983	0	30	
CAL3	1180173.36	493258.85	True	5.00	2.393	6.06	1.090	5.000	5.190	4	30	
CAL4	1128366.00	518004.49	True	5.00	2.178	6.03	1.090	5.000	4.725	-6	30	
CAL5	1149156.75	507766.78	True	5.00	2.263	6.06	1.090	5.000	4.909	-2	30	
CAL6	1068876.49	441765.47	True	5.00	2.420	6.04	1.090	5.000	5.248	5	30	
CAL7	969337.47	404042.07	True	5.00	2.399	6.04	1.090	5.000	5.204	4	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

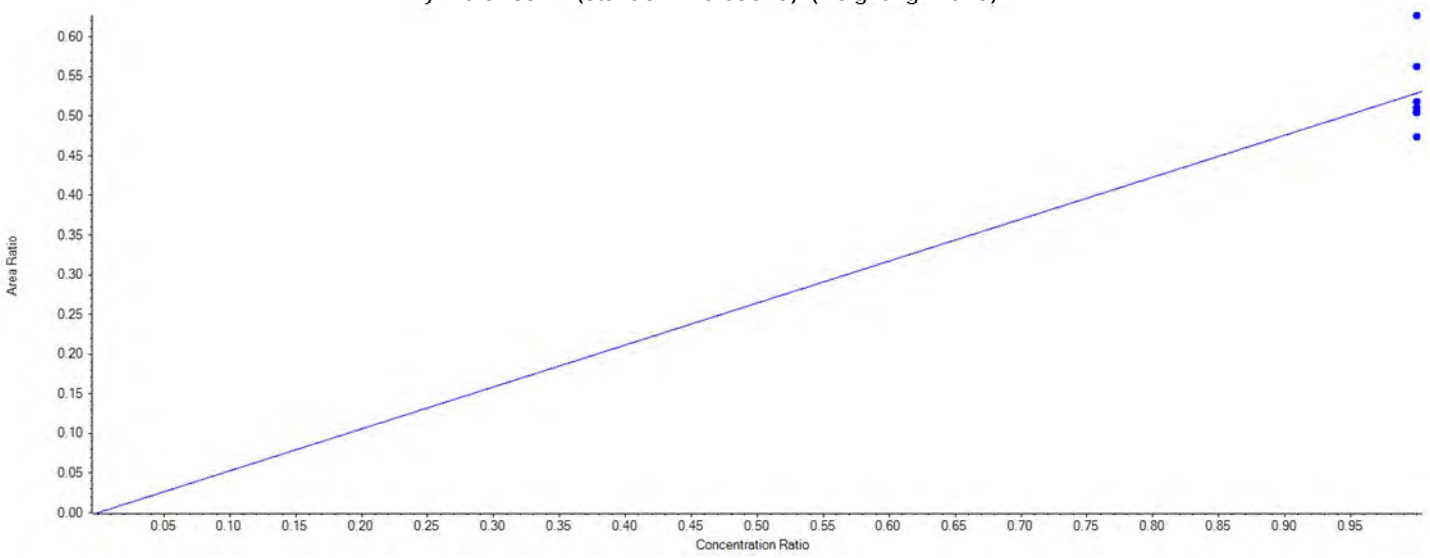
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed7-NMePFOSAE

y = 0.52884 x (std. dev. = 0.05040) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed7-NMePFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	265381.90	526651.24	True	5.00	0.504	6.08	1.090	5.000	4.764	-5	30	
CAL2	268432.35	526082.50	True	5.00	0.510	6.09	1.090	5.000	4.824	-4	30	
CAL3	255524.39	493258.85	True	5.00	0.518	6.09	1.090	5.000	4.898	-2	30	
CAL4	245651.93	518004.49	True	5.00	0.474	6.07	1.100	5.000	4.484	-10	30	
CAL5	257303.79	507766.78	True	5.00	0.507	6.09	1.090	5.000	4.791	-4	30	
CAL6	248254.00	441765.47	True	5.00	0.562	6.08	1.090	5.000	5.313	6	30	
CAL7	253242.49	404042.07	True	5.00	0.627	6.08	1.090	5.000	5.926	19	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

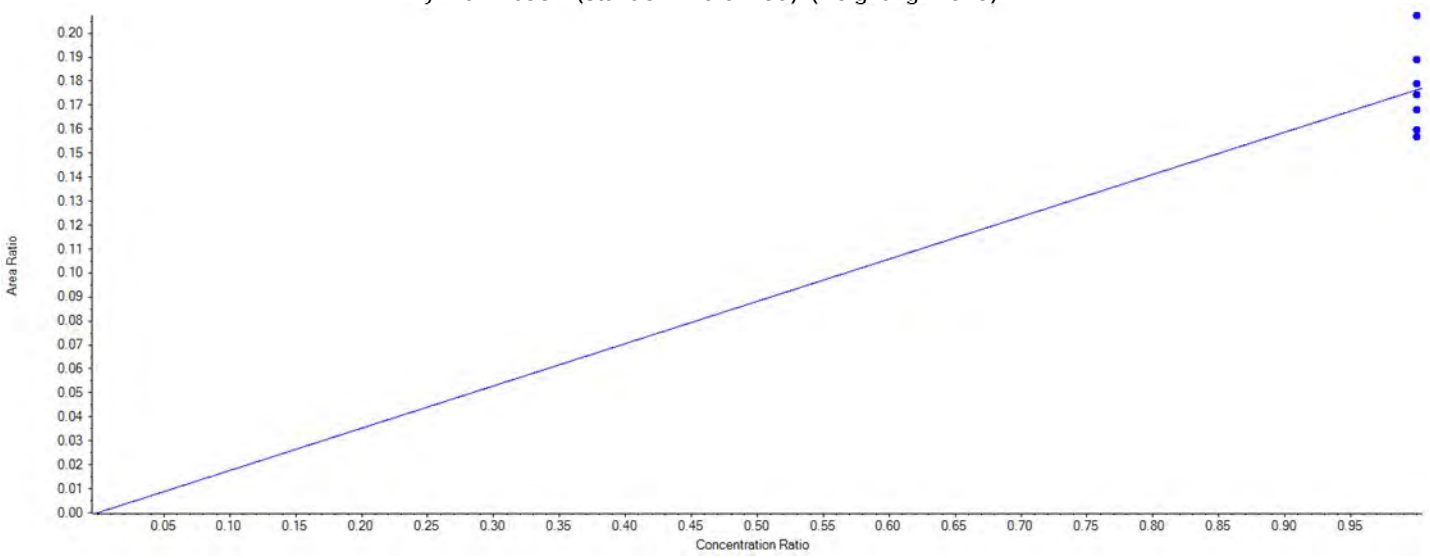
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMePFOSA

y = 0.17638 x (std. dev. = 0.01759) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed3-NMePFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	88588.55	526651.24	True	5.00	0.168	6.10	1.100	5.000	4.768	-5	30	
CAL2	91719.25	526082.50	True	5.00	0.174	6.11	1.100	5.000	4.942	-1	30	
CAL3	88334.59	493258.85	True	5.00	0.179	6.11	1.100	5.000	5.077	2	30	
CAL4	81312.26	518004.49	True	5.00	0.157	6.09	1.100	5.000	4.450	-11	30	
CAL5	81057.51	507766.78	True	5.00	0.160	6.11	1.100	5.000	4.525	-9	30	
CAL6	83519.49	441765.47	True	5.00	0.189	6.10	1.100	5.000	5.359	7	30	
CAL7	83787.42	404042.07	True	5.00	0.207	6.10	1.100	5.000	5.879	18	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

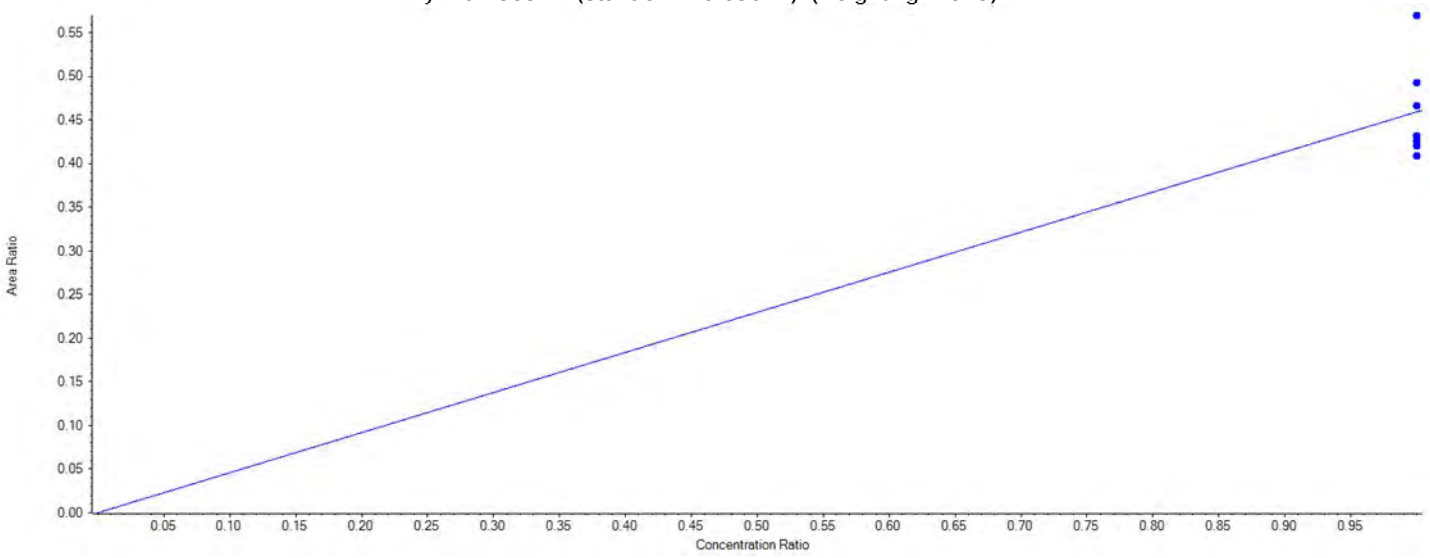
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed9-NEtPFOSAE

y = 0.45952 x (std. dev. = 0.05677) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed9-NEtPFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	227547.02	526651.24	True	5.00	0.432	6.23	1.120	5.000	4.701	-6	30	
CAL2	221228.78	526082.50	True	5.00	0.421	6.24	1.120	5.000	4.576	-8	30	
CAL3	230136.96	493258.85	True	5.00	0.467	6.25	1.120	5.000	5.077	2	30	
CAL4	220555.37	518004.49	True	5.00	0.426	6.22	1.120	5.000	4.633	-7	30	
CAL5	207587.27	507766.78	True	5.00	0.409	6.25	1.120	5.000	4.448	-11	30	
CAL6	217793.55	441765.47	True	5.00	0.493	6.23	1.120	5.000	5.364	7	30	
CAL7	230262.63	404042.07	True	5.00	0.570	6.23	1.120	5.000	6.201	24	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

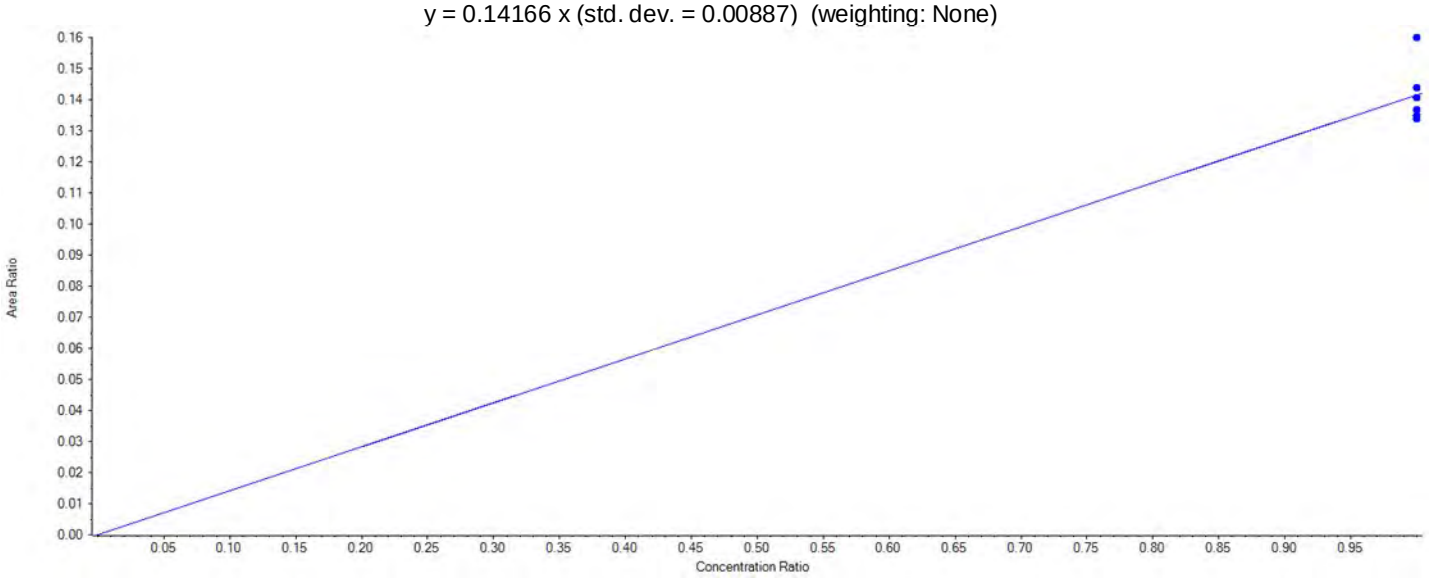
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtPFOSA

y = 0.14166 x (std. dev. = 0.00887) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	Ed5-NEtPFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	74064.83	526651.24	True	5.00	0.141	6.26	1.130	5.000	4.964	-1	30	
CAL2	74017.68	526082.50	True	5.00	0.141	6.27	1.130	5.000	4.966	-1	30	
CAL3	66116.51	493258.85	True	5.00	0.134	6.27	1.130	5.000	4.731	-5	30	
CAL4	69963.12	518004.49	True	5.00	0.135	6.25	1.130	5.000	4.767	-5	30	
CAL5	69567.07	507766.78	True	5.00	0.137	6.27	1.130	5.000	4.836	-3	30	
CAL6	63642.54	441765.47	True	5.00	0.144	6.26	1.130	5.000	5.085	2	30	
CAL7	64698.36	404042.07	True	5.00	0.160	6.26	1.130	5.000	5.652	13	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

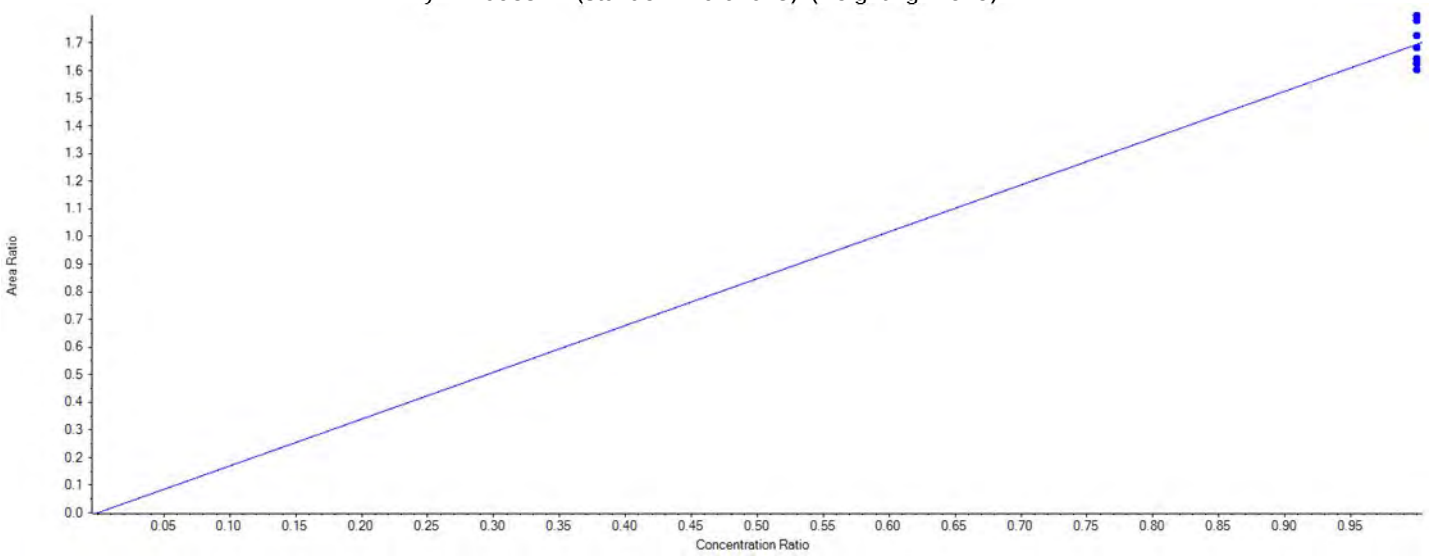
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFTeDA

y = 1.69532 x (std. dev. = 0.07678) (weighting: None)



Extraction Standard Calibration Verification

Sample Name	E13C2-PFTeDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	856702.22	526651.24	True	5.00	1.627	6.42	1.160	5.000	4.798	-4	30	
CAL2	864421.28	526082.50	True	5.00	1.643	6.43	1.160	5.000	4.846	-3	30	
CAL3	852571.44	493258.85	True	5.00	1.728	6.43	1.160	5.000	5.098	2	30	
CAL4	830859.52	518004.49	True	5.00	1.604	6.41	1.160	5.000	4.731	-5	30	
CAL5	854864.42	507766.78	True	5.00	1.684	6.43	1.160	5.000	4.965	-1	30	
CAL6	787053.74	441765.47	True	5.00	1.782	6.42	1.160	5.000	5.255	5	30	
CAL7	727192.49	404042.07	True	5.00	1.800	6.42	1.160	5.000	5.308	6	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

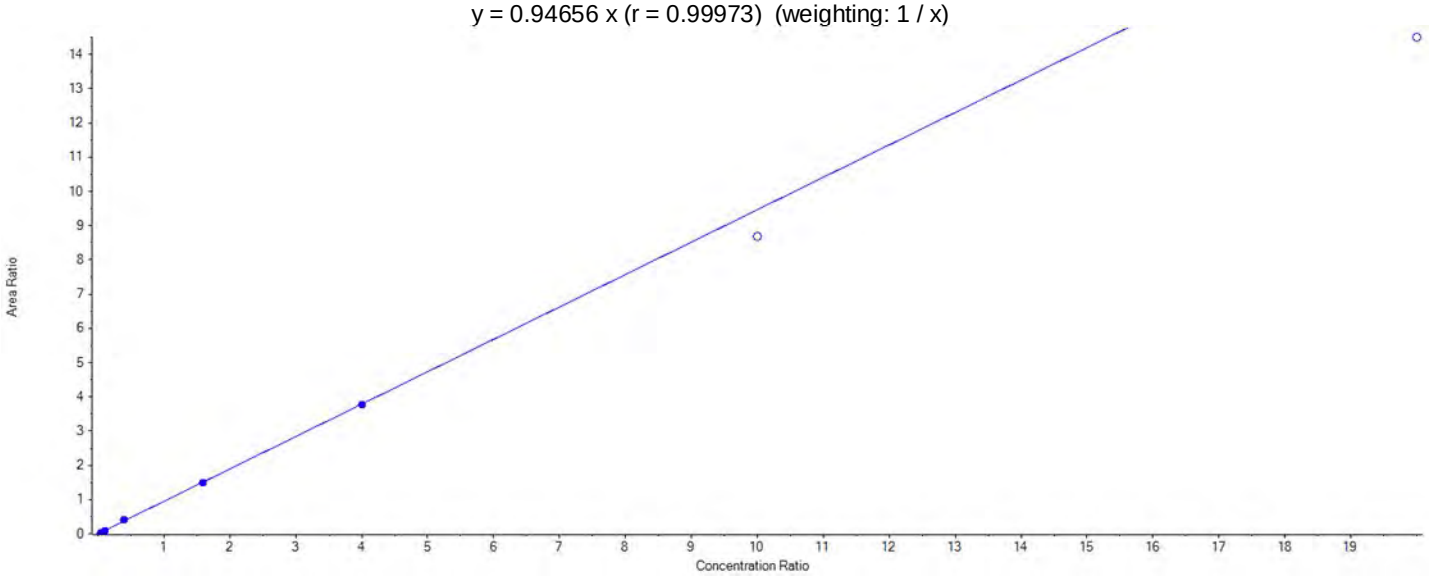
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBA

y = 0.94656 x (r = 0.99973) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBA Area	S/N	13C4-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	46741.30	209.8	1112725.47	True	5.00	0.042	3.26	1.000	0.200	0.222	11	30	
CAL2	117405.82	408.0	1166730.36	True	5.00	0.101	3.27	1.000	0.500	0.532	6	30	
CAL3	445066.04	631.8	1082113.94	True	5.00	0.411	3.27	1.000	2.000	2.173	9	30	
CAL4	1583872.26	1465.1	1067692.77	True	5.00	1.483	3.25	1.000	8.000	7.836	-2	30	
CAL5	4060843.53	1969.1	1075857.89	True	5.00	3.775	3.27	1.000	20.000	19.938	0	30	
CAL6	8657044.00	2576.8	995418.39	False	5.00	8.697	3.26	1.000	50.000	45.939	-8	30	
CAL7	12736780.01	2733.5	878201.06	False	5.00	14.503	3.26	1.000	100.000	76.610	-23	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

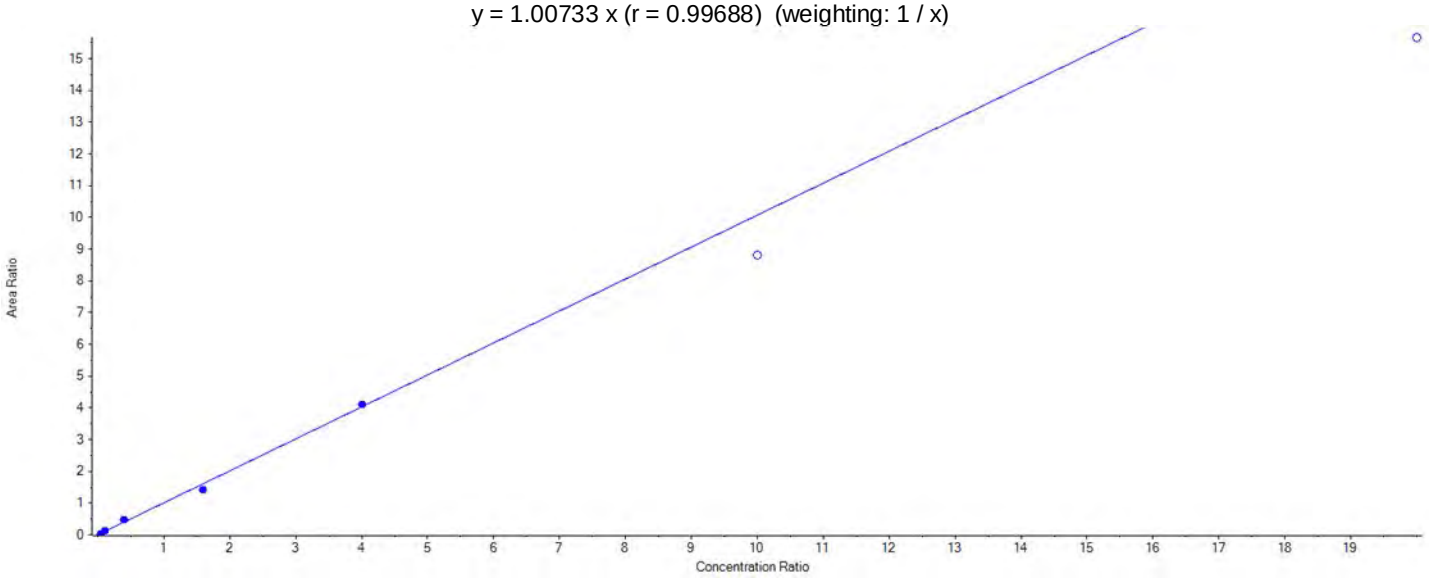
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeA

y = 1.00733 x (r = 0.99688) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeA Area	S/N	13C5-PFPeA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	48062.13	230.8	1035919.44	True	5.00	0.046	3.77	1.000	0.200	0.230	15	30	
CAL2	117730.91	283.0	1037891.44	True	5.00	0.113	3.77	1.000	0.500	0.563	13	30	
CAL3	467183.70	840.4	977758.75	True	5.00	0.478	3.78	1.000	2.000	2.372	19	30	
CAL4	1561503.96	1197.7	1089930.23	True	5.00	1.433	3.75	1.000	8.000	7.111	-11	30	
CAL5	4050818.04	1392.9	984471.92	True	5.00	4.115	3.78	1.000	20.000	20.424	2	30	
CAL6	8167880.12	2163.7	926842.43	False	5.00	8.813	3.77	1.000	50.000	43.742	-13	30	
CAL7	12846296.76	2168.3	819950.31	False	5.00	15.667	3.76	1.000	100.000	77.766	-22	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

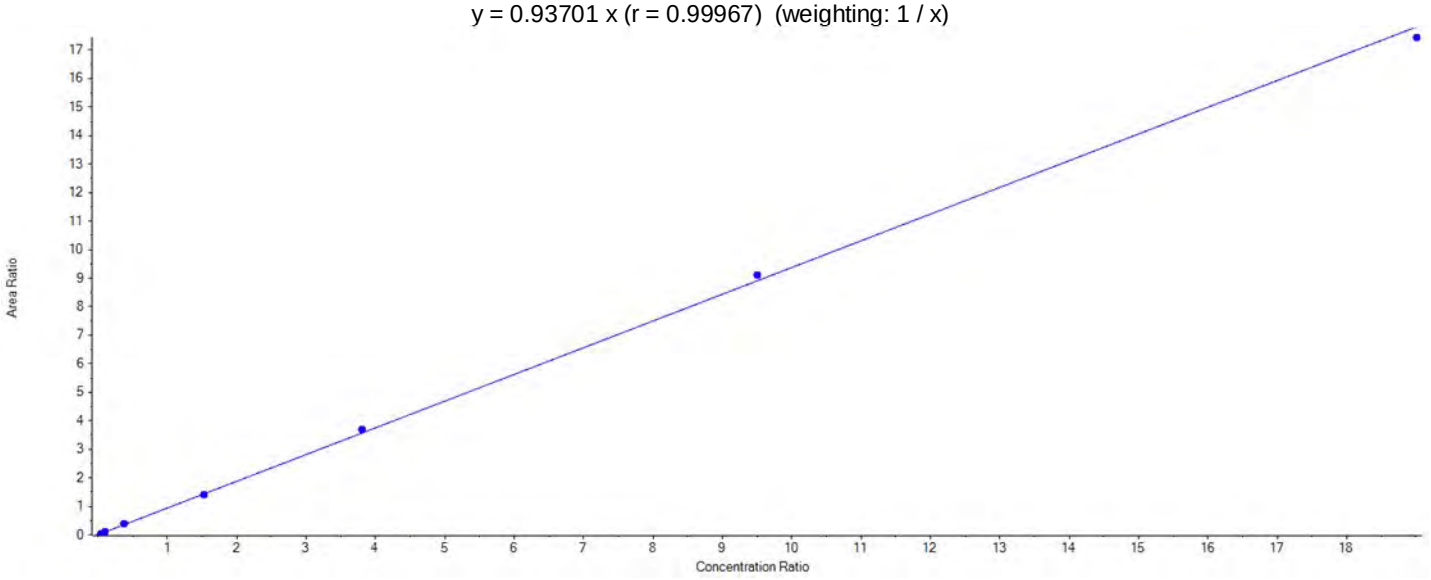
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBS

y = 0.93701 x (r = 0.99967) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFBS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	19092.08	709.9	459363.87	True	4.65	0.042	3.81	1.000	0.177	0.206	17	30	
CAL2	46201.02	929.8	471532.38	True	4.65	0.098	3.82	1.000	0.443	0.486	10	30	
CAL3	178057.05	1678.3	446654.43	True	4.65	0.399	3.83	1.000	1.770	1.978	12	30	
CAL4	676616.95	2539.1	476473.39	True	4.65	1.420	3.80	1.000	7.080	7.047	0	30	
CAL5	1664521.02	3831.4	448994.44	True	4.65	3.707	3.82	1.000	17.700	18.397	4	30	
CAL6	3888343.86	3397.9	427594.17	True	4.65	9.094	3.81	1.000	44.200	45.128	2	30	
CAL7	6903744.00	3344.5	395950.71	True	4.65	17.436	3.81	1.000	88.400	86.527	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

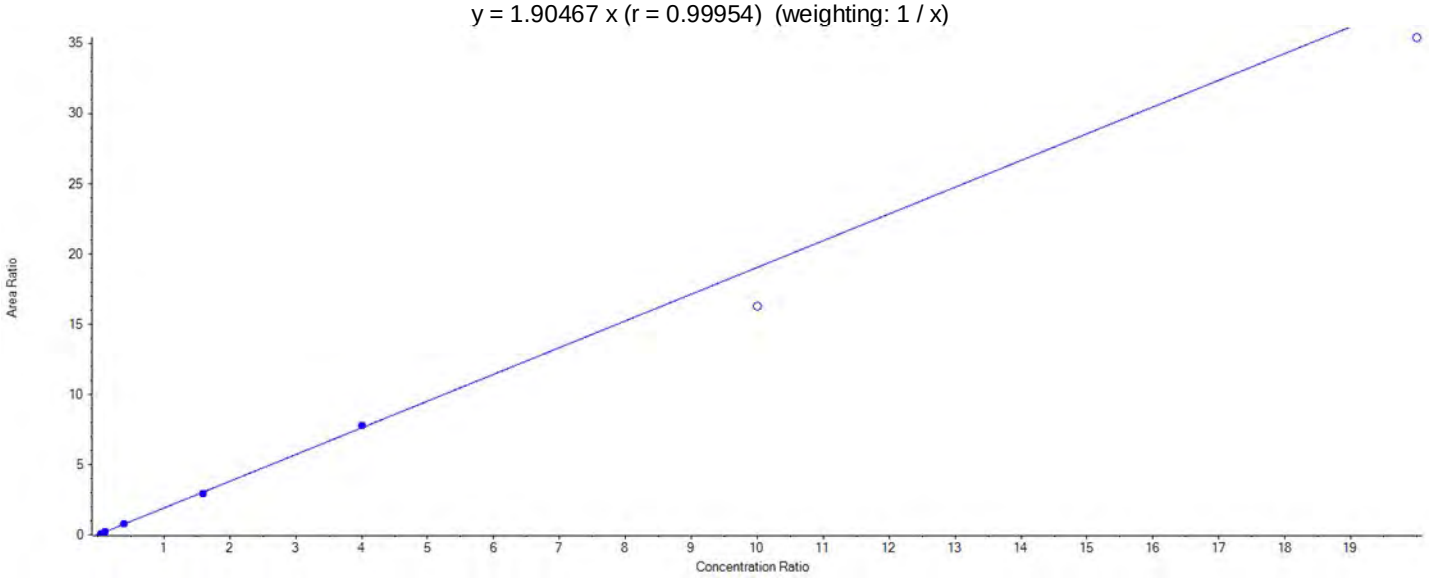
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

4:2-FTS

y = 1.90467 x (r = 0.99954) (weighting: 1 / x)



Component Calibration Verification

Sample Name	4:2-FTS Area	S/N	13C2-4:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5064.30	288.0	68760.17	True	4.67	0.074	4.12	1.000	0.187	0.181	-3	30	
CAL2	14087.95	477.9	67524.41	True	4.67	0.209	4.14	1.000	0.467	0.512	10	30	
CAL3	52969.36	1458.9	69912.07	True	4.67	0.758	4.14	1.000	1.870	1.858	-1	30	
CAL4	191611.31	2027.2	65782.20	True	4.67	2.913	4.11	1.000	7.470	7.142	-4	30	
CAL5	499394.14	2782.3	64436.83	True	4.67	7.750	4.14	1.000	18.700	19.002	2	30	
CAL6	1086392.26	2907.2	66742.27	False	4.67	16.277	4.12	1.000	46.700	39.910	-15	30	
CAL7	2176382.56	2892.8	61448.79	False	4.67	35.418	4.12	1.000	93.400	86.840	-7	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

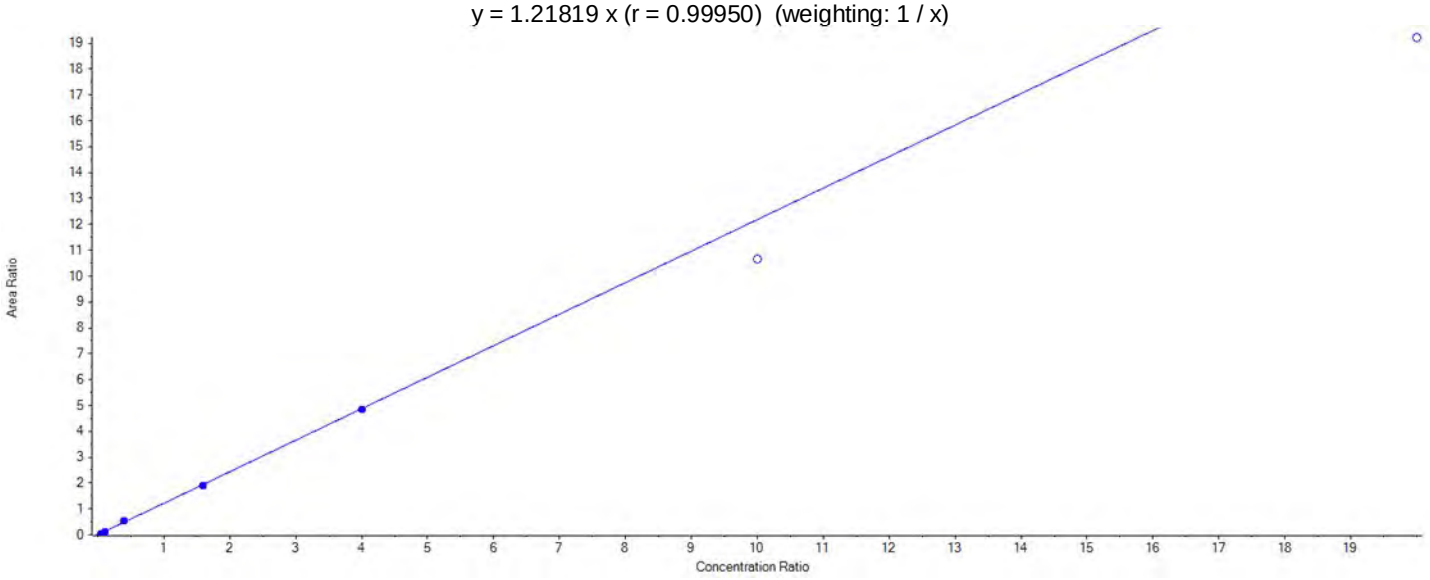
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxA

y = 1.21819 x (r = 0.99950) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxA Area	S/N	13C5-PFHxA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	41667.24	266.5	758545.37	True	5.00	0.055	4.16	1.000	0.200	0.225	13	30	
CAL2	102568.13	466.3	760252.90	True	5.00	0.135	4.17	1.000	0.500	0.554	11	30	
CAL3	406644.21	772.0	744192.74	True	5.00	0.546	4.17	1.000	2.000	2.243	12	30	
CAL4	1454242.38	1475.5	759866.18	True	5.00	1.914	4.14	1.000	8.000	7.855	-2	30	
CAL5	3700470.91	1925.1	766202.06	True	5.00	4.830	4.17	1.000	20.000	19.823	-1	30	
CAL6	7834311.23	2400.8	735654.79	False	5.00	10.649	4.16	1.000	50.000	43.710	-13	30	
CAL7	12685251.05	2179.6	660093.19	False	5.00	19.217	4.15	1.000	100.000	78.876	-21	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

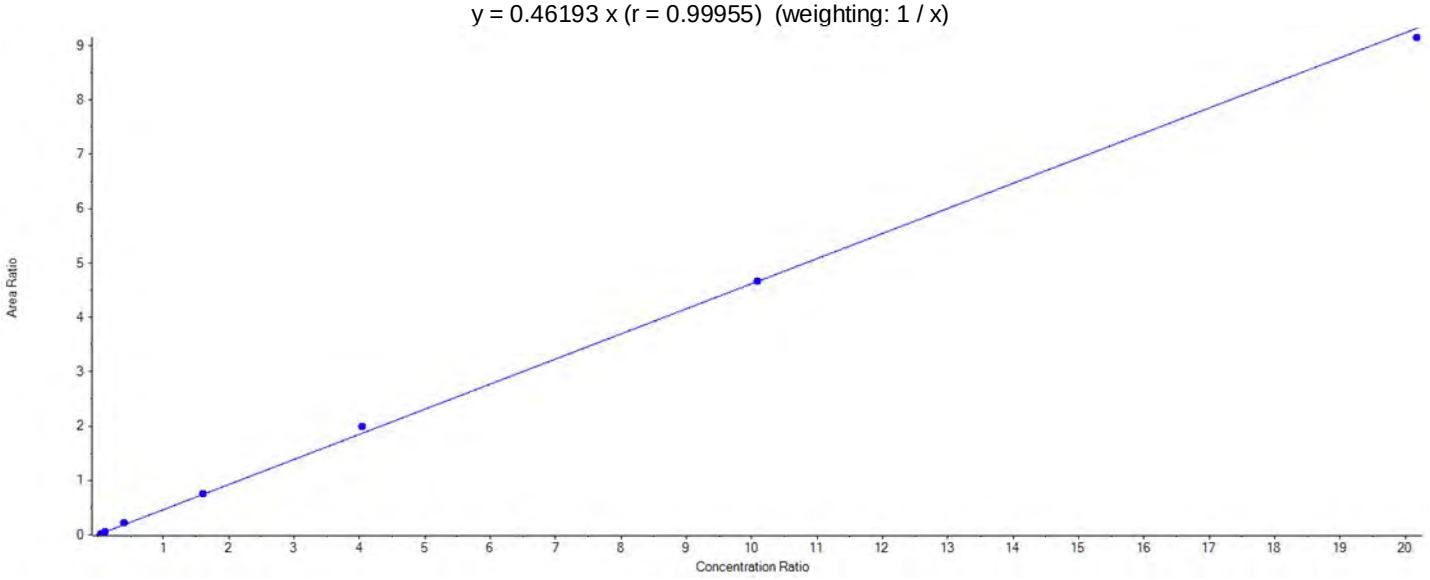
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeS

y = 0.46193 x (r = 0.99955) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFPeS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	9442.33	439.2	459363.87	True	4.65	0.021	4.18	1.100	0.188	0.207	10	30	
CAL2	23390.62	690.9	471532.38	True	4.65	0.050	4.19	1.100	0.469	0.499	6	30	
CAL3	95064.24	1453.7	446654.43	True	4.65	0.213	4.20	1.100	1.880	2.143	14	30	
CAL4	356427.75	2355.1	476473.39	True	4.65	0.748	4.16	1.100	7.500	7.530	0	30	
CAL5	897202.28	2847.6	448994.44	True	4.65	1.998	4.19	1.100	18.800	20.115	7	30	
CAL6	1994529.87	3354.3	427594.17	True	4.65	4.665	4.18	1.100	46.900	46.956	0	30	
CAL7	3622092.50	3580.2	395950.71	True	4.65	9.148	4.18	1.100	93.800	92.087	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

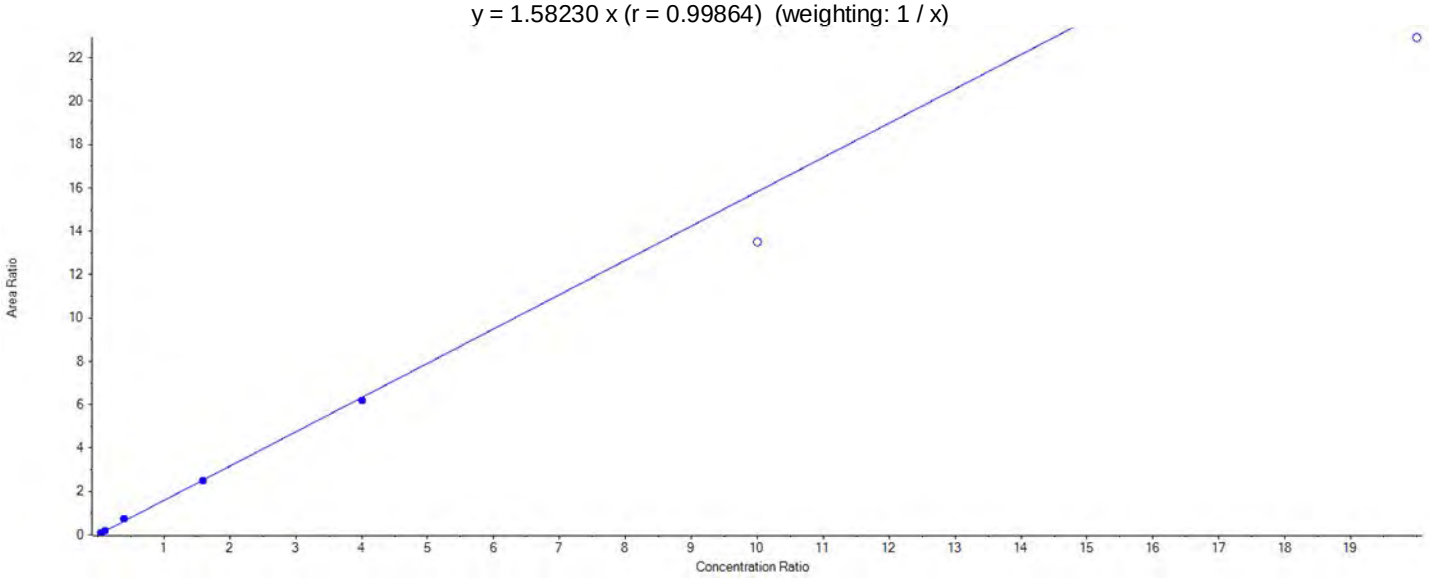
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpA

y = 1.58230 x (r = 0.99864) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpA Area	S/N	13C4-PFHpA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	43713.24	532.7	580883.69	True	5.00	0.075	4.55	1.000	0.200	0.238	19	30	
CAL2	117935.85	772.3	640788.03	True	5.00	0.184	4.56	1.000	0.500	0.582	16	30	
CAL3	445437.46	1434.5	585765.19	True	5.00	0.760	4.56	1.000	2.000	2.403	20	30	
CAL4	1508328.67	2327.2	608458.53	True	5.00	2.479	4.53	1.000	8.000	7.833	-2	30	
CAL5	3724169.56	2882.8	599066.11	True	5.00	6.217	4.56	1.000	20.000	19.644	-2	30	
CAL6	8358401.35	3195.5	619188.13	False	5.00	13.499	4.54	1.000	50.000	42.656	-15	30	
CAL7	13139262.62	2372.9	572881.17	False	5.00	22.935	4.54	1.000	100.000	72.475	-28	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

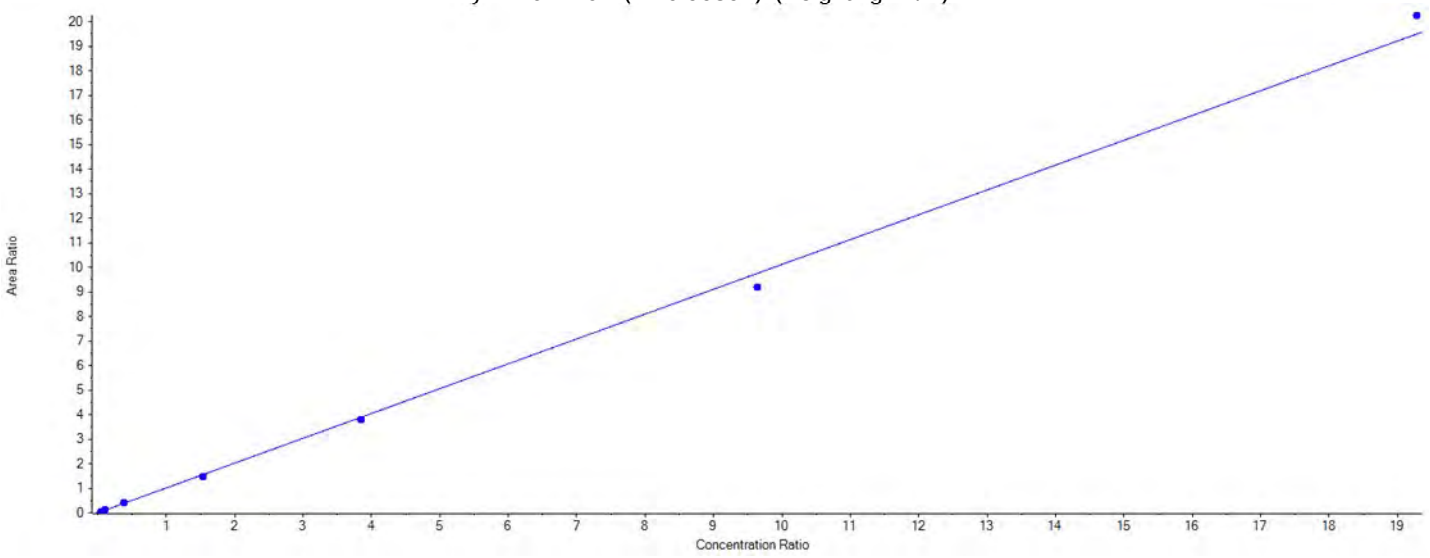
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxS

y = 1.01146 x (r = 0.99897) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13964.07	2242.0	365368.65	True	4.73	0.038	4.55	1.000	0.182	0.179	-2	30	
CAL2	39380.24	1600.5	374890.38	True	4.73	0.105	4.56	1.000	0.474	0.491	4	30	
CAL3	138649.67	1220.2	350760.24	True	4.73	0.395	4.56	1.000	1.820	1.849	2	30	
CAL4	510800.53	1549.8	345523.63	True	4.73	1.478	4.53	1.000	7.300	6.913	-5	30	
CAL5	1271886.83	1790.4	335508.98	True	4.73	3.791	4.56	1.000	18.200	17.728	-3	30	
CAL6	2859503.95	1424.0	311645.59	True	4.73	9.175	4.55	1.000	45.600	42.909	-6	30	
CAL7	5136124.25	1781.5	253609.29	True	4.73	20.252	4.54	1.000	91.200	94.708	4	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

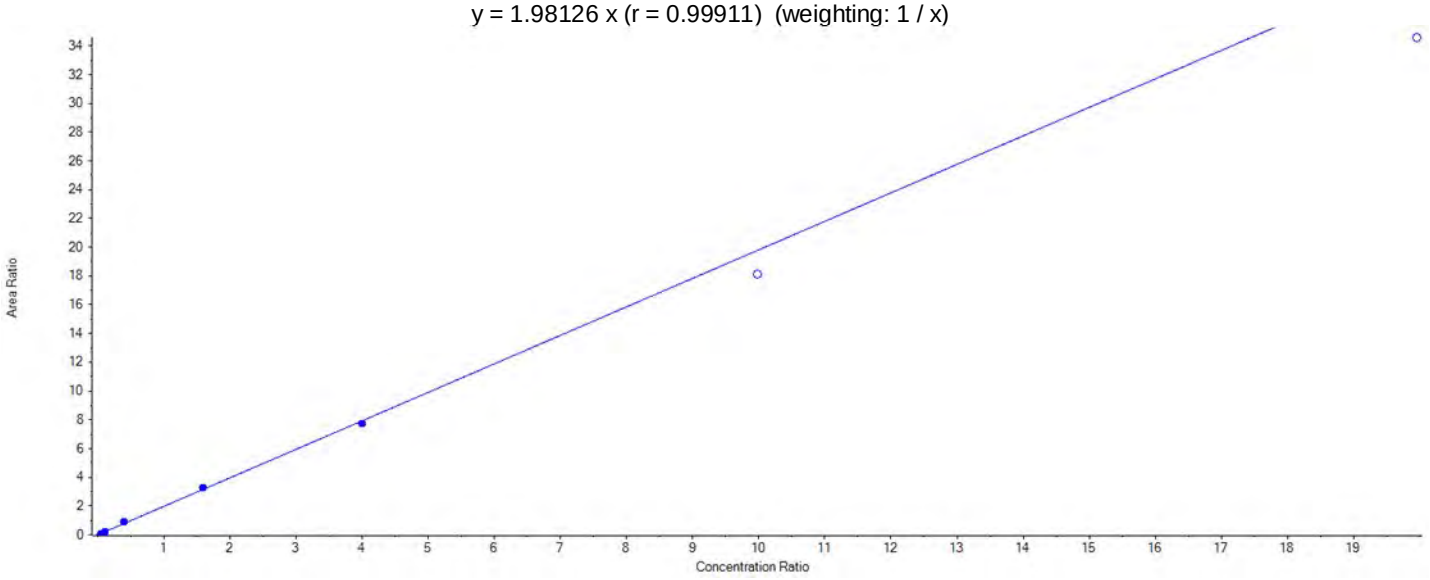
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

6:2-FTS

y = 1.98126 x (r = 0.99911) (weighting: 1 / x)



Component Calibration Verification

Sample Name	6:2-FTS Area	S/N	13C2-6:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4812.17	428.7	59810.66	True	4.75	0.080	4.90	1.000	0.190	0.193	2	30	
CAL2	13426.62	488.7	57994.96	True	4.75	0.232	4.91	1.000	0.474	0.555	17	30	
CAL3	45254.48	1141.9	51706.75	True	4.75	0.875	4.92	1.000	1.900	2.098	10	30	
CAL4	184105.15	2258.7	56379.02	True	4.75	3.265	4.88	1.000	7.580	7.829	3	30	
CAL5	418978.50	2331.8	54388.19	True	4.75	7.703	4.91	1.000	19.000	18.469	-3	30	
CAL6	867166.23	2957.8	47795.14	False	4.75	18.143	4.90	1.000	47.400	43.498	-8	30	
CAL7	1412152.14	3404.8	40843.39	False	4.75	34.575	4.89	1.000	94.800	82.892	-13	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

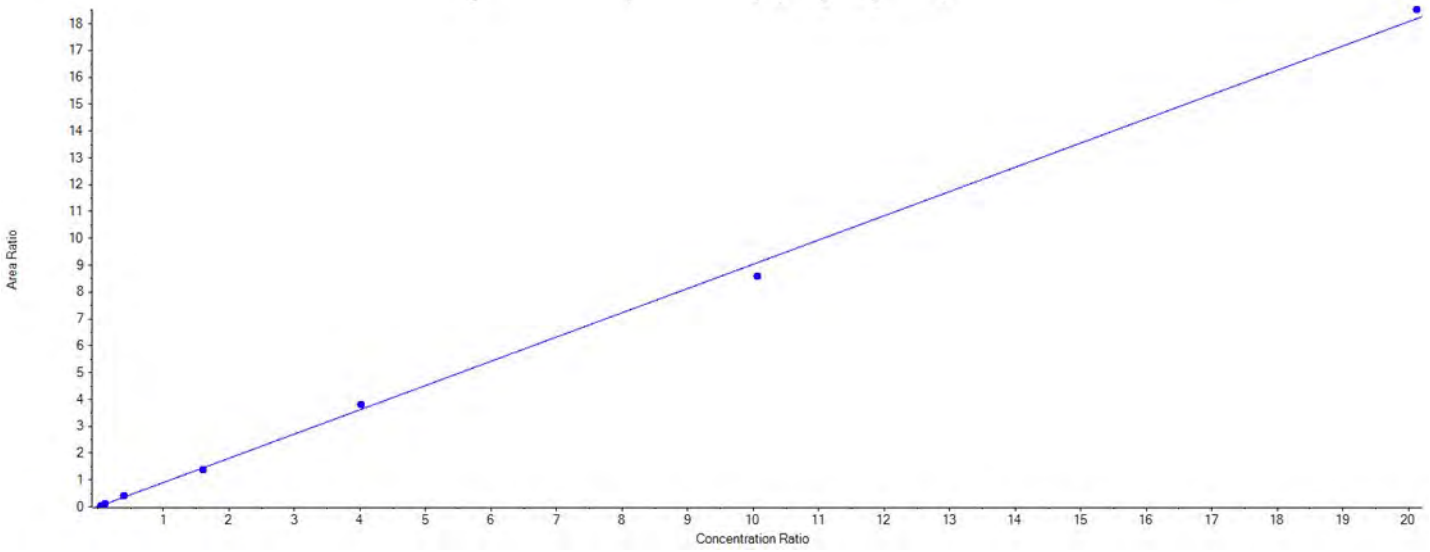
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpS

y = 0.90358 x (r = 0.99925) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHpS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14200.43	3657.0	365368.65	True	4.73	0.039	4.91	1.080	0.190	0.203	7	30	
CAL2	39170.63	4124.8	374890.38	True	4.73	0.104	4.92	1.080	0.476	0.547	15	30	
CAL3	137770.81	2568.6	350760.24	True	4.73	0.393	4.92	1.080	1.900	2.056	8	30	
CAL4	481291.68	2224.5	345523.63	True	4.73	1.393	4.89	1.080	7.610	7.292	-4	30	
CAL5	1276491.71	1997.5	335508.98	True	4.73	3.805	4.92	1.080	19.000	19.916	5	30	
CAL6	2678186.43	3213.0	311645.59	True	4.73	8.594	4.90	1.080	47.600	44.986	-5	30	
CAL7	4698233.84	1890.1	253609.29	True	4.73	18.525	4.90	1.080	95.200	96.976	2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

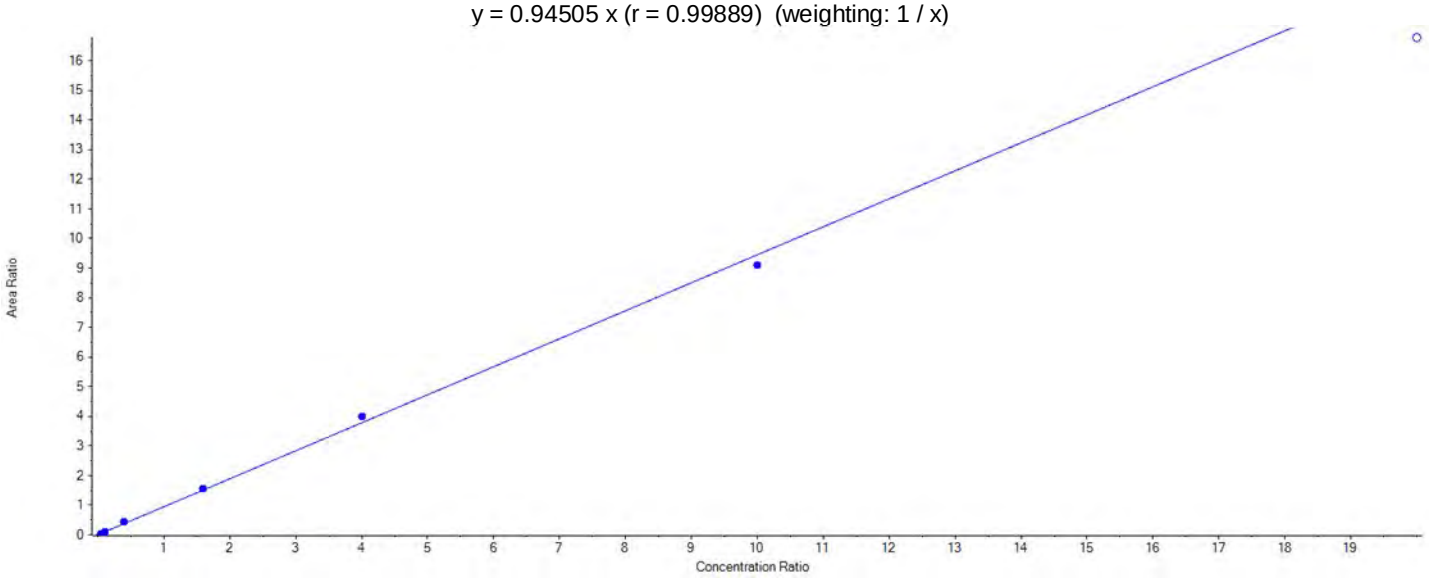
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOA

y = 0.94505 x (r = 0.99889) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOA Area	S/N	13C8-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	47202.78	218.7	1066092.88	True	5.00	0.044	4.91	1.000	0.200	0.234	17	30	
CAL2	113680.33	333.1	1076565.88	True	5.00	0.106	4.93	1.000	0.500	0.559	12	30	
CAL3	446397.67	680.5	1023450.20	True	5.00	0.436	4.93	1.000	2.000	2.308	15	30	
CAL4	1527084.94	1081.5	980355.06	True	5.00	1.558	4.90	1.000	8.000	8.241	3	30	
CAL5	3883847.99	2140.0	970653.92	True	5.00	4.001	4.93	1.000	20.000	21.170	6	30	
CAL6	7922682.92	2640.8	869853.61	True	5.00	9.108	4.91	1.000	50.000	48.188	-4	30	
CAL7	13235720.44	2167.7	788680.35	False	5.00	16.782	4.91	1.000	100.000	88.790	-11	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

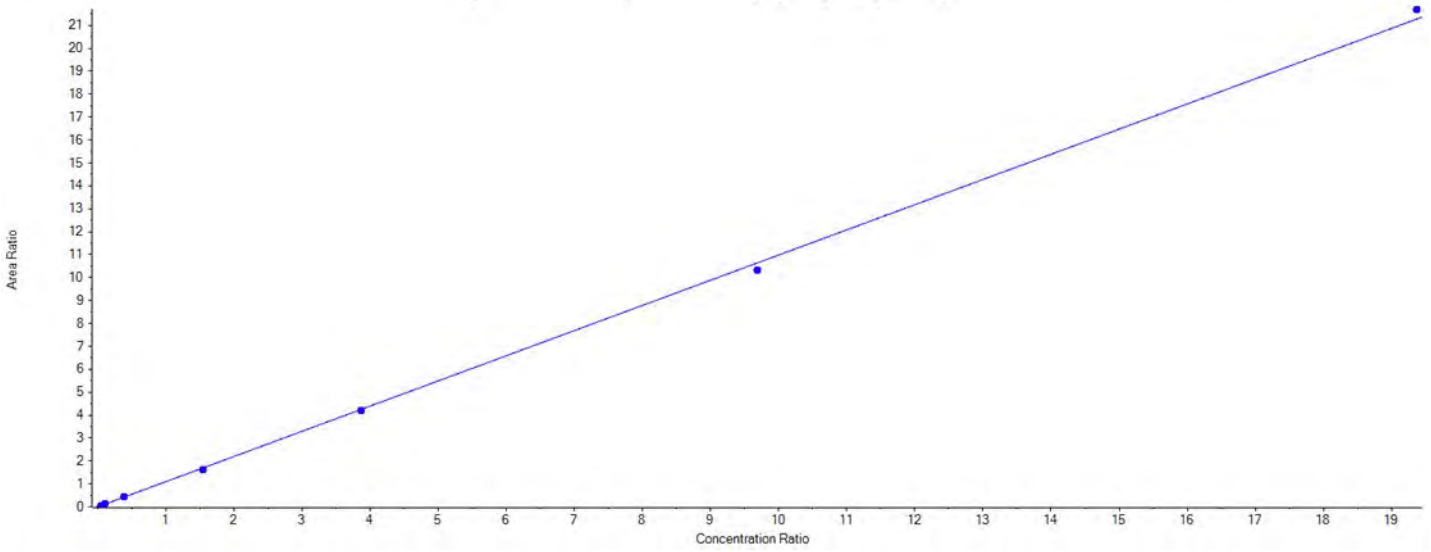
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOS

y = 1.09793 x (r = 0.99970) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	16520.87	416.8	336497.35	True	4.78	0.049	5.24	1.000	0.185	0.214	16	30	
CAL2	40965.66	590.6	355971.49	True	4.78	0.115	5.25	1.000	0.463	0.501	8	30	
CAL3	150328.48	1017.1	343856.80	True	4.78	0.437	5.25	1.000	1.850	1.903	3	30	
CAL4	538642.89	883.4	331467.26	True	4.78	1.625	5.22	1.000	7.400	7.075	-4	30	
CAL5	1380559.93	1362.3	329079.56	True	4.78	4.195	5.25	1.000	18.500	18.265	-1	30	
CAL6	3211850.45	1112.2	311201.23	True	4.78	10.321	5.24	1.000	46.300	44.933	-3	30	
CAL7	5815053.40	897.9	268164.66	True	4.78	21.685	5.23	1.000	92.600	94.407	2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

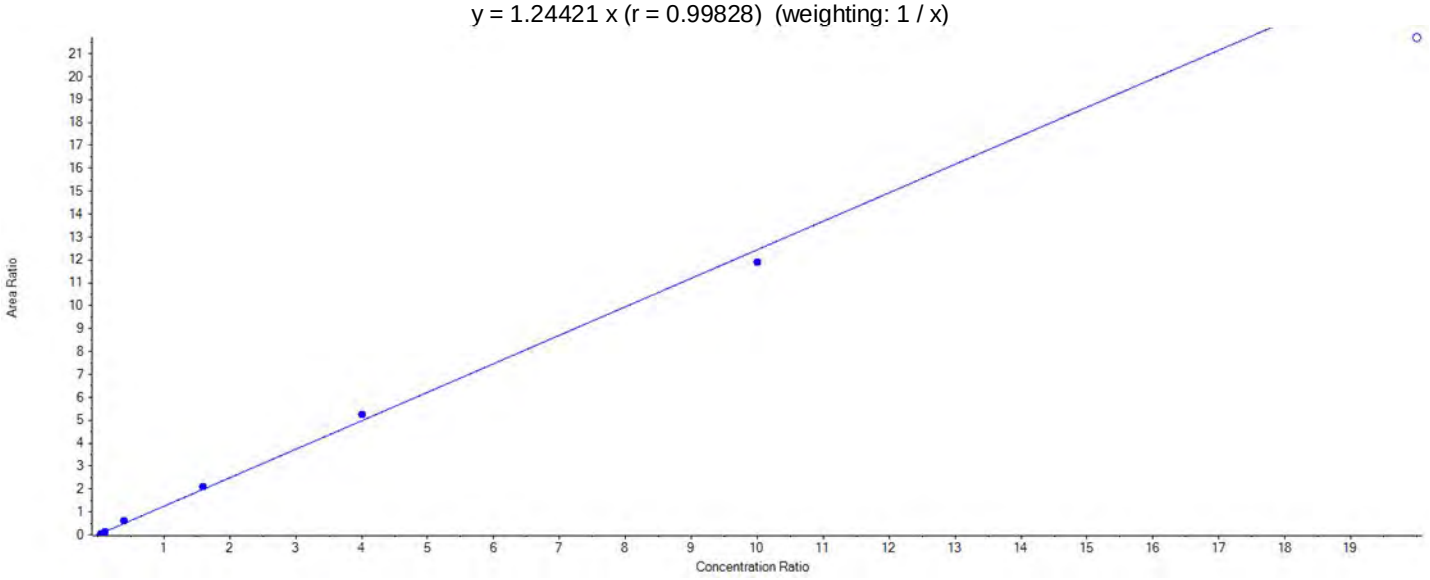
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNA

y = 1.24421 x (r = 0.99828) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNA Area	S/N	13C9-PFNA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	41462.04	371.7	695309.10	True	5.00	0.060	5.25	1.000	0.200	0.240	20	30	
CAL2	101332.55	436.2	697399.51	True	5.00	0.145	5.27	1.000	0.500	0.584	17	30	
CAL3	406162.40	1108.1	656638.20	True	5.00	0.619	5.27	1.000	2.000	2.486	24	30	
CAL4	1423621.20	2462.1	681301.18	True	5.00	2.090	5.24	1.000	8.000	8.397	5	30	
CAL5	3687692.43	2747.0	700273.02	True	5.00	5.266	5.27	1.000	20.000	21.162	6	30	
CAL6	7794618.38	3360.2	654876.21	True	5.00	11.902	5.25	1.000	50.000	47.831	-4	30	
CAL7	13239275.29	4365.1	610002.56	False	5.00	21.704	5.25	1.000	100.000	87.219	-13	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

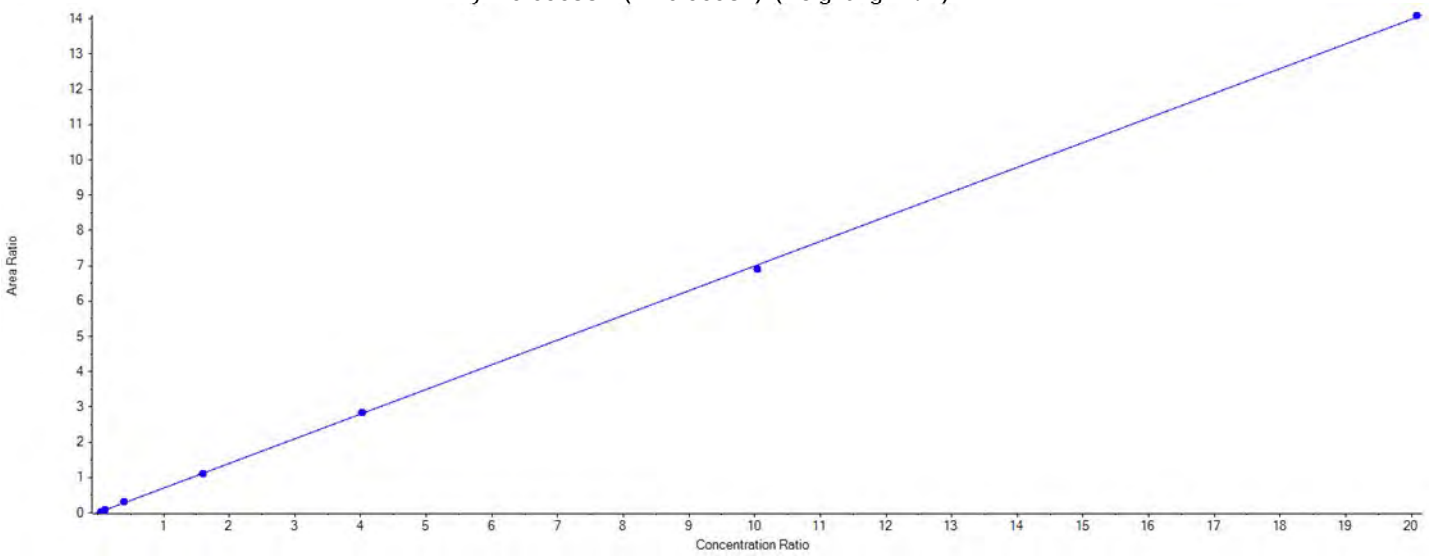
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNS

y = 0.69933 x (r = 0.99987) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFNS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	11962.21	1056717.8	336497.35	True	4.78	0.036	5.53	1.060	0.192	0.243	27	30	
CAL2	26402.39	3891.0	355971.49	True	4.78	0.074	5.54	1.060	0.480	0.507	6	30	
CAL3	108887.75	205113.9	343856.80	True	4.78	0.317	5.54	1.060	1.920	2.164	13	30	
CAL4	364183.91	2092.9	331467.26	True	4.78	1.099	5.52	1.060	7.680	7.510	-2	30	
CAL5	936224.31	2376.2	329079.56	True	4.78	2.845	5.54	1.060	19.200	19.446	1	30	
CAL6	2152213.04	3110.4	311201.23	True	4.78	6.916	5.53	1.060	48.000	47.271	-2	30	
CAL7	3779407.90	2382.7	268164.66	True	4.78	14.094	5.53	1.060	96.000	96.332	0	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

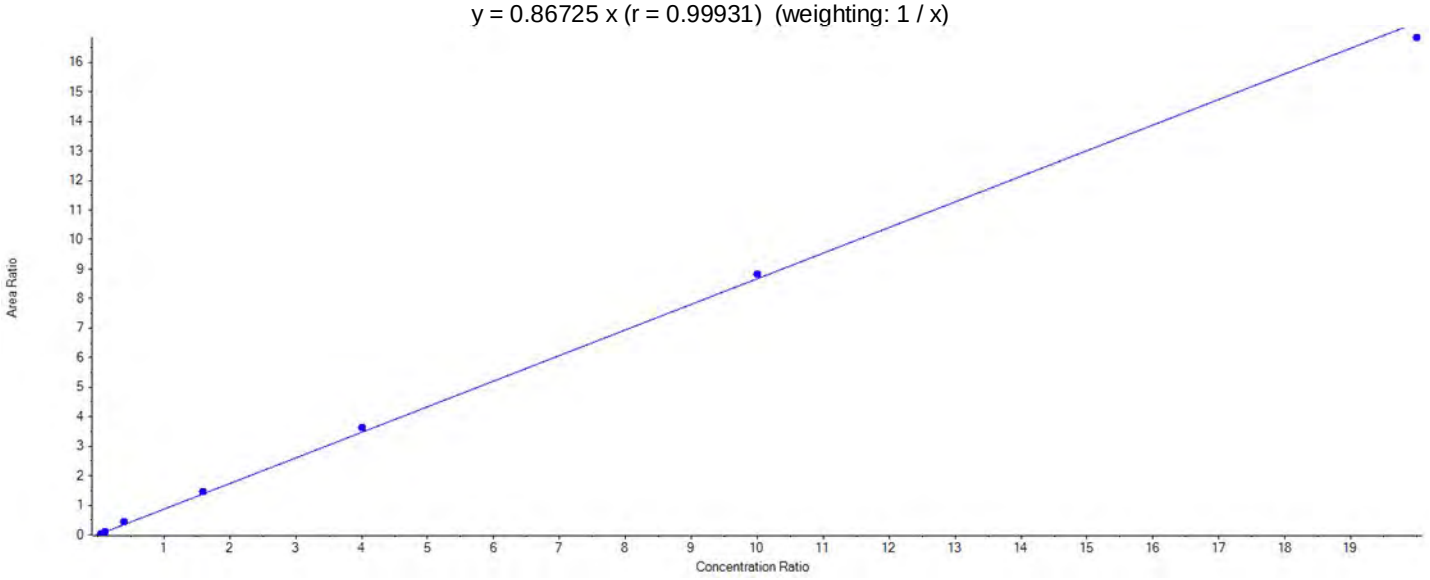
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDA

y = 0.86725 x (r = 0.99931) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDA Area	S/N	13C6-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	39242.24	351.5	920912.57	True	5.00	0.043	5.55	1.000	0.200	0.246	23	30	
CAL2	98664.27	716.6	930100.93	True	5.00	0.106	5.57	1.000	0.500	0.612	22	30	
CAL3	373672.89	1202.1	870769.50	True	5.00	0.429	5.57	1.000	2.000	2.474	24	30	
CAL4	1292226.92	2032.4	884857.40	True	5.00	1.460	5.54	1.000	8.000	8.420	5	30	
CAL5	3299534.55	2299.5	904706.04	True	5.00	3.647	5.57	1.000	20.000	21.027	5	30	
CAL6	6811084.31	2865.4	772368.44	True	5.00	8.818	5.55	1.000	50.000	50.841	2	30	
CAL7	11360880.81	2672.9	674685.97	True	5.00	16.839	5.55	1.000	100.000	97.081	-3	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

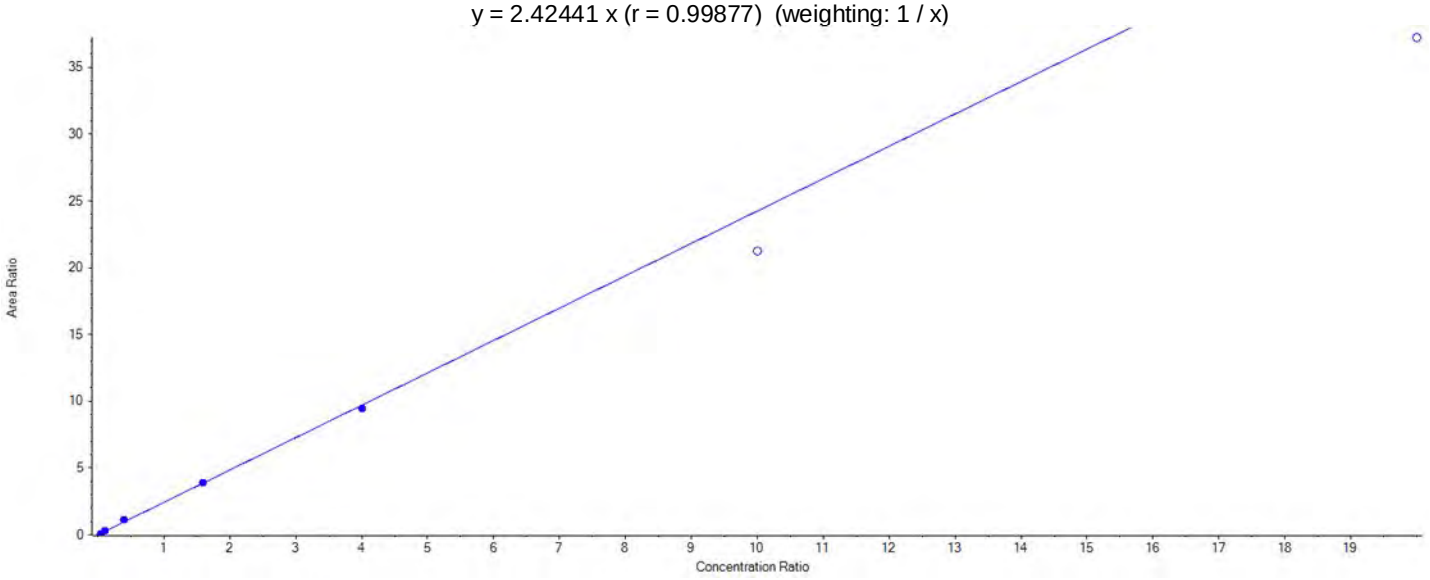
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

8:2-FTS

y = 2.42441 x (r = 0.99877) (weighting: 1 / x)



Component Calibration Verification

Sample Name	8:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4952.20	206.1	50570.79	True	4.79	0.098	5.55	1.000	0.192	0.193	1	30	
CAL2	14213.60	222.2	45330.53	True	4.79	0.314	5.57	1.000	0.479	0.620	29	30	
CAL3	52489.47	522.5	47510.08	True	4.79	1.105	5.57	1.000	1.920	2.183	14	30	
CAL4	176262.23	969.7	45137.73	True	4.79	3.905	5.54	1.000	7.660	7.715	1	30	
CAL5	437118.57	1388.5	46084.94	True	4.79	9.485	5.57	1.000	19.200	18.740	-2	30	
CAL6	904843.31	2535.0	42574.67	False	4.79	21.253	5.56	1.000	47.900	41.991	-12	30	
CAL7	1434315.04	2001.8	38524.65	False	4.79	37.231	5.55	1.000	95.800	73.559	-23	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

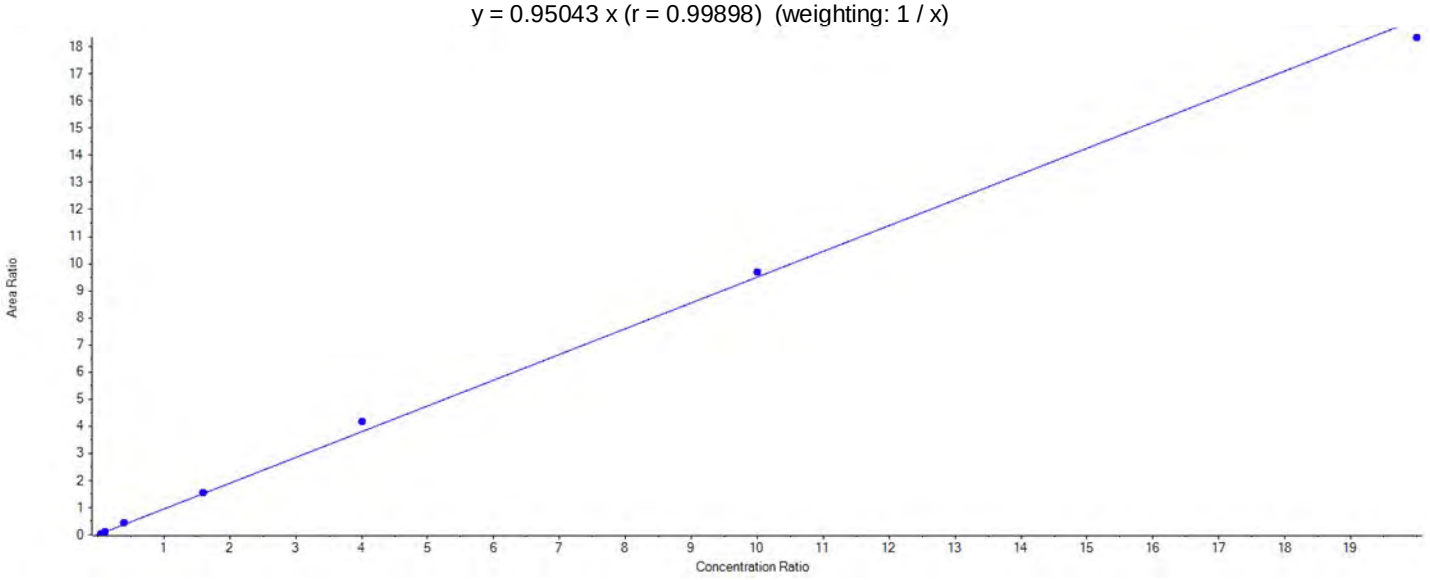
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOSA

y = 0.95043 x (r = 0.99898) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFOSA Area	S/N	13C8-PFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	29665.12	1952.2	636386.99	True	5.00	0.047	5.63	1.000	0.200	0.245	23	30	
CAL2	71080.74	1649.5	665796.10	True	5.00	0.107	5.65	1.000	0.500	0.562	12	30	
CAL3	281995.16	1381.8	637826.10	True	5.00	0.442	5.65	1.000	2.000	2.326	16	30	
CAL4	952834.96	2480.5	610961.64	True	5.00	1.560	5.62	1.000	8.000	8.205	3	30	
CAL5	2496521.62	1460.9	598420.87	True	5.00	4.172	5.65	1.000	20.000	21.947	10	30	
CAL6	5497072.42	2376.9	567875.99	True	5.00	9.680	5.64	1.000	50.000	50.925	2	30	
CAL7	10018658.84	2341.0	546225.72	True	5.00	18.342	5.63	1.000	100.000	96.491	-4	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

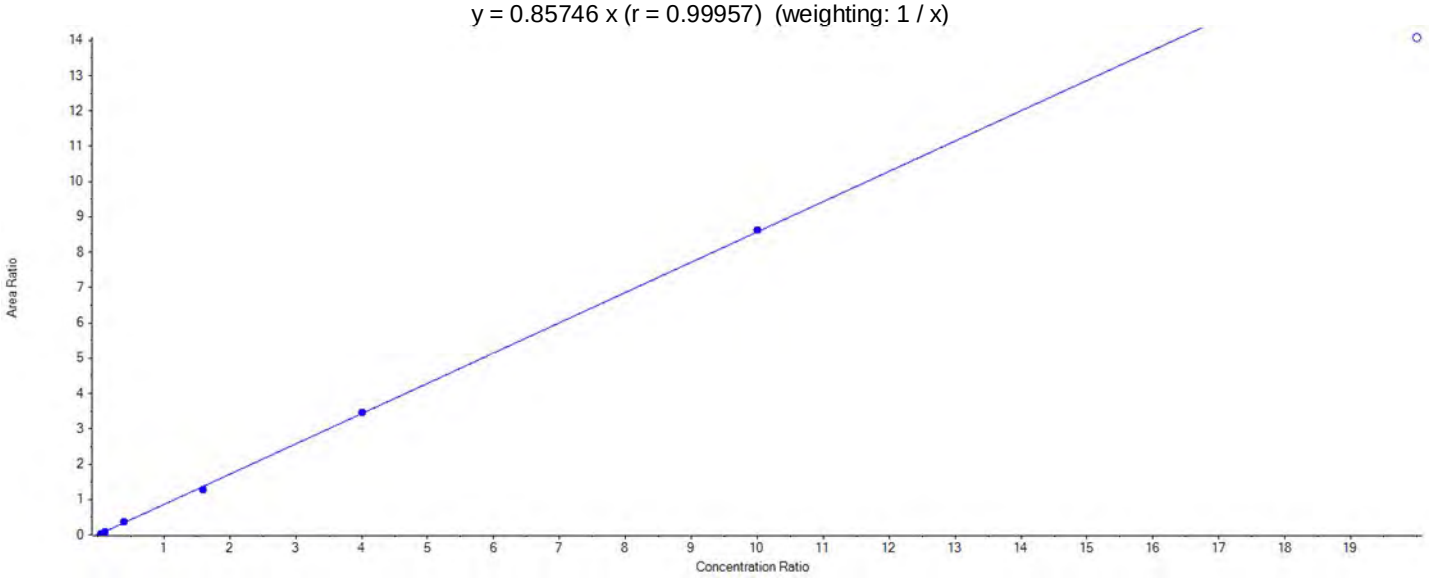
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NMeFOSAA

y = 0.85746 x (r = 0.99957) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMeFOSAA Area	S/N	d3-NMeFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	7347.06	5188.6	228616.88	True	5.00	0.032	5.70	1.000	0.200	0.187	-6	30	
CAL2	19424.29	672.0	204120.56	True	5.00	0.095	5.71	1.000	0.500	0.555	11	30	
CAL3	69991.93	768.5	193745.80	True	5.00	0.361	5.71	1.000	2.000	2.107	5	30	
CAL4	244915.94	1102.0	193746.65	True	5.00	1.264	5.68	1.000	8.000	7.371	-8	30	
CAL5	631600.65	1173.8	183112.14	True	5.00	3.449	5.71	1.000	20.000	20.113	1	30	
CAL6	1371700.16	1447.4	158809.09	True	5.00	8.637	5.70	1.000	50.000	50.367	1	30	
CAL7	2467602.14	1461.7	175307.12	False	5.00	14.076	5.69	1.000	100.000	82.079	-18	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

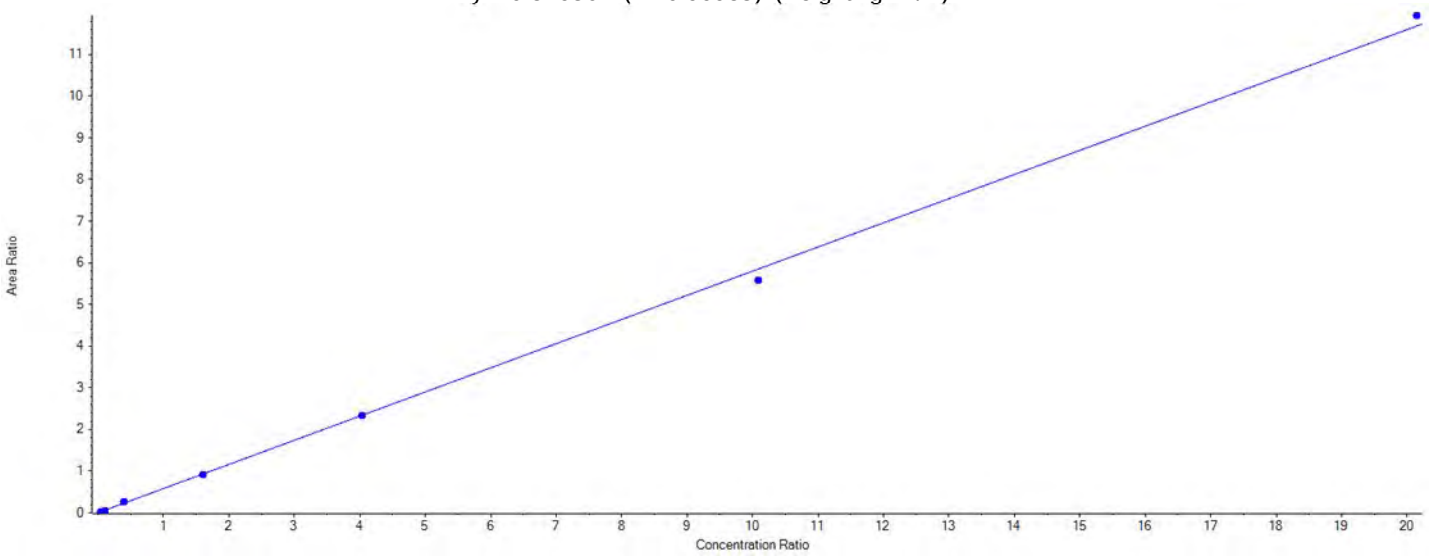
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDS

y = 0.57986 x (r = 0.99953) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	8900.22	8770.6	336497.35	True	4.78	0.026	5.79	1.110	0.193	0.218	13	30	
CAL2	20457.34	65698.2	355971.49	True	4.78	0.057	5.81	1.110	0.482	0.474	-2	30	
CAL3	87475.58	1395.5	343856.80	True	4.78	0.254	5.80	1.100	1.930	2.097	9	30	
CAL4	305764.21	3432.6	331467.26	True	4.78	0.922	5.78	1.110	7.700	7.604	-1	30	
CAL5	771788.35	3682.9	329079.56	True	4.78	2.345	5.80	1.110	19.300	19.333	0	30	
CAL6	1737083.03	2056.2	311201.23	True	4.78	5.582	5.79	1.110	48.200	46.014	-5	30	
CAL7	3199882.45	3991.6	268164.66	True	4.78	11.933	5.79	1.110	96.300	98.365	2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

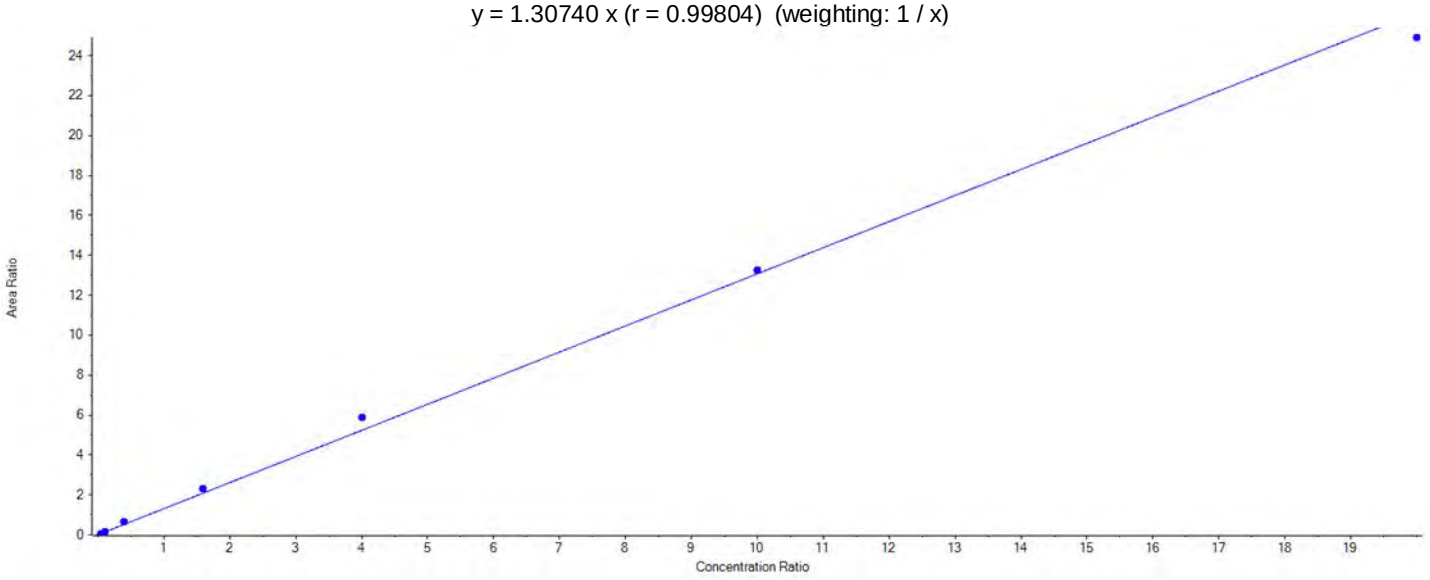
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFUnDA

y = 1.30740 x (r = 0.99804) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFUnDA Area	S/N	13C7-PFUnDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	38484.14	297.9	607489.22	True	5.00	0.063	5.82	1.000	0.200	0.242	21	30	
CAL2	99599.83	492.2	592323.80	True	5.00	0.168	5.83	1.000	0.500	0.643	29	30	
CAL3	380045.41	951.3	592510.69	True	5.00	0.641	5.83	1.000	2.000	2.453	23	30	
CAL4	1410899.58	1372.7	606803.56	True	5.00	2.325	5.80	1.000	8.000	8.892	11	30	
CAL5	3323212.63	2044.7	565503.44	True	5.00	5.877	5.83	1.000	20.000	22.474	12	30	
CAL6	7025081.87	2651.5	529423.88	True	5.00	13.269	5.82	1.000	50.000	50.747	1	30	
CAL7	11431506.61	2660.4	458994.76	True	5.00	24.906	5.81	1.000	100.000	95.248	-5	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

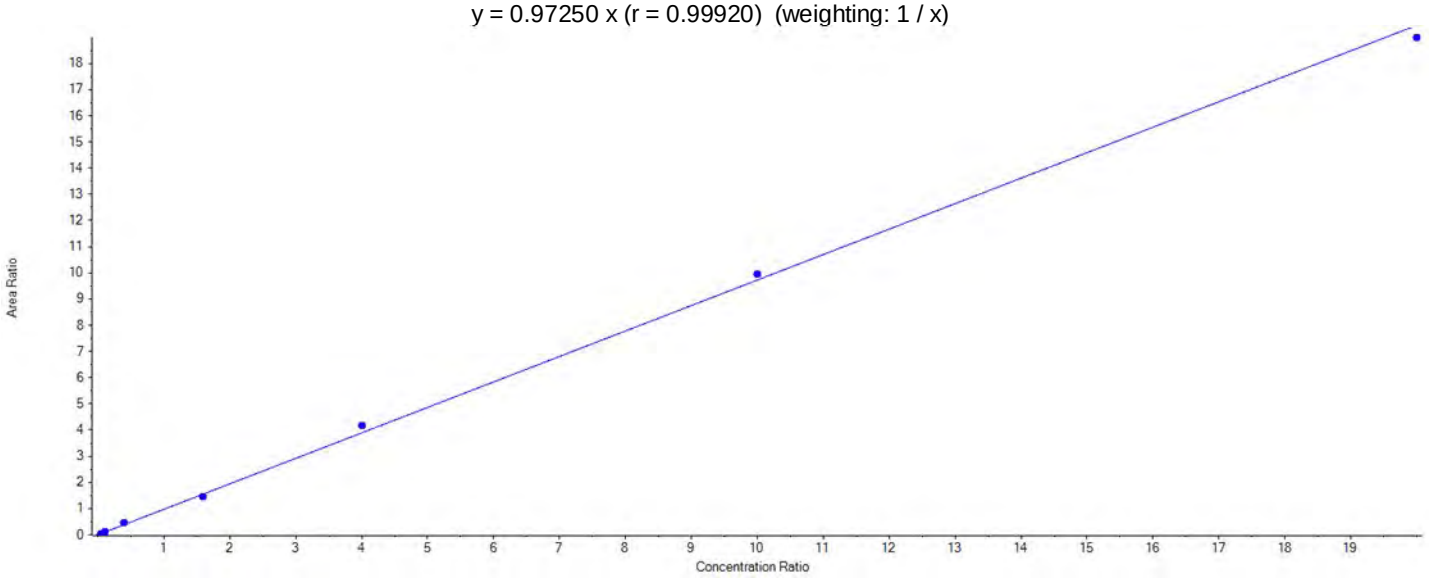
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtFOSAA

y = 0.97250 x (r = 0.99920) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtFOSAA Area	S/N	d5-NEtFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	5884.56	279.0	146872.95	True	5.00	0.040	5.83	1.000	0.200	0.206	3	30	
CAL2	15720.35	447.0	159433.26	True	5.00	0.099	5.84	1.000	0.500	0.507	1	30	
CAL3	64258.53	526.9	142682.62	True	5.00	0.450	5.84	1.000	2.000	2.315	16	30	
CAL4	233675.08	1395.8	161306.91	True	5.00	1.449	5.82	1.000	8.000	7.448	-7	30	
CAL5	576074.79	1362.5	137802.81	True	5.00	4.180	5.84	1.000	20.000	21.493	7	30	
CAL6	1233822.93	1605.4	124056.61	True	5.00	9.946	5.83	1.000	50.000	51.135	2	30	
CAL7	2187128.52	1110.1	115219.29	True	5.00	18.982	5.83	1.000	100.000	97.596	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

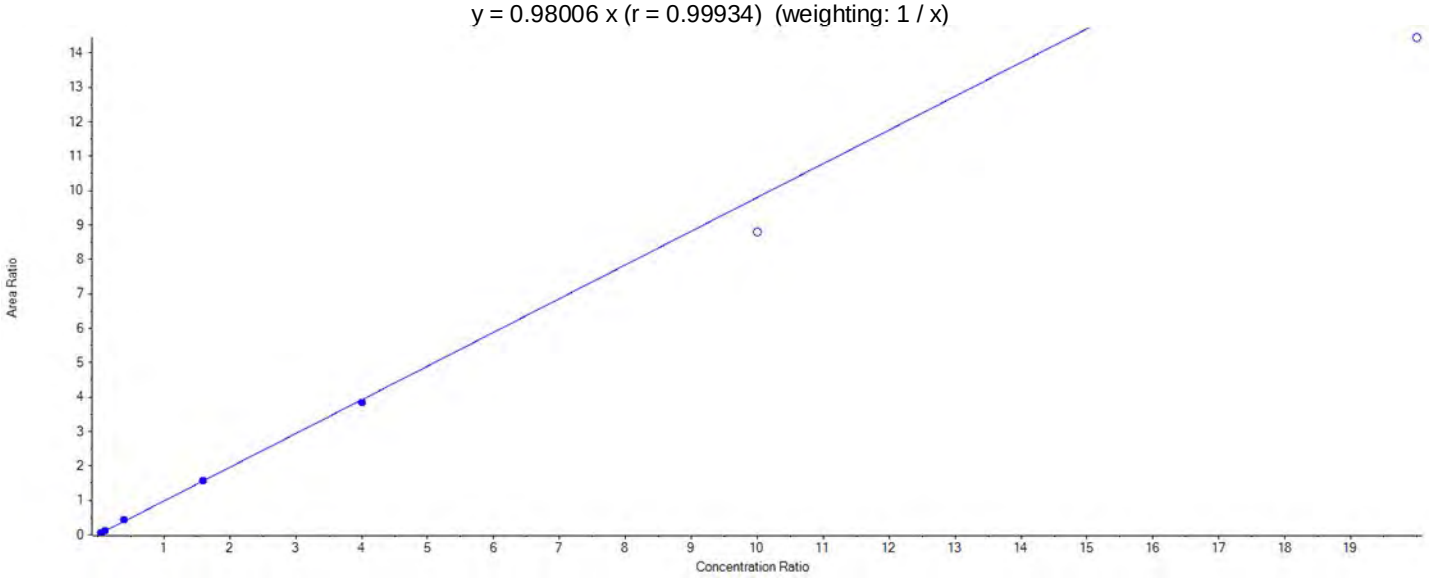
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoDA

y = 0.98006 x (r = 0.99934) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	51716.92	353.2	1151577.10	True	5.00	0.045	6.05	1.000	0.200	0.229	15	30	
CAL2	134888.93	775.3	1208558.02	True	5.00	0.112	6.06	1.000	0.500	0.569	14	30	
CAL3	526652.15	1287.6	1180173.36	True	5.00	0.446	6.06	1.000	2.000	2.277	14	30	
CAL4	1771168.94	1675.5	1128366.00	True	5.00	1.570	6.03	1.000	8.000	8.008	0	30	
CAL5	4418634.90	2396.2	1149156.75	True	5.00	3.845	6.06	1.000	20.000	19.617	-2	30	
CAL6	9392590.48	2264.8	1068876.49	False	5.00	8.787	6.04	1.000	50.000	44.831	-10	30	
CAL7	14001024.12	2065.9	969337.47	False	5.00	14.444	6.04	1.000	100.000	73.689	-26	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

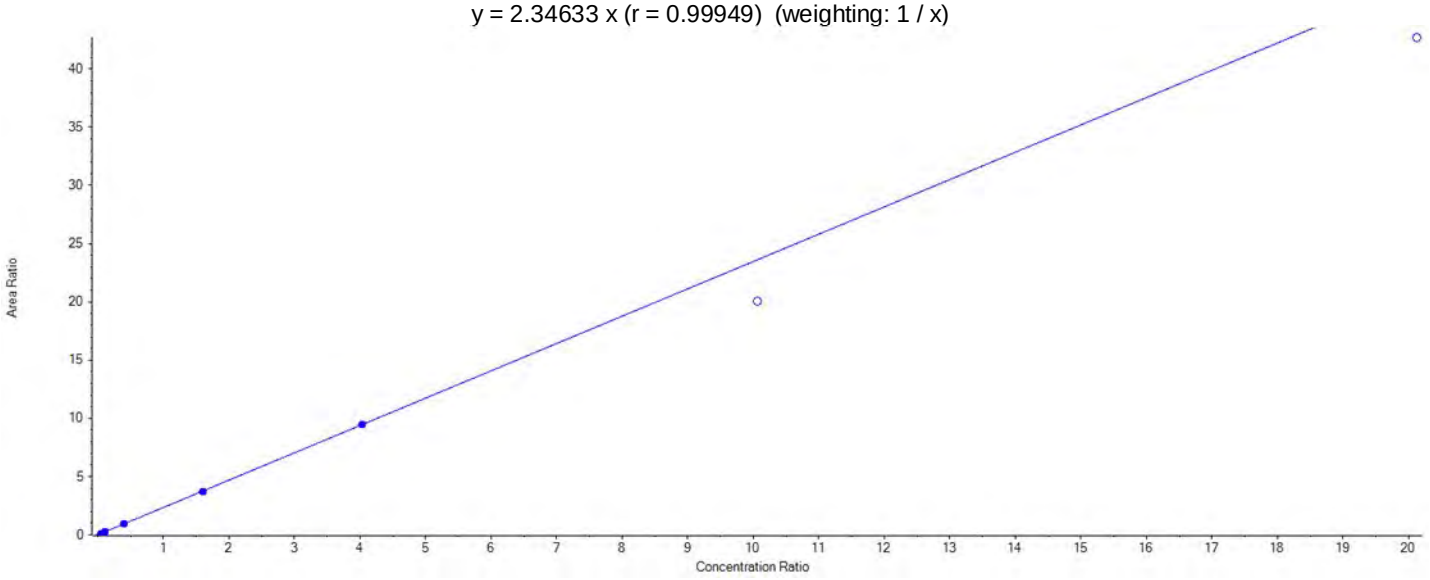
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

10:2-FTS

y = 2.34633 x (r = 0.99949) (weighting: 1 / x)



Component Calibration Verification

Sample Name	10:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4976.33	4014.7	50570.79	True	4.79	0.098	6.06	1.090	0.193	0.201	4	30	
CAL2	13556.58	111669.8	45330.53	True	4.79	0.299	6.07	1.090	0.482	0.611	27	30	
CAL3	46549.54	4062509.2	47510.08	True	4.79	0.980	6.07	1.090	1.930	2.000	4	30	
CAL4	166697.85	1026.9	45137.73	True	4.79	3.693	6.05	1.090	7.710	7.539	-2	30	
CAL5	434869.70	2111.8	46084.94	True	4.79	9.436	6.07	1.090	19.300	19.264	0	30	
CAL6	852836.09	2093.3	42574.67	False	4.79	20.032	6.06	1.090	48.200	40.894	-15	30	
CAL7	1644867.36	2076.9	38524.65	False	4.79	42.696	6.06	1.090	96.400	87.164	-10	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

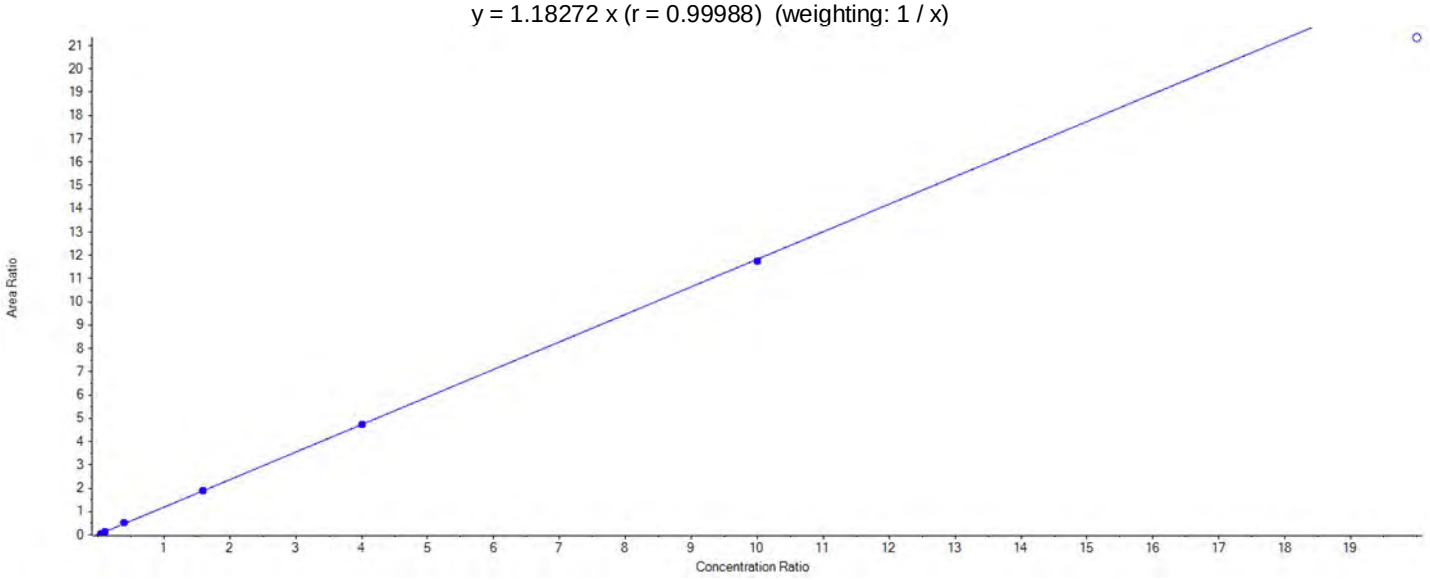
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSAE

y = 1.18272 x (r = 0.99988) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSAE Area	S/N	d7-NMePFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14353.65	159.2	265381.90	True	5.00	0.054	6.09	1.000	0.200	0.229	14	30	
CAL2	37217.72	351.6	268432.35	True	5.00	0.139	6.10	1.000	0.500	0.586	17	30	
CAL3	132889.59	643.3	255524.39	True	5.00	0.520	6.10	1.000	2.000	2.199	10	30	
CAL4	465655.68	1001.2	245651.93	True	5.00	1.896	6.08	1.000	8.000	8.014	0	30	
CAL5	1219544.60	1136.9	257303.79	True	5.00	4.740	6.10	1.000	20.000	20.037	0	30	
CAL6	2914732.87	1340.9	248254.00	True	5.00	11.741	6.09	1.000	50.000	49.635	-1	30	
CAL7	5404965.51	1179.5	253242.49	False	5.00	21.343	6.09	1.000	100.000	90.229	-10	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

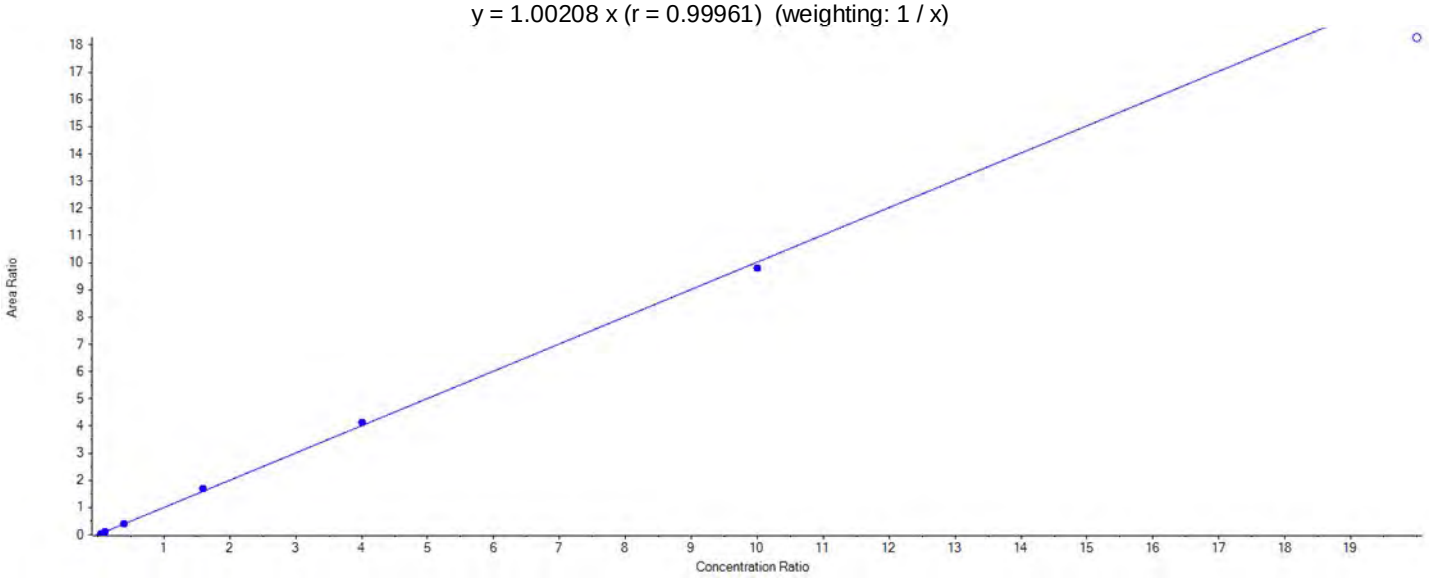
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSA

y = 1.00208 x (r = 0.99961) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NMePFOSA Area	S/N	d3-NMePFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3861.70	282.2	88588.55	True	5.00	0.044	6.10	1.000	0.200	0.218	9	30	
CAL2	9717.61	234.4	91719.25	True	5.00	0.106	6.11	1.000	0.500	0.529	6	30	
CAL3	35239.25	648.9	88334.59	True	5.00	0.399	6.11	1.000	2.000	1.991	0	30	
CAL4	137233.64	818.6	81312.26	True	5.00	1.688	6.09	1.000	8.000	8.421	5	30	
CAL5	334531.73	998.2	81057.51	True	5.00	4.127	6.11	1.000	20.000	20.593	3	30	
CAL6	819345.72	1321.9	83519.49	True	5.00	9.810	6.10	1.000	50.000	48.949	-2	30	
CAL7	1530972.30	1174.2	83787.42	False	5.00	18.272	6.10	1.000	100.000	91.171	-9	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

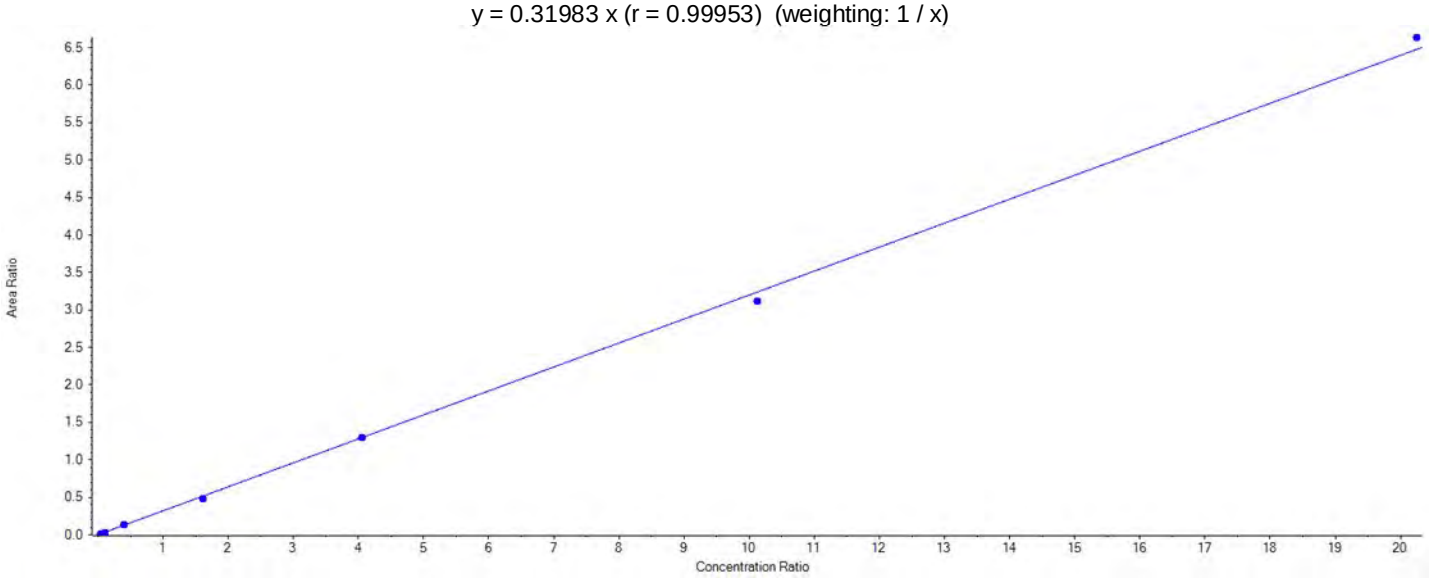
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoS

y = 0.31983 x (r = 0.99953) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFDoS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4303.05	8641.0	336497.35	True	4.78	0.013	6.21	1.190	0.194	0.191	-1	30	
CAL2	11605.30	2227.6	355971.49	True	4.78	0.033	6.23	1.190	0.482	0.487	1	30	
CAL3	43719.74	4228.5	343856.80	True	4.78	0.127	6.22	1.180	1.940	1.900	-2	30	
CAL4	159994.75	2187.0	331467.26	True	4.78	0.483	6.20	1.190	7.740	7.214	-7	30	
CAL5	427546.48	2591.6	329079.56	True	4.78	1.299	6.22	1.190	19.400	19.418	0	30	
CAL6	970246.79	2207.7	311201.23	True	4.78	3.118	6.21	1.190	48.400	46.597	-4	30	
CAL7	1778998.96	3821.8	268164.66	True	4.78	6.634	6.21	1.190	96.800	99.149	2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

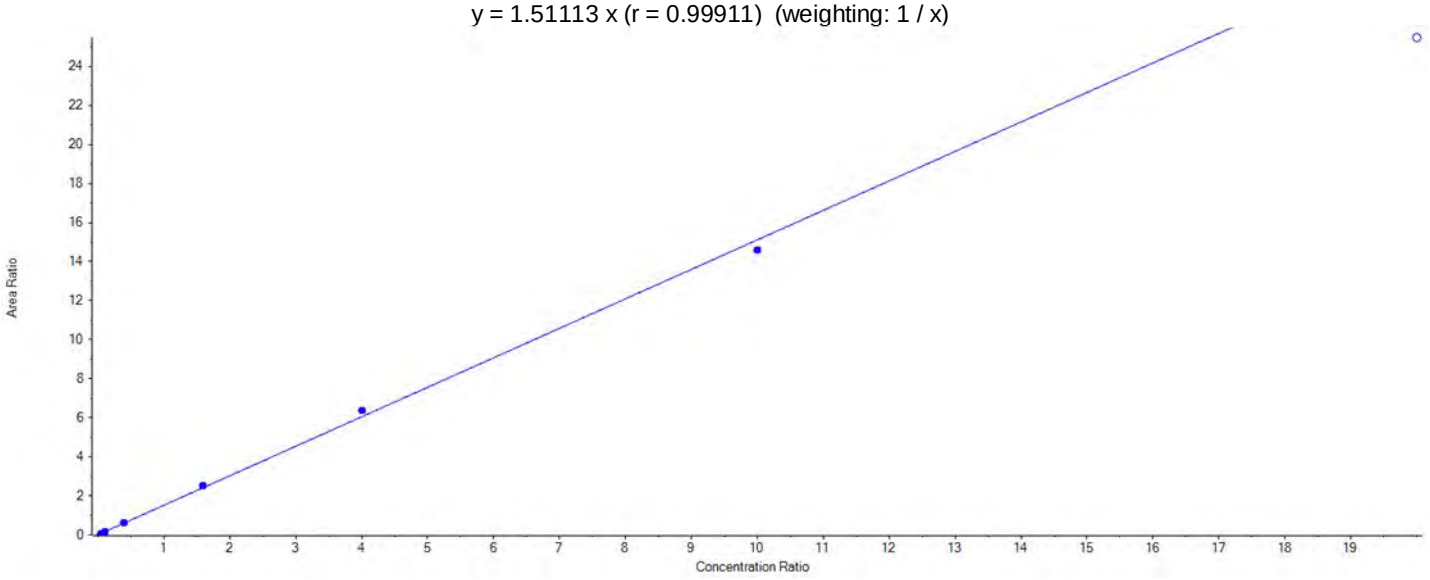
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSAE

y = 1.51113 x (r = 0.99911) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSAE Area	S/N	d9-NEtPFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	15617.72	134.1	227547.02	True	5.00	0.069	6.25	1.000	0.200	0.227	14	30	
CAL2	37516.99	329.9	221228.78	True	5.00	0.170	6.26	1.000	0.500	0.561	12	30	
CAL3	146083.15	661.8	230136.96	True	5.00	0.635	6.26	1.000	2.000	2.100	5	30	
CAL4	560581.93	784.4	220555.37	True	5.00	2.542	6.23	1.000	8.000	8.410	5	30	
CAL5	1323147.08	1152.6	207587.27	True	5.00	6.374	6.26	1.000	20.000	21.090	5	30	
CAL6	3179997.35	1190.9	217793.55	True	5.00	14.601	6.25	1.000	50.000	48.312	-3	30	
CAL7	5866444.18	1415.1	230262.63	False	5.00	25.477	6.24	1.000	100.000	84.299	-16	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

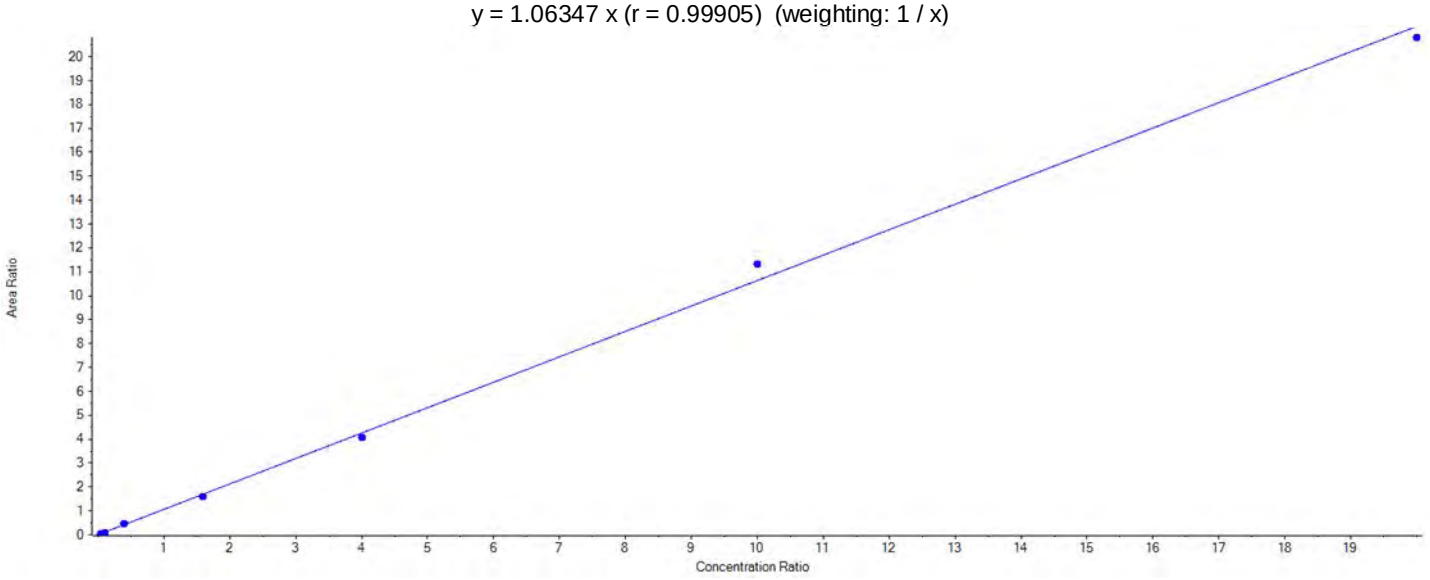
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSA

y = 1.06347 x (r = 0.99905) (weighting: 1 / x)



Component Calibration Verification

Sample Name	NEtPFOSA Area	S/N	d5-NEtPFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3124.60	104.7	74064.83	True	5.00	0.042	6.27	1.000	0.200	0.198	-1	30	
CAL2	7653.17	229.8	74017.68	True	5.00	0.103	6.27	1.000	0.500	0.486	-3	30	
CAL3	30264.13	360.5	66116.51	True	5.00	0.458	6.27	1.000	2.000	2.152	8	30	
CAL4	112652.48	695.0	69963.12	True	5.00	1.610	6.25	1.000	8.000	7.570	-5	30	
CAL5	284414.02	713.0	69567.07	True	5.00	4.088	6.27	1.000	20.000	19.222	-4	30	
CAL6	721285.01	890.8	63642.54	True	5.00	11.333	6.26	1.000	50.000	53.285	7	30	
CAL7	1345630.74	919.5	64698.36	True	5.00	20.799	6.26	1.000	100.000	97.786	-2	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

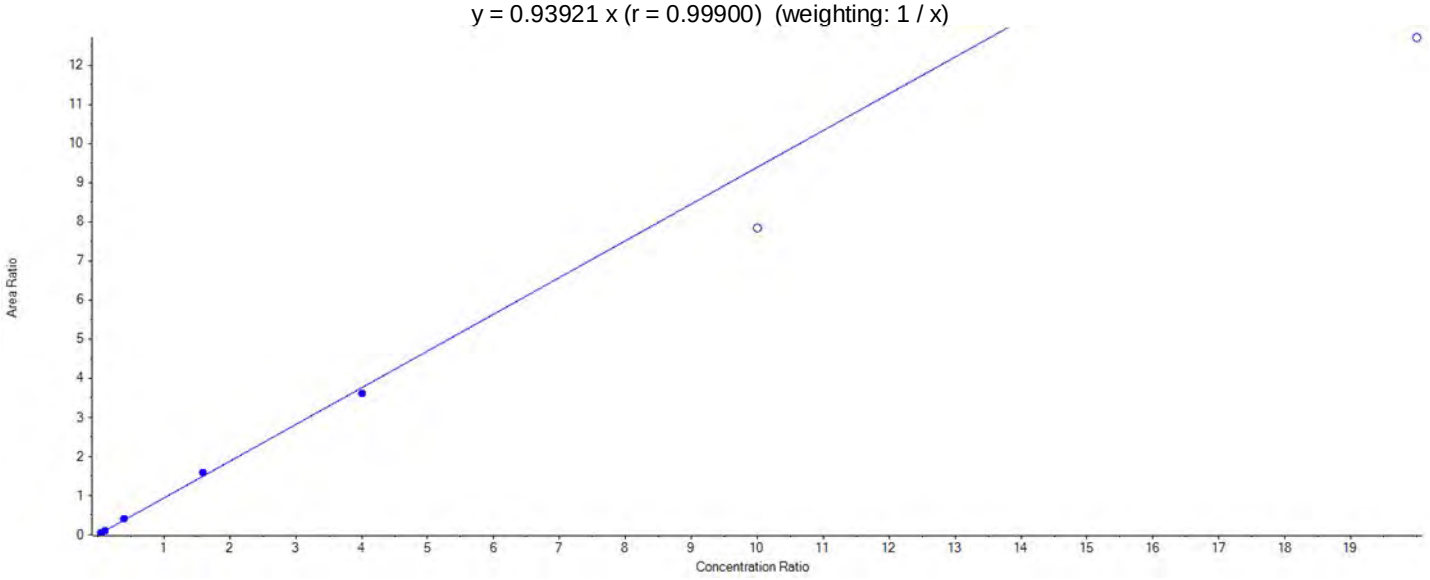
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTrDA

y = 0.93921 x (r = 0.99900) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTrDA Area	S/N	13C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	51092.14	440.2	1151577.10	True	5.00	0.044	6.25	1.030	0.200	0.236	18	30	
CAL2	127157.40	626.6	1208558.02	True	5.00	0.105	6.26	1.030	0.500	0.560	12	30	
CAL3	481891.57	1297.1	1180173.36	True	5.00	0.408	6.26	1.030	2.000	2.174	9	30	
CAL4	1788868.79	1914.5	1128366.00	True	5.00	1.585	6.23	1.030	8.000	8.440	5	30	
CAL5	4163926.27	2067.0	1149156.75	True	5.00	3.623	6.25	1.030	20.000	19.290	-4	30	
CAL6	8390939.29	2064.1	1068876.49	False	5.00	7.850	6.24	1.030	50.000	41.792	-16	30	
CAL7	12316464.54	1727.6	969337.47	False	5.00	12.706	6.24	1.030	100.000	67.643	-32	30	OOS

APPROVED
By MSM at 1:33 pm, 12/27/18

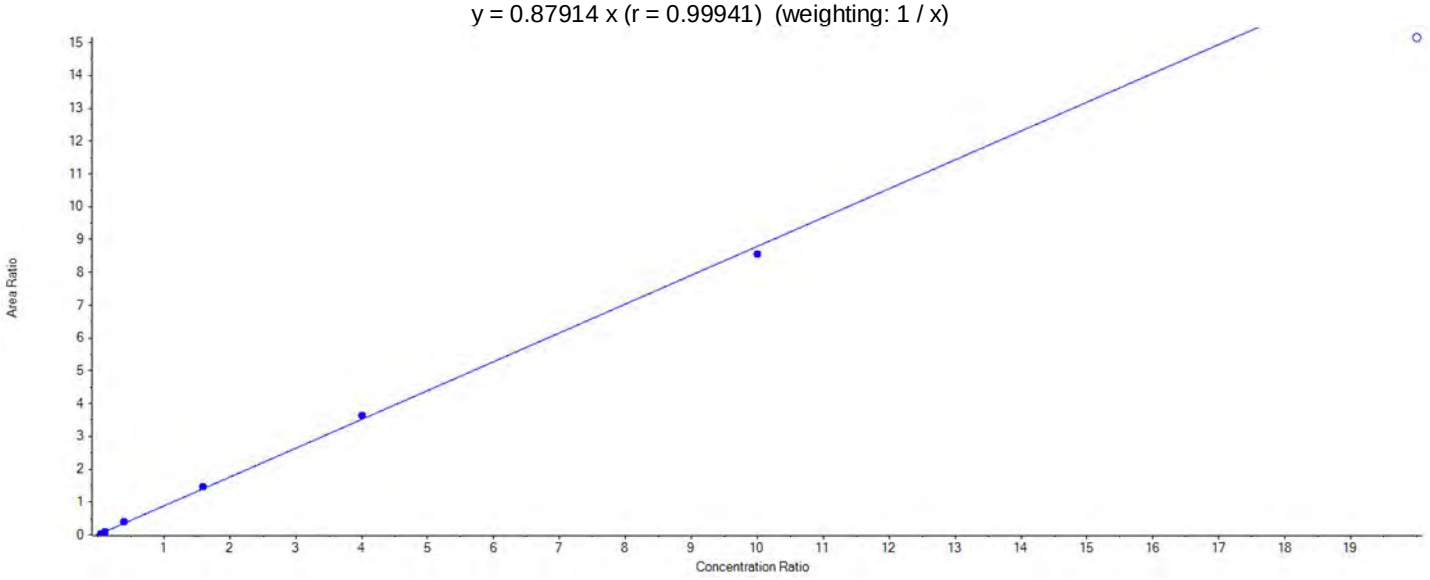
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTeDA

y = 0.87914 x (r = 0.99941) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFTeDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	37444.65	409.6	856702.22	True	5.00	0.044	6.42	1.000	0.200	0.249	24	30	
CAL2	84446.42	646.0	864421.28	True	5.00	0.098	6.43	1.000	0.500	0.556	11	30	
CAL3	344406.16	1246.7	852571.44	True	5.00	0.404	6.43	1.000	2.000	2.297	15	30	
CAL4	1215971.88	1829.1	830859.52	True	5.00	1.464	6.41	1.000	8.000	8.323	4	30	
CAL5	3098604.78	2060.9	854864.42	True	5.00	3.625	6.43	1.000	20.000	20.615	3	30	
CAL6	6733908.22	2173.0	787053.74	True	5.00	8.556	6.42	1.000	50.000	48.660	-3	30	
CAL7	11021797.34	2417.7	727192.49	False	5.00	15.157	6.42	1.000	100.000	86.201	-14	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

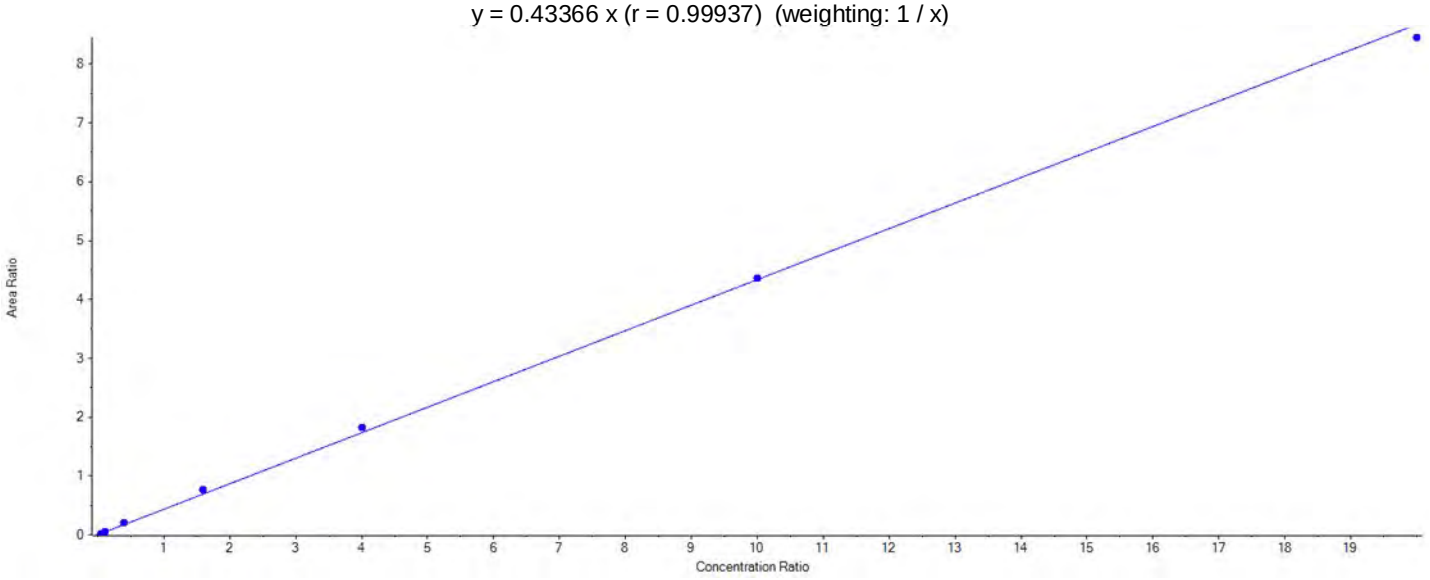
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxDA

y = 0.43366 x (r = 0.99937) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFHxDA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	18987.18	780.5	856702.22	True	5.00	0.022	6.73	1.050	0.200	0.256	28	30	
CAL2	45735.94	999.0	864421.28	True	5.00	0.053	6.73	1.050	0.500	0.610	22	30	
CAL3	177310.33	1491.9	852571.44	True	5.00	0.208	6.73	1.050	2.000	2.398	20	30	
CAL4	631636.88	2684.4	830859.52	True	5.00	0.760	6.71	1.050	8.000	8.765	10	30	
CAL5	1555082.34	2538.7	854864.42	True	5.00	1.819	6.73	1.050	20.000	20.974	5	30	
CAL6	3431505.30	2749.7	787053.74	True	5.00	4.360	6.72	1.050	50.000	50.269	1	30	
CAL7	6144944.21	3286.8	727192.49	True	5.00	8.450	6.72	1.050	100.000	97.429	-3	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

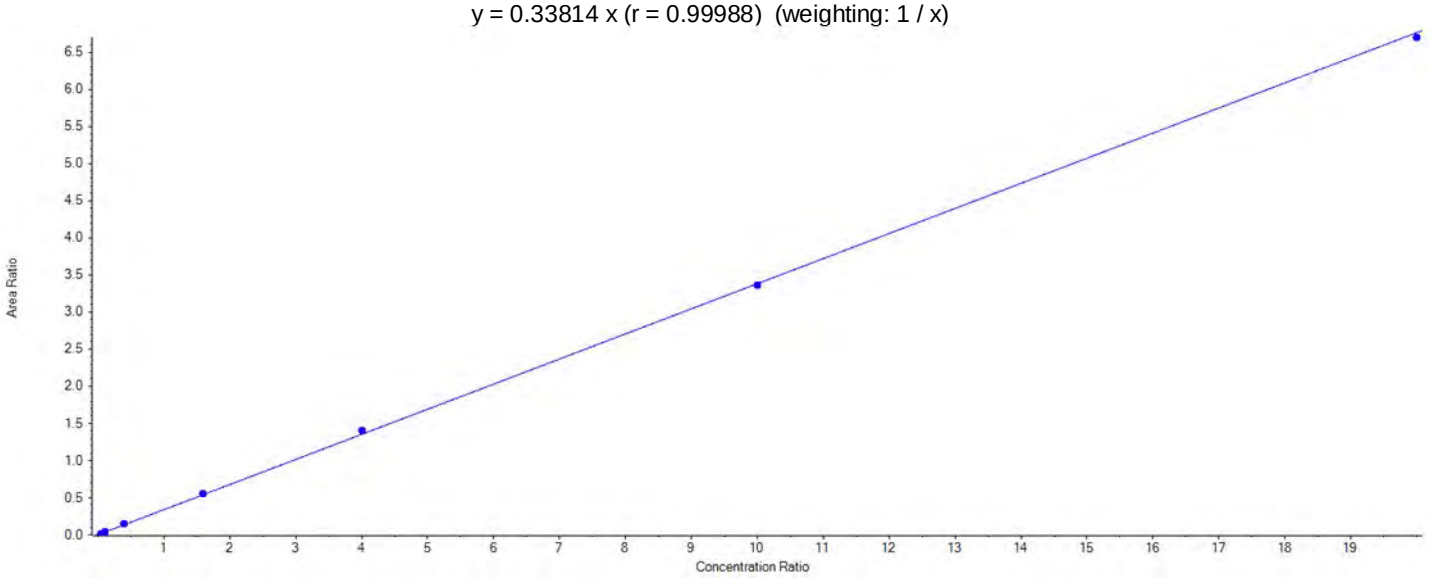
REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

PFODA

y = 0.33814 x (r = 0.99988) (weighting: 1 / x)



Component Calibration Verification

Sample Name	PFODA Area	S/N	13C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13602.58	1268.8	856702.22	True	5.00	0.016	6.99	1.090	0.200	0.235	17	30	
CAL2	33603.83	1962.2	864421.28	True	5.00	0.039	6.99	1.090	0.500	0.575	15	30	
CAL3	123640.88	3536.8	852571.44	True	5.00	0.145	6.99	1.090	2.000	2.144	7	30	
CAL4	461611.99	3664.4	830859.52	True	5.00	0.556	6.98	1.090	8.000	8.215	3	30	
CAL5	1197712.38	3808.2	854864.42	True	5.00	1.401	6.99	1.090	20.000	20.717	4	30	
CAL6	2650154.01	3865.3	787053.74	True	5.00	3.367	6.98	1.090	50.000	49.789	0	30	
CAL7	4869902.10	3661.6	727192.49	True	5.00	6.697	6.98	1.090	100.000	99.024	-1	30	

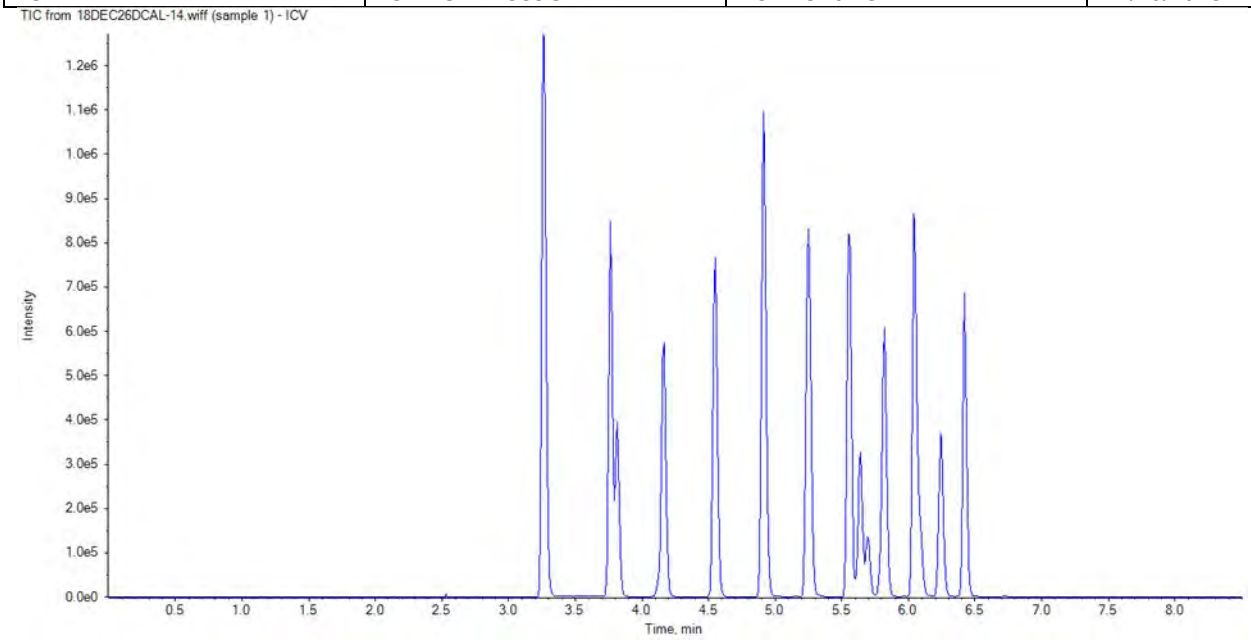
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC26DCAL-14.wiff	12/26/2018 2:49:37 PM



Injection Standard Name	Inj Std Conc	Injection Std Peak Area	CAL3 Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.000	1159620.17	965438.2	20.1	50	
13C2-PFOA	5.000	615721.68	527066.0	16.8	50	
13C4-PFOS	4.780	358964.98	307230.6	16.8	50	
13C2-PFDA	5.000	560688.27	493258.9	13.7	50	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18DEC26DCAL **QMethod Name:** 18AUG20QM
Result Table: 18DEC26DCAL12/26/2018 4:04:52 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18DEC26DCAL-14.wiff	12/26/2018 2:49:37 PM

Analyte Name	Analyte Area	Ext Std Name	Ext Std Area	Ext Std Con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	486055.17	13C4-PFBA	1274531.23	5.00	0.381	3.26	1.00	2.000	2.014	1	30	
PFPeA	468928.76	13C5-PFPeA	1202682.99	5.00	0.390	3.77	1.00	2.000	1.935	-3	30	
PFBS	199850.89	13C3-PFBS	525378.75	4.65	0.380	3.82	1.00	1.769	1.888	7	30	
4:2-FTS	N/A	13C2-4:2-FTS	78305.72	4.67	N/A	N/A	N/A	0.000	N/A		30	
PFHxA	446661.38	13C5-PFHxA	865200.03	5.00	0.516	4.16	1.00	2.000	2.119	6	30	
PFPeS	N/A	13C3-PFBS	525378.75	4.65	N/A	N/A	N/A	0.000	N/A		30	
PFHpA	452912.67	13C4-PFHpA	695461.26	5.00	0.651	4.55	1.00	2.000	2.058	3	30	
PFHxS	156598.87	13C3-PFHxS	406077.69	4.73	0.386	4.55	1.00	1.890	1.803	-5	30	
6:2-FTS	N/A	13C2-6:2-FTS	65984.16	4.75	N/A	N/A	N/A	0.000	N/A		30	
PFHpS	150754.85	13C3-PFHxS	406077.69	4.73	0.371	4.91	1.08	1.900	1.943	2	30	
PFOA	454955.80	13C8-PFOA	1143527.23	5.00	0.398	4.92	1.00	2.000	2.105	5	30	
PFOS	145800.49	13C8-PFOS	382568.97	4.78	0.381	5.24	1.00	1.910	1.659	-13	30	
PFNA	435342.18	13C9-PFNA	778657.43	5.00	0.559	5.26	1.00	2.000	2.247	12	30	
PFNS	N/A	13C8-PFOS	382568.97	4.78	N/A	N/A	N/A	0.000	N/A		30	
PFDA	371411.88	13C6-PFDA	966429.30	5.00	0.384	5.56	1.00	2.000	2.216	11	30	
8:2-FTS	N/A	13C2-8:2-FTS	54848.55	4.79	N/A	N/A	N/A	0.000	N/A		30	
PFOSA	N/A	13C8-PFOSA	745043.23	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMeFOSAA	81324.33	d3-NMeFOSAA	215524.04	5.00	0.377	5.70	1.00	2.000	2.200	10	30	
PFDS	95399.08	13C8-PFOS	382568.97	4.78	0.249	5.79	1.11	1.930	2.056	7	30	
PFUnDA	394982.66	13C7-PFUnDA	653648.72	5.00	0.604	5.82	1.00	2.000	2.311	16	30	
NEtFOSAA	75399.31	d5-NEtFOSAA	175415.12	5.00	0.430	5.83	1.00	2.000	2.210	10	30	
PFDoDA	532458.40	13C2-PFDoDA	1320623.53	5.00	0.403	6.04	1.00	2.000	2.057	3	30	
10:2-FTS	N/A	13C2-8:2-FTS	54848.55	4.79	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSAE	N/A	d7-NMePFOSAE	299803.80	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSA	N/A	d3-NMePFOSA	101767.73	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFDoS	N/A	13C8-PFOS	382568.97	4.78	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSAE	N/A	d9-NEtPFOSAE	256659.04	5.00	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSA	N/A	d5-NEtPFOSA	84773.77	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFTrDA	522069.80	13C2-PFDoDA	1320623.53	5.00	0.395	6.25	1.03	2.000	2.105	5	30	
PFTeDA	355376.86	13C2-PFTeDA	978034.63	5.00	0.363	6.42	1.00	2.000	2.067	3	30	
PFHxDA	N/A	13C2-PFTeDA	978034.63	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFODA	N/A	13C2-PFTeDA	978034.63	5.00	N/A	N/A	N/A	0.000	N/A		30	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL1			**Data File:**		18DEC26DCAL-06.wiff
Sample ID:	CALBRN11833C			**Acquis Date:**		2018-12-26T13:37:19
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	3			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1003304.0	965438.2	4	50	
13C2-PFOA	5.0	553415.5	527066.0	5	50	
13C4-PFOS	4.8	315083.5	307230.6	3	50	
13C2-PFDA	5.0	526651.2	493258.9	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1112725.5	13C3-PFBA	1003304.0	1.109	5.000	4.921	98	70-130	
E13C5-PFPeA	1035919.4	13C3-PFBA	1003304.0	1.033	5.000	4.918	98	70-130	
E13C3-PFBS	459363.9	13C3-PFBA	1003304.0	0.458	4.650	4.448	96	70-130	
E13C2-4:2-FTS	68760.2	13C2-PFOA	553415.5	0.124	4.670	4.733	101	70-130	
E13C5-PFHxA	758545.4	13C2-PFOA	553415.5	1.371	5.000	5.014	100	70-130	
E13C3-PFHxS	365368.7	13C2-PFOA	553415.5	0.660	4.730	5.073	107	70-130	
E13C4-PFHpA	580883.7	13C2-PFOA	553415.5	1.050	5.000	4.729	95	70-130	
E13C2-6:2-FTS	59810.7	13C2-PFOA	553415.5	0.108	4.750	5.288	111	70-130	
E13C8-PFOA	1066092.9	13C2-PFOA	553415.5	1.926	5.000	5.397	108	70-130	
E13C8-PFOS	336497.4	13C4-PFOS	315083.5	1.068	4.780	4.656	97	70-130	
E13C9-PFNA	695309.1	13C4-PFOS	315083.5	2.207	5.000	4.861	97	70-130	
E13C6-PFDA	920912.6	13C2-PFDA	526651.2	1.749	5.000	5.021	100	70-130	
E13C2-8:2-FTS	50570.8	13C2-PFDA	526651.2	0.096	4.790	4.968	104	70-130	
E13C8-PFOSA	636387.0	13C2-PFDA	526651.2	1.208	5.000	4.827	97	70-130	
Ed3-NMeFOSAA	228616.9	13C2-PFDA	526651.2	0.434	5.000	5.539	111	70-130	
E13C7-PFUnDA	607489.2	13C2-PFDA	526651.2	1.153	5.000	4.984	100	70-130	
Ed5-NEtFOSAA	146873.0	13C2-PFDA	526651.2	0.279	5.000	4.832	97	70-130	
E13C2-PFDoDA	1151577.1	13C2-PFDA	526651.2	2.187	5.000	4.743	95	70-130	
Ed7-NMePFOSAE	265381.9	13C2-PFDA	526651.2	0.504	5.000	4.764	95	70-130	
Ed3-NMePFOSA	88588.6	13C2-PFDA	526651.2	0.168	5.000	4.768	95	70-130	
Ed9-NEtPFOSAE	227547.0	13C2-PFDA	526651.2	0.432	5.000	4.701	94	70-130	
Ed5-NEtPFOSA	74064.8	13C2-PFDA	526651.2	0.141	5.000	4.964	99	70-130	
E13C2-PFTeDA	856702.2	13C2-PFDA	526651.2	1.627	5.000	4.798	96	70-130	

APPROVED
By MSM at 1:32 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

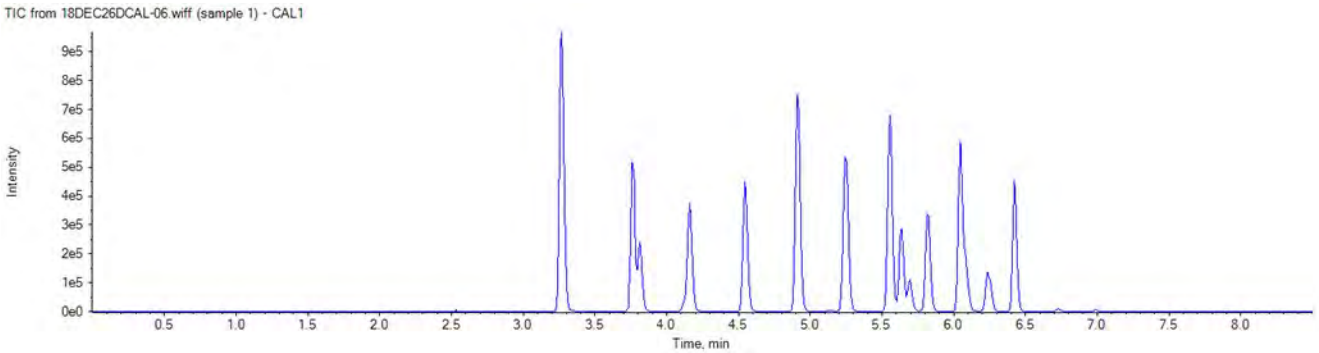
Analyte Quantitation Peak Table

Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-06.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	46741.3		A	13C4-PFBA	3.27	1112725.5	0.042	0.222
PFPeA	3.77	1.000	48062.1		A	13C5-PFPeA	3.77	1035919.4	0.046	0.230
PFBS	3.81	1.000	19092.1		A	13C3-PFBS	3.81	459363.9	0.042	0.206
4:2-FTS	4.12	1.000	5064.3		A	13C2-4:2-FTS	4.13	68760.2	0.074	0.181
PFHxA	4.16	1.000	41667.2		A	13C5-PFHxA	4.16	758545.4	0.055	0.225
PFPeS	4.18	1.100	9442.3		A	13C3-PFBS	3.81	459363.9	0.021	0.207
PFHpA	4.55	1.000	43713.2		A	13C4-PFHpA	4.55	580883.7	0.075	0.238
PFHxS	4.55	1.000	13964.1		M	13C3-PFHxS	4.55	365368.7	0.038	0.179
6:2-FTS	4.90	1.000	4812.2		A	13C2-6:2-FTS	4.90	59810.7	0.080	0.193
PFHpS	4.91	1.080	14200.4		A	13C3-PFHxS	4.55	365368.7	0.039	0.203
PFOA	4.91	1.000	47202.8		M	13C8-PFOA	4.91	1066092.9	0.044	0.234
PFOS	5.24	1.000	16520.9		M	13C8-PFOS	5.24	336497.4	0.049	0.214
PFNA	5.25	1.000	41462.0		A	13C9-PFNA	5.26	695309.1	0.060	0.240
PFNS	5.53	1.060	11962.2		A	13C8-PFOS	5.24	336497.4	0.036	0.243
PFDA	5.55	1.000	39242.2		A	13C6-PFDA	5.55	920912.6	0.043	0.246
8:2-FTS	5.55	1.000	4952.2		A	13C2-8:2-FTS	5.56	50570.8	0.098	0.193
PFOSA	5.63	1.000	29665.1		A	13C8-PFOSA	5.64	636387.0	0.047	0.245
NMeFOSAA	5.70	1.000	7347.1		M	d3-NMeFOSAA	5.69	228616.9	0.032	0.187
PFDS	5.79	1.110	8900.2		A	13C8-PFOS	5.24	336497.4	0.026	0.218
PFUnDA	5.82	1.000	38484.1		A	13C7-PFUnDA	5.82	607489.2	0.063	0.242
NEtFOSAA	5.83	1.000	5884.6		M	d5-NEtFOSAA	5.83	146873.0	0.040	0.206
PFDoDA	6.05	1.000	51716.9		A	13C2-PFDoDA	6.05	1151577.1	0.045	0.229
10:2-FTS	6.06	1.090	4976.3		A	13C2-8:2-FTS	5.56	50570.8	0.098	0.201
NMePFOSAE	6.09	1.000	14353.7		A	d7-NMePFOSAE	6.08	265381.9	0.054	0.229
NMePFOSA	6.10	1.000	3861.7		A	d3-NMePFOSA	6.10	88588.6	0.044	0.218
PFDoS	6.21	1.190	4303.1		A	13C8-PFOS	5.24	336497.4	0.013	0.191
NEtPFOSAE	6.25	1.000	15617.7		A	d9-NEtPFOSAE	6.23	227547.0	0.069	0.227
NEtPFOSA	6.27	1.000	3124.6		A	d5-NEtPFOSA	6.26	74064.8	0.042	0.198
PFTrDA	6.25	1.030	51092.1		A	13C2-PFDoDA	6.05	1151577.1	0.044	0.236
PFTeDA	6.42	1.000	37444.7		A	13C2-PFTeDA	6.42	856702.2	0.044	0.249
PFHxDA	6.73	1.050	18987.2		A	13C2-PFTeDA	6.42	856702.2	0.022	0.256
PFODA	6.99	1.090	13602.6		A	13C2-PFTeDA	6.42	856702.2	0.016	0.235

Total Ion Chromatogram

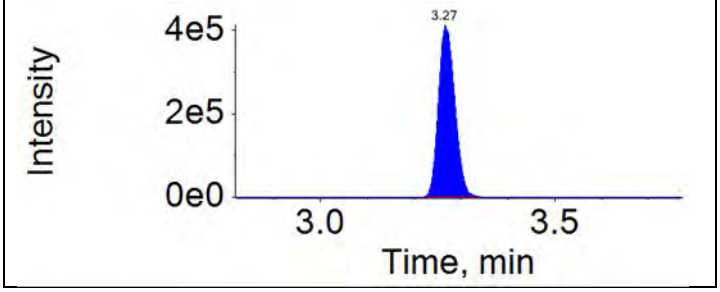


APPROVED
By MSM at 1:32 pm, 12/27/18

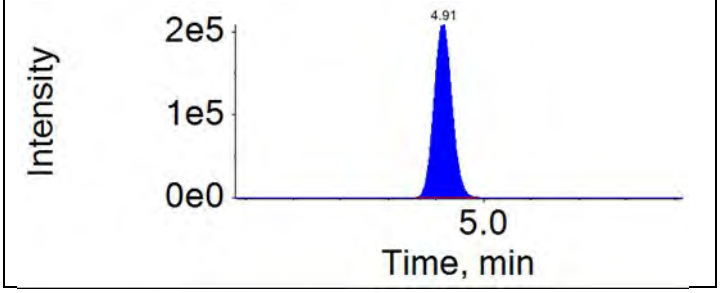
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

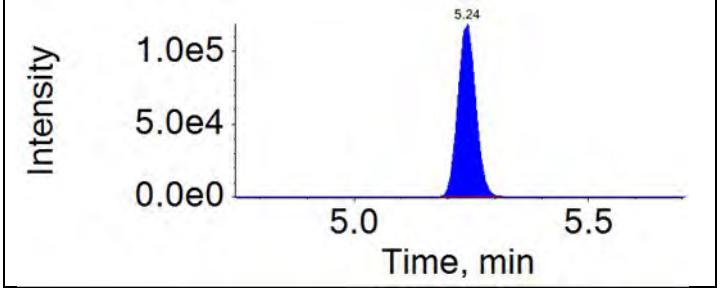
Injection Standard: 13C3-PFBA
216.0 / 172.0



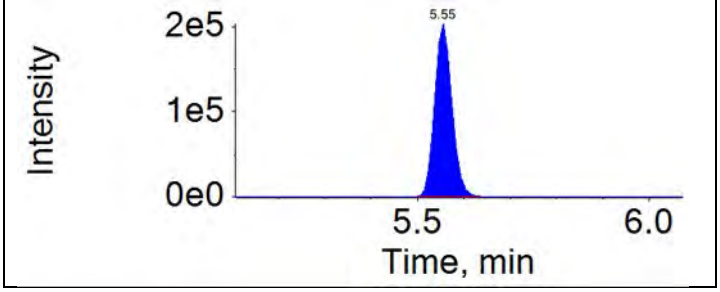
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

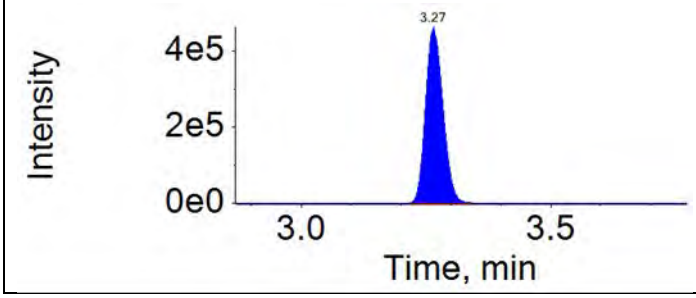


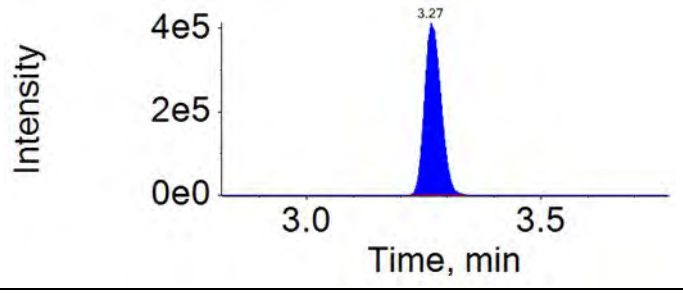
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

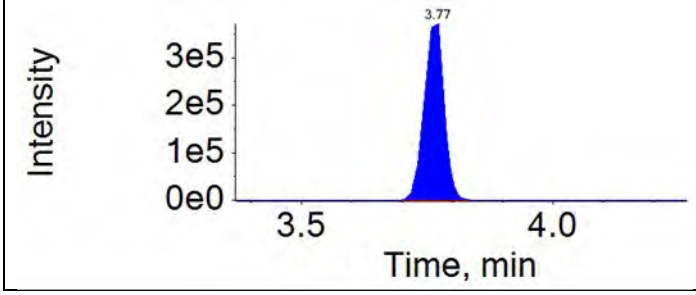
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

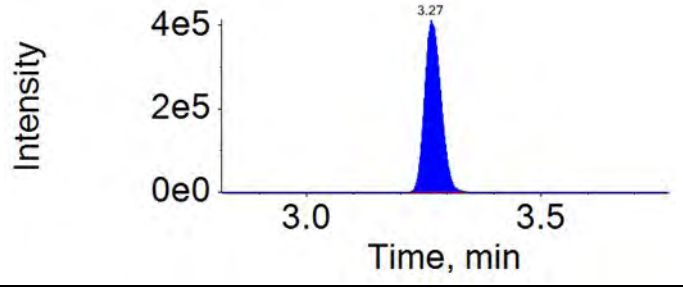
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



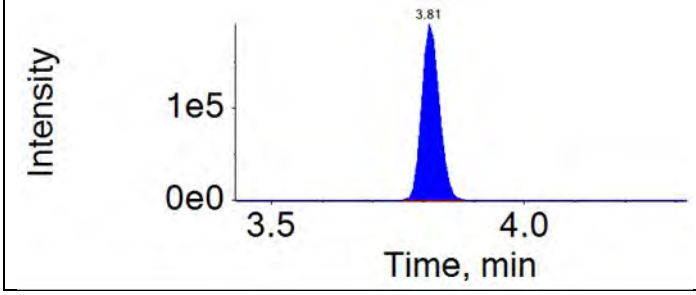


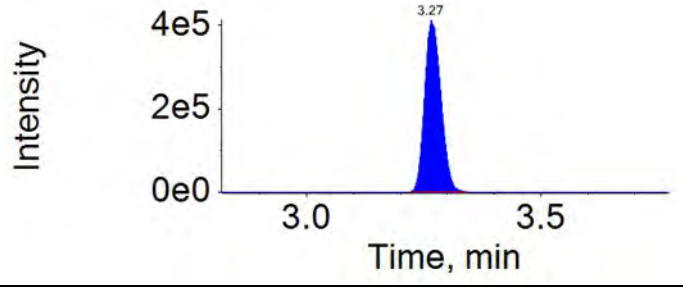
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



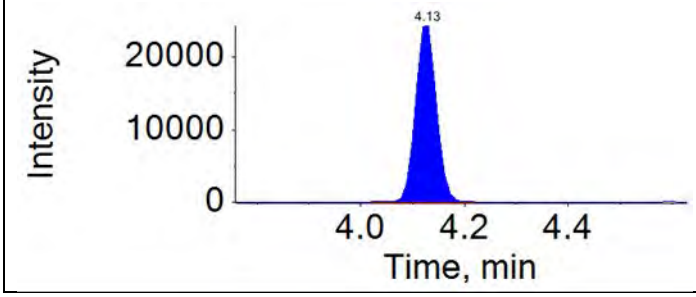


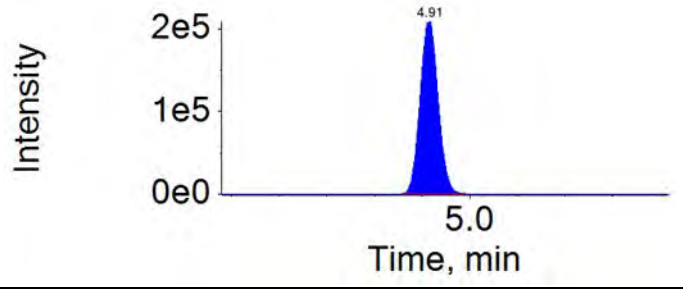
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



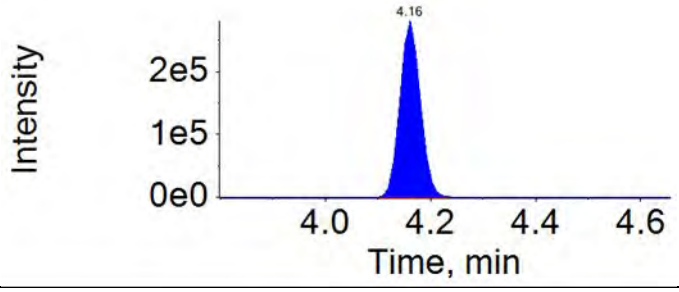


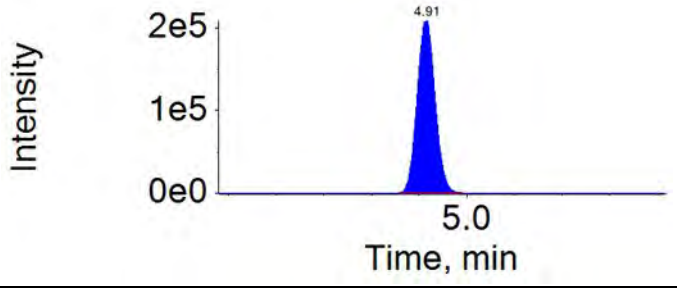
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

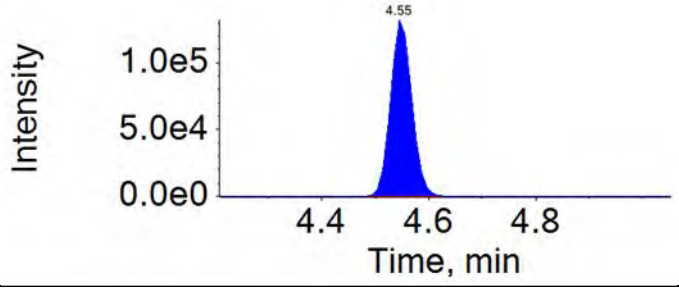
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

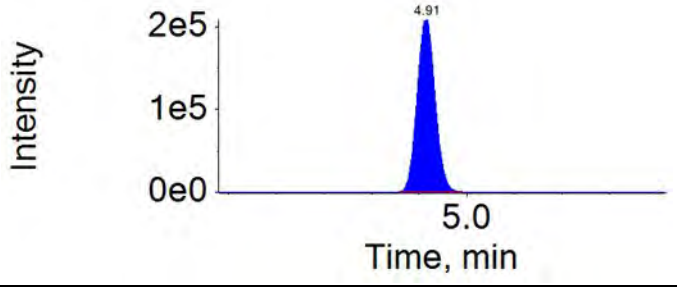
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



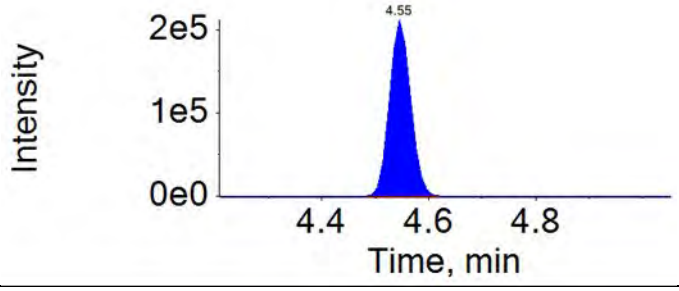


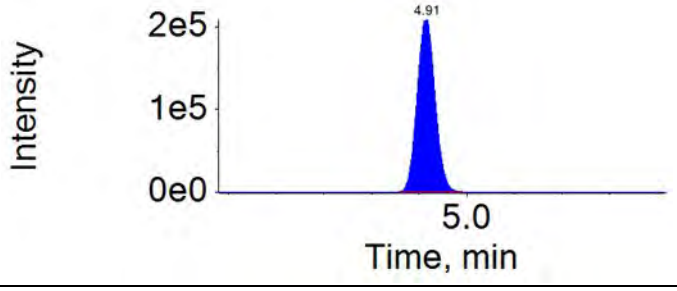
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



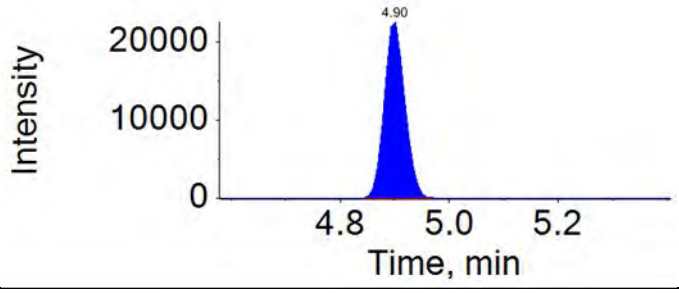


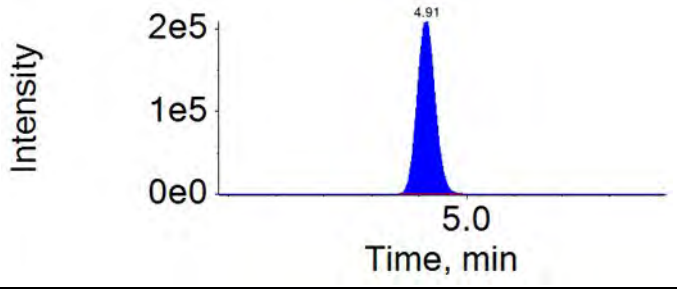
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



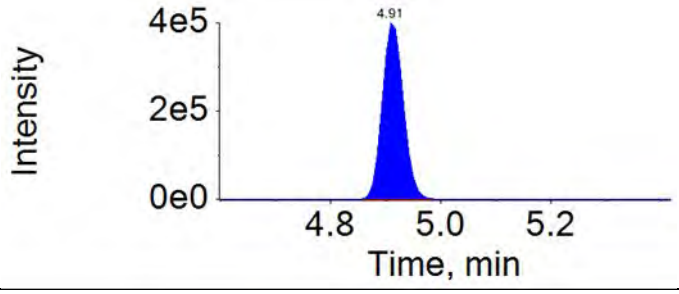


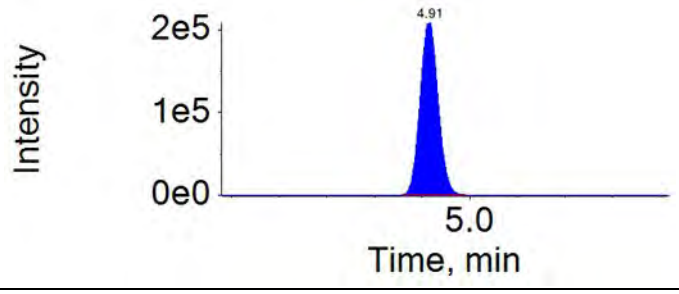
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

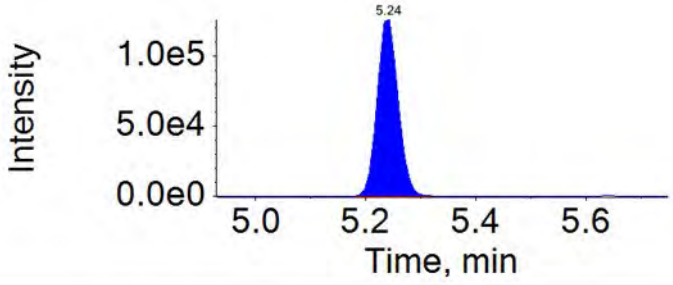
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

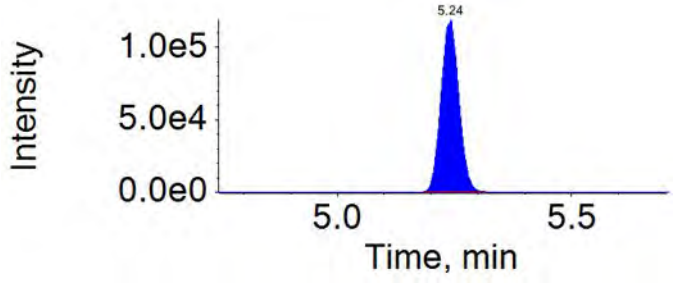
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



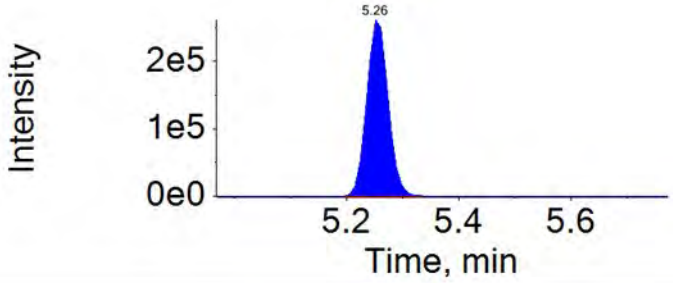


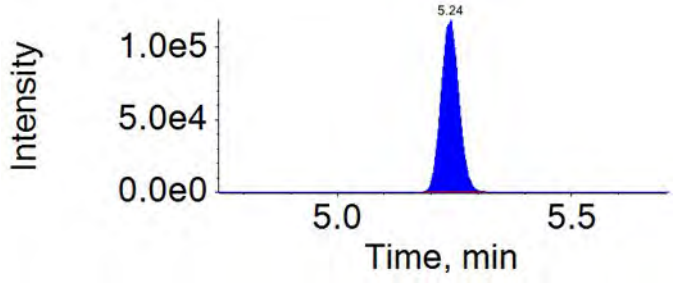
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



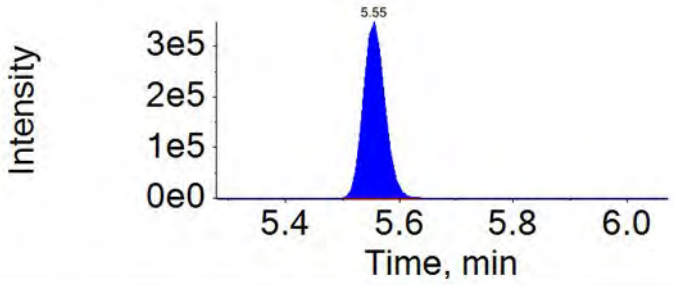


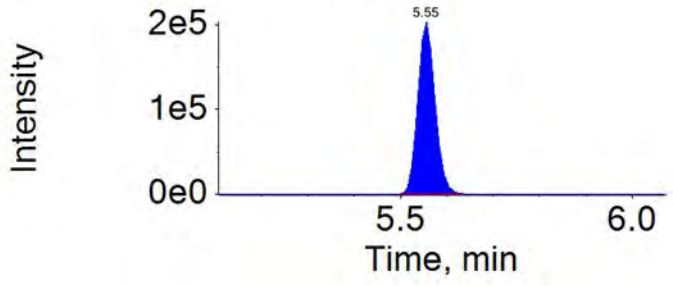
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



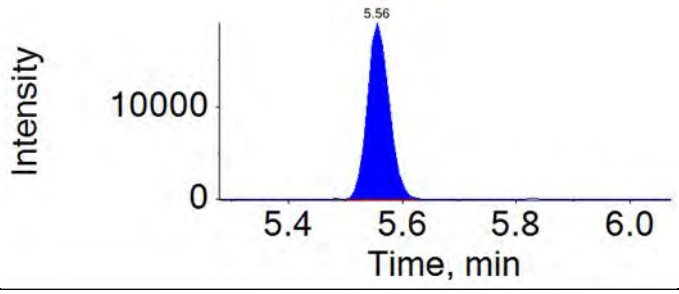


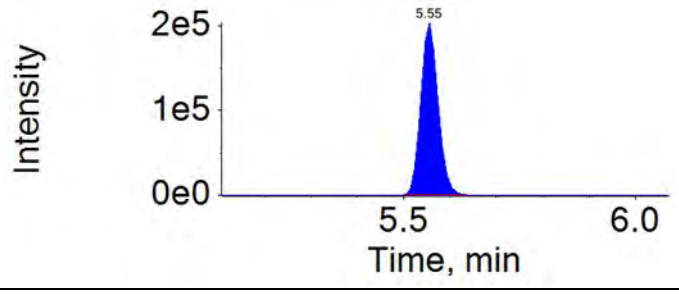
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

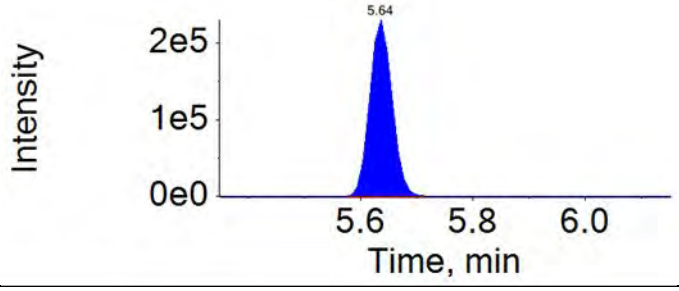
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

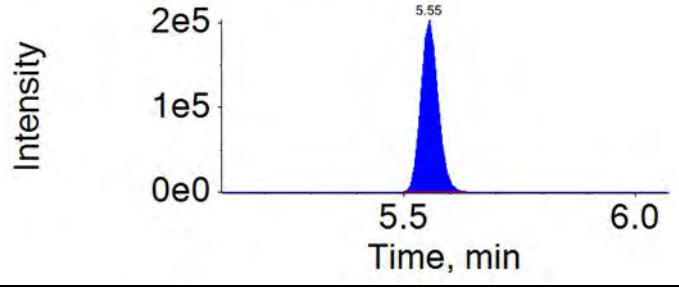
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



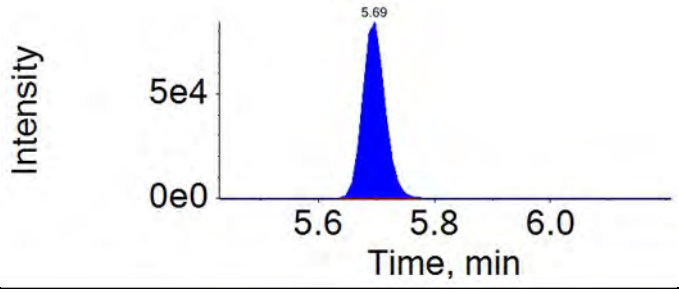


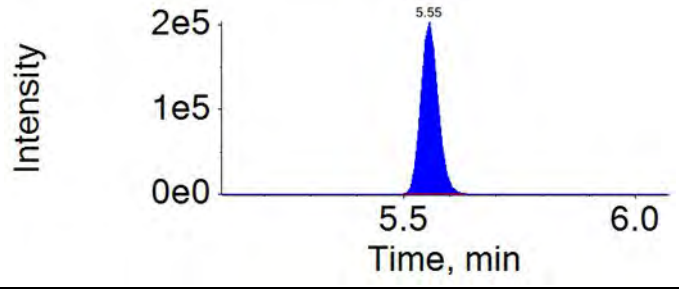
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



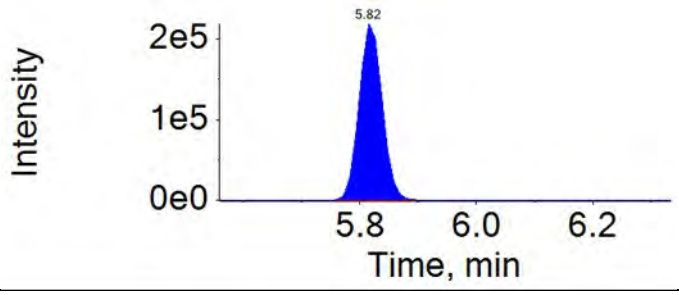


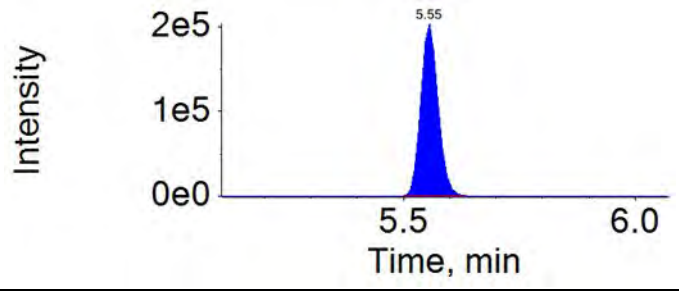
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



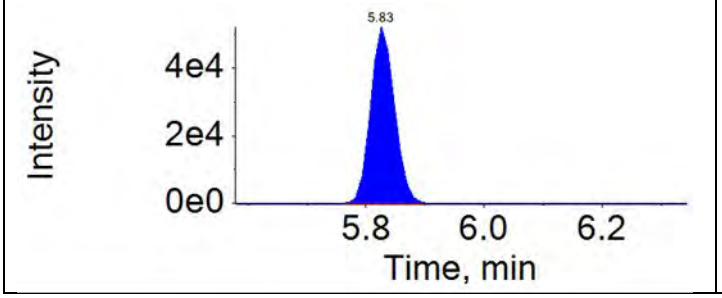


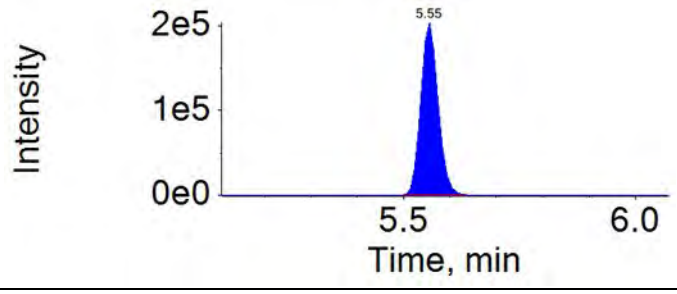
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

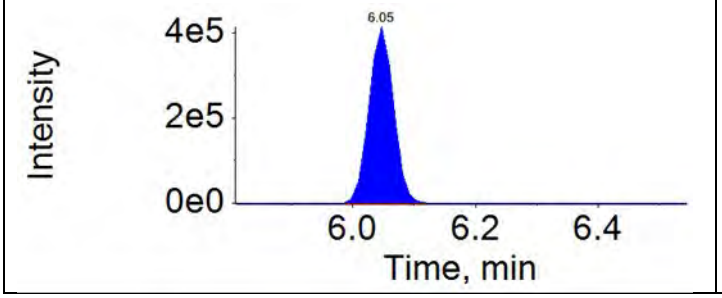
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

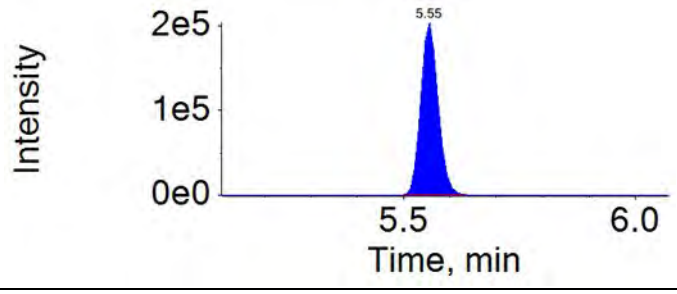
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



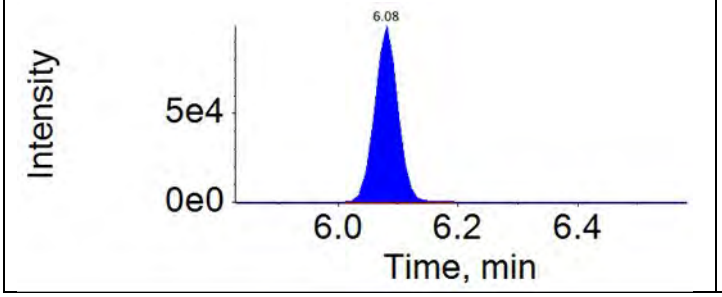


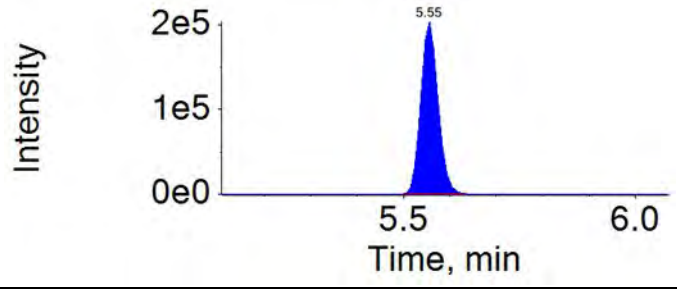
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



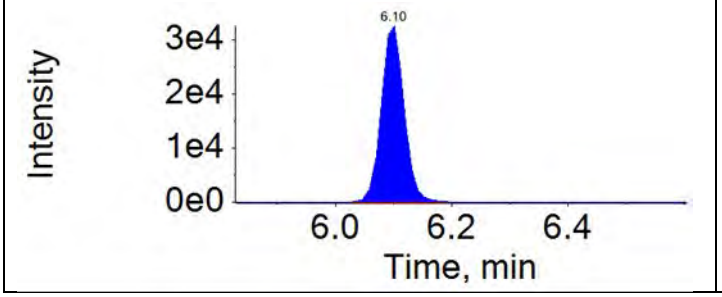


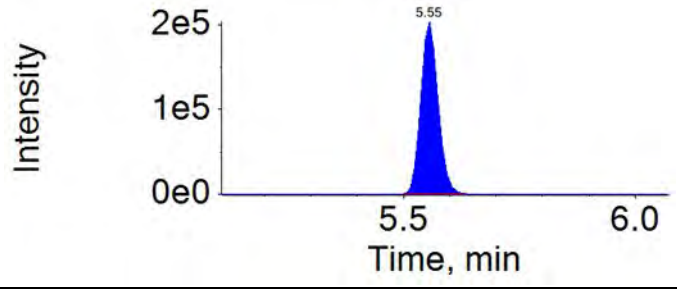
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



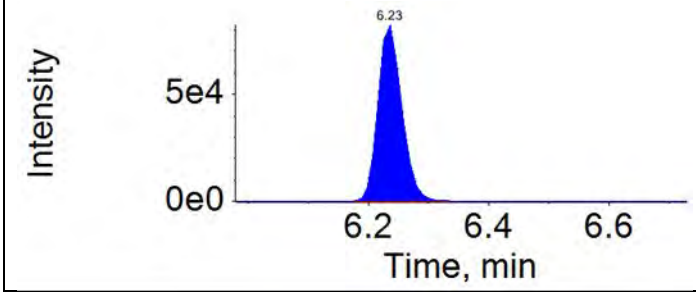


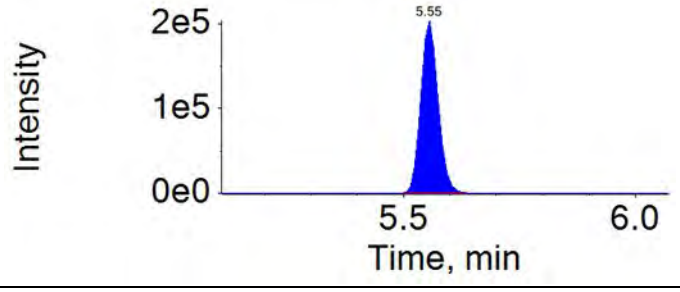
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

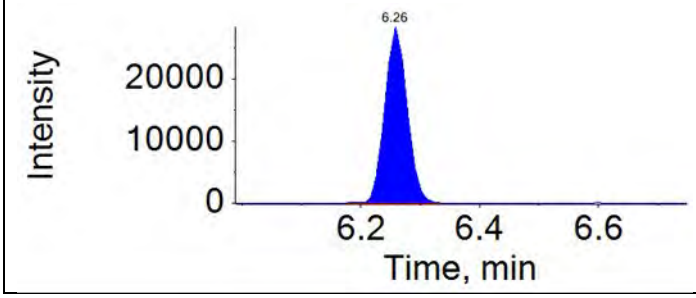
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

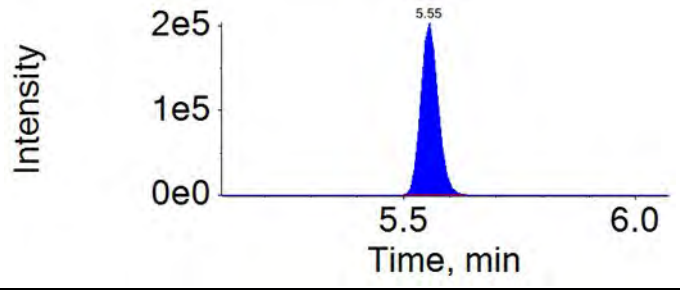
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



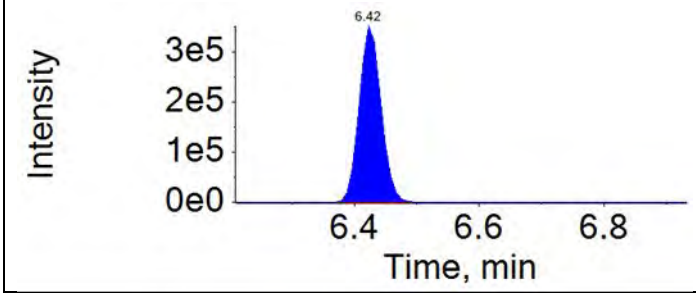


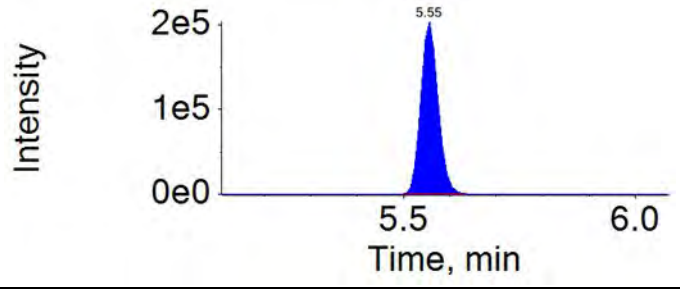
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



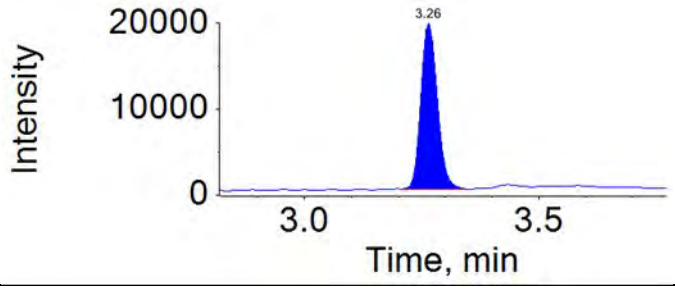


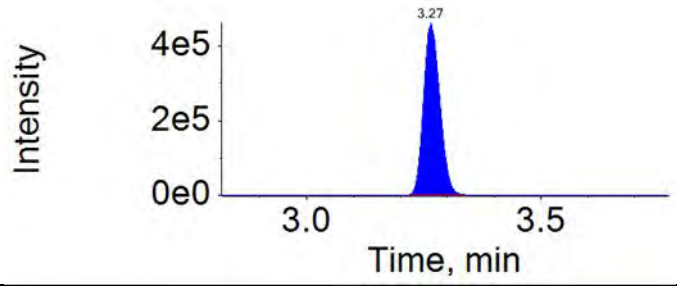
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

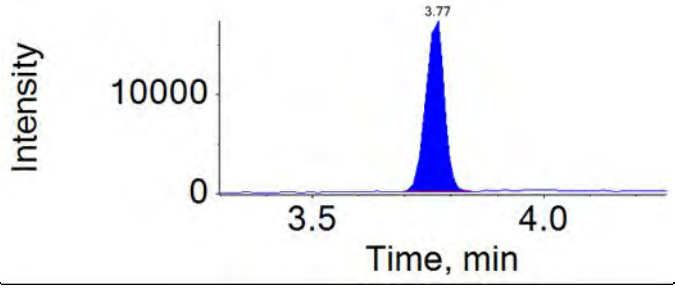
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

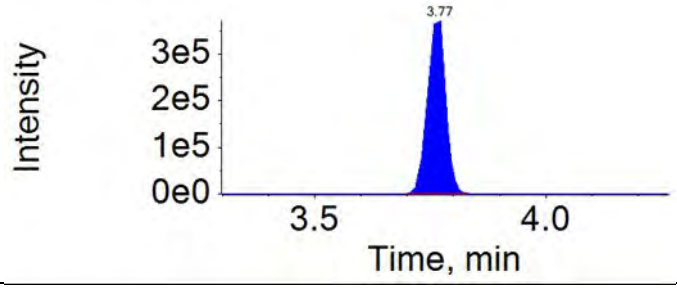
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



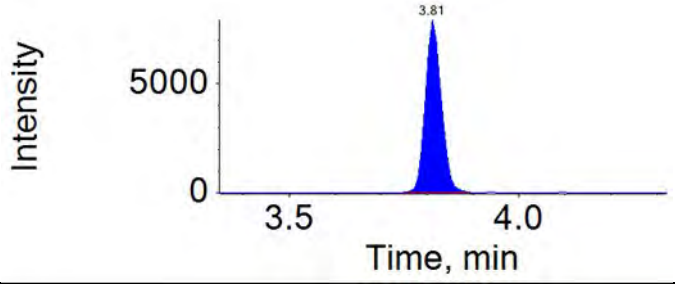


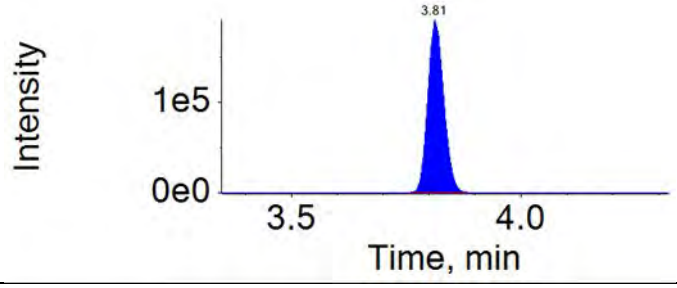
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



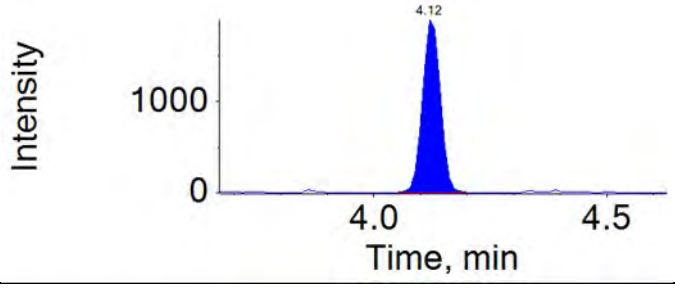


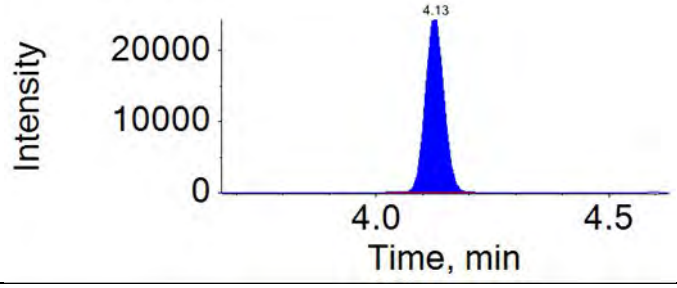
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



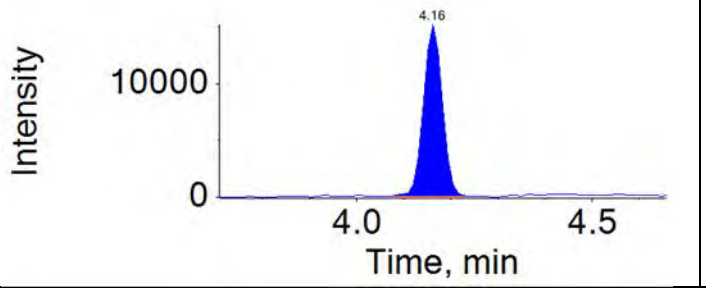


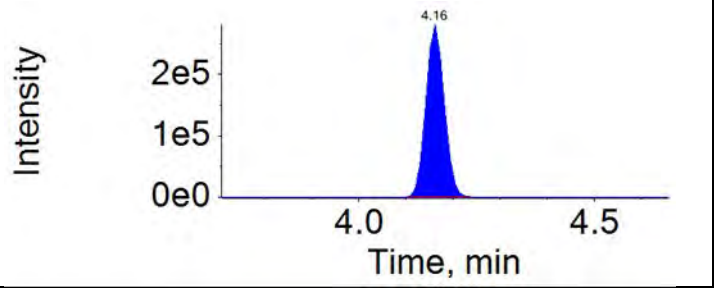
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

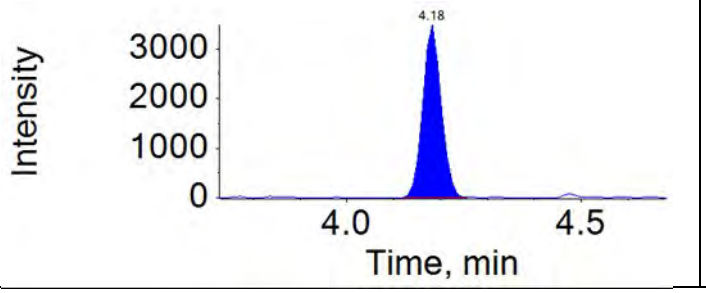
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

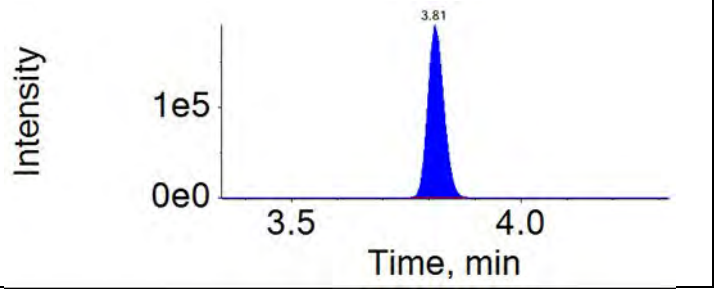
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



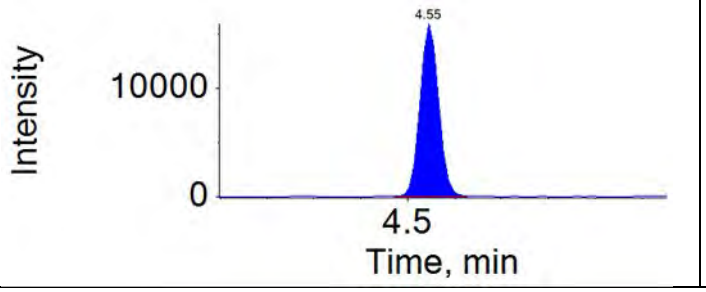


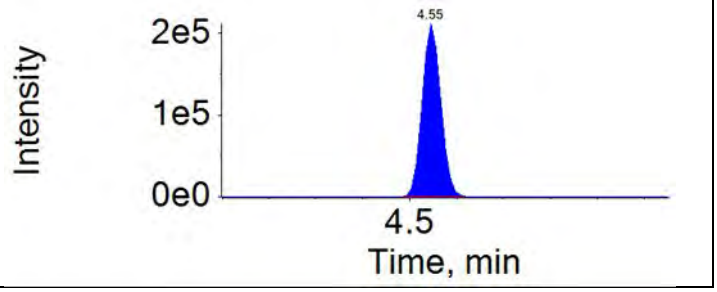
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



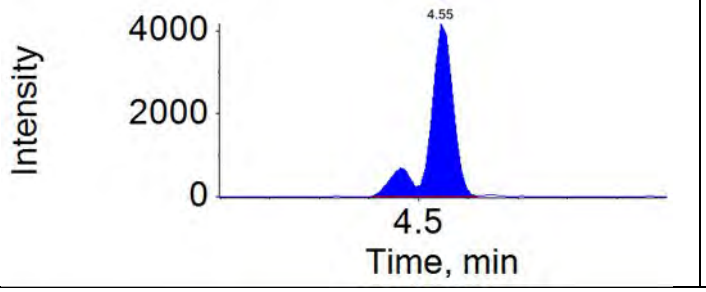


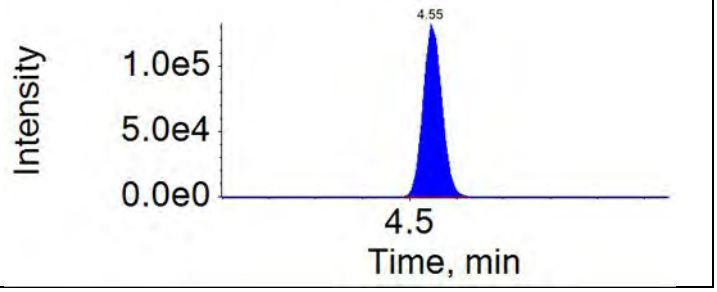
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



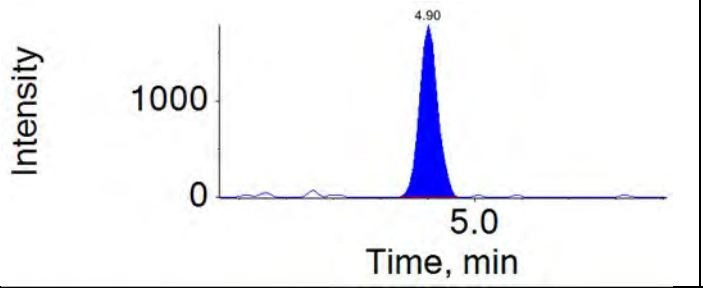


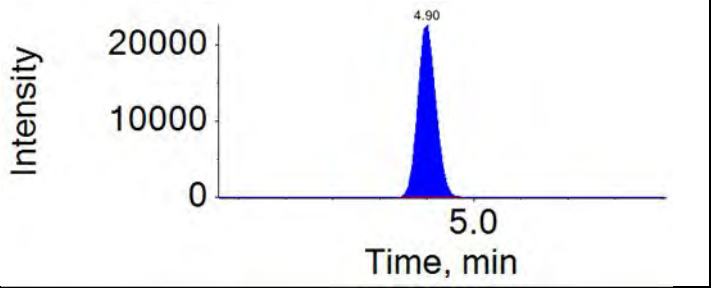
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

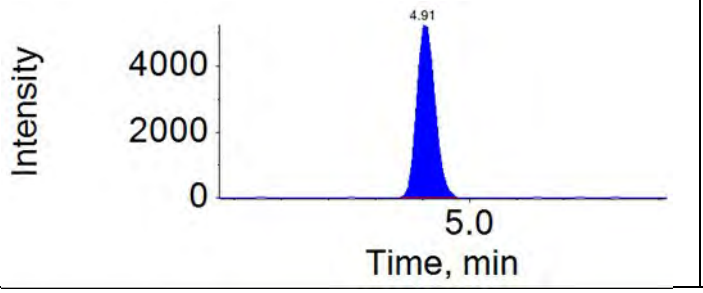
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

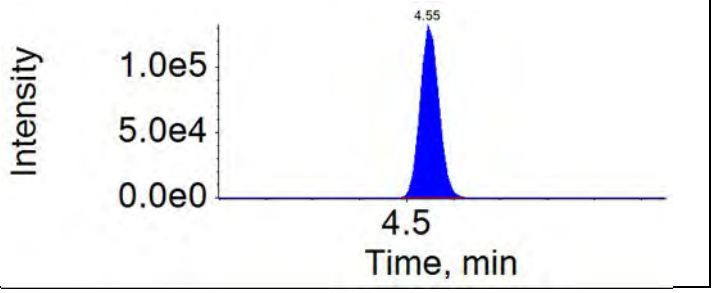
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



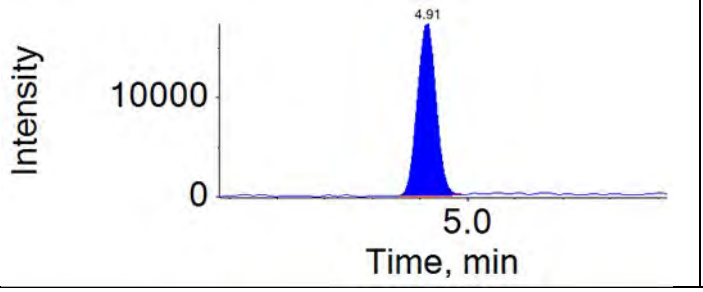


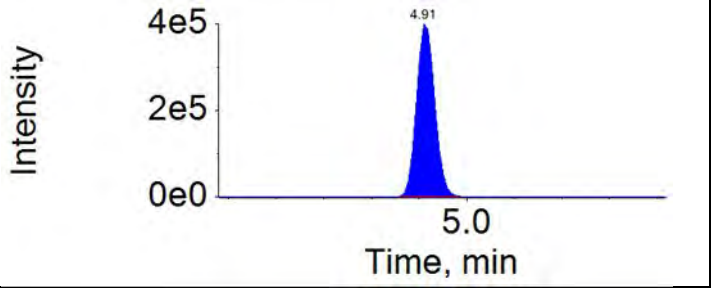
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



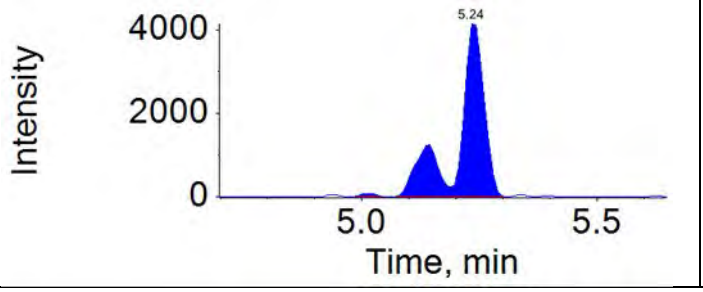


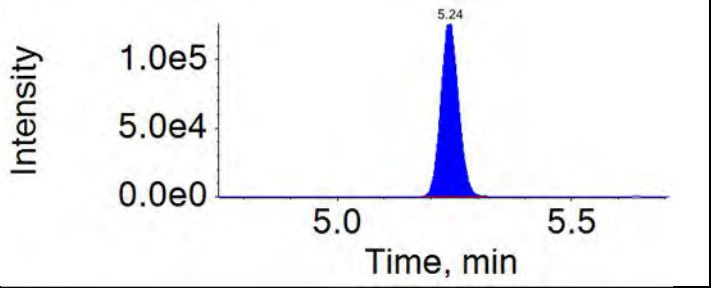
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



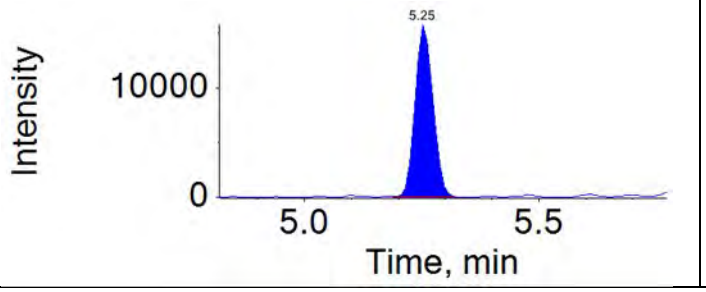


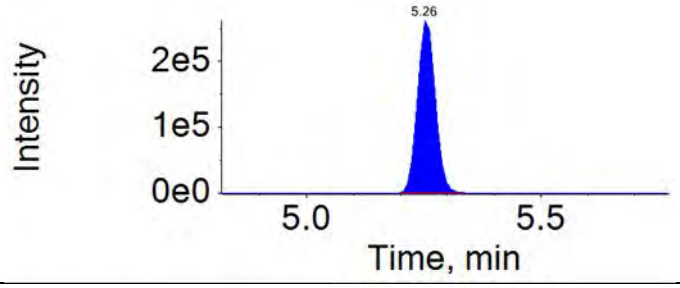
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

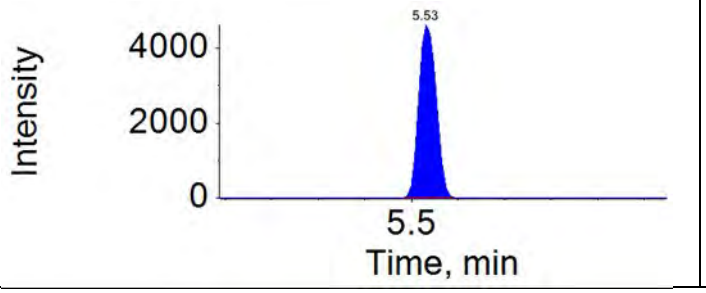
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

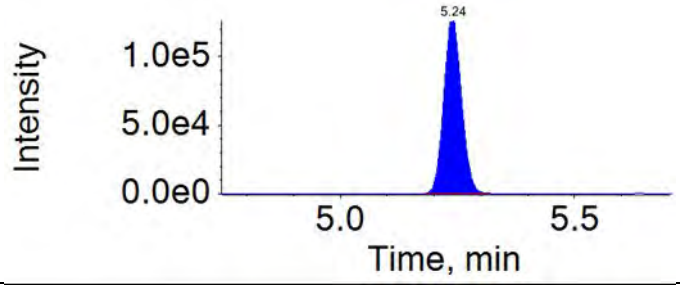
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



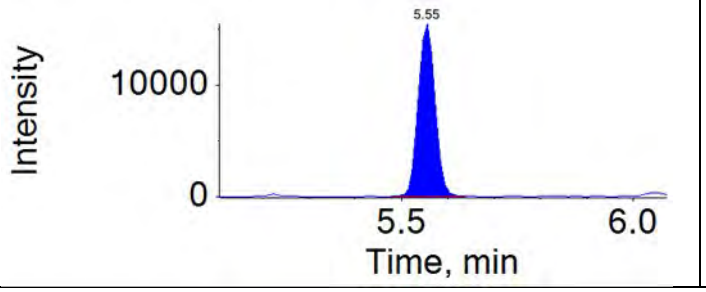


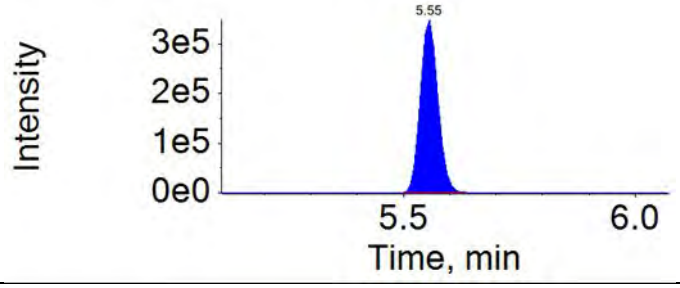
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



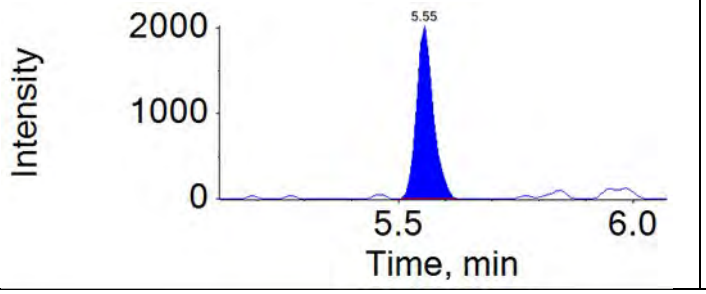


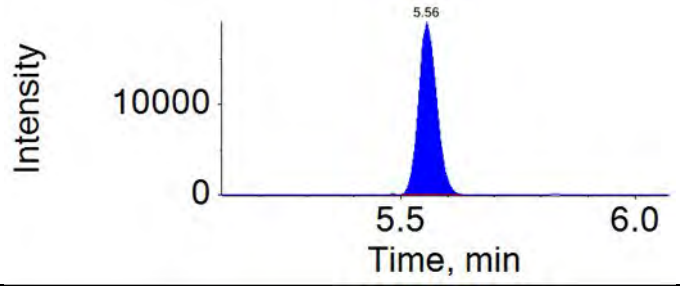
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



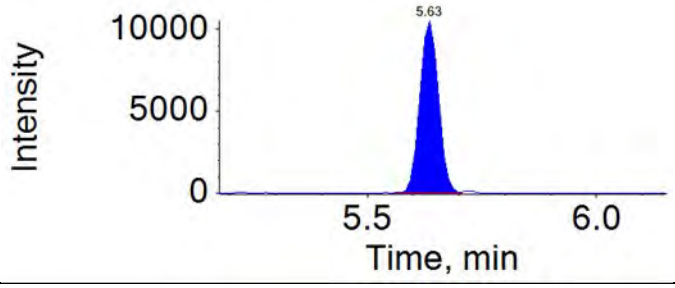


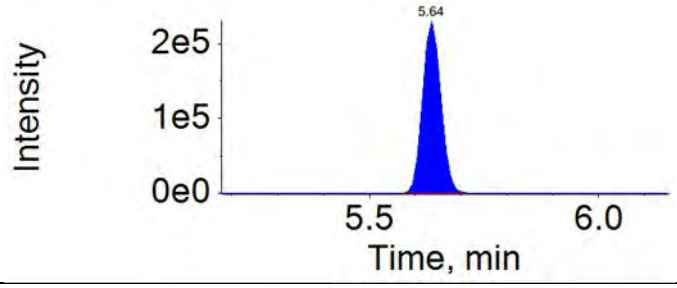
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

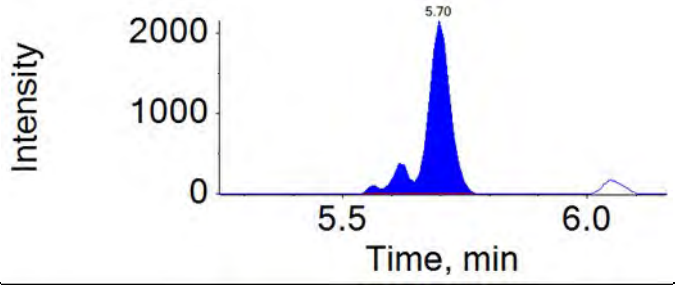
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

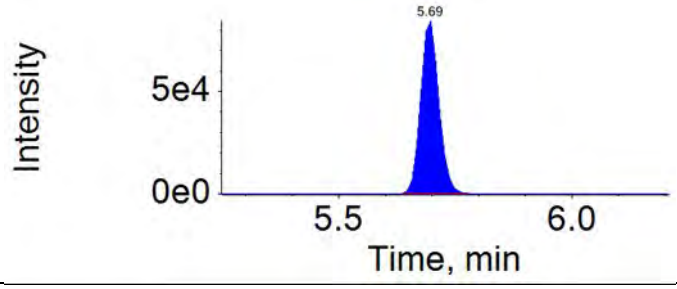
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



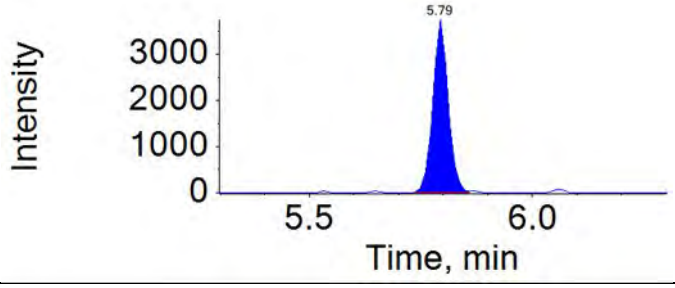


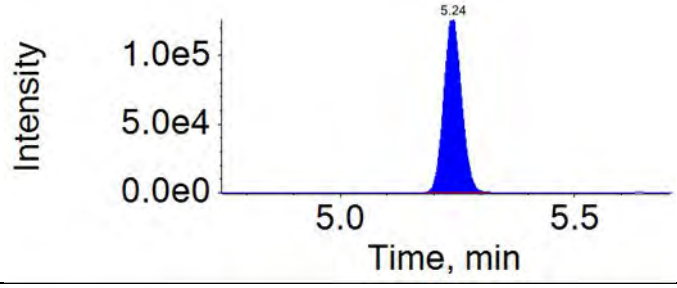
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



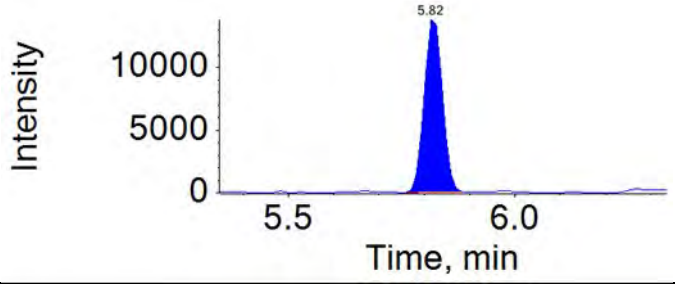


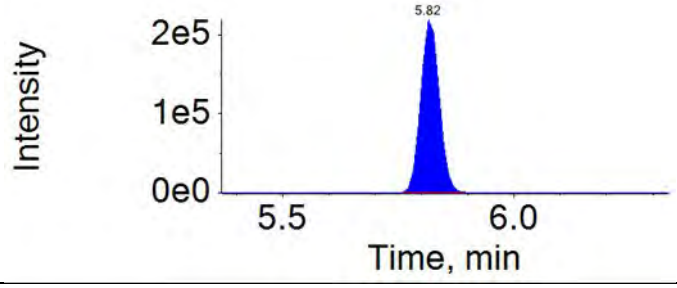
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



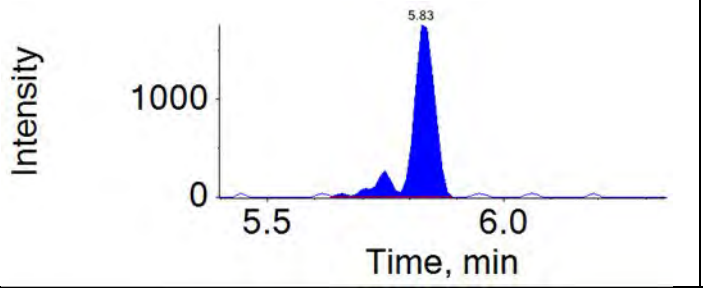


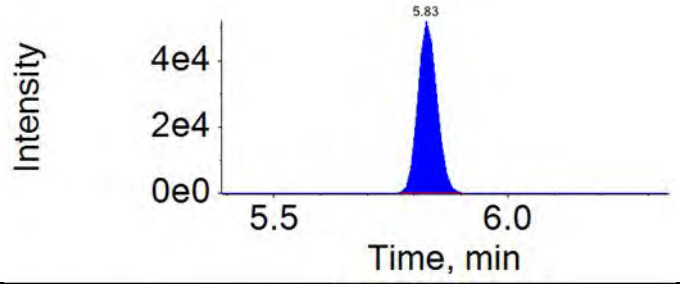
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

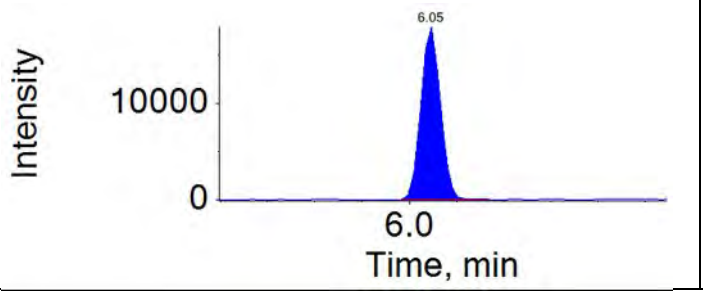
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

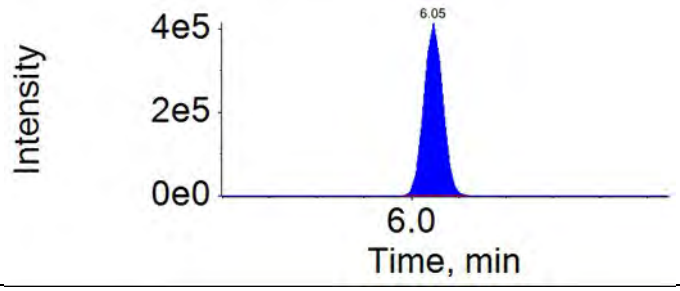
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



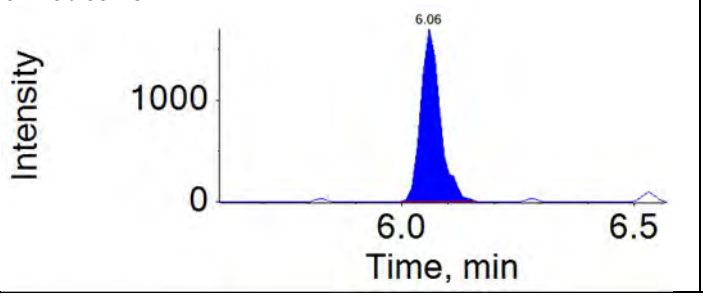


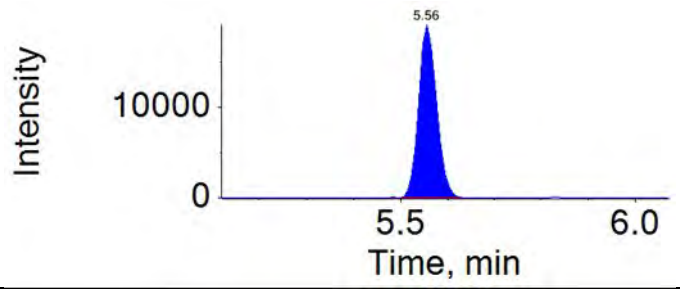
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



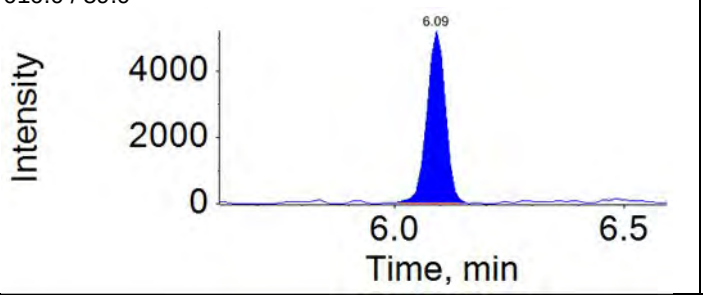


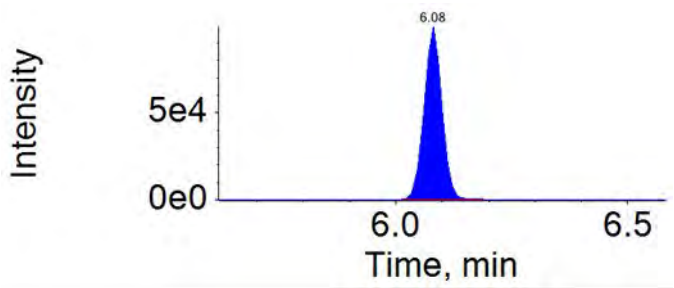
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



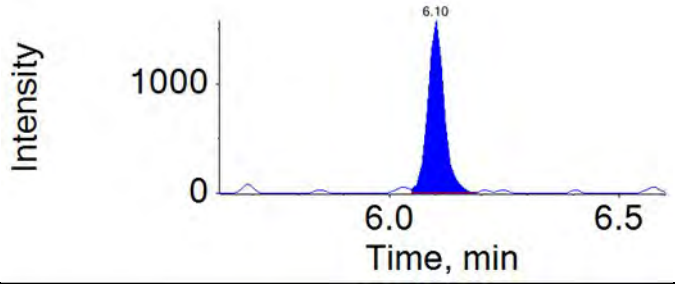


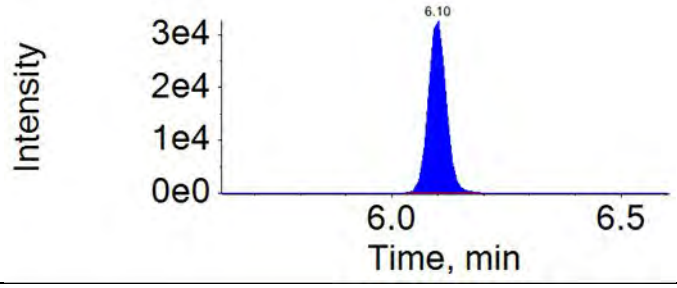
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

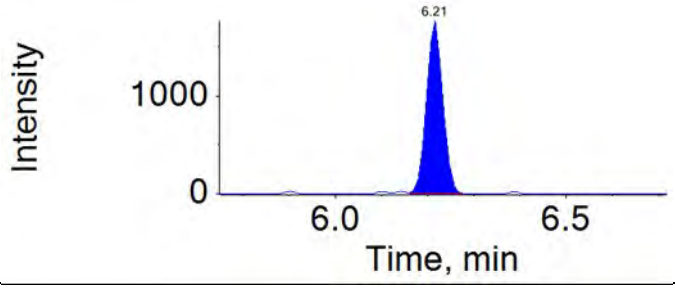
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

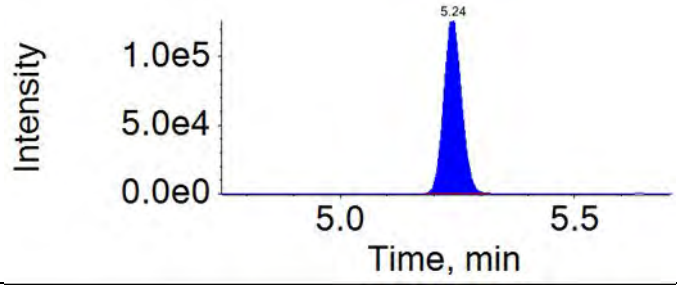
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



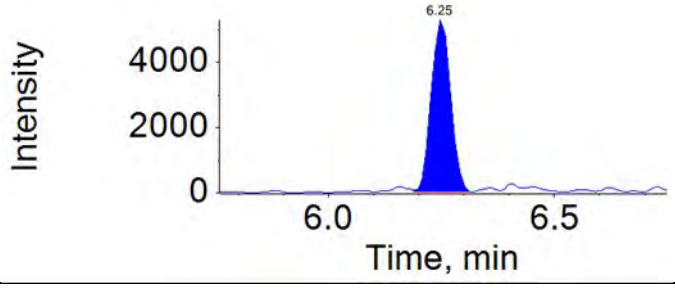


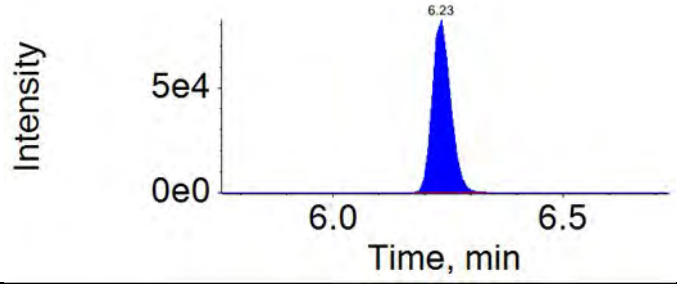
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



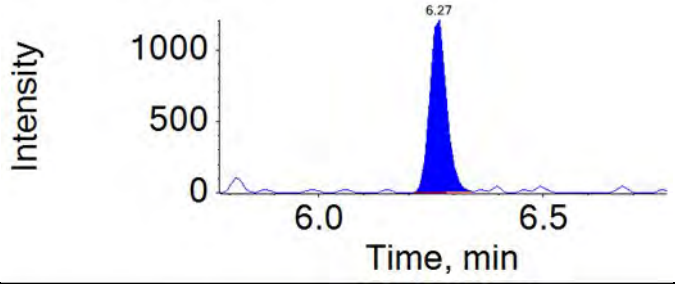


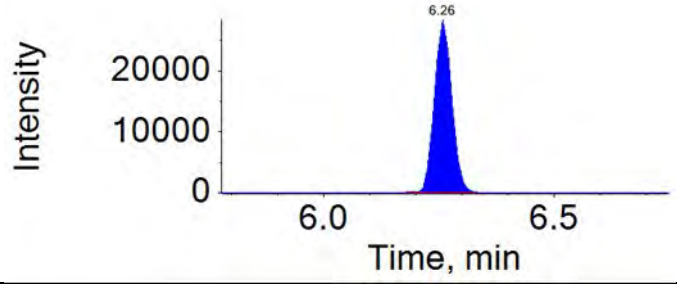
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





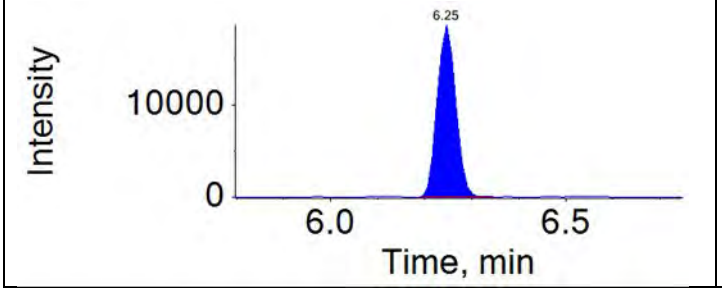
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

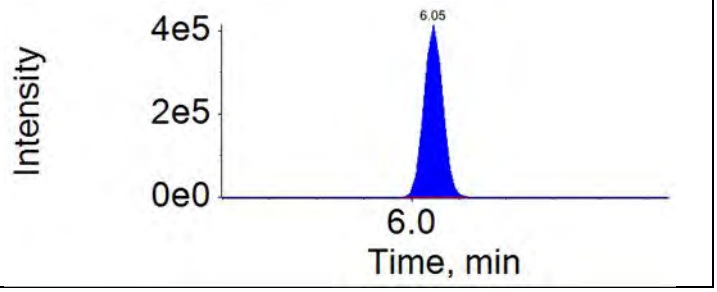




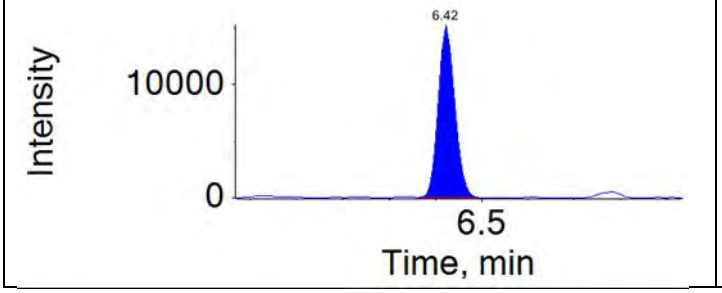
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

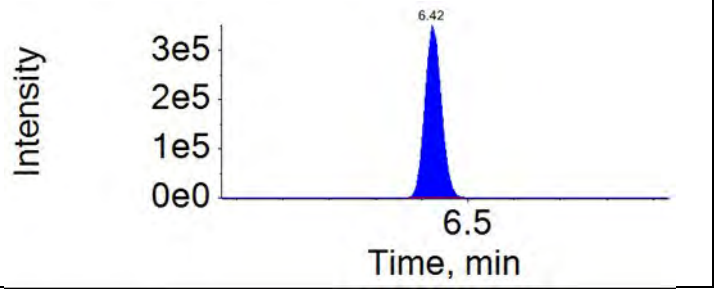
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



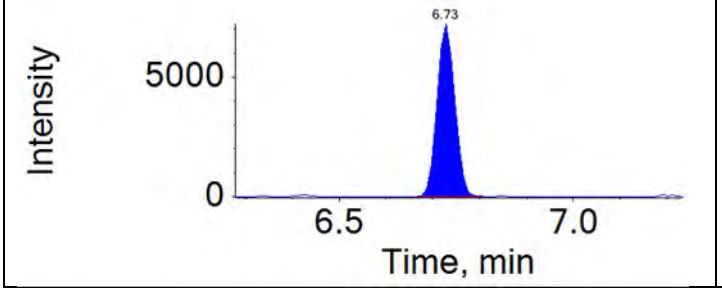


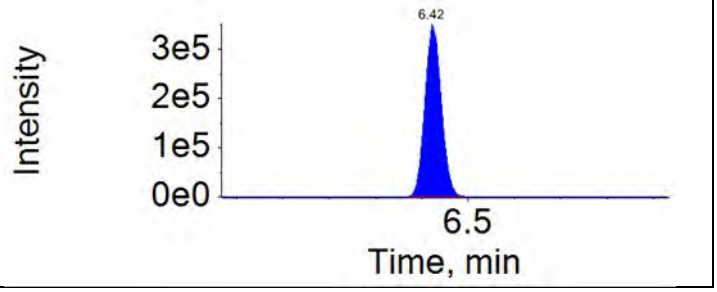
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



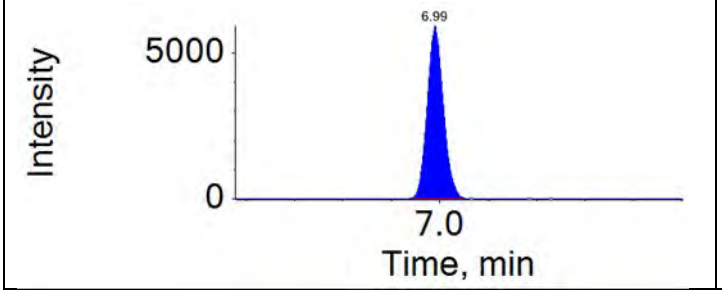


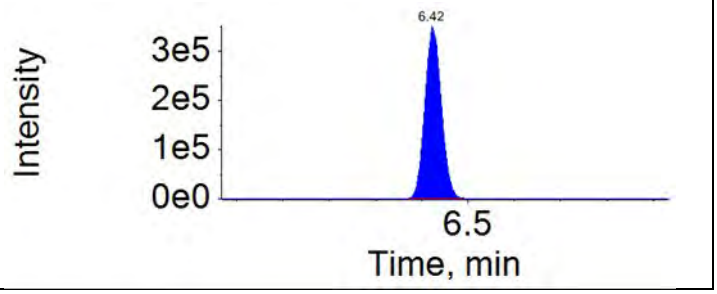
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



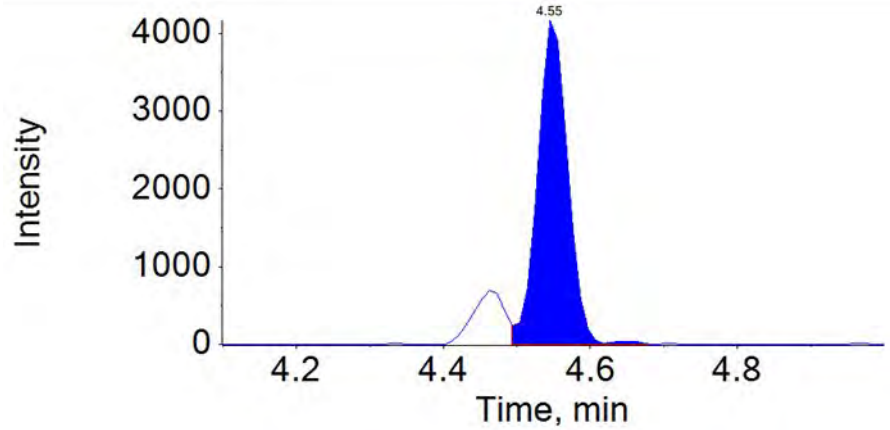


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

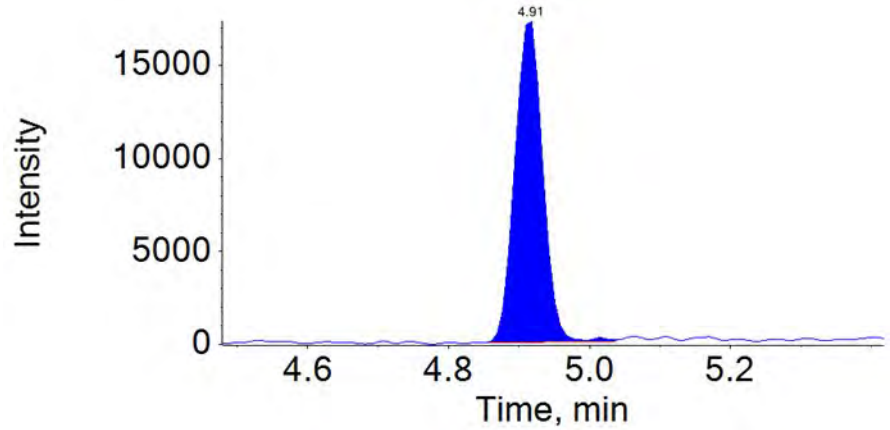
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
12006.38
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



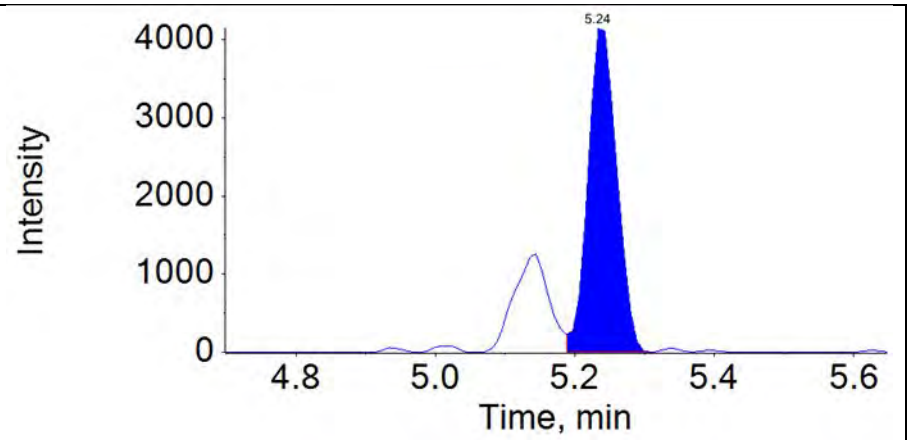
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.91
Peak Area:
47513.05
Mass Range:
413.0 / 369.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
11919.95
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



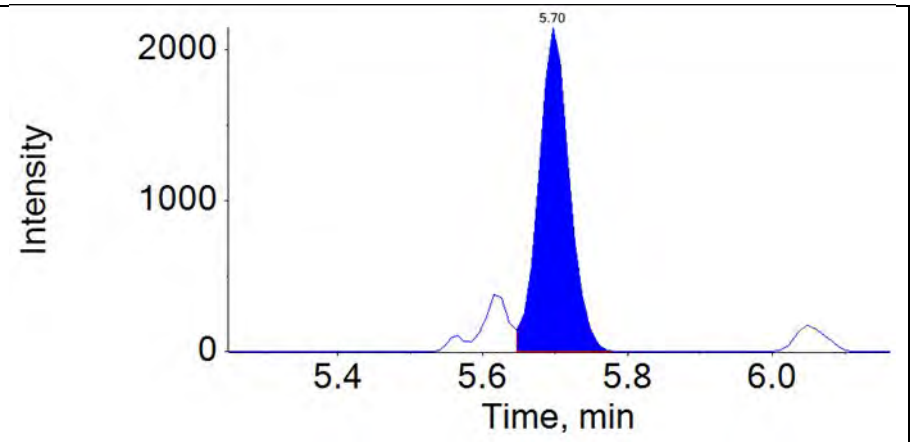
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

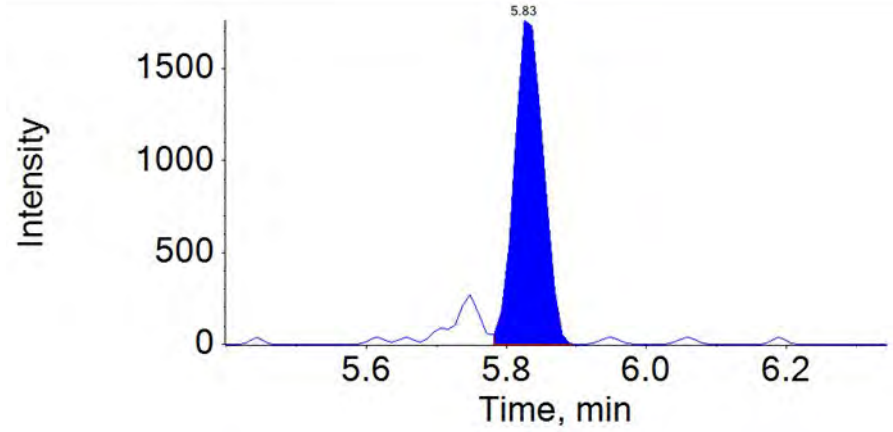
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
6299.31
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



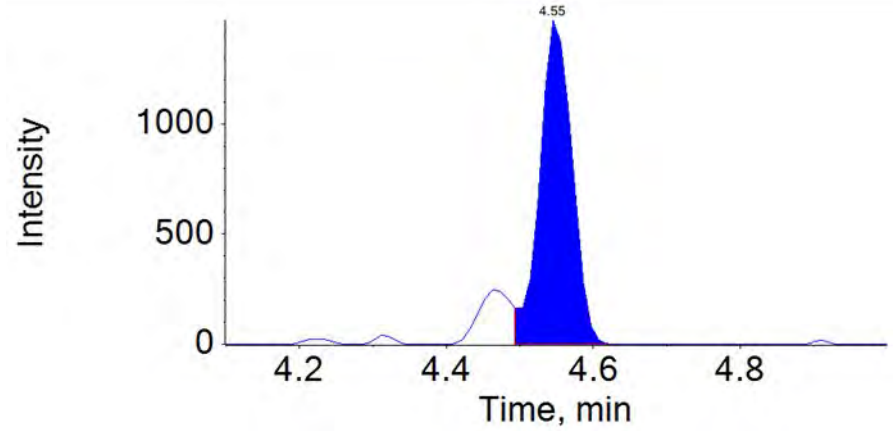
Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
5092.11
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

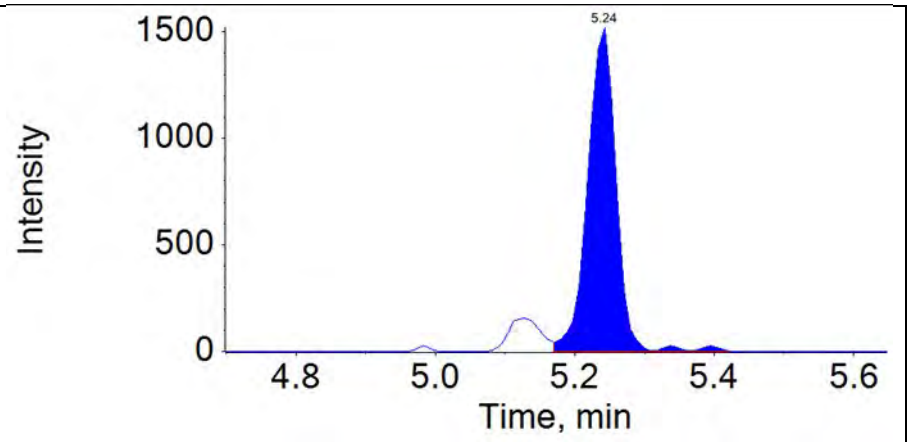
Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
4511.81
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

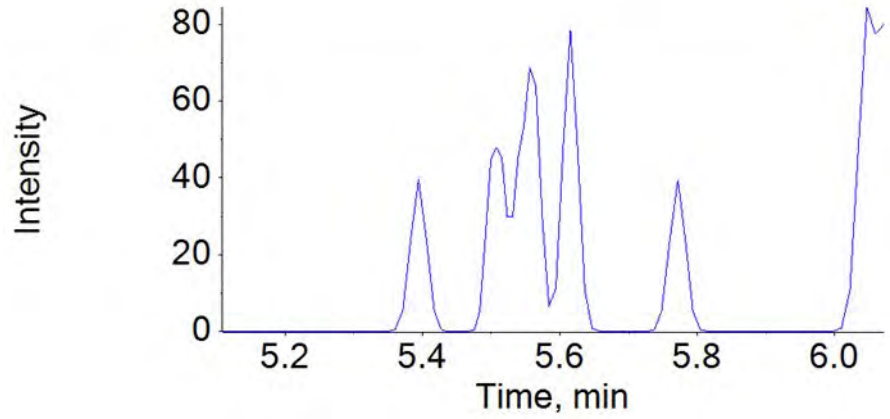
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
4333.81
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



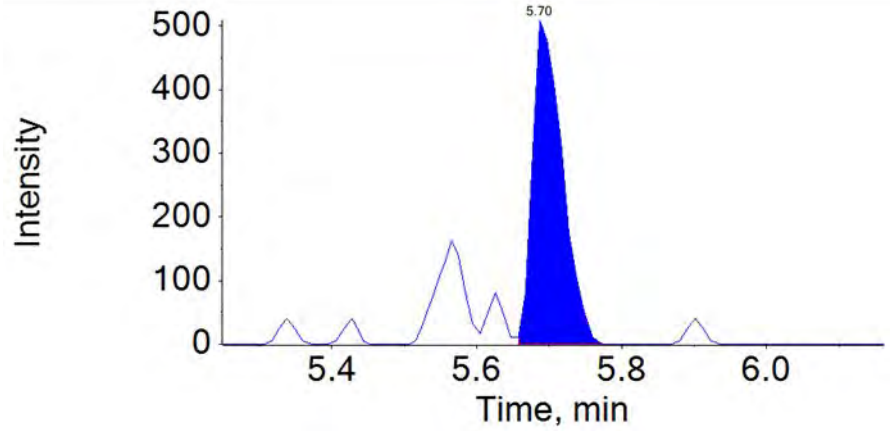
Integration Comment: incorrect integration

Component Name:
PFDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
513.0 / 169.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
1462.48
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



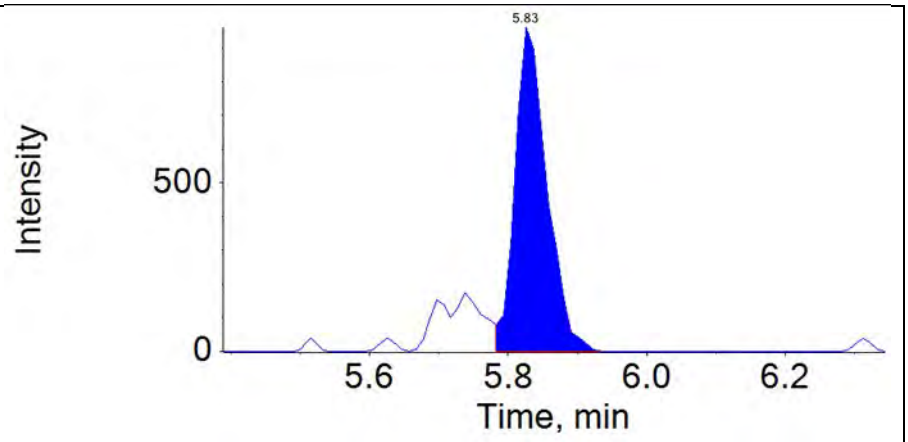
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

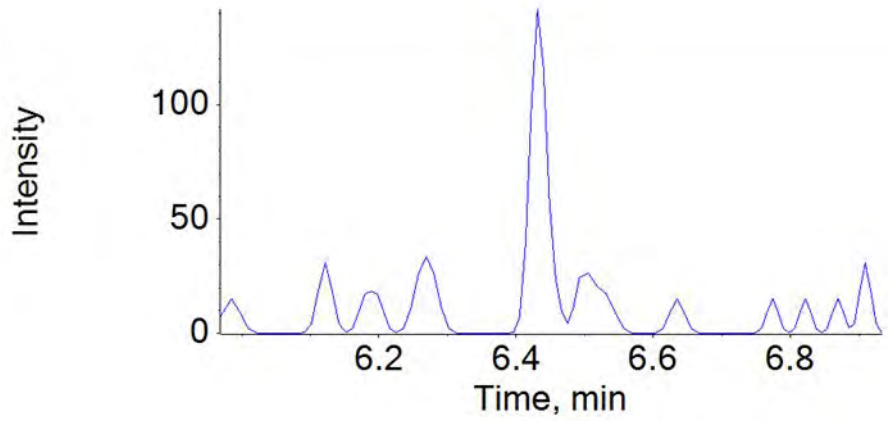
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
3080.32
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC26DCAL-06.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

Ion Ratio Report

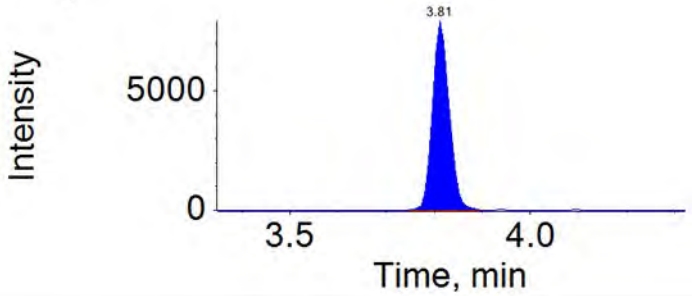
Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-06.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	19092.08	A	1.0000	1.0000			
PFBS_2	3.81	1.00	6321.87	A	0.3621	0.3311	-9	50	
4:2-FTS	4.12	1.00	5064.30	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	3057.26	A	0.6132	0.6037	-2	50	
PFHxA	4.16	1.00	41667.24	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	603.30	A	0.0123	0.0145	18	50	
PFPeS	4.18	1.10	9442.33	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	5350.57	A	0.5068	0.5667	12	50	
PFHpA	4.55	1.00	43713.24	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	2761.24	A	0.0570	0.0632	11	50	
PFHxS	4.55	1.00	13964.07	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	5260.89	M	0.3566	0.3767	6	50	
6:2-FTS	4.90	1.00	4812.17	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	3053.55	A	0.6328	0.6345	0	50	
PFHpS	4.91	1.08	14200.43	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	5836.85	A	0.4049	0.4110	2	50	
PFOA	4.91	1.00	47202.78	M	1.0000	1.0000			
PFOA_2	4.91	1.00	2040.67	A	0.0570	0.0432	-24	50	
PFOS	5.24	1.00	16520.87	M	1.0000	1.0000			
PFOS_2	5.24	1.00	4780.25	M	0.3043	0.2893	-5	50	
PFNA	5.25	1.00	41462.04	A	1.0000	1.0000			
PFNA_2	5.25	1.00	928.92	A	0.0213	0.0224	5	50	
PFNS	5.53	1.06	11962.21	A	1.0000	1.0000			
PFNS_2	5.54	1.06	4680.93	A	0.4515	0.3913	-13	50	
PFDA	5.55	1.00	39242.24	A	1.0000	1.0000			
PFDA_2	5.56	1.00	149.97	M	0.0067	0.0038	-43	50	
8:2-FTS	5.55	1.00	4952.20	A	1.0000	1.0000			
8:2-FTS_2	5.55	1.00	3092.17	A	0.6016	0.6244	4	50	
NMeFOSAA	5.70	1.00	7347.06	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	2031.75	M	0.2579	0.2765	7	50	
PFDS	5.79	1.11	8900.22	A	1.0000	1.0000			
PFDS_2	5.79	1.11	3897.91	A	0.4884	0.4380	-10	50	
PFUnDA	5.82	1.00	38484.14	A	1.0000	1.0000			
PFUnDA_2	5.84	1.00	194.39	A	0.0042	0.0051	20	50	
NEtFOSAA	5.83	1.00	5884.56	M	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	3861.26	M	0.6799	0.6562	-3	50	
PFDoDA	6.05	1.00	51716.92	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	812.33	A	0.0139	0.0157	13	50	
10:2-FTS	6.06	1.09	4976.33	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	3534.69	A	0.6715	0.7103	6	50	
PFTrDA	6.25	1.03	51092.14	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	508.70	A	0.0088	0.0100	13	50	
PFTeDA	6.42	1.00	37444.65	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	261.49	M	0.0063	0.0070	11	50	
PFHxDA	6.73	1.05	18987.18	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	1245.20	A	0.0643	0.0656	2	50	
PFODA	6.99	1.09	13602.58	A	1.0000	1.0000			
PFODA_2	6.99	1.09	321.87	A	0.0266	0.0237	-11	50	

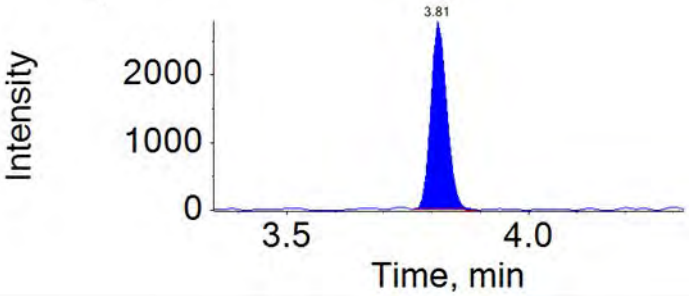
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

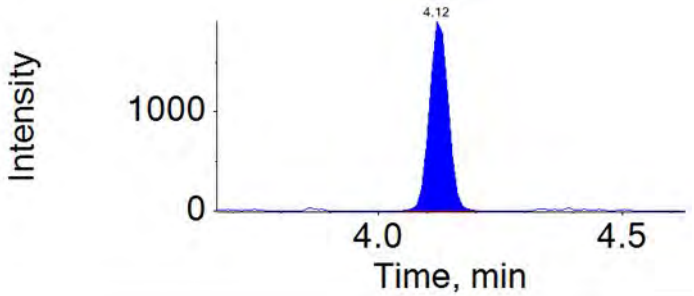
Component: PFBS
Primary Mass: 299.0 / 80.0



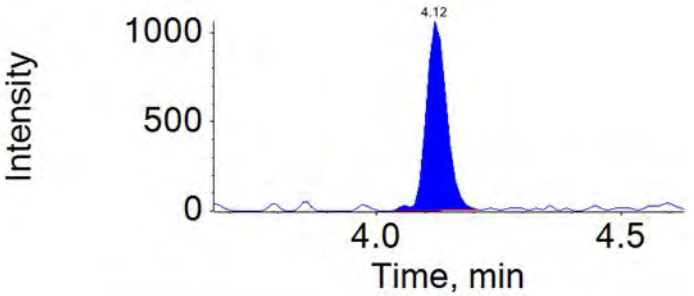
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



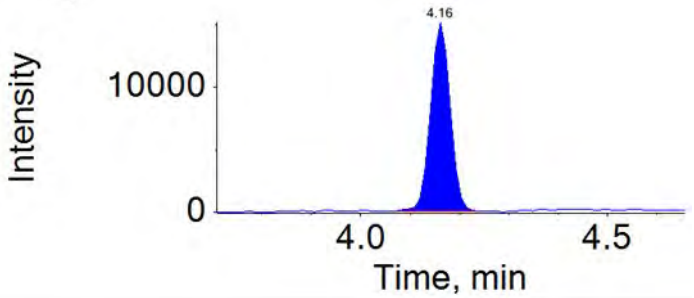
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



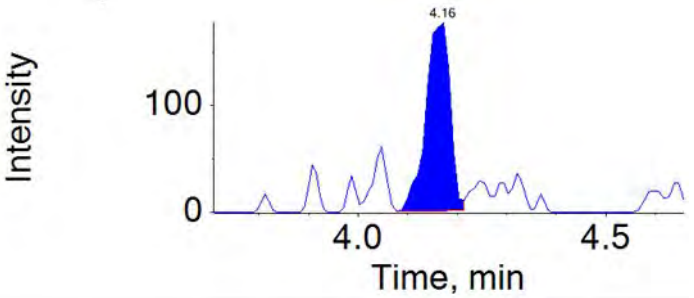
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



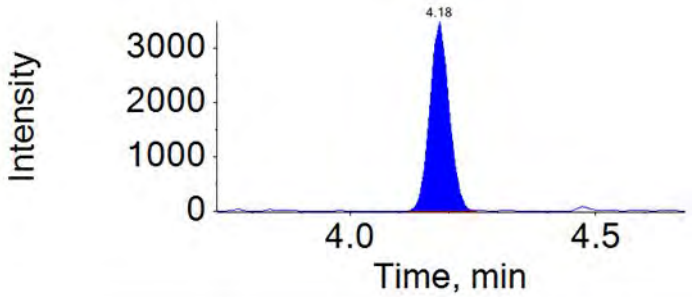
Component: PFHxA
Primary Mass: 313.0 / 269.0



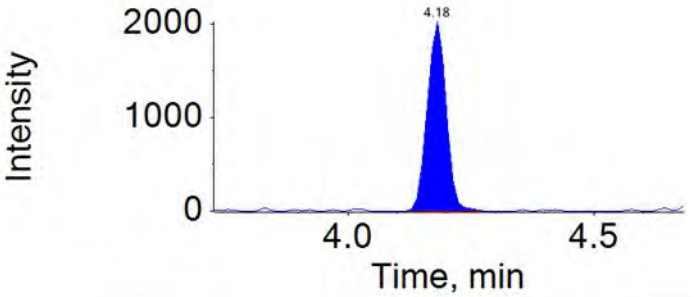
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



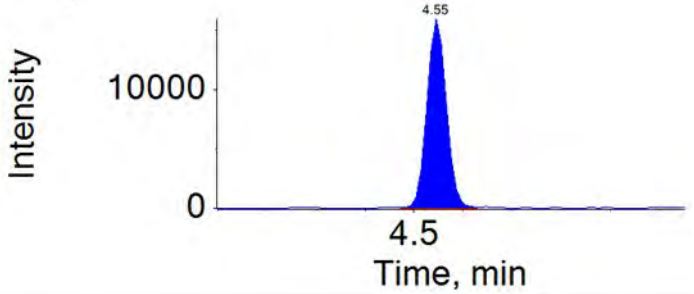
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



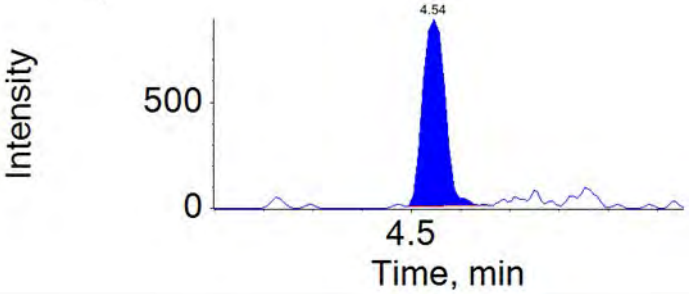
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

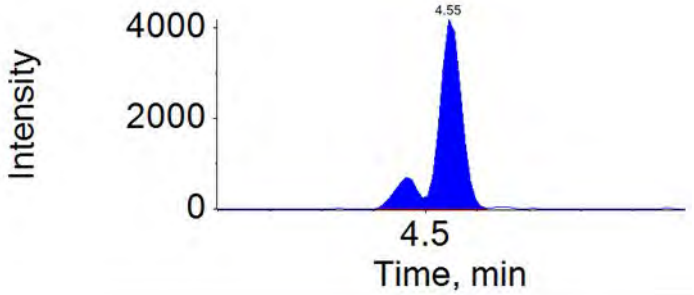
Component: PFHpA
Primary Mass: 363.0 / 319.0



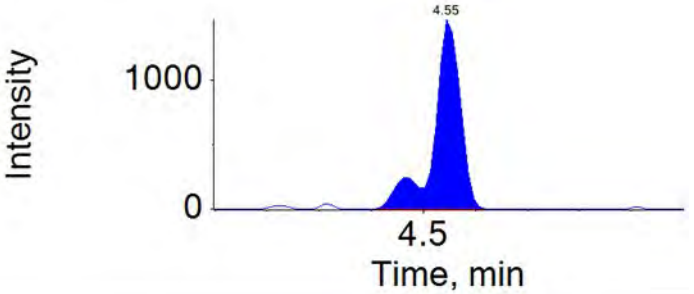
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



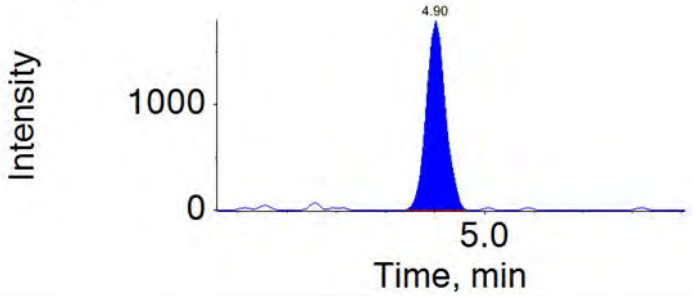
Component: PFHxS
Primary Mass: 399.0 / 80.0



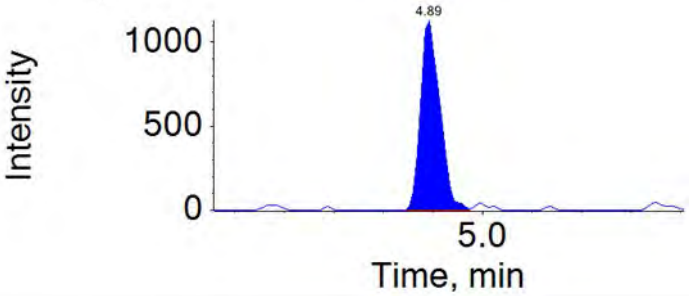
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



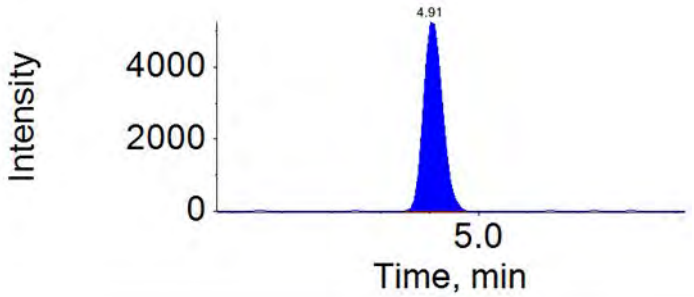
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



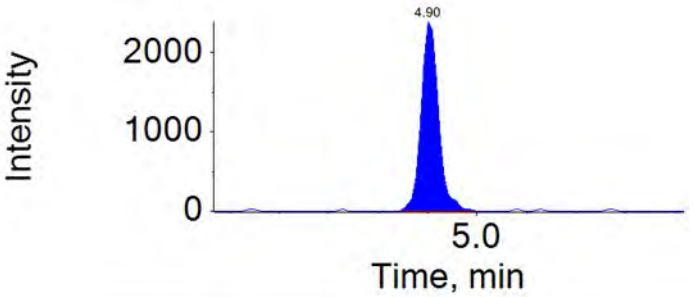
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



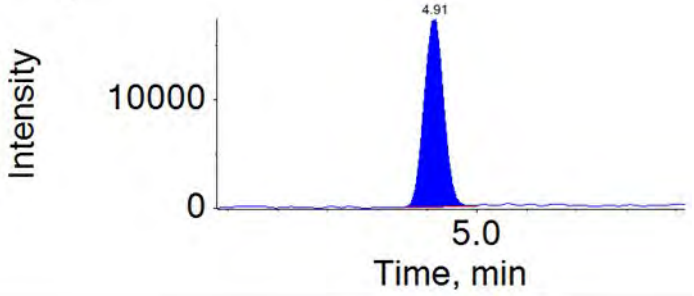
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



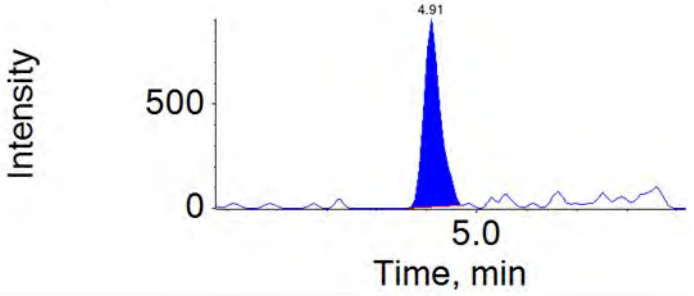
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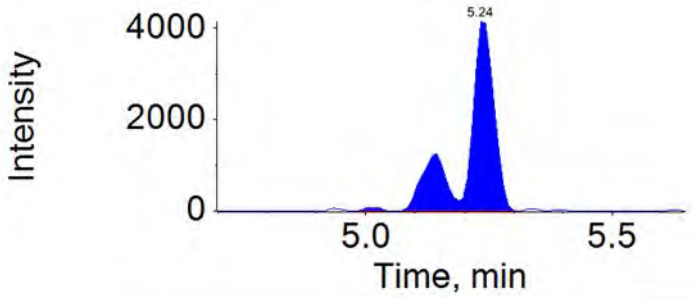
Component: PFOA
Primary Mass: 413.0 / 369.0



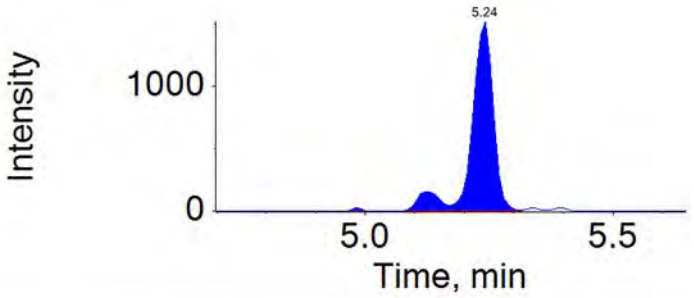
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



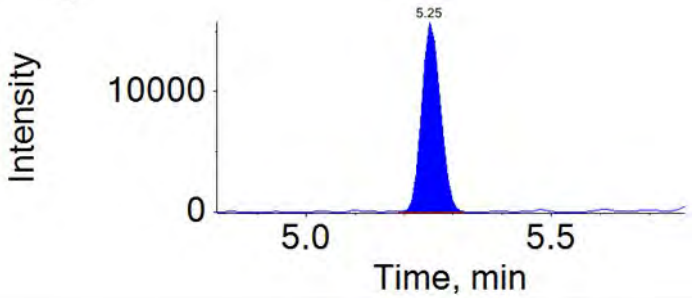
Component: PFOS
Primary Mass: 499.0 / 80.0



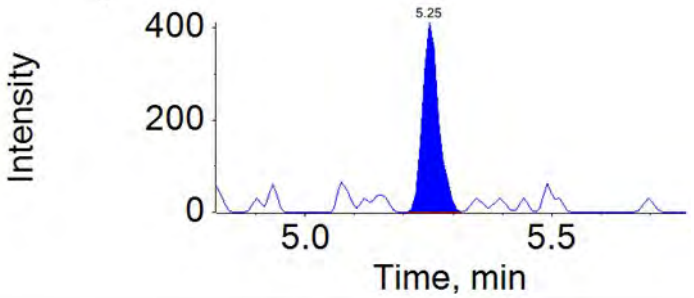
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



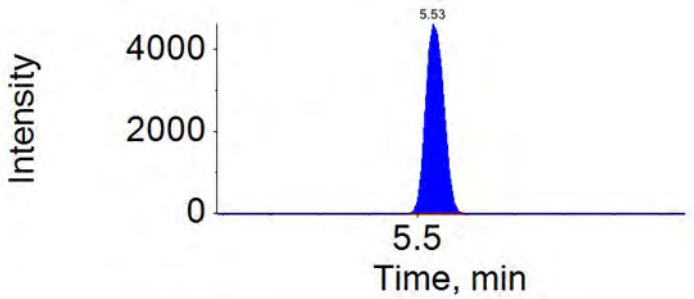
Component: PFNA
Primary Mass: 463.0 / 419.0



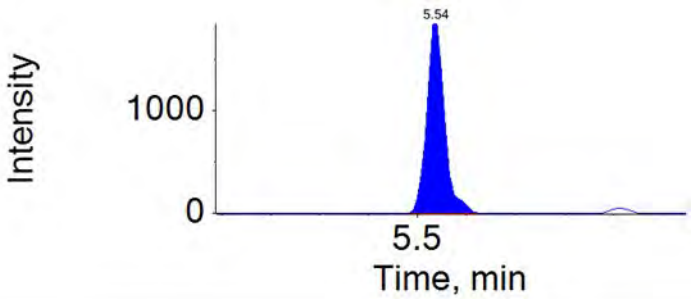
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



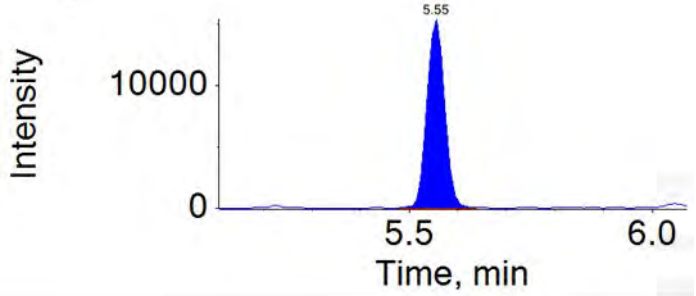
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



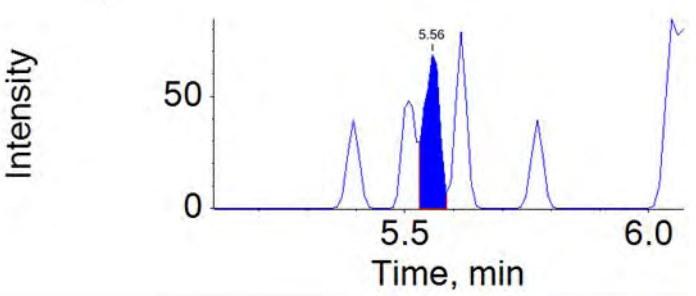
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

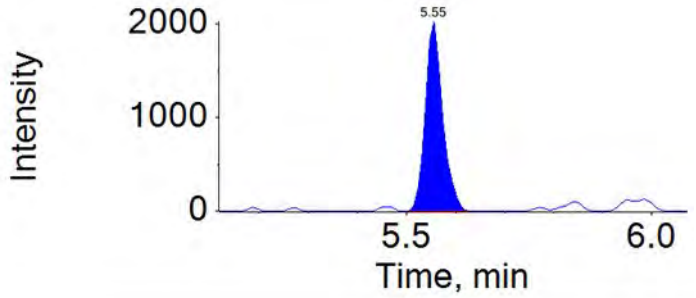
Component: PFDA
Primary Mass: 513.0 / 469.0



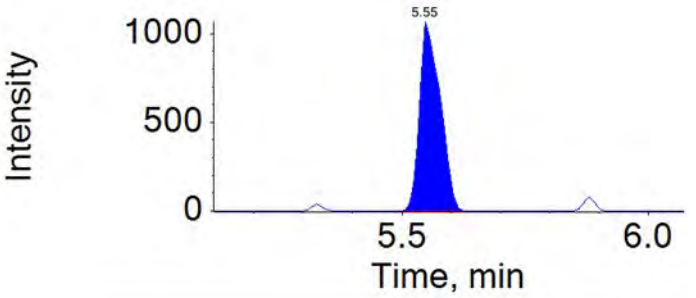
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



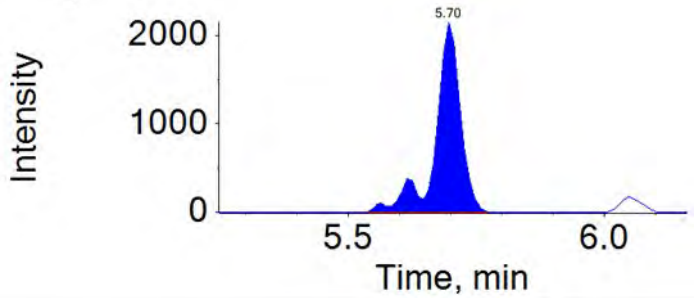
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



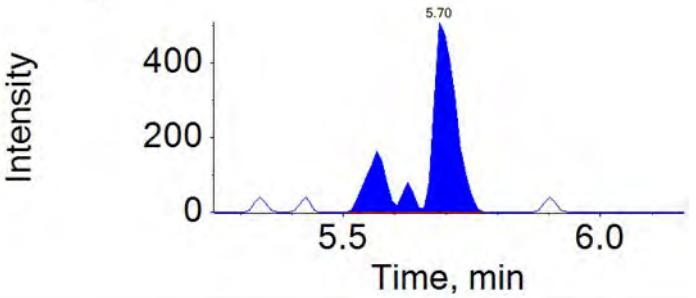
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



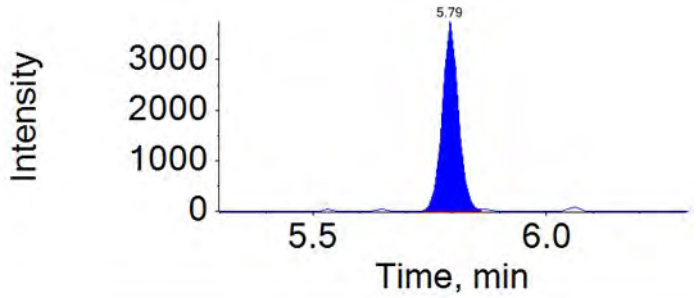
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



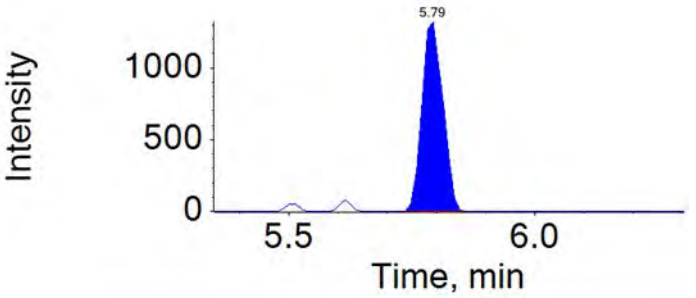
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



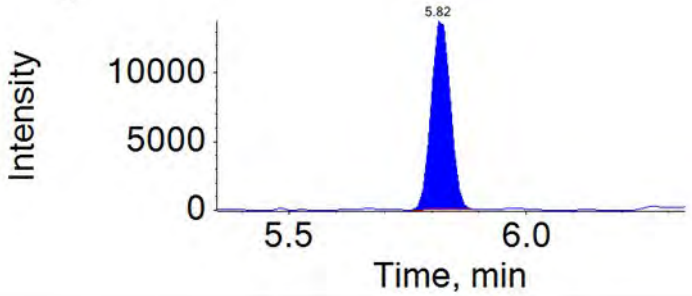
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



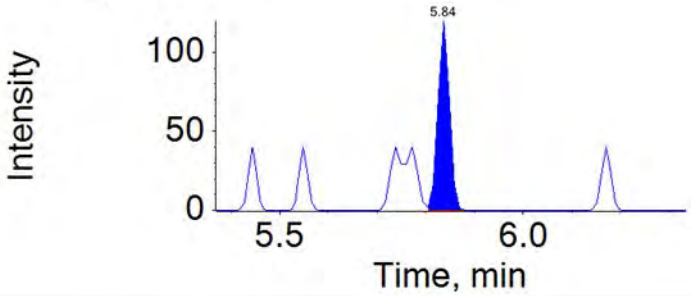
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

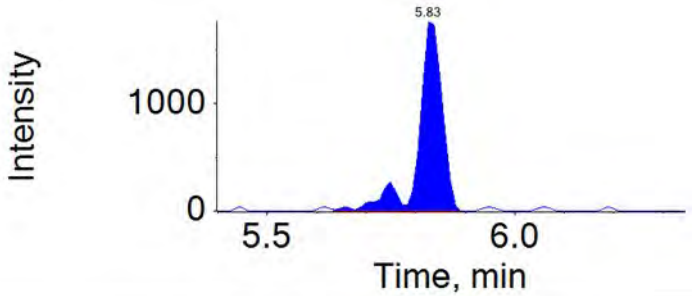
Component: PFUnDA
Primary Mass: 563.0 / 519.0



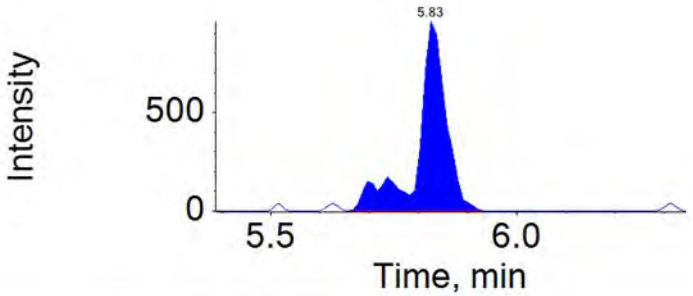
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



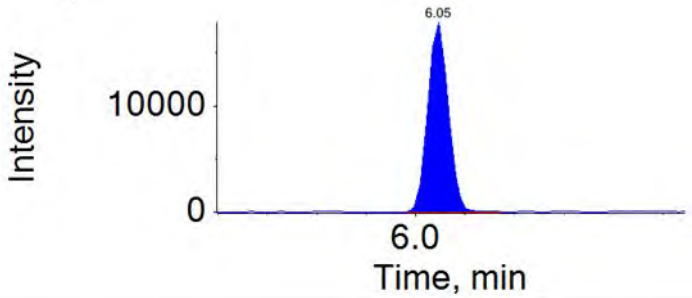
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



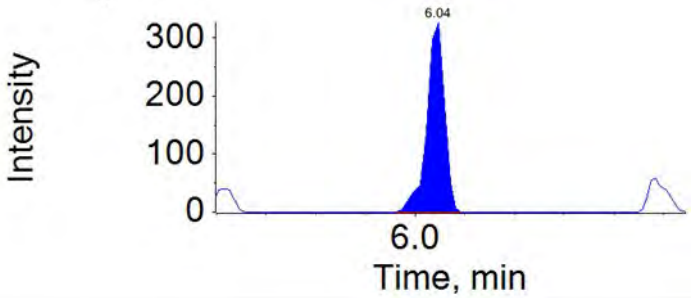
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



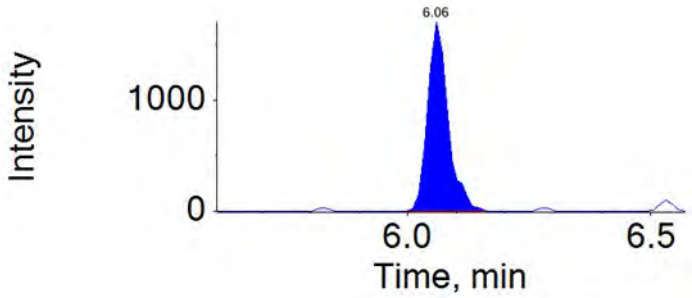
Component: PFDoDA
Primary Mass: 613.0 / 569.0



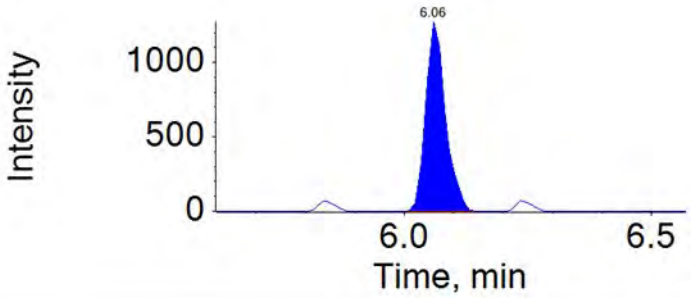
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



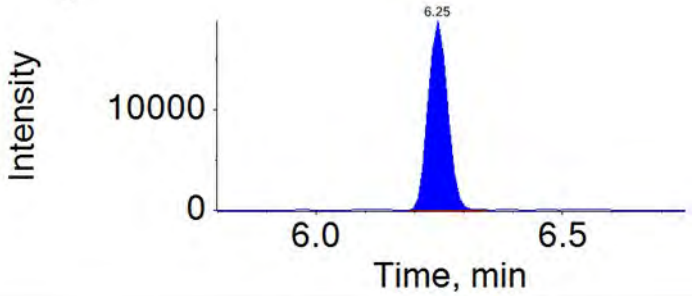
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



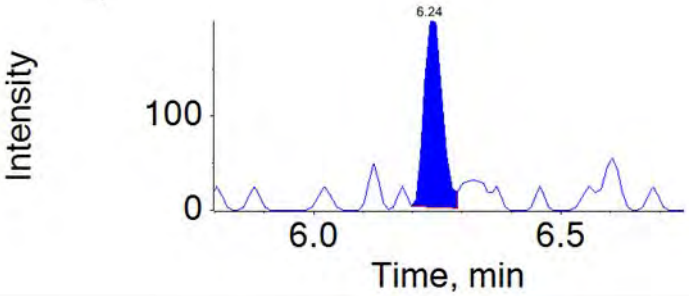
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

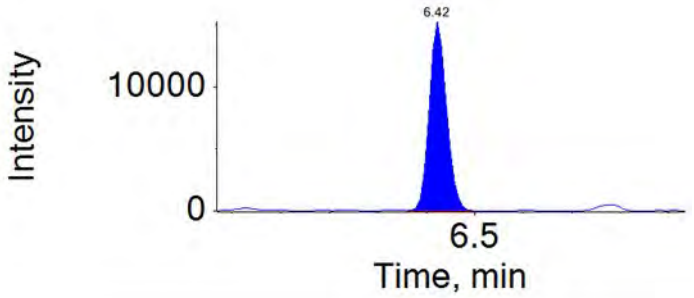
Component: PFTrDA
Primary Mass: 663.0 / 619.0



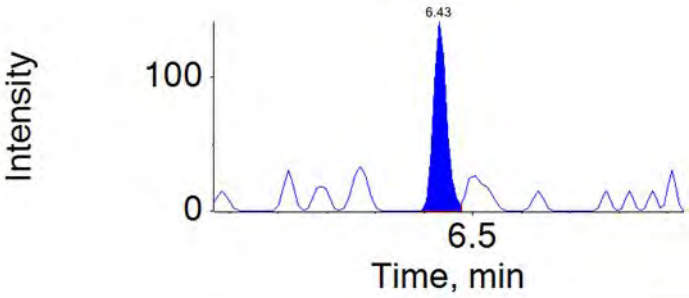
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



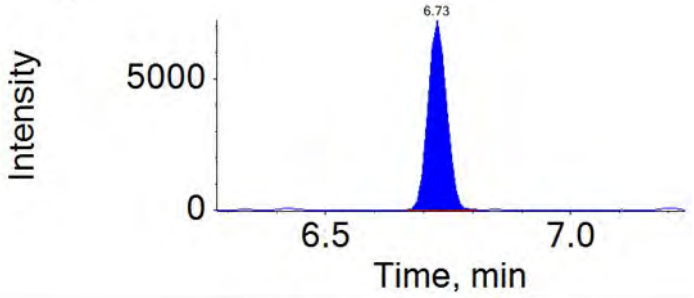
Component: PFTeDA
Primary Mass: 713.0 / 669.0



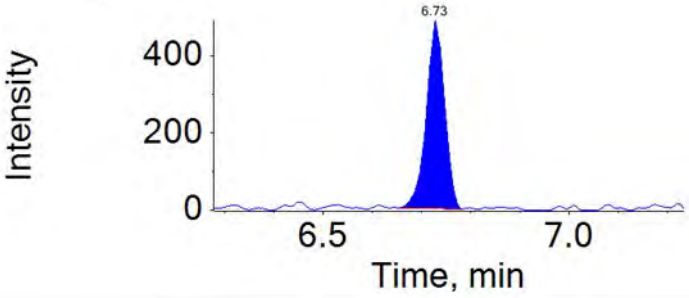
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



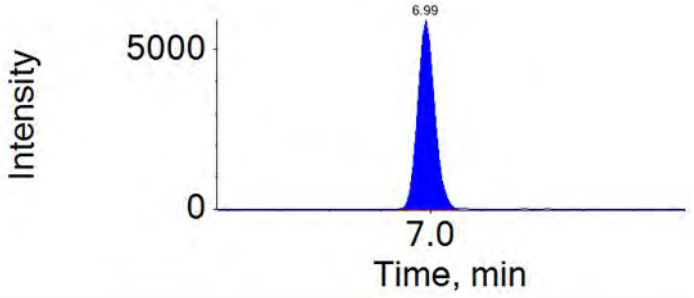
Component: PFHxDA
Primary Mass: 813.0 / 769.0



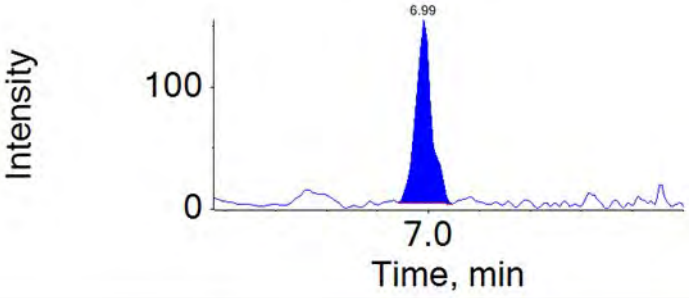
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL2			**Data File:**		18DEC26DCAL-07.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-26T13:46:22
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	993997.7	965438.2	3	50	
13C2-PFOA	5.0	548408.2	527066.0	4	50	
13C4-PFOS	4.8	310748.4	307230.6	1	50	
13C2-PFDA	5.0	526082.5	493258.9	7	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1166730.4	13C3-PFBA	993997.7	1.174	5.000	5.208	104	70-130	
E13C5-PFPeA	1037891.4	13C3-PFBA	993997.7	1.044	5.000	4.973	99	70-130	
E13C3-PFBS	471532.4	13C3-PFBA	993997.7	0.474	4.650	4.609	99	70-130	
E13C2-4:2-FTS	67524.4	13C2-PFOA	548408.2	0.123	4.670	4.691	100	70-130	
E13C5-PFHxA	760252.9	13C2-PFOA	548408.2	1.386	5.000	5.071	101	70-130	
E13C3-PFHxS	374890.4	13C2-PFOA	548408.2	0.684	4.730	5.253	111	70-130	
E13C4-PFHpA	640788.0	13C2-PFOA	548408.2	1.168	5.000	5.264	105	70-130	
E13C2-6:2-FTS	57995.0	13C2-PFOA	548408.2	0.106	4.750	5.174	109	70-130	
E13C8-PFOA	1076565.9	13C2-PFOA	548408.2	1.963	5.000	5.500	110	70-130	
E13C8-PFOS	355971.5	13C4-PFOS	310748.4	1.146	4.780	4.994	104	70-130	
E13C9-PFNA	697399.5	13C4-PFOS	310748.4	2.244	5.000	4.944	99	70-130	
E13C6-PFDA	930100.9	13C2-PFDA	526082.5	1.768	5.000	5.076	102	70-130	
E13C2-8:2-FTS	45330.5	13C2-PFDA	526082.5	0.086	4.790	4.458	93	70-130	
E13C8-PFOSA	665796.1	13C2-PFDA	526082.5	1.266	5.000	5.055	101	70-130	
Ed3-NMeFOSAA	204120.6	13C2-PFDA	526082.5	0.388	5.000	4.951	99	70-130	
E13C7-PFUnDA	592323.8	13C2-PFDA	526082.5	1.126	5.000	4.865	97	70-130	
Ed5-NEtFOSAA	159433.3	13C2-PFDA	526082.5	0.303	5.000	5.251	105	70-130	
E13C2-PFDoDA	1208558.0	13C2-PFDA	526082.5	2.297	5.000	4.983	100	70-130	
Ed7-NMePFOSAE	268432.4	13C2-PFDA	526082.5	0.510	5.000	4.824	96	70-130	
Ed3-NMePFOSA	91719.3	13C2-PFDA	526082.5	0.174	5.000	4.942	99	70-130	
Ed9-NEtPFOSAE	221228.8	13C2-PFDA	526082.5	0.421	5.000	4.576	92	70-130	
Ed5-NEtPFOSA	74017.7	13C2-PFDA	526082.5	0.141	5.000	4.966	99	70-130	
E13C2-PFTeDA	864421.3	13C2-PFDA	526082.5	1.643	5.000	4.846	97	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

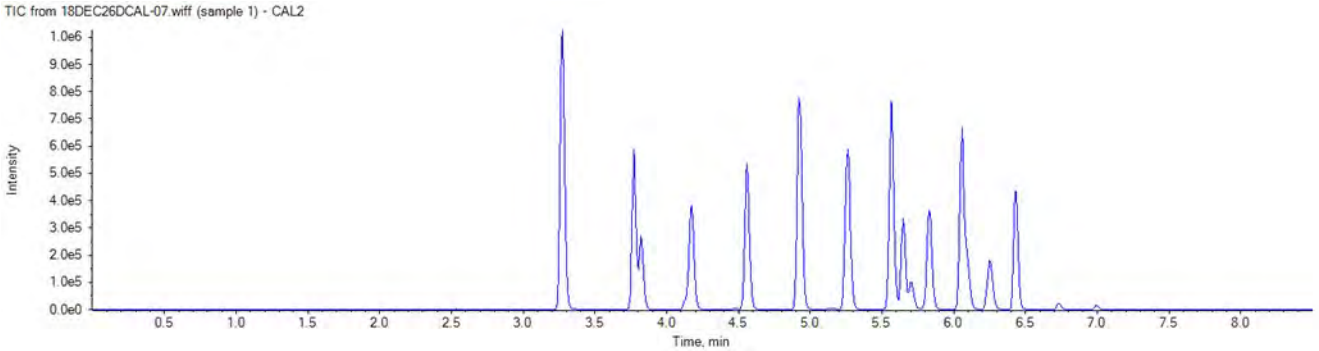
Analyte Quantitation Peak Table

Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-07.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	117405.8		A	13C4-PFBA	3.27	1166730.4	0.101	0.532
PFPeA	3.77	1.000	117730.9		A	13C5-PFPeA	3.77	1037891.4	0.113	0.563
PFBS	3.82	1.000	46201.0		A	13C3-PFBS	3.82	471532.4	0.098	0.486
4:2-FTS	4.14	1.000	14088.0		A	13C2-4:2-FTS	4.14	67524.4	0.209	0.512
PFHxA	4.17	1.000	102568.1		A	13C5-PFHxA	4.17	760252.9	0.135	0.554
PFPeS	4.19	1.100	23390.6		A	13C3-PFBS	3.82	471532.4	0.050	0.499
PFHpA	4.56	1.000	117935.9		A	13C4-PFHpA	4.56	640788.0	0.184	0.582
PFHxS	4.56	1.000	39380.2		M	13C3-PFHxS	4.56	374890.4	0.105	0.491
6:2-FTS	4.91	1.000	13426.6		A	13C2-6:2-FTS	4.91	57995.0	0.232	0.555
PFHpS	4.92	1.080	39170.6		A	13C3-PFHxS	4.56	374890.4	0.104	0.547
PFOA	4.93	1.000	113680.3		A	13C8-PFOA	4.93	1076565.9	0.106	0.559
PFOS	5.25	1.000	40965.7		M	13C8-PFOS	5.25	355971.5	0.115	0.501
PFNA	5.27	1.000	101332.6		A	13C9-PFNA	5.27	697399.5	0.145	0.584
PFNS	5.54	1.060	26402.4		A	13C8-PFOS	5.25	355971.5	0.074	0.507
PFDA	5.57	1.000	98664.3		A	13C6-PFDA	5.57	930100.9	0.106	0.612
8:2-FTS	5.57	1.000	14213.6		A	13C2-8:2-FTS	5.57	45330.5	0.314	0.620
PFOSA	5.65	1.000	71080.7		A	13C8-PFOSA	5.65	665796.1	0.107	0.562
NMeFOSAA	5.71	1.000	19424.3		M	d3-NMeFOSAA	5.71	204120.6	0.095	0.555
PFDS	5.81	1.110	20457.3		A	13C8-PFOS	5.25	355971.5	0.057	0.474
PFUnDA	5.83	1.000	99599.8		A	13C7-PFUnDA	5.83	592323.8	0.168	0.643
NEtFOSAA	5.84	1.000	15720.4		M	d5-NEtFOSAA	5.84	159433.3	0.099	0.507
PFDoDA	6.06	1.000	134888.9		A	13C2-PFDoDA	6.06	1208558.0	0.112	0.569
10:2-FTS	6.07	1.090	13556.6		A	13C2-8:2-FTS	5.57	45330.5	0.299	0.611
NMePFOSAE	6.10	1.000	37217.7		A	d7-NMePFOSAE	6.09	268432.4	0.139	0.586
NMePFOSA	6.11	1.000	9717.6		A	d3-NMePFOSA	6.11	91719.3	0.106	0.529
PFDoS	6.23	1.190	11605.3		A	13C8-PFOS	5.25	355971.5	0.033	0.487
NEtPFOSAE	6.26	1.000	37517.0		A	d9-NEtPFOSAE	6.24	221228.8	0.170	0.561
NEtPFOSA	6.27	1.000	7653.2		A	d5-NEtPFOSA	6.27	74017.7	0.103	0.486
PFTrDA	6.26	1.030	127157.4		A	13C2-PFDoDA	6.06	1208558.0	0.105	0.560
PFTeDA	6.43	1.000	84446.4		A	13C2-PFTeDA	6.43	864421.3	0.098	0.556
PFHxDA	6.73	1.050	45735.9		A	13C2-PFTeDA	6.43	864421.3	0.053	0.610
PFODA	6.99	1.090	33603.8		A	13C2-PFTeDA	6.43	864421.3	0.039	0.575

Total Ion Chromatogram

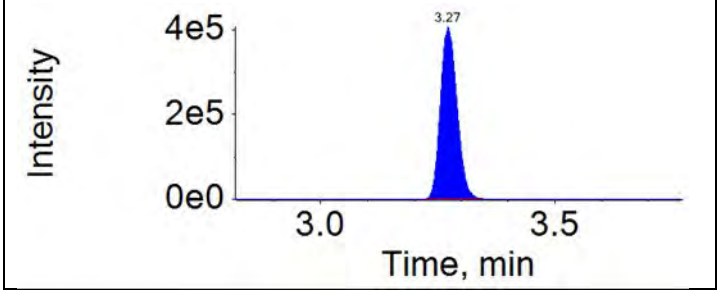


APPROVED
By MSM at 1:33 pm, 12/27/18

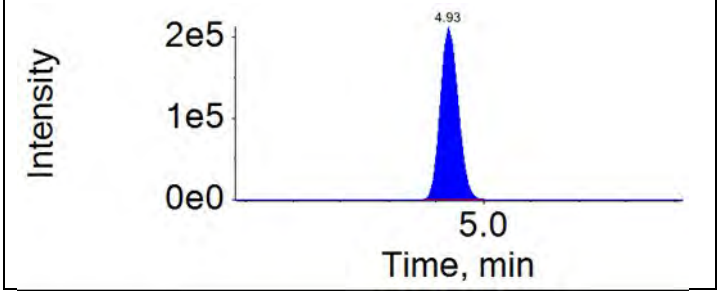
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

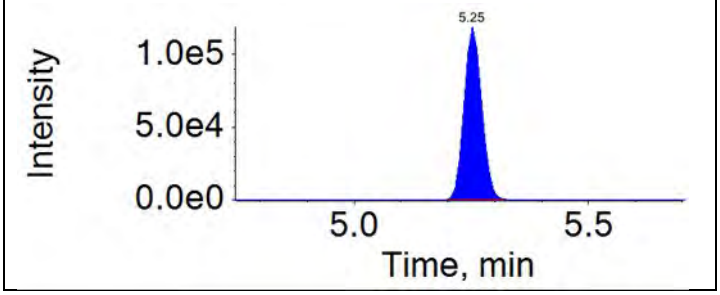
Injection Standard: 13C3-PFBA
216.0 / 172.0



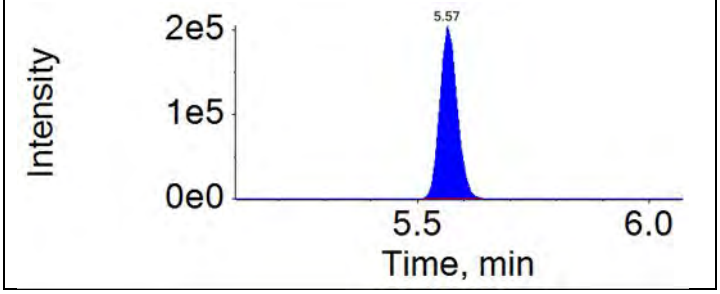
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

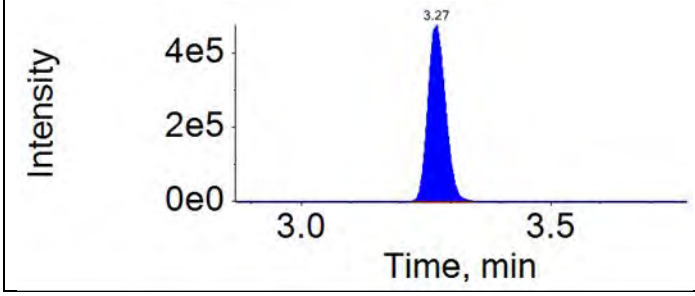


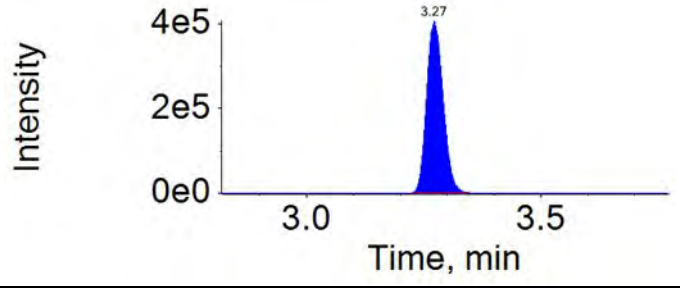
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

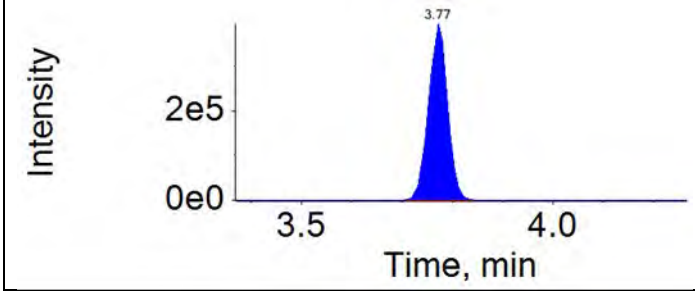
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

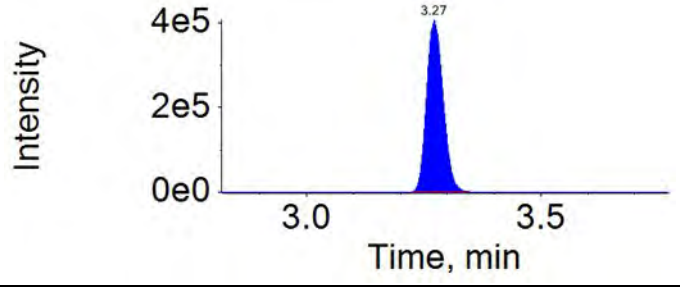
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



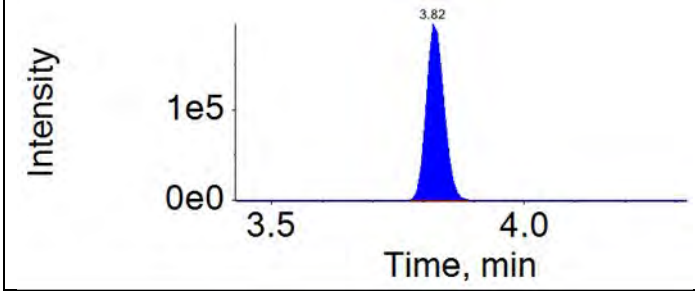


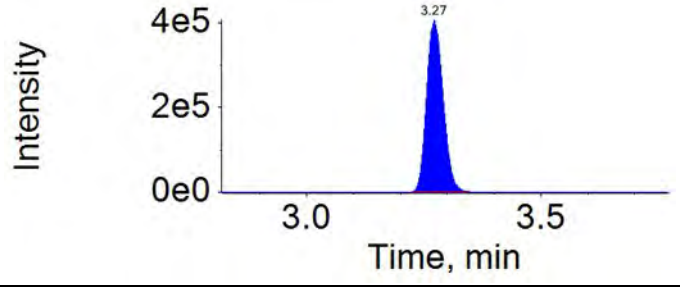
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



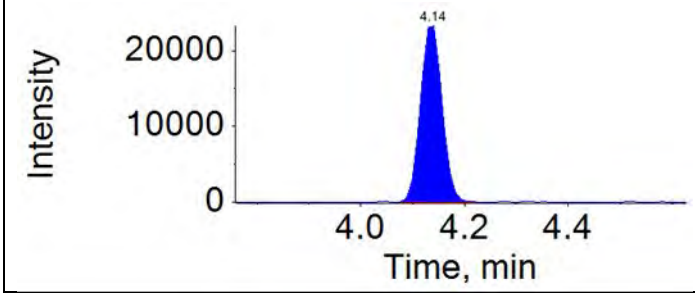


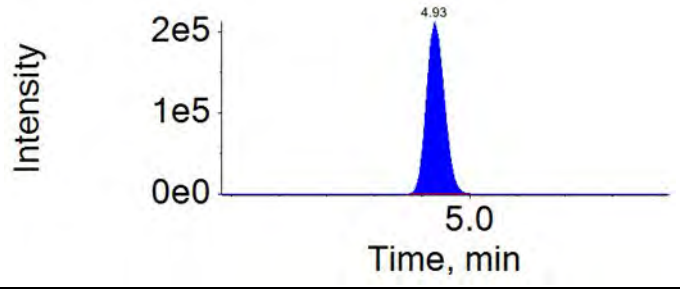
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



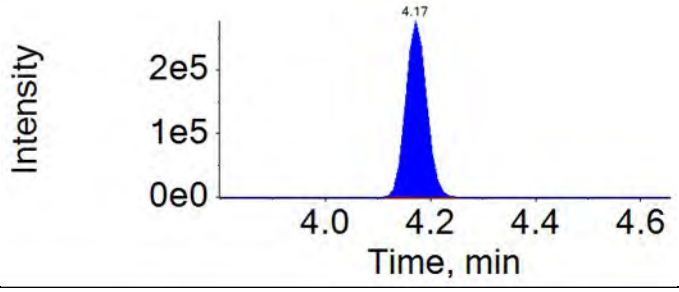


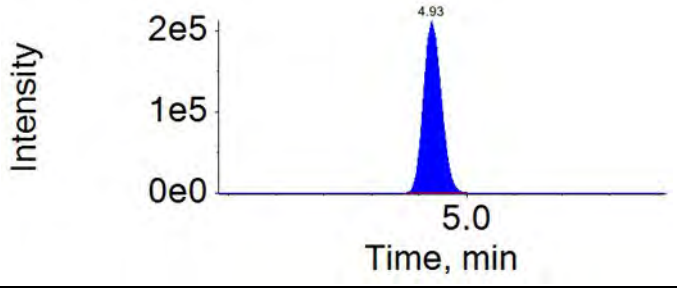
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

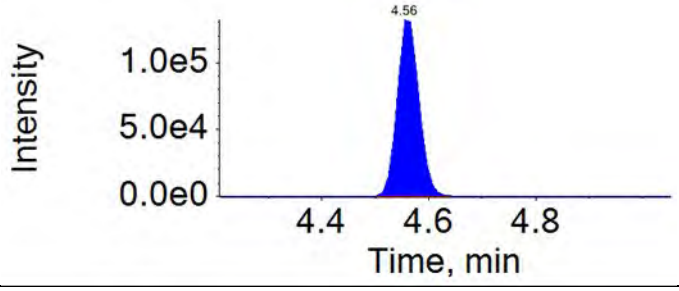
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

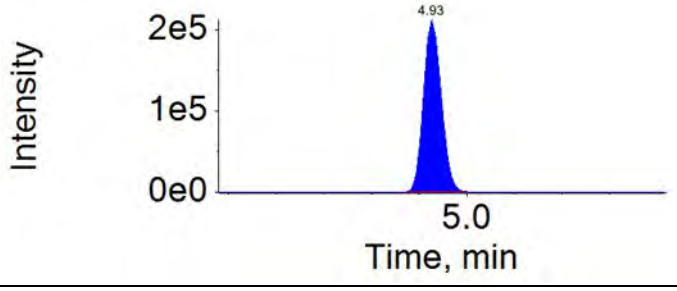
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



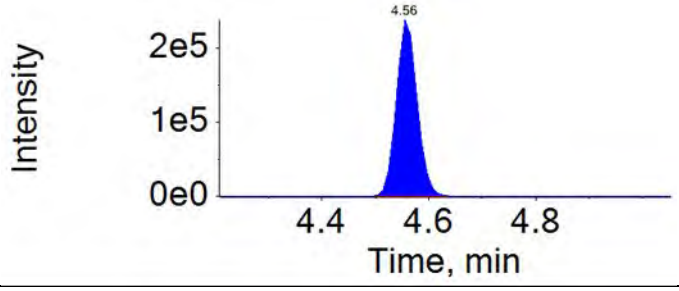


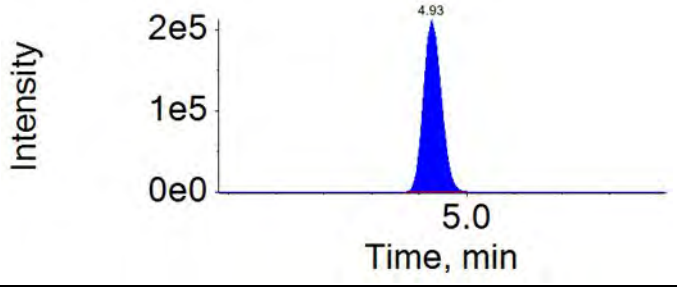
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



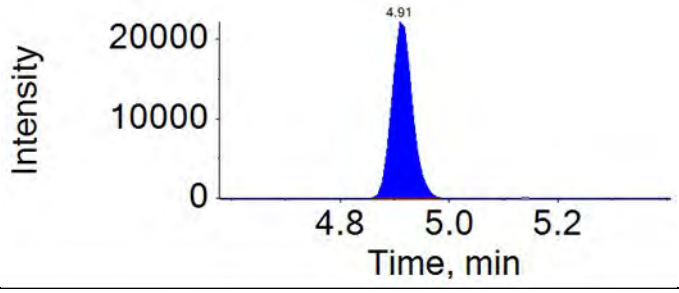


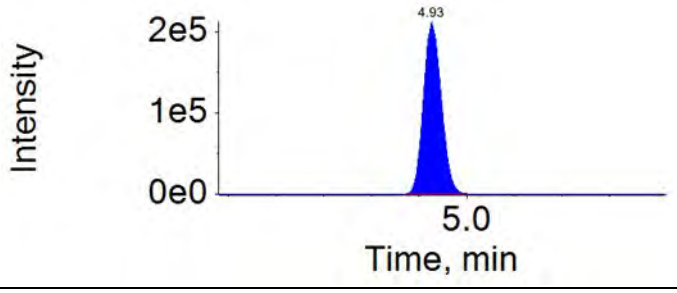
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



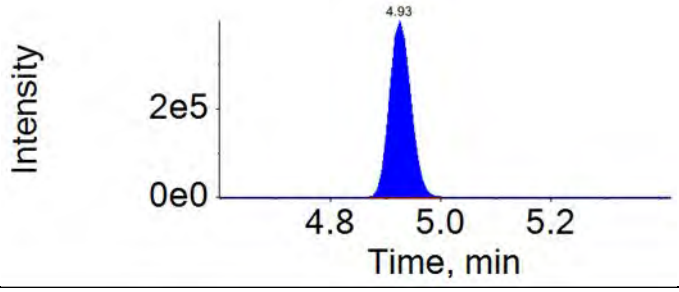


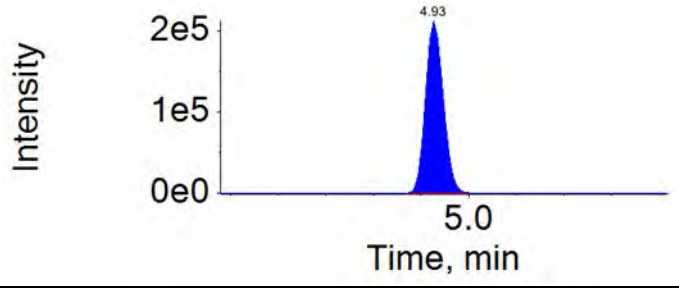
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

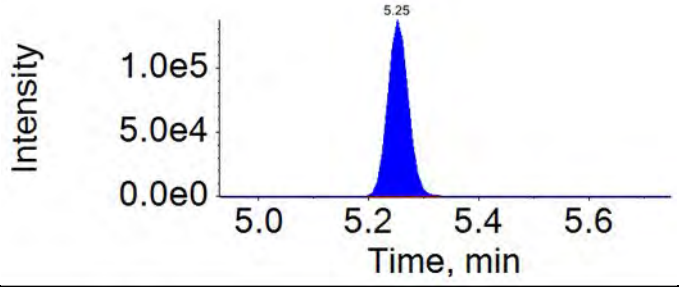
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

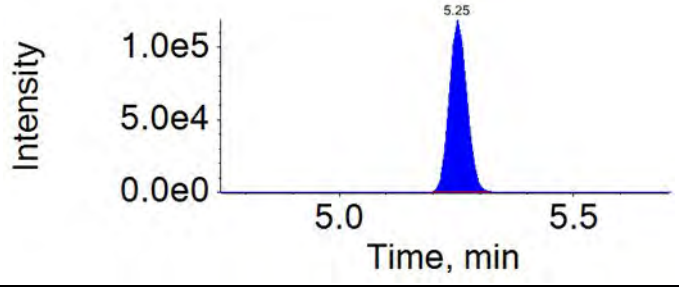
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



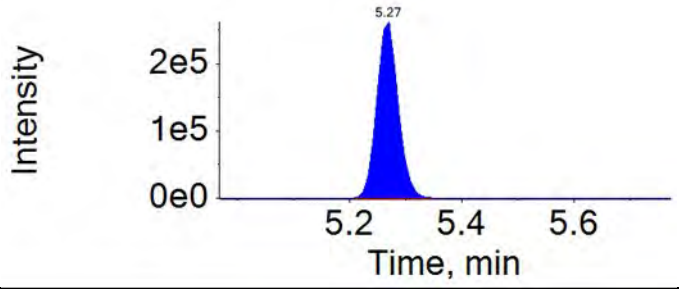


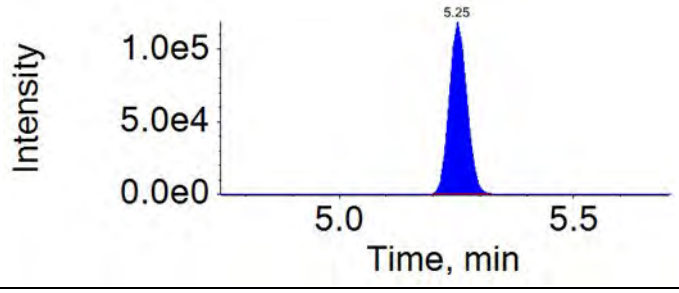
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



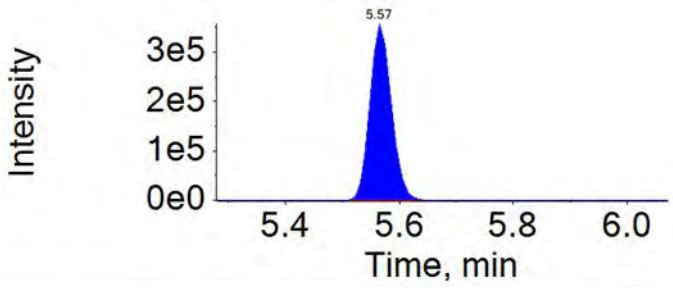


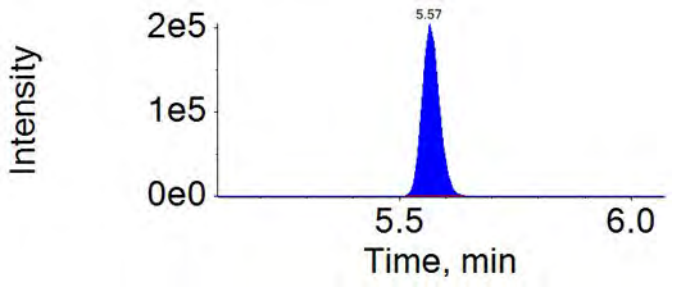
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



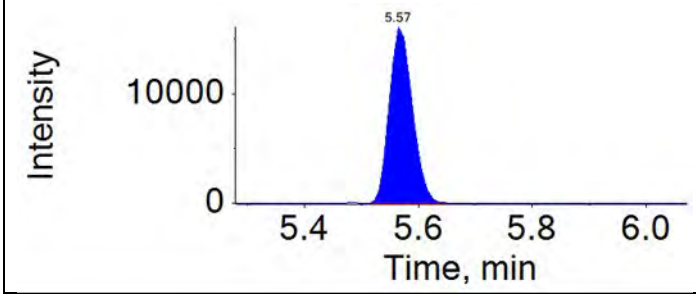


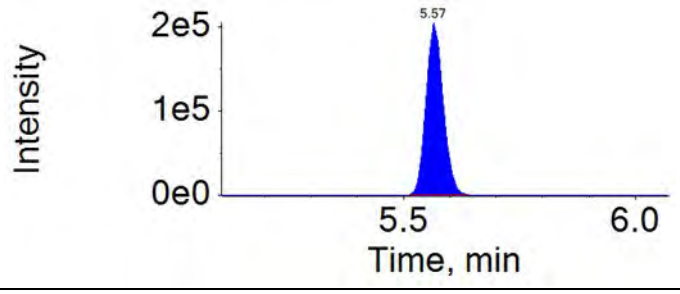
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

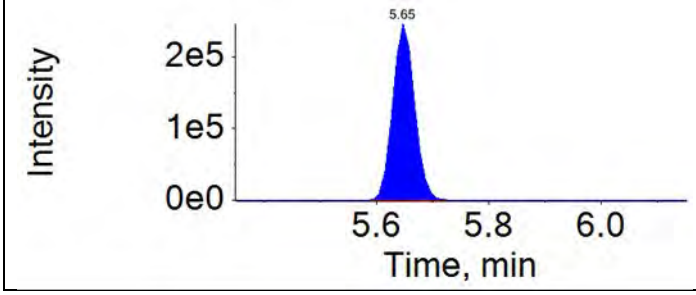
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

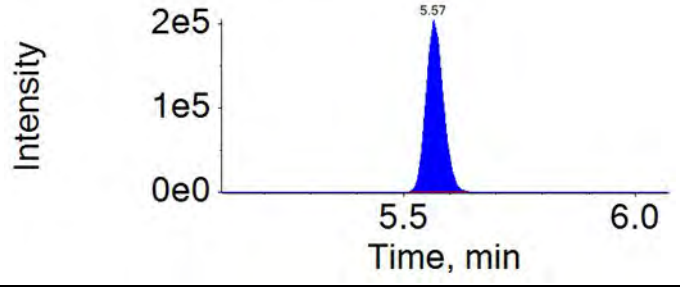
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



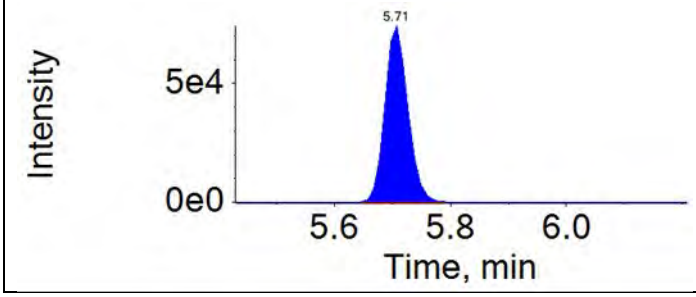


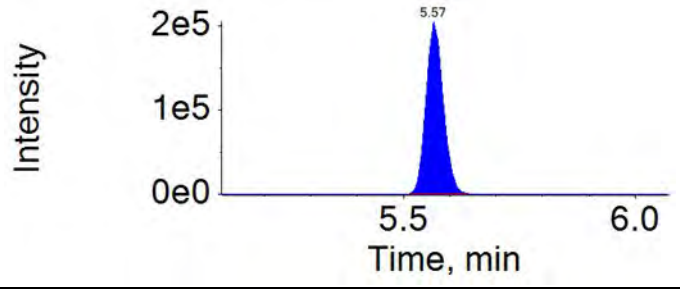
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



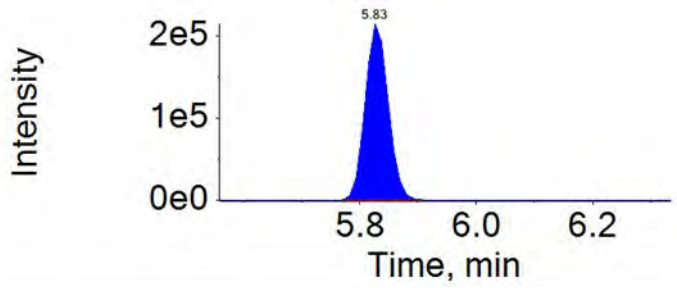


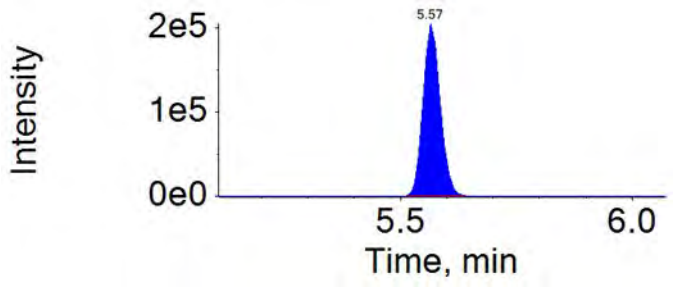
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



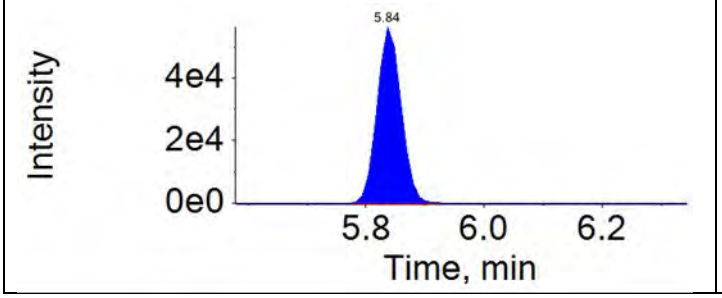


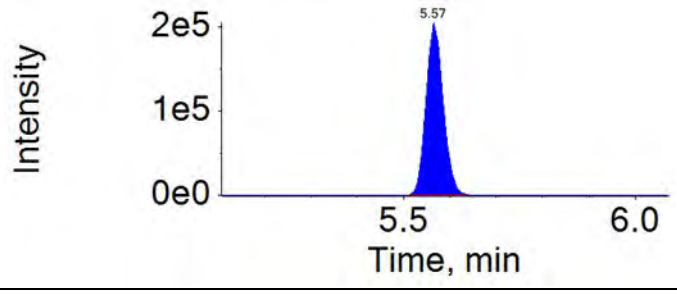
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

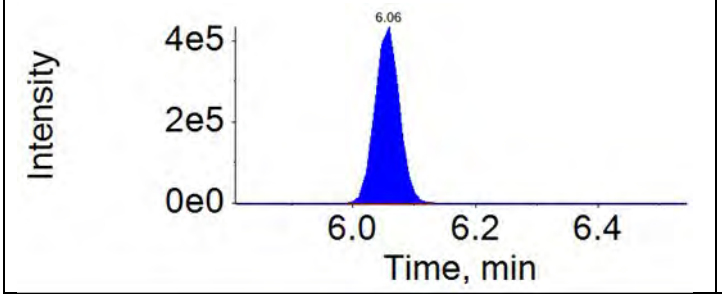
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

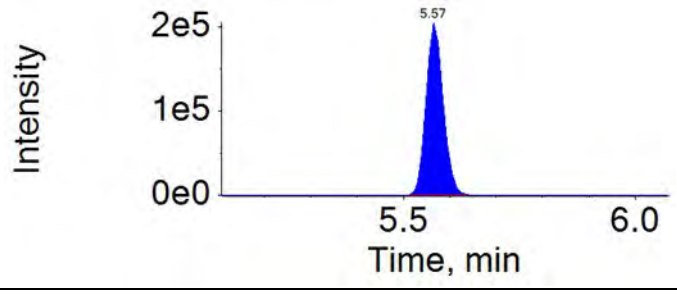
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



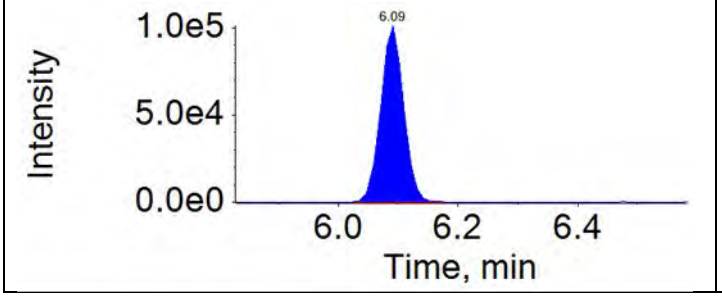


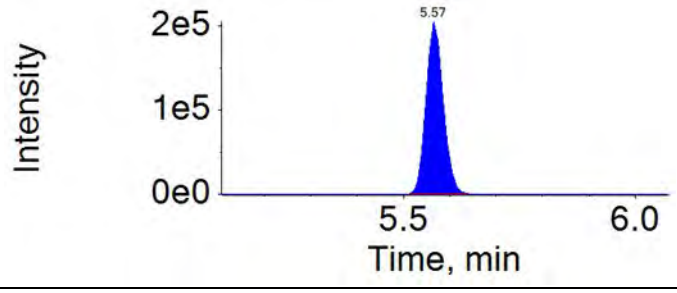
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



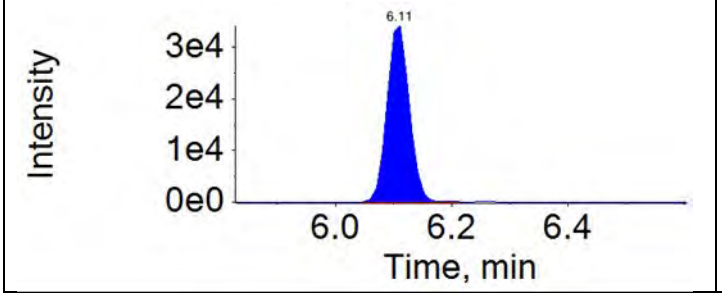


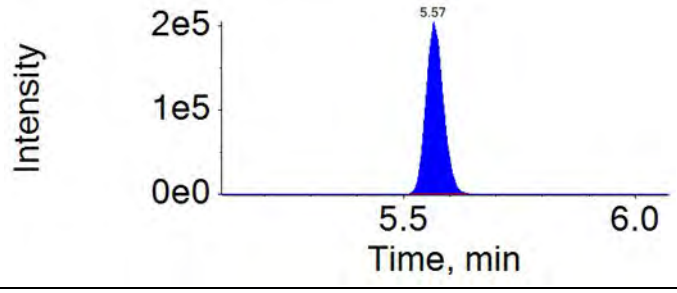
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



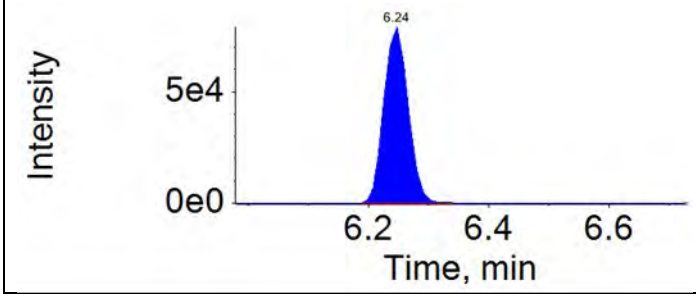


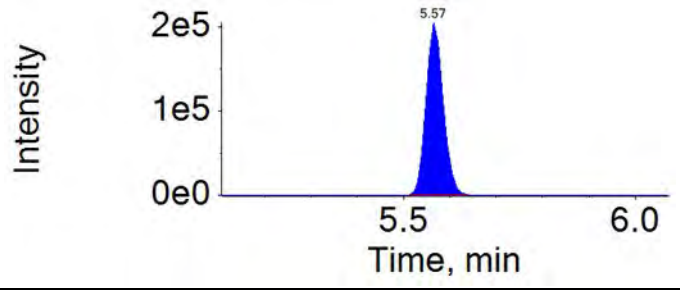
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

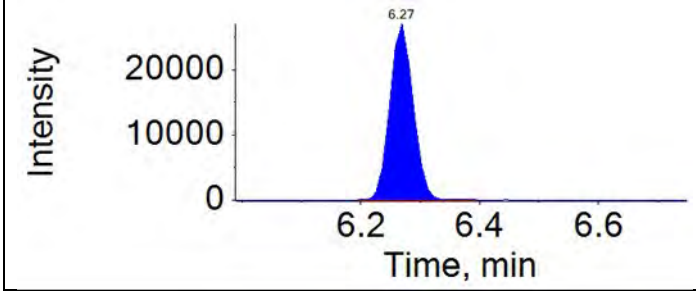
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

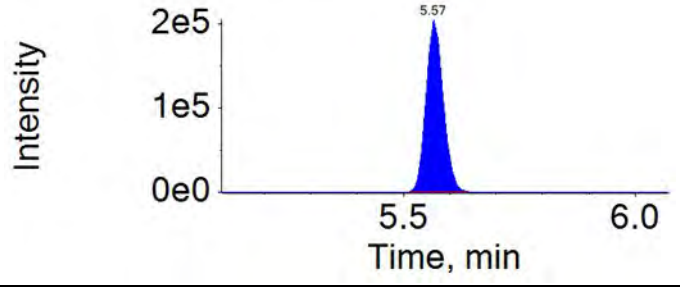
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



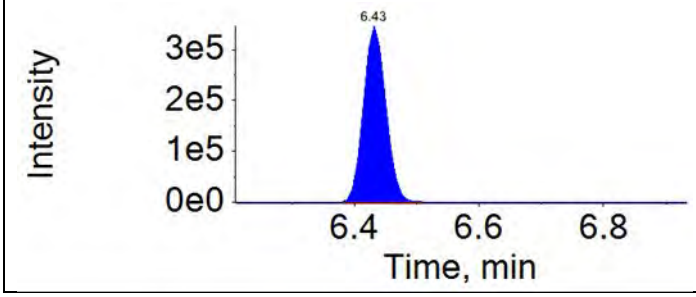


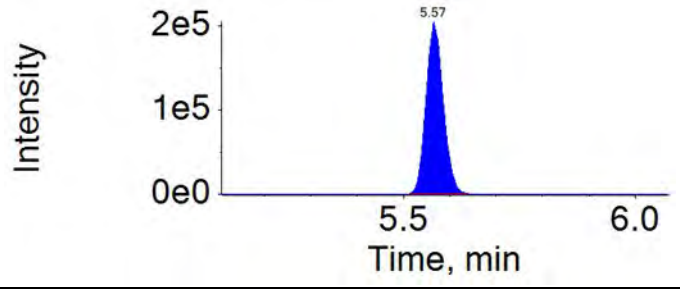
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





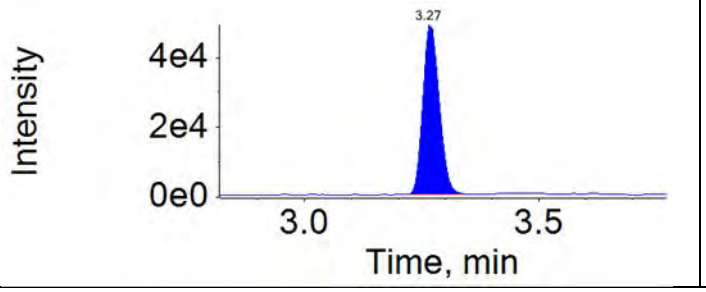
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

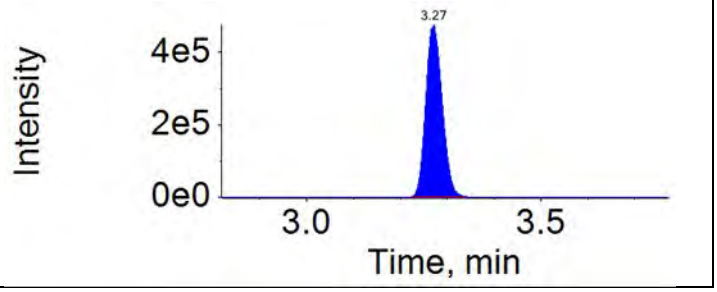




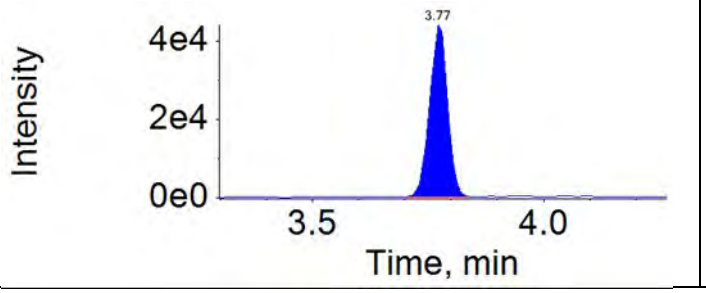
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

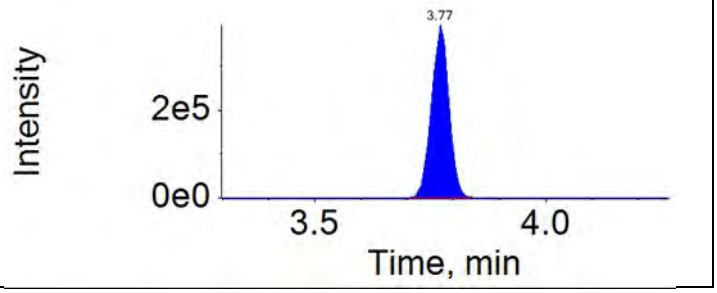
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



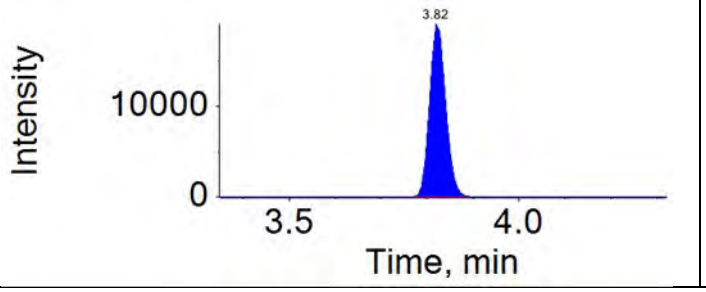


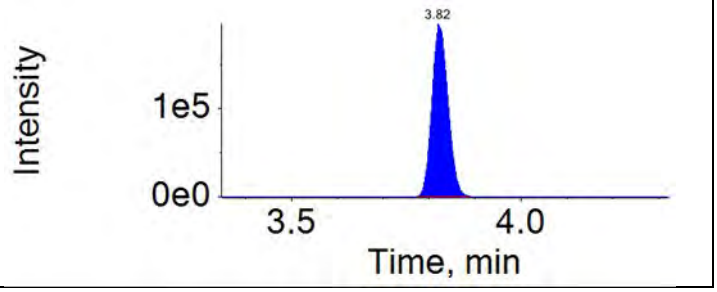
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



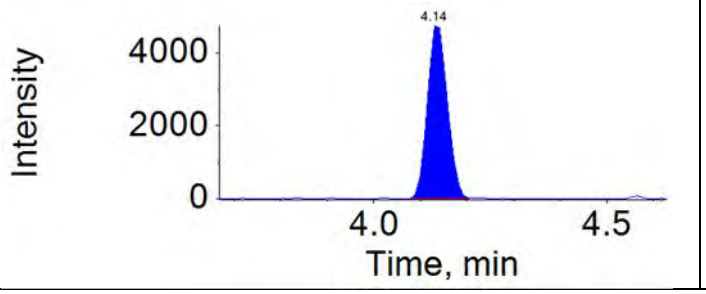


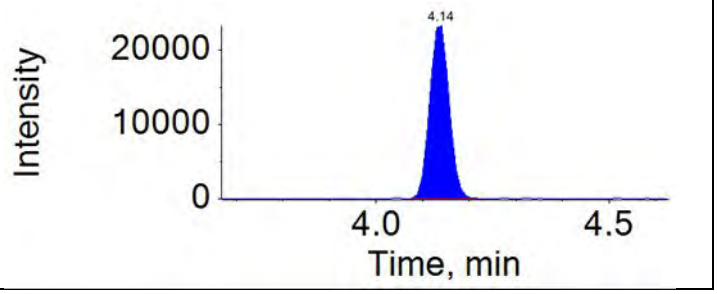
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



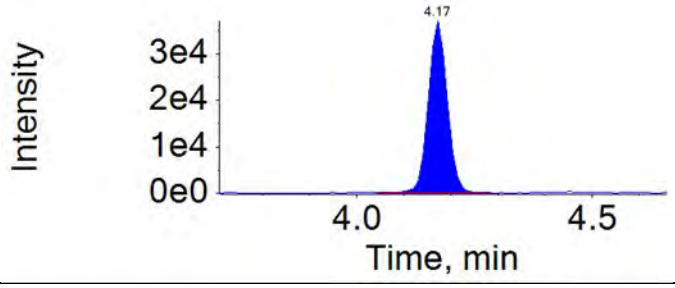


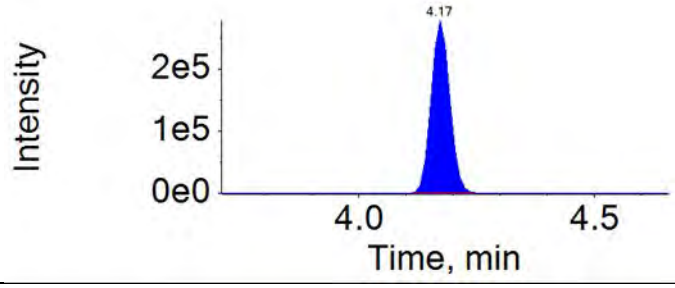
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

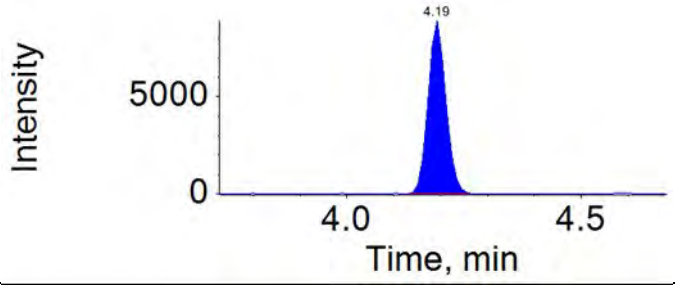
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

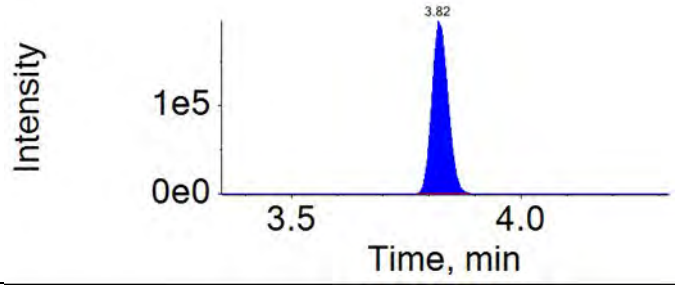
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



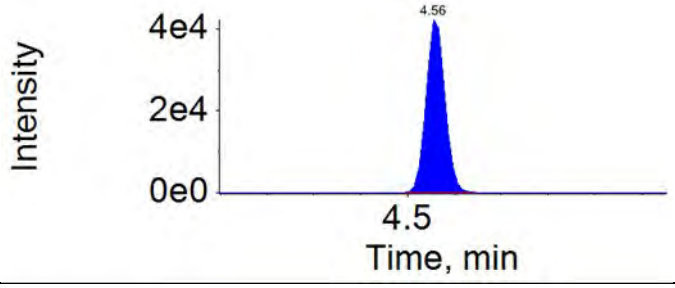


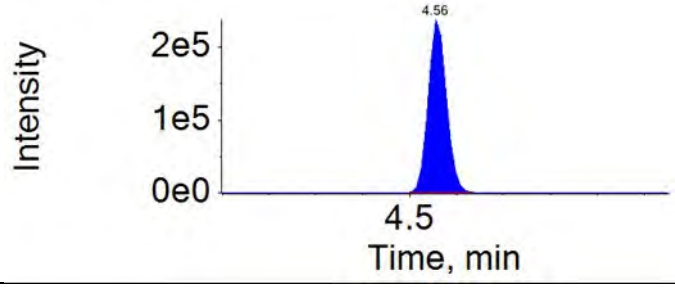
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



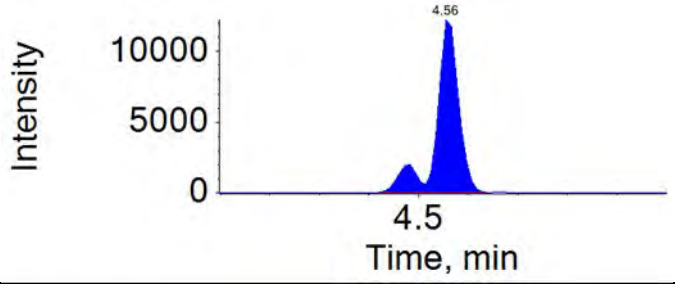


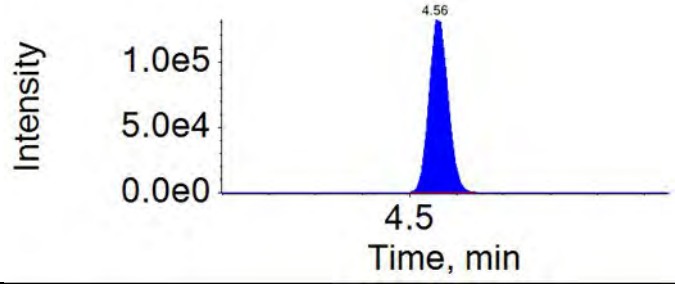
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



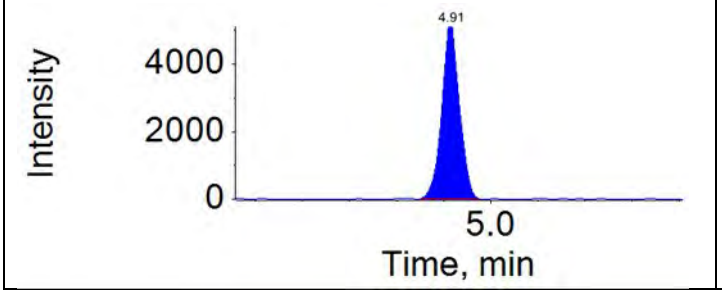


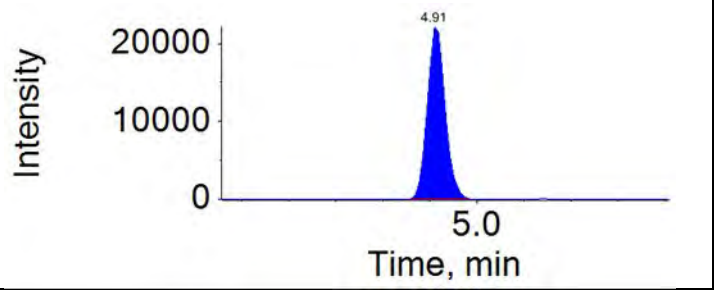
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

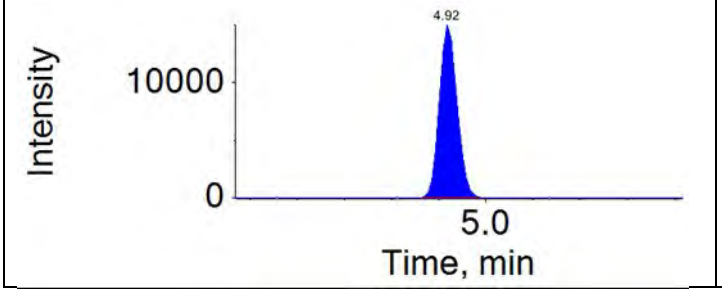
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

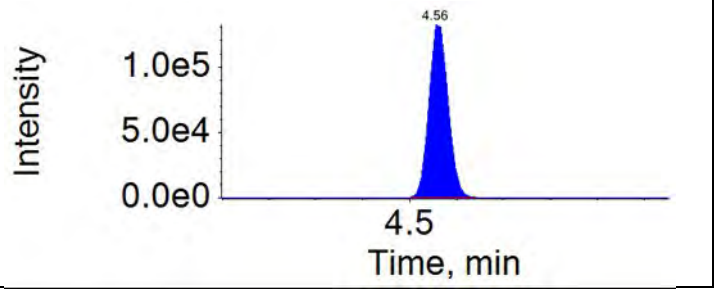
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



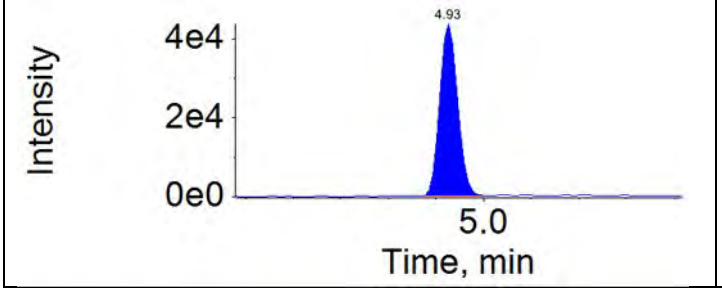


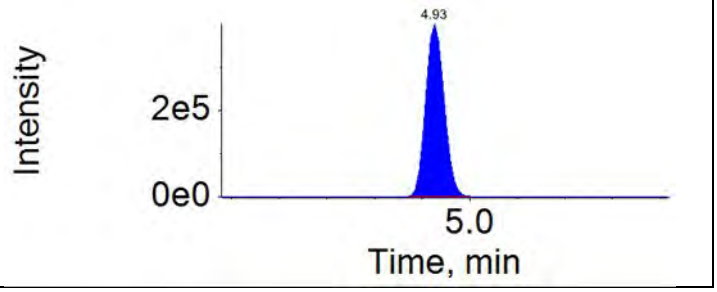
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



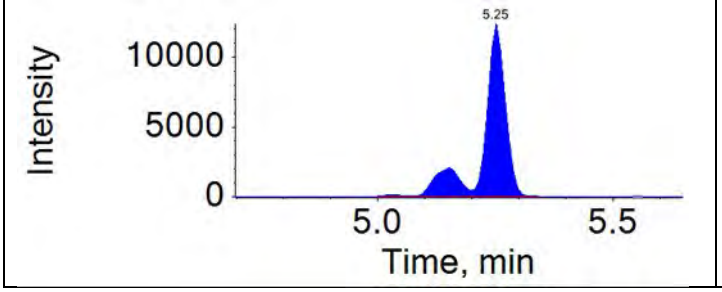


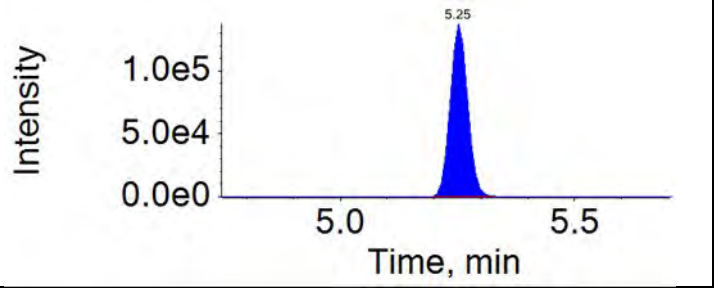
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



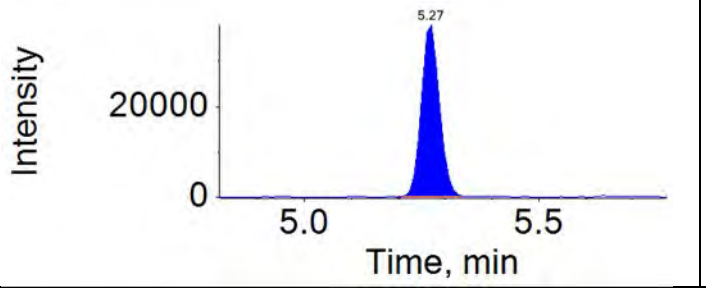


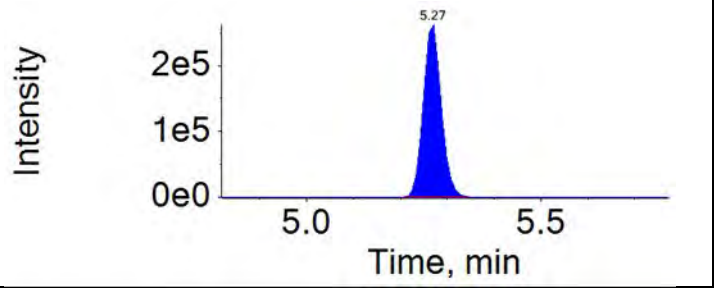
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

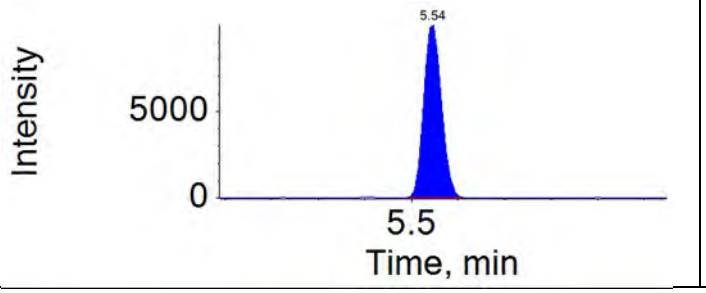
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

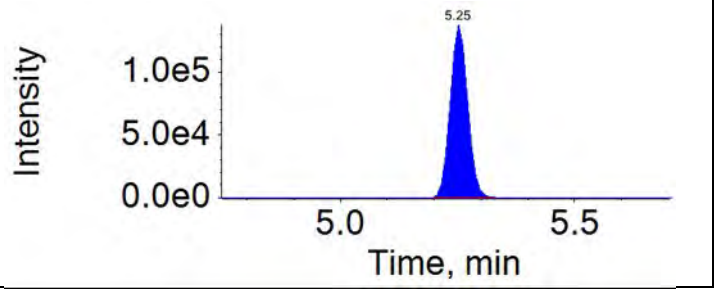
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



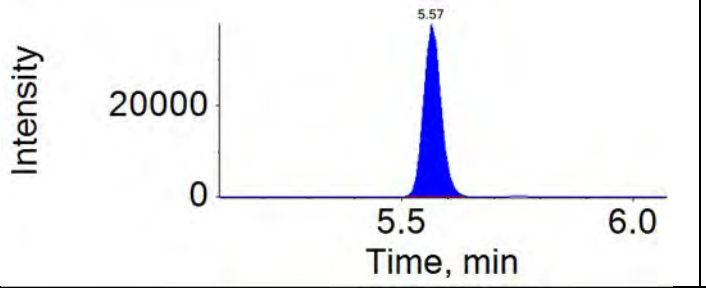


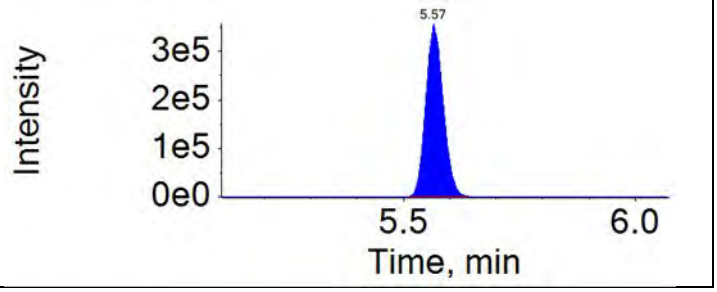
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



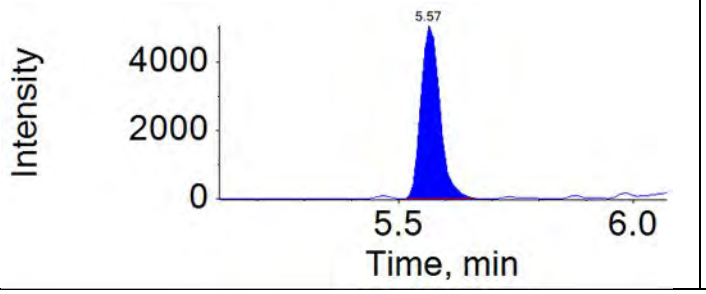


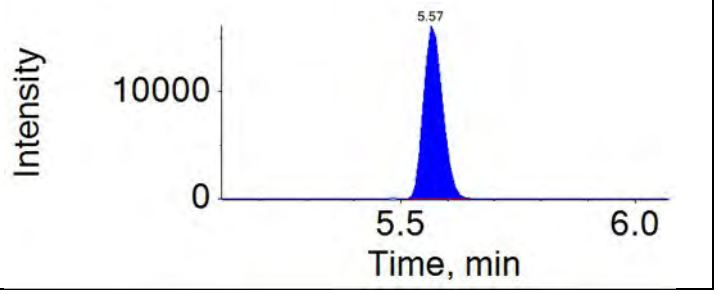
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



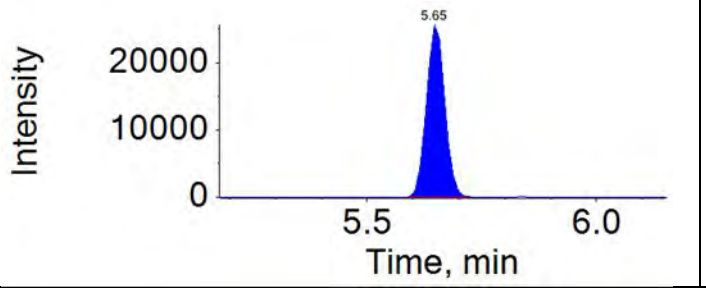


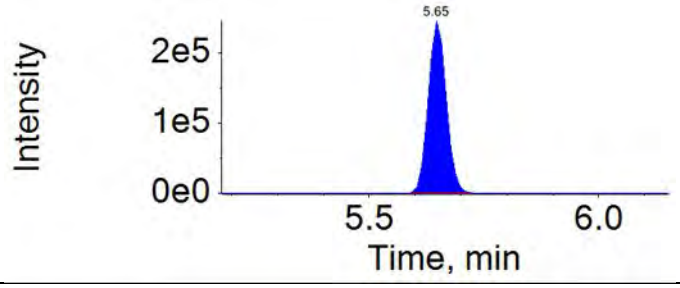
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

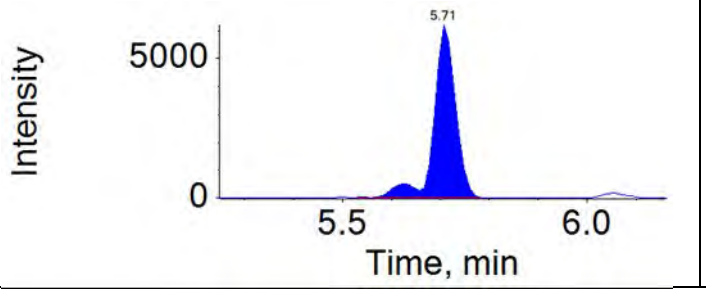
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

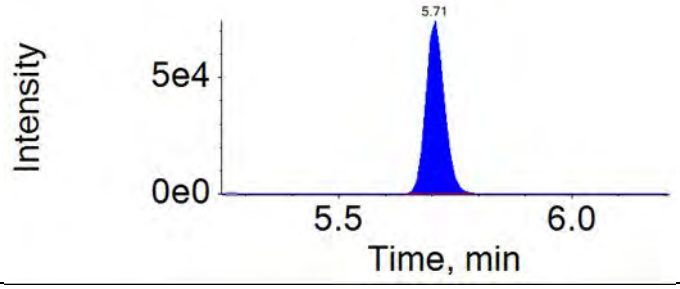
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



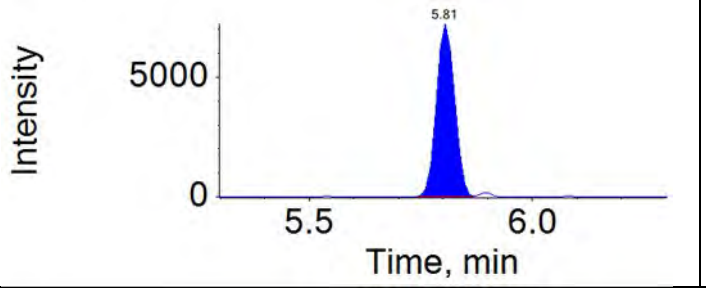


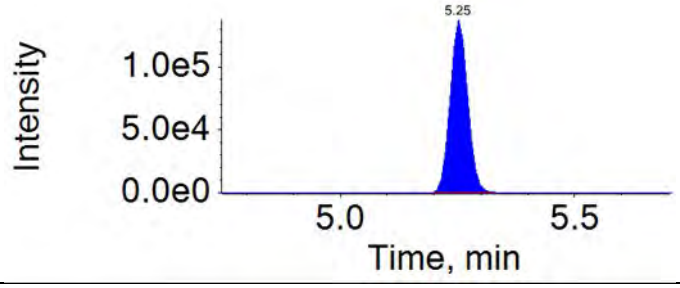
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



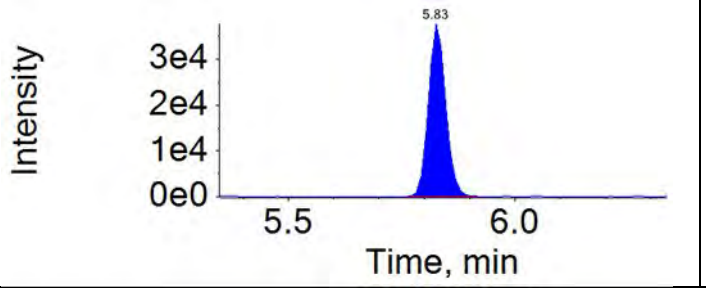


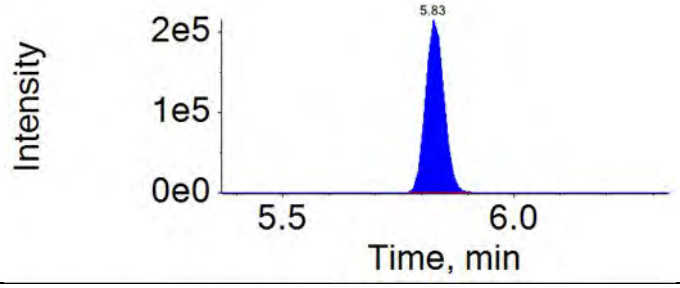
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

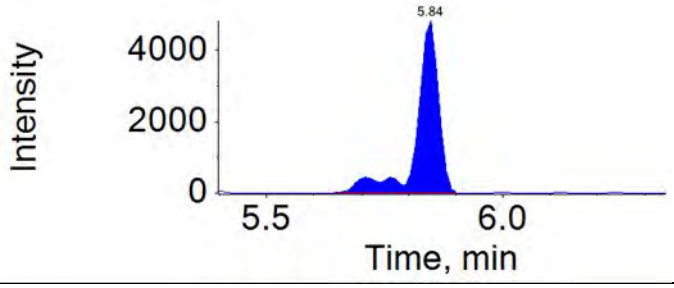
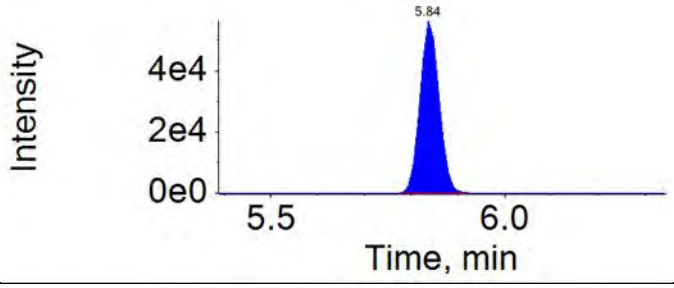


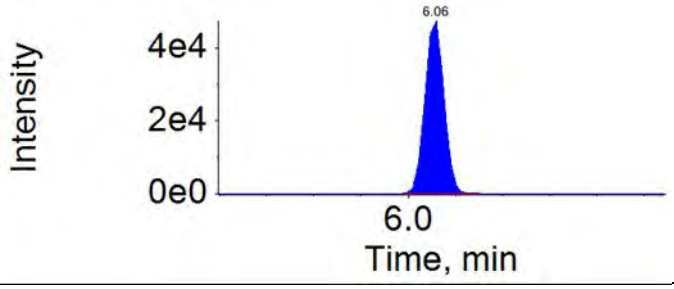
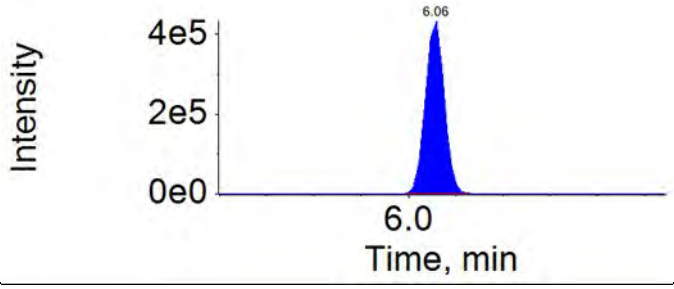


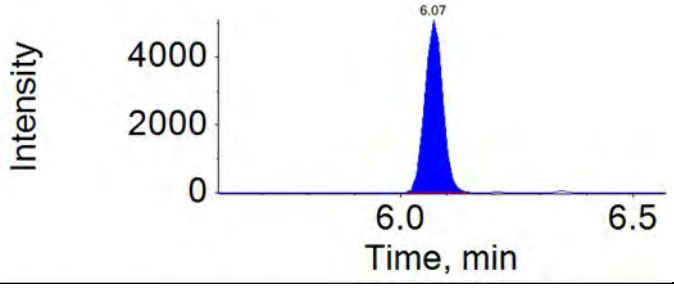
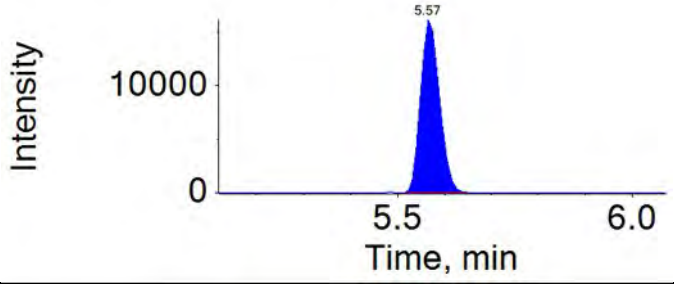
APPROVED
By MSM at 1:33 pm, 12/27/18

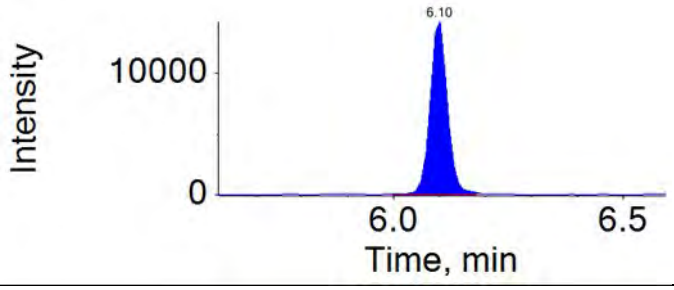
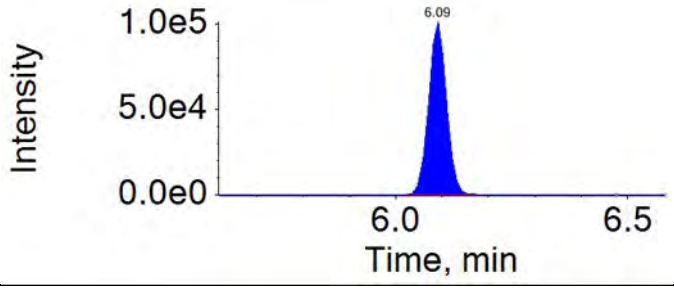
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

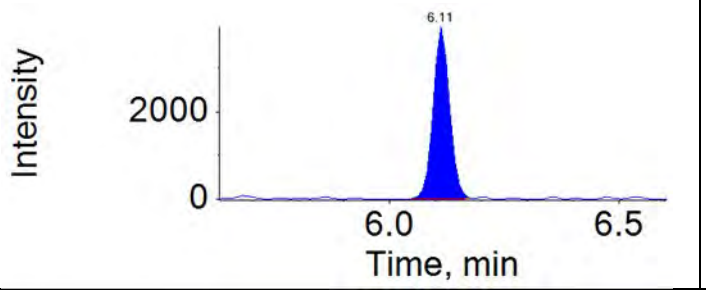
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

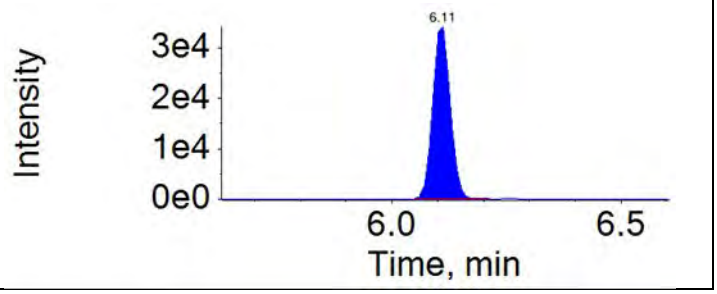
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

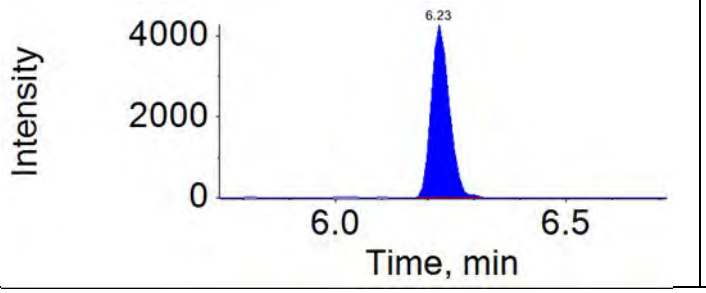
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

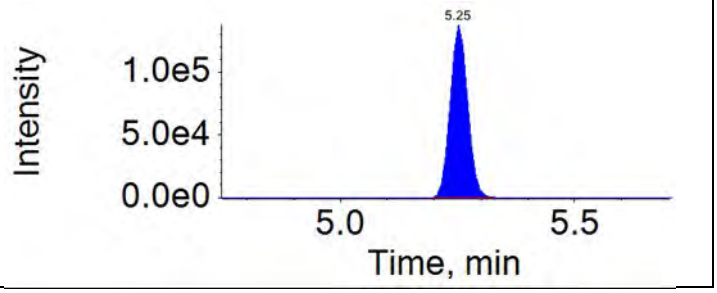
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



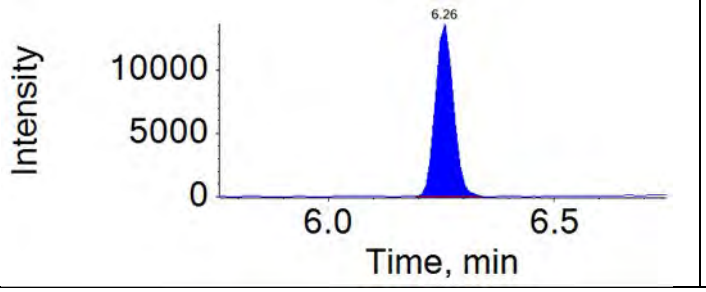


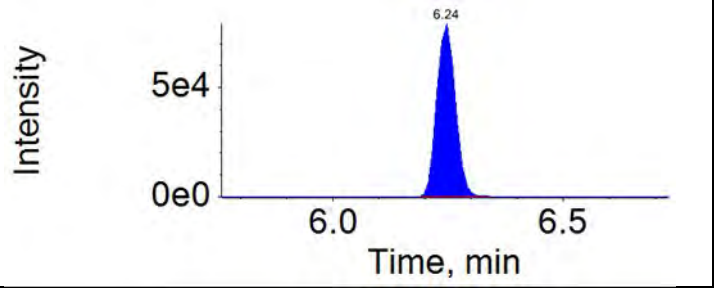
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



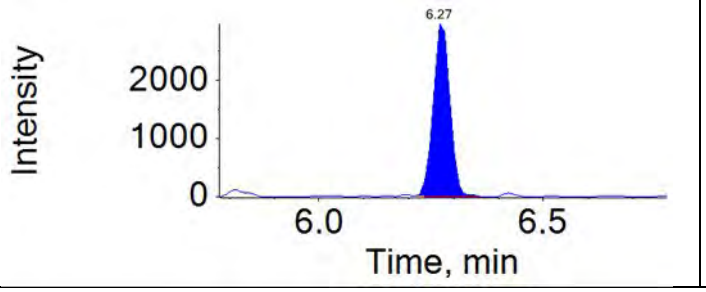


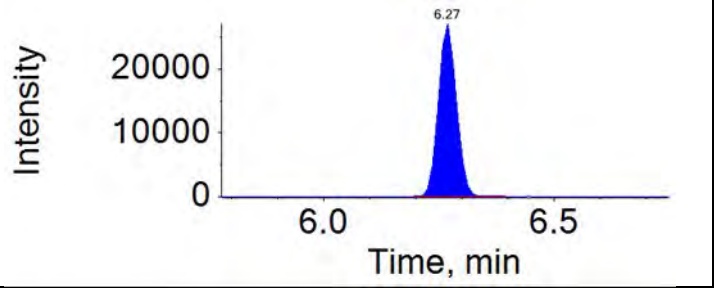
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



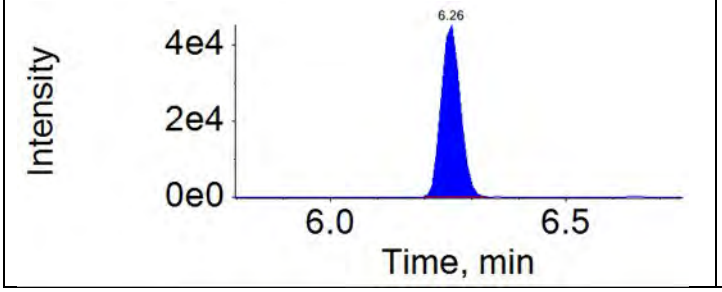


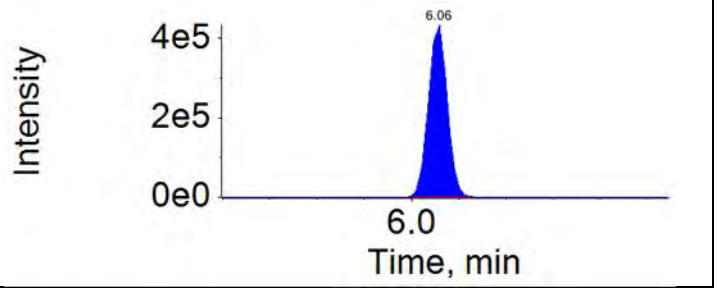
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

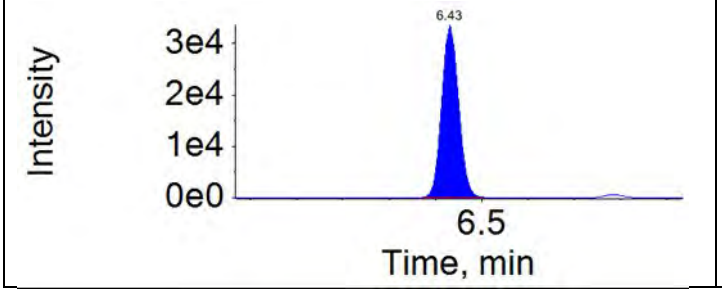
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

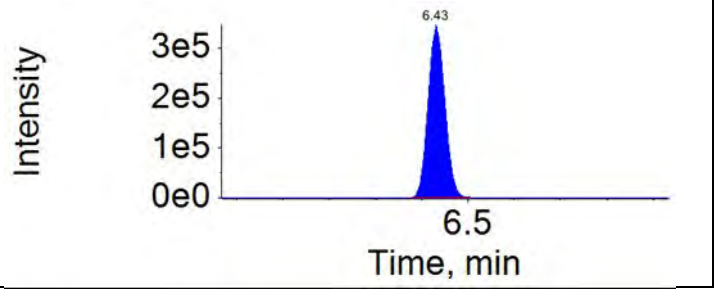
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



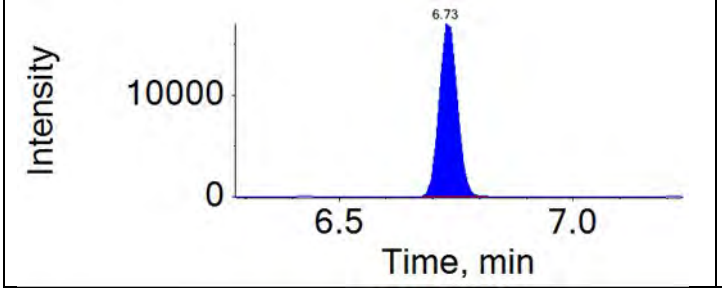


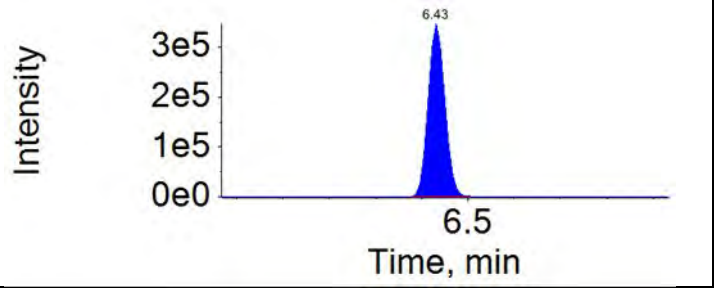
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



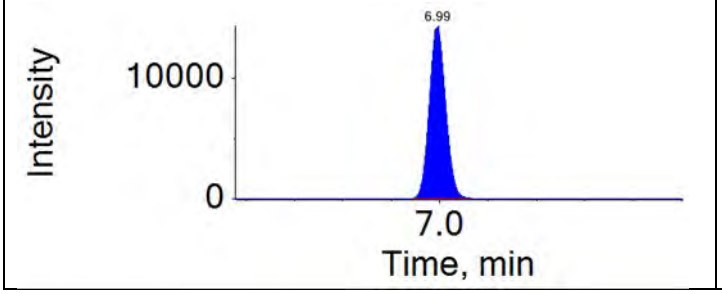


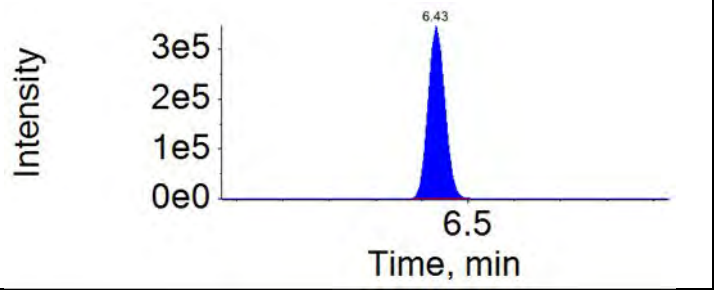
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



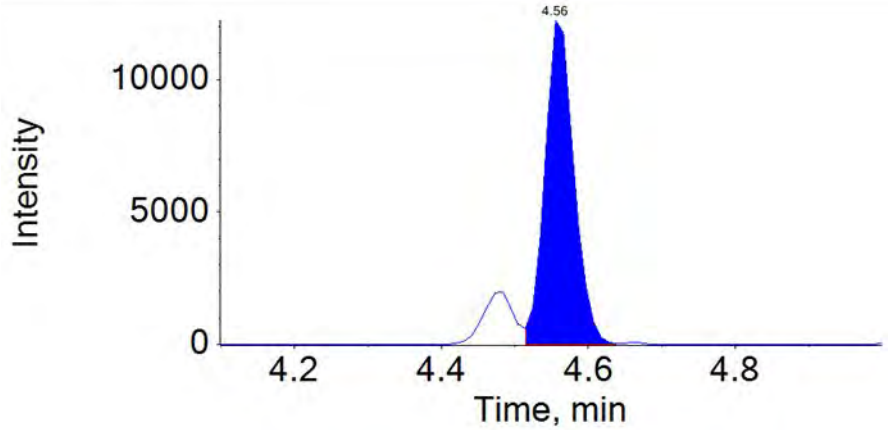


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

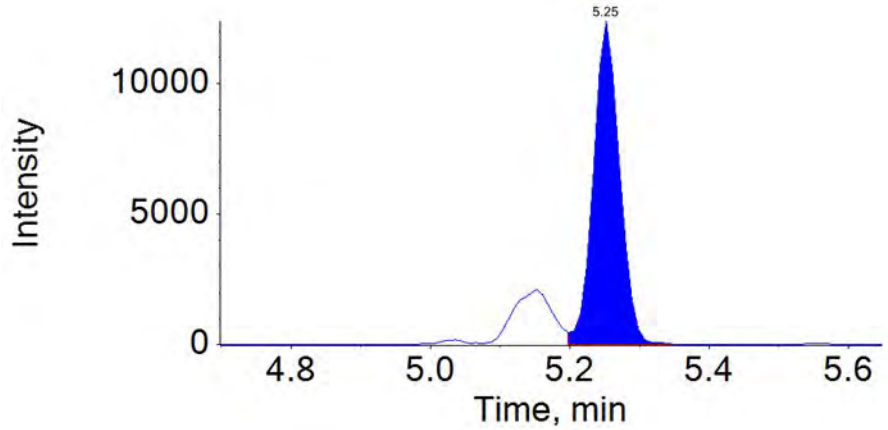
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
33624.31
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



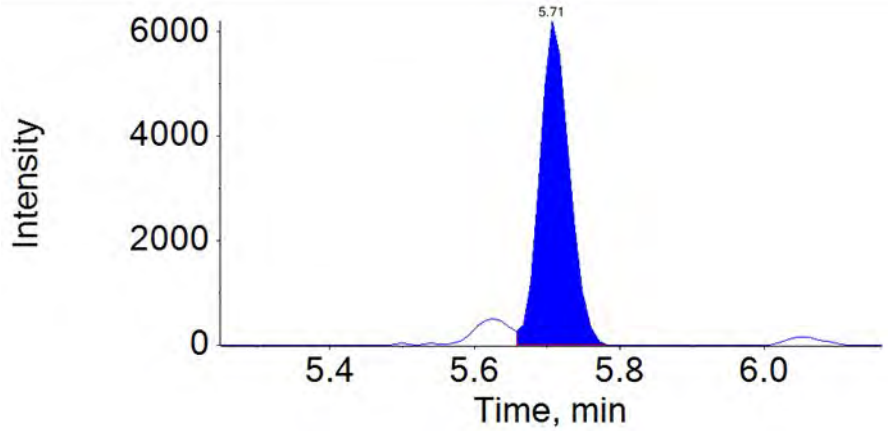
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
32304.55
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
17651.45
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



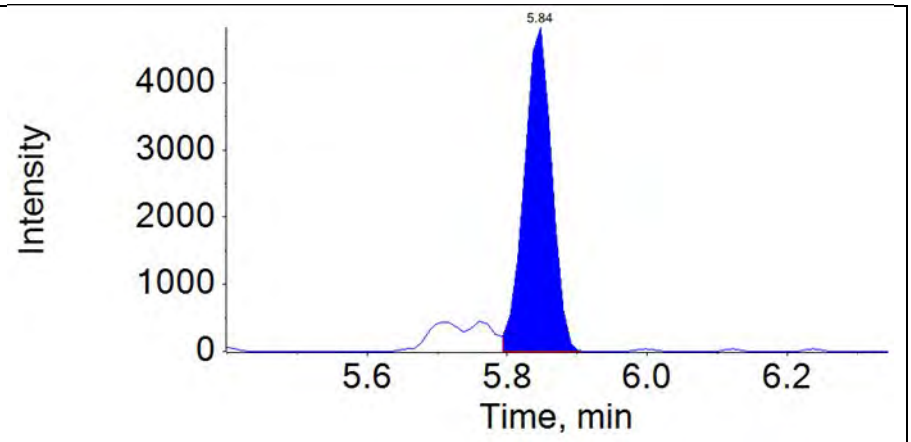
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
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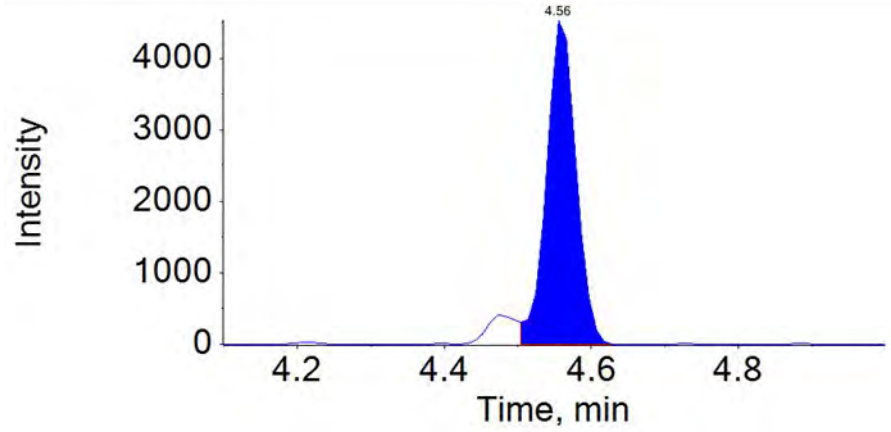
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
13164.96
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



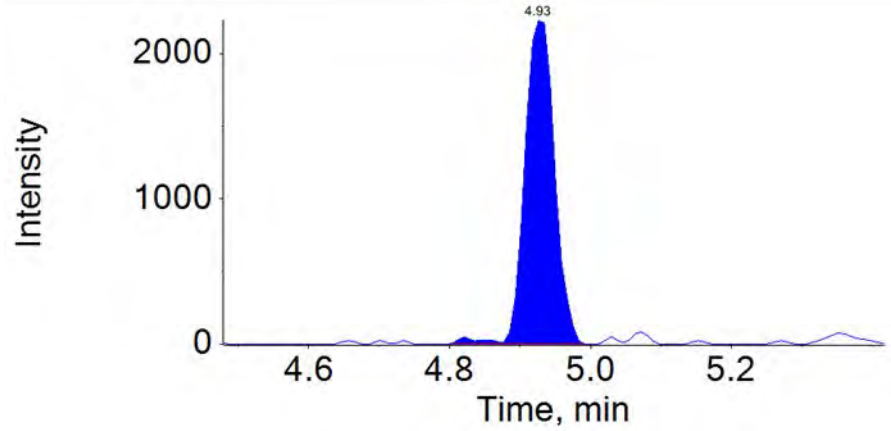
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
12703.22
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.93
Peak Area:
6616.75
Mass Range:
413.0 / 169.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



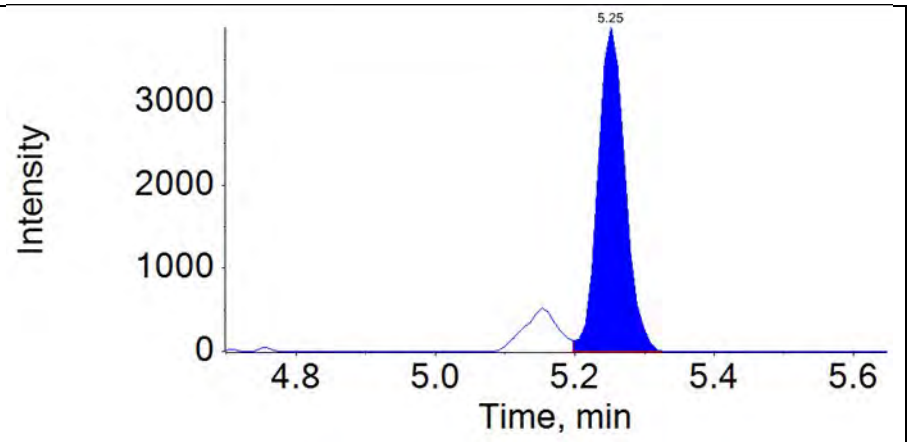
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
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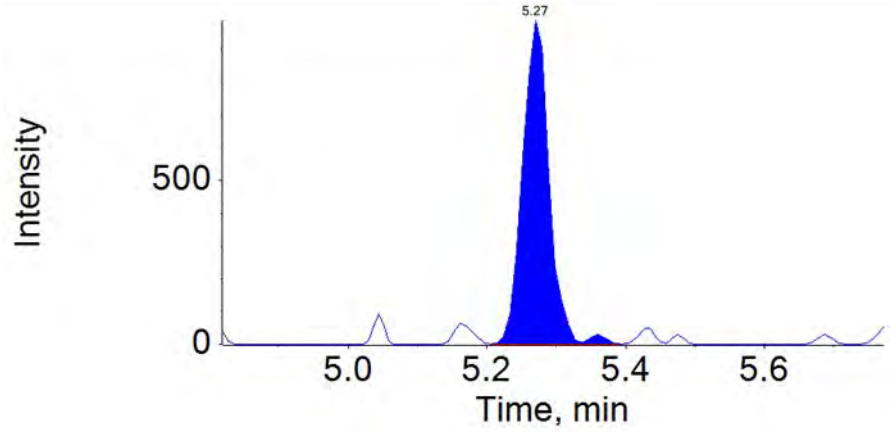
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
10528.42
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



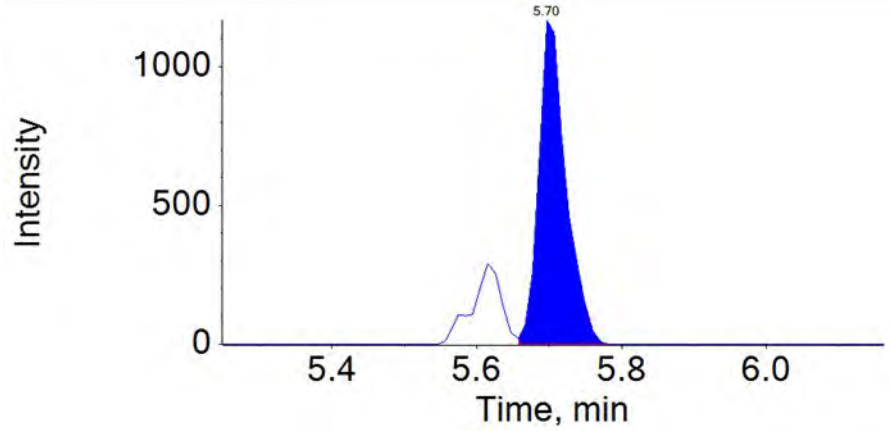
Integration Comment: incorrect integration

Component Name:
PFNA_2
RT (min.):
5.27
Peak Area:
2635.49
Mass Range:
463.0 / 169.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
3067.34
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



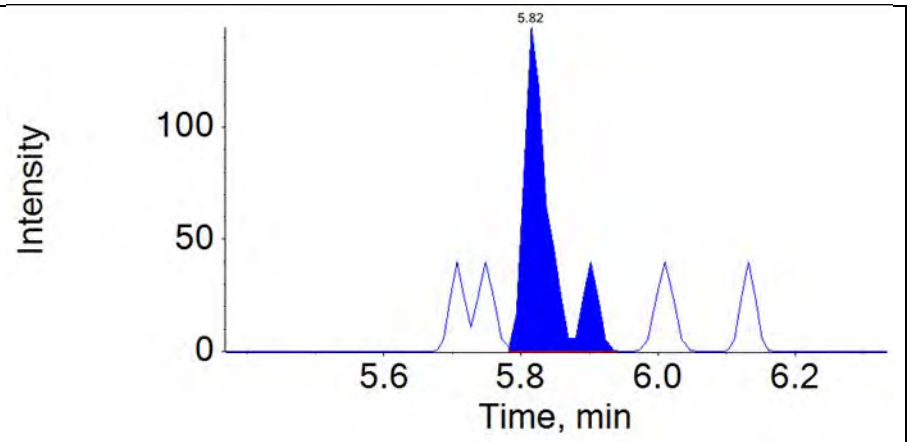
Integration Comment: incorrect integration

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By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

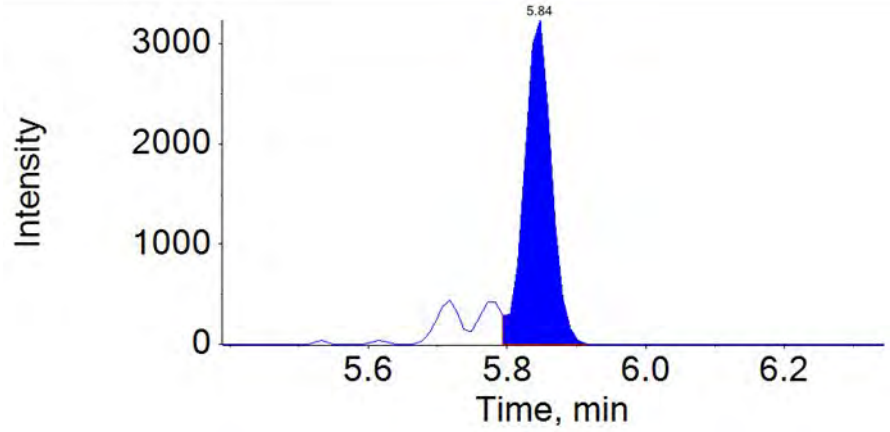
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFUnDA_2
RT (min.):
5.82
Peak Area:
389.31
Mass Range:
563.0 / 169.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
8796.97
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-07.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

Ion Ratio Report

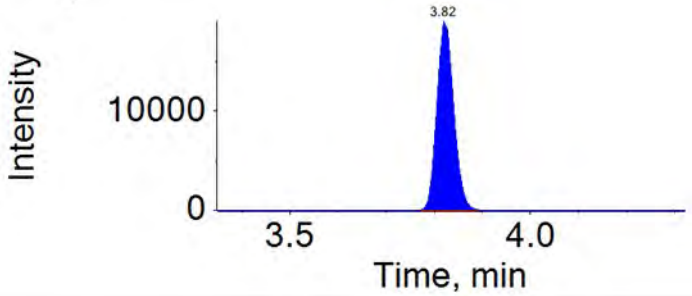
Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-07.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	46201.02	A	1.0000	1.0000			
PFBS_2	3.82	1.00	17554.90	A	0.3621	0.3800	5	50	
4:2-FTS	4.14	1.00	14087.95	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	8931.01	A	0.6132	0.6339	3	50	
PFHxA	4.17	1.00	102568.13	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	1030.62	A	0.0123	0.0100	-18	50	
PFPeS	4.19	1.10	23390.62	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	11281.06	A	0.5068	0.4823	-5	50	
PFHpA	4.56	1.00	117935.85	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	6441.81	A	0.0570	0.0546	-4	50	
PFHxS	4.56	1.00	39380.24	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	13846.01	M	0.3566	0.3516	-1	50	
6:2-FTS	4.91	1.00	13426.62	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	8267.92	A	0.6328	0.6158	-3	50	
PFHpS	4.92	1.08	39170.63	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	15262.60	A	0.4049	0.3896	-4	50	
PFOA	4.93	1.00	113680.33	A	1.0000	1.0000			
PFOA_2	4.93	1.00	6492.50	M	0.0570	0.0571	0	50	
PFOS	5.25	1.00	40965.66	M	1.0000	1.0000			
PFOS_2	5.25	1.00	12296.28	M	0.3043	0.3002	-1	50	
PFNA	5.27	1.00	101332.55	A	1.0000	1.0000			
PFNA_2	5.27	1.00	2586.75	M	0.0213	0.0255	20	50	
PFNS	5.54	1.06	26402.39	A	1.0000	1.0000			
PFNS_2	5.55	1.06	13171.27	A	0.4515	0.4989	10	50	
PFDA	5.57	1.00	98664.27	A	1.0000	1.0000			
PFDA_2	5.57	1.00	821.03	A	0.0067	0.0083	24	50	
8:2-FTS	5.57	1.00	14213.60	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	8773.01	A	0.6016	0.6172	3	50	
NMeFOSAA	5.71	1.00	19424.29	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	3887.09	M	0.2579	0.2001	-22	50	
PFDS	5.81	1.11	20457.34	A	1.0000	1.0000			
PFDS_2	5.80	1.10	11732.73	A	0.4884	0.5735	17	50	
PFUnDA	5.83	1.00	99599.83	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	325.19	M	0.0042	0.0033	-22	50	
NEtFOSAA	5.84	1.00	15720.35	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	10758.02	M	0.6799	0.6843	1	50	
PFDoDA	6.06	1.00	134888.93	A	1.0000	1.0000			
PFDoDA_2	6.06	1.00	1667.93	A	0.0139	0.0124	-11	50	
10:2-FTS	6.07	1.09	13556.58	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	8795.62	A	0.6715	0.6488	-3	50	
PFTrDA	6.26	1.03	127157.40	A	1.0000	1.0000			
PFTrDA_2	6.26	1.03	1062.79	A	0.0088	0.0084	-5	50	
PFTeDA	6.43	1.00	84446.42	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	441.56	A	0.0063	0.0052	-17	50	
PFHxDA	6.73	1.05	45735.94	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	2973.24	A	0.0643	0.0650	1	50	
PFODA	6.99	1.09	33603.83	A	1.0000	1.0000			
PFODA_2	6.99	1.09	959.16	A	0.0266	0.0285	7	50	

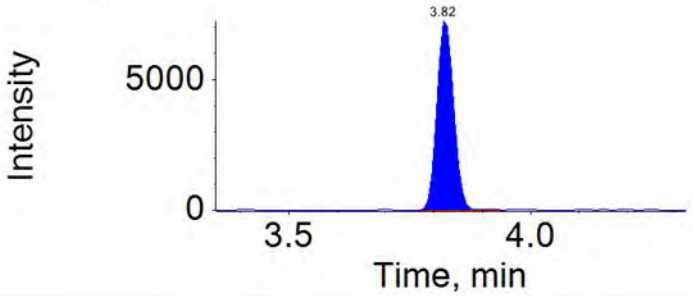
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

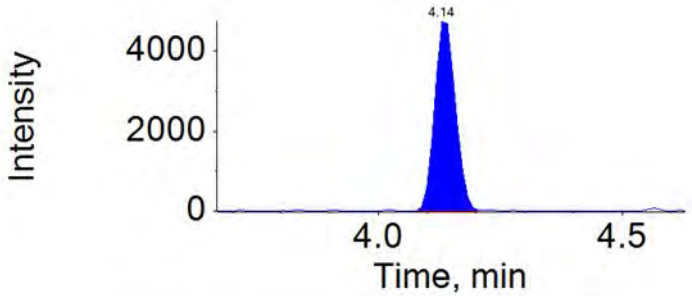
Component: PFBS
Primary Mass: 299.0 / 80.0



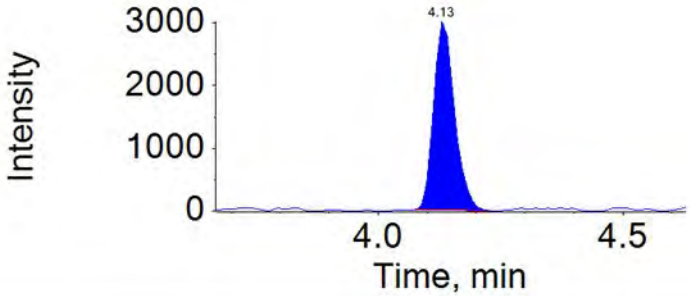
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



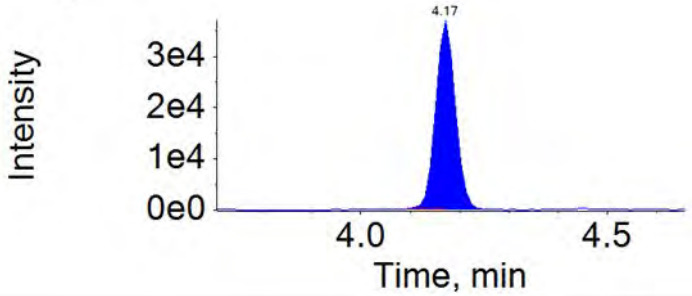
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



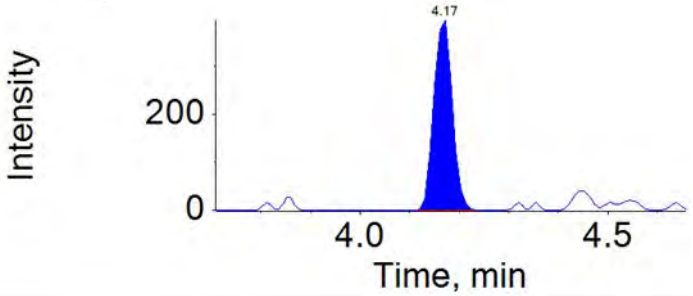
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



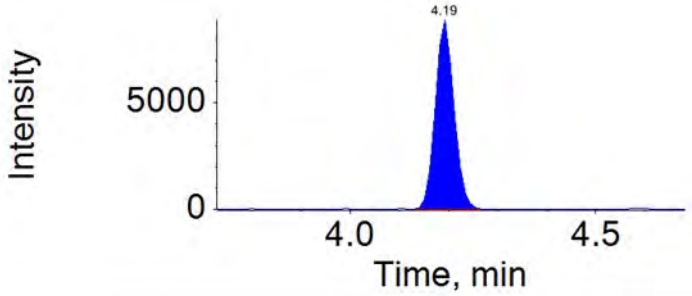
Component: PFHxA
Primary Mass: 313.0 / 269.0



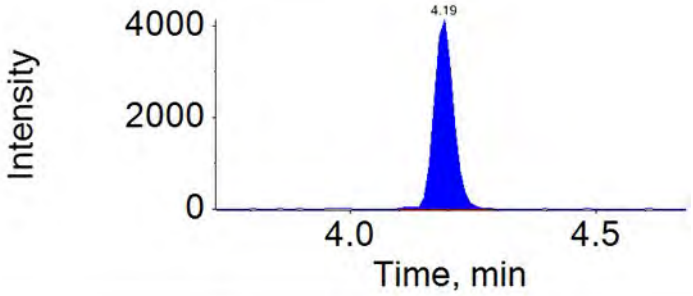
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



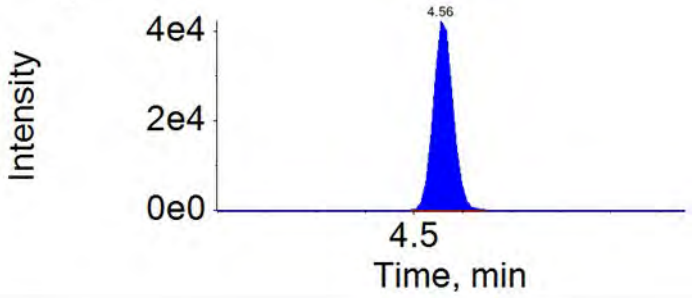
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



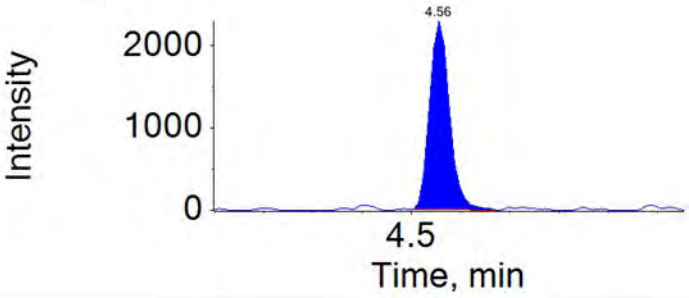
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

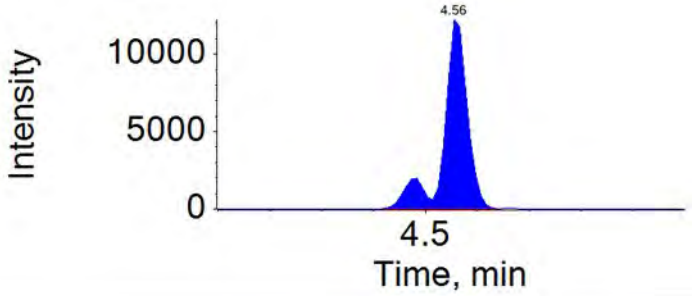
Component: PFHpA
Primary Mass: 363.0 / 319.0



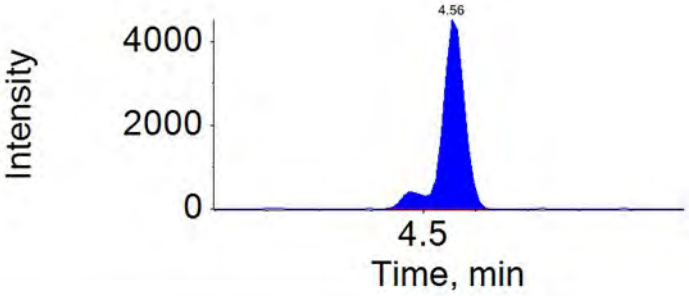
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



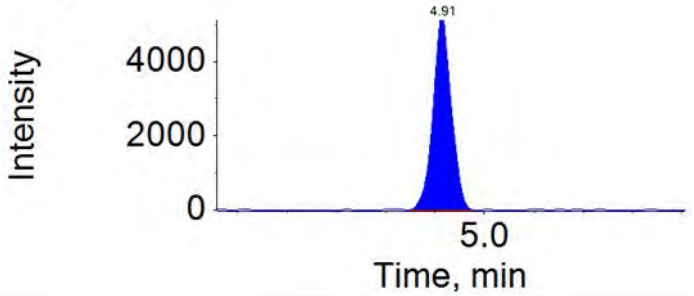
Component: PFHxS
Primary Mass: 399.0 / 80.0



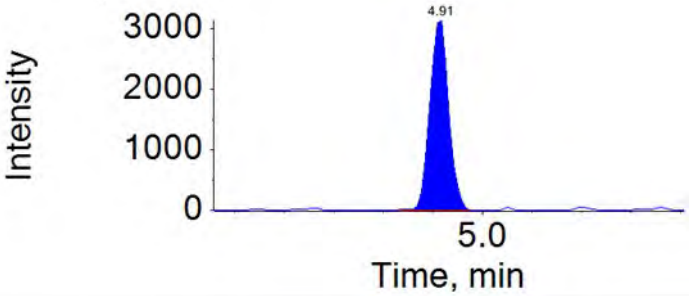
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



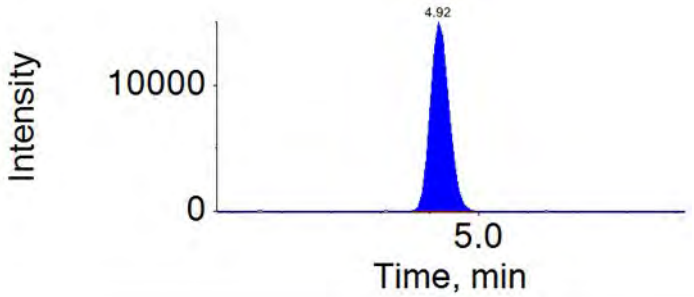
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



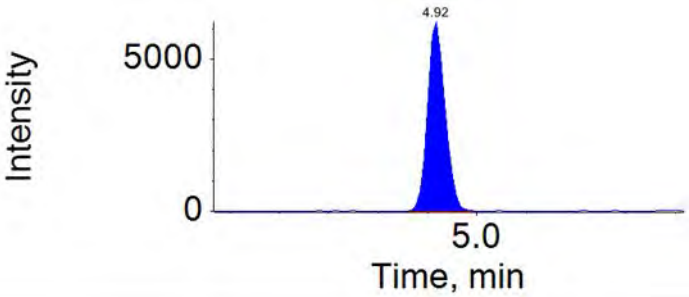
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



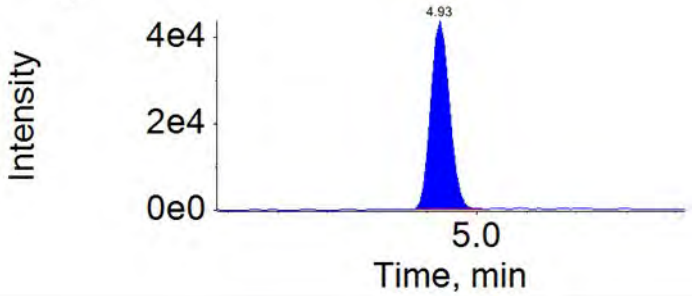
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



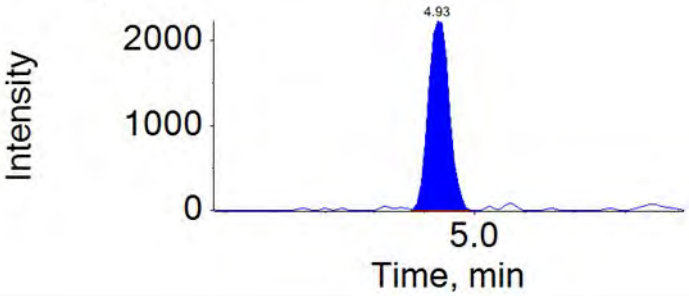
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

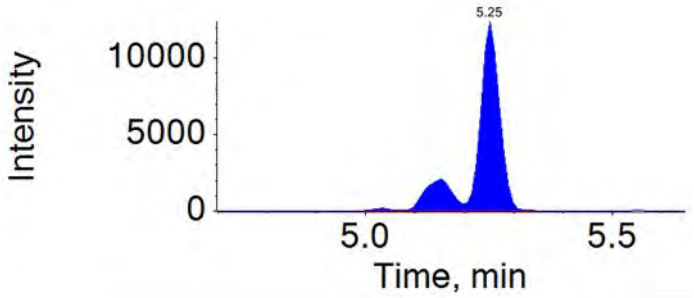
Component: PFOA
Primary Mass: 413.0 / 369.0



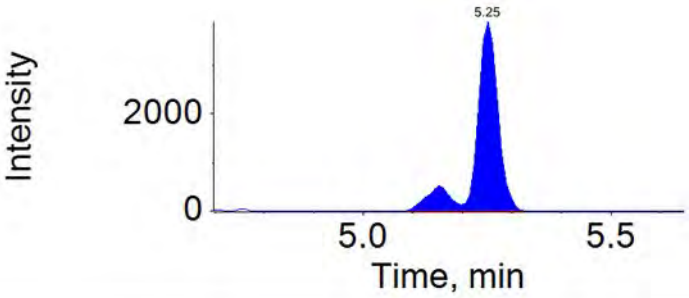
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



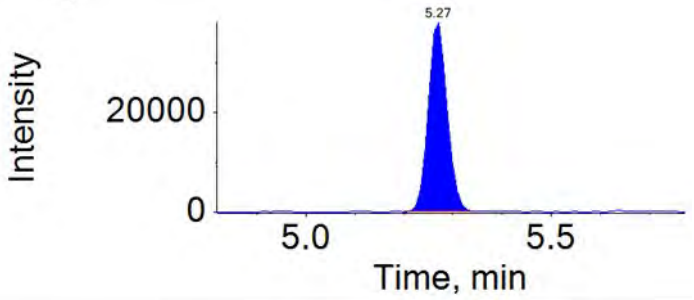
Component: PFOS
Primary Mass: 499.0 / 80.0



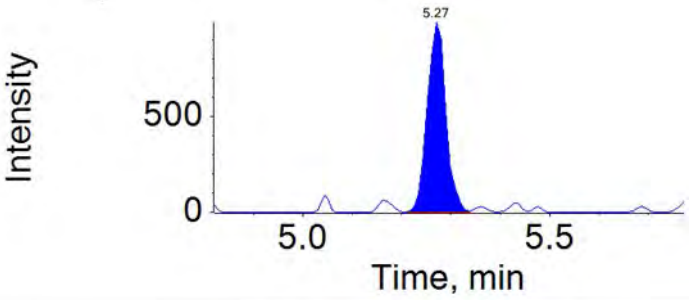
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



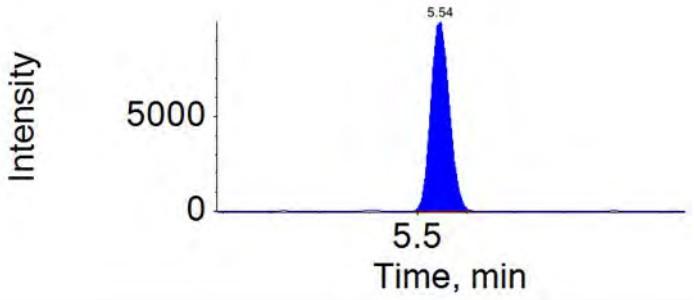
Component: PFNA
Primary Mass: 463.0 / 419.0



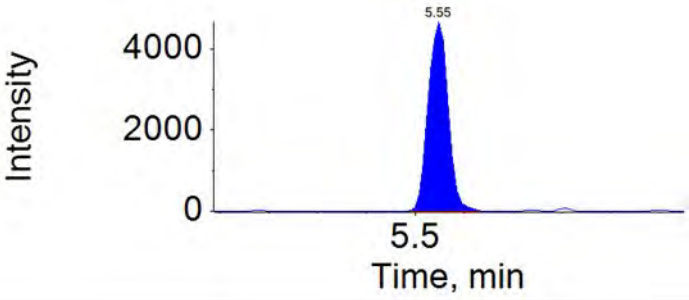
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



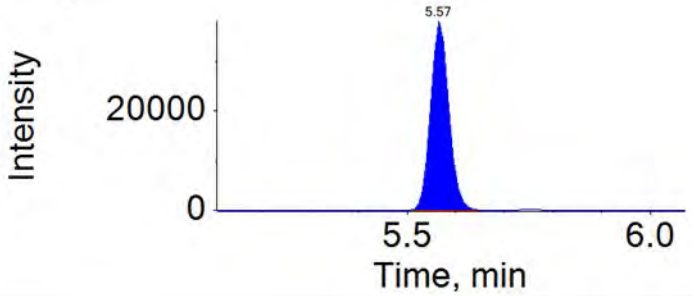
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



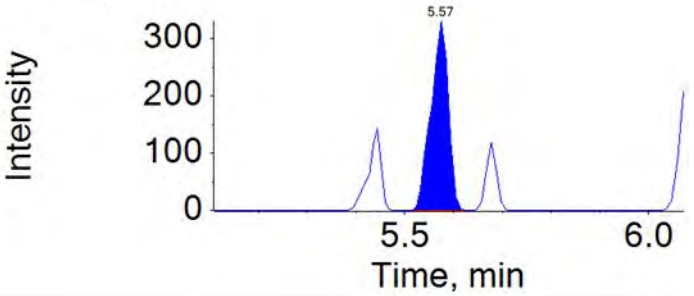
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

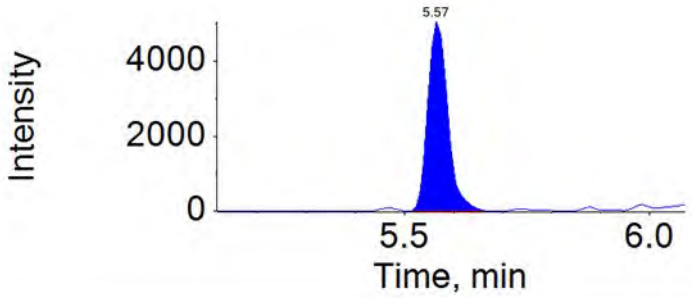
Component: PFDA
Primary Mass: 513.0 / 469.0



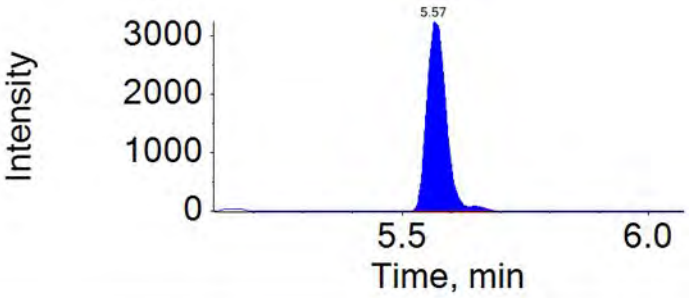
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



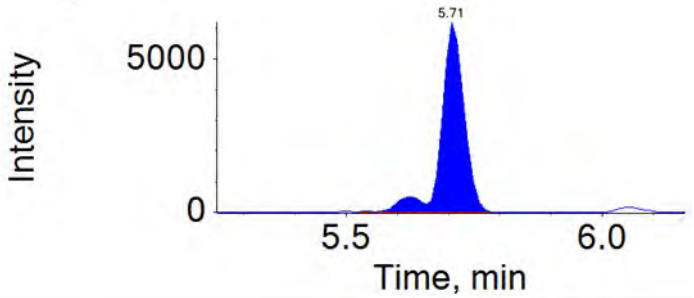
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



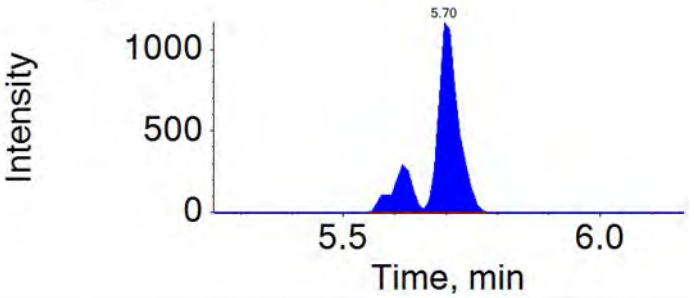
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



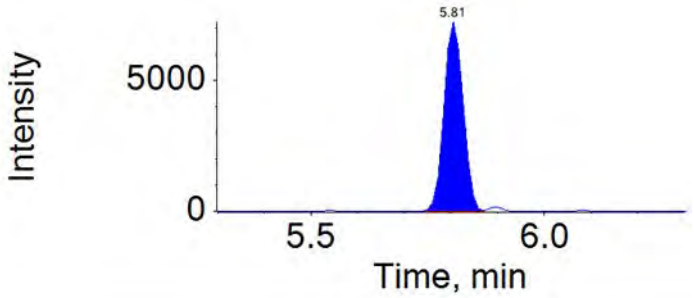
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



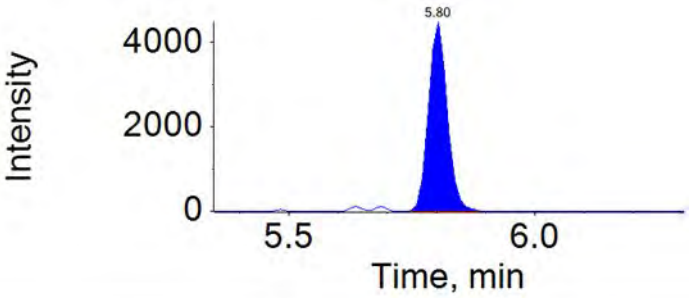
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



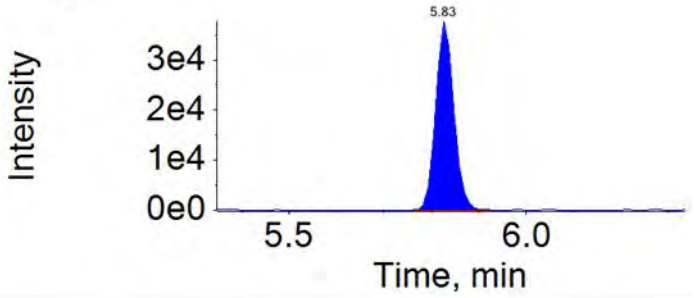
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



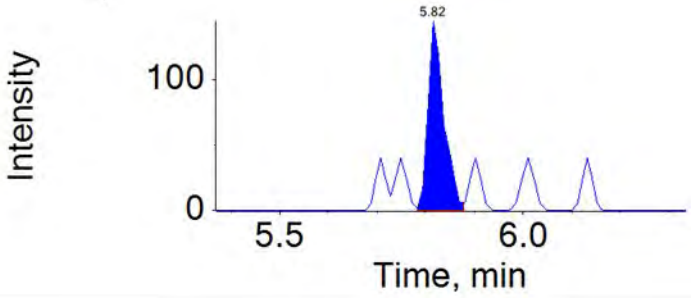
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

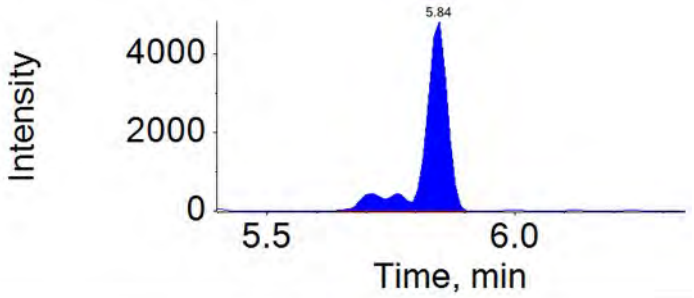
Component: PFUnDA
Primary Mass: 563.0 / 519.0



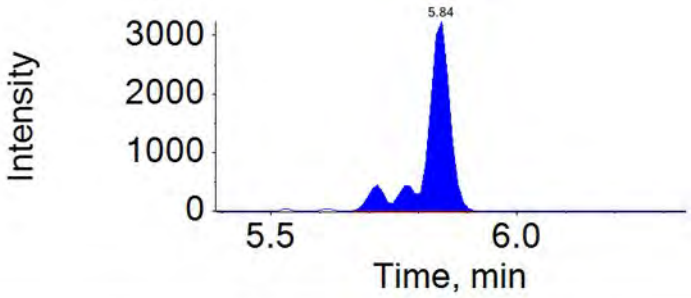
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



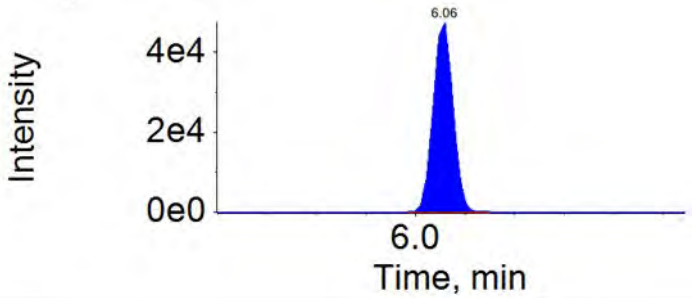
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



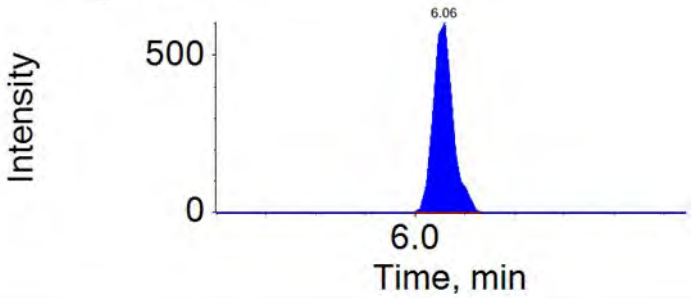
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



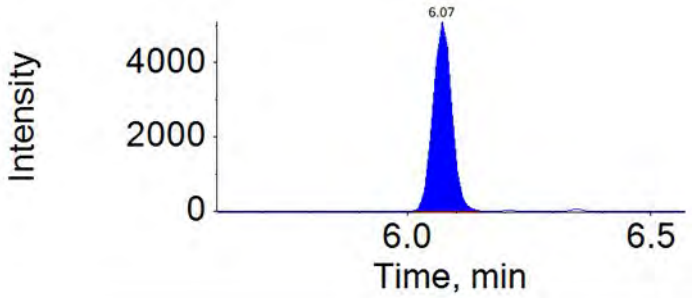
Component: PFDoDA
Primary Mass: 613.0 / 569.0



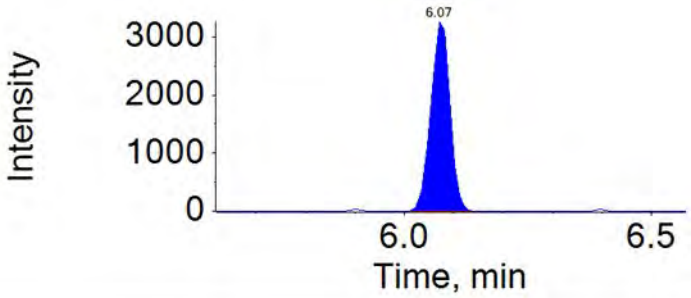
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



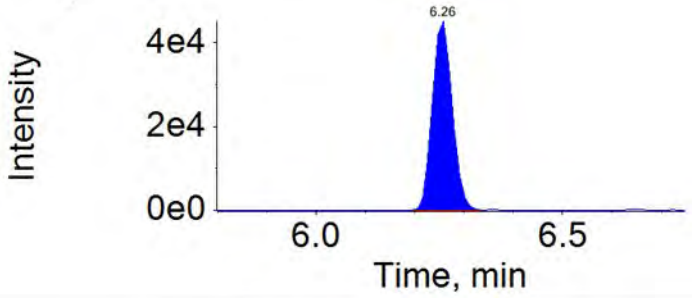
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



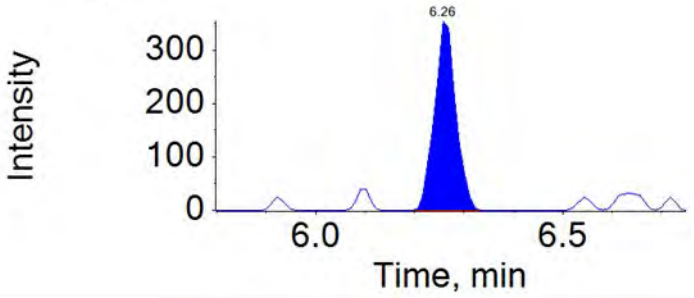
APPROVED
By MSM at 1:33 pm, 12/27/18

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By HMK at 10:42 am, 12/28/18

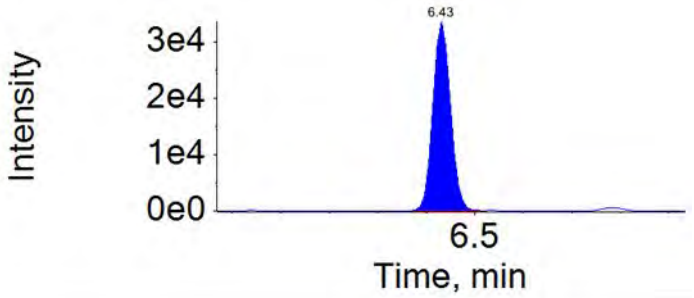
Component: PFTrDA
Primary Mass: 663.0 / 619.0



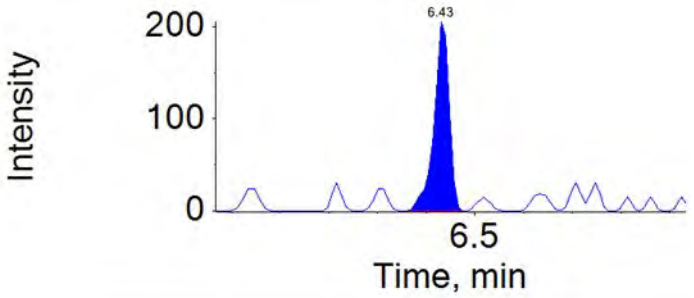
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



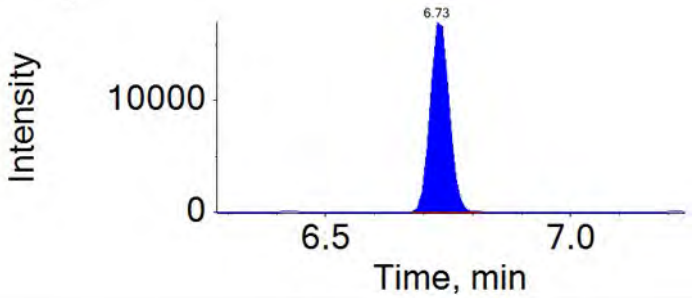
Component: PFTeDA
Primary Mass: 713.0 / 669.0



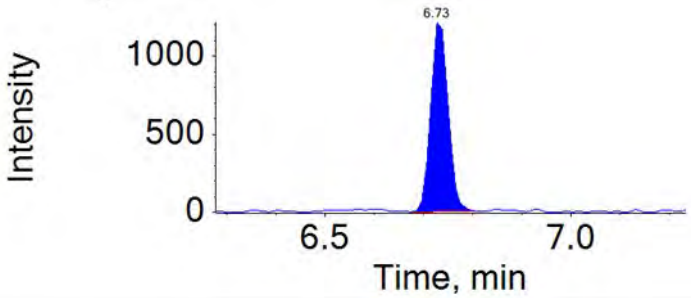
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



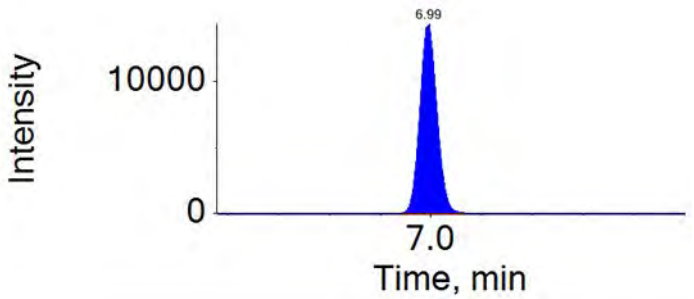
Component: PFHxDA
Primary Mass: 813.0 / 769.0



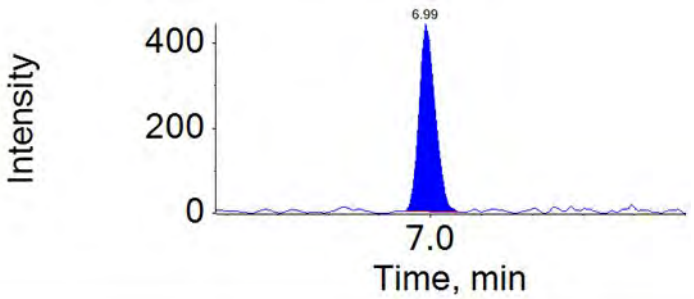
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL3			**Data File:**		18DEC26DCAL-08.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-26T13:55:25
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	965438.2	965438.2	0	50	
13C2-PFOA	5.0	527066.0	527066.0	0	50	
13C4-PFOS	4.8	307230.6	307230.6	0	50	
13C2-PFDA	5.0	493258.9	493258.9	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1082113.9	13C3-PFBA	965438.2	1.121	5.000	4.973	99	70-130	
E13C5-PFPeA	977758.8	13C3-PFBA	965438.2	1.013	5.000	4.824	96	70-130	
E13C3-PFBS	446654.4	13C3-PFBA	965438.2	0.463	4.650	4.495	97	70-130	
E13C2-4:2-FTS	69912.1	13C2-PFOA	527066.0	0.133	4.670	5.053	108	70-130	
E13C5-PFHxA	744192.7	13C2-PFOA	527066.0	1.412	5.000	5.165	103	70-130	
E13C3-PFHxS	350760.2	13C2-PFOA	527066.0	0.665	4.730	5.114	108	70-130	
E13C4-PFHpA	585765.2	13C2-PFOA	527066.0	1.111	5.000	5.007	100	70-130	
E13C2-6:2-FTS	51706.8	13C2-PFOA	527066.0	0.098	4.750	4.800	101	70-130	
E13C8-PFOA	1023450.2	13C2-PFOA	527066.0	1.942	5.000	5.441	109	70-130	
E13C8-PFOS	343856.8	13C4-PFOS	307230.6	1.119	4.780	4.879	102	70-130	
E13C9-PFNA	656638.2	13C4-PFOS	307230.6	2.137	5.000	4.708	94	70-130	
E13C6-PFDA	870769.5	13C2-PFDA	493258.9	1.765	5.000	5.069	101	70-130	
E13C2-8:2-FTS	47510.1	13C2-PFDA	493258.9	0.096	4.790	4.983	104	70-130	
E13C8-PFOSA	637826.1	13C2-PFDA	493258.9	1.293	5.000	5.165	103	70-130	
Ed3-NMeFOSAA	193745.8	13C2-PFDA	493258.9	0.393	5.000	5.012	100	70-130	
E13C7-PFUnDA	592510.7	13C2-PFDA	493258.9	1.201	5.000	5.190	104	70-130	
Ed5-NEtFOSAA	142682.6	13C2-PFDA	493258.9	0.289	5.000	5.012	100	70-130	
E13C2-PFDoDA	1180173.4	13C2-PFDA	493258.9	2.393	5.000	5.190	104	70-130	
Ed7-NMePFOSAE	255524.4	13C2-PFDA	493258.9	0.518	5.000	4.898	98	70-130	
Ed3-NMePFOSA	88334.6	13C2-PFDA	493258.9	0.179	5.000	5.077	102	70-130	
Ed9-NEtPFOSAE	230137.0	13C2-PFDA	493258.9	0.467	5.000	5.077	102	70-130	
Ed5-NEtPFOSA	66116.5	13C2-PFDA	493258.9	0.134	5.000	4.731	95	70-130	
E13C2-PFTeDA	852571.4	13C2-PFDA	493258.9	1.728	5.000	5.098	102	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

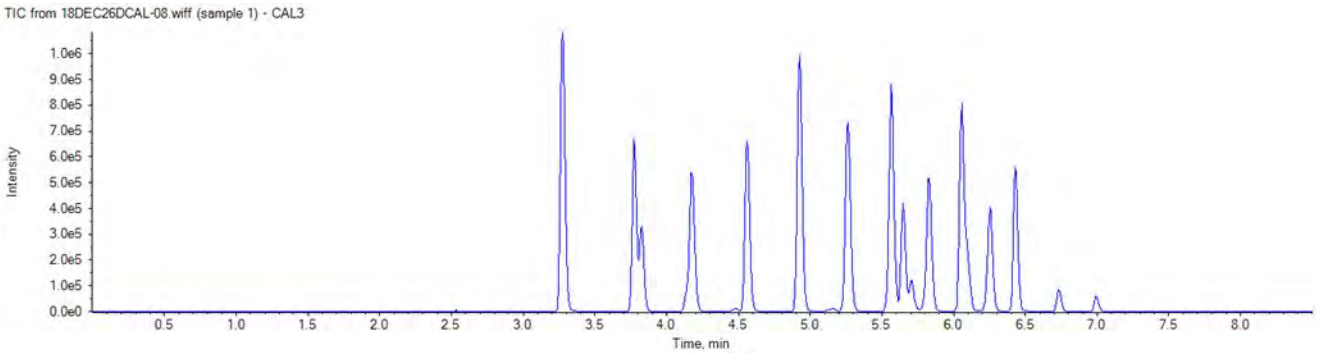
Analyte Quantitation Peak Table

Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-08.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	445066.0		A	13C4-PFBA	3.27	1082113.9	0.411	2.173
PFPeA	3.78	1.000	467183.7		A	13C5-PFPeA	3.78	977758.8	0.478	2.372
PFBS	3.83	1.000	178057.1		A	13C3-PFBS	3.83	446654.4	0.399	1.978
4:2-FTS	4.14	1.000	52969.4		A	13C2-4:2-FTS	4.14	69912.1	0.758	1.858
PFHxA	4.17	1.000	406644.2		A	13C5-PFHxA	4.18	744192.7	0.546	2.243
PFPeS	4.20	1.100	95064.2		A	13C3-PFBS	3.83	446654.4	0.213	2.143
PFHpA	4.56	1.000	445437.5		A	13C4-PFHpA	4.56	585765.2	0.760	2.403
PFHxS	4.56	1.000	138649.7		M	13C3-PFHxS	4.56	350760.2	0.395	1.849
6:2-FTS	4.92	1.000	45254.5		A	13C2-6:2-FTS	4.91	51706.8	0.875	2.098
PFHpS	4.92	1.080	137770.8		A	13C3-PFHxS	4.56	350760.2	0.393	2.056
PFOA	4.93	1.000	446397.7		A	13C8-PFOA	4.93	1023450.2	0.436	2.308
PFOS	5.25	1.000	150328.5		M	13C8-PFOS	5.25	343856.8	0.437	1.903
PFNA	5.27	1.000	406162.4		A	13C9-PFNA	5.27	656638.2	0.619	2.486
PFNS	5.54	1.060	108887.8		A	13C8-PFOS	5.25	343856.8	0.317	2.164
PFDA	5.57	1.000	373672.9		A	13C6-PFDA	5.57	870769.5	0.429	2.474
8:2-FTS	5.57	1.000	52489.5		A	13C2-8:2-FTS	5.57	47510.1	1.105	2.183
PFOSA	5.65	1.000	281995.2		A	13C8-PFOSA	5.65	637826.1	0.442	2.326
NMeFOSAA	5.71	1.000	69991.9		M	d3-NMeFOSAA	5.70	193745.8	0.361	2.107
PFDS	5.80	1.100	87475.6		A	13C8-PFOS	5.25	343856.8	0.254	2.097
PFUnDA	5.83	1.000	380045.4		A	13C7-PFUnDA	5.83	592510.7	0.641	2.453
NEtFOSAA	5.84	1.000	64258.5		M	d5-NEtFOSAA	5.84	142682.6	0.450	2.315
PFDoDA	6.06	1.000	526652.2		A	13C2-PFDoDA	6.06	1180173.4	0.446	2.277
10:2-FTS	6.07	1.090	46549.5		A	13C2-8:2-FTS	5.57	47510.1	0.980	2.000
NMePFOSAE	6.10	1.000	132889.6		A	d7-NMePFOSAE	6.09	255524.4	0.520	2.199
NMePFOSA	6.11	1.000	35239.3		A	d3-NMePFOSA	6.11	88334.6	0.399	1.991
PFDoS	6.22	1.180	43719.7		A	13C8-PFOS	5.25	343856.8	0.127	1.900
NEtPFOSAE	6.26	1.000	146083.2		A	d9-NEtPFOSAE	6.25	230137.0	0.635	2.100
NEtPFOSA	6.27	1.000	30264.1		A	d5-NEtPFOSA	6.27	66116.5	0.458	2.152
PFTrDA	6.26	1.030	481891.6		A	13C2-PFDoDA	6.06	1180173.4	0.408	2.174
PFTeDA	6.43	1.000	344406.2		A	13C2-PFTeDA	6.43	852571.4	0.404	2.297
PFHxDA	6.73	1.050	177310.3		A	13C2-PFTeDA	6.43	852571.4	0.208	2.398
PFODA	6.99	1.090	123640.9		A	13C2-PFTeDA	6.43	852571.4	0.145	2.144

Total Ion Chromatogram

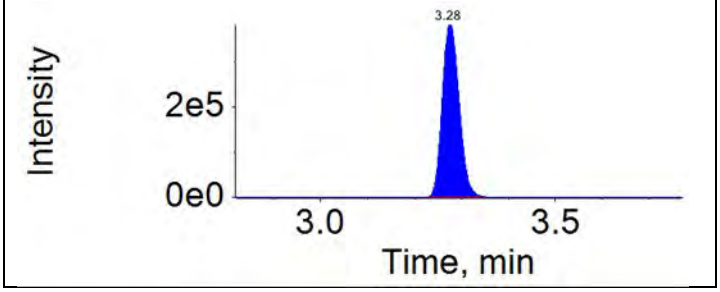


APPROVED
By MSM at 1:33 pm, 12/27/18

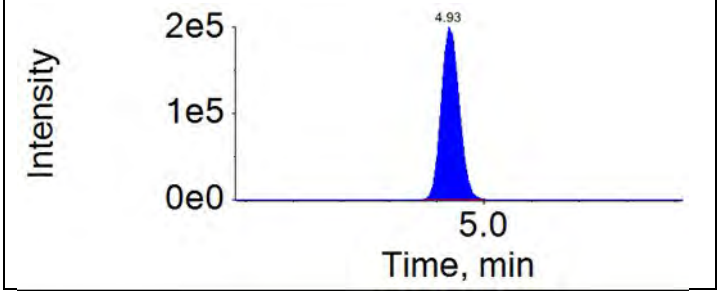
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

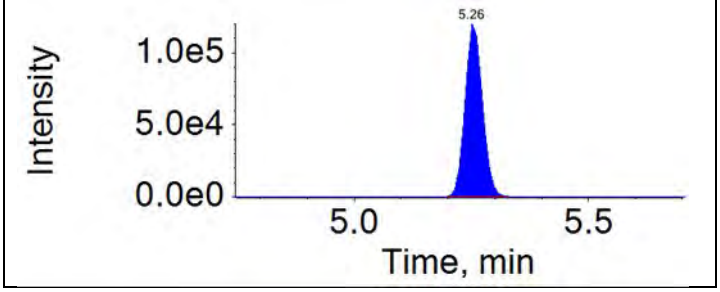
Injection Standard: 13C3-PFBA
216.0 / 172.0



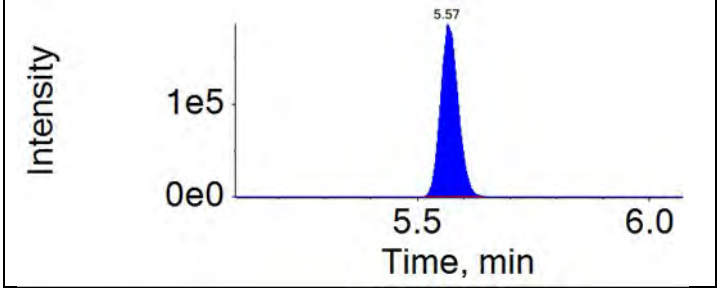
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

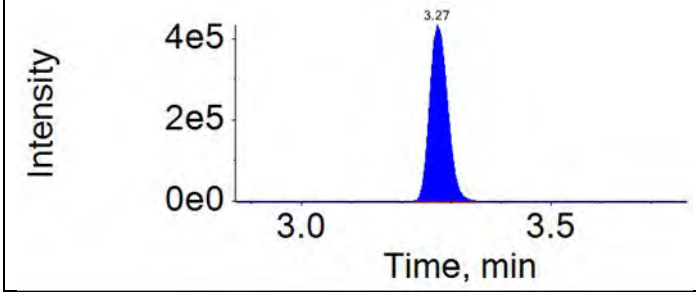


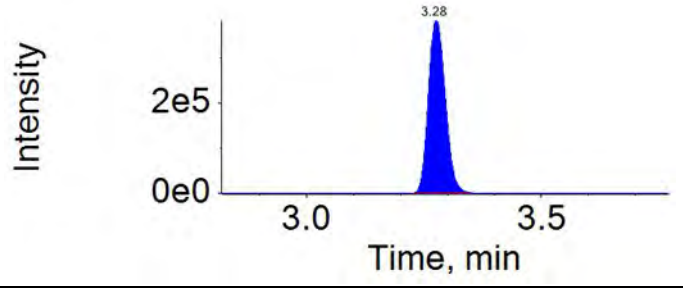
Injection Standard: 13C2-PFDA
515.0 / 470.0



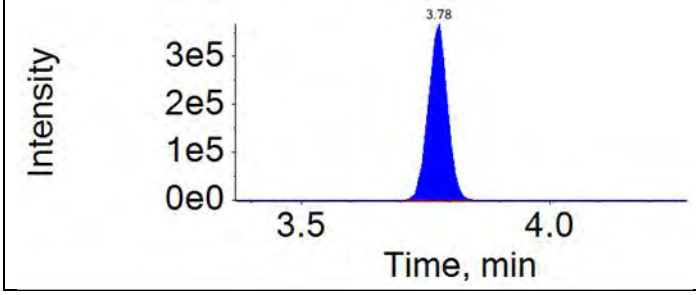
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

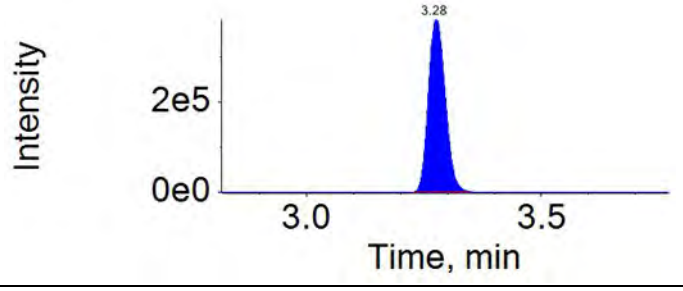
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



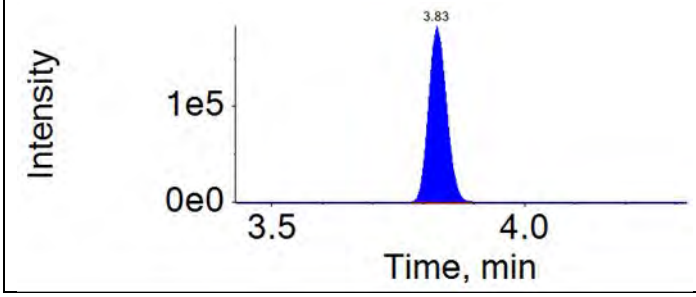


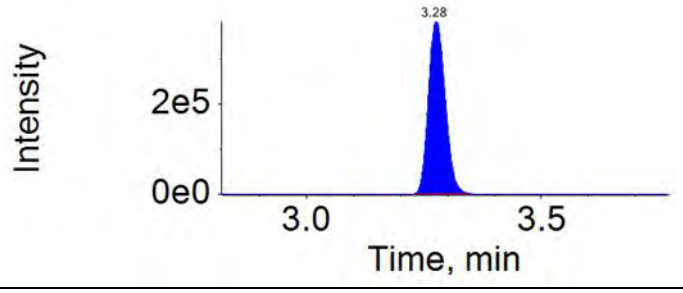
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



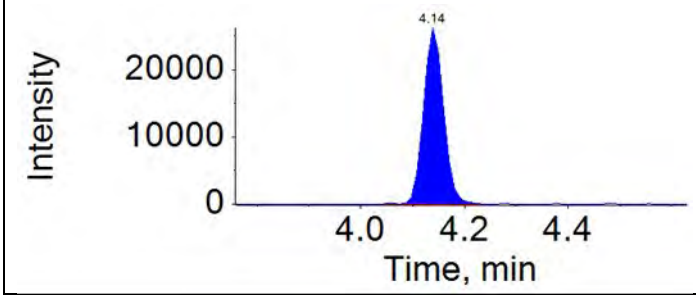


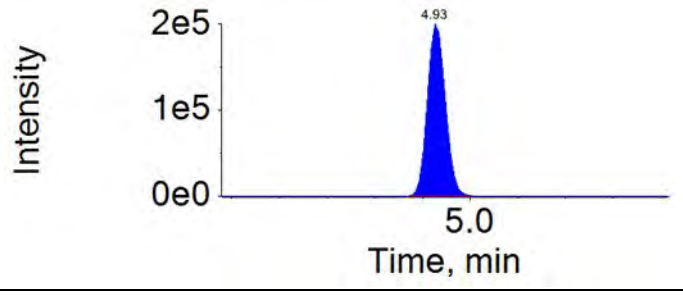
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





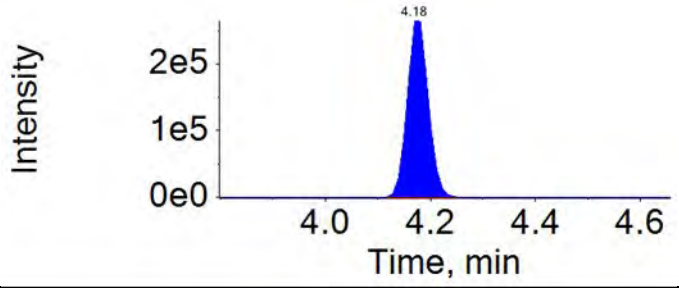
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

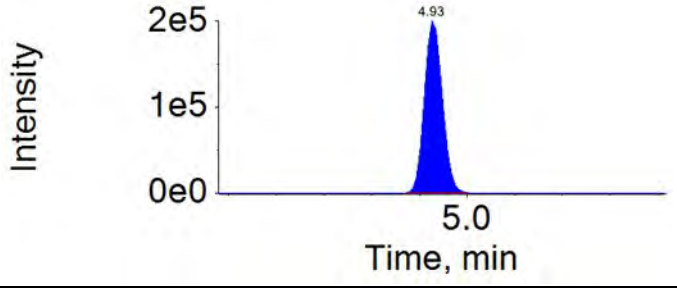




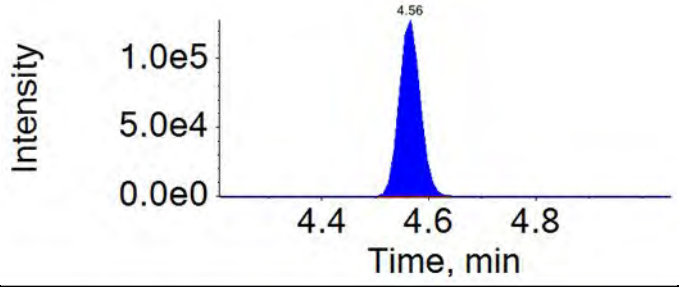
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

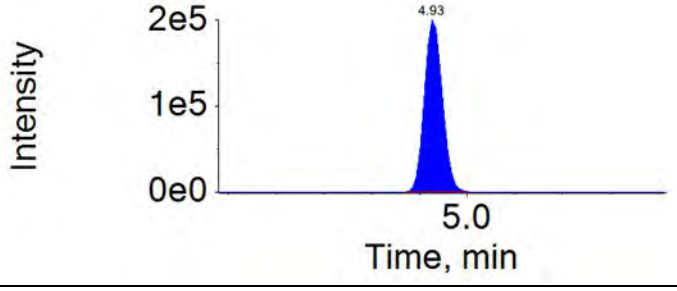
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



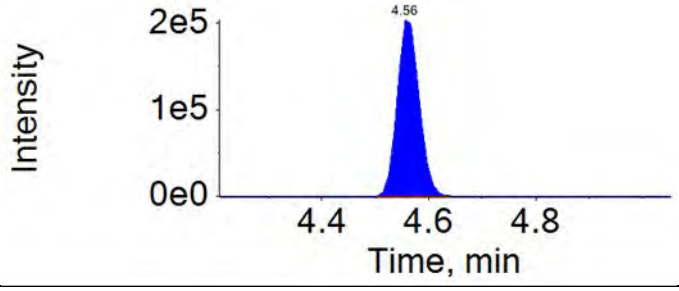


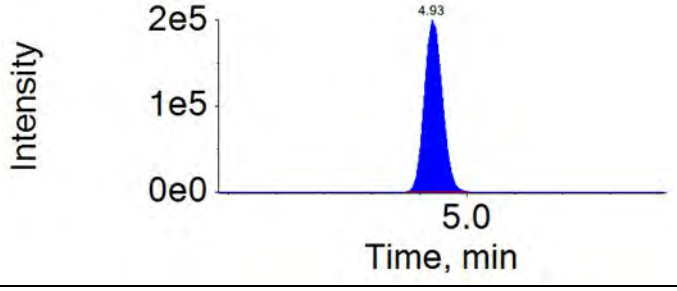
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



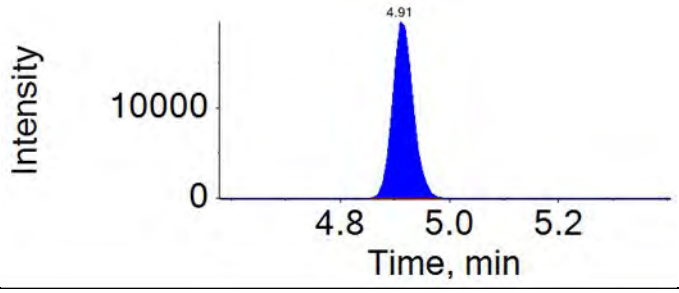


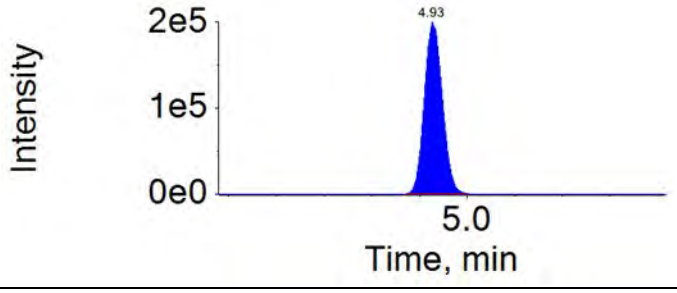
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



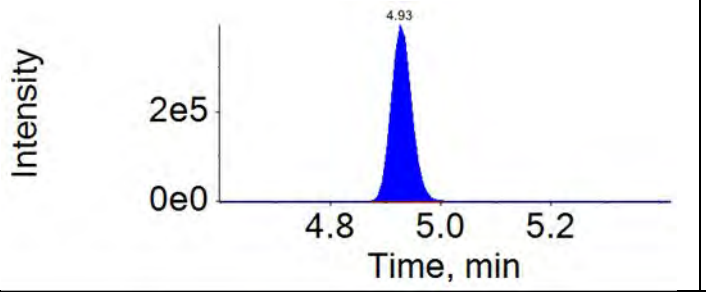


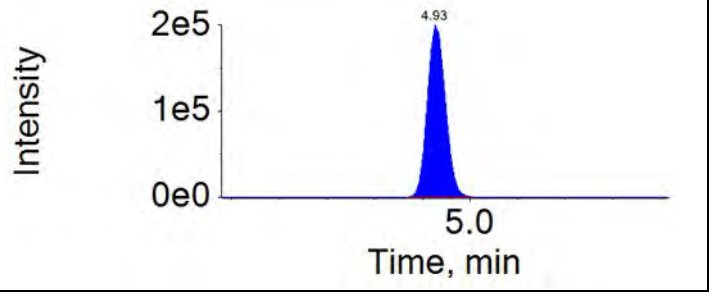
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

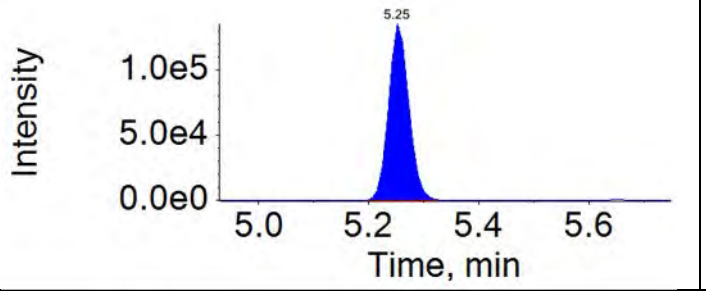
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

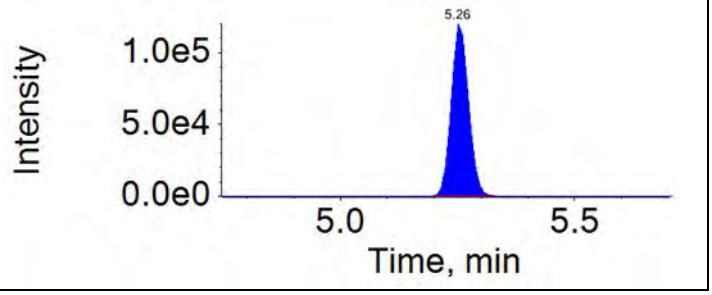
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



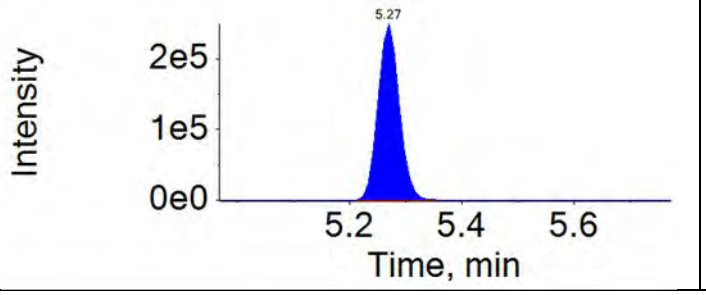


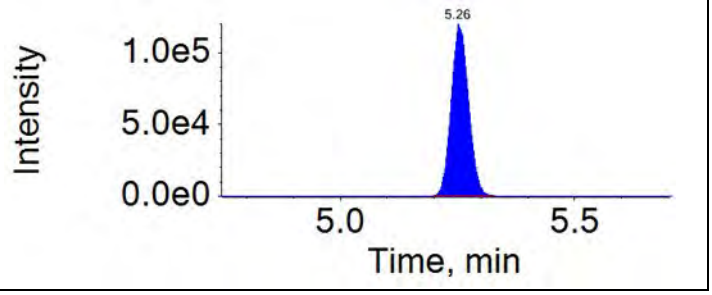
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



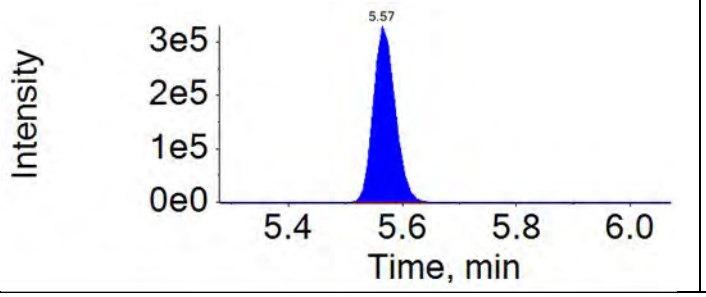


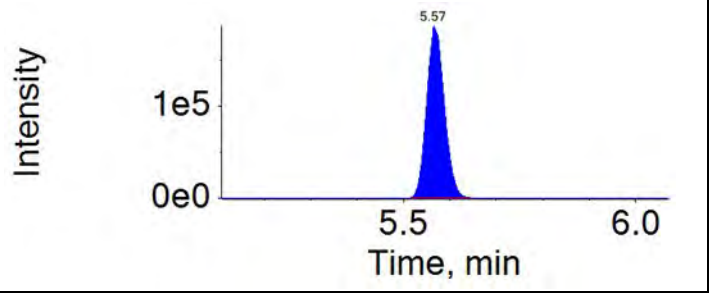
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





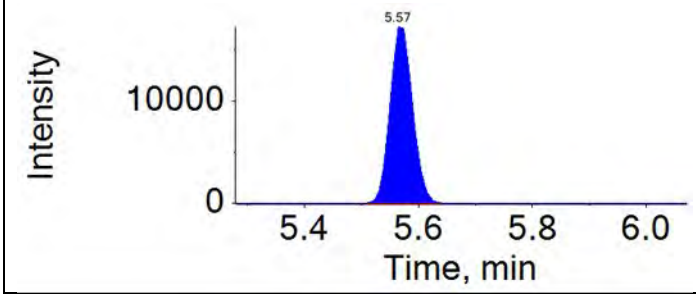
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

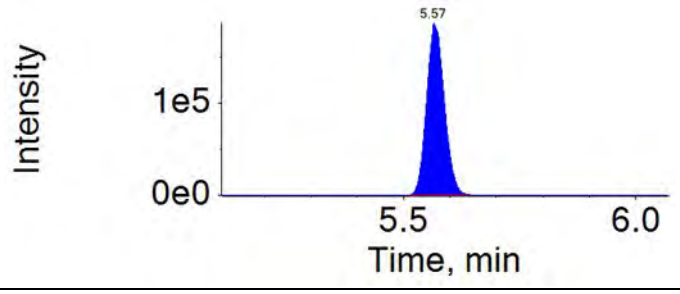




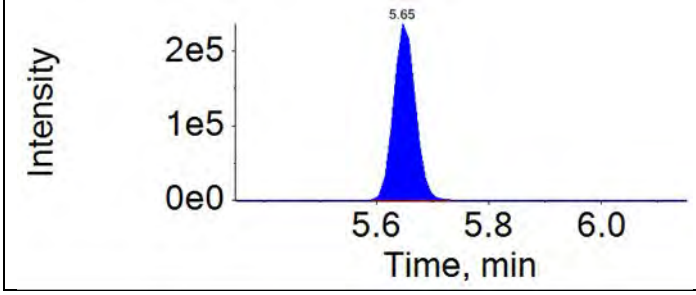
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

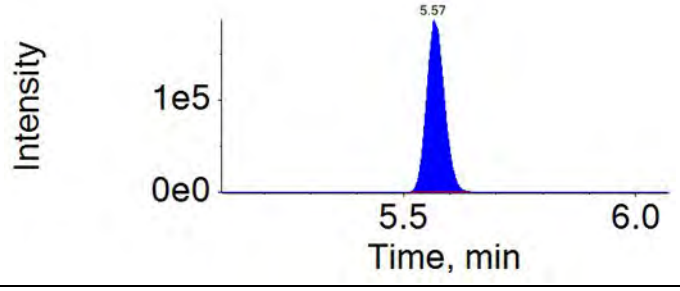
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



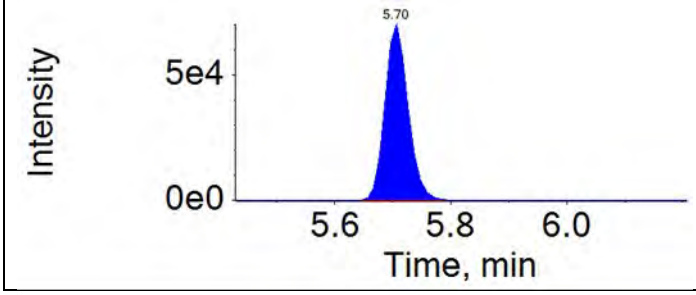


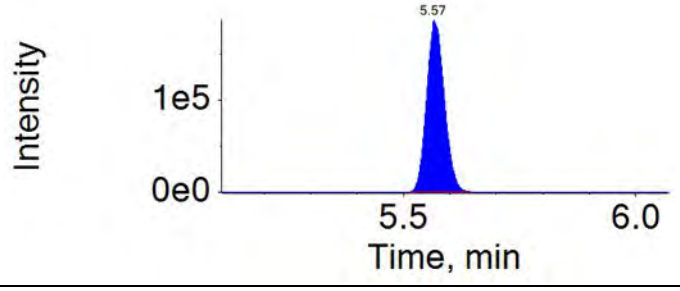
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



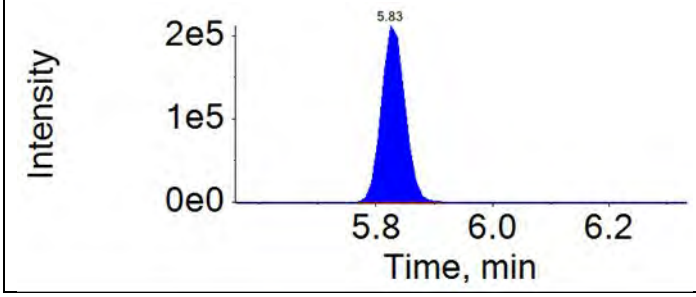


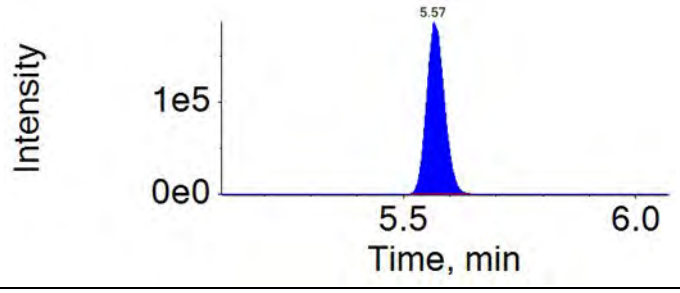
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



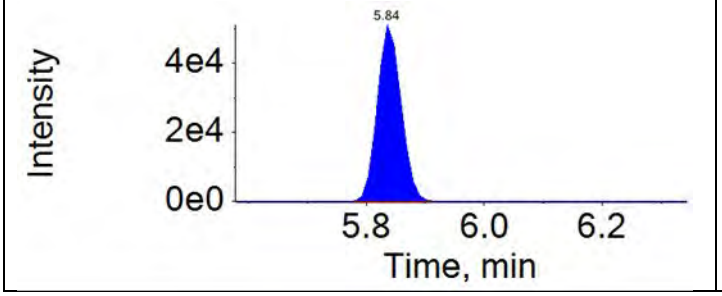


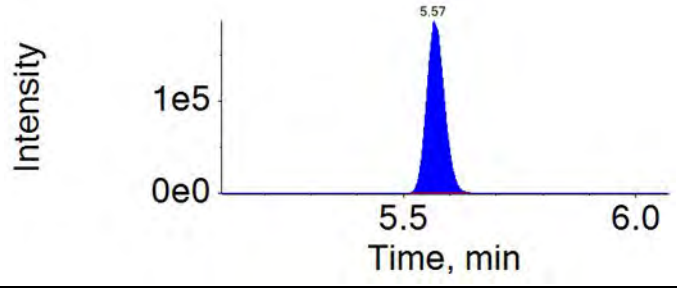
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

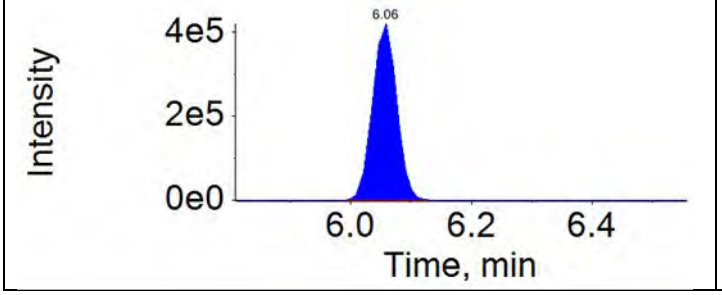
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

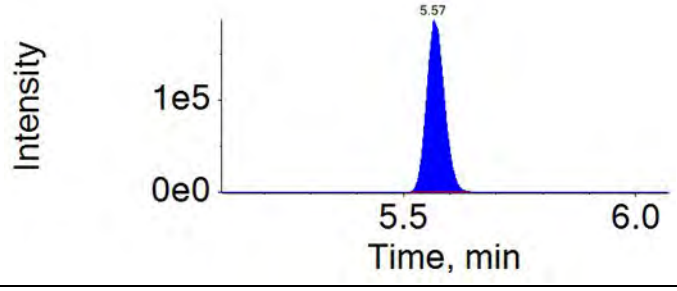
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



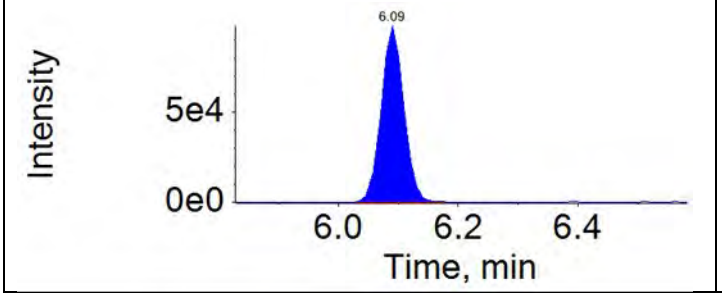


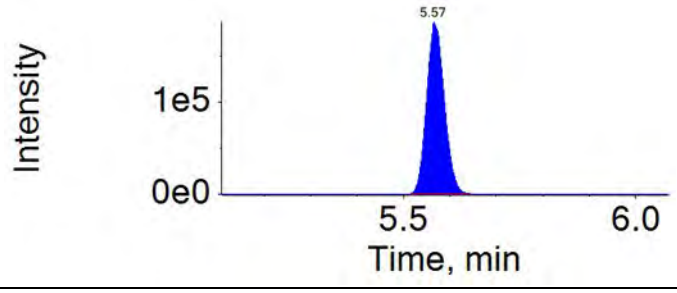
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



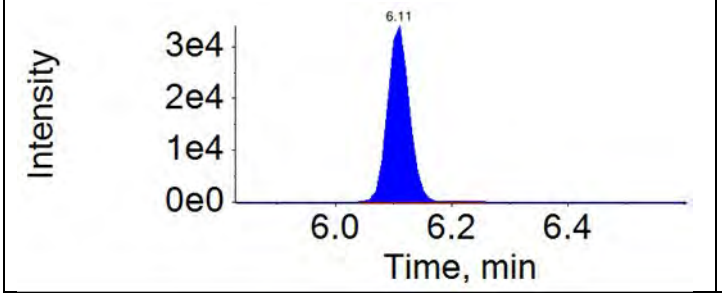


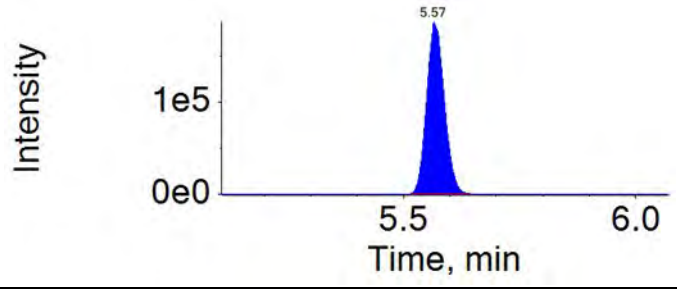
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



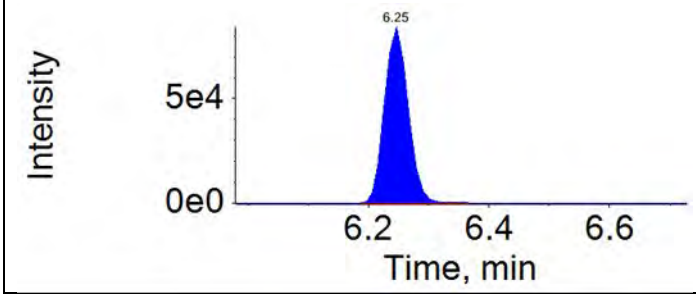


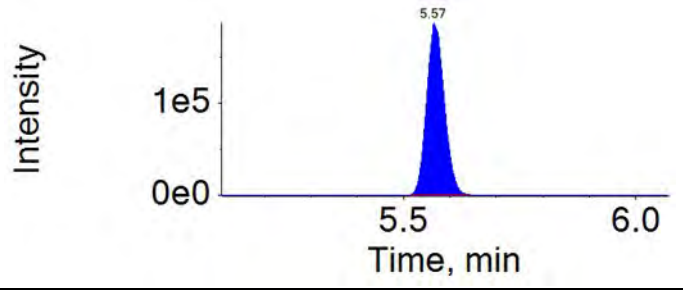
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

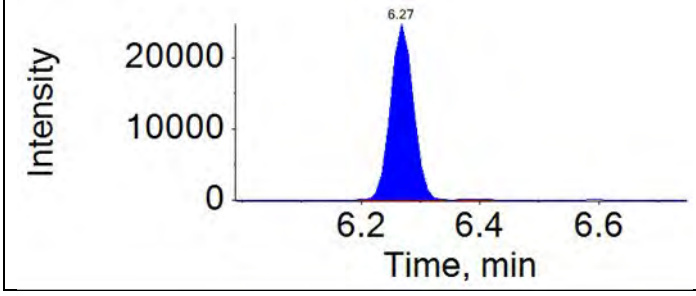
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

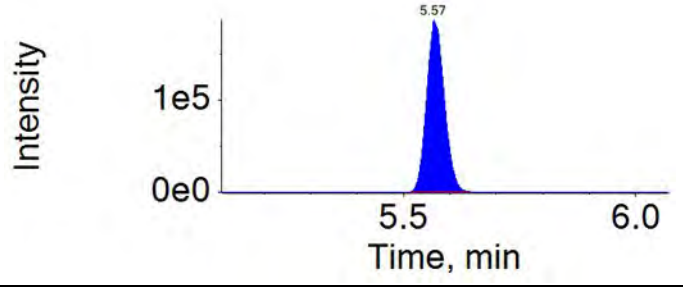
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



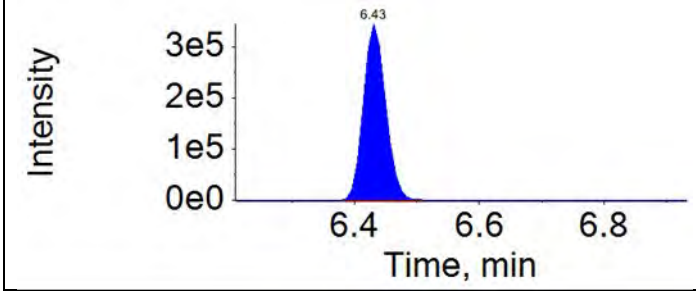


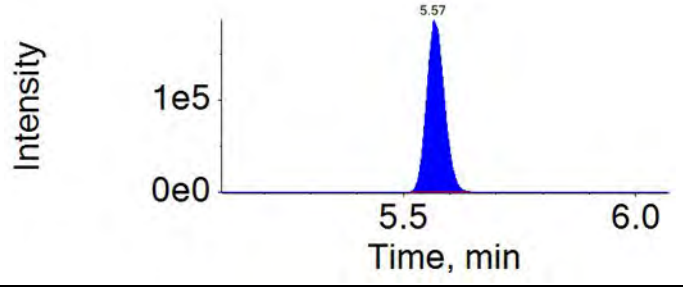
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



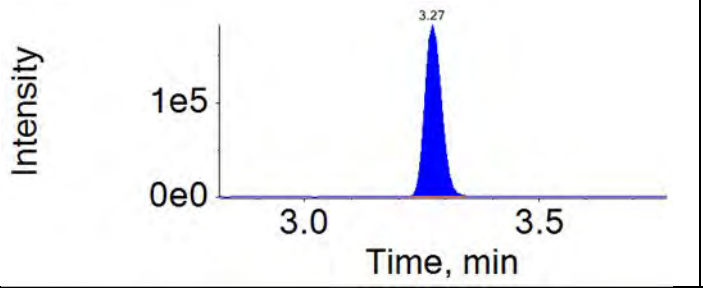


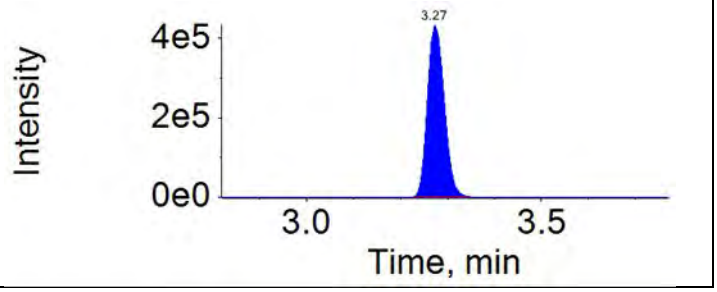
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

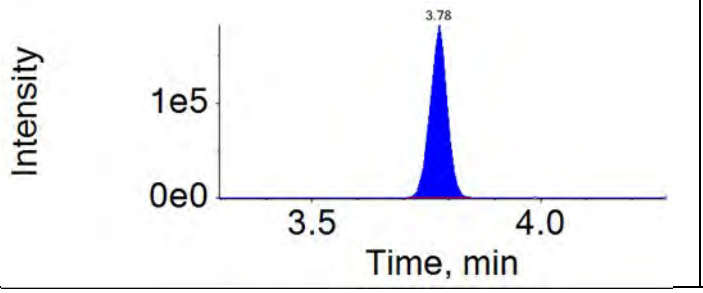
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

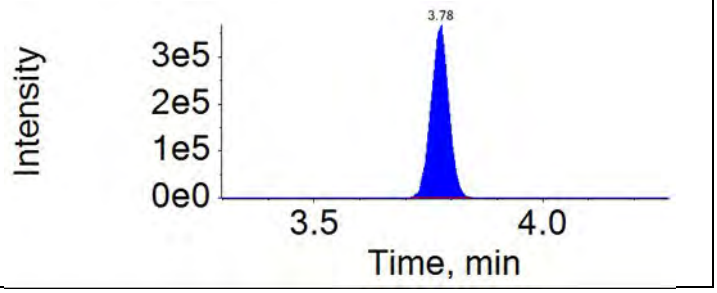
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



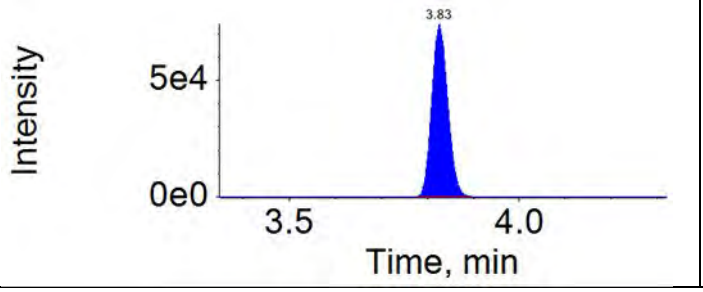


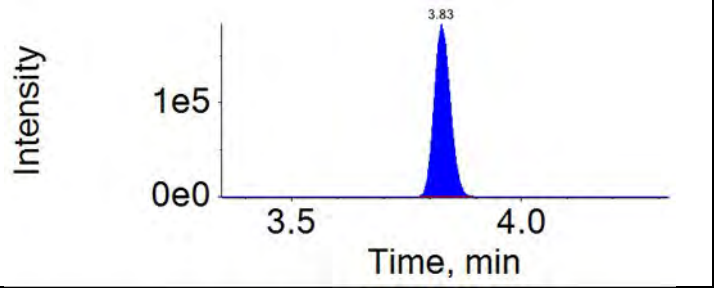
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



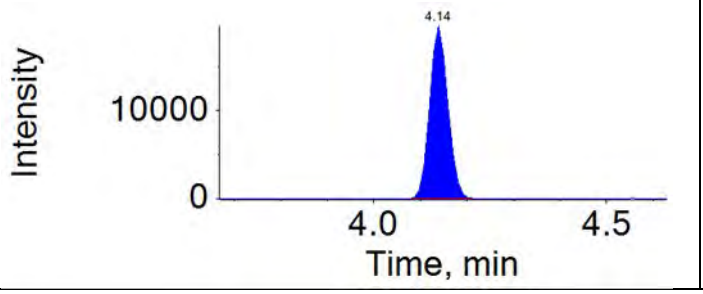


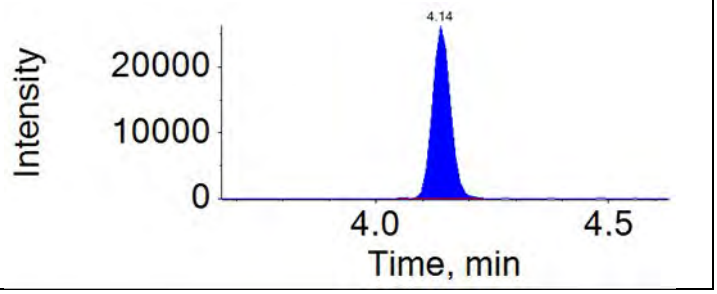
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



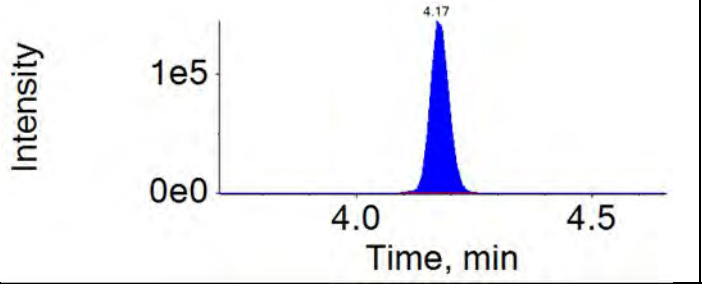


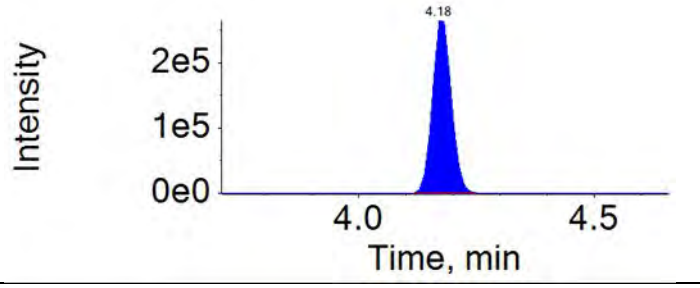
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

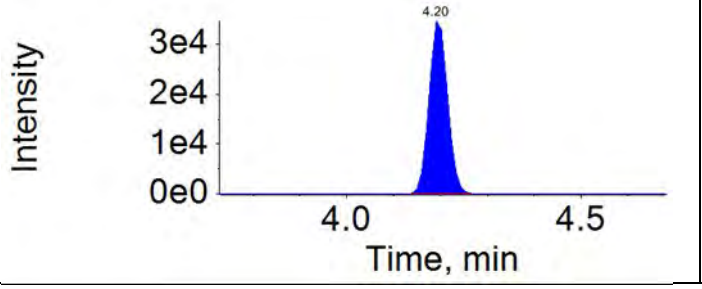
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

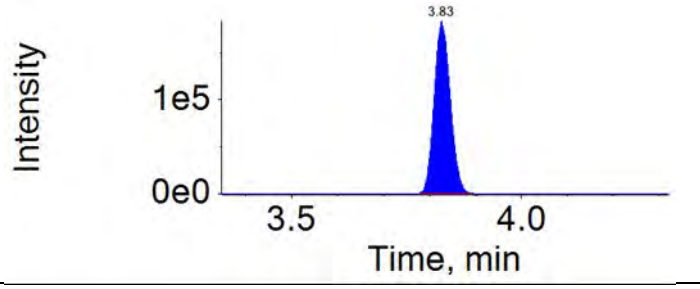
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



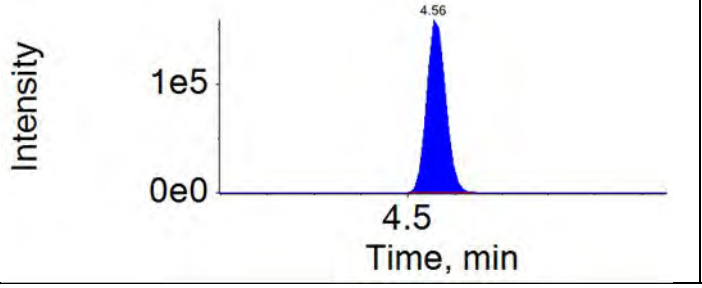


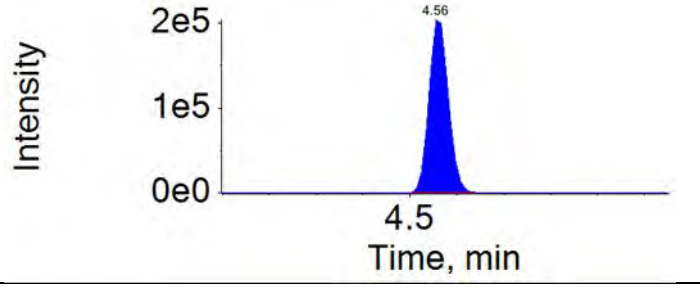
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



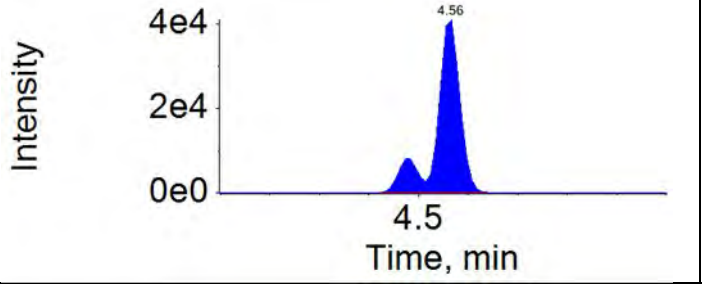


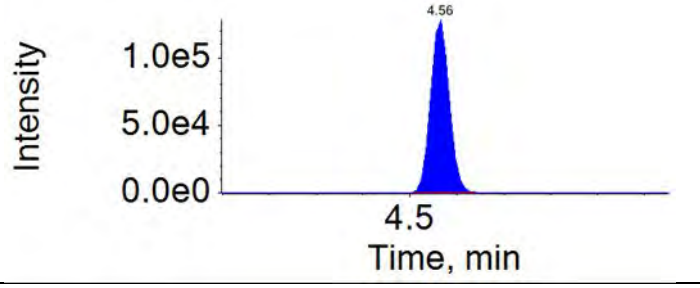
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



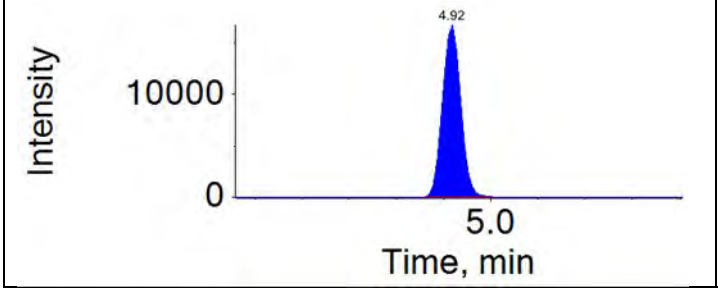


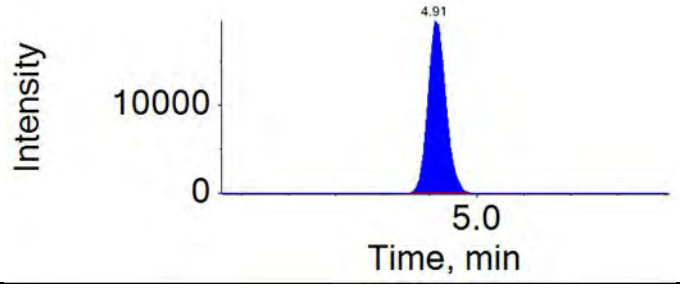
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

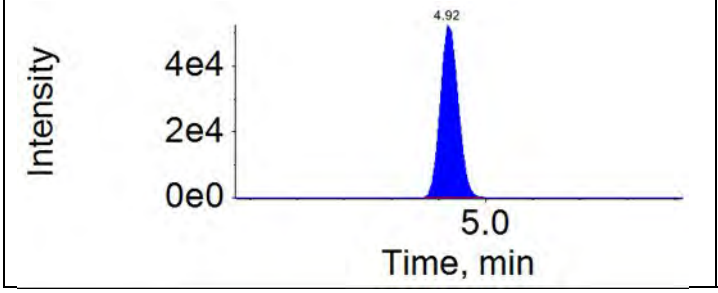
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

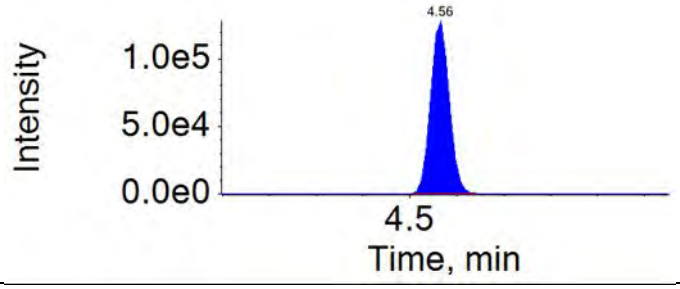
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



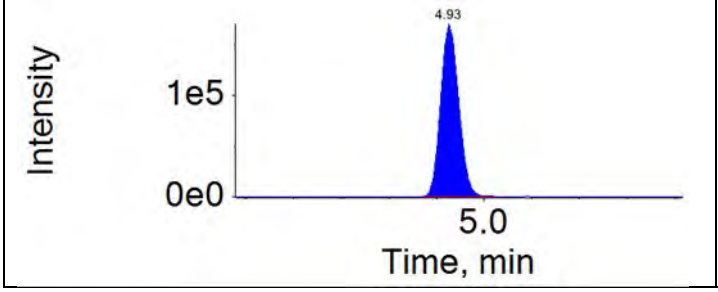


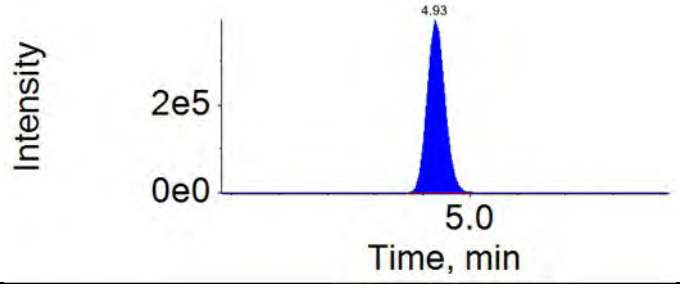
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



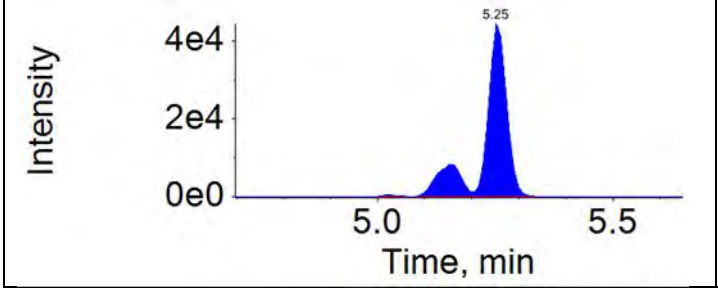


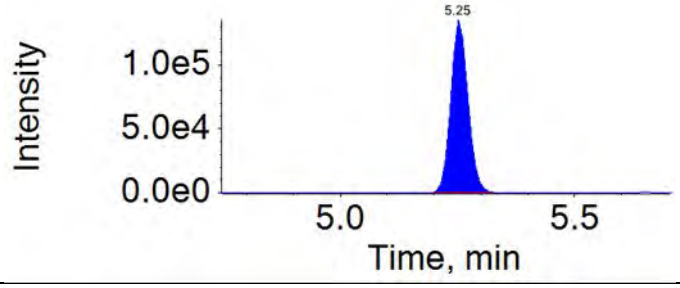
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



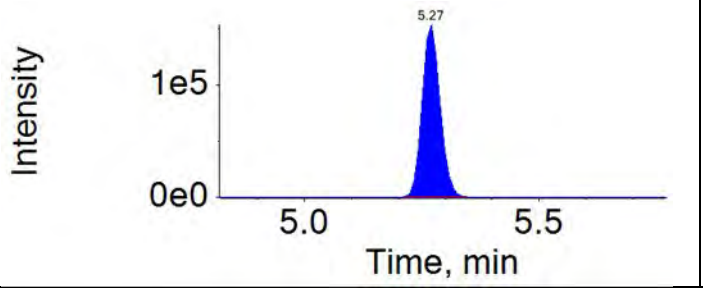


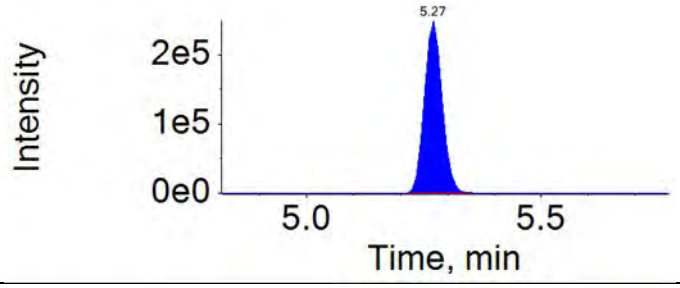
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

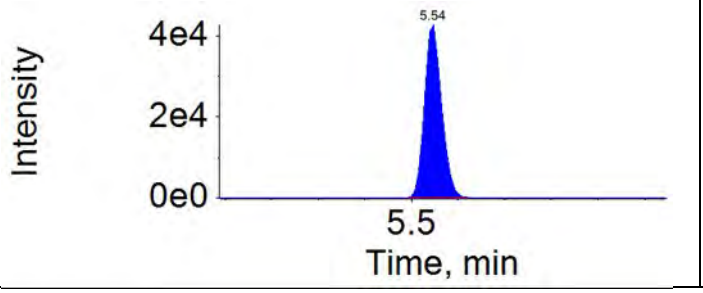
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

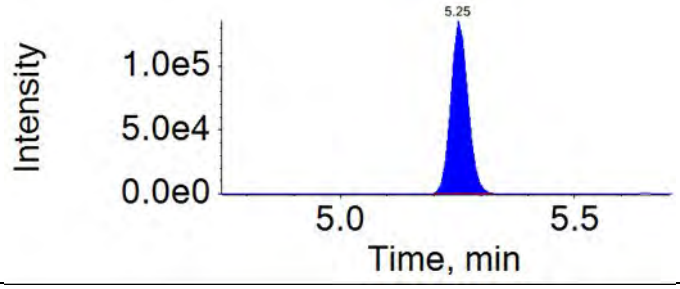
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



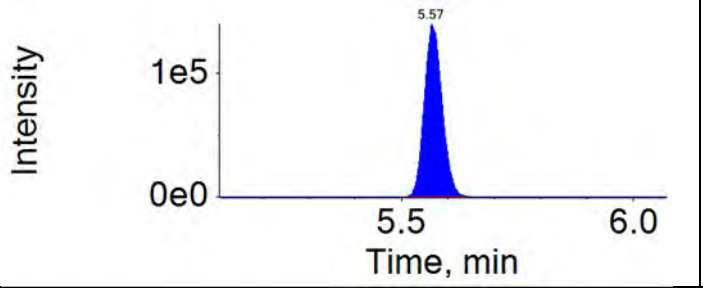


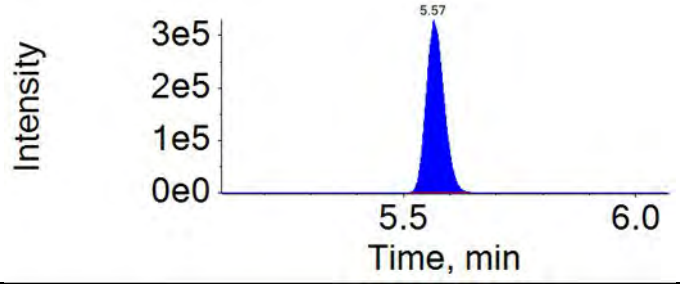
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



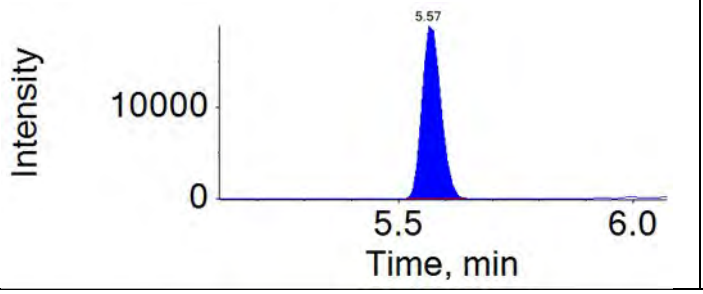


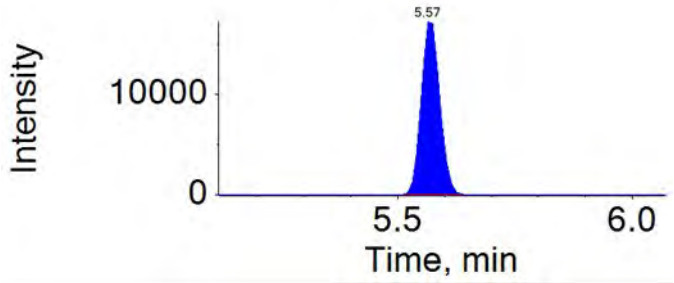
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



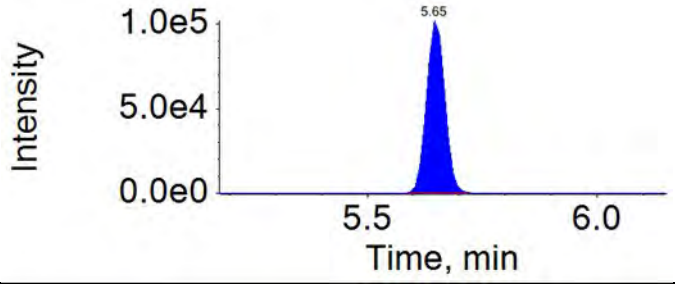


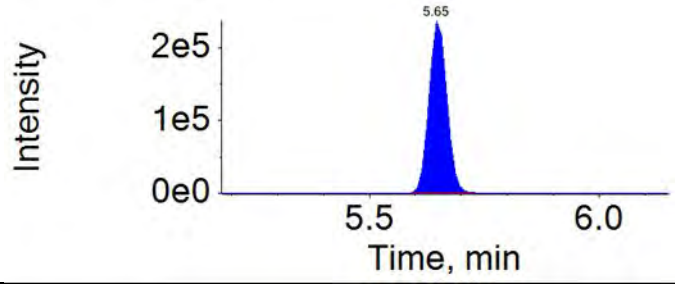
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

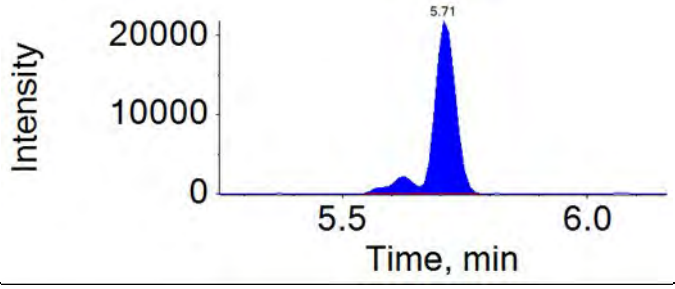
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

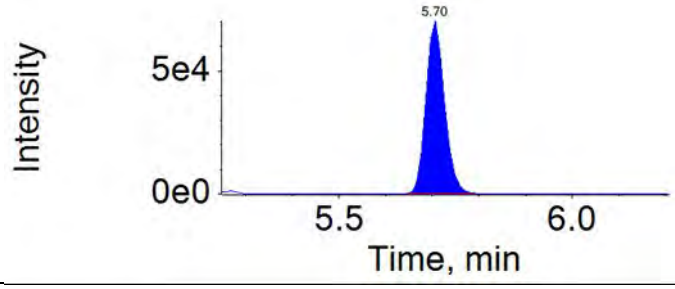
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



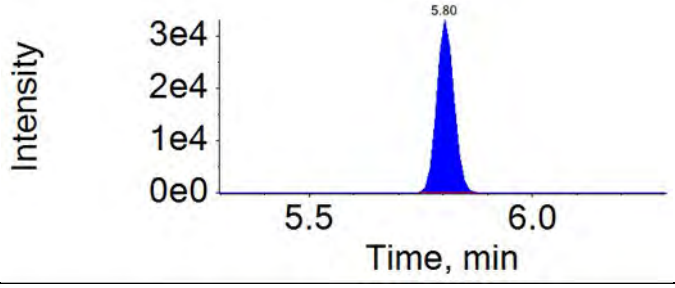


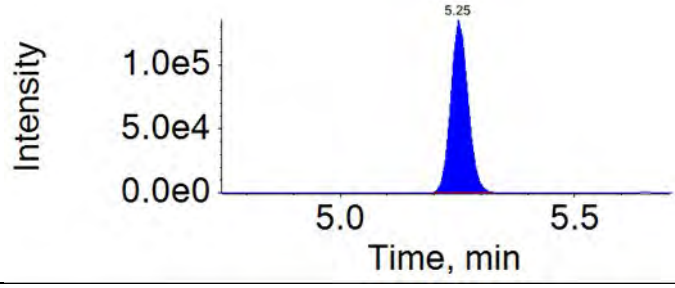
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



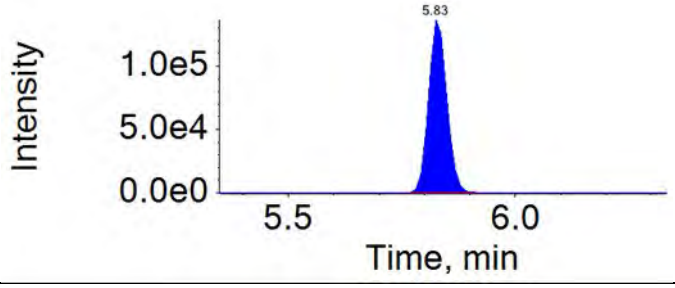


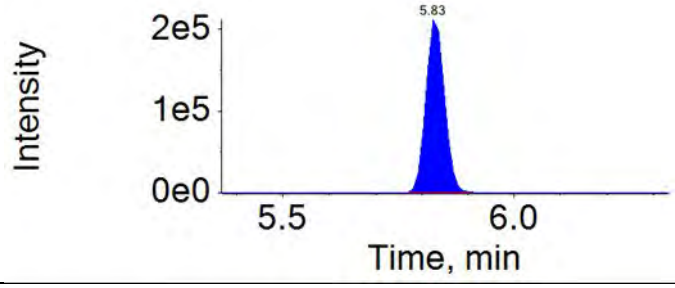
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



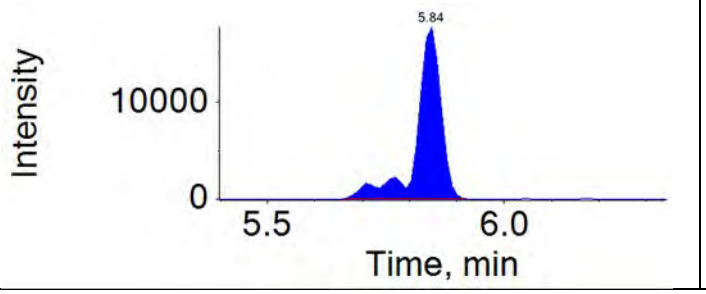


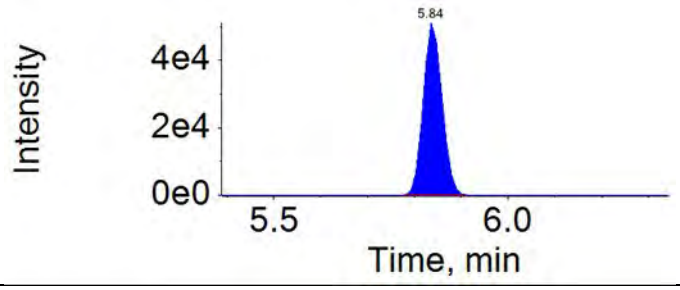
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

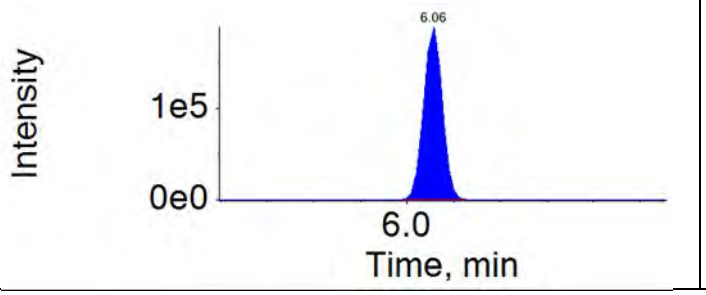
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

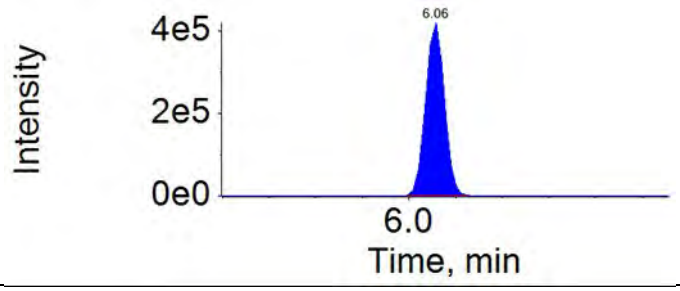
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



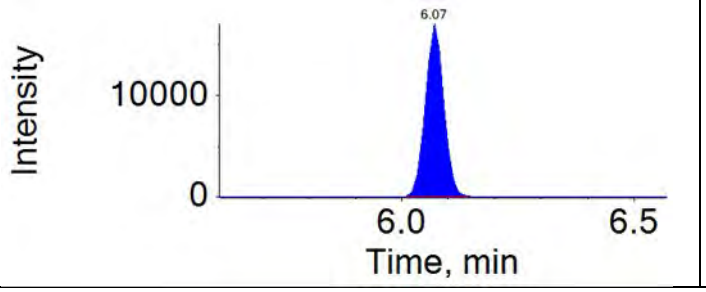


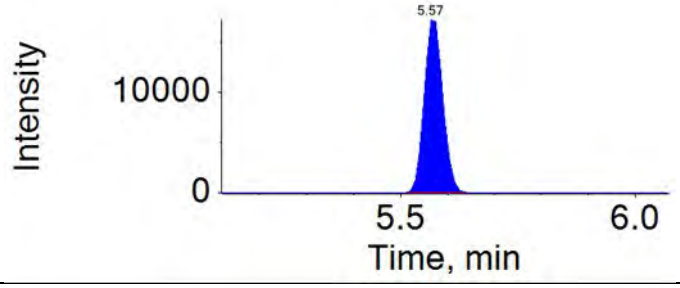
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



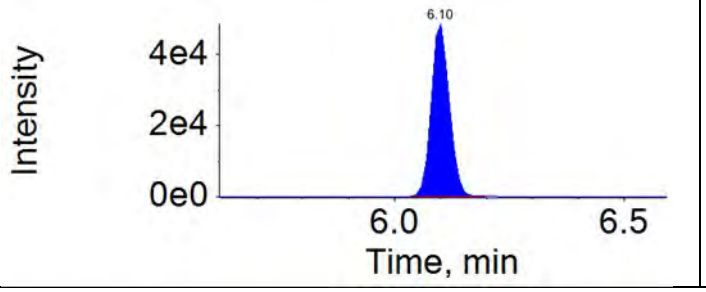


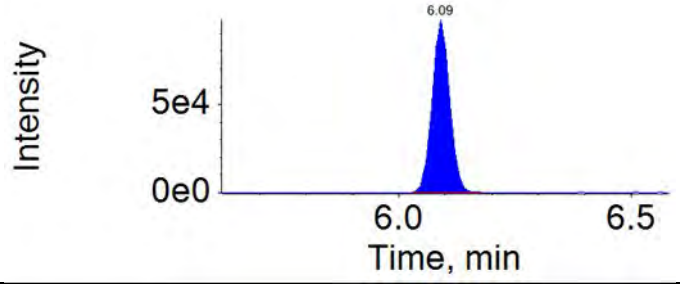
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



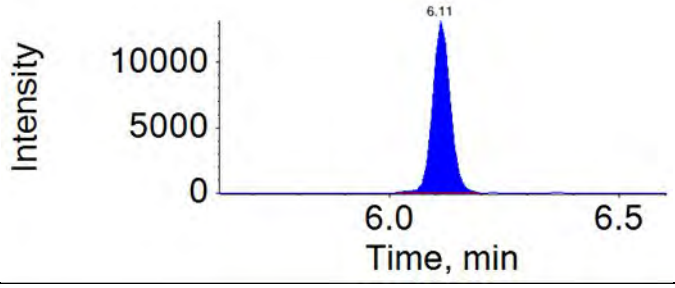


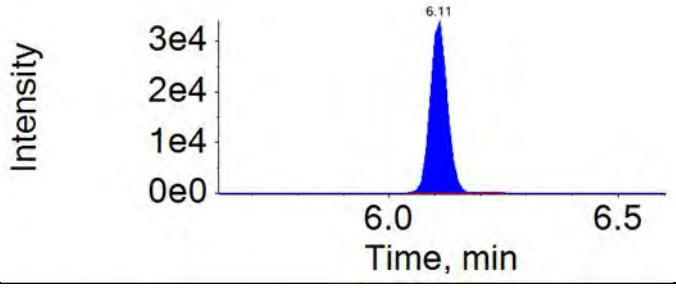
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

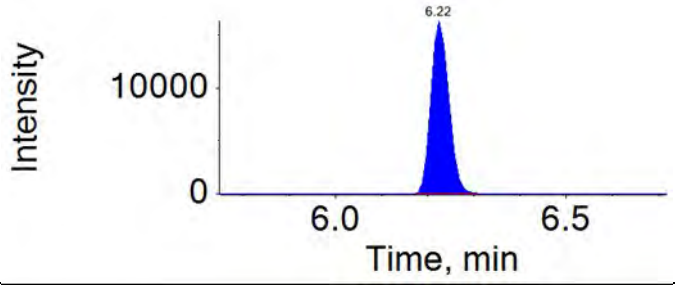
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

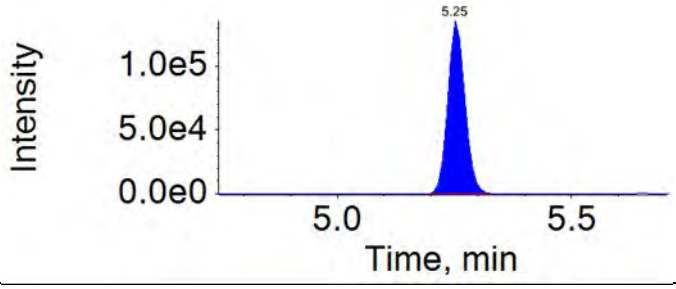
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



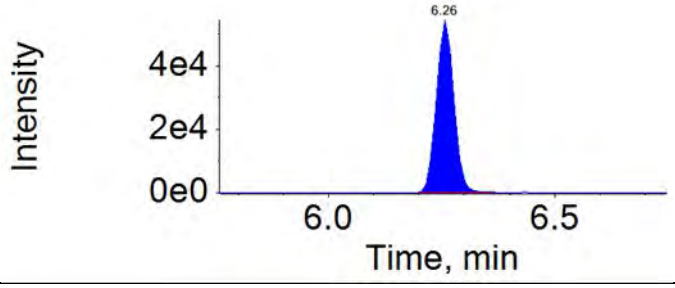


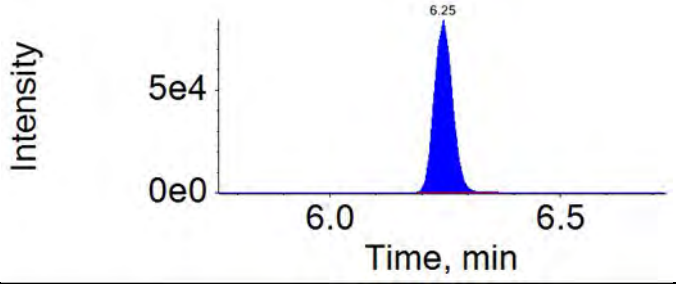
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



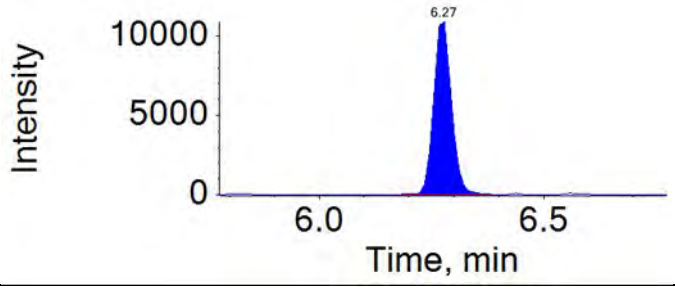


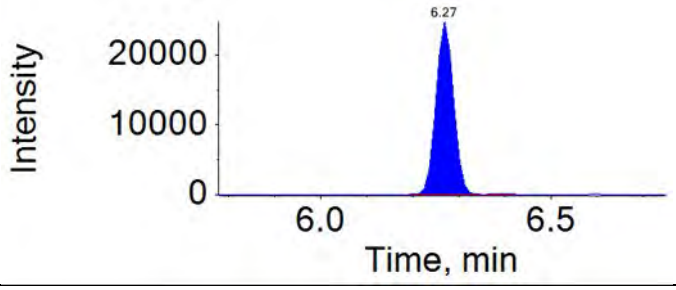
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

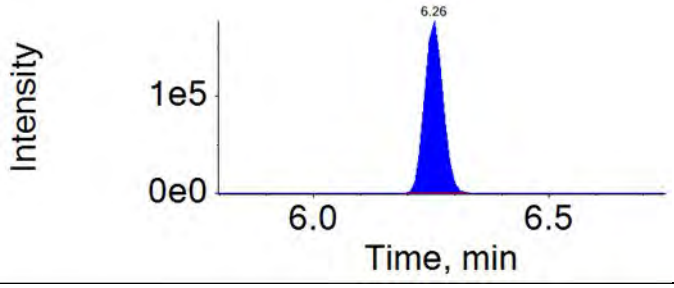
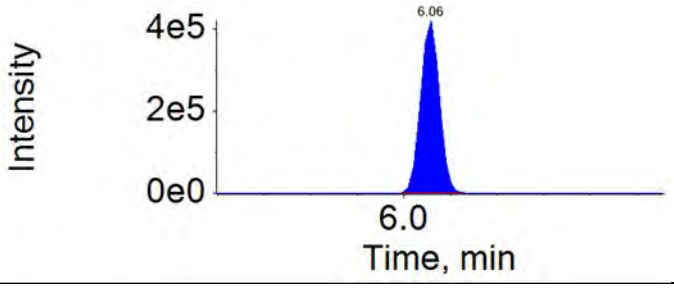


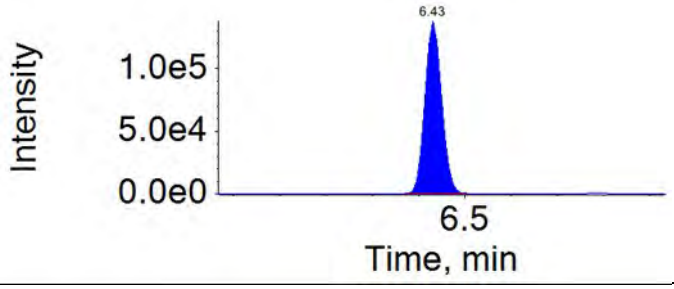
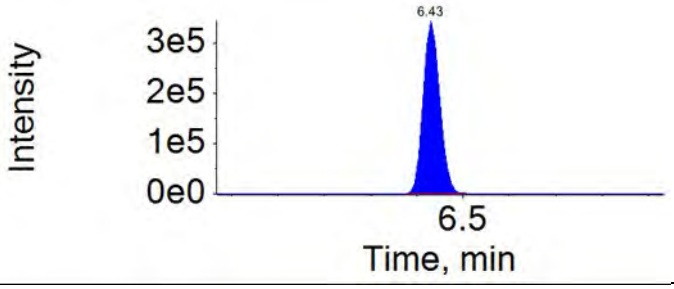


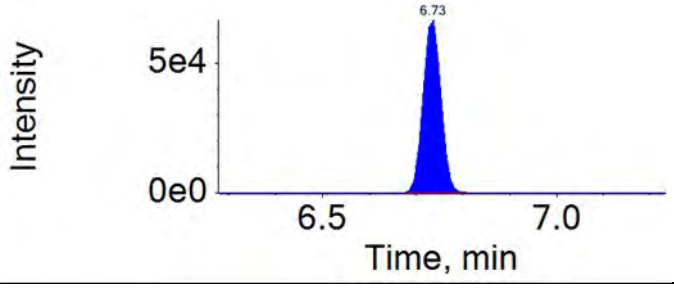
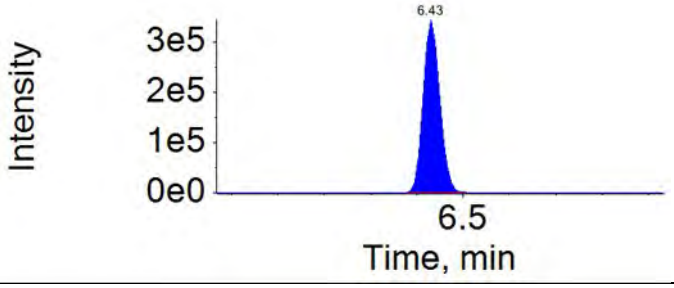
APPROVED
By MSM at 1:33 pm, 12/27/18

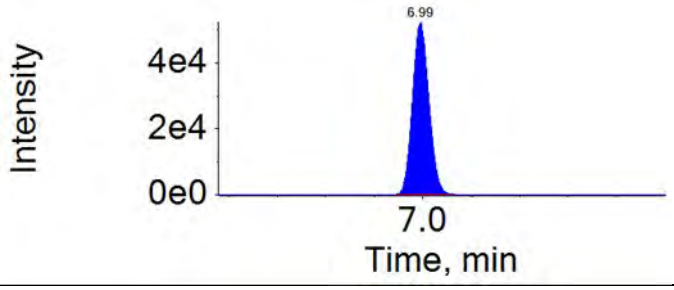
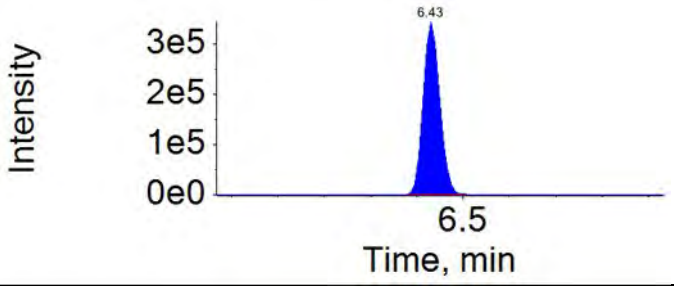
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

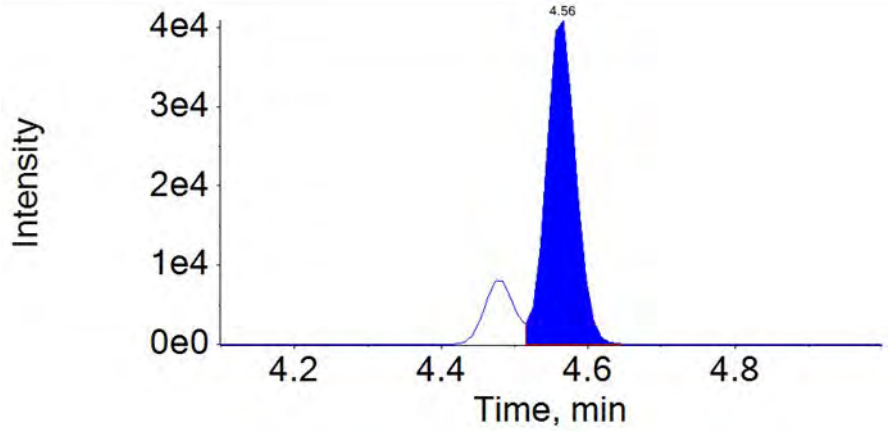
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

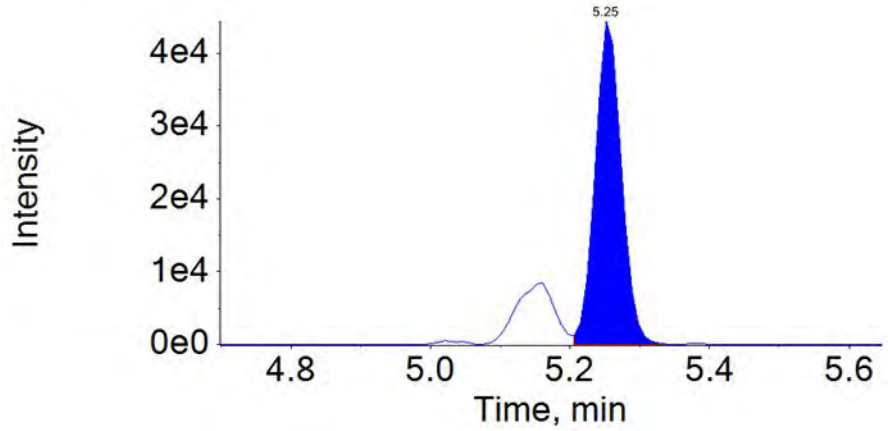
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
115693.66
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



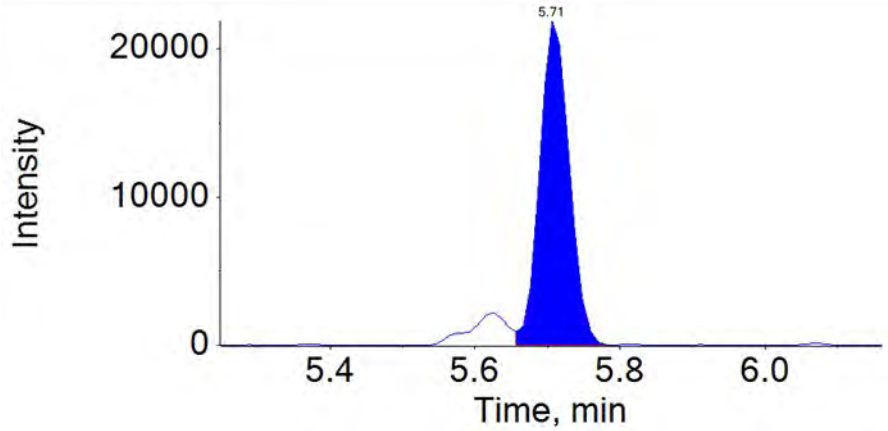
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
116458.52
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
62035.26
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



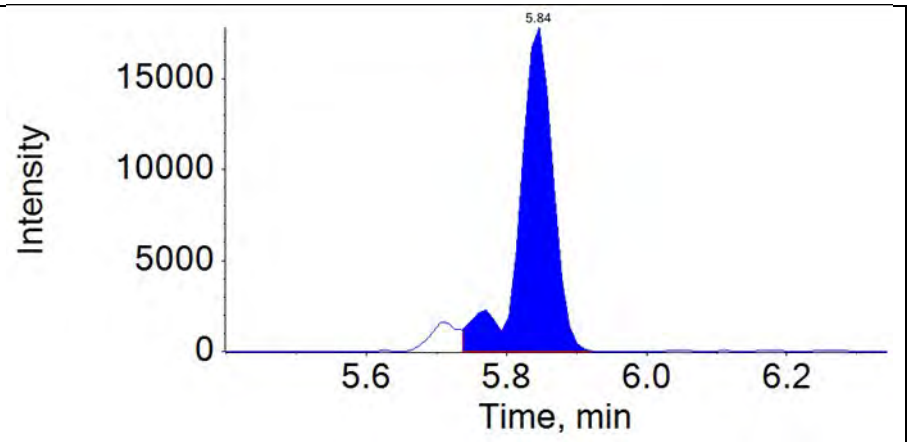
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

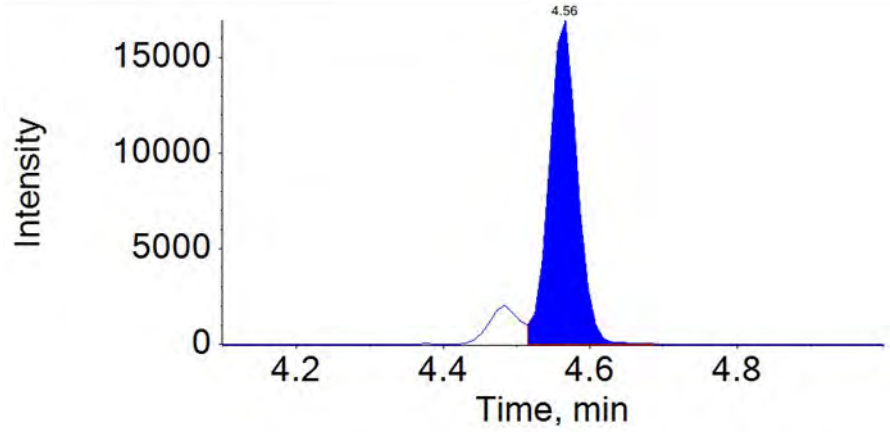
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
59806.61
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



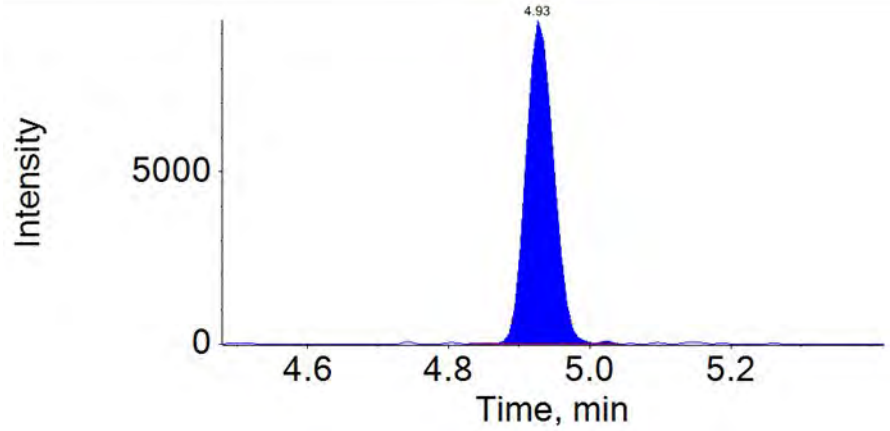
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
45461.96
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.93
Peak Area:
25713.70
Mass Range:
413.0 / 169.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



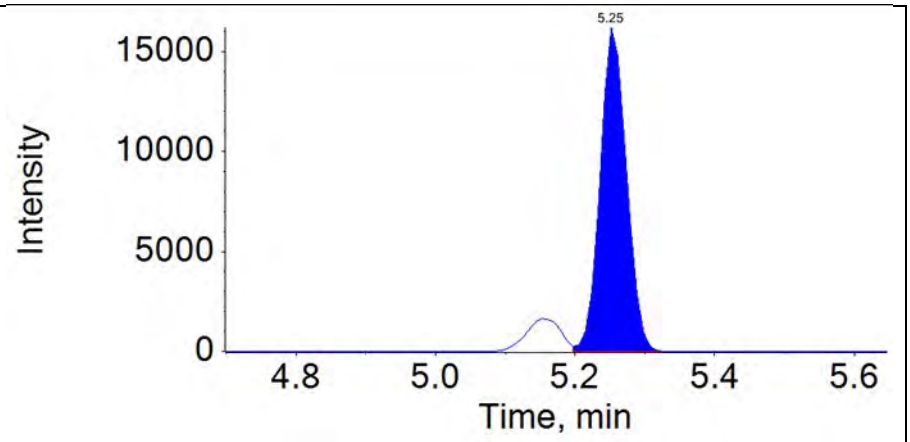
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

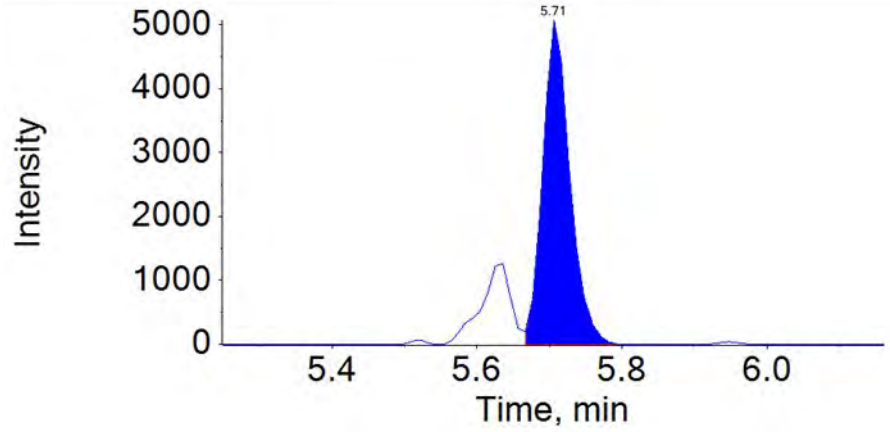
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
42481.53
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



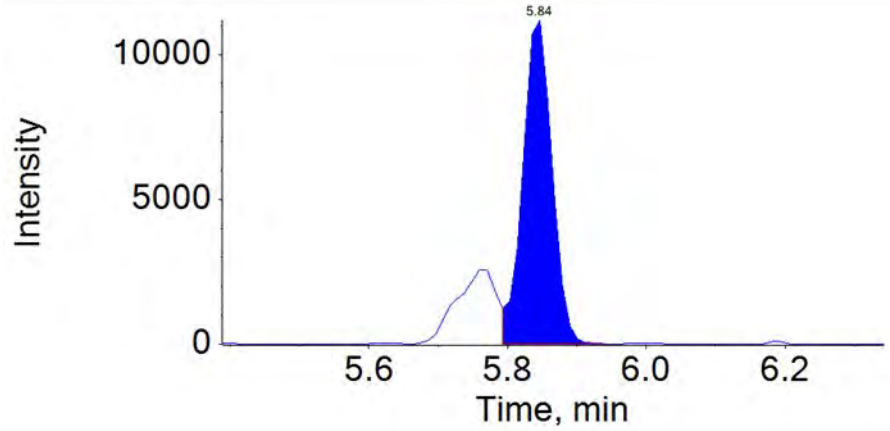
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
13231.16
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
32894.25
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



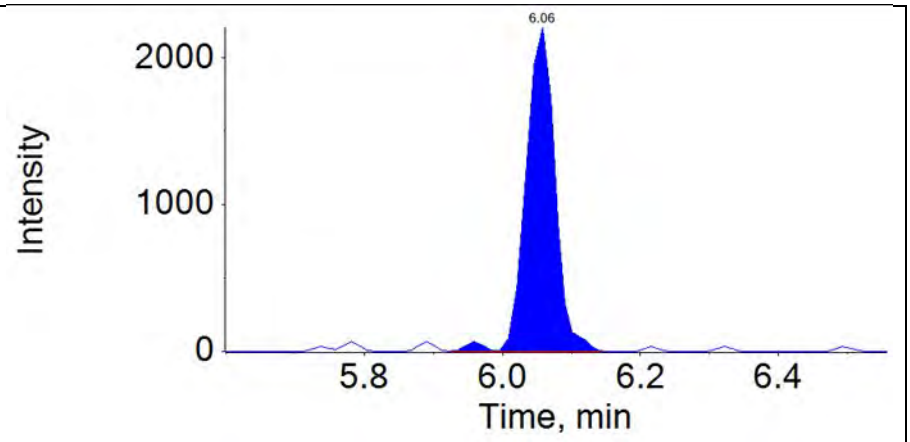
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

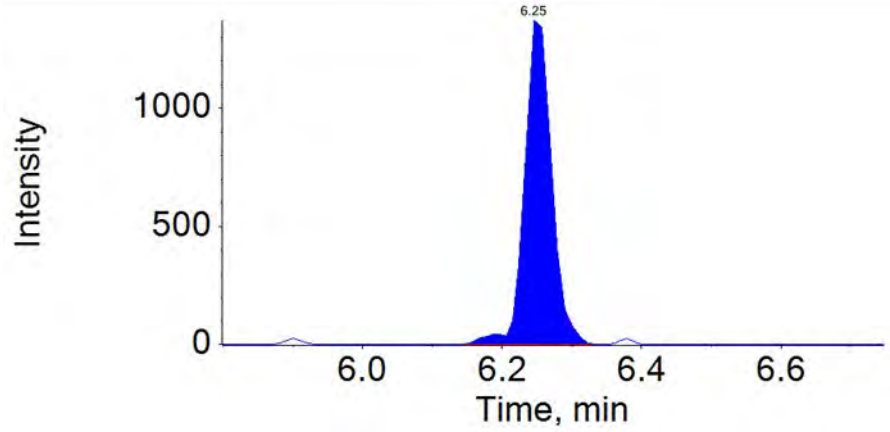
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDoDA_2
RT (min.):
6.06
Peak Area:
6539.71
Mass Range:
613.0 / 169.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
6.25
Peak Area:
3738.41
Mass Range:
663.0 / 169.0
File Name:
18DEC26DCAL-08.wiff
Sample Name:
CAL3



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

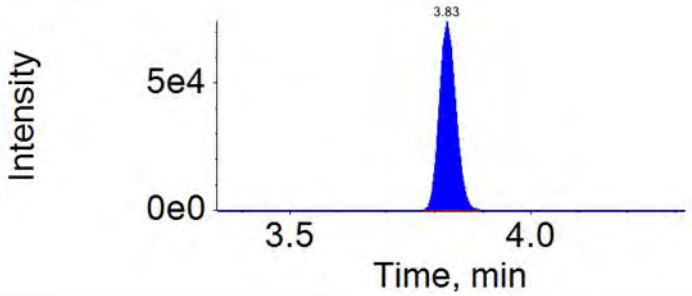
Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-08.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.83	1.00	178057.05	A	1.0000	1.0000			
PFBS_2	3.83	1.00	64453.80	A	0.3621	0.3620	0	50	
4:2-FTS	4.14	1.00	52969.36	A	1.0000	1.0000			
4:2-FTS_2	4.14	1.00	31315.12	A	0.6132	0.5912	-4	50	
PFHxA	4.17	1.00	406644.21	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	5198.16	A	0.0123	0.0128	4	50	
PFPeS	4.20	1.10	95064.24	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	46014.63	A	0.5068	0.4840	-4	50	
PFHpA	4.56	1.00	445437.46	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	23039.11	A	0.0570	0.0517	-9	50	
PFHxS	4.56	1.00	138649.67	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	51277.50	M	0.3566	0.3698	4	50	
6:2-FTS	4.92	1.00	45254.48	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	29665.08	A	0.6328	0.6555	4	50	
PFHpS	4.92	1.08	137770.81	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	53740.94	A	0.4049	0.3901	-4	50	
PFOA	4.93	1.00	446397.67	A	1.0000	1.0000			
PFOA_2	4.93	1.00	25607.31	M	0.0570	0.0574	1	50	
PFOS	5.25	1.00	150328.48	M	1.0000	1.0000			
PFOS_2	5.25	1.00	48117.74	M	0.3043	0.3201	5	50	
PFNA	5.27	1.00	406162.40	A	1.0000	1.0000			
PFNA_2	5.27	1.00	7812.05	A	0.0213	0.0192	-10	50	
PFNS	5.54	1.06	108887.75	A	1.0000	1.0000			
PFNS_2	5.54	1.06	46870.69	A	0.4515	0.4304	-5	50	
PFDA	5.57	1.00	373672.89	A	1.0000	1.0000			
PFDA_2	5.57	1.00	2856.42	A	0.0067	0.0076	13	50	
8:2-FTS	5.57	1.00	52489.47	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	31168.93	A	0.6016	0.5938	-1	50	
NMeFOSAA	5.71	1.00	69991.93	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	16888.30	M	0.2579	0.2413	-6	50	
PFDS	5.80	1.10	87475.58	A	1.0000	1.0000			
PFDS_2	5.80	1.10	37470.40	A	0.4884	0.4284	-12	50	
PFUnDA	5.83	1.00	380045.41	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	1883.71	A	0.0042	0.0050	18	50	
NEtFOSAA	5.84	1.00	64258.53	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	43172.98	M	0.6799	0.6719	-1	50	
PFDoDA	6.06	1.00	526652.15	A	1.0000	1.0000			
PFDoDA_2	6.06	1.00	6428.78	M	0.0139	0.0122	-12	50	
10:2-FTS	6.07	1.09	46549.54	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	27992.39	A	0.6715	0.6013	-10	50	
PFTrDA	6.26	1.03	481891.57	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	3641.41	M	0.0088	0.0076	-15	50	
PFTeDA	6.43	1.00	344406.16	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	1959.38	A	0.0063	0.0057	-9	50	
PFHxDA	6.73	1.05	177310.33	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	11020.68	A	0.0643	0.0622	-3	50	
PFODA	6.99	1.09	123640.88	A	1.0000	1.0000			
PFODA_2	6.99	1.09	3297.24	A	0.0266	0.0267	0	50	

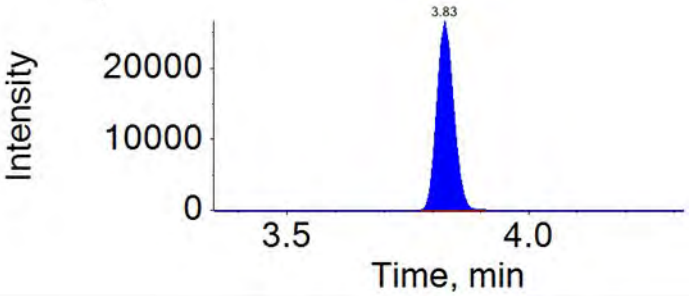
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

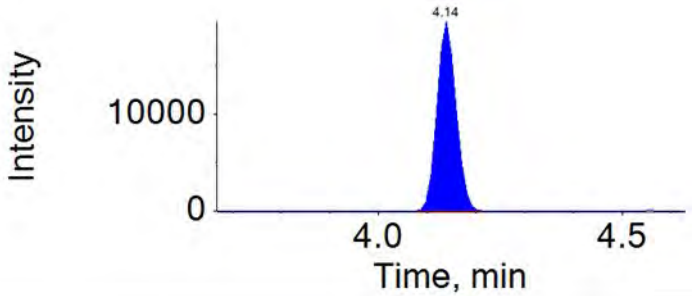
Component: PFBS
Primary Mass: 299.0 / 80.0



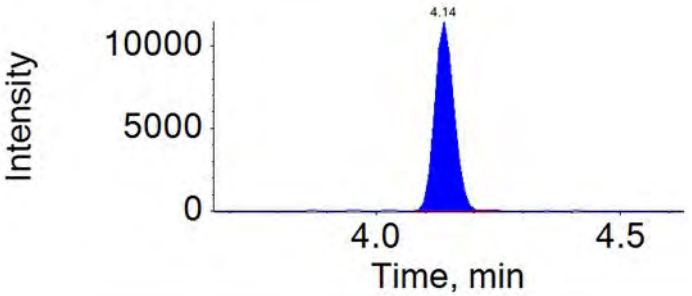
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



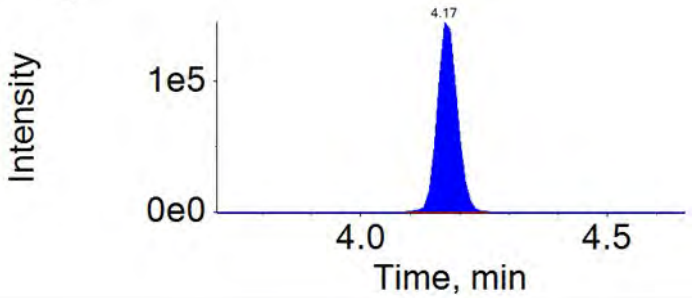
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



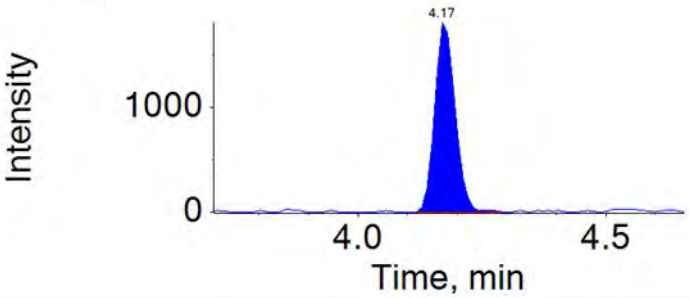
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



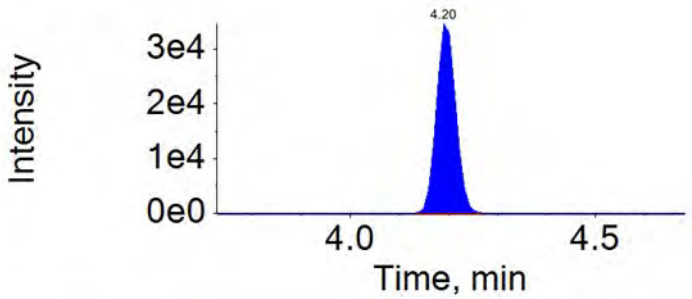
Component: PFHxA
Primary Mass: 313.0 / 269.0



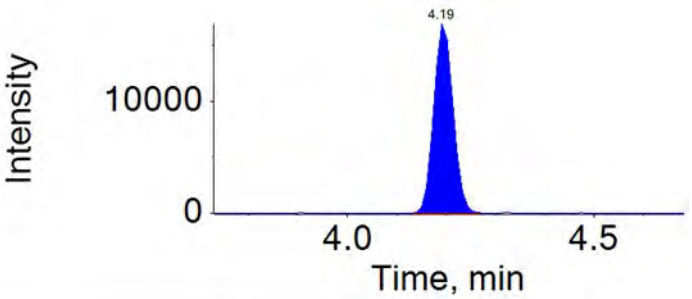
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



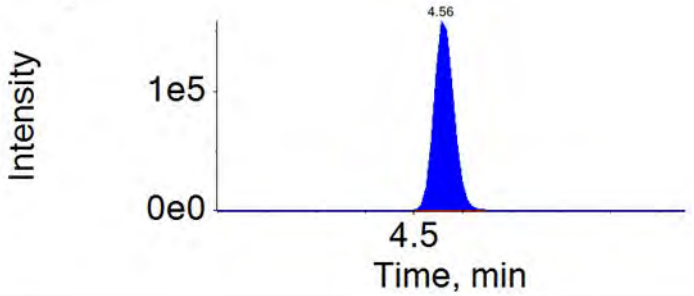
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



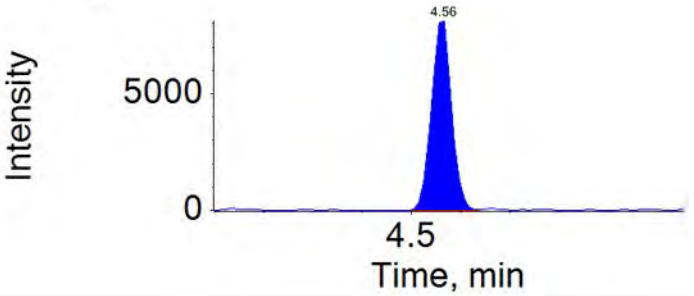
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

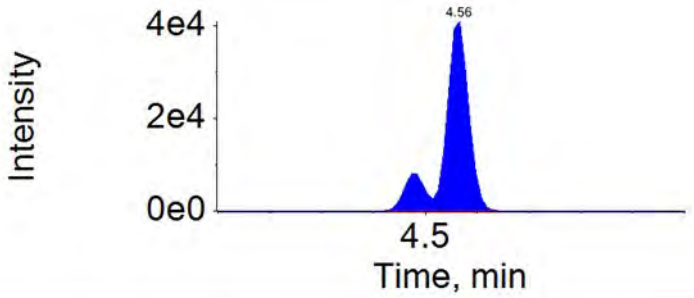
Component: PFHpA
Primary Mass: 363.0 / 319.0



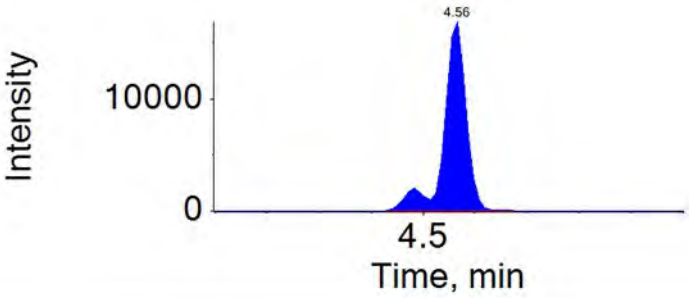
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



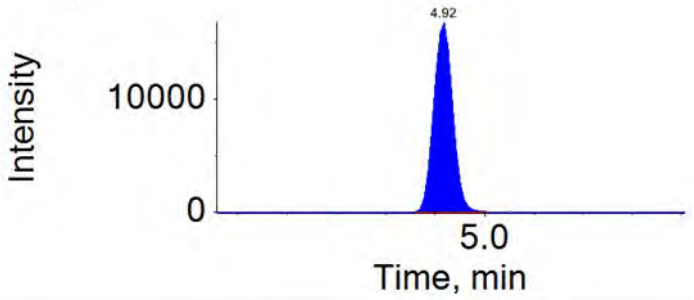
Component: PFHxS
Primary Mass: 399.0 / 80.0



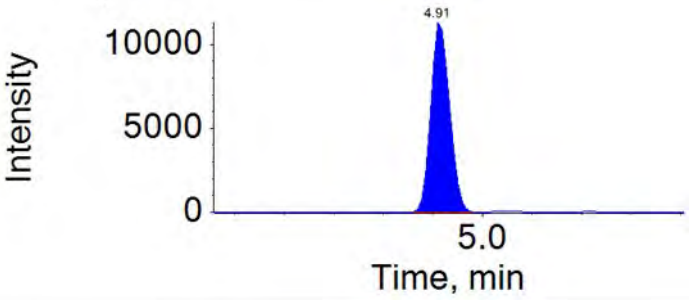
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



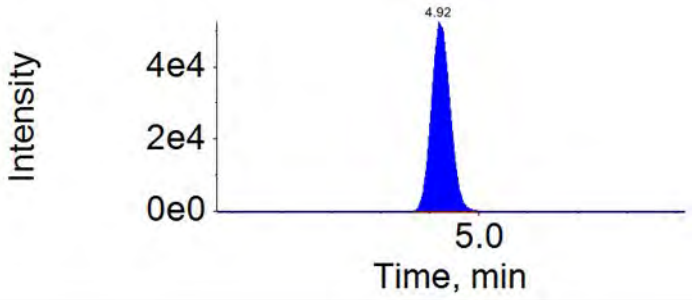
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



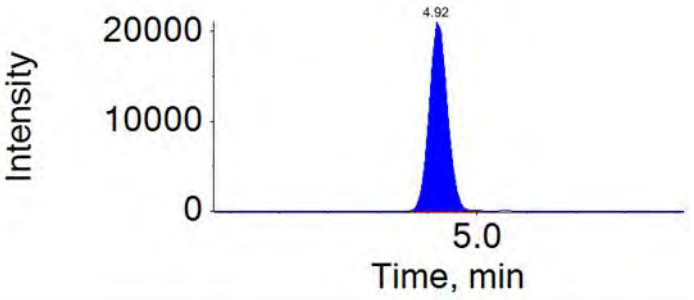
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



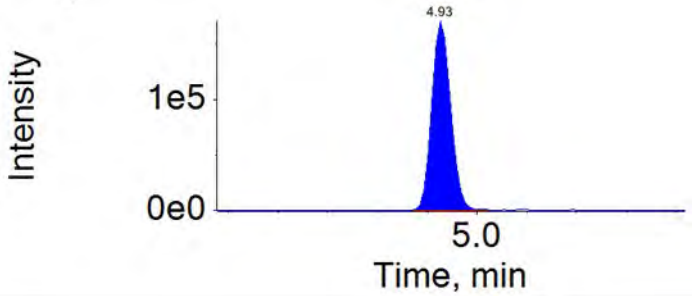
Component: PFHpS
Primary Mass: 449.0 / 80.0



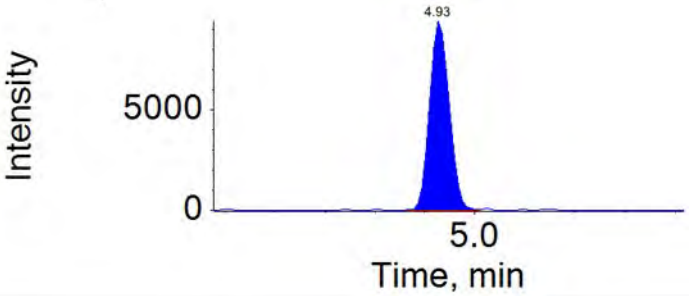
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



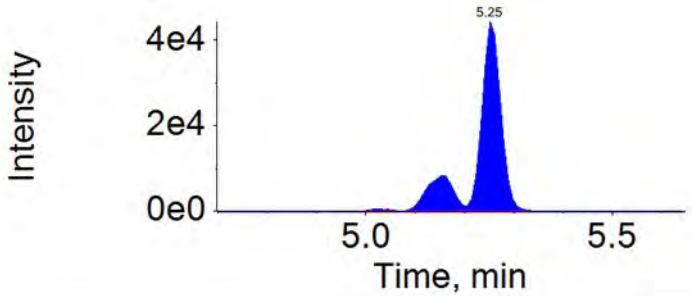
Component: PFOA
Primary Mass: 413.0 / 369.0



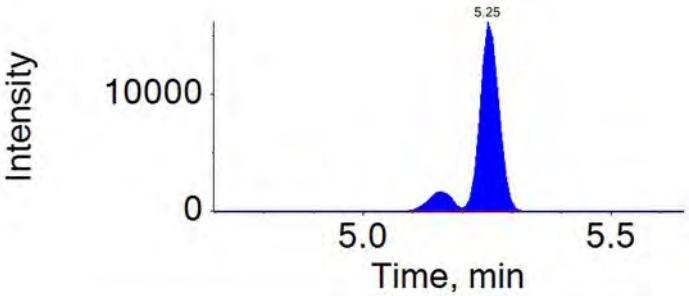
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



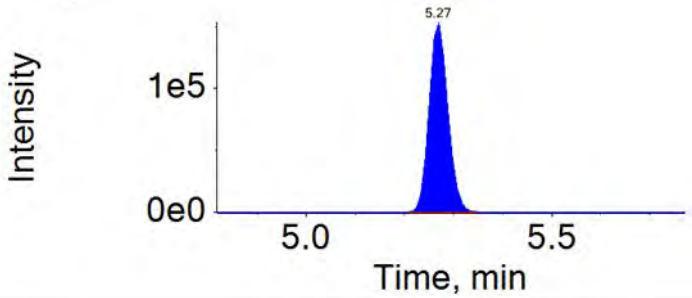
Component: PFOS
Primary Mass: 499.0 / 80.0



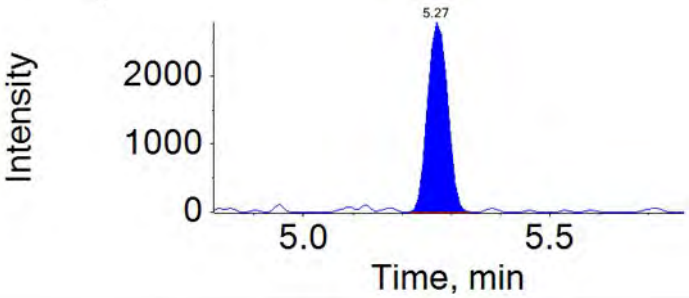
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



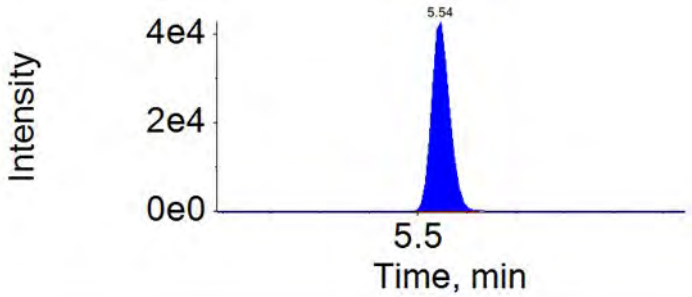
Component: PFNA
Primary Mass: 463.0 / 419.0



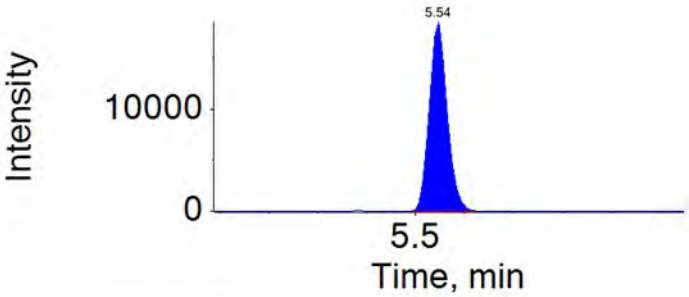
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



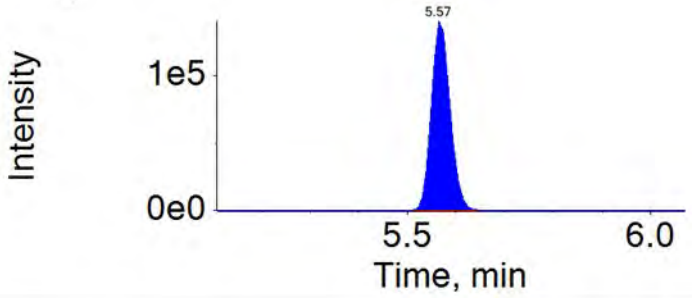
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



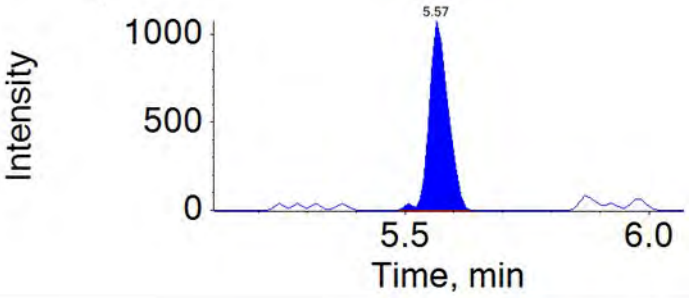
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

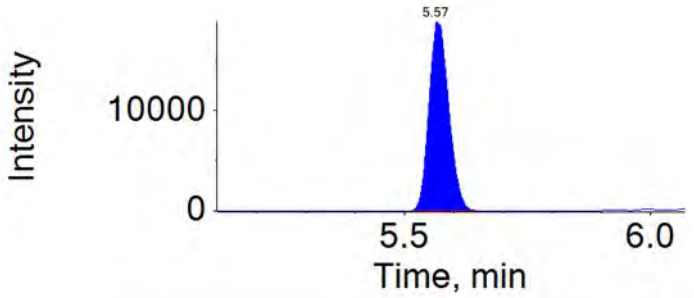
Component: PFDA
Primary Mass: 513.0 / 469.0



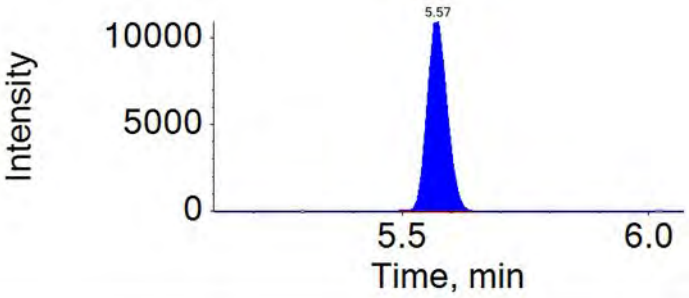
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



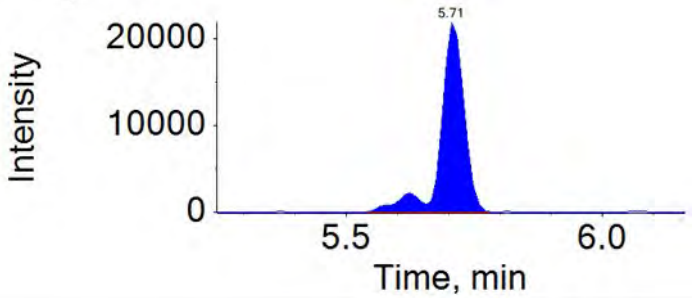
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



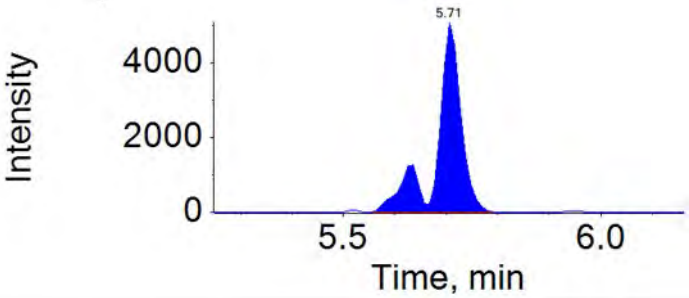
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



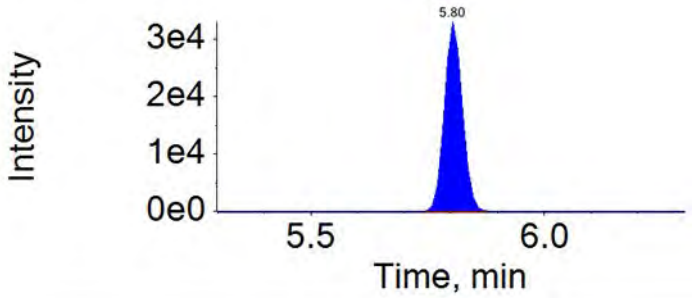
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



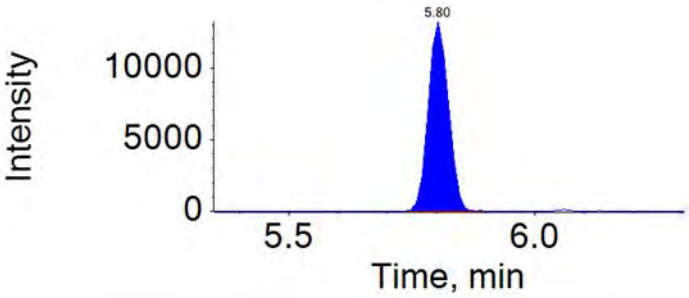
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



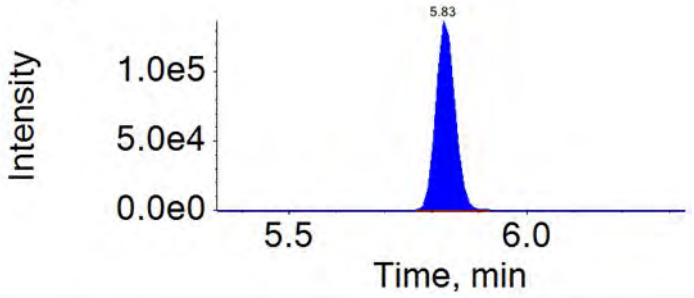
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



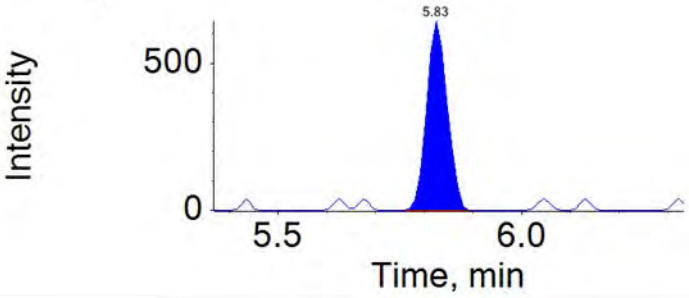
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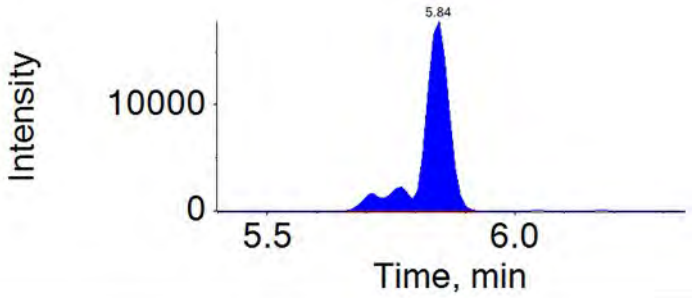
Component: PFUnDA
Primary Mass: 563.0 / 519.0



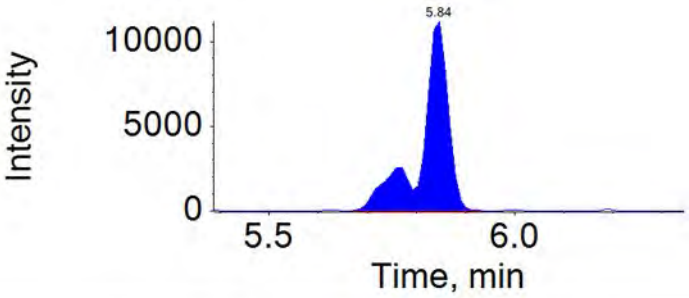
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



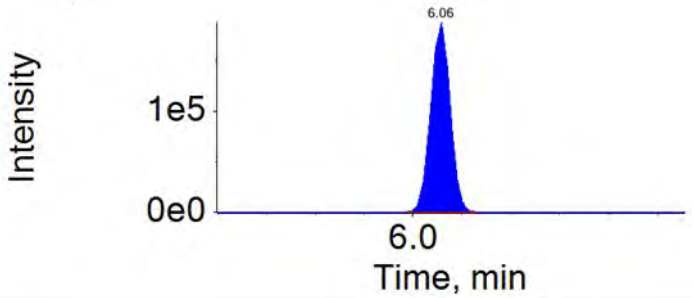
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



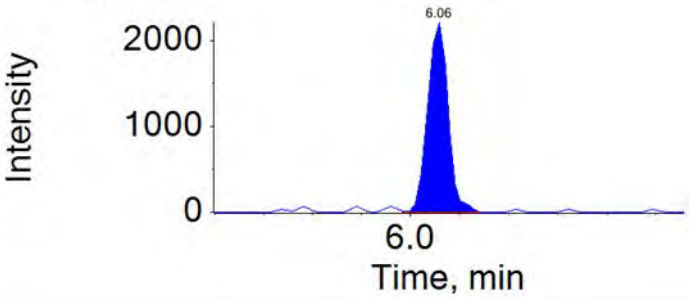
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



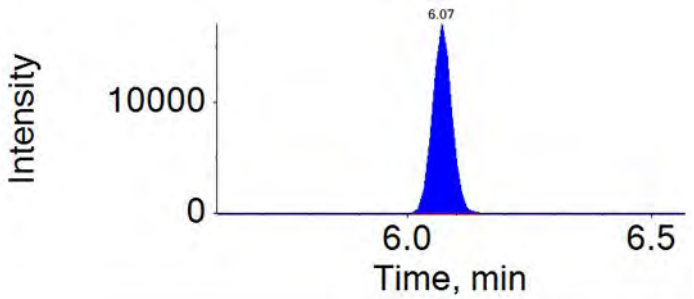
Component: PFDoDA
Primary Mass: 613.0 / 569.0



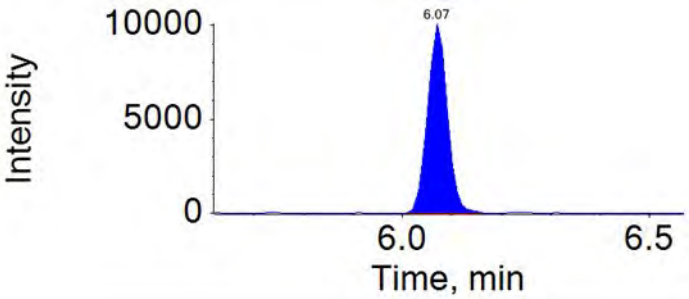
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



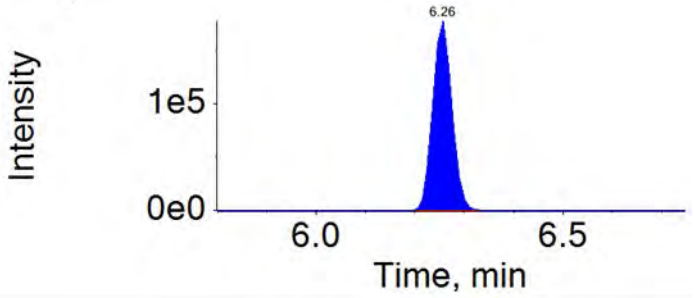
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



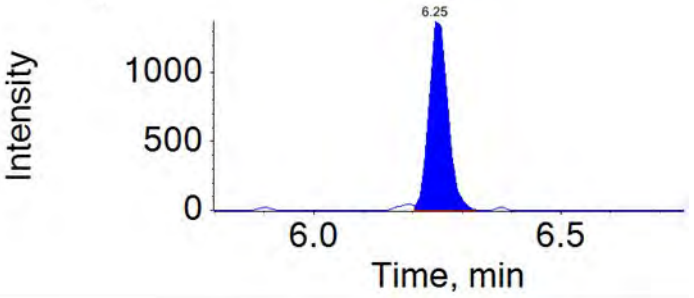
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



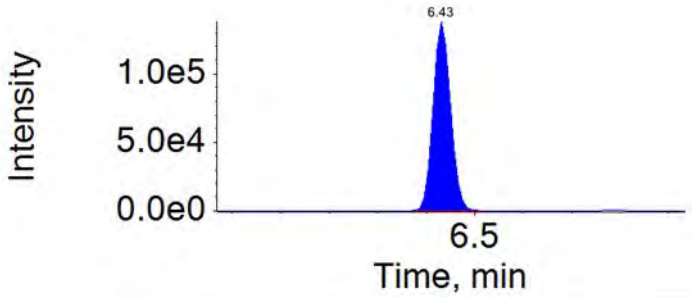
Component: PFTrDA
Primary Mass: 663.0 / 619.0



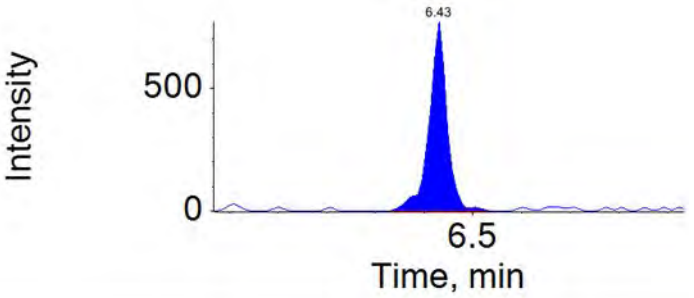
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



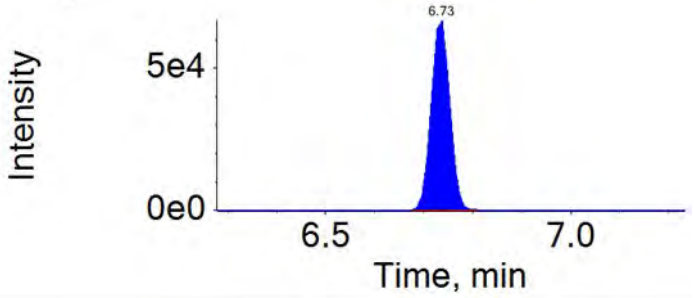
Component: PFTeDA
Primary Mass: 713.0 / 669.0



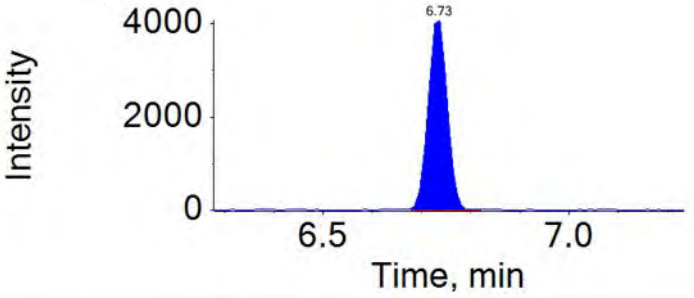
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



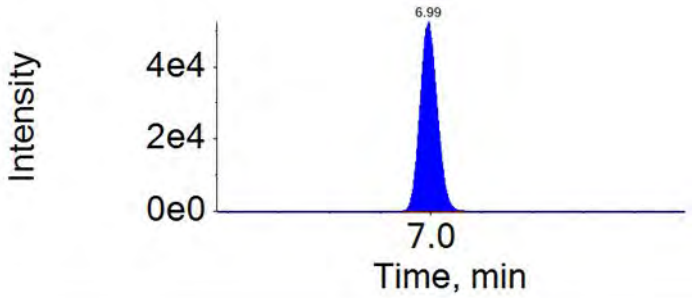
Component: PFHxDA
Primary Mass: 813.0 / 769.0



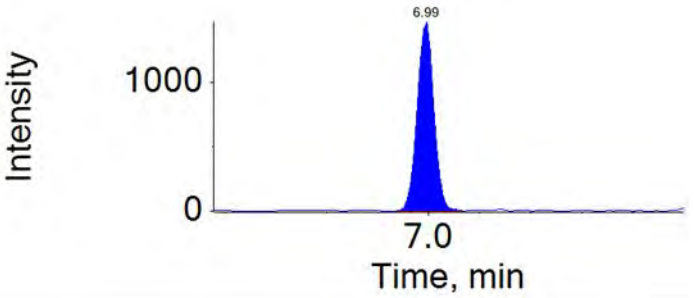
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL4			**Data File:**		18DEC26DCAL-09.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-26T14:04:28
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	981107.5	965438.2	2	50	
13C2-PFOA	5.0	556294.2	527066.0	6	50	
13C4-PFOS	4.8	324962.0	307230.6	6	50	
13C2-PFDA	5.0	518004.5	493258.9	5	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1067692.8	13C3-PFBA	981107.5	1.088	5.000	4.828	97	70-130	
E13C5-PFPeA	1089930.2	13C3-PFBA	981107.5	1.111	5.000	5.291	106	70-130	
E13C3-PFBS	476473.4	13C3-PFBA	981107.5	0.486	4.650	4.718	101	70-130	
E13C2-4:2-FTS	65782.2	13C2-PFOA	556294.2	0.118	4.670	4.505	96	70-130	
E13C5-PFHxA	759866.2	13C2-PFOA	556294.2	1.366	5.000	4.997	100	70-130	
E13C3-PFHxS	345523.6	13C2-PFOA	556294.2	0.621	4.730	4.773	101	70-130	
E13C4-PFHpA	608458.5	13C2-PFOA	556294.2	1.094	5.000	4.928	99	70-130	
E13C2-6:2-FTS	56379.0	13C2-PFOA	556294.2	0.101	4.750	4.959	104	70-130	
E13C8-PFOA	980355.1	13C2-PFOA	556294.2	1.762	5.000	4.938	99	70-130	
E13C8-PFOS	331467.3	13C4-PFOS	324962.0	1.020	4.780	4.447	93	70-130	
E13C9-PFNA	681301.2	13C4-PFOS	324962.0	2.097	5.000	4.619	92	70-130	
E13C6-PFDA	884857.4	13C2-PFDA	518004.5	1.708	5.000	4.905	98	70-130	
E13C2-8:2-FTS	45137.7	13C2-PFDA	518004.5	0.087	4.790	4.508	94	70-130	
E13C8-PFOSA	610961.6	13C2-PFDA	518004.5	1.179	5.000	4.711	94	70-130	
Ed3-NMeFOSAA	193746.7	13C2-PFDA	518004.5	0.374	5.000	4.773	95	70-130	
E13C7-PFUnDA	606803.6	13C2-PFDA	518004.5	1.171	5.000	5.062	101	70-130	
Ed5-NEtFOSAA	161306.9	13C2-PFDA	518004.5	0.311	5.000	5.396	108	70-130	
E13C2-PFDoDA	1128366.0	13C2-PFDA	518004.5	2.178	5.000	4.725	94	70-130	
Ed7-NMePFOSAE	245651.9	13C2-PFDA	518004.5	0.474	5.000	4.484	90	70-130	
Ed3-NMePFOSA	81312.3	13C2-PFDA	518004.5	0.157	5.000	4.450	89	70-130	
Ed9-NEtPFOSAE	220555.4	13C2-PFDA	518004.5	0.426	5.000	4.633	93	70-130	
Ed5-NEtPFOSA	69963.1	13C2-PFDA	518004.5	0.135	5.000	4.767	95	70-130	
E13C2-PFTeDA	830859.5	13C2-PFDA	518004.5	1.604	5.000	4.731	95	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

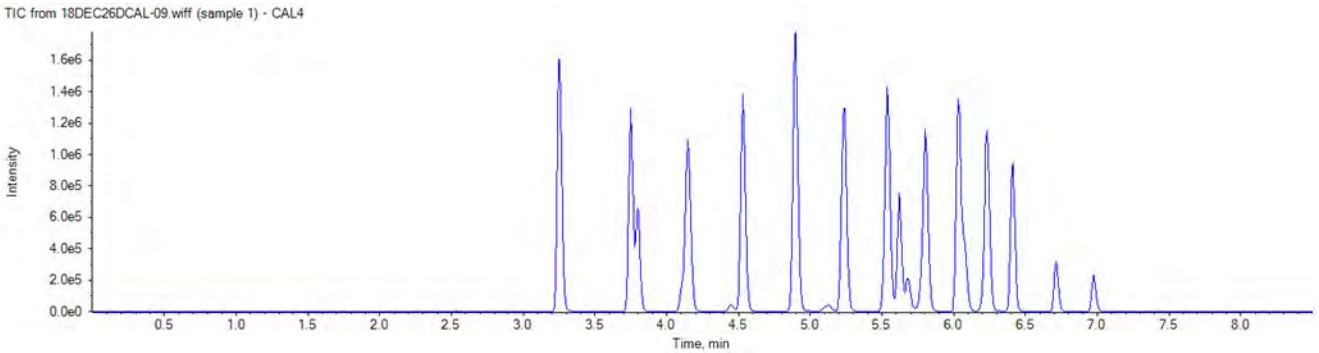
Analyte Quantitation Peak Table

Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-09.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.25	1.000	1583872.3		A	13C4-PFBA	3.25	1067692.8	1.483	7.836
PFPeA	3.75	1.000	1561504.0		A	13C5-PFPeA	3.75	1089930.2	1.433	7.111
PFBS	3.80	1.000	676617.0		A	13C3-PFBS	3.80	476473.4	1.420	7.047
4:2-FTS	4.11	1.000	191611.3		A	13C2-4:2-FTS	4.11	65782.2	2.913	7.142
PFHxA	4.14	1.000	1454242.4		A	13C5-PFHxA	4.15	759866.2	1.914	7.855
PFPeS	4.16	1.100	356427.8		A	13C3-PFBS	3.80	476473.4	0.748	7.530
PFHpA	4.53	1.000	1508328.7		A	13C4-PFHpA	4.53	608458.5	2.479	7.833
PFHxS	4.53	1.000	510800.5		M	13C3-PFHxS	4.53	345523.6	1.478	6.913
6:2-FTS	4.88	1.000	184105.2		A	13C2-6:2-FTS	4.89	56379.0	3.265	7.829
PFHpS	4.89	1.080	481291.7		A	13C3-PFHxS	4.53	345523.6	1.393	7.292
PFOA	4.90	1.000	1527084.9		A	13C8-PFOA	4.90	980355.1	1.558	8.241
PFOS	5.22	1.000	538642.9		M	13C8-PFOS	5.22	331467.3	1.625	7.075
PFNA	5.24	1.000	1423621.2		A	13C9-PFNA	5.24	681301.2	2.090	8.397
PFNS	5.52	1.060	364183.9		A	13C8-PFOS	5.22	331467.3	1.099	7.510
PFDA	5.54	1.000	1292226.9		A	13C6-PFDA	5.54	884857.4	1.460	8.420
8:2-FTS	5.54	1.000	176262.2		A	13C2-8:2-FTS	5.54	45137.7	3.905	7.715
PFOSA	5.62	1.000	952835.0		A	13C8-PFOSA	5.62	610961.6	1.560	8.205
NMeFOSAA	5.68	1.000	244915.9		M	d3-NMeFOSAA	5.68	193746.7	1.264	7.371
PFDS	5.78	1.110	305764.2		A	13C8-PFOS	5.22	331467.3	0.922	7.604
PFUnDA	5.80	1.000	1410899.6		A	13C7-PFUnDA	5.80	606803.6	2.325	8.892
NEtFOSAA	5.82	1.000	233675.1		M	d5-NEtFOSAA	5.81	161306.9	1.449	7.448
PFDoDA	6.03	1.000	1771168.9		A	13C2-PFDoDA	6.03	1128366.0	1.570	8.008
10:2-FTS	6.05	1.090	166697.9		A	13C2-8:2-FTS	5.54	45137.7	3.693	7.539
NMePFOSAE	6.08	1.000	465655.7		A	d7-NMePFOSAE	6.07	245651.9	1.896	8.014
NMePFOSA	6.09	1.000	137233.6		A	d3-NMePFOSA	6.09	81312.3	1.688	8.421
PFDoS	6.20	1.190	159994.8		A	13C8-PFOS	5.22	331467.3	0.483	7.214
NEtPFOSAE	6.23	1.000	560581.9		A	d9-NEtPFOSAE	6.22	220555.4	2.542	8.410
NEtPFOSA	6.25	1.000	112652.5		A	d5-NEtPFOSA	6.25	69963.1	1.610	7.570
PFTrDA	6.23	1.030	1788868.8		A	13C2-PFDoDA	6.03	1128366.0	1.585	8.440
PFTeDA	6.41	1.000	1215971.9		A	13C2-PFTeDA	6.41	830859.5	1.464	8.323
PFHxDA	6.71	1.050	631636.9		A	13C2-PFTeDA	6.41	830859.5	0.760	8.765
PFODA	6.98	1.090	461612.0		A	13C2-PFTeDA	6.41	830859.5	0.556	8.215

Total Ion Chromatogram

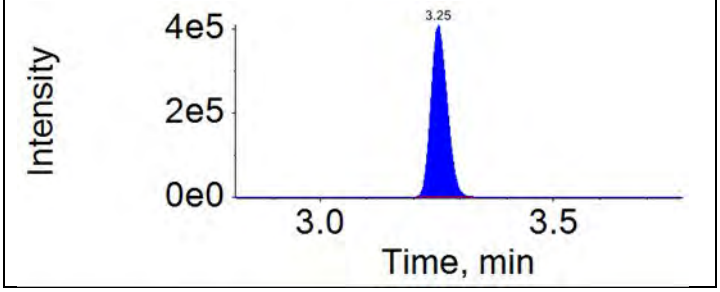


APPROVED
By MSM at 1:33 pm, 12/27/18

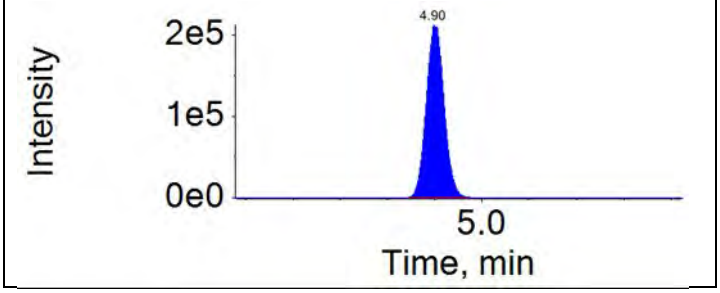
REVIEWED
By HMK at 10:42 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

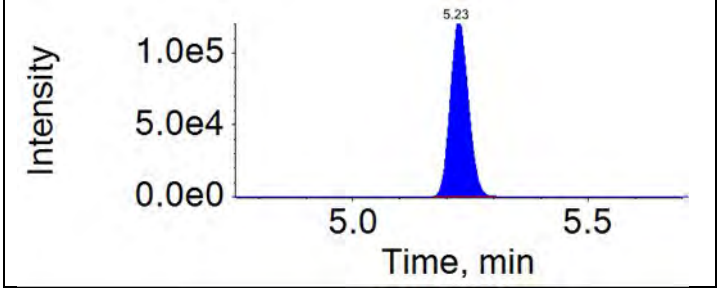
Injection Standard: 13C3-PFBA
216.0 / 172.0



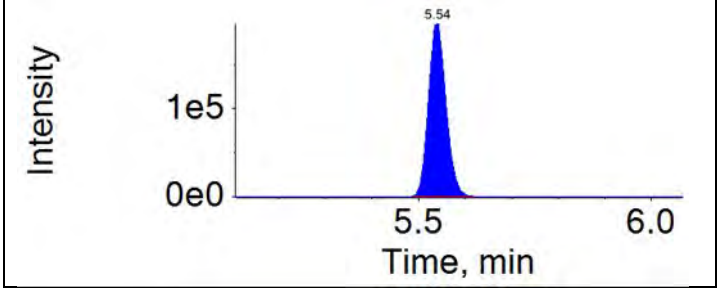
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

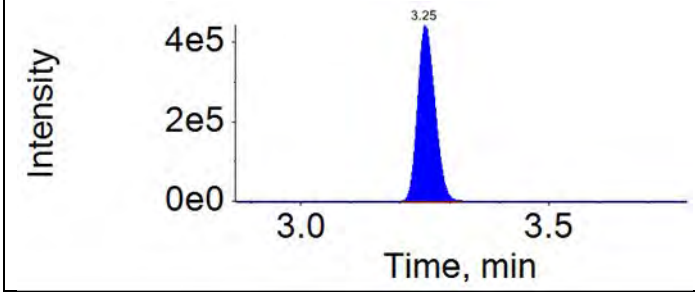


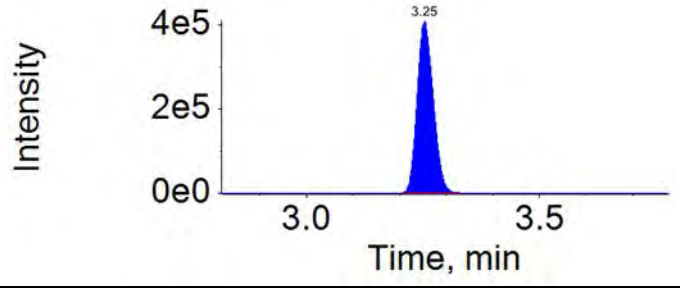
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

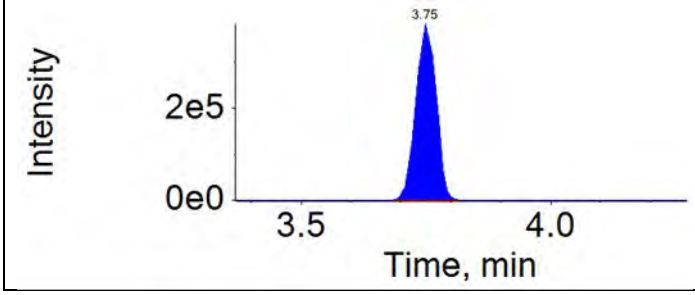
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

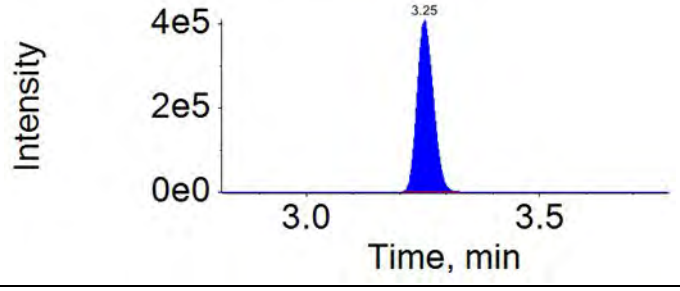
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



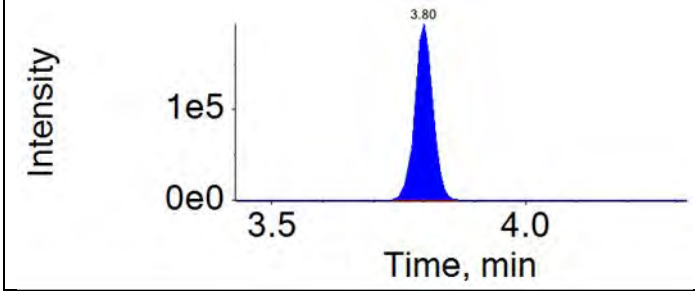


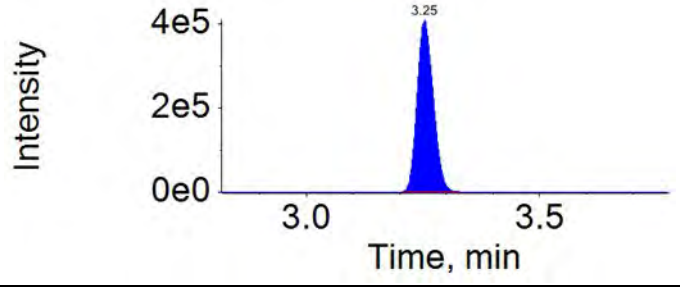
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



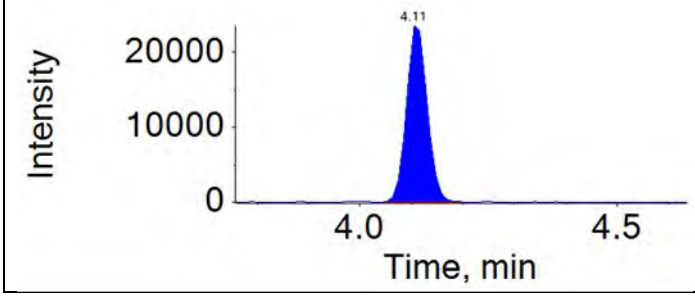


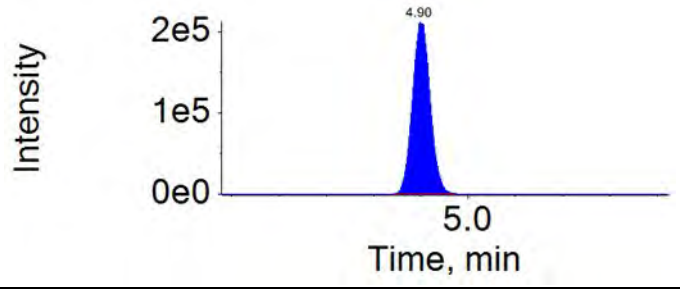
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



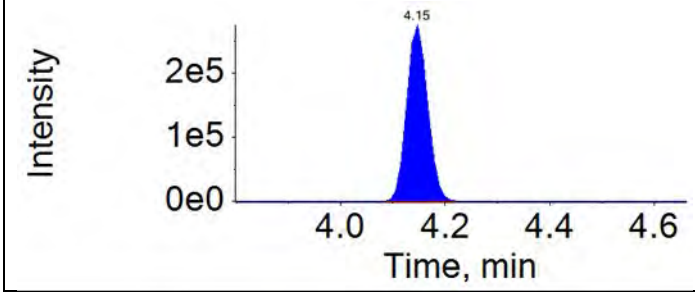


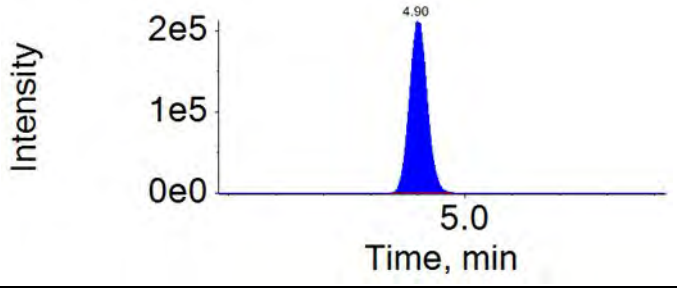
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

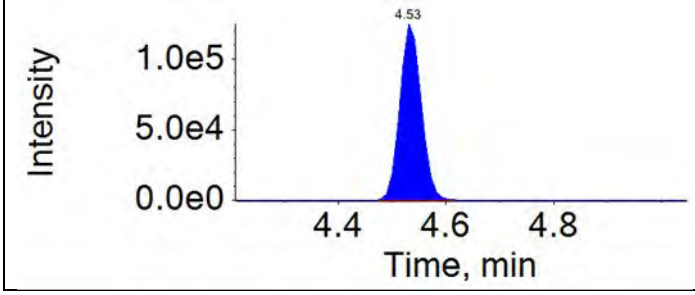
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

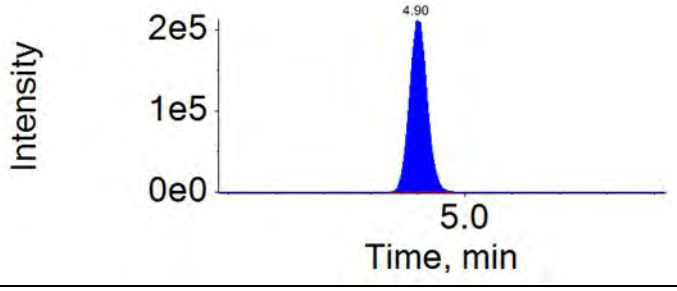
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



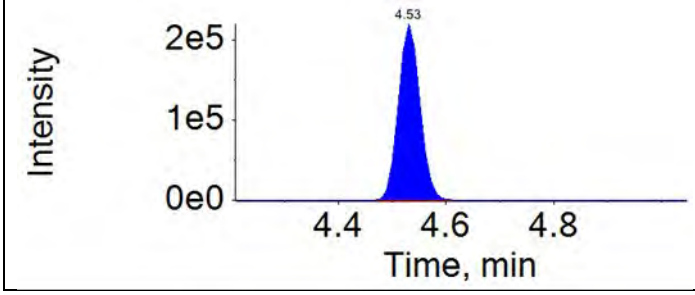


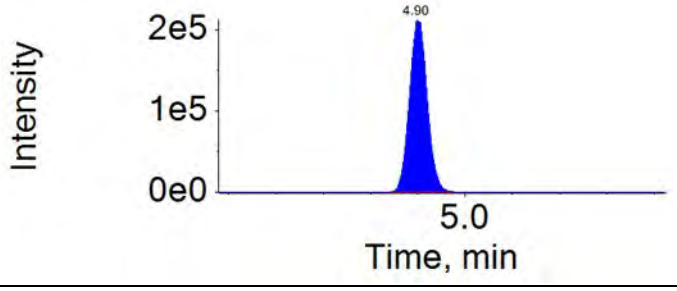
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



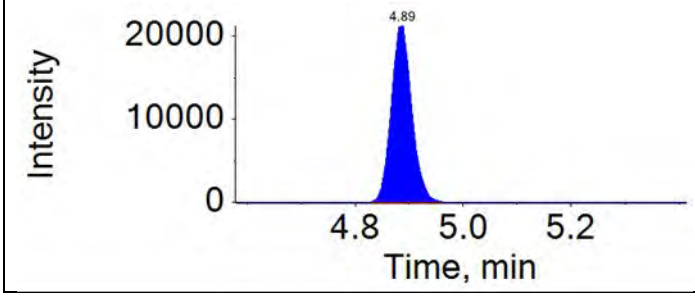


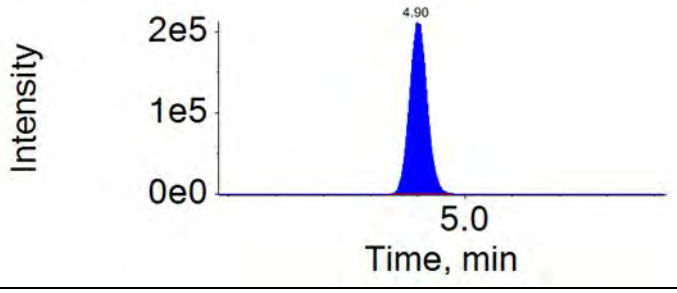
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



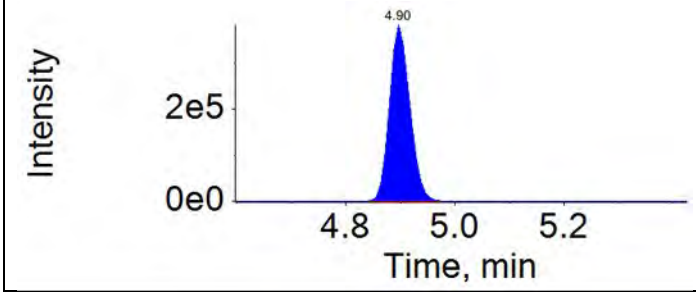


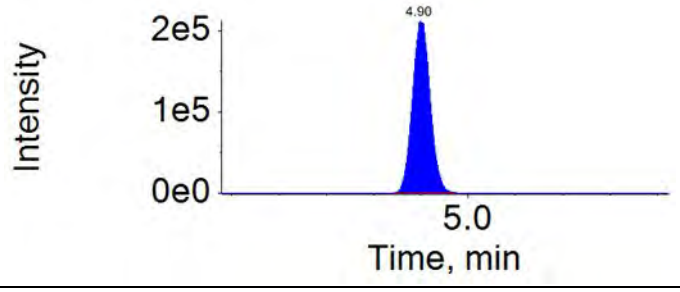
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

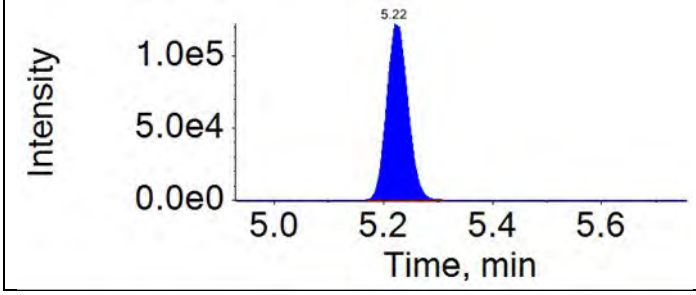
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

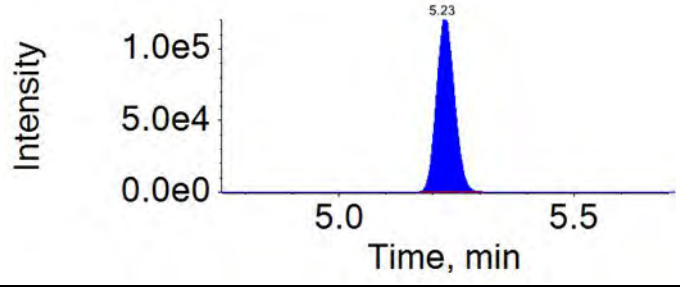
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



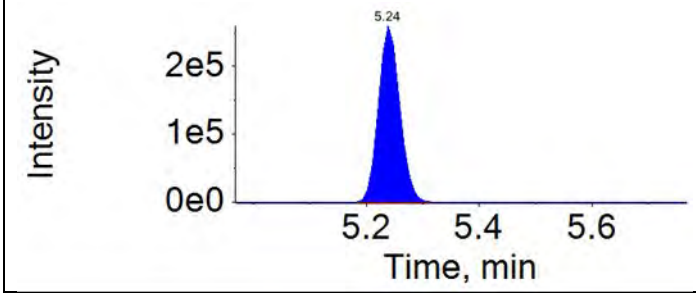


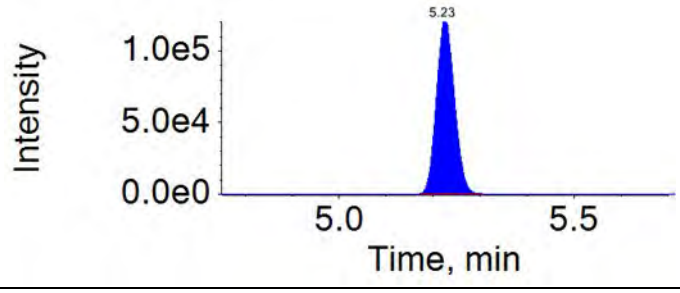
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



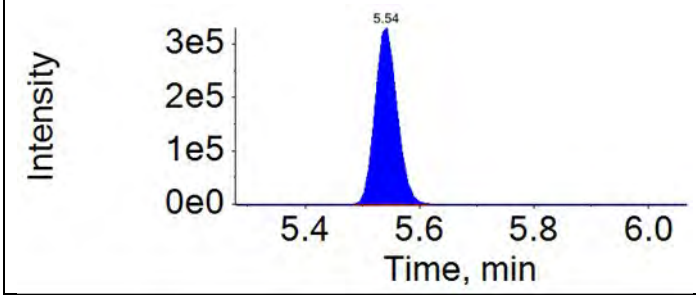


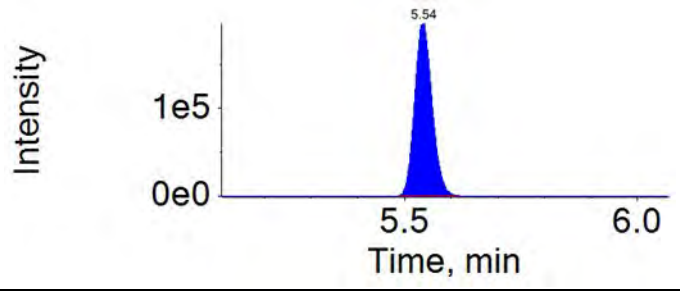
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





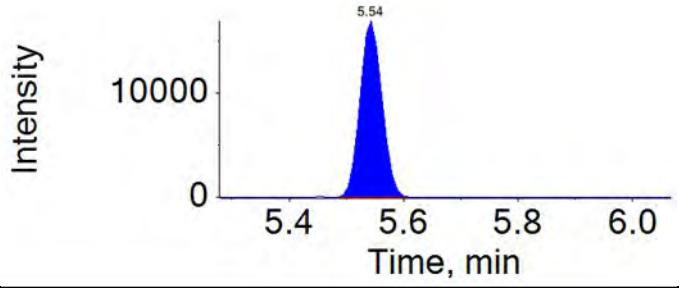
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

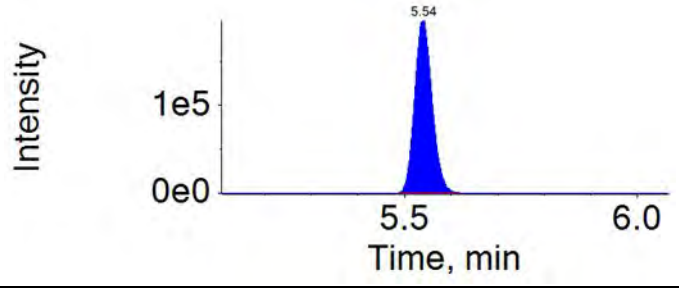




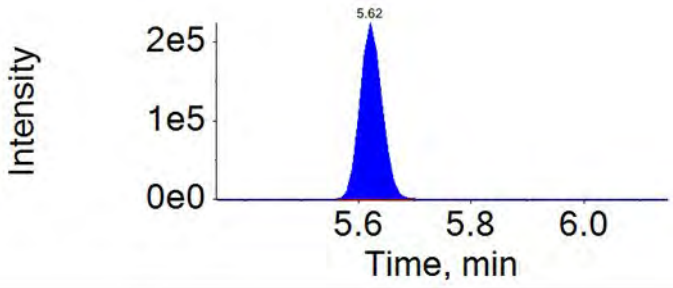
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

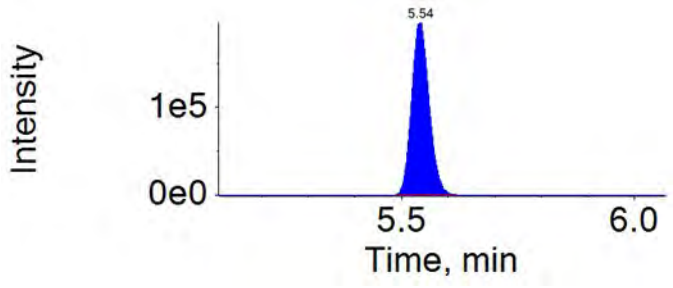
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



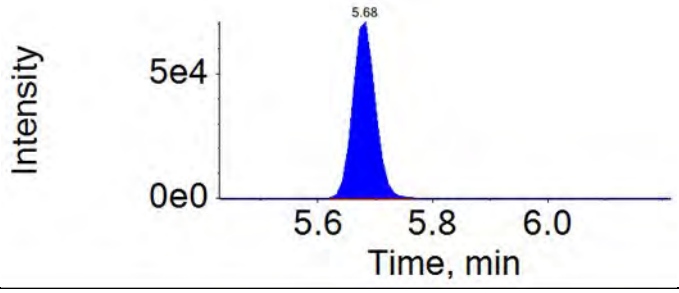


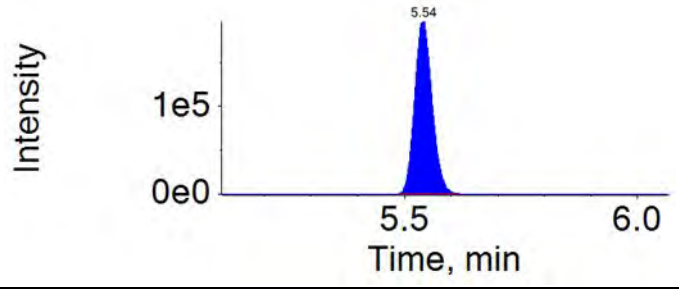
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



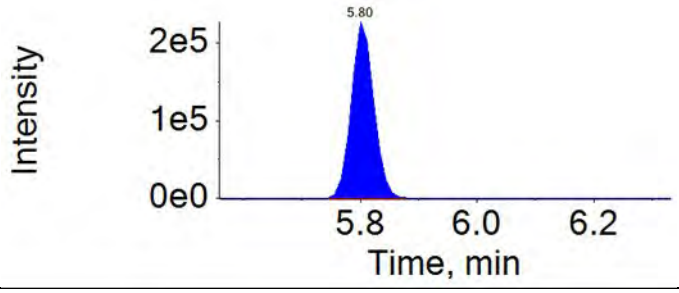


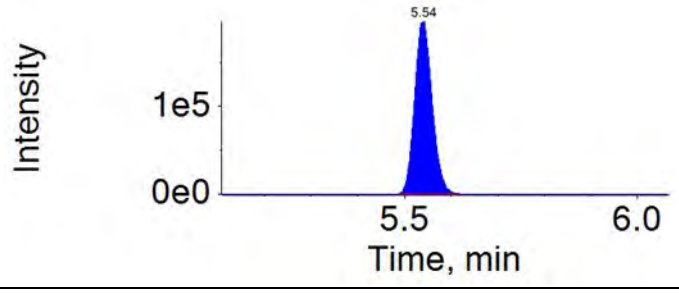
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



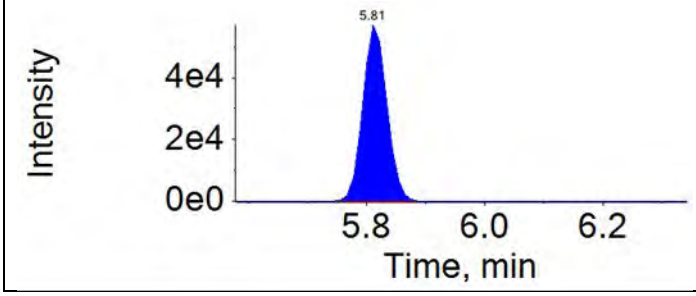


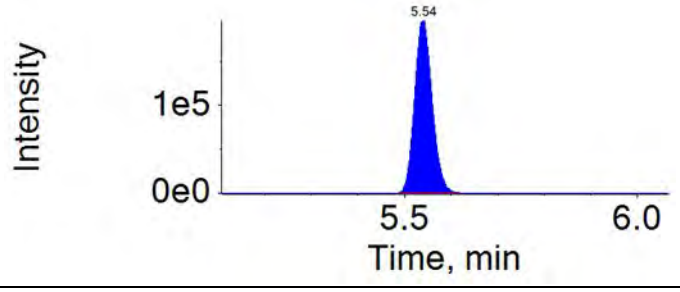
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

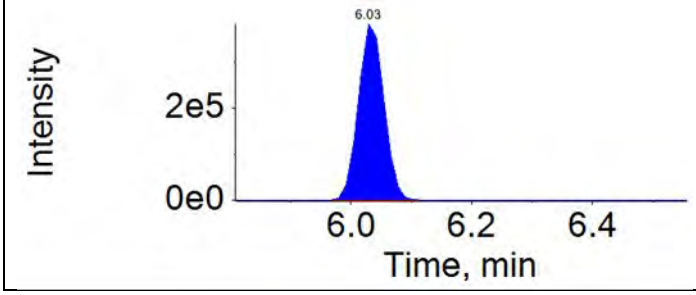
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

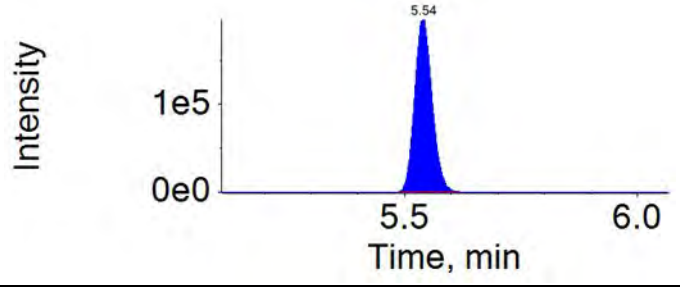
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



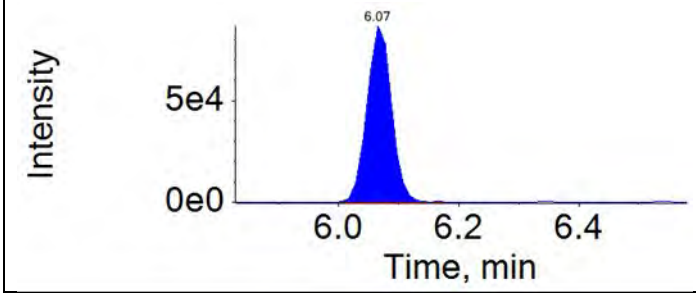


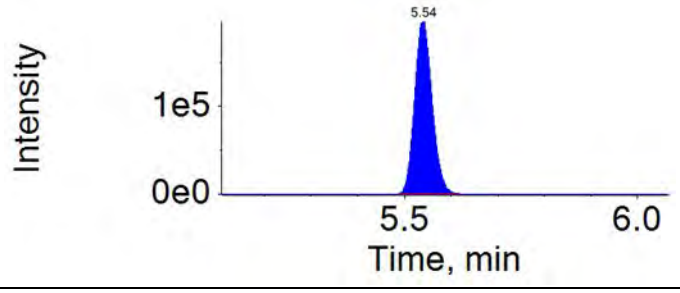
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



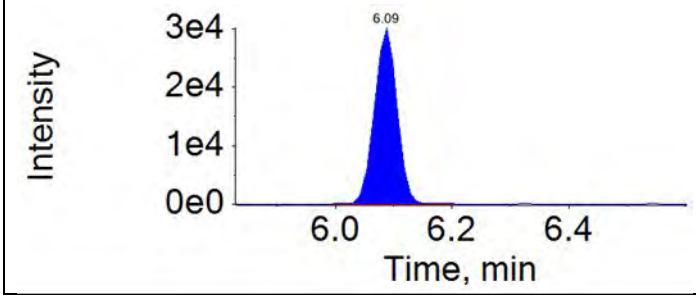


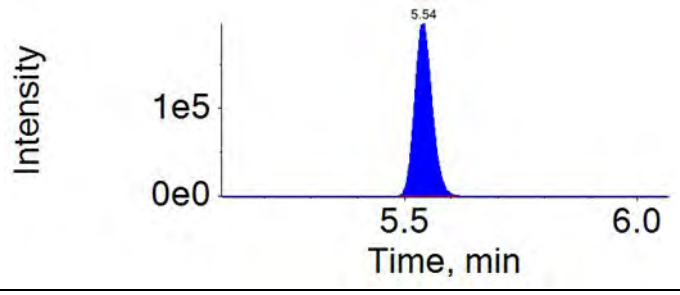
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



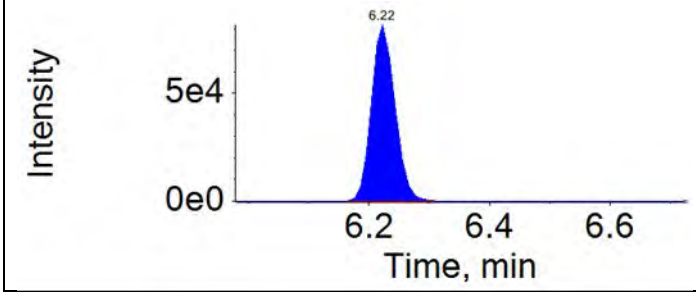


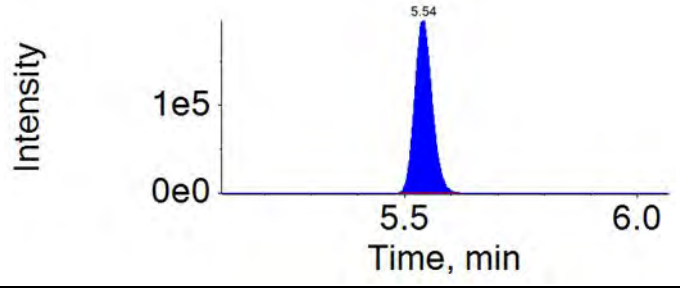
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

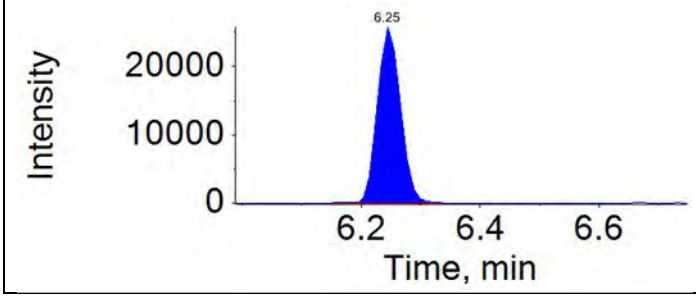
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

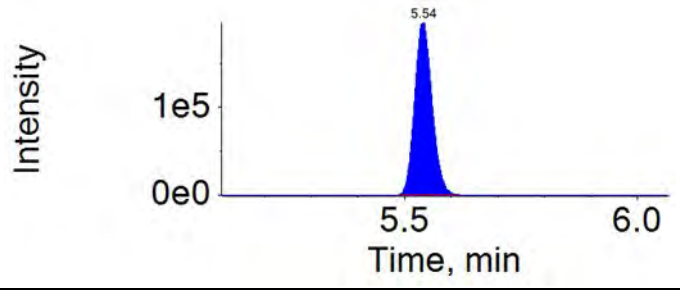
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



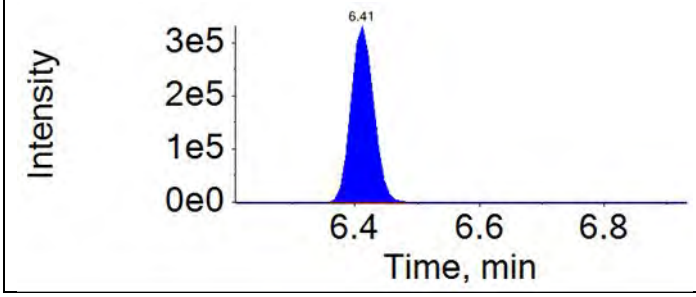


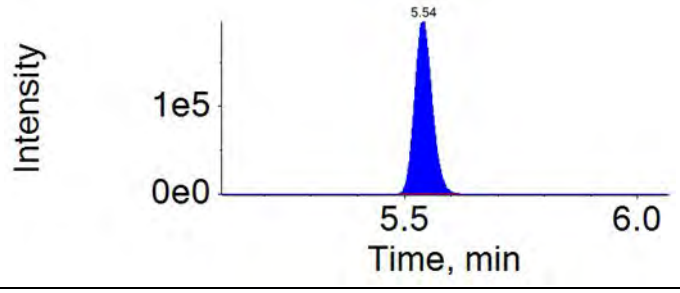
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



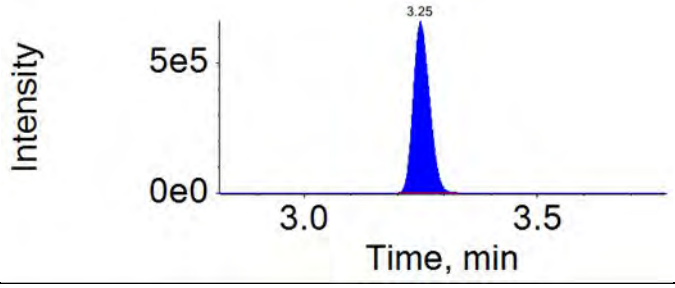


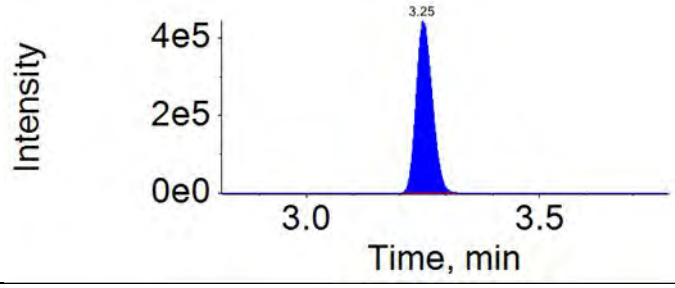
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

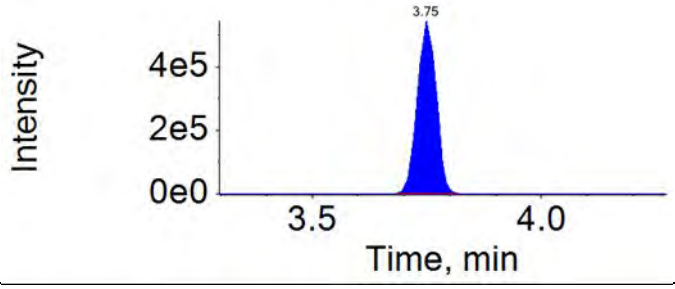
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

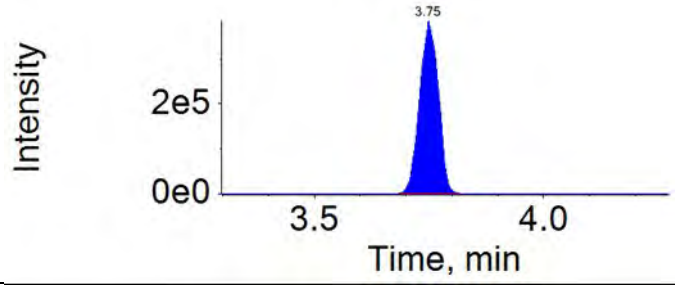
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



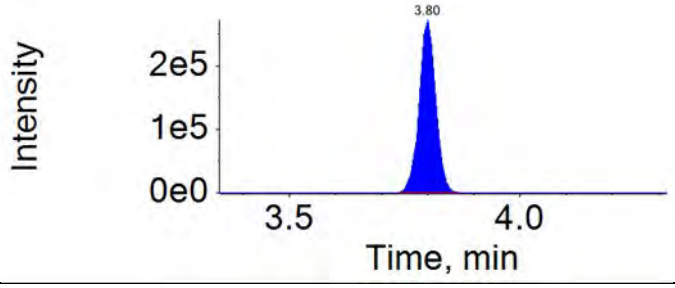


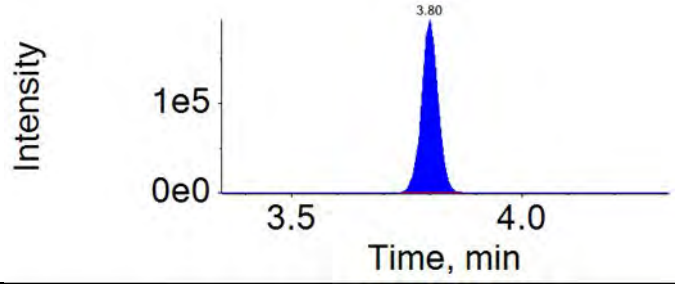
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



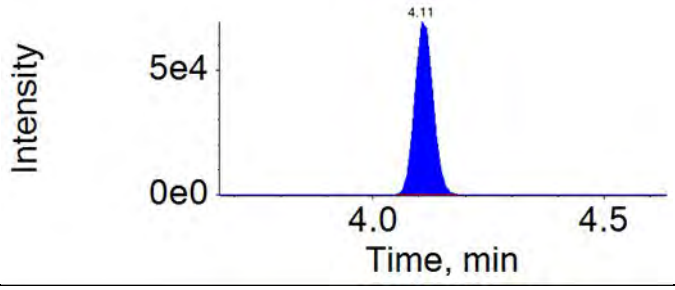


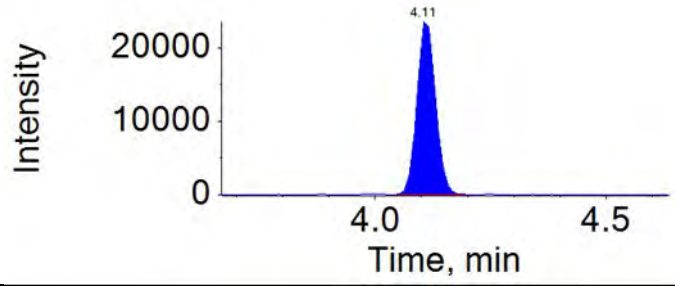
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



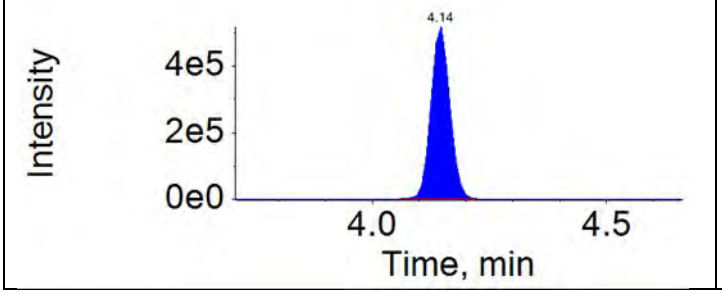


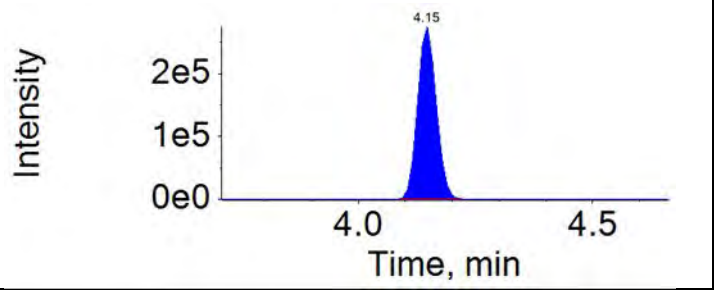
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

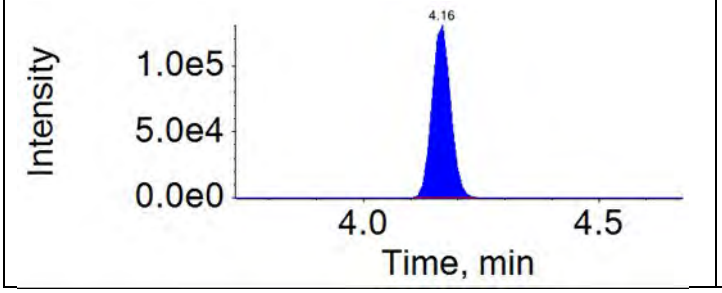
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

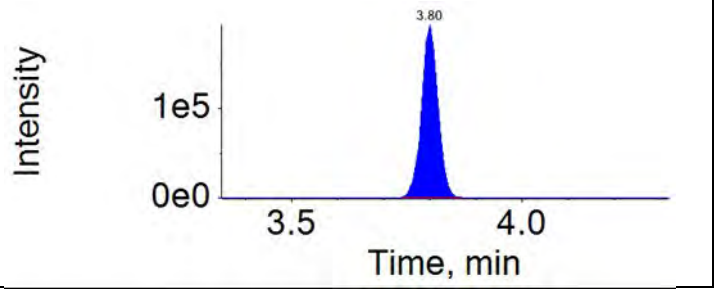
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



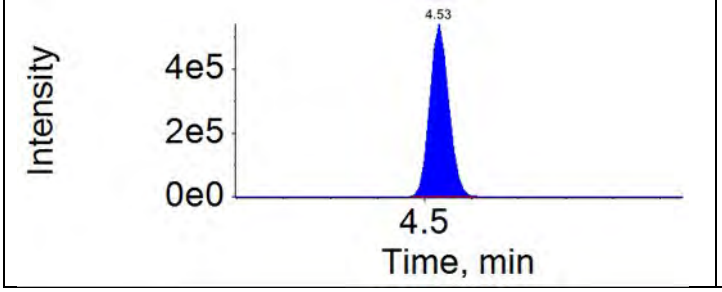


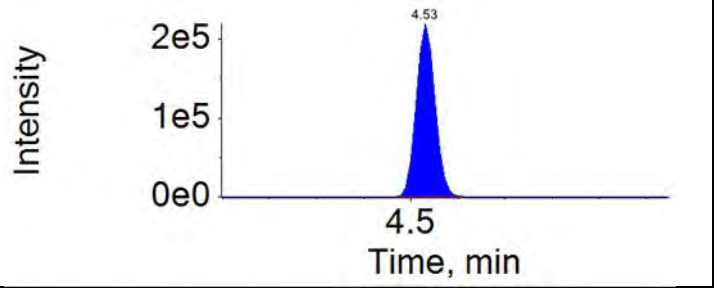
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



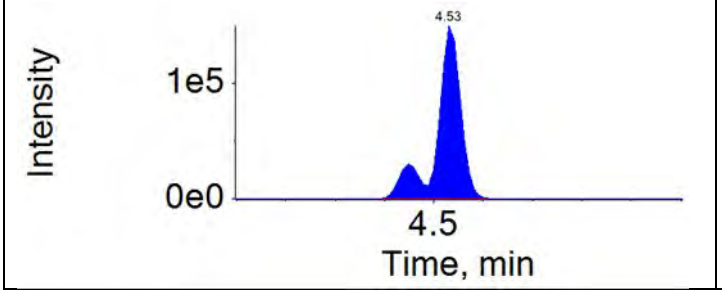


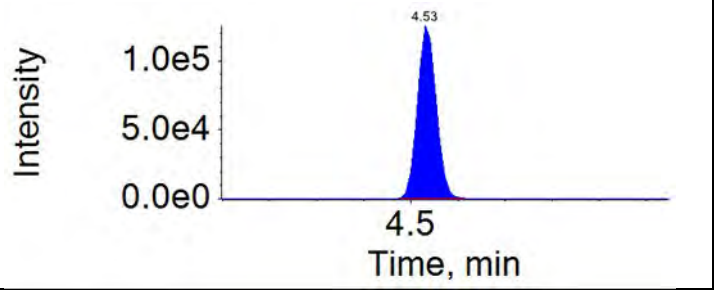
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



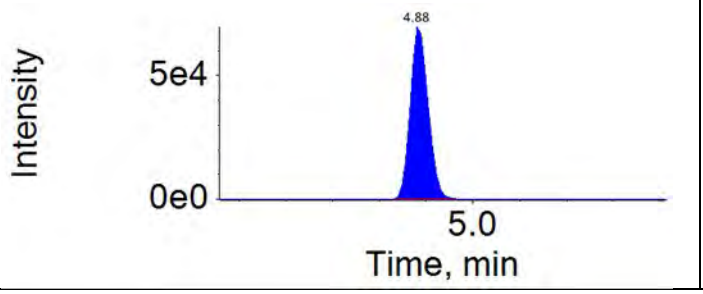


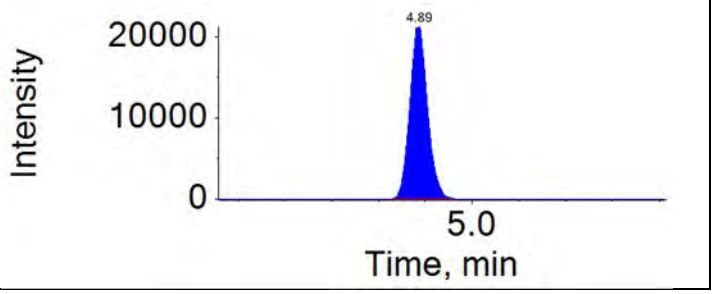
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

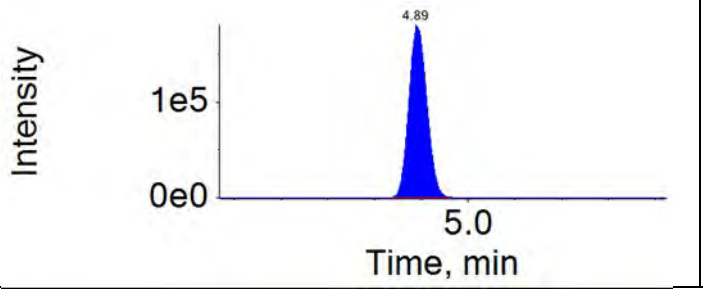
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

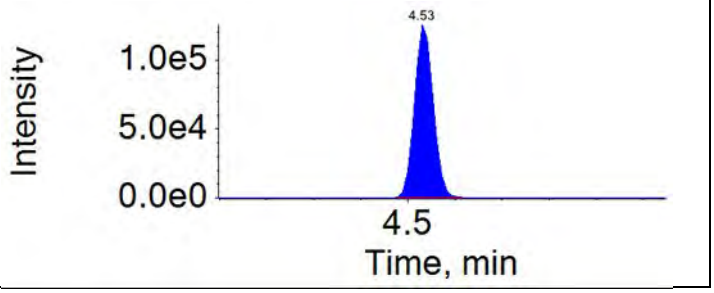
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



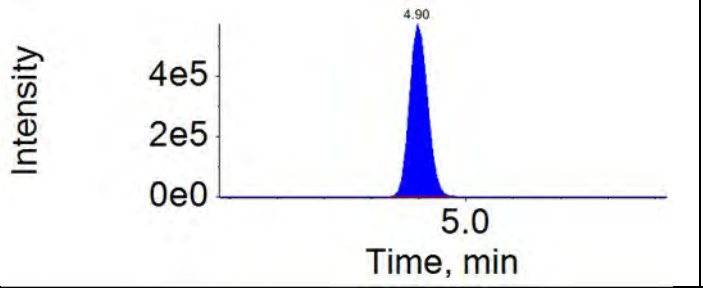


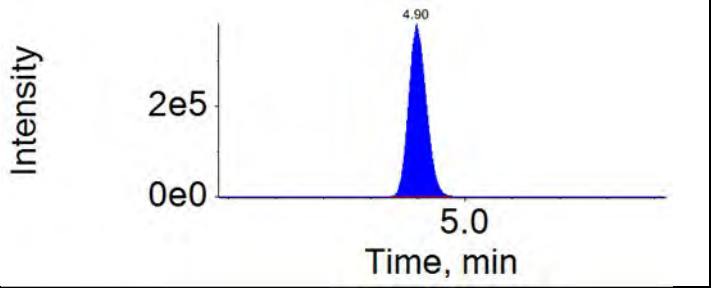
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



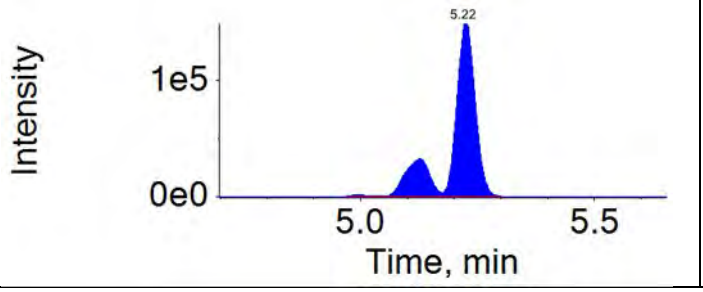


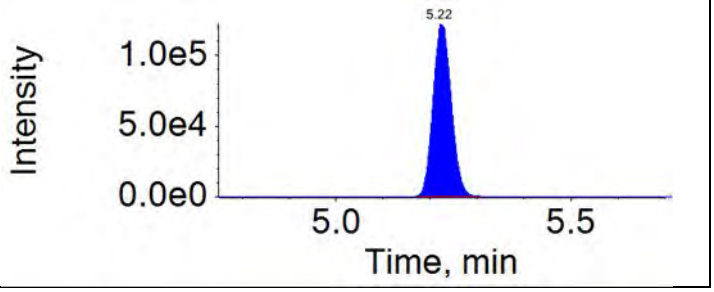
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



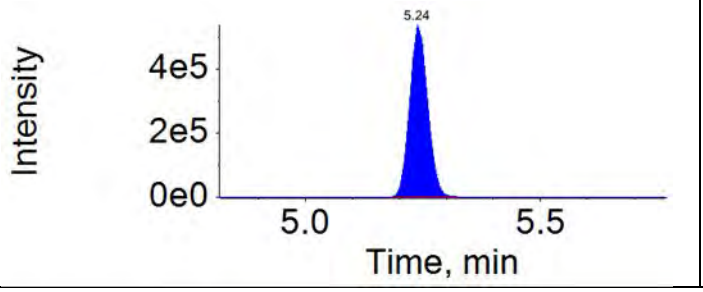


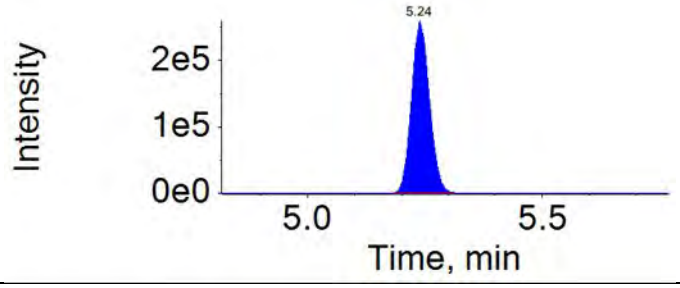
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

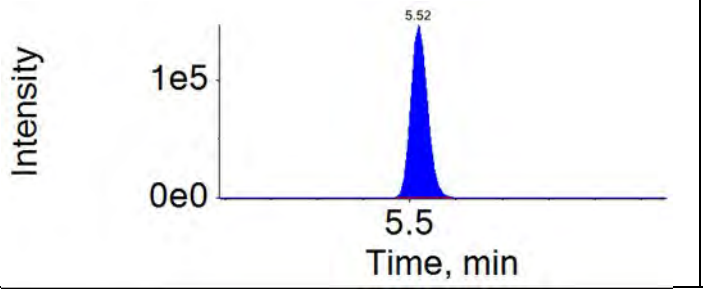
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

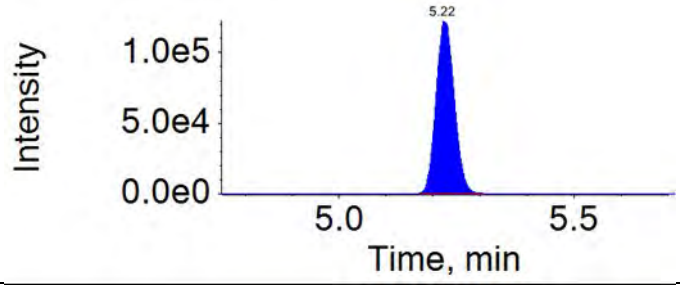
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



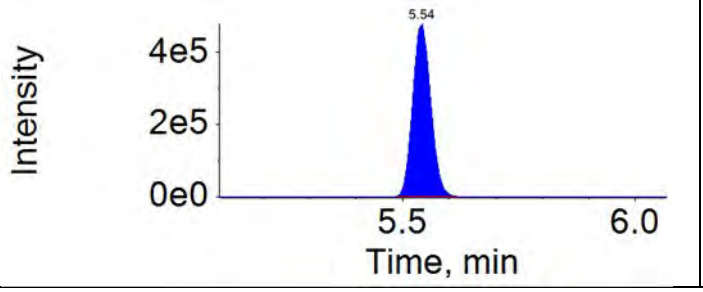


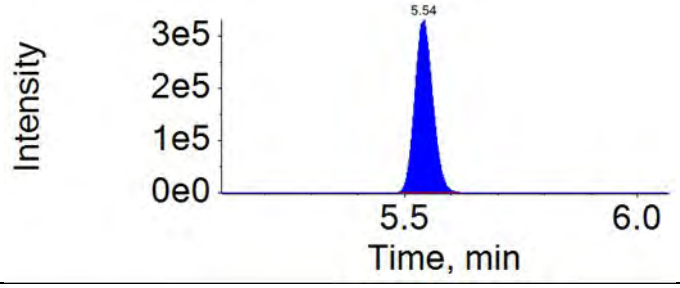
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



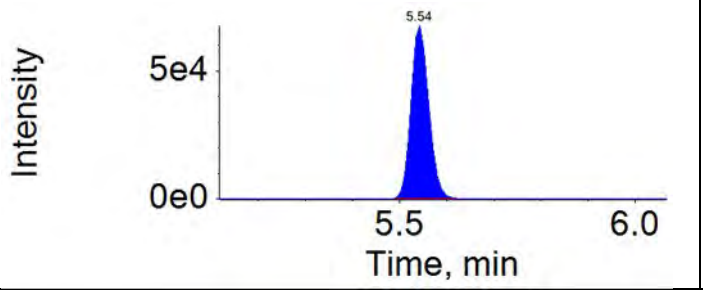


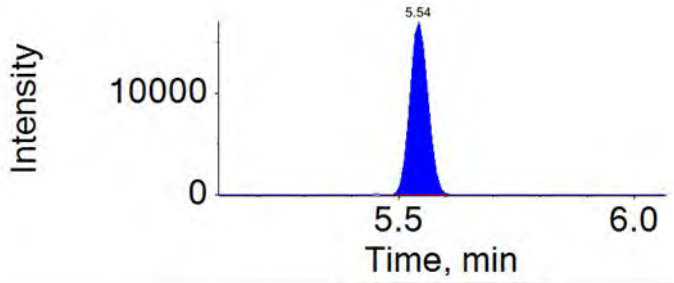
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



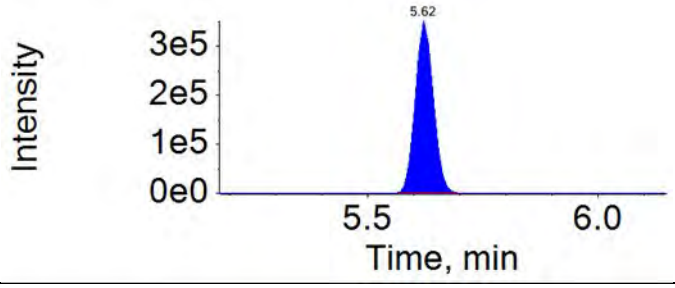


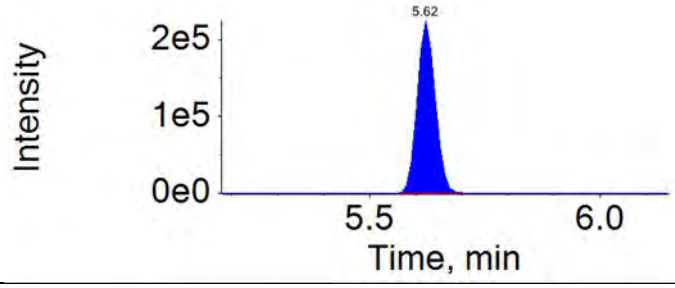
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

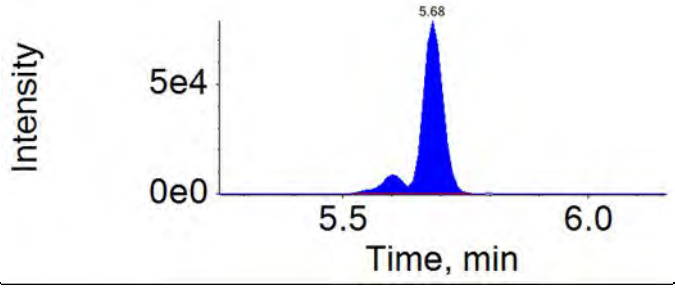
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

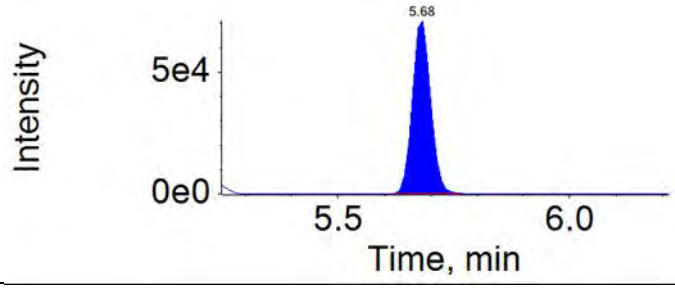
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



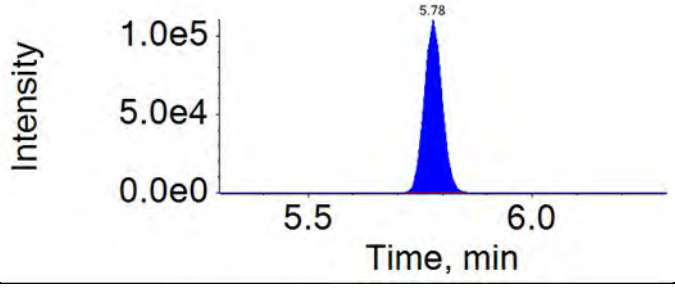


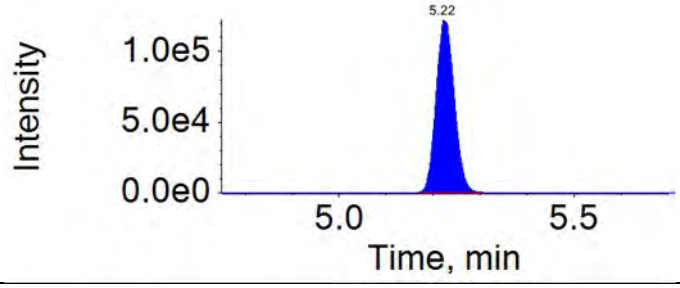
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



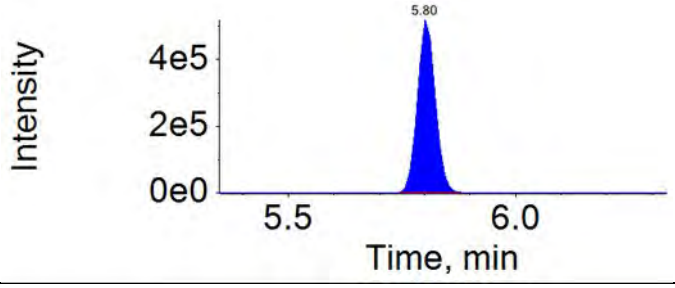


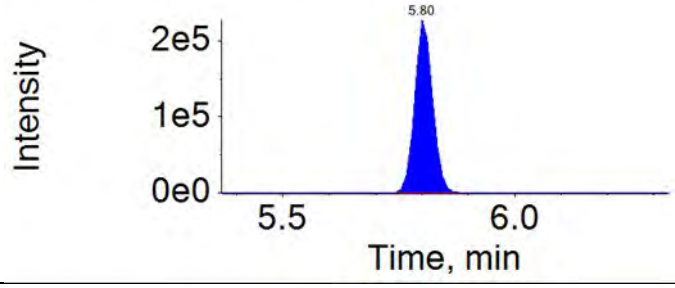
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



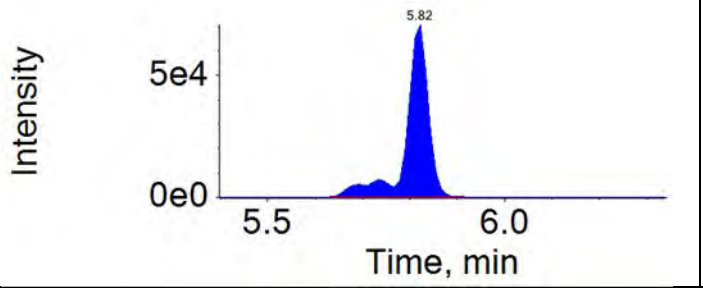


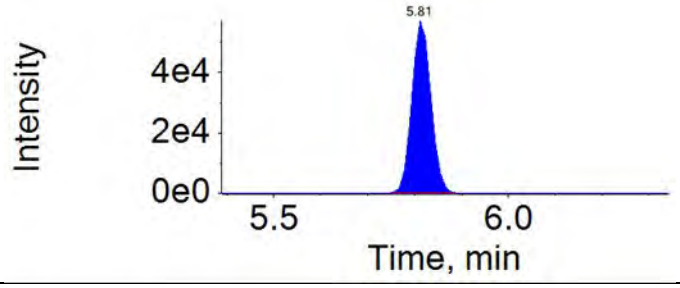
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:42 am, 12/28/18

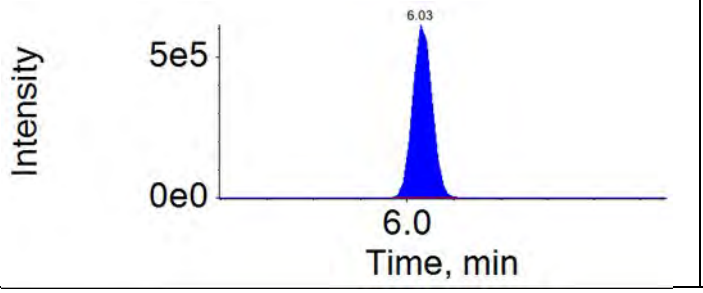
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

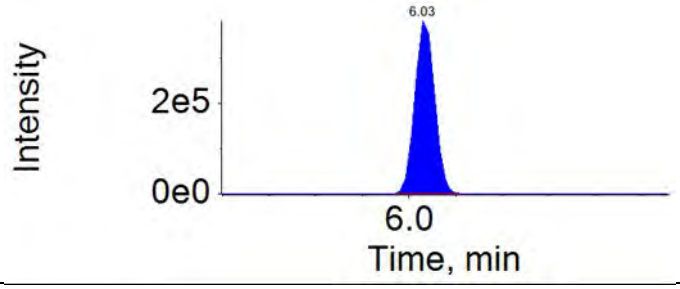
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



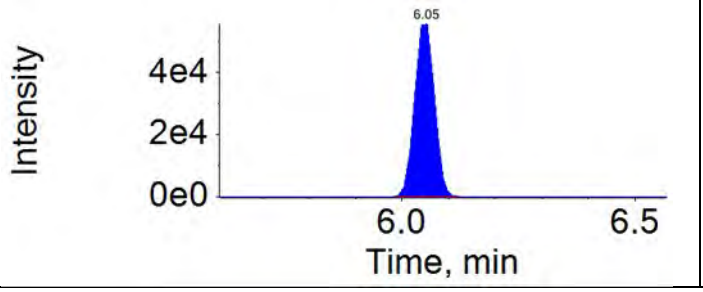


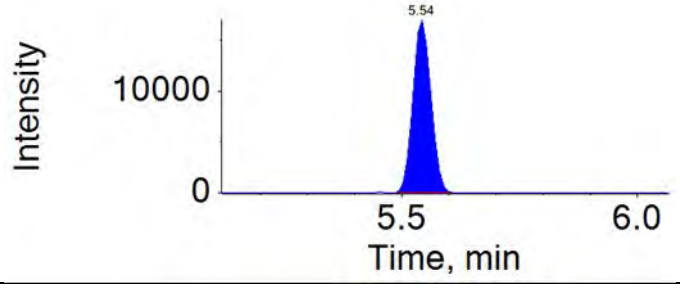
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



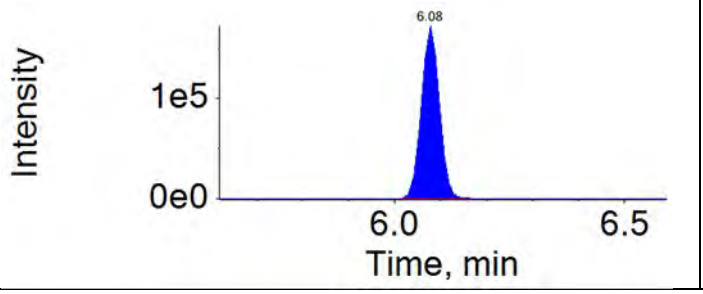


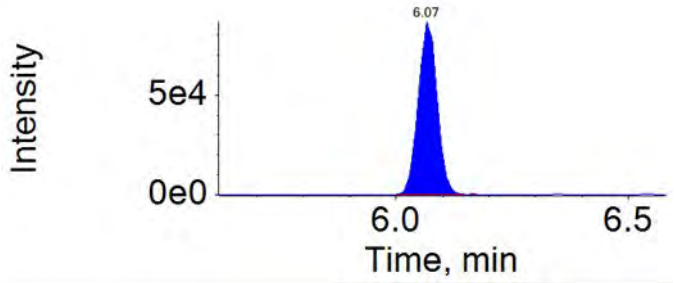
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



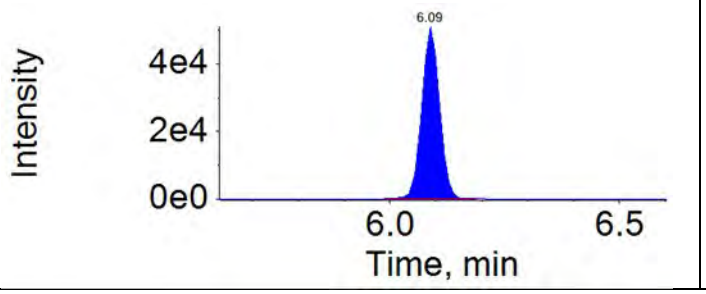


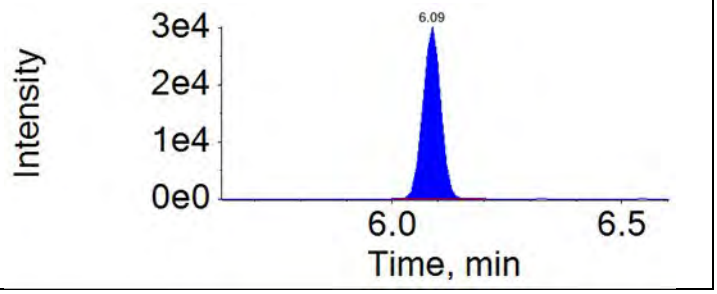
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

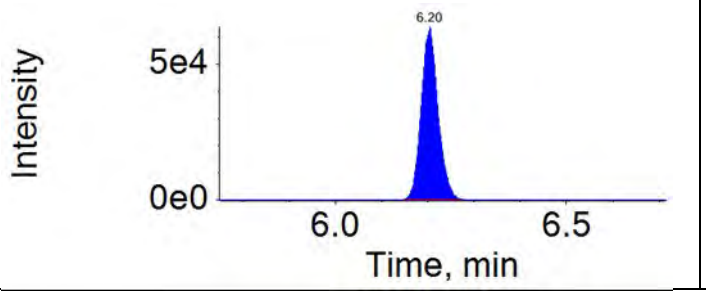
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

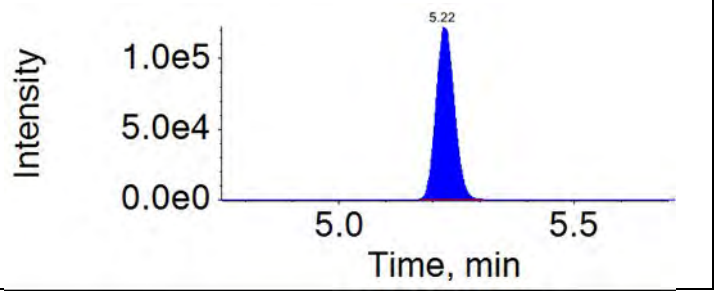
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



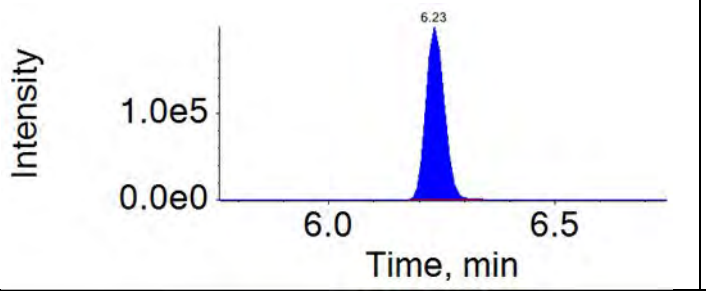


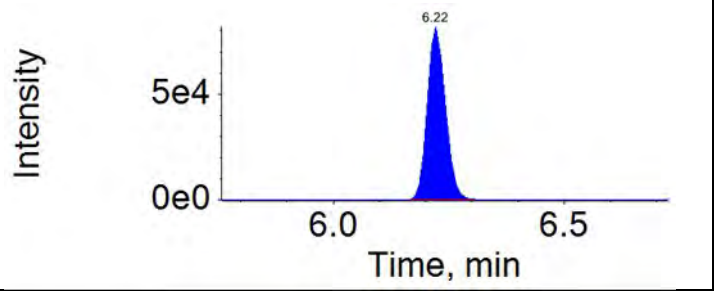
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



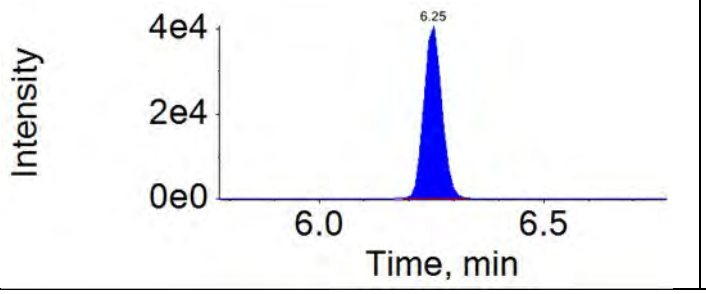


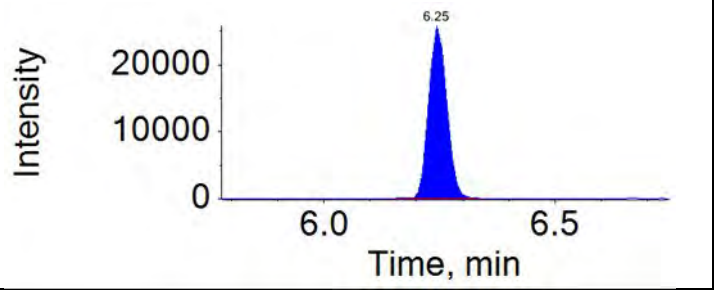
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



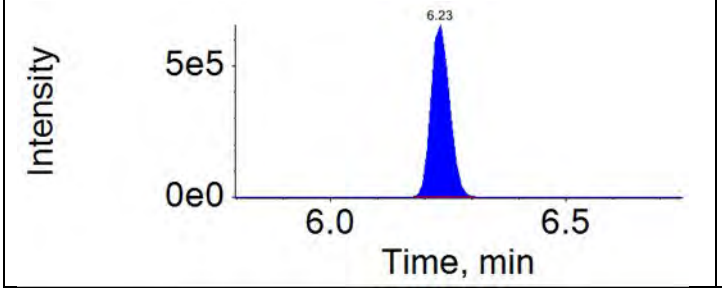


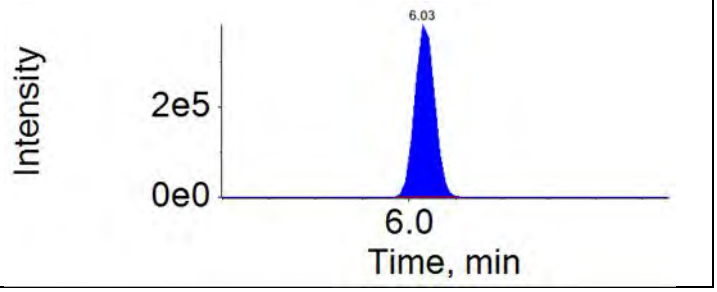
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

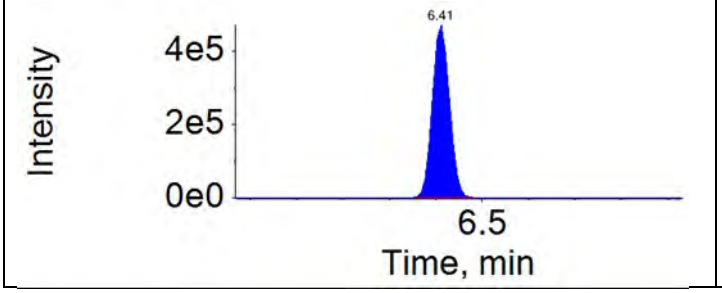
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

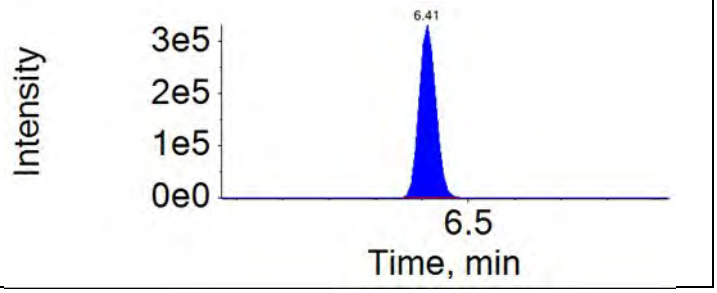
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



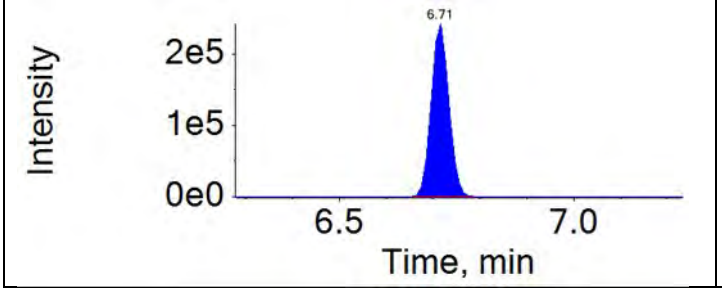


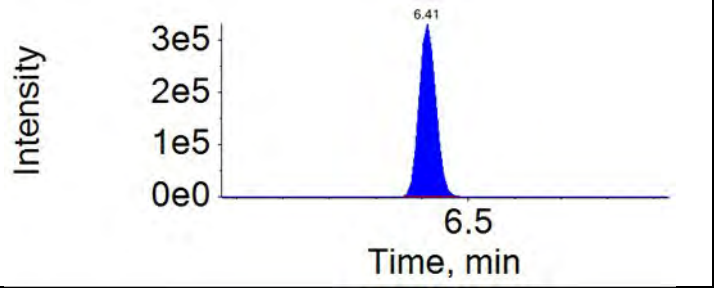
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



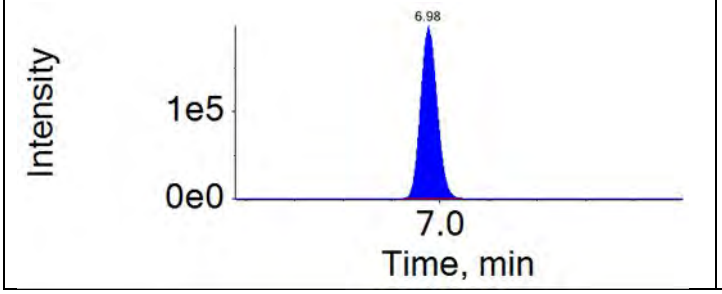


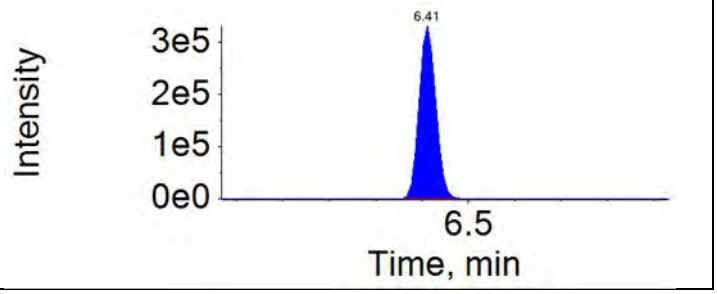
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



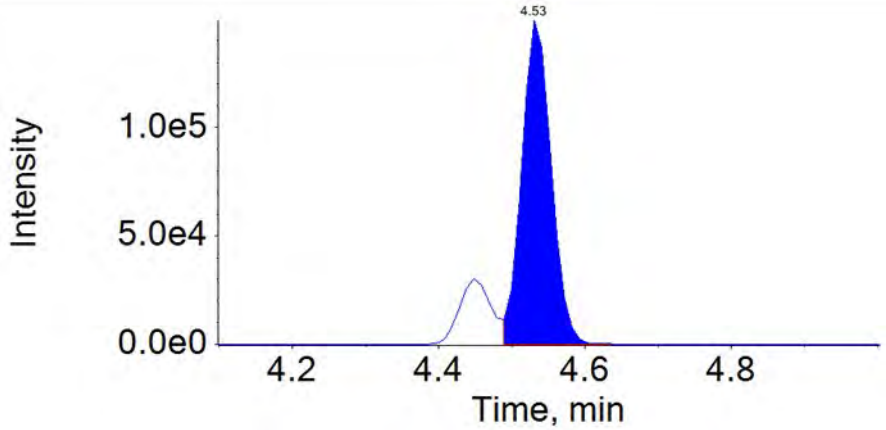


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

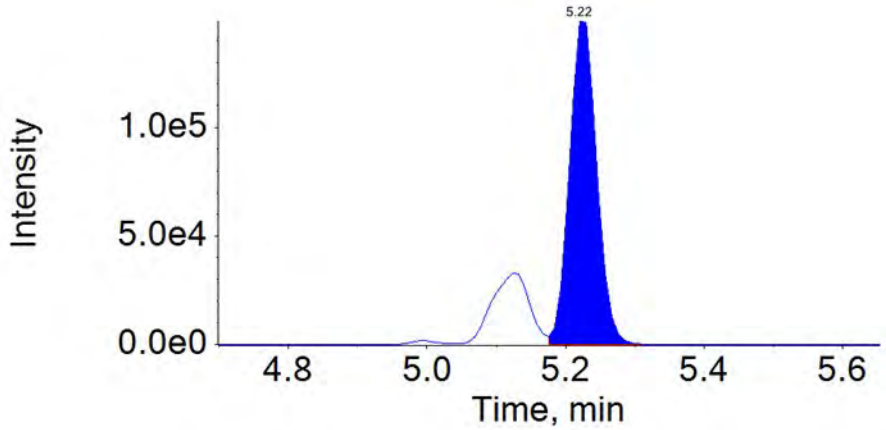
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Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.53
Peak Area:
419668.13
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



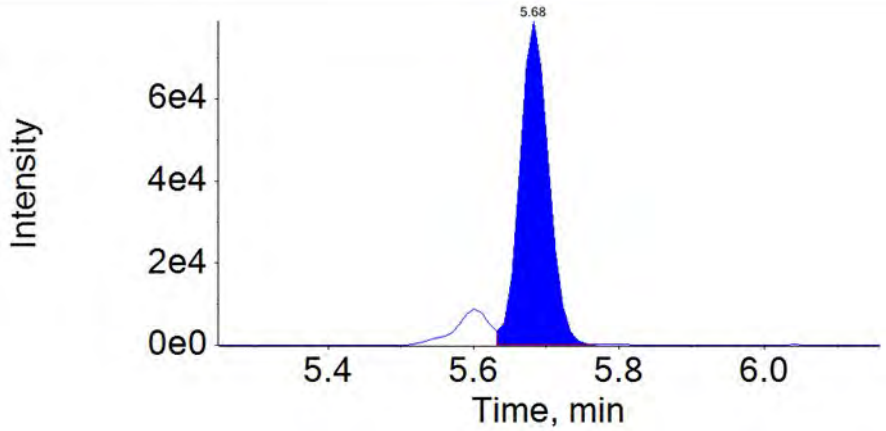
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.22
Peak Area:
409820.59
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.68
Peak Area:
216774.92
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



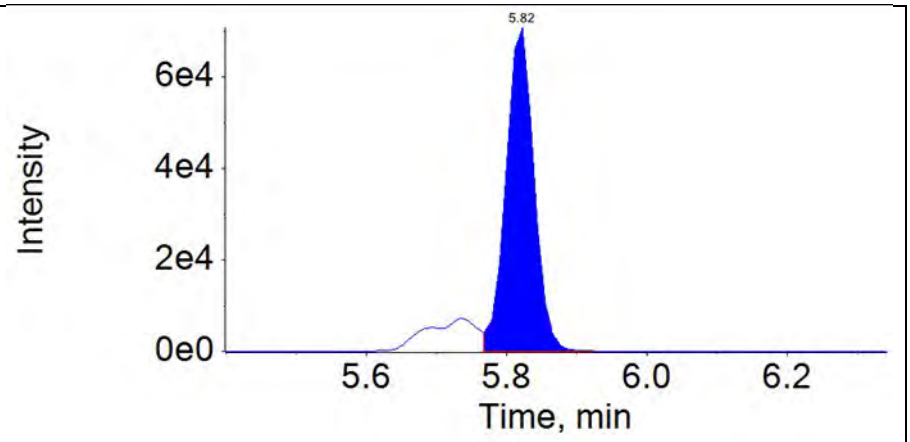
Integration Comment: incorrect integration

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REVIEWED
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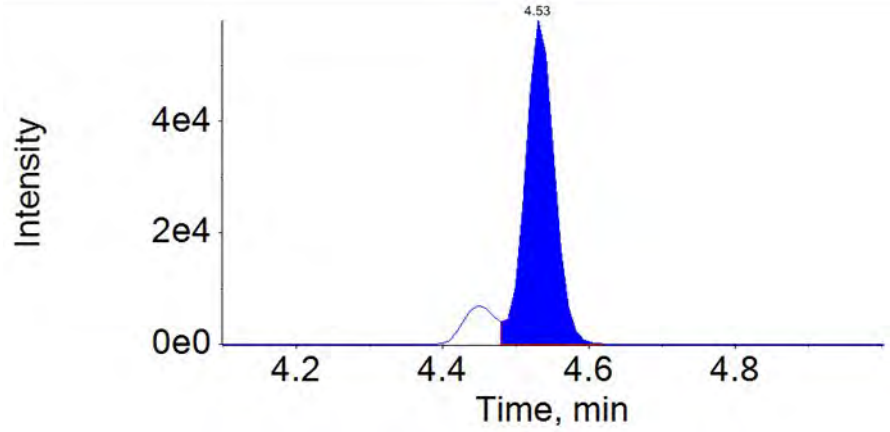
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.82
Peak Area:
197297.13
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



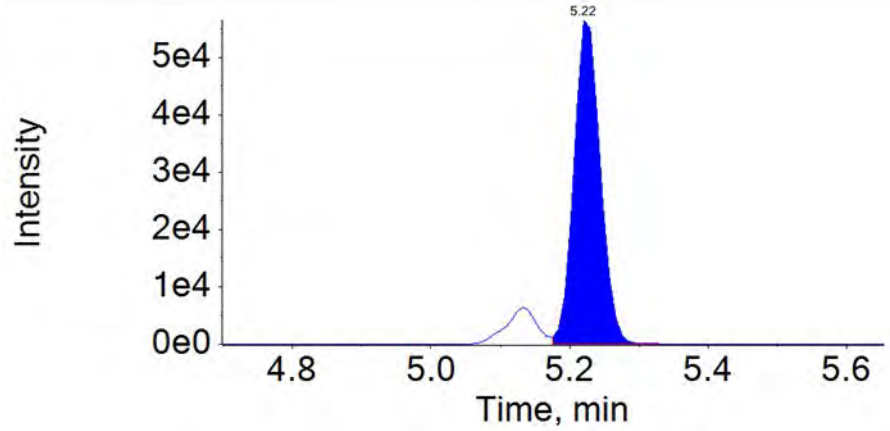
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.53
Peak Area:
161128.57
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.22
Peak Area:
149744.58
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



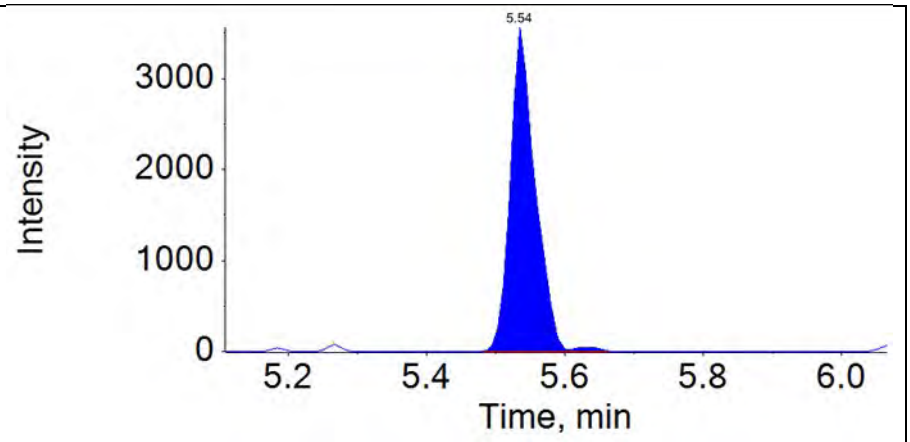
Integration Comment: incorrect integration

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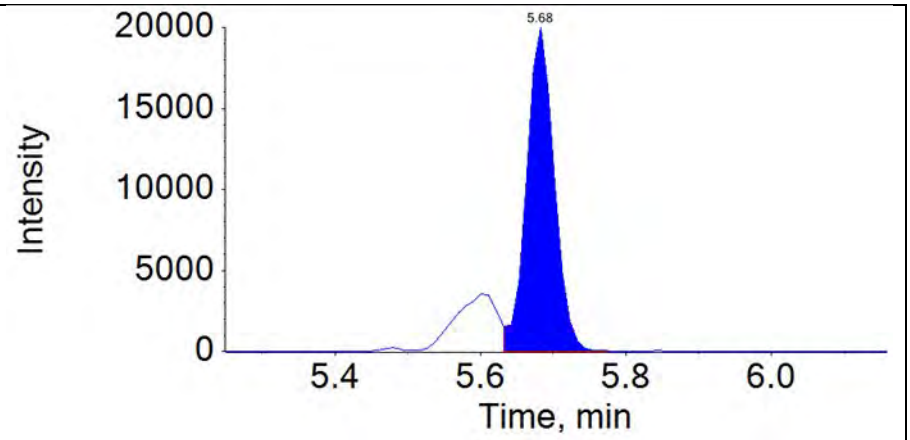
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
5.54
Peak Area:
9004.83
Mass Range:
513.0 / 169.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



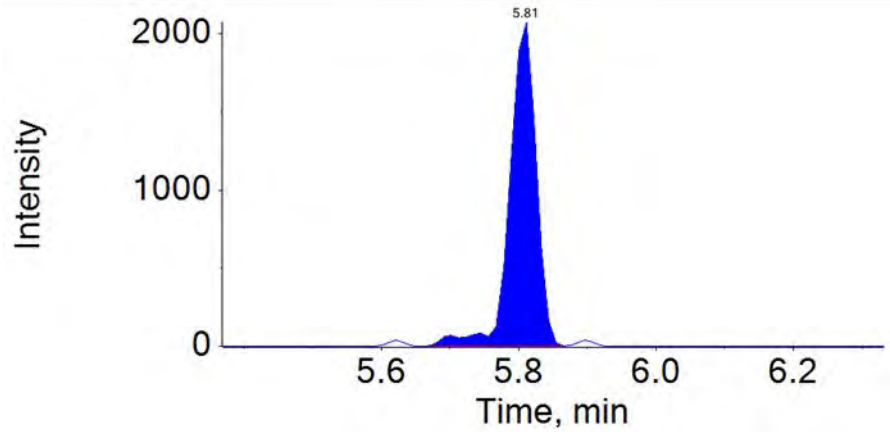
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.68
Peak Area:
53060.50
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4



Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.81
Peak Area:
5584.77
Mass Range:
563.0 / 169.0
File Name:
18DEC26DCAL-09.wiff
Sample Name:
CAL4

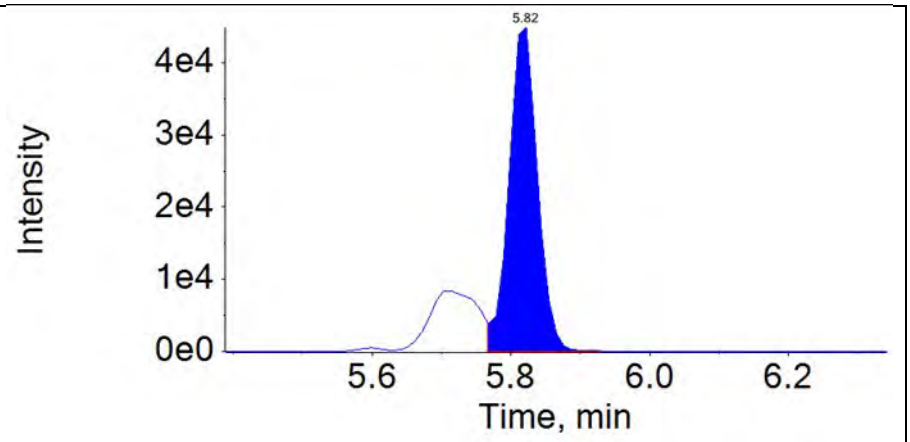


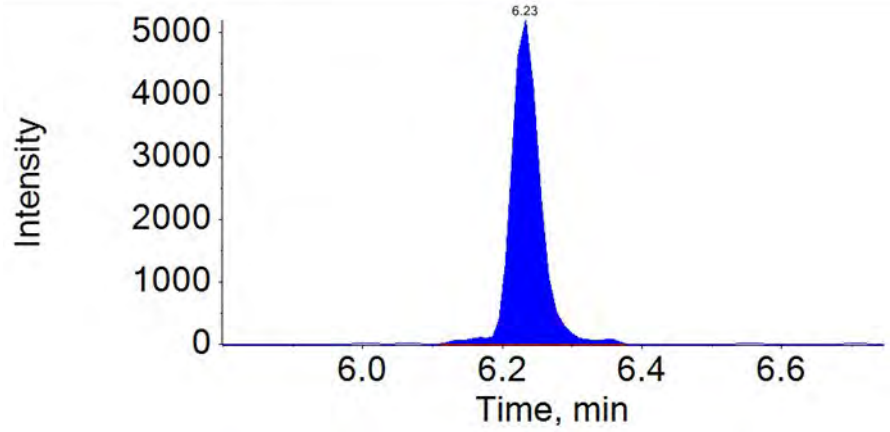
Integration Comment: incorrect integration

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By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NEtFOSAA_2 **RT (min.):** 5.82 **Peak Area:** 128774.41 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC26DCAL-09.wiff **Sample Name:** CAL4	 **Integration Comment:** incorrect integration

Component Name: PFTrDA_2 **RT (min.):** 6.23 **Peak Area:** 14992.15 **Mass Range:** 663.0 / 169.0 **File Name:** 18DEC26DCAL-09.wiff **Sample Name:** CAL4	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

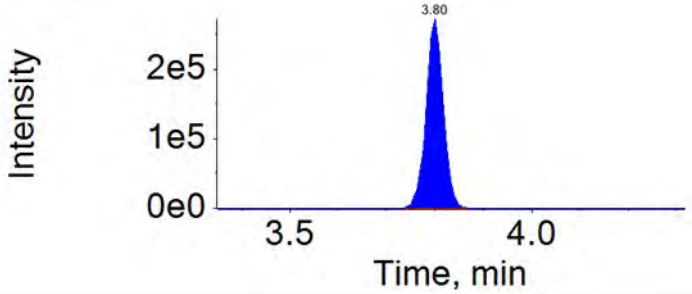
Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-09.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	676616.95	A	1.0000	1.0000			
PFBS_2	3.80	1.00	246929.59	A	0.3621	0.3649	1	50	
4:2-FTS	4.11	1.00	191611.31	A	1.0000	1.0000			
4:2-FTS_2	4.11	1.00	118715.47	A	0.6132	0.6196	1	50	
PFHxA	4.14	1.00	1454242.38	A	1.0000	1.0000			
PFHxA_2	4.14	1.00	17116.30	A	0.0123	0.0118	-4	50	
PFPeS	4.16	1.10	356427.75	A	1.0000	1.0000			
PFPeS_2	4.16	1.10	176622.00	A	0.5068	0.4955	-2	50	
PFHpA	4.53	1.00	1508328.67	A	1.0000	1.0000			
PFHpA_2	4.53	1.00	83043.48	A	0.0570	0.0551	-3	50	
PFHxS	4.53	1.00	510800.53	M	1.0000	1.0000			
PFHxS_2	4.53	1.00	181409.61	M	0.3566	0.3551	0	50	
6:2-FTS	4.88	1.00	184105.15	A	1.0000	1.0000			
6:2-FTS_2	4.88	1.00	115634.90	A	0.6328	0.6281	-1	50	
PFHpS	4.89	1.08	481291.68	A	1.0000	1.0000			
PFHpS_2	4.89	1.08	196026.36	A	0.4049	0.4073	1	50	
PFOA	4.90	1.00	1527084.94	A	1.0000	1.0000			
PFOA_2	4.90	1.00	84644.91	A	0.0570	0.0554	-3	50	
PFOS	5.22	1.00	538642.89	M	1.0000	1.0000			
PFOS_2	5.22	1.00	169791.52	M	0.3043	0.3152	4	50	
PFNA	5.24	1.00	1423621.20	A	1.0000	1.0000			
PFNA_2	5.24	1.00	27057.48	A	0.0213	0.0190	-11	50	
PFNS	5.52	1.06	364183.91	A	1.0000	1.0000			
PFNS_2	5.52	1.06	166839.69	A	0.4515	0.4581	1	50	
PFDA	5.54	1.00	1292226.92	A	1.0000	1.0000			
PFDA_2	5.54	1.00	8892.24	M	0.0067	0.0069	2	50	
8:2-FTS	5.54	1.00	176262.23	A	1.0000	1.0000			
8:2-FTS_2	5.54	1.00	106088.59	A	0.6016	0.6019	0	50	
NMeFOSAA	5.68	1.00	244915.94	M	1.0000	1.0000			
NMeFOSAA_2	5.68	1.00	67150.52	M	0.2579	0.2742	6	50	
PFDS	5.78	1.11	305764.21	A	1.0000	1.0000			
PFDS_2	5.78	1.11	148796.18	A	0.4884	0.4866	0	50	
PFUnDA	5.80	1.00	1410899.58	A	1.0000	1.0000			
PFUnDA_2	5.81	1.00	5302.48	M	0.0042	0.0038	-10	50	
NEtFOSAA	5.82	1.00	233675.08	M	1.0000	1.0000			
NEtFOSAA_2	5.82	1.00	169456.13	M	0.6799	0.7252	7	50	
PFDoDA	6.03	1.00	1771168.94	A	1.0000	1.0000			
PFDoDA_2	6.03	1.00	24220.91	A	0.0139	0.0137	-2	50	
10:2-FTS	6.05	1.09	166697.85	A	1.0000	1.0000			
10:2-FTS_2	6.05	1.09	114071.19	A	0.6715	0.6843	2	50	
PFTrDA	6.23	1.03	1788868.79	A	1.0000	1.0000			
PFTrDA_2	6.23	1.03	14594.56	M	0.0088	0.0082	-8	50	
PFTeDA	6.41	1.00	1215971.88	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	7560.44	A	0.0063	0.0062	-1	50	
PFHxDA	6.71	1.05	631636.88	A	1.0000	1.0000			
PFHxDA_2	6.71	1.05	38625.21	A	0.0643	0.0612	-5	50	
PFODA	6.98	1.09	461611.99	A	1.0000	1.0000			
PFODA_2	6.97	1.09	12256.75	A	0.0266	0.0266	0	50	

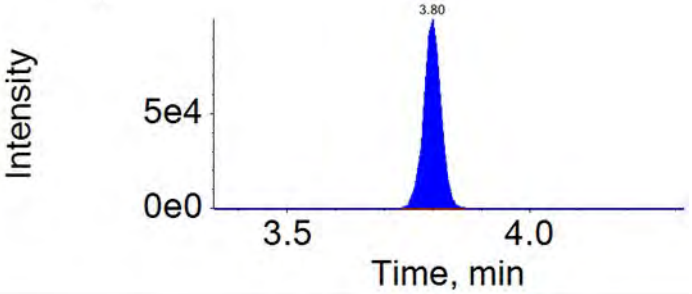
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

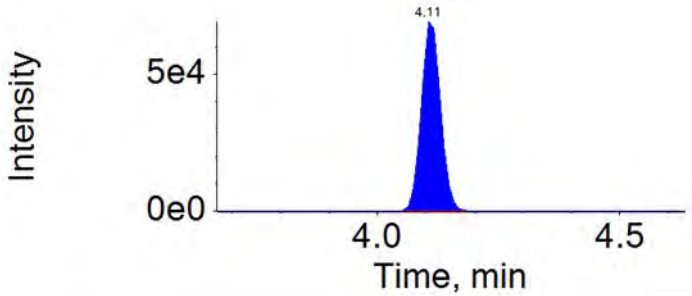
Component: PFBS
Primary Mass: 299.0 / 80.0



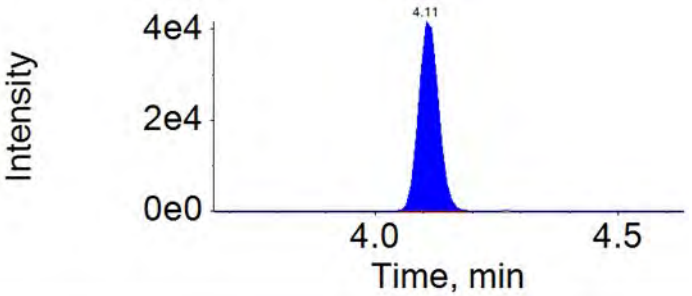
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



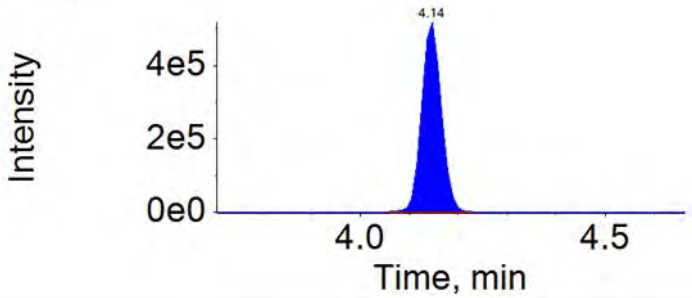
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



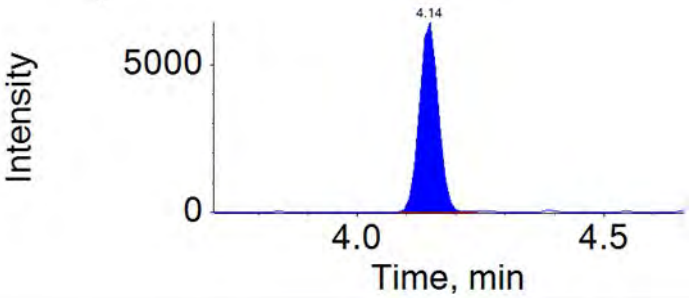
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



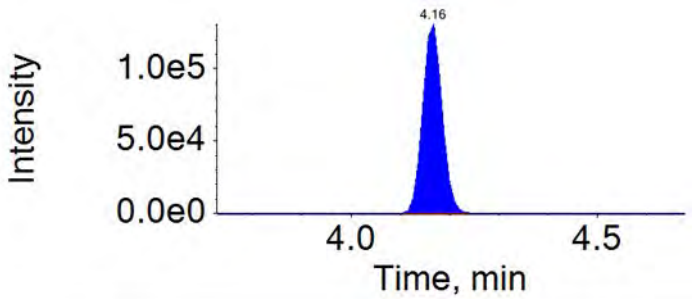
Component: PFHxA
Primary Mass: 313.0 / 269.0



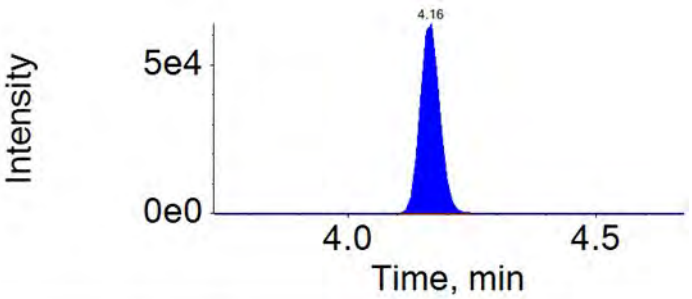
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



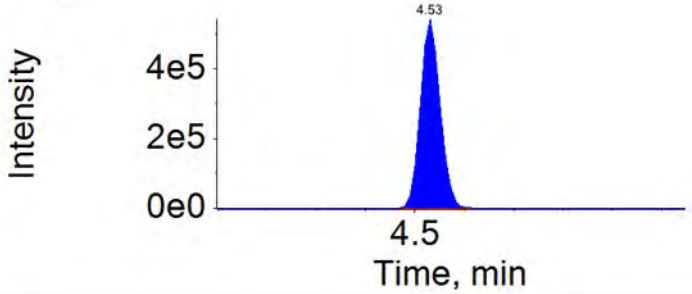
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



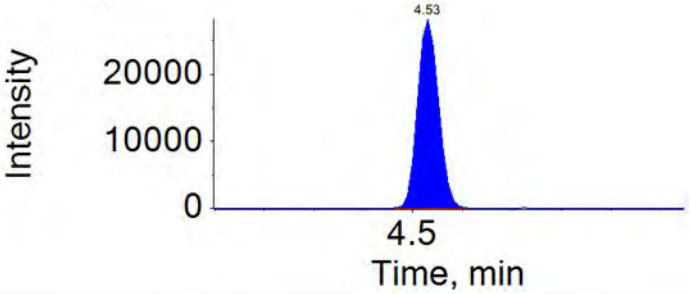
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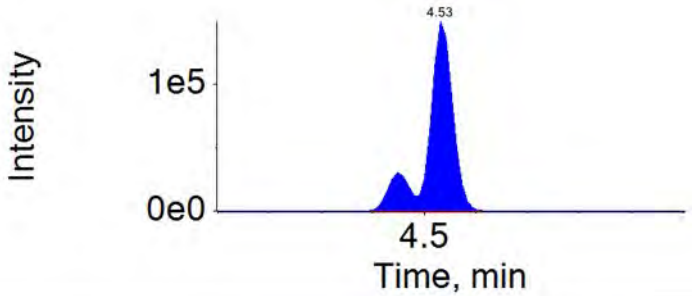
Component: PFHpA
Primary Mass: 363.0 / 319.0



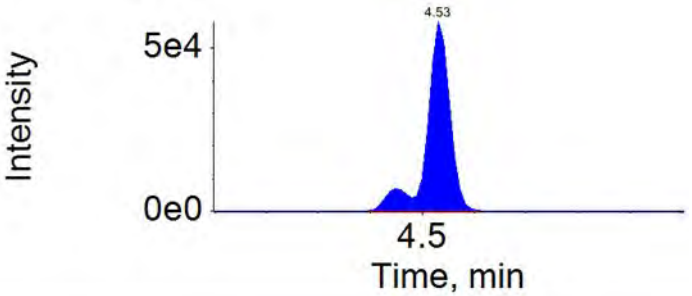
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



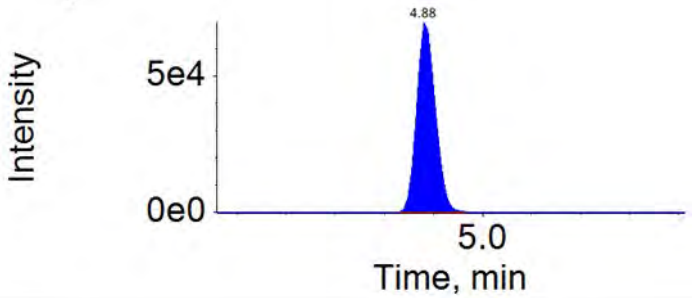
Component: PFHxS
Primary Mass: 399.0 / 80.0



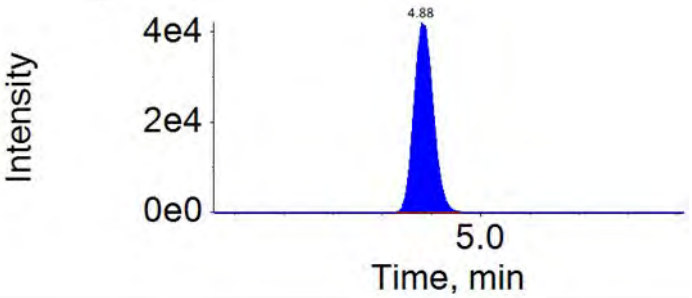
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



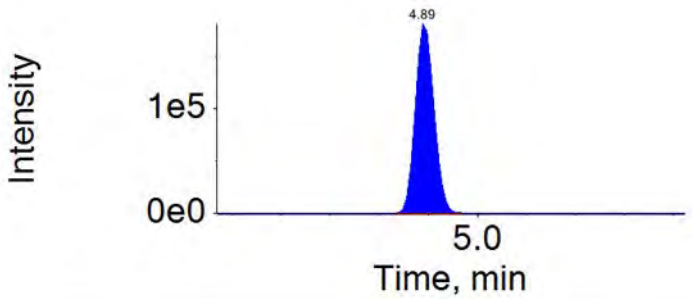
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



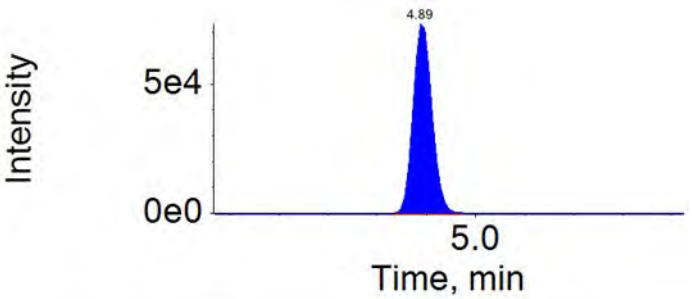
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



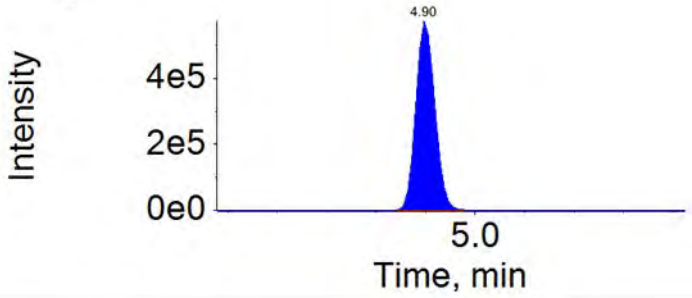
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



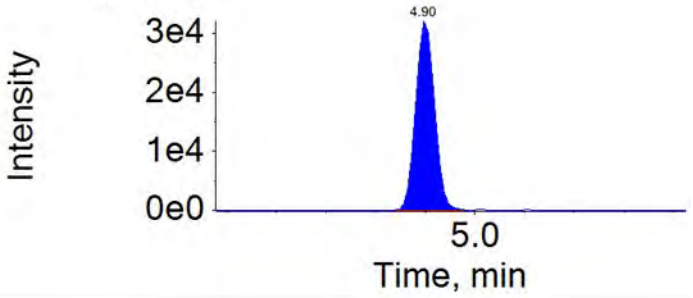
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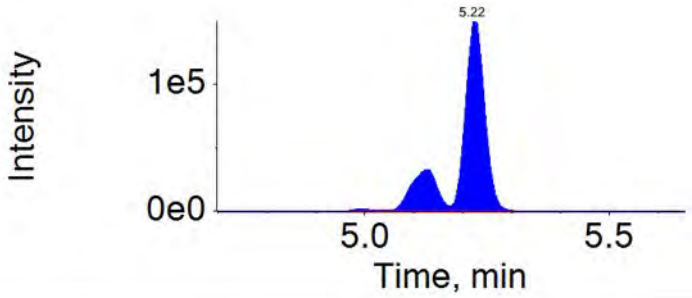
Component: PFOA
Primary Mass: 413.0 / 369.0



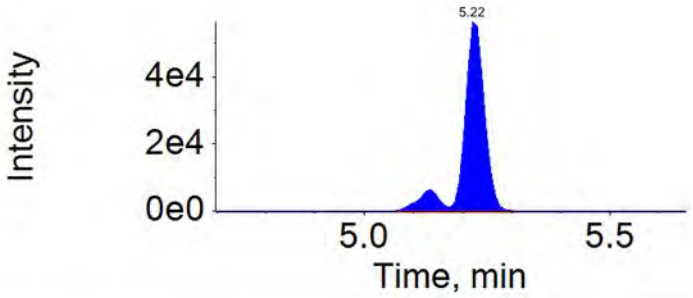
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



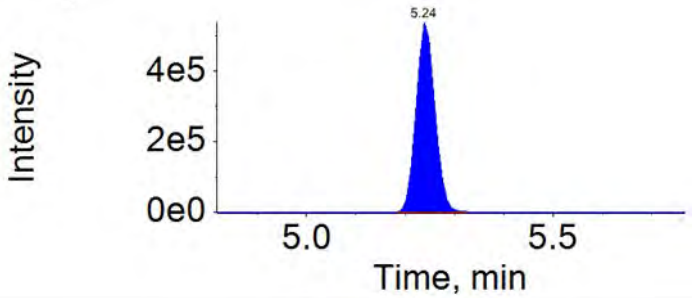
Component: PFOS
Primary Mass: 499.0 / 80.0



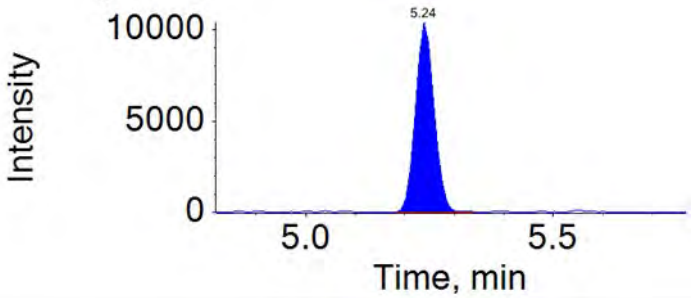
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



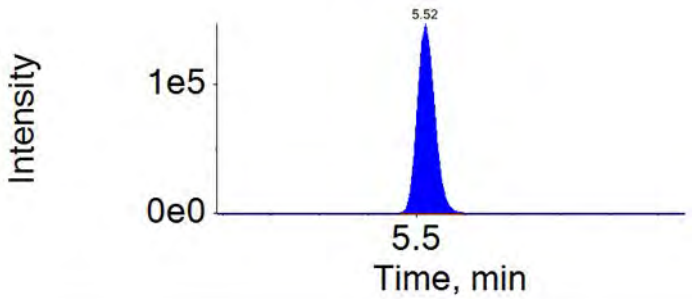
Component: PFNA
Primary Mass: 463.0 / 419.0



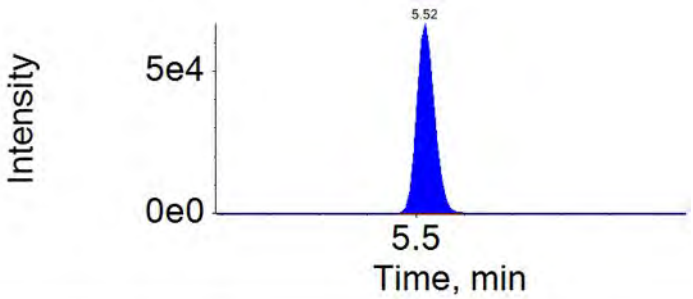
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



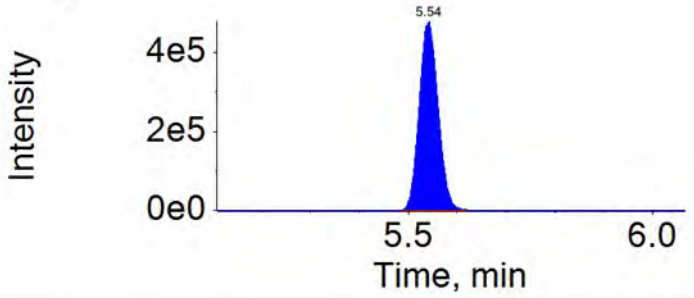
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



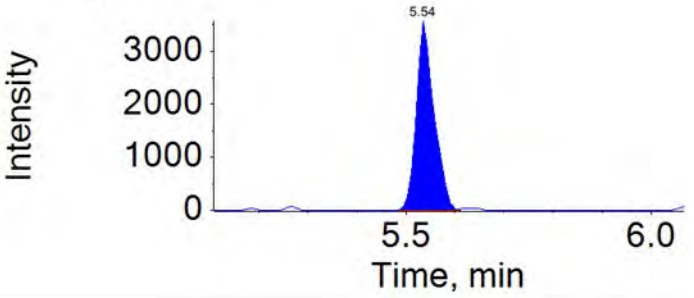
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

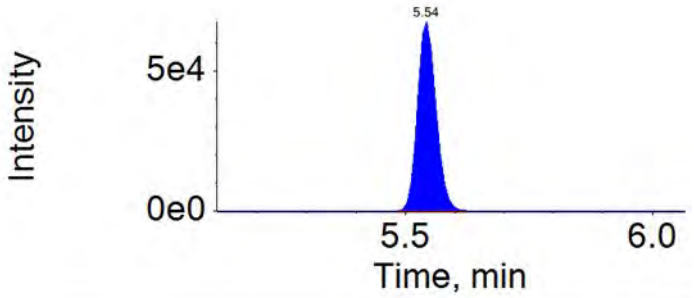
Component: PFDA
Primary Mass: 513.0 / 469.0



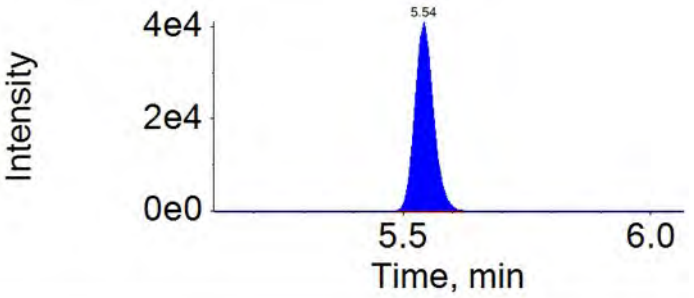
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



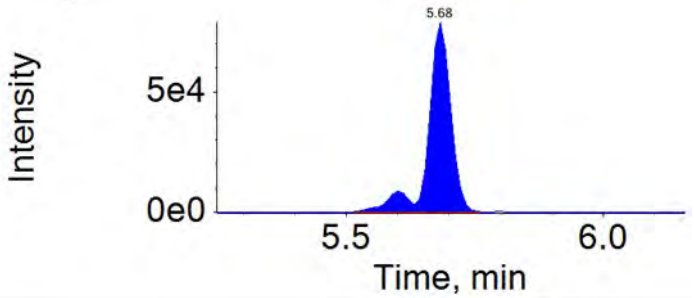
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



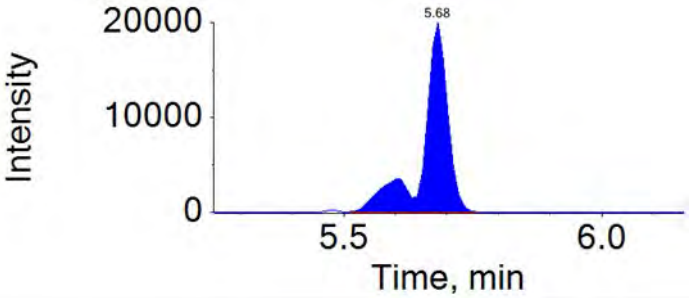
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



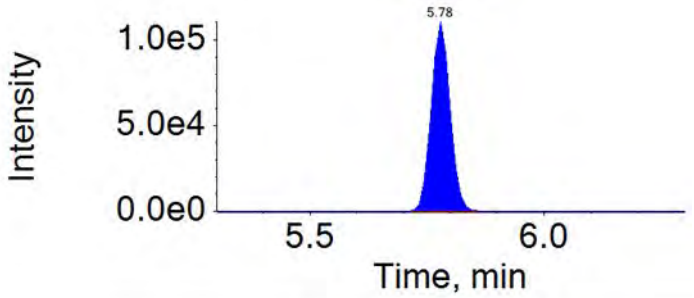
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



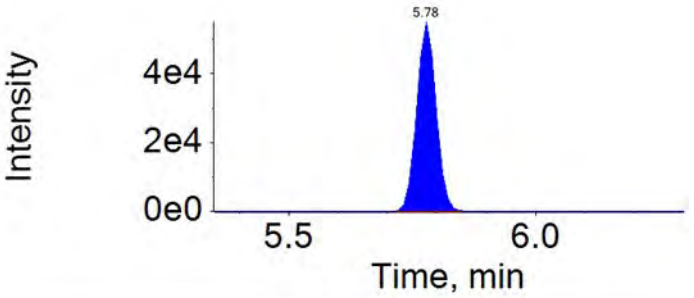
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



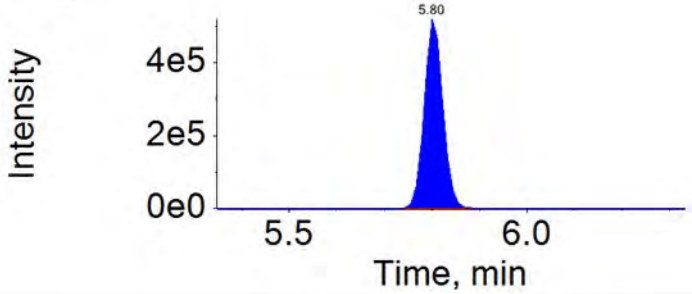
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



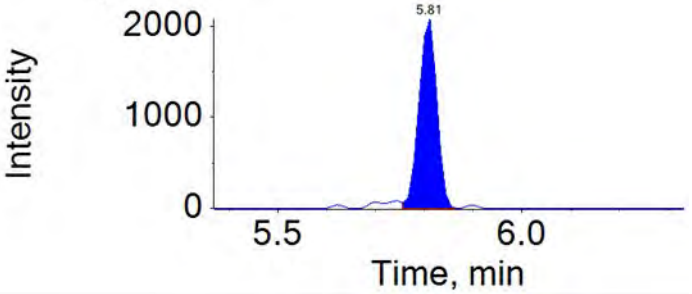
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

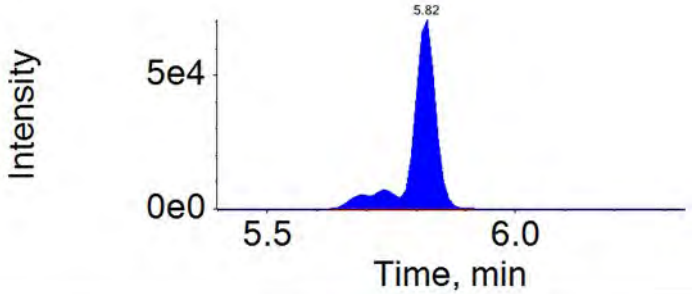
Component: PFUnDA
Primary Mass: 563.0 / 519.0



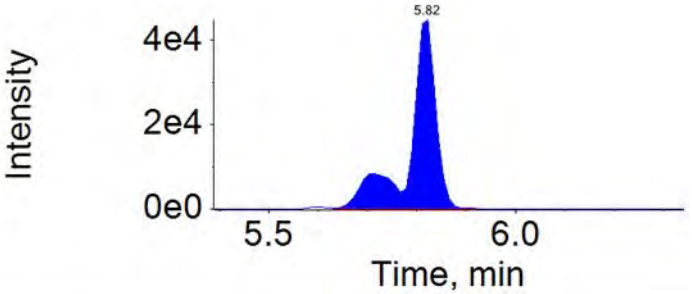
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



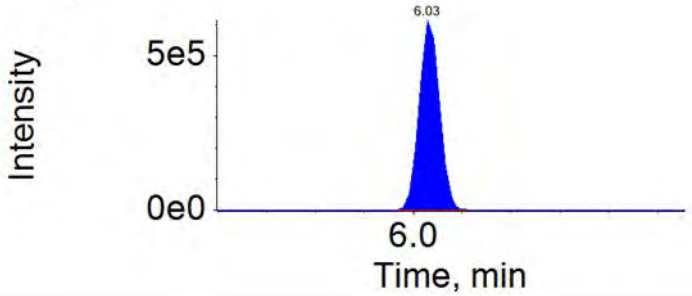
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



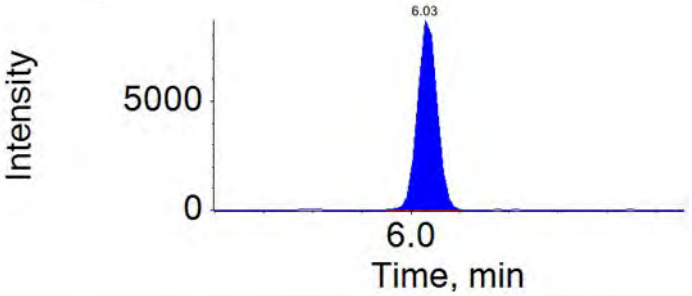
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



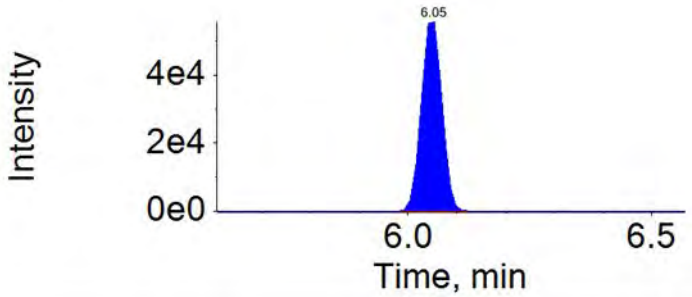
Component: PFDoDA
Primary Mass: 613.0 / 569.0



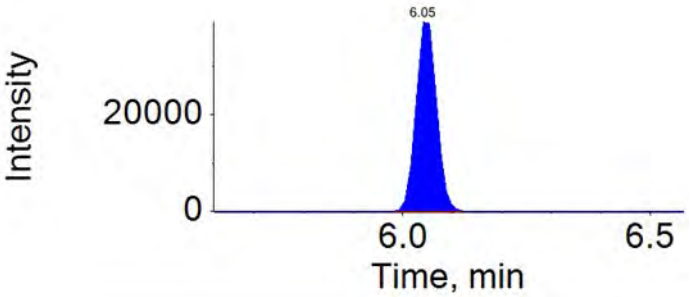
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



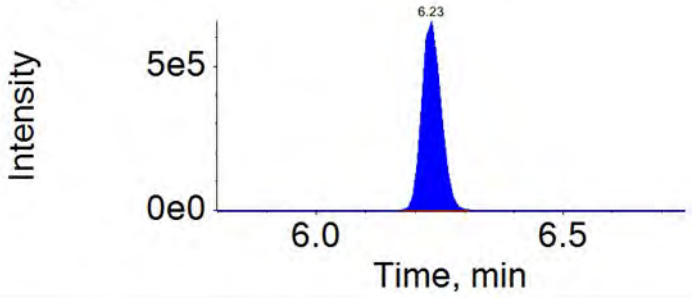
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



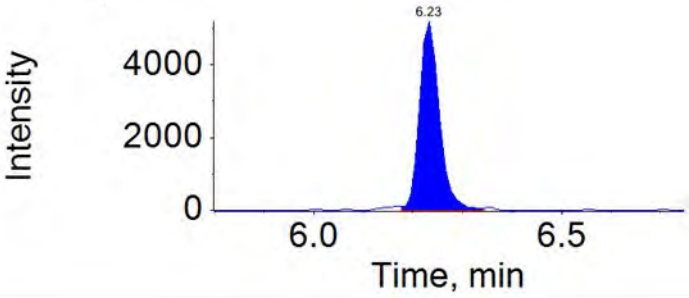
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

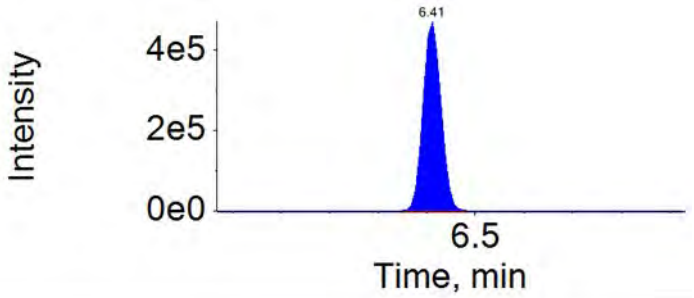
Component: PFTrDA
Primary Mass: 663.0 / 619.0



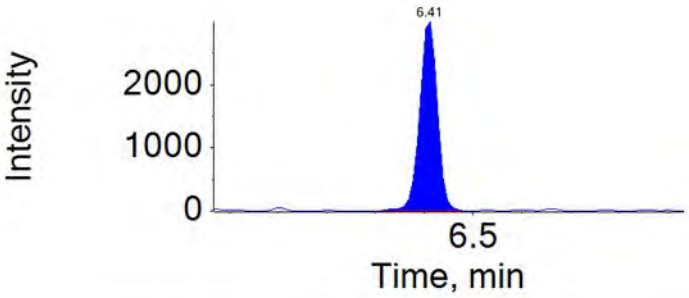
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



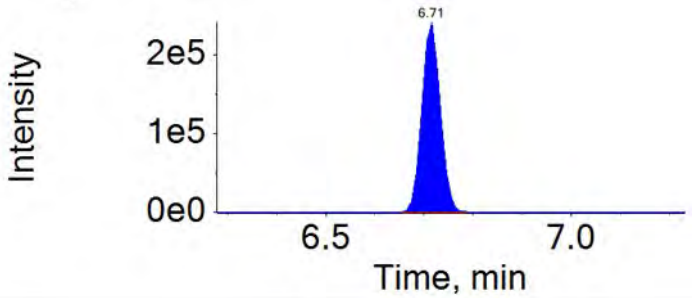
Component: PFTeDA
Primary Mass: 713.0 / 669.0



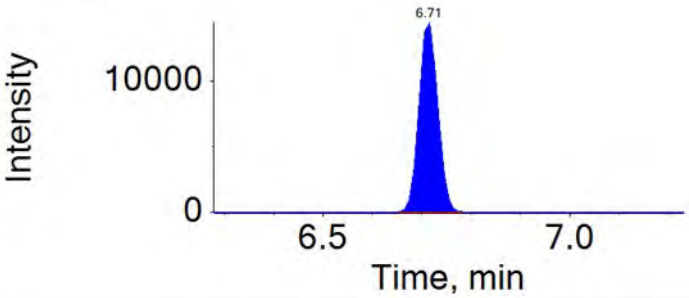
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



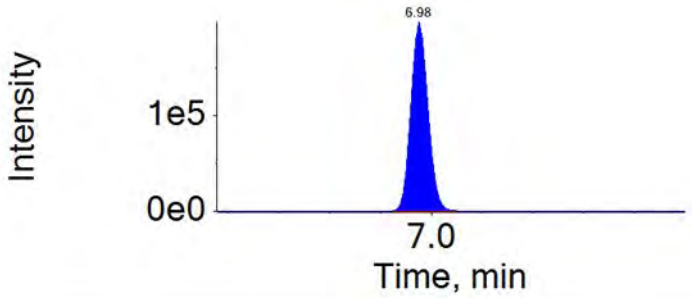
Component: PFHxDA
Primary Mass: 813.0 / 769.0



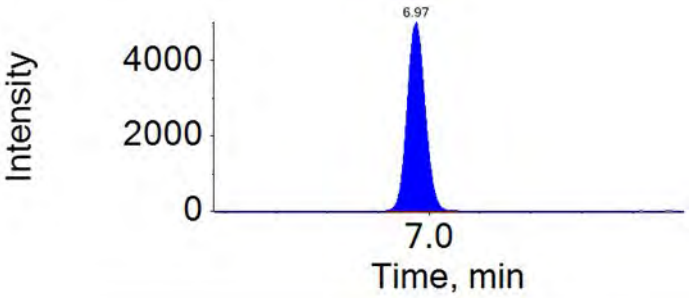
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL5			**Data File:**		18DEC26DCAL-10.wiff
Sample ID:	CALBRN51833B			**Acquis Date:**		2018-12-26T14:13:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	7			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	973046.3	965438.2	1	50	
13C2-PFOA	5.0	563692.8	527066.0	7	50	
13C4-PFOS	4.8	309046.1	307230.6	1	50	
13C2-PFDA	5.0	507766.8	493258.9	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1075857.9	13C3-PFBA	973046.3	1.106	5.000	4.906	98	70-130	
E13C5-PFPeA	984471.9	13C3-PFBA	973046.3	1.012	5.000	4.819	96	70-130	
E13C3-PFBS	448994.4	13C3-PFBA	973046.3	0.461	4.650	4.483	96	70-130	
E13C2-4:2-FTS	64436.8	13C2-PFOA	563692.8	0.114	4.670	4.355	93	70-130	
E13C5-PFHxA	766202.1	13C2-PFOA	563692.8	1.359	5.000	4.973	99	70-130	
E13C3-PFHxS	335509.0	13C2-PFOA	563692.8	0.595	4.730	4.574	97	70-130	
E13C4-PFHpA	599066.1	13C2-PFOA	563692.8	1.063	5.000	4.788	96	70-130	
E13C2-6:2-FTS	54388.2	13C2-PFOA	563692.8	0.096	4.750	4.721	99	70-130	
E13C8-PFOA	970653.9	13C2-PFOA	563692.8	1.722	5.000	4.825	96	70-130	
E13C8-PFOS	329079.6	13C4-PFOS	309046.1	1.065	4.780	4.642	97	70-130	
E13C9-PFNA	700273.0	13C4-PFOS	309046.1	2.266	5.000	4.992	100	70-130	
E13C6-PFDA	904706.0	13C2-PFDA	507766.8	1.782	5.000	5.116	102	70-130	
E13C2-8:2-FTS	46084.9	13C2-PFDA	507766.8	0.091	4.790	4.695	98	70-130	
E13C8-PFOSA	598420.9	13C2-PFDA	507766.8	1.179	5.000	4.707	94	70-130	
Ed3-NMeFOSAA	183112.1	13C2-PFDA	507766.8	0.361	5.000	4.602	92	70-130	
E13C7-PFUnDA	565503.4	13C2-PFDA	507766.8	1.114	5.000	4.812	96	70-130	
Ed5-NEtFOSAA	137802.8	13C2-PFDA	507766.8	0.271	5.000	4.702	94	70-130	
E13C2-PFDoDA	1149156.8	13C2-PFDA	507766.8	2.263	5.000	4.909	98	70-130	
Ed7-NMePFOSAE	257303.8	13C2-PFDA	507766.8	0.507	5.000	4.791	96	70-130	
Ed3-NMePFOSA	81057.5	13C2-PFDA	507766.8	0.160	5.000	4.525	91	70-130	
Ed9-NEtPFOSAE	207587.3	13C2-PFDA	507766.8	0.409	5.000	4.448	89	70-130	
Ed5-NEtPFOSA	69567.1	13C2-PFDA	507766.8	0.137	5.000	4.836	97	70-130	
E13C2-PFTeDA	854864.4	13C2-PFDA	507766.8	1.684	5.000	4.965	99	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

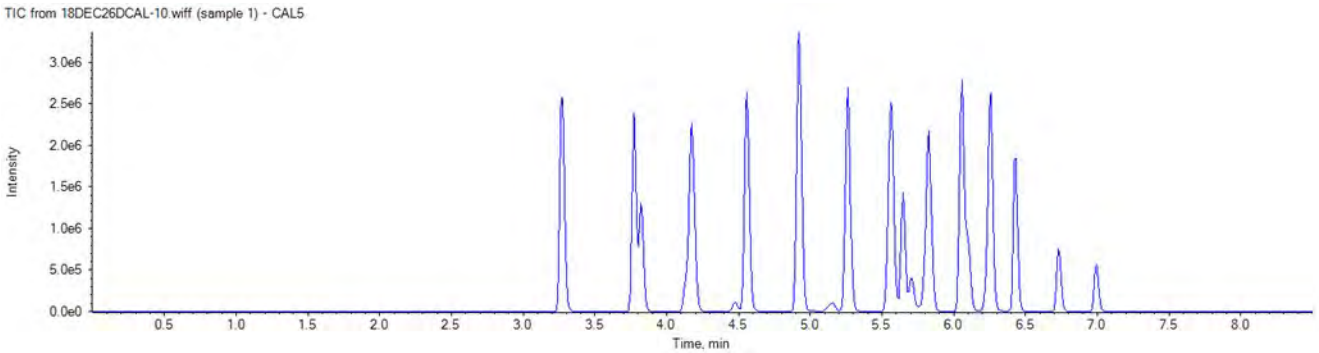
Analyte Quantitation Peak Table

Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-10.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	4060843.5		A	13C4-PFBA	3.27	1075857.9	3.775	19.938
PFPeA	3.78	1.000	4050818.0		A	13C5-PFPeA	3.77	984471.9	4.115	20.424
PFBS	3.82	1.000	1664521.0		A	13C3-PFBS	3.82	448994.4	3.707	18.397
4:2-FTS	4.14	1.000	499394.1		A	13C2-4:2-FTS	4.14	64436.8	7.750	19.002
PFHxA	4.17	1.000	3700470.9		A	13C5-PFHxA	4.17	766202.1	4.830	19.823
PFPeS	4.19	1.100	897202.3		A	13C3-PFBS	3.82	448994.4	1.998	20.115
PFHpA	4.56	1.000	3724169.6		A	13C4-PFHpA	4.56	599066.1	6.217	19.644
PFHxS	4.56	1.000	1271886.8		M	13C3-PFHxS	4.56	335509.0	3.791	17.728
6:2-FTS	4.91	1.000	418978.5		A	13C2-6:2-FTS	4.91	54388.2	7.703	18.469
PFHpS	4.92	1.080	1276491.7		A	13C3-PFHxS	4.56	335509.0	3.805	19.916
PFOA	4.93	1.000	3883848.0		A	13C8-PFOA	4.93	970653.9	4.001	21.170
PFOS	5.25	1.000	1380559.9		M	13C8-PFOS	5.25	329079.6	4.195	18.265
PFNA	5.27	1.000	3687692.4		A	13C9-PFNA	5.27	700273.0	5.266	21.162
PFNS	5.54	1.060	936224.3		A	13C8-PFOS	5.25	329079.6	2.845	19.446
PFDA	5.57	1.000	3299534.6		A	13C6-PFDA	5.56	904706.0	3.647	21.027
8:2-FTS	5.57	1.000	437118.6		A	13C2-8:2-FTS	5.57	46084.9	9.485	18.740
PFOSA	5.65	1.000	2496521.6		A	13C8-PFOSA	5.65	598420.9	4.172	21.947
NMeFOSAA	5.71	1.000	631600.7		M	d3-NMeFOSAA	5.70	183112.1	3.449	20.113
PFDS	5.80	1.110	771788.4		A	13C8-PFOS	5.25	329079.6	2.345	19.333
PFUnDA	5.83	1.000	3323212.6		A	13C7-PFUnDA	5.83	565503.4	5.877	22.474
NEtFOSAA	5.84	1.000	576074.8		M	d5-NEtFOSAA	5.84	137802.8	4.180	21.493
PFDoDA	6.06	1.000	4418634.9		A	13C2-PFDoDA	6.06	1149156.8	3.845	19.617
10:2-FTS	6.07	1.090	434869.7		A	13C2-8:2-FTS	5.57	46084.9	9.436	19.264
NMePFOSAE	6.10	1.000	1219544.6		A	d7-NMePFOSAE	6.09	257303.8	4.740	20.037
NMePFOSA	6.11	1.000	334531.7		A	d3-NMePFOSA	6.11	81057.5	4.127	20.593
PFDoS	6.22	1.190	427546.5		A	13C8-PFOS	5.25	329079.6	1.299	19.418
NEtPFOSAE	6.26	1.000	1323147.1		A	d9-NEtPFOSAE	6.25	207587.3	6.374	21.090
NEtPFOSA	6.27	1.000	284414.0		A	d5-NEtPFOSA	6.27	69567.1	4.088	19.222
PFTrDA	6.25	1.030	4163926.3		A	13C2-PFDoDA	6.06	1149156.8	3.623	19.290
PFTeDA	6.43	1.000	3098604.8		A	13C2-PFTeDA	6.43	854864.4	3.625	20.615
PFHxDA	6.73	1.050	1555082.3		A	13C2-PFTeDA	6.43	854864.4	1.819	20.974
PFODA	6.99	1.090	1197712.4		A	13C2-PFTeDA	6.43	854864.4	1.401	20.717

Total Ion Chromatogram

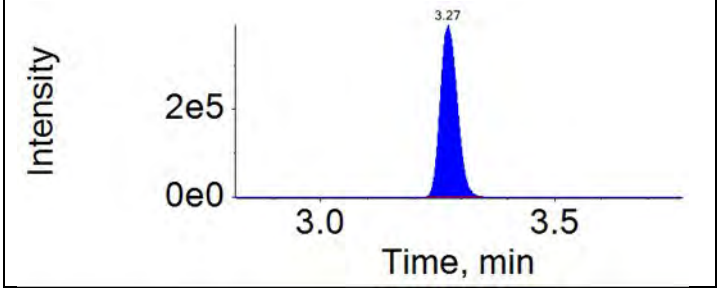


APPROVED
By MSM at 1:33 pm, 12/27/18

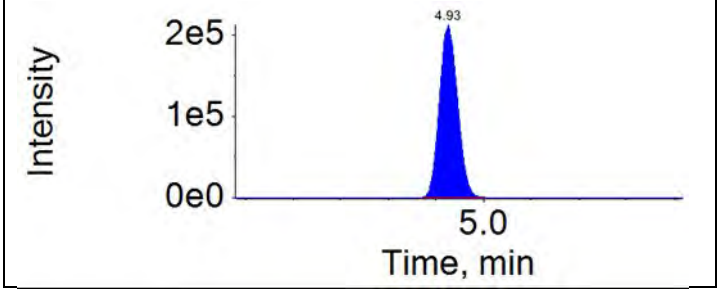
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

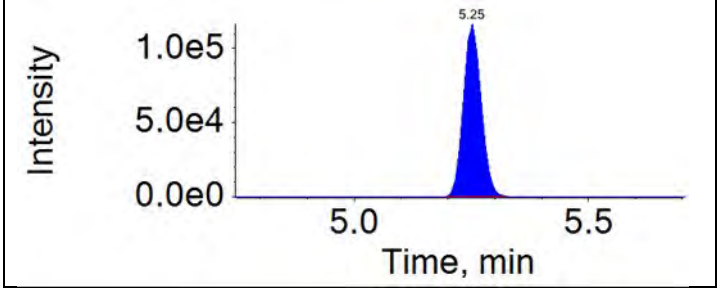
Injection Standard: 13C3-PFBA
216.0 / 172.0



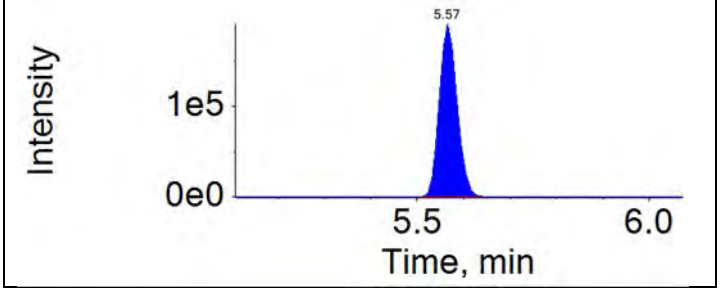
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

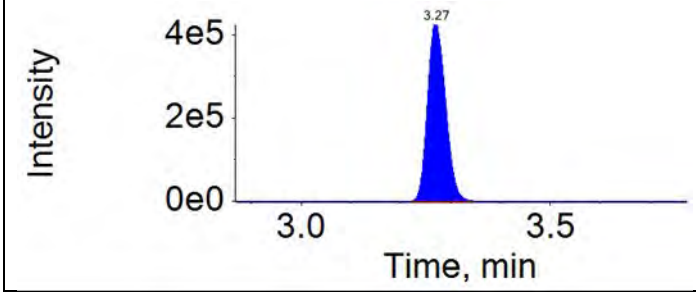


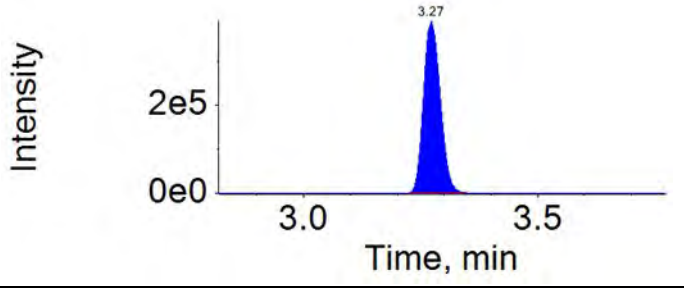
Injection Standard: 13C2-PFDA
515.0 / 470.0



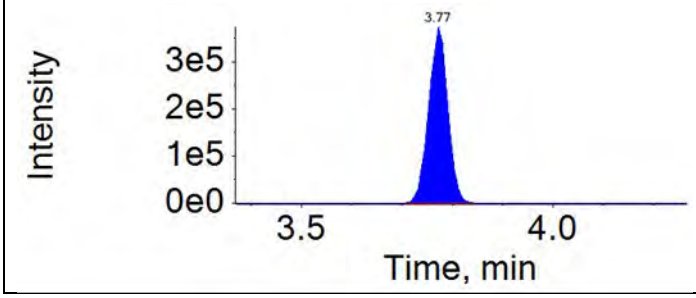
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QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

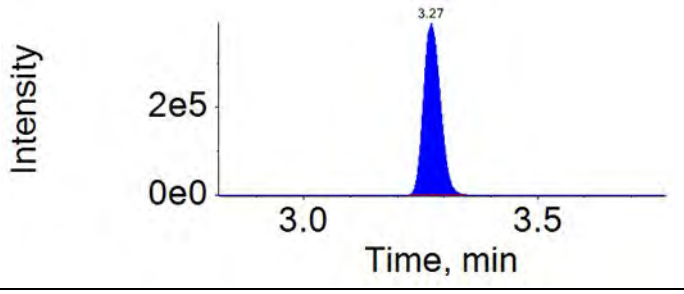
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



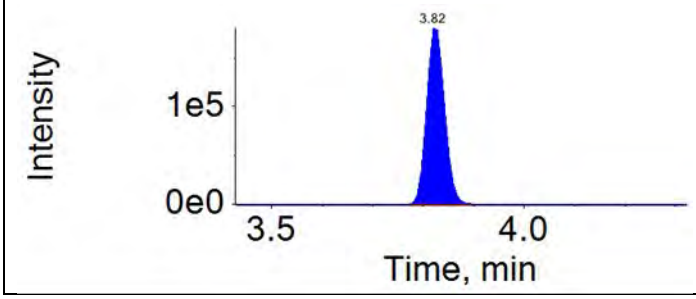


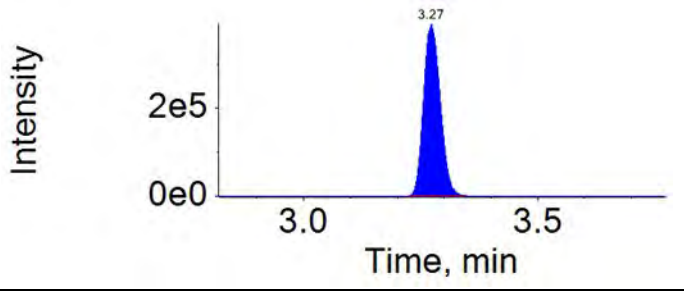
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



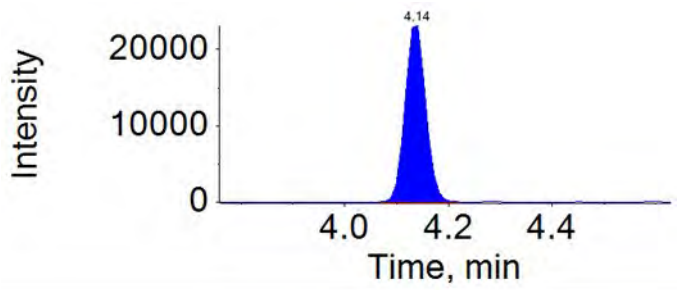


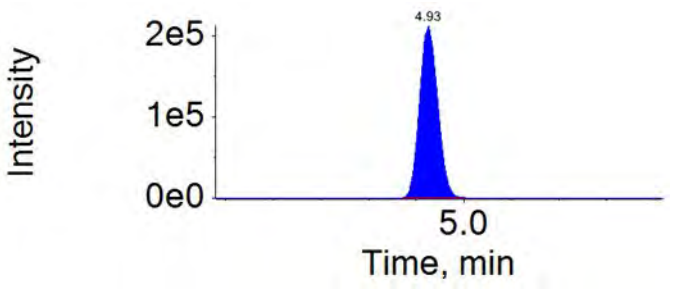
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



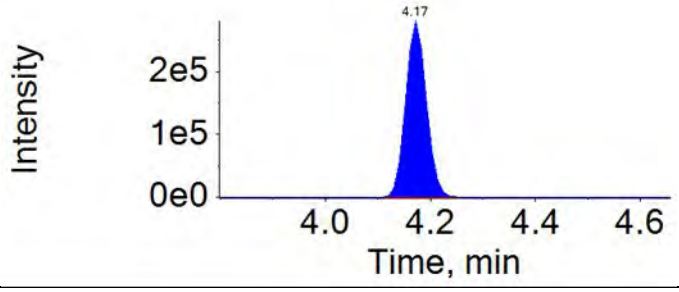


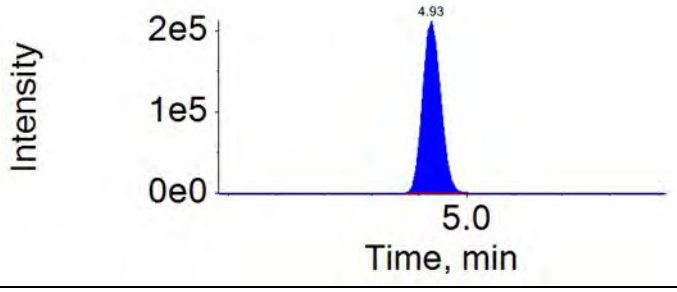
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

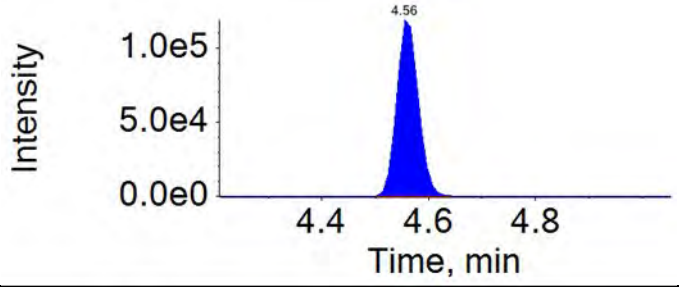
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

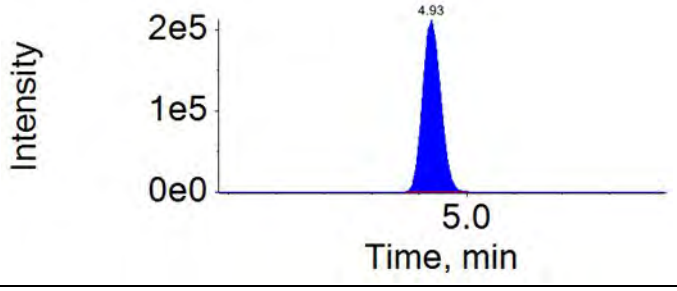
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



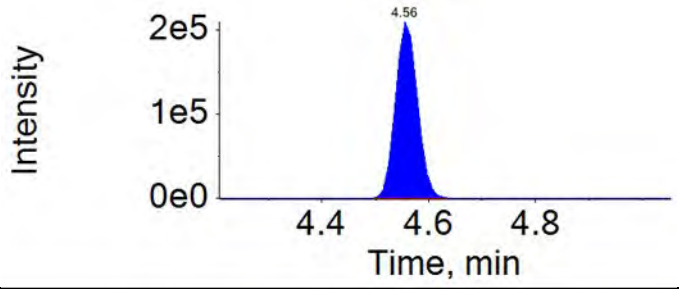


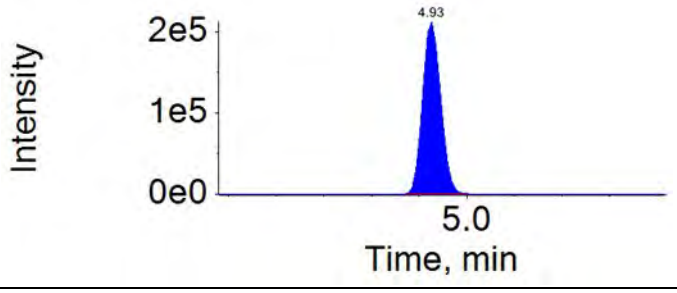
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



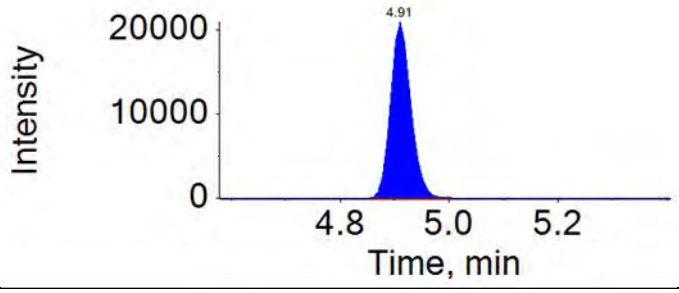


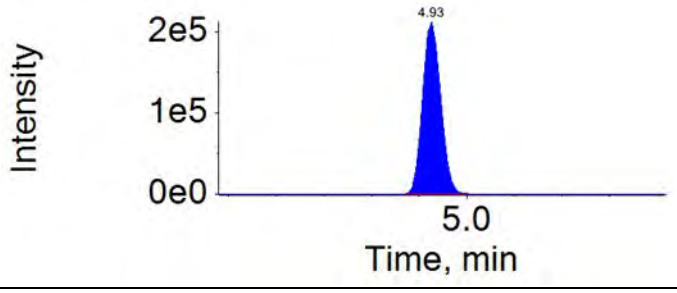
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



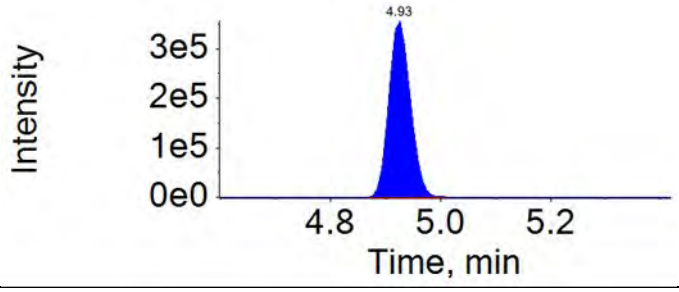


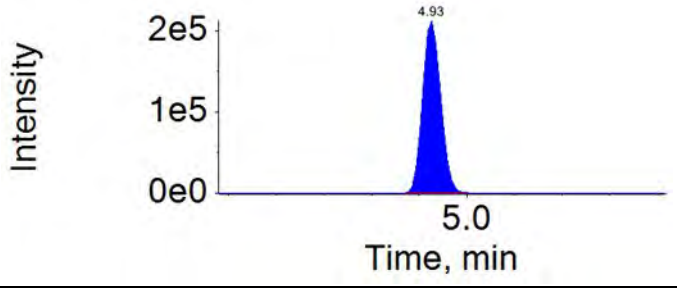
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

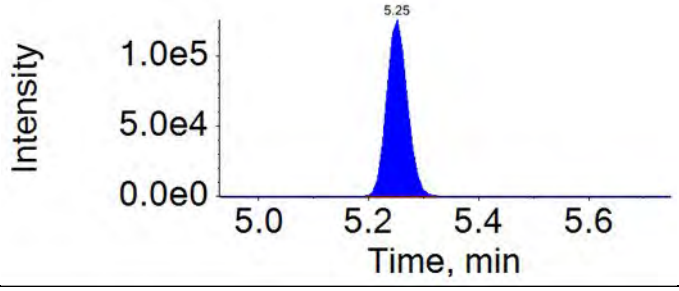
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

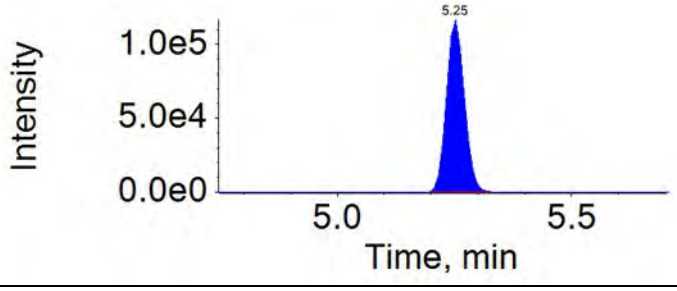
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



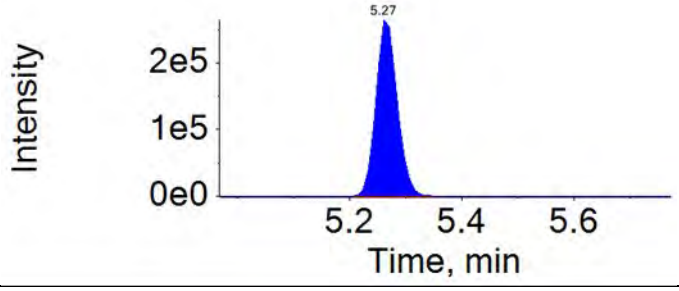


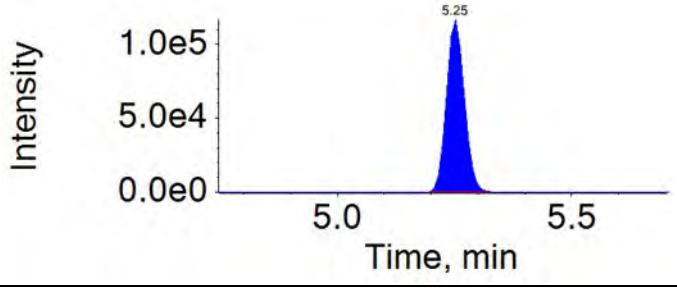
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



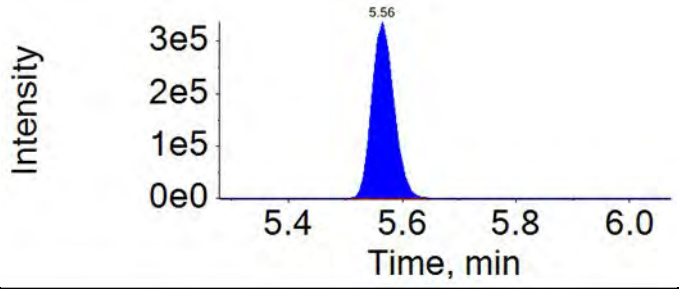


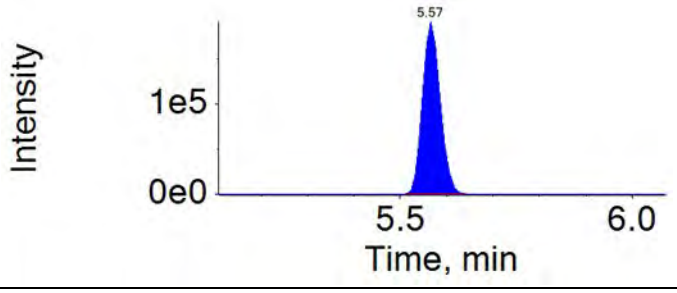
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472.0 / 427.0	503.0 / 80.0





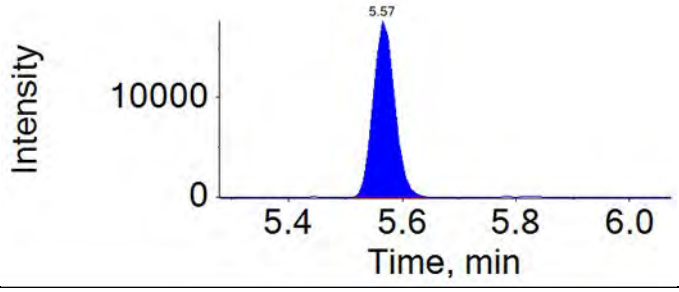
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

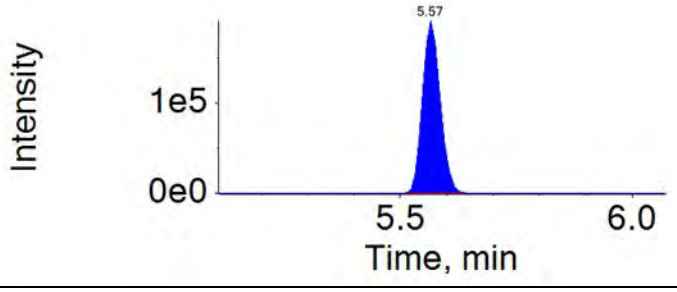




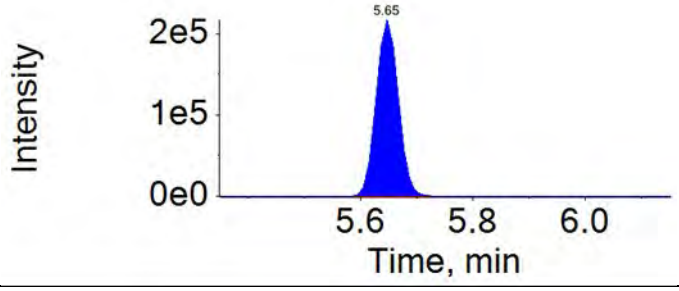
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

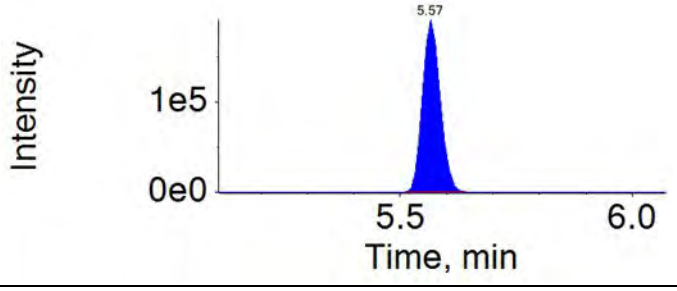
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



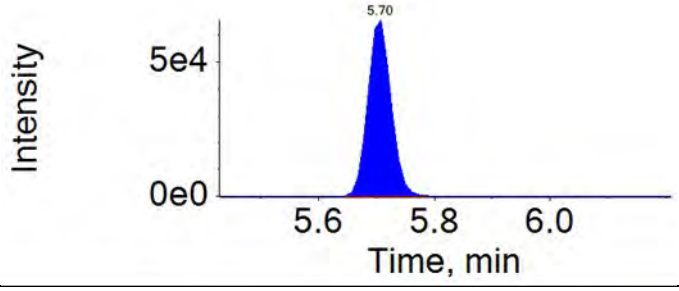


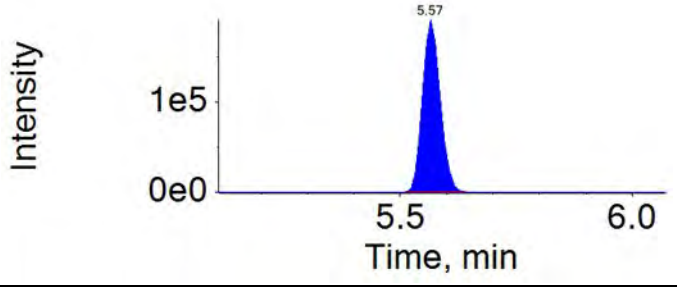
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



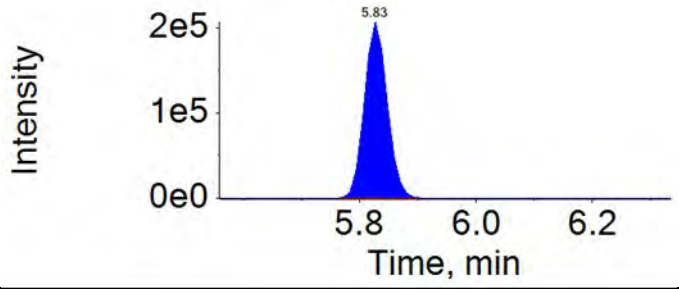


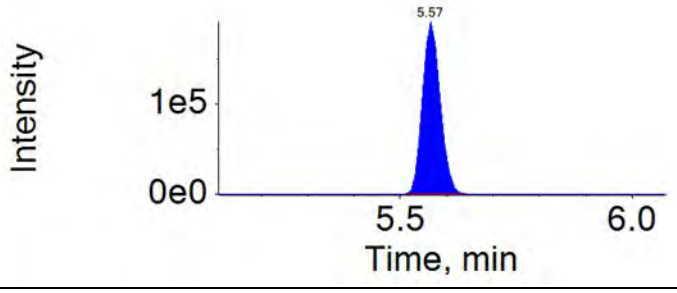
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
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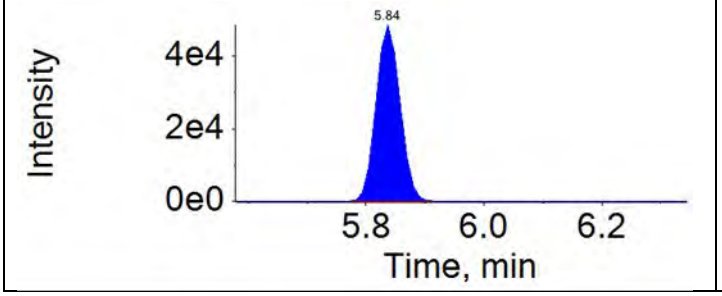


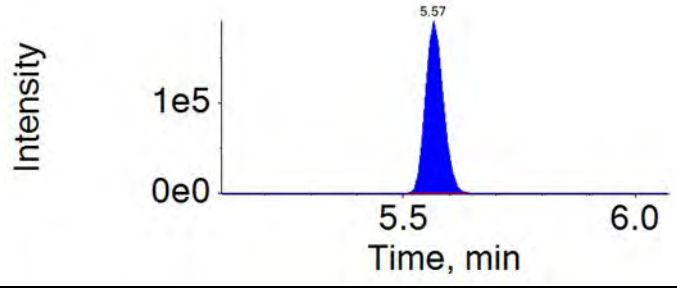
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

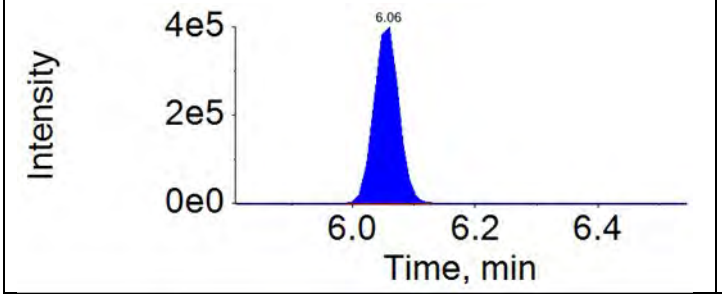
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

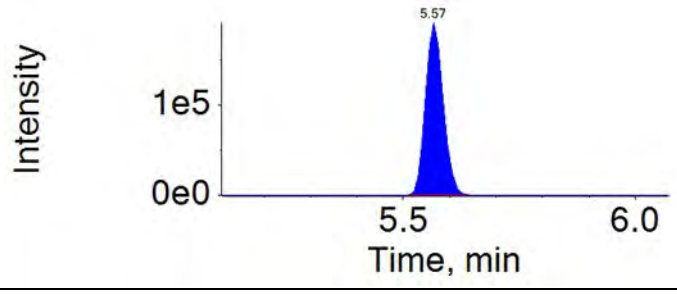
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



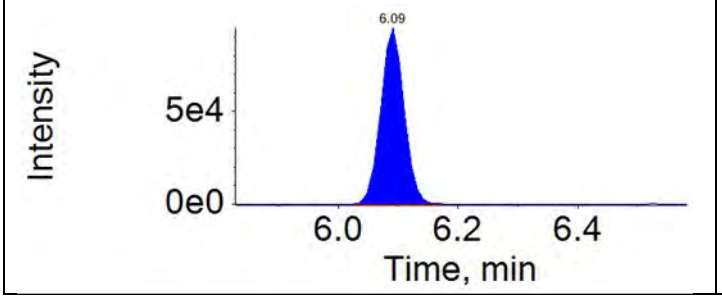


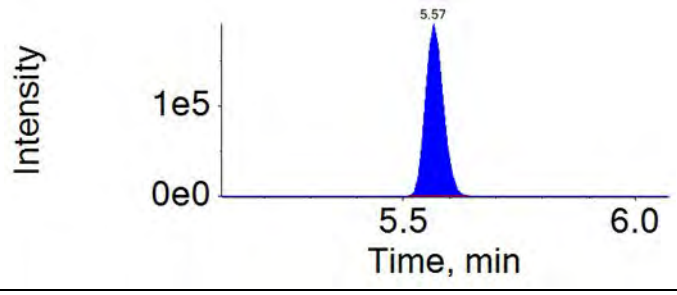
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



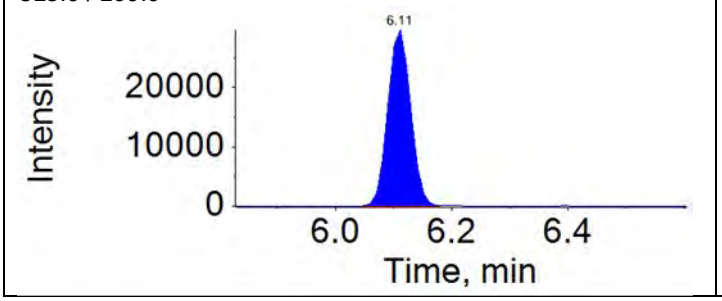


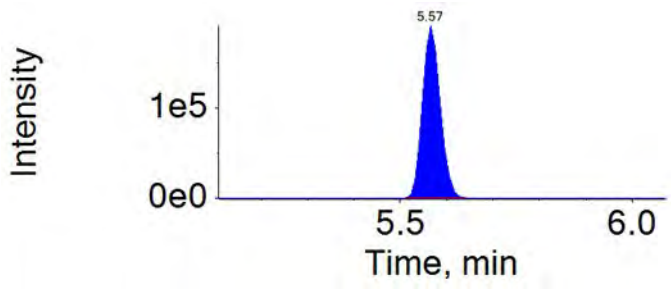
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



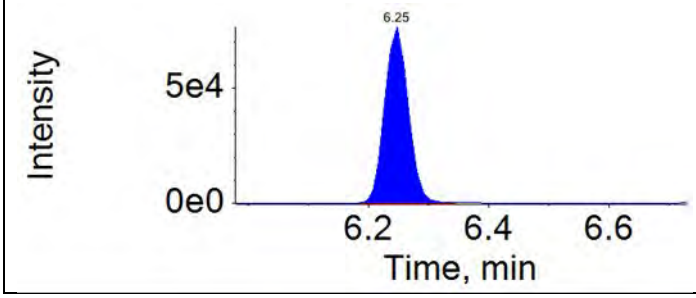


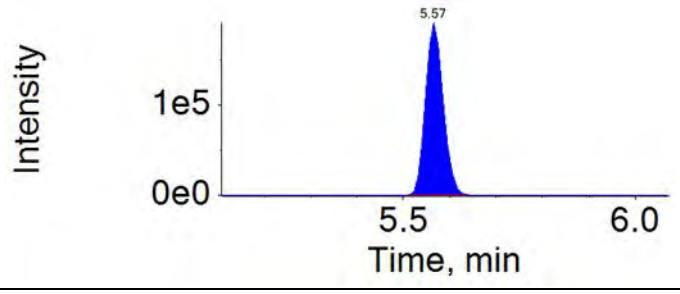
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

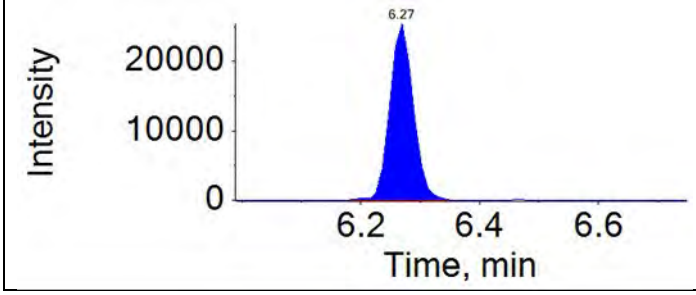
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

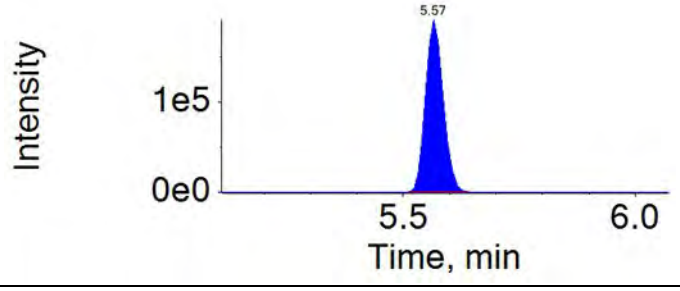
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



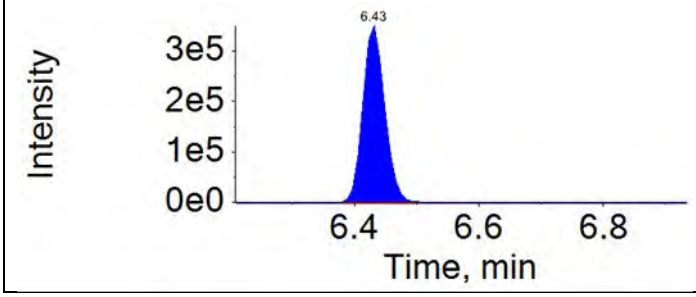


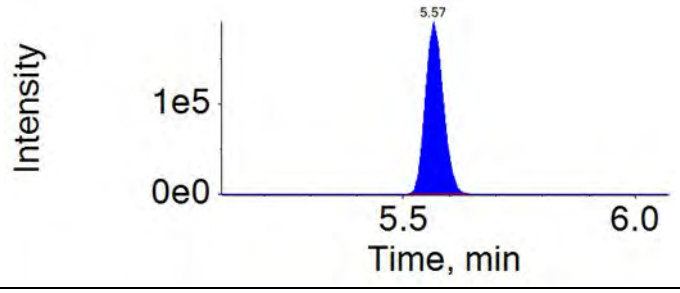
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



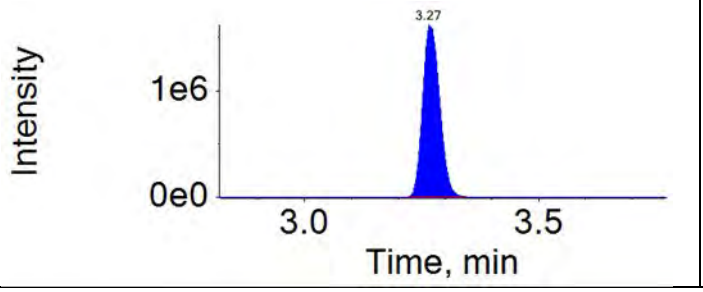


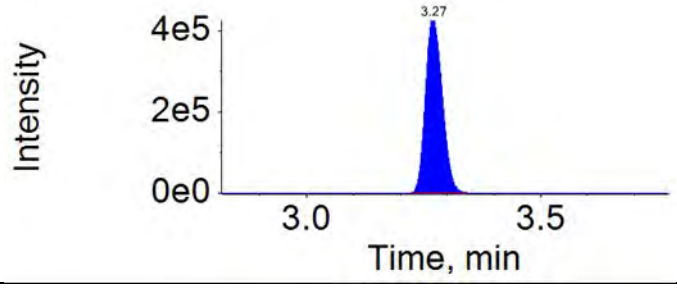
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

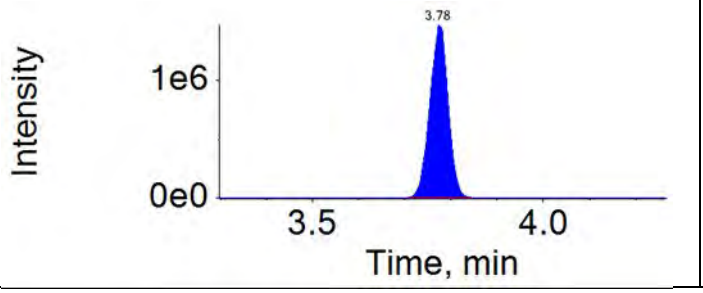
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

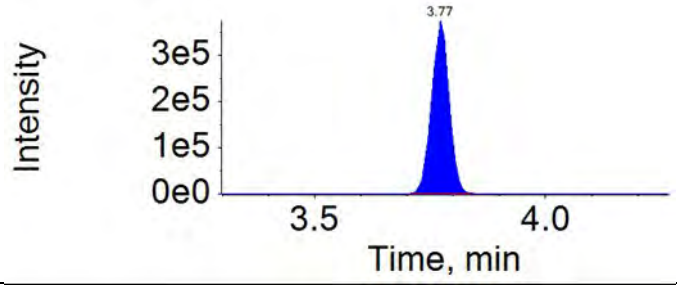
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



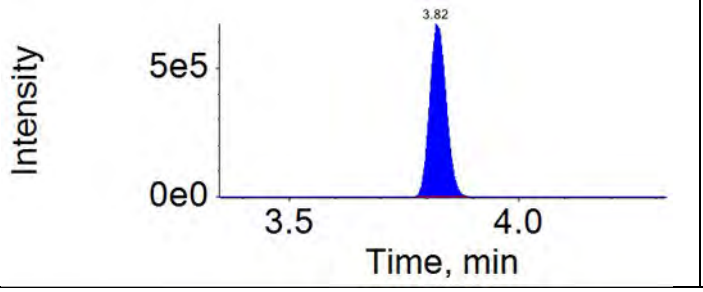


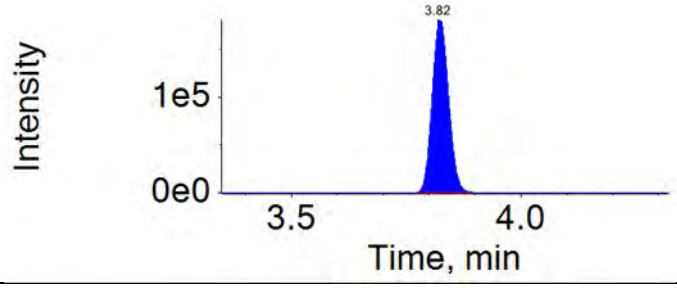
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



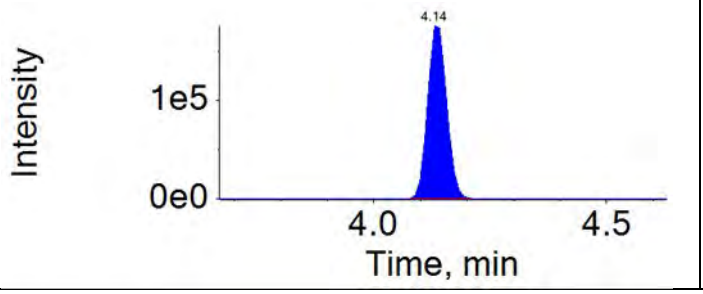


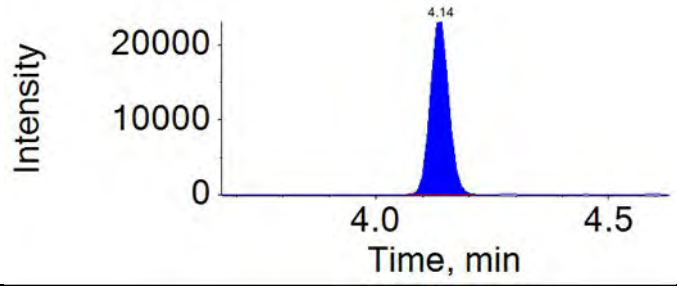
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



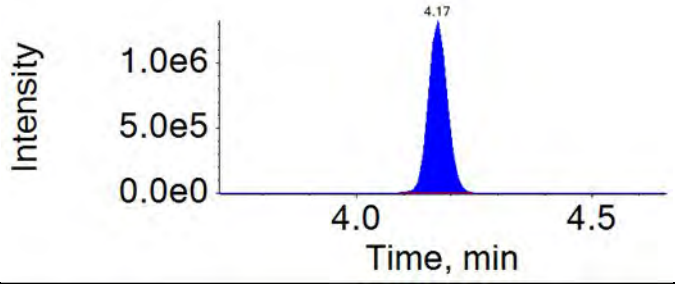


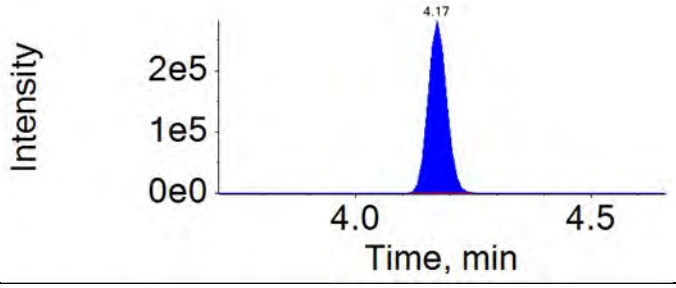
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

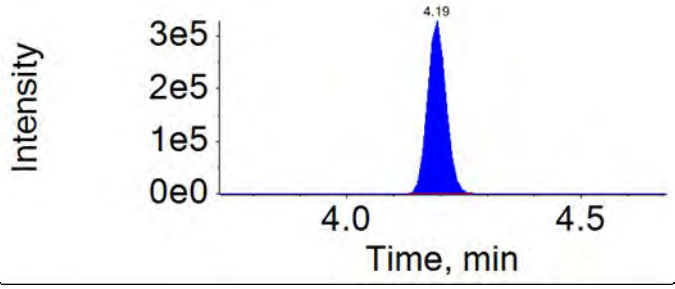
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

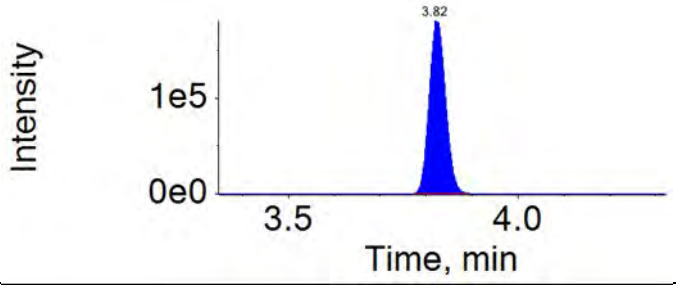
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



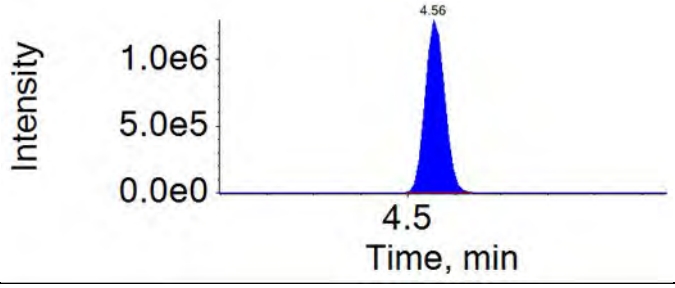


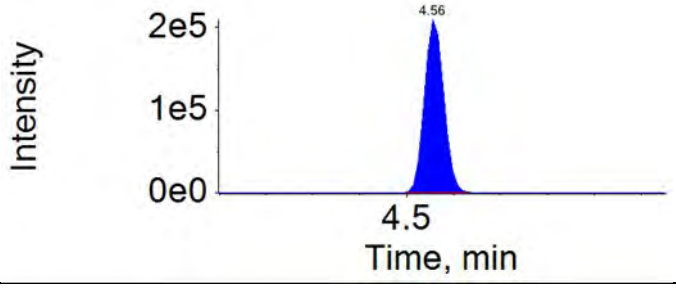
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



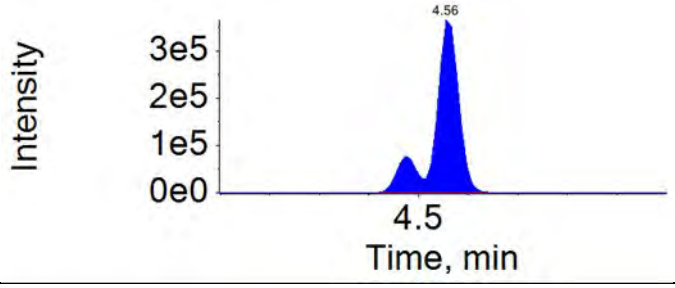


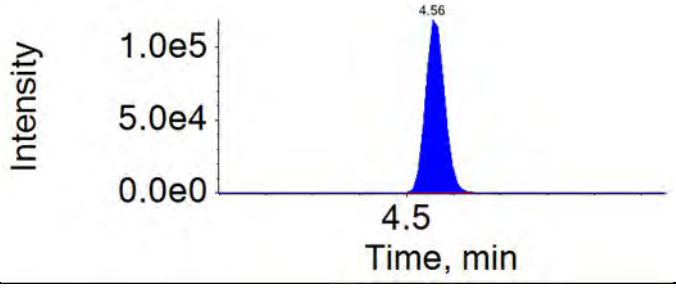
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



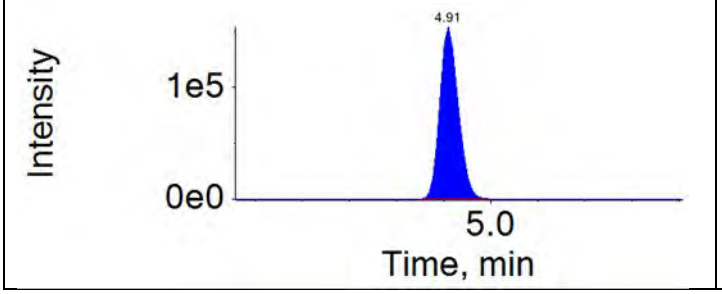


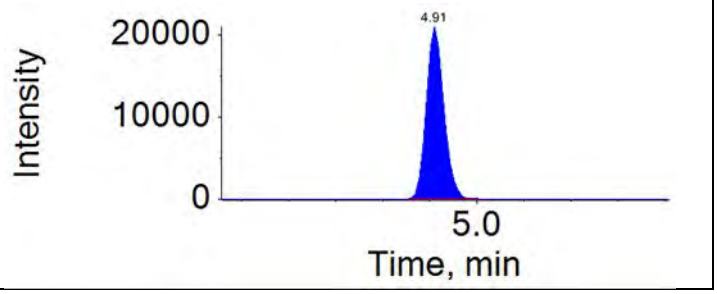
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

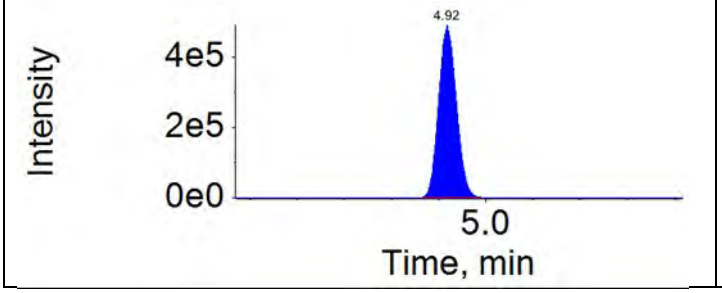
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

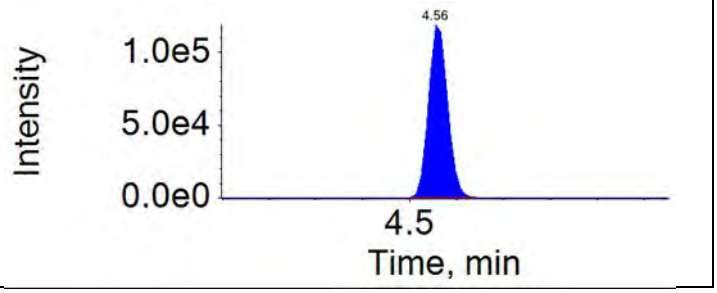
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



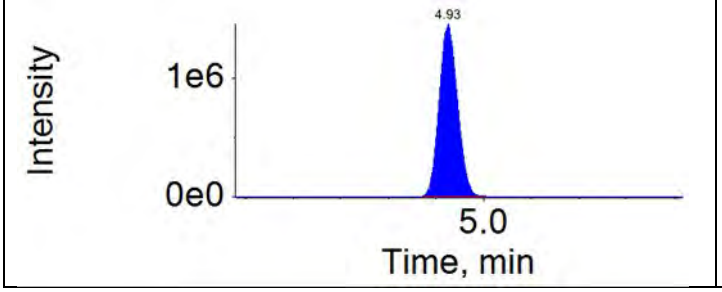


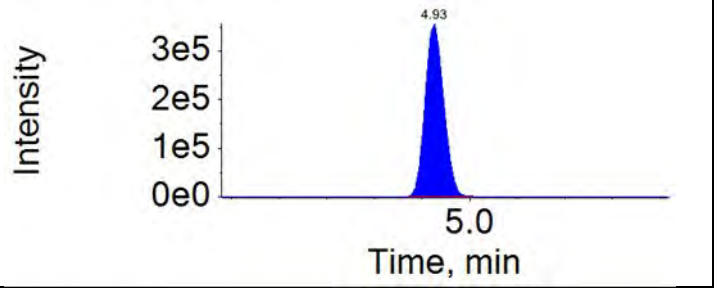
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



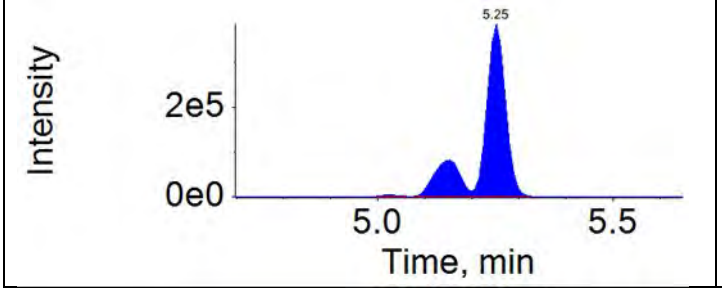


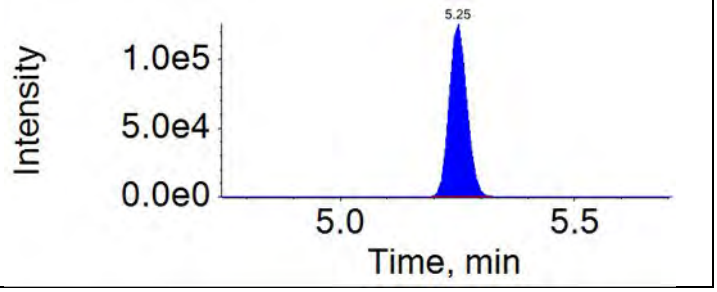
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



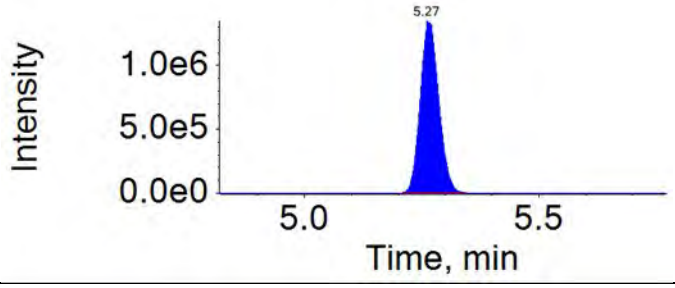


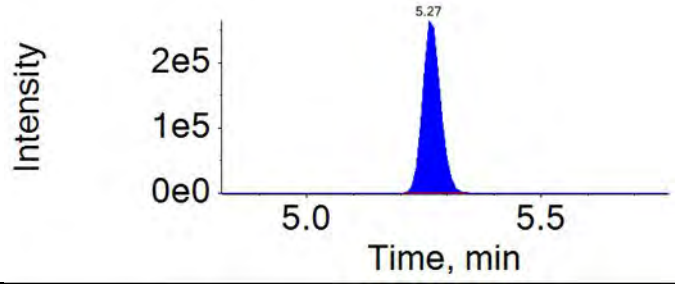
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

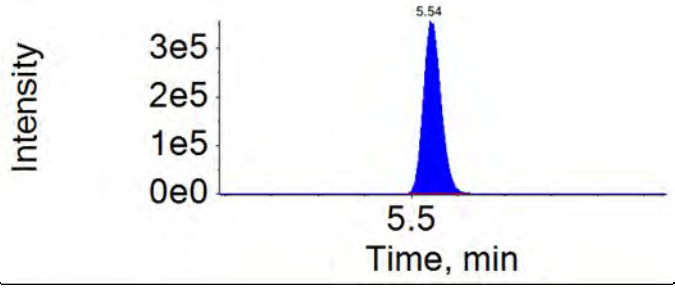
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

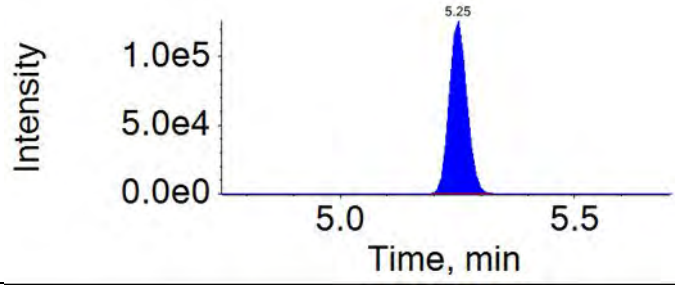
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



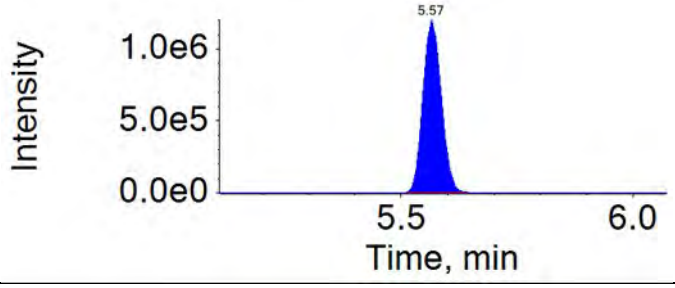


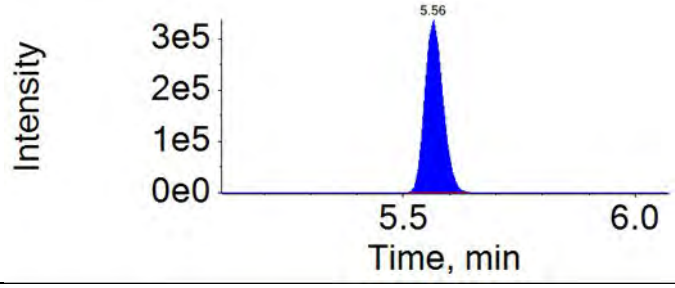
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



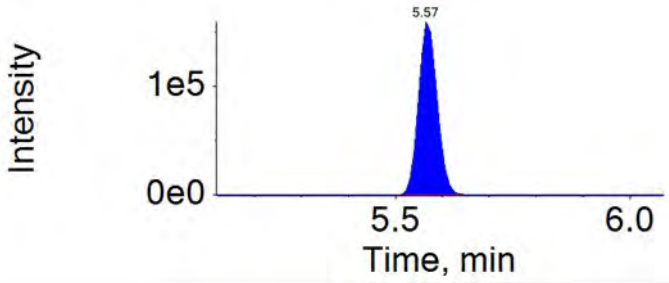


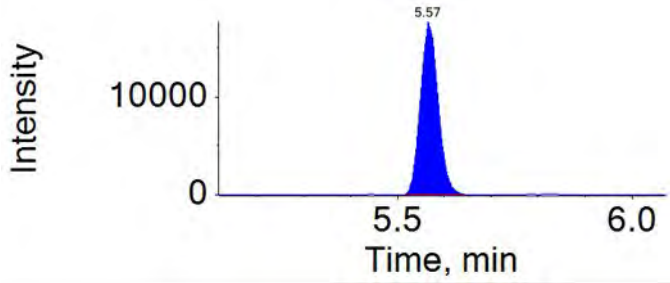
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



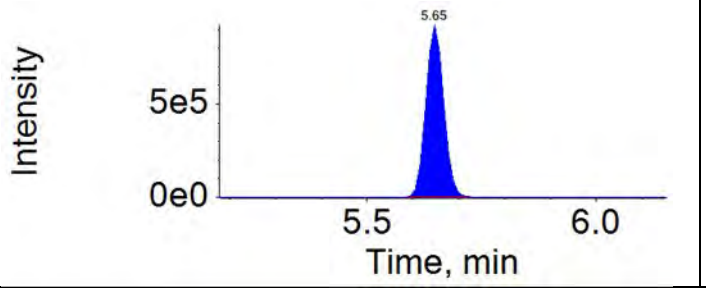


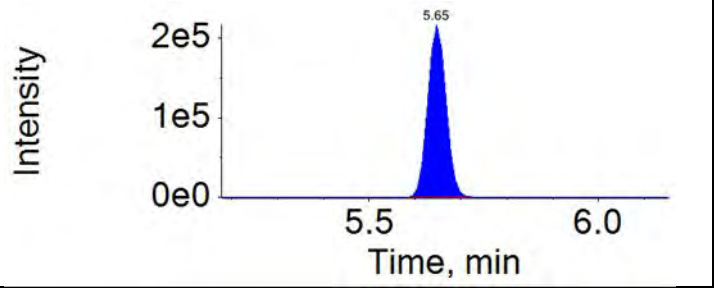
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

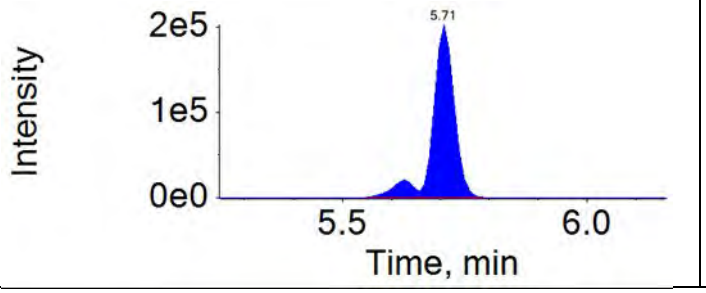
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

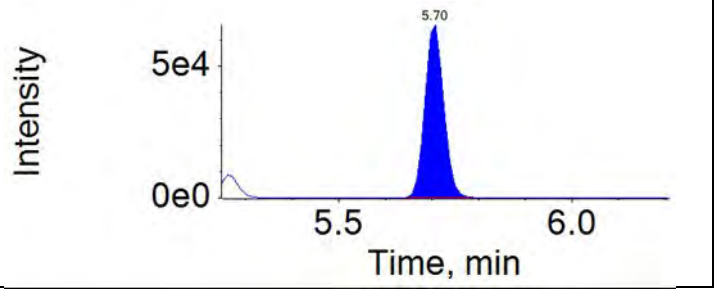
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



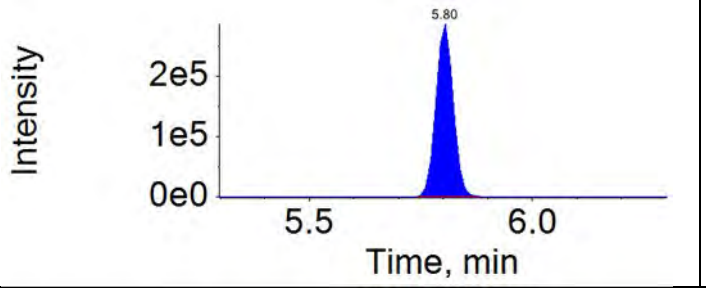


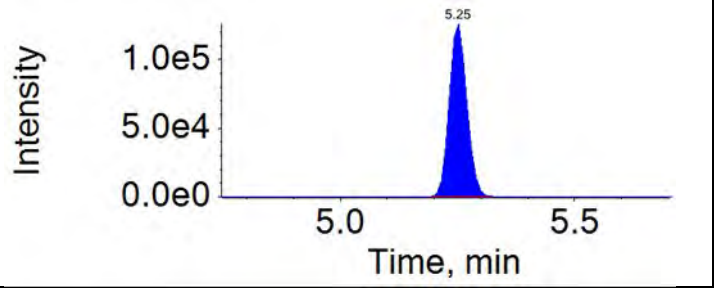
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



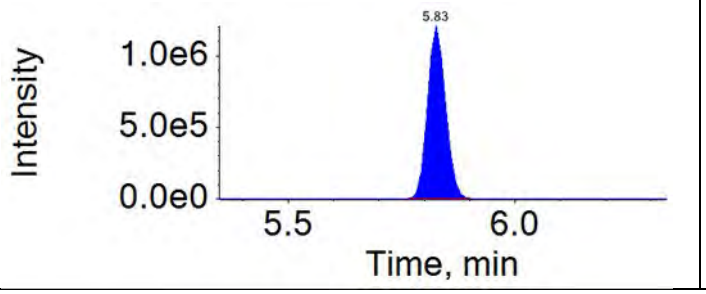


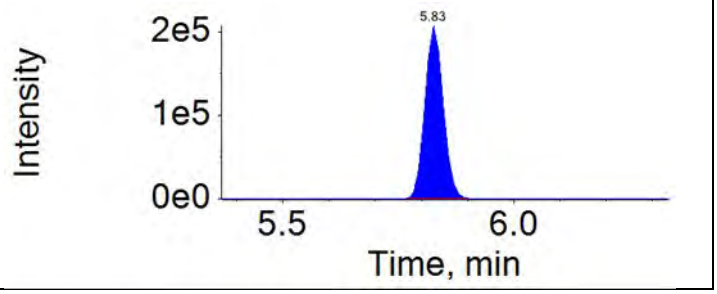
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



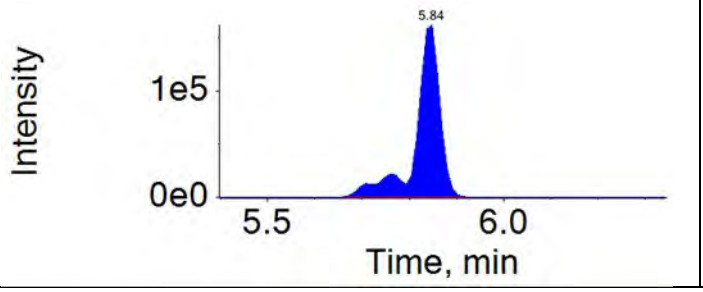


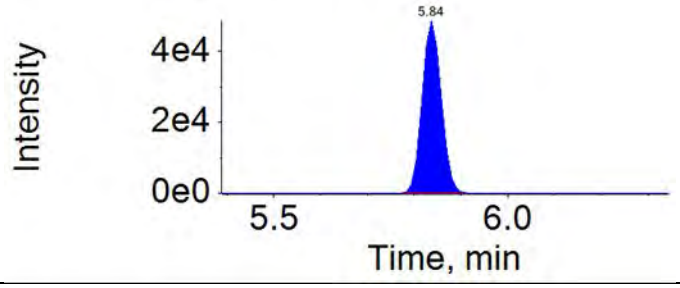
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

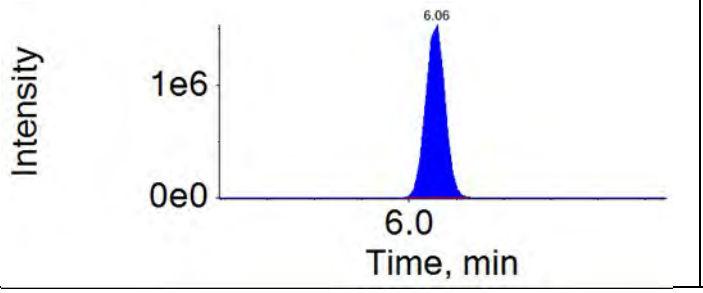
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

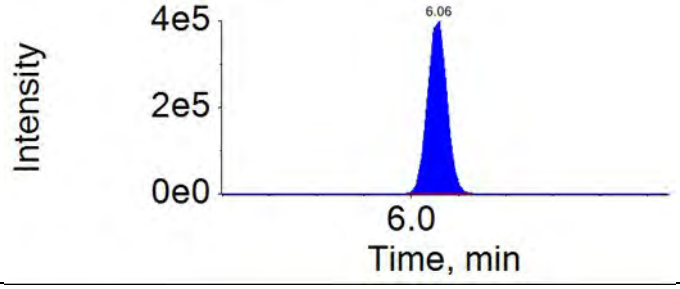
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



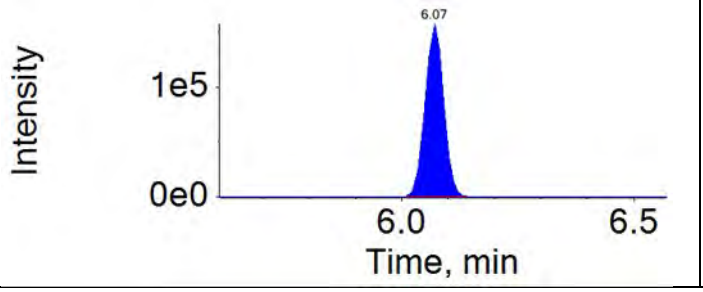


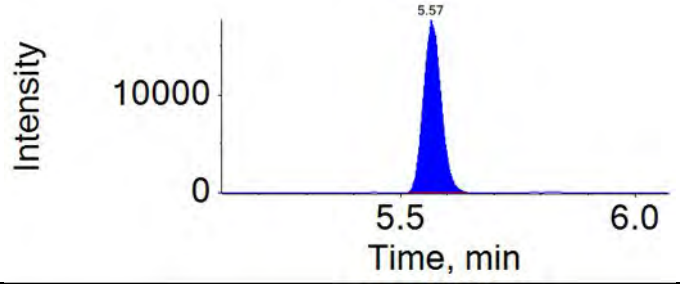
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



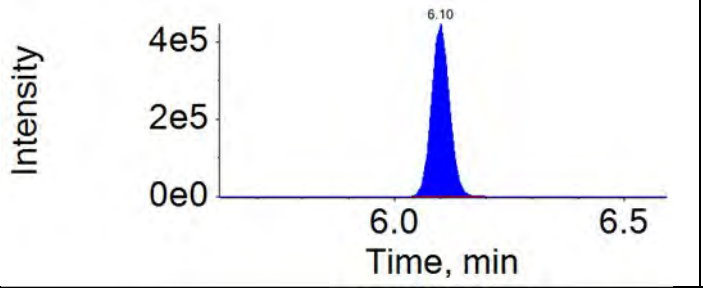


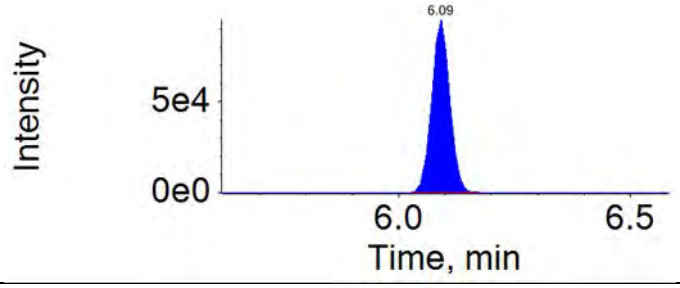
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



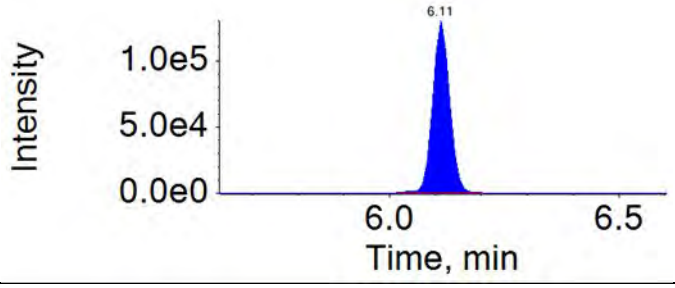


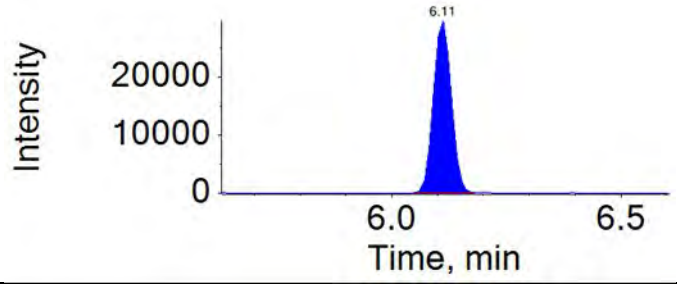
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

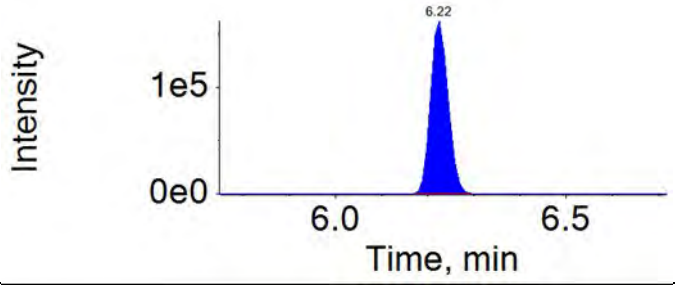
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

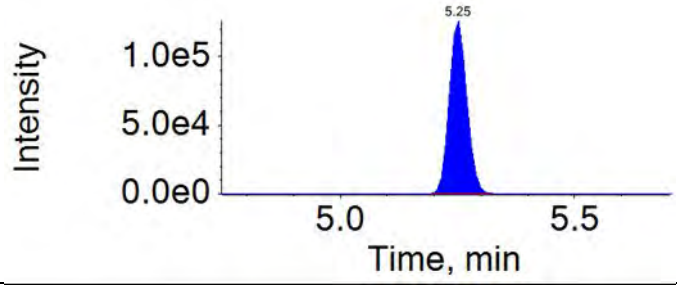
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



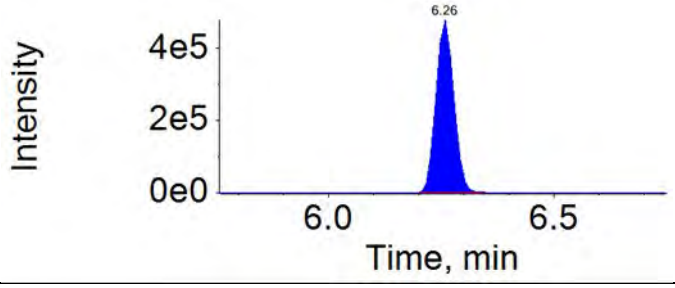


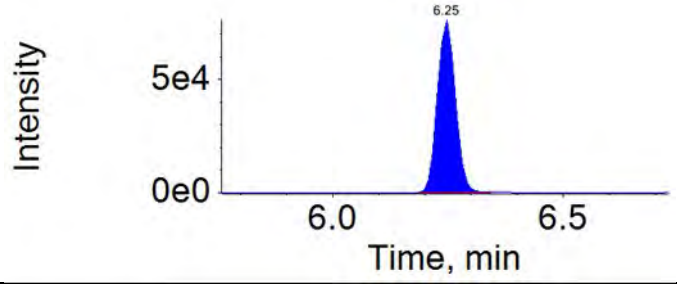
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



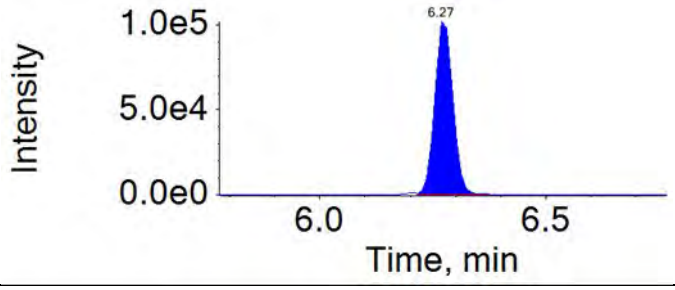


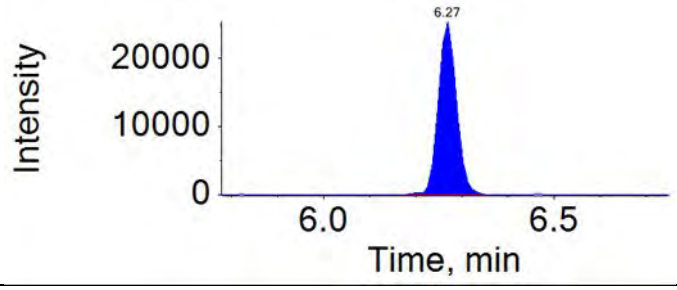
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



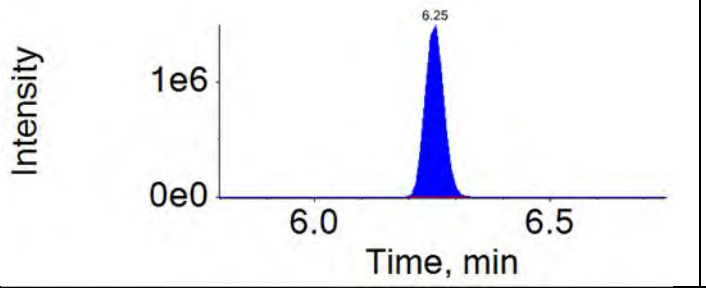


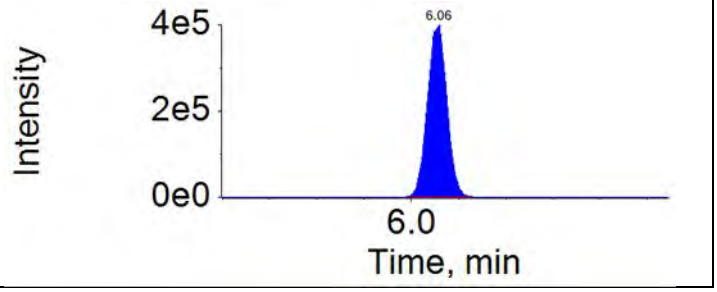
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

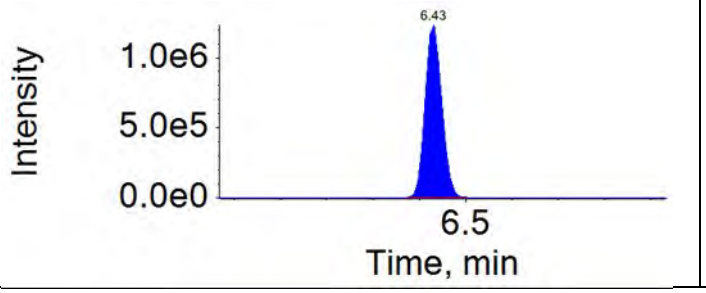
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

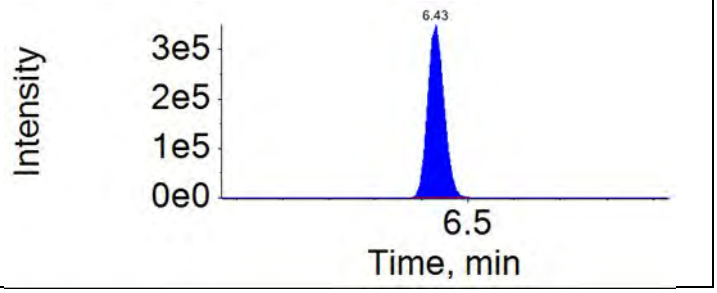
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



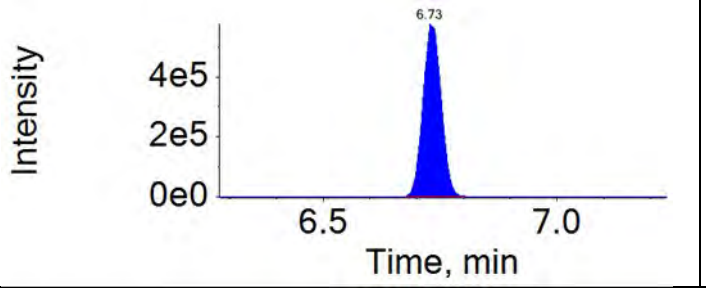


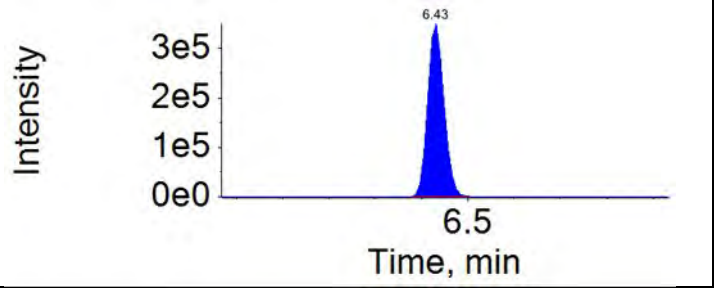
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



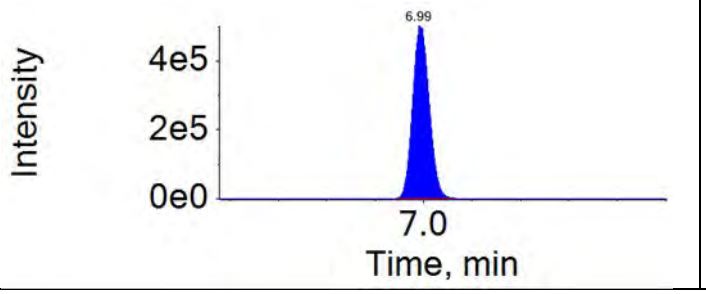


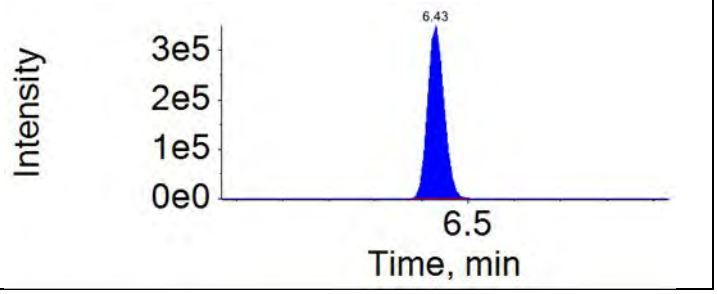
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



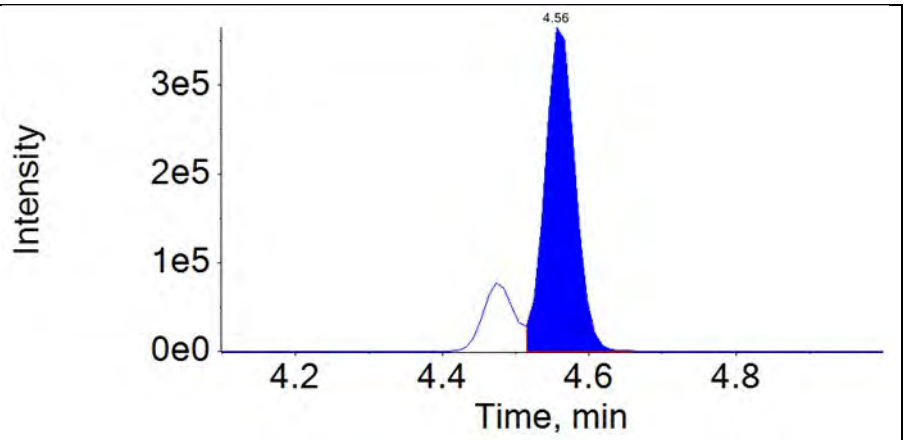


APPROVED
By MSM at 1:33 pm, 12/27/18

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By HMK at 10:43 am, 12/28/18

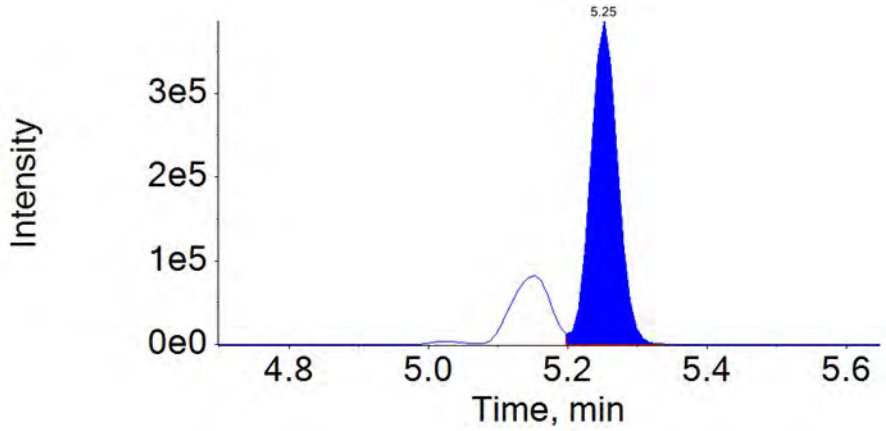
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
1045057.19
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



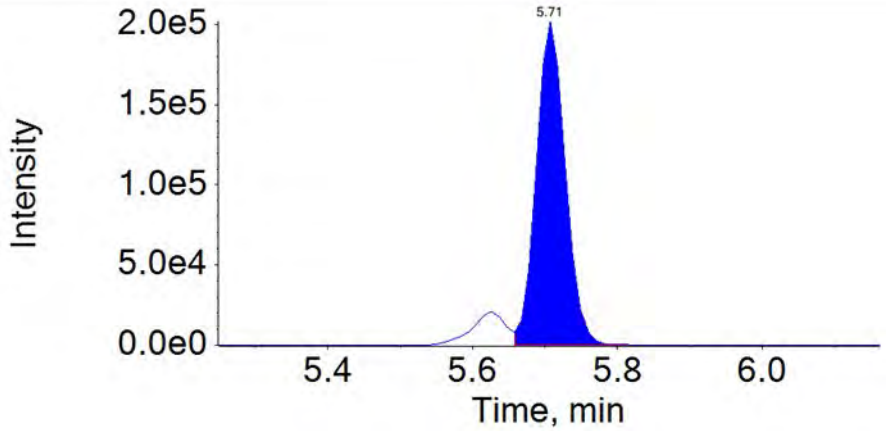
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
1047992.49
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
563415.56
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



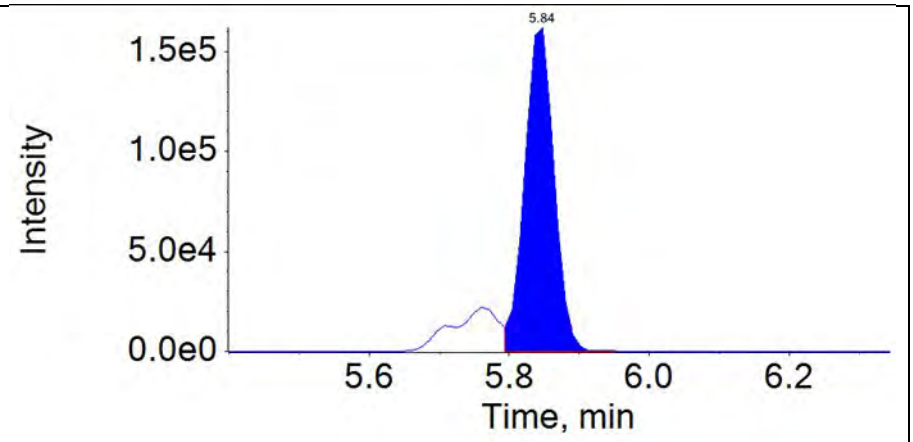
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

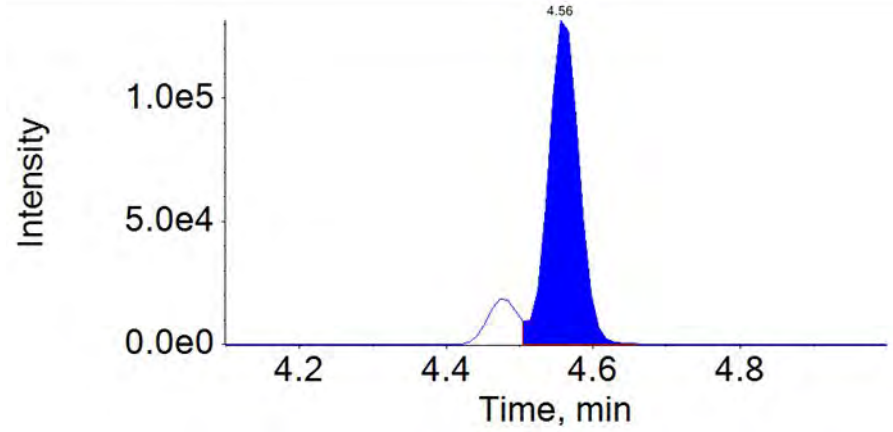
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
475663.85
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



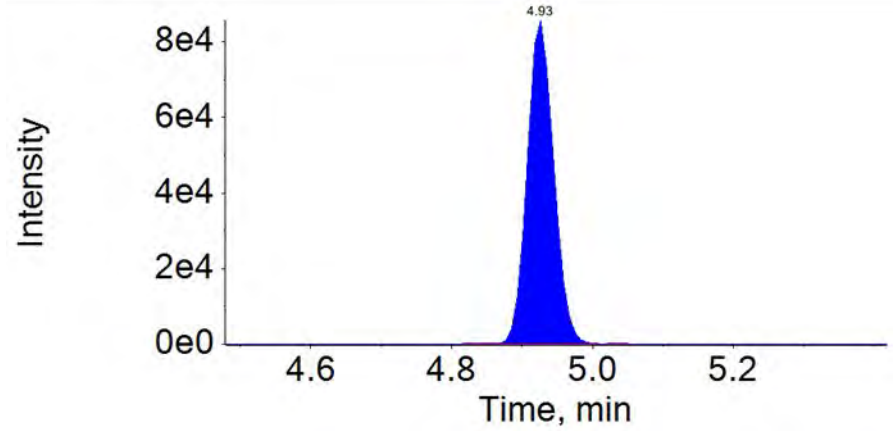
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.56
Peak Area:
387716.64
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.93
Peak Area:
225458.75
Mass Range:
413.0 / 169.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5

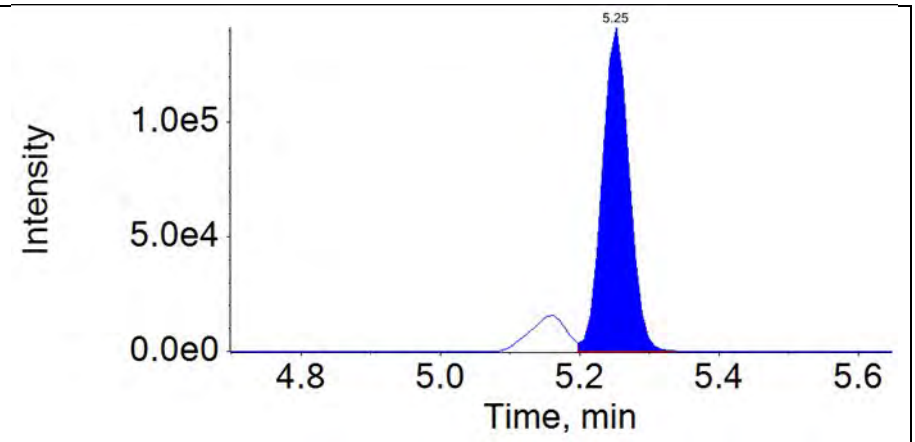


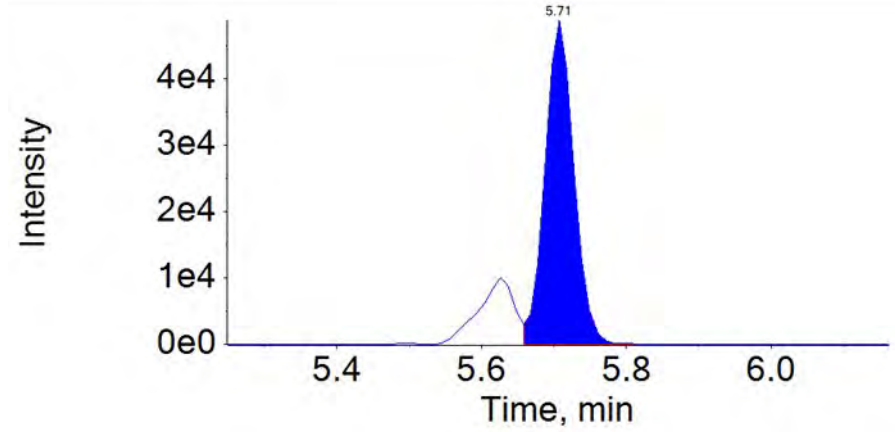
Integration Comment: incorrect integration

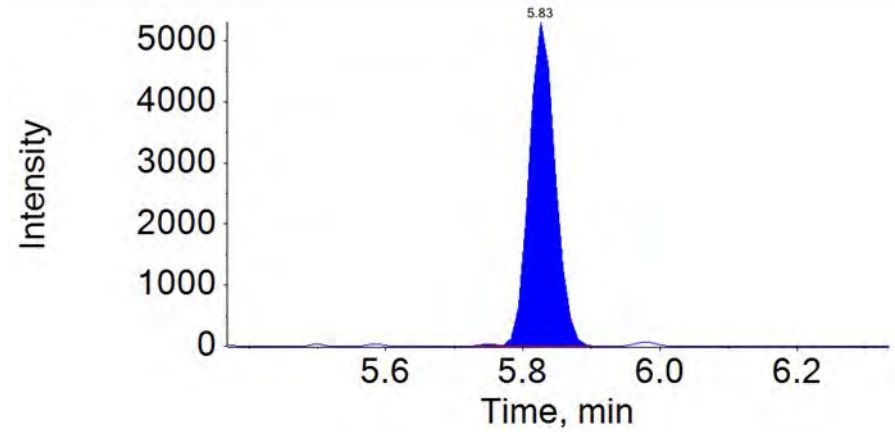
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFOS_2 **RT (min.):** 5.25 **Peak Area:** 378722.44 **Mass Range:** 499.0 / 99.0 **File Name:** 18DEC26DCAL-10.wiff **Sample Name:** CAL5	 **Integration Comment:** incorrect integration

Component Name: NMeFOSAA_2 **RT (min.):** 5.71 **Peak Area:** 135575.95 **Mass Range:** 570.0 / 483.0 **File Name:** 18DEC26DCAL-10.wiff **Sample Name:** CAL5	 **Integration Comment:** incorrect integration

Component Name: PFUnDA_2 **RT (min.):** 5.83 **Peak Area:** 14039.34 **Mass Range:** 563.0 / 169.0 **File Name:** 18DEC26DCAL-10.wiff **Sample Name:** CAL5	 **Integration Comment:** incorrect integration

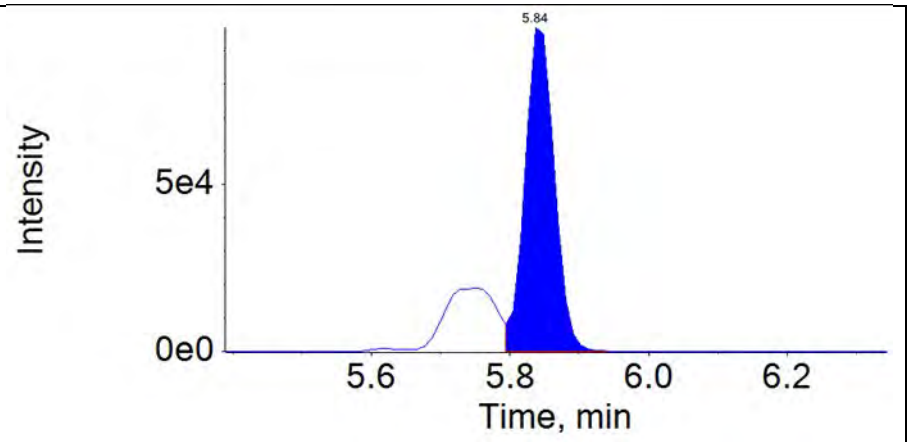
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
287514.40
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-10.wiff
Sample Name:
CAL5



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

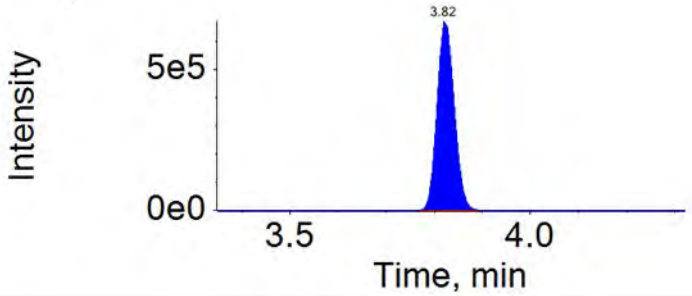
Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-10.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	1664521.02	A	1.0000	1.0000			
PFBS_2	3.82	1.00	610204.28	A	0.3621	0.3666	1	50	
4:2-FTS	4.14	1.00	499394.14	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	301473.74	A	0.6132	0.6037	-2	50	
PFHxA	4.17	1.00	3700470.91	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	43776.92	A	0.0123	0.0118	-4	50	
PFPeS	4.19	1.10	897202.28	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	458095.07	A	0.5068	0.5106	1	50	
PFHpA	4.56	1.00	3724169.56	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	211587.82	A	0.0570	0.0568	0	50	
PFHxS	4.56	1.00	1271886.83	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	439060.68	M	0.3566	0.3452	-3	50	
6:2-FTS	4.91	1.00	418978.50	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	266873.40	A	0.6328	0.6370	1	50	
PFHpS	4.92	1.08	1276491.71	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	522543.18	A	0.4049	0.4094	1	50	
PFOA	4.93	1.00	3883847.99	A	1.0000	1.0000			
PFOA_2	4.93	1.00	224216.63	M	0.0570	0.0577	1	50	
PFOS	5.25	1.00	1380559.93	M	1.0000	1.0000			
PFOS_2	5.25	1.00	436163.43	M	0.3043	0.3159	4	50	
PFNA	5.27	1.00	3687692.43	A	1.0000	1.0000			
PFNA_2	5.27	1.00	72971.32	A	0.0213	0.0198	-7	50	
PFNS	5.54	1.06	936224.31	A	1.0000	1.0000			
PFNS_2	5.54	1.06	453895.60	A	0.4515	0.4848	7	50	
PFDA	5.57	1.00	3299534.55	A	1.0000	1.0000			
PFDA_2	5.57	1.00	19683.91	A	0.0067	0.0060	-11	50	
8:2-FTS	5.57	1.00	437118.57	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	255808.59	A	0.6016	0.5852	-3	50	
NMeFOSAA	5.71	1.00	631600.65	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	169634.46	M	0.2579	0.2686	4	50	
PFDS	5.80	1.11	771788.35	A	1.0000	1.0000			
PFDS_2	5.80	1.11	390249.71	A	0.4884	0.5056	4	50	
PFUnDA	5.83	1.00	3323212.63	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	13968.74	M	0.0042	0.0042	0	50	
NEtFOSAA	5.84	1.00	576074.79	M	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	385174.39	M	0.6799	0.6686	-2	50	
PFDoDA	6.06	1.00	4418634.90	A	1.0000	1.0000			
PFDoDA_2	6.06	1.00	57819.35	A	0.0139	0.0131	-6	50	
10:2-FTS	6.07	1.09	434869.70	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	296760.19	A	0.6715	0.6824	2	50	
PFTrDA	6.25	1.03	4163926.27	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	37209.21	A	0.0088	0.0089	1	50	
PFTeDA	6.43	1.00	3098604.78	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	19222.65	A	0.0063	0.0062	-1	50	
PFHxDA	6.73	1.05	1555082.34	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	100529.62	A	0.0643	0.0646	1	50	
PFODA	6.99	1.09	1197712.38	A	1.0000	1.0000			
PFODA_2	6.99	1.09	32071.94	A	0.0266	0.0268	1	50	

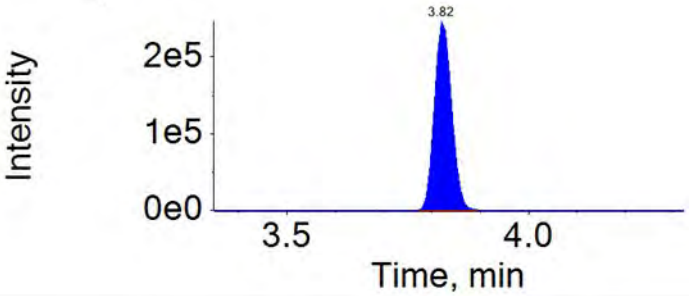
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

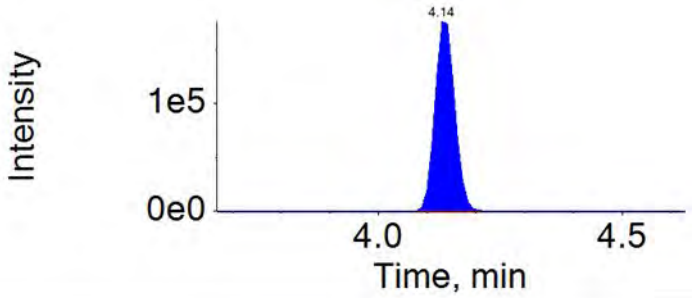
Component: PFBS
Primary Mass: 299.0 / 80.0



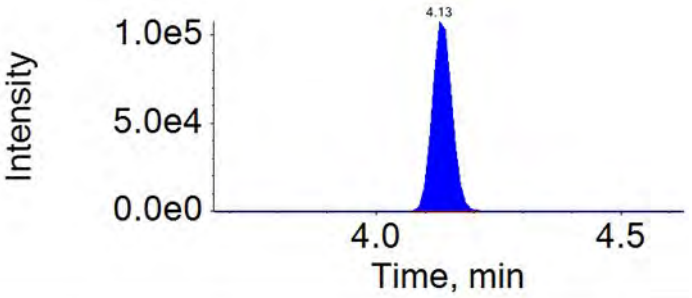
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



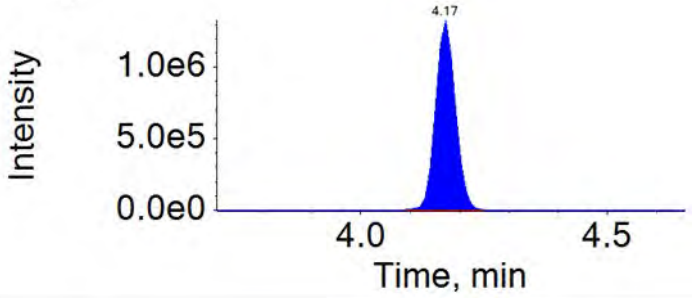
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



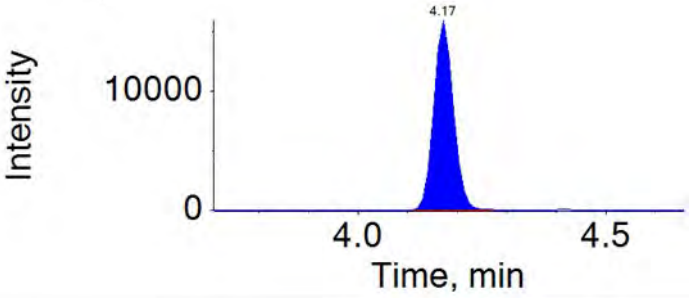
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



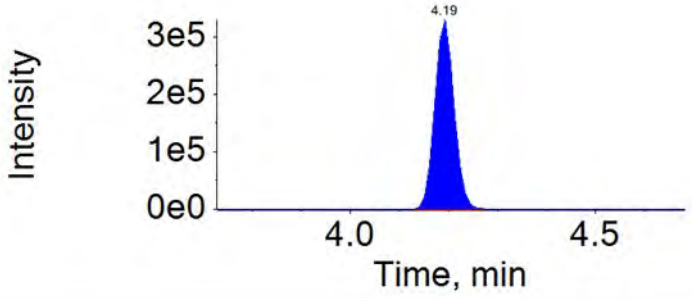
Component: PFHxA
Primary Mass: 313.0 / 269.0



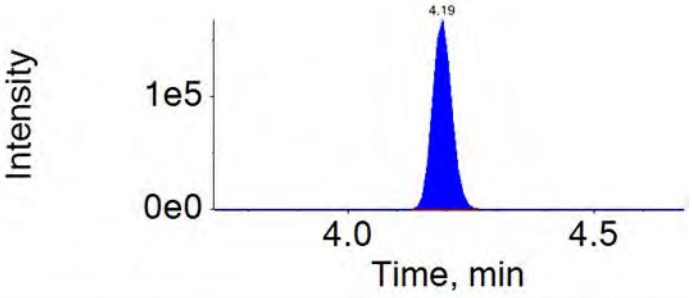
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



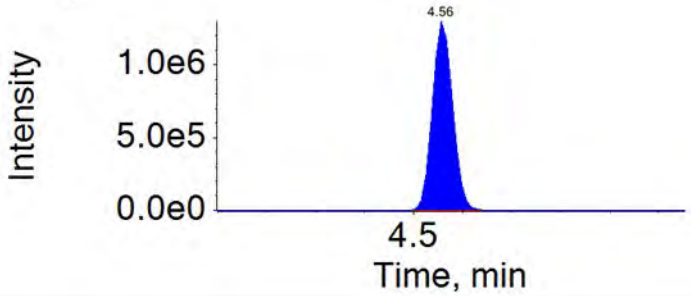
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



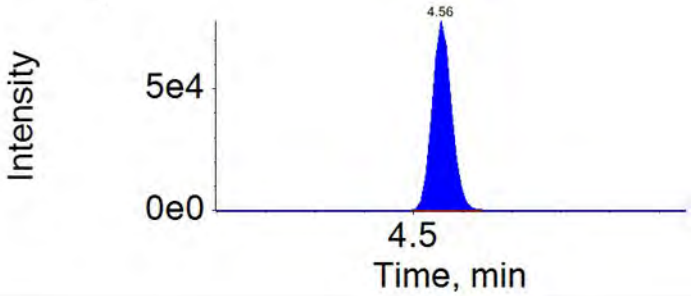
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

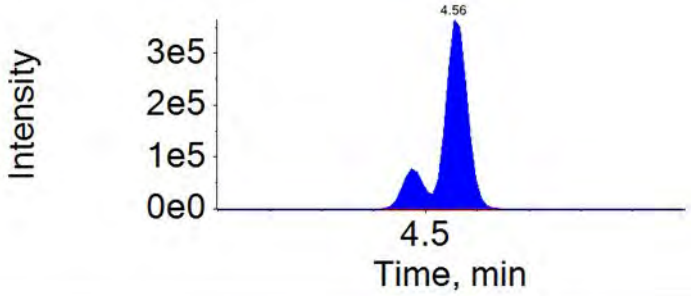
Component: PFHpA
Primary Mass: 363.0 / 319.0



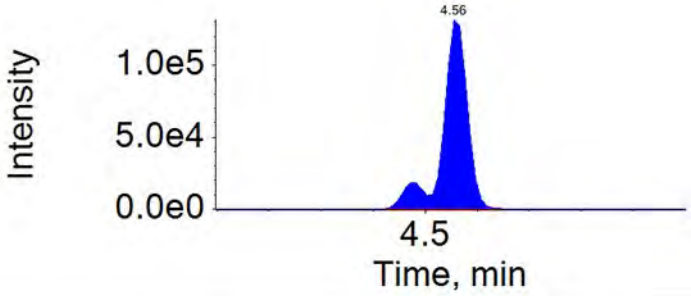
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



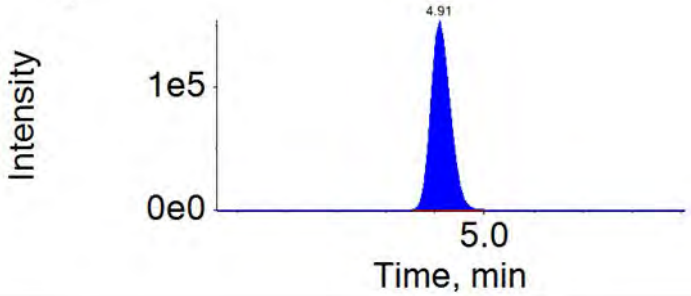
Component: PFHxS
Primary Mass: 399.0 / 80.0



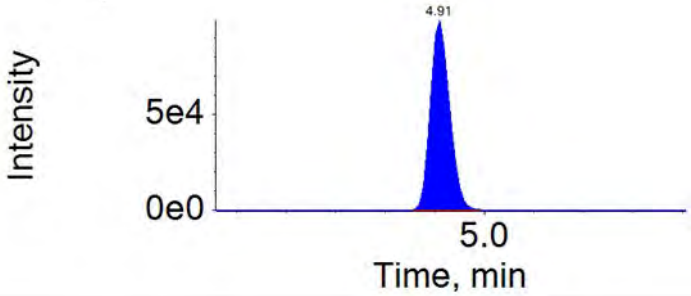
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



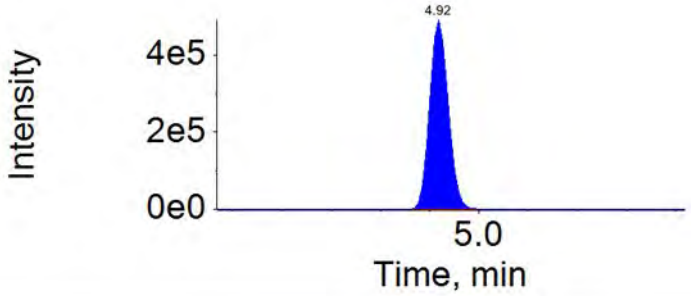
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



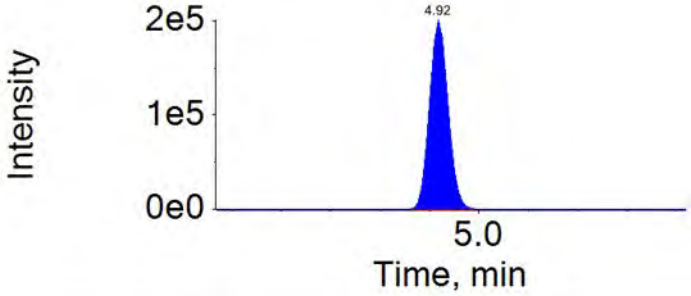
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



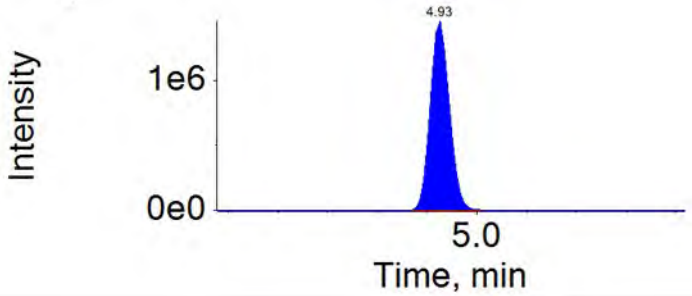
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



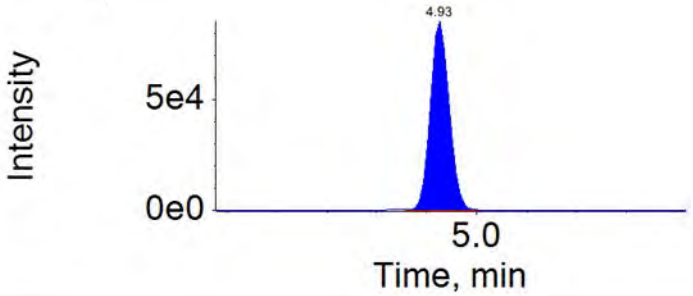
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

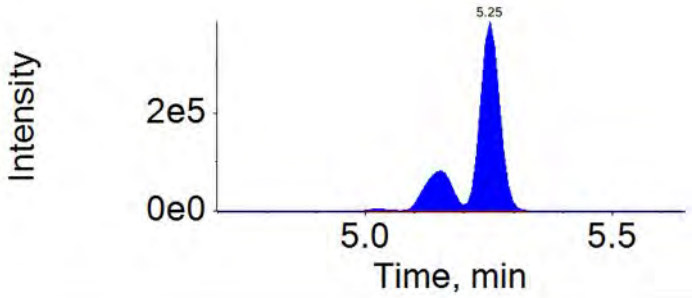
Component: PFOA
Primary Mass: 413.0 / 369.0



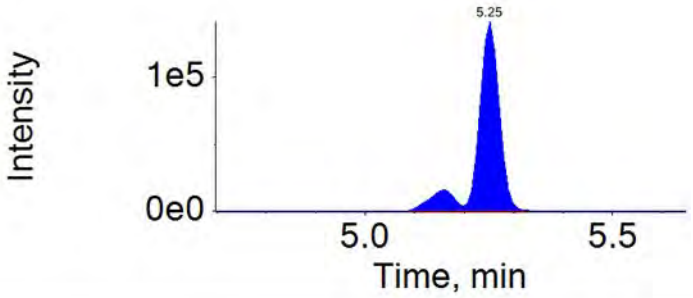
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



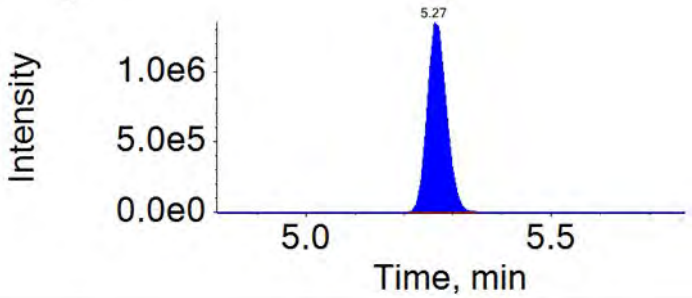
Component: PFOS
Primary Mass: 499.0 / 80.0



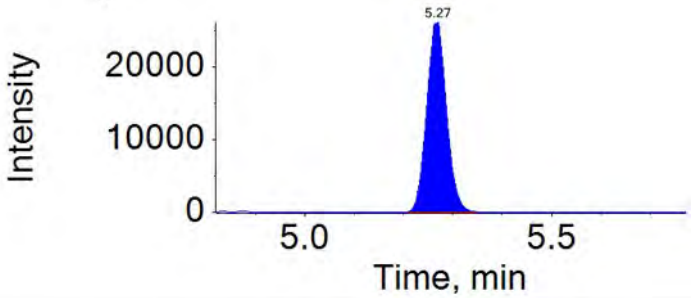
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



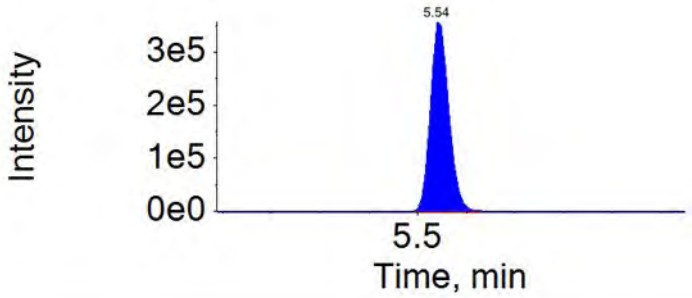
Component: PFNA
Primary Mass: 463.0 / 419.0



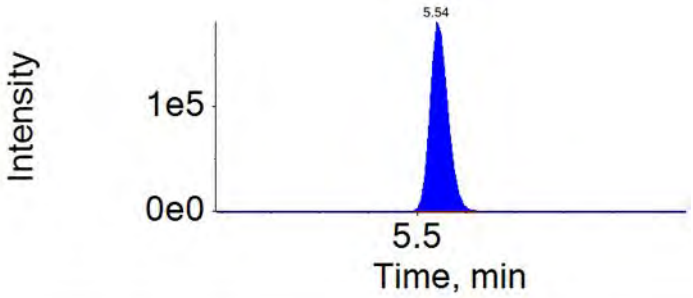
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



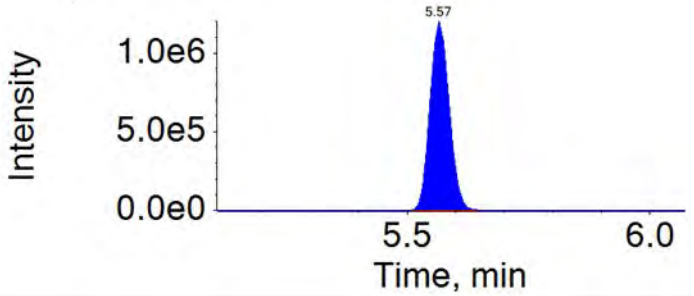
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



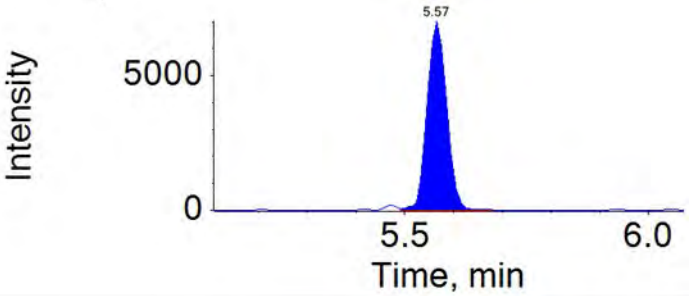
APPROVED
By MSM at 1:33 pm, 12/27/18

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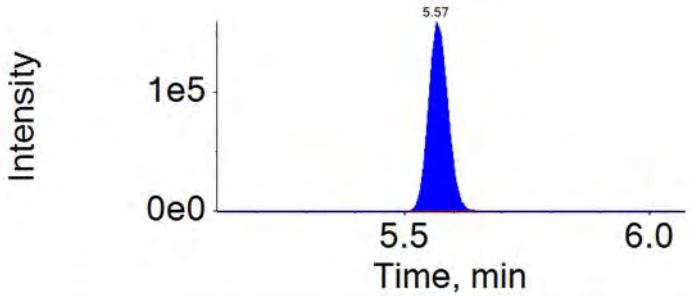
Component: PFDA
Primary Mass: 513.0 / 469.0



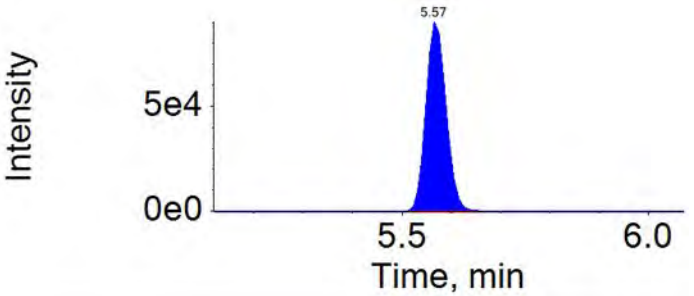
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Secondary Mass: 513.0 / 169.0



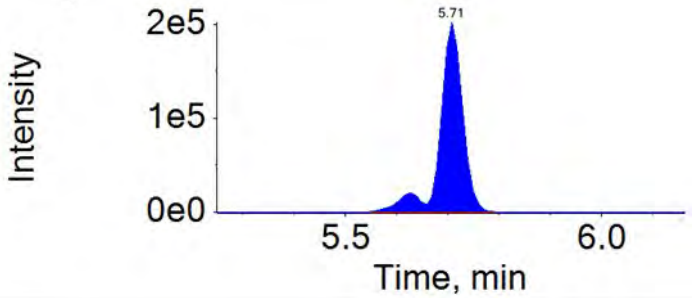
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



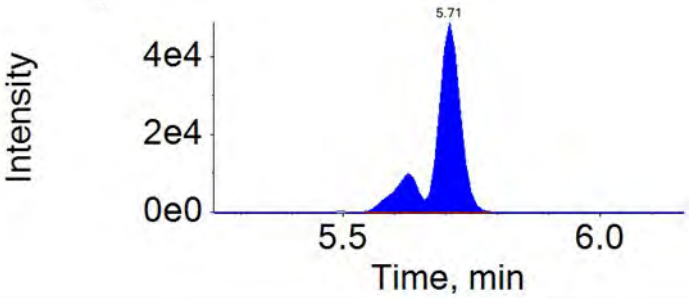
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



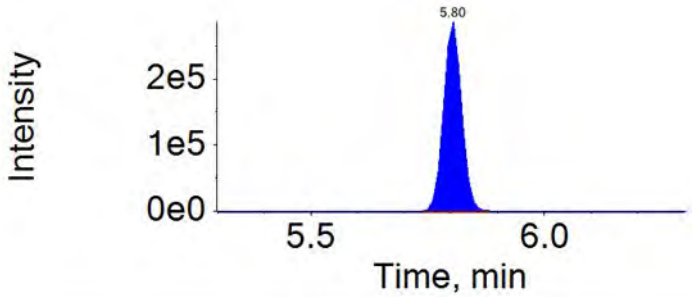
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



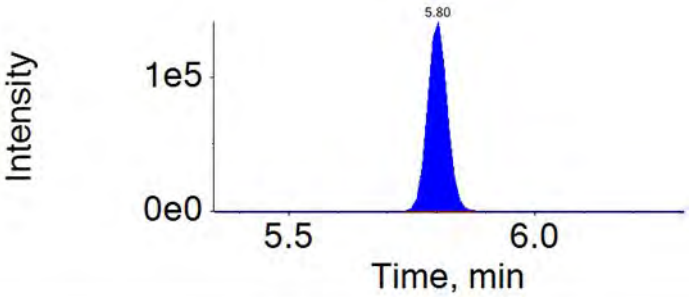
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



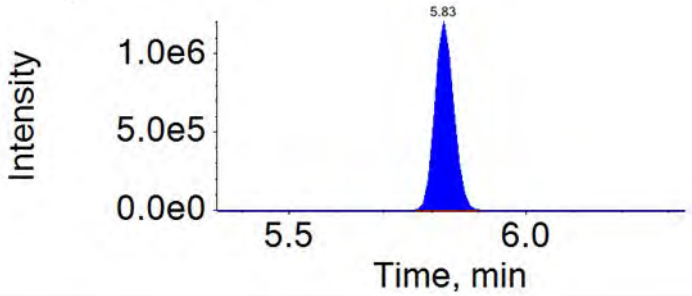
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



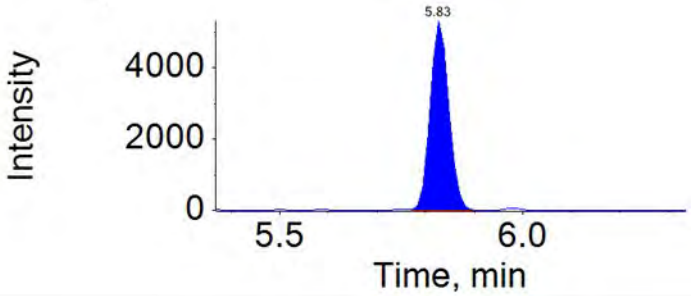
APPROVED
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By HMK at 10:43 am, 12/28/18

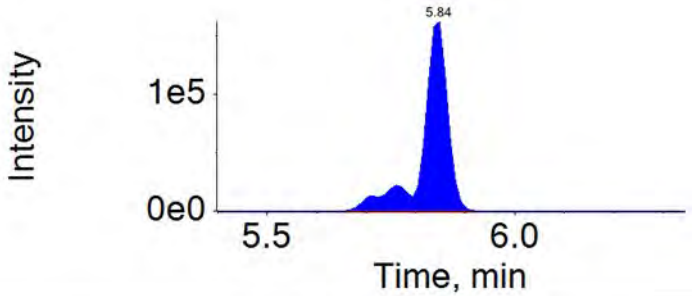
Component: PFUnDA
Primary Mass: 563.0 / 519.0



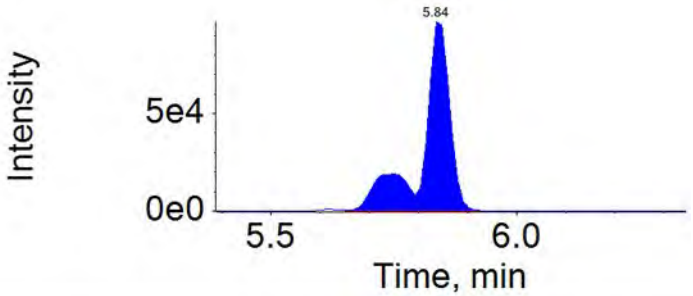
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Secondary Mass: 563.0 / 169.0



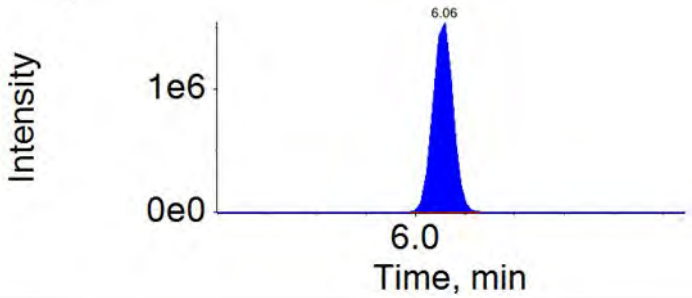
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



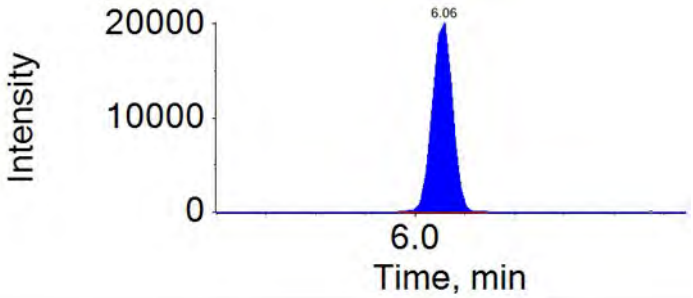
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



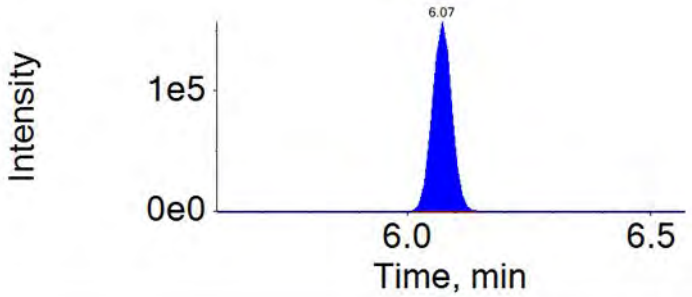
Component: PFDoDA
Primary Mass: 613.0 / 569.0



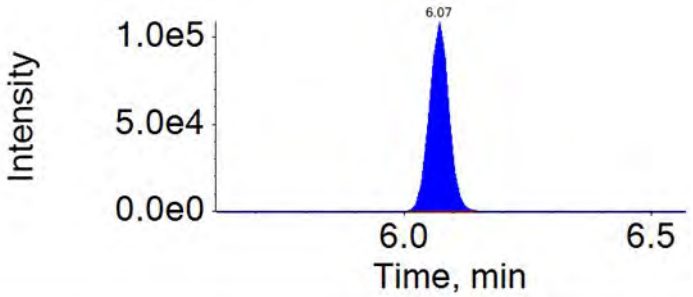
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



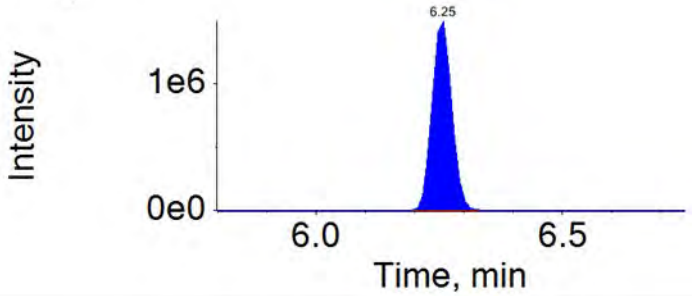
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



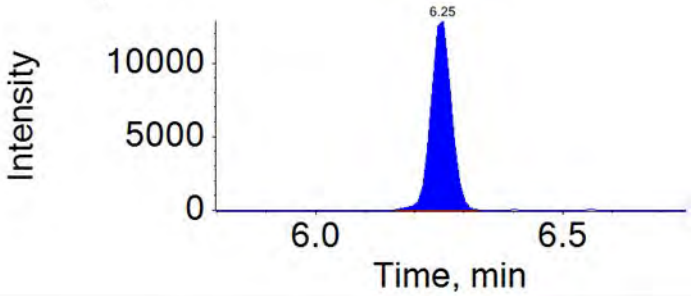
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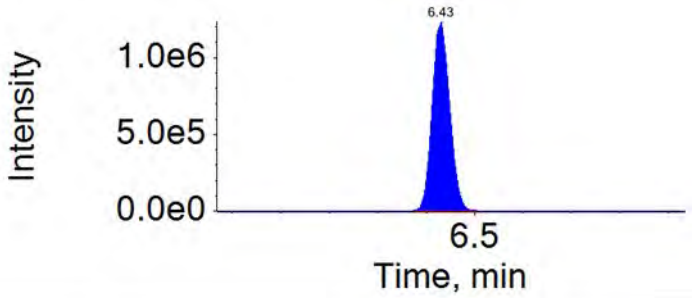
Component: PFTrDA
Primary Mass: 663.0 / 619.0



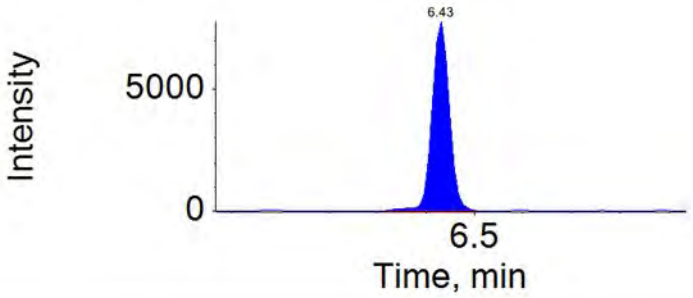
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Secondary Mass: 663.0 / 169.0



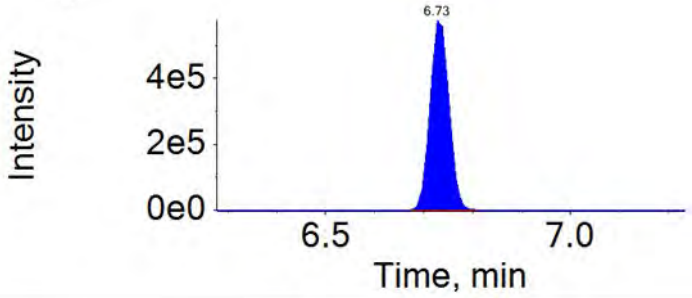
Component: PFTeDA
Primary Mass: 713.0 / 669.0



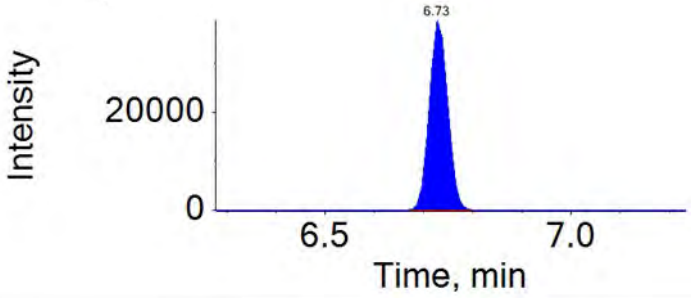
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



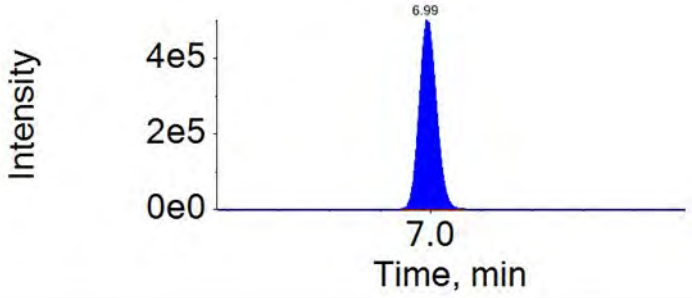
Component: PFHxDA
Primary Mass: 813.0 / 769.0



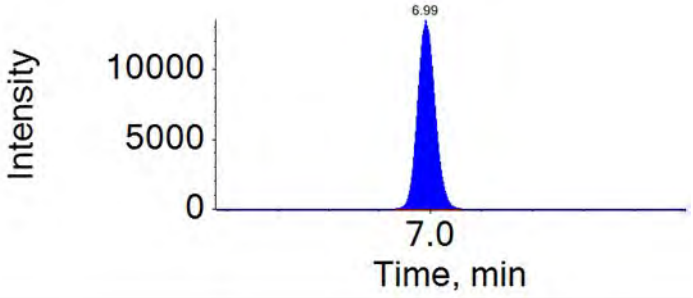
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL6			**Data File:**		18DEC26DCAL-11.wiff
Sample ID:	CALBRN61833B			**Acquis Date:**		2018-12-26T14:22:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	8			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	860144.0	965438.2	-11	50	
13C2-PFOA	5.0	516584.1	527066.0	-2	50	
13C4-PFOS	4.8	266027.6	307230.6	-13	50	
13C2-PFDA	5.0	441765.5	493258.9	-10	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	995418.4	13C3-PFBA	860144.0	1.157	5.000	5.134	103	70-130	
E13C5-PFPeA	926842.4	13C3-PFBA	860144.0	1.078	5.000	5.132	103	70-130	
E13C3-PFBS	427594.2	13C3-PFBA	860144.0	0.497	4.650	4.830	104	70-130	
E13C2-4:2-FTS	66742.3	13C2-PFOA	516584.1	0.129	4.670	4.922	105	70-130	
E13C5-PFHxA	735654.8	13C2-PFOA	516584.1	1.424	5.000	5.210	104	70-130	
E13C3-PFHxS	311645.6	13C2-PFOA	516584.1	0.603	4.730	4.636	98	70-130	
E13C4-PFHpA	619188.1	13C2-PFOA	516584.1	1.199	5.000	5.400	108	70-130	
E13C2-6:2-FTS	47795.1	13C2-PFOA	516584.1	0.093	4.750	4.527	95	70-130	
E13C8-PFOA	869853.6	13C2-PFOA	516584.1	1.684	5.000	4.718	94	70-130	
E13C8-PFOS	311201.2	13C4-PFOS	266027.6	1.170	4.780	5.100	107	70-130	
E13C9-PFNA	654876.2	13C4-PFOS	266027.6	2.462	5.000	5.423	108	70-130	
E13C6-PFDA	772368.4	13C2-PFDA	441765.5	1.748	5.000	5.020	100	70-130	
E13C2-8:2-FTS	42574.7	13C2-PFDA	441765.5	0.096	4.790	4.986	104	70-130	
E13C8-PFOSA	567876.0	13C2-PFDA	441765.5	1.285	5.000	5.135	103	70-130	
Ed3-NMeFOSAA	158809.1	13C2-PFDA	441765.5	0.359	5.000	4.587	92	70-130	
E13C7-PFUnDA	529423.9	13C2-PFDA	441765.5	1.198	5.000	5.178	104	70-130	
Ed5-NEtFOSAA	124056.6	13C2-PFDA	441765.5	0.281	5.000	4.866	97	70-130	
E13C2-PFDoDA	1068876.5	13C2-PFDA	441765.5	2.420	5.000	5.248	105	70-130	
Ed7-NMePFOSAE	248254.0	13C2-PFDA	441765.5	0.562	5.000	5.313	106	70-130	
Ed3-NMePFOSA	83519.5	13C2-PFDA	441765.5	0.189	5.000	5.359	107	70-130	
Ed9-NEtPFOSAE	217793.6	13C2-PFDA	441765.5	0.493	5.000	5.364	107	70-130	
Ed5-NEtPFOSA	63642.5	13C2-PFDA	441765.5	0.144	5.000	5.085	102	70-130	
E13C2-PFTeDA	787053.7	13C2-PFDA	441765.5	1.782	5.000	5.255	105	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

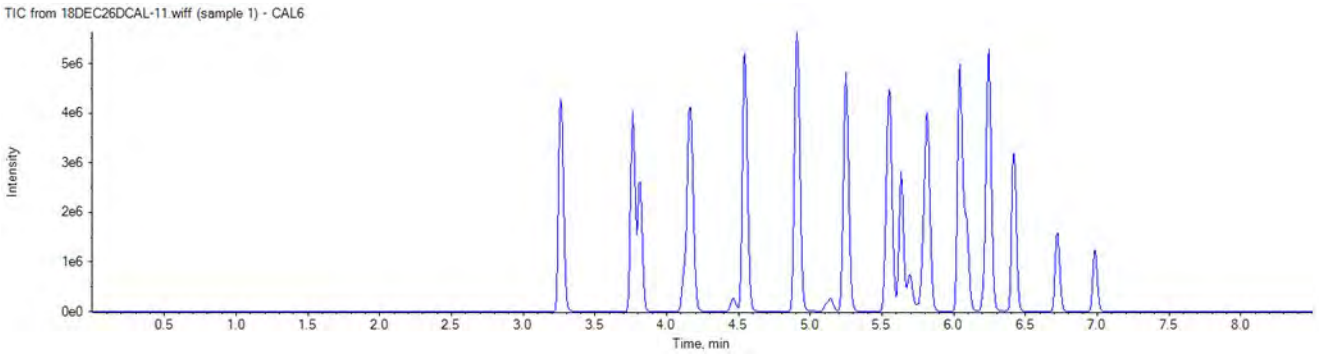
Analyte Quantitation Peak Table

Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-11.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	8657044.0		A	13C4-PFBA	3.26	995418.4	8.697	45.939
PFPeA	3.77	1.000	8167880.1		A	13C5-PFPeA	3.77	926842.4	8.813	43.742
PFBS	3.81	1.000	3888343.9		A	13C3-PFBS	3.82	427594.2	9.094	45.128
4:2-FTS	4.12	1.000	1086392.3		A	13C2-4:2-FTS	4.12	66742.3	16.277	39.910
PFHxA	4.16	1.000	7834311.2		A	13C5-PFHxA	4.16	735654.8	10.649	43.710
PFPeS	4.18	1.100	1994529.9		A	13C3-PFBS	3.82	427594.2	4.665	46.956
PFHpA	4.54	1.000	8358401.4		A	13C4-PFHpA	4.55	619188.1	13.499	42.656
PFHxS	4.55	1.000	2859504.0		M	13C3-PFHxS	4.55	311645.6	9.175	42.909
6:2-FTS	4.90	1.000	867166.2		A	13C2-6:2-FTS	4.90	47795.1	18.143	43.498
PFHpS	4.90	1.080	2678186.4		A	13C3-PFHxS	4.55	311645.6	8.594	44.986
PFOA	4.91	1.000	7922682.9		A	13C8-PFOA	4.91	869853.6	9.108	48.188
PFOS	5.24	1.000	3211850.5		M	13C8-PFOS	5.24	311201.2	10.321	44.933
PFNA	5.25	1.000	7794618.4		A	13C9-PFNA	5.25	654876.2	11.902	47.831
PFNS	5.53	1.060	2152213.0		A	13C8-PFOS	5.24	311201.2	6.916	47.271
PFDA	5.55	1.000	6811084.3		A	13C6-PFDA	5.55	772368.4	8.818	50.841
8:2-FTS	5.56	1.000	904843.3		A	13C2-8:2-FTS	5.56	42574.7	21.253	41.991
PFOSA	5.64	1.000	5497072.4		A	13C8-PFOSA	5.64	567876.0	9.680	50.925
NMeFOSAA	5.70	1.000	1371700.2		M	d3-NMeFOSAA	5.69	158809.1	8.637	50.367
PFDS	5.79	1.110	1737083.0		A	13C8-PFOS	5.24	311201.2	5.582	46.014
PFUnDA	5.82	1.000	7025081.9		A	13C7-PFUnDA	5.82	529423.9	13.269	50.747
NEtFOSAA	5.83	1.000	1233822.9		M	d5-NEtFOSAA	5.83	124056.6	9.946	51.135
PFDoDA	6.04	1.000	9392590.5		A	13C2-PFDoDA	6.04	1068876.5	8.787	44.831
10:2-FTS	6.06	1.090	852836.1		A	13C2-8:2-FTS	5.56	42574.7	20.032	40.894
NMePFOSAE	6.09	1.000	2914732.9		A	d7-NMePFOSAE	6.08	248254.0	11.741	49.635
NMePFOSA	6.10	1.000	819345.7		A	d3-NMePFOSA	6.10	83519.5	9.810	48.949
PFDoS	6.21	1.190	970246.8		A	13C8-PFOS	5.24	311201.2	3.118	46.597
NEtPFOSAE	6.25	1.000	3179997.4		A	d9-NEtPFOSAE	6.23	217793.6	14.601	48.312
NEtPFOSA	6.26	1.000	721285.0		A	d5-NEtPFOSA	6.26	63642.5	11.333	53.285
PFTrDA	6.24	1.030	8390939.3		A	13C2-PFDoDA	6.04	1068876.5	7.850	41.792
PFTeDA	6.42	1.000	6733908.2		A	13C2-PFTeDA	6.42	787053.7	8.556	48.660
PFHxDA	6.72	1.050	3431505.3		A	13C2-PFTeDA	6.42	787053.7	4.360	50.269
PFODA	6.98	1.090	2650154.0		A	13C2-PFTeDA	6.42	787053.7	3.367	49.789

Total Ion Chromatogram

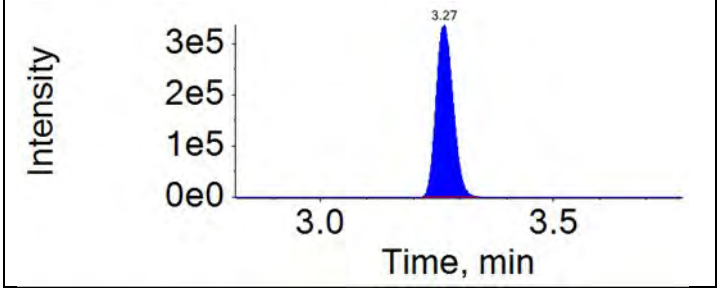


APPROVED
By MSM at 1:33 pm, 12/27/18

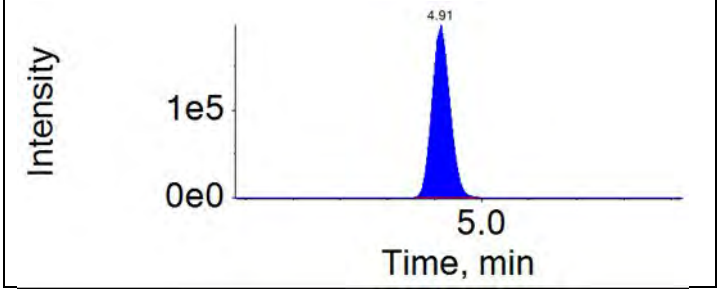
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

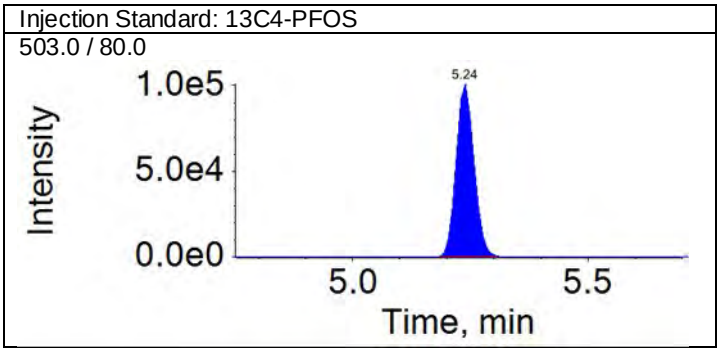
Injection Standard: 13C3-PFBA
216.0 / 172.0



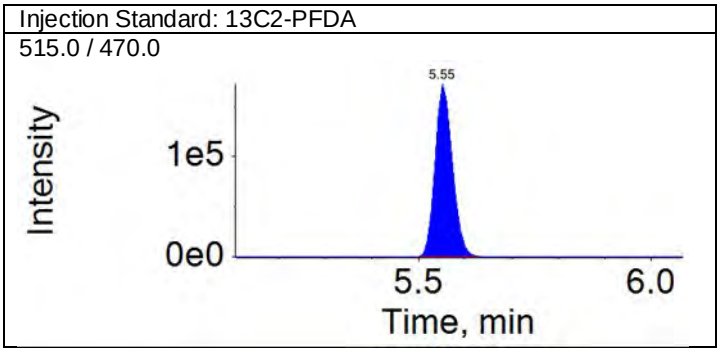
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

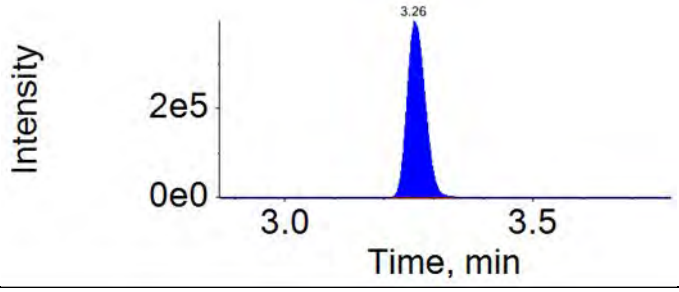


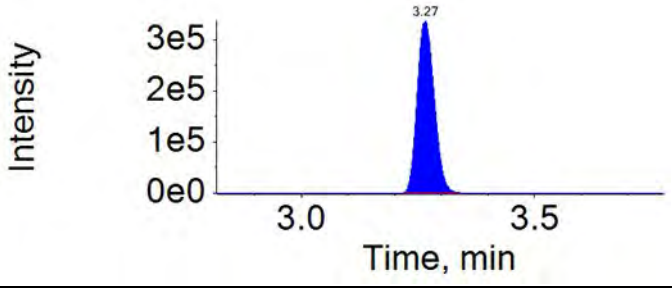
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

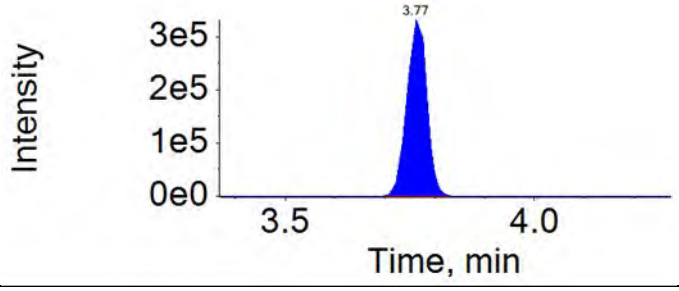
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

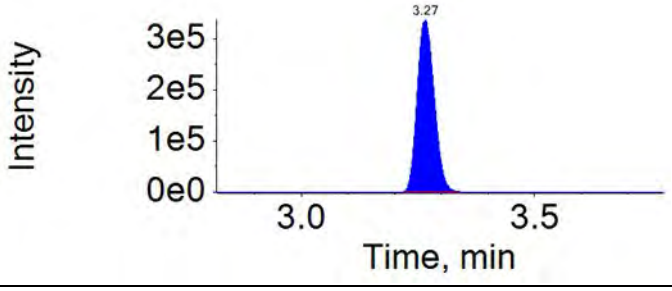
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



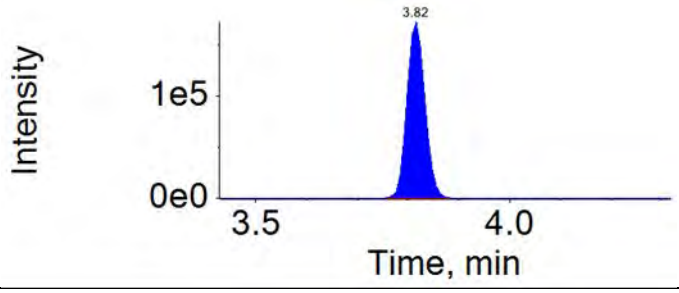


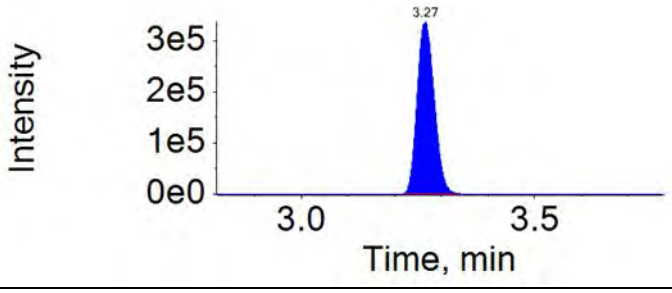
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



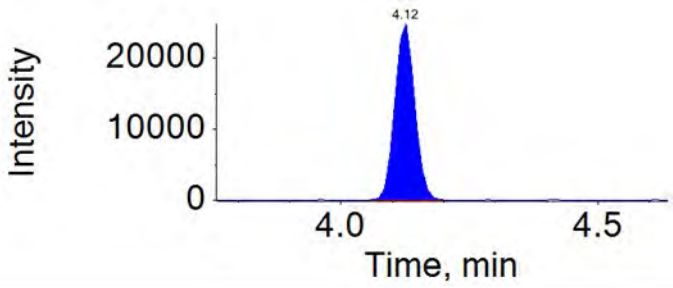


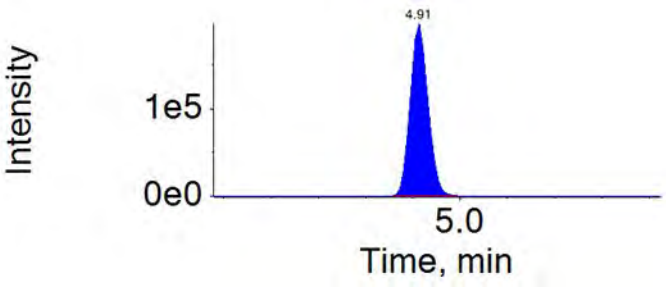
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



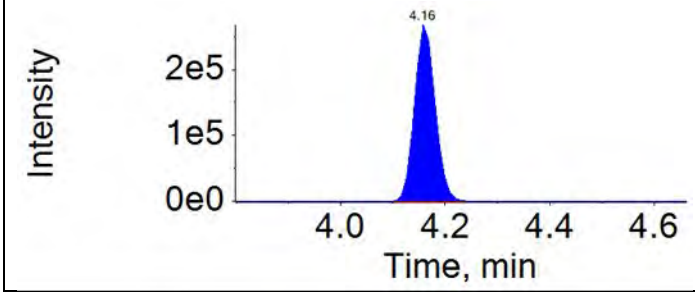


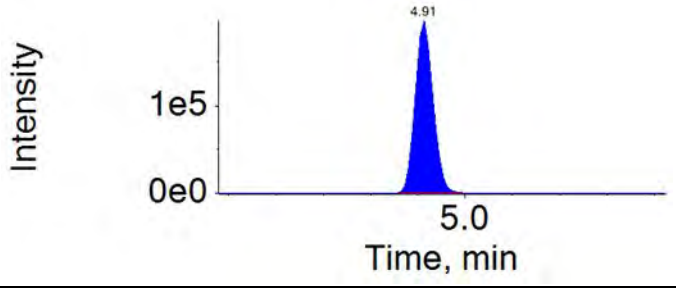
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

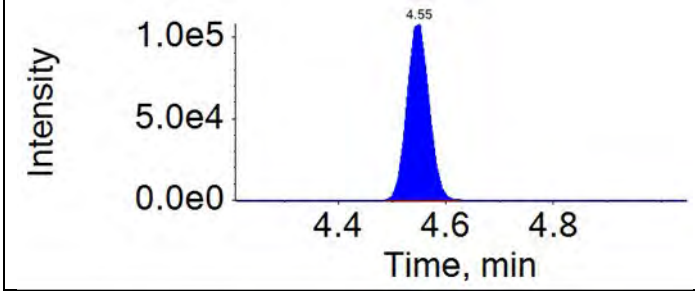
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

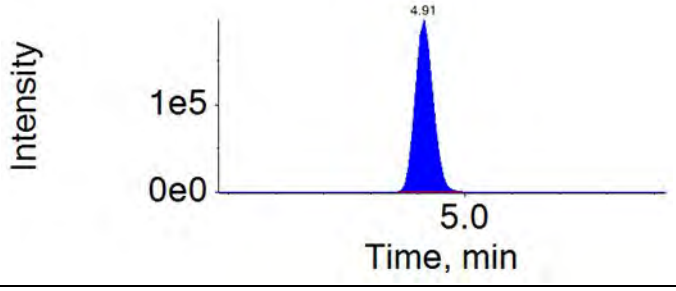
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



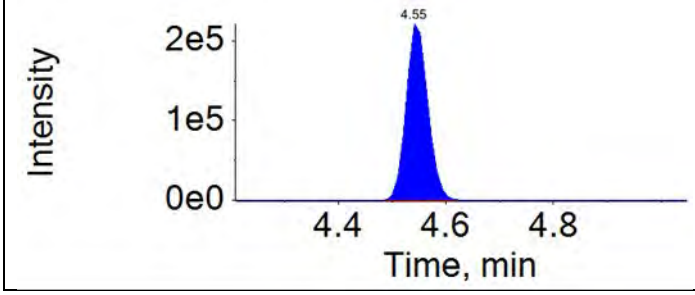


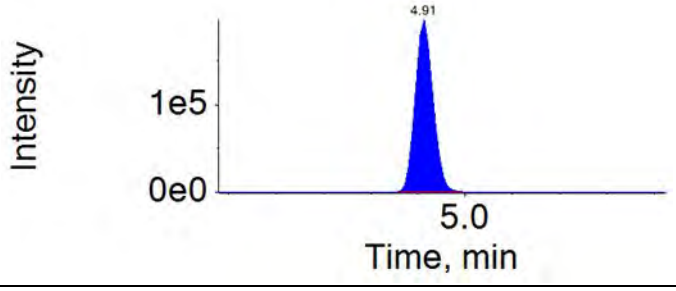
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



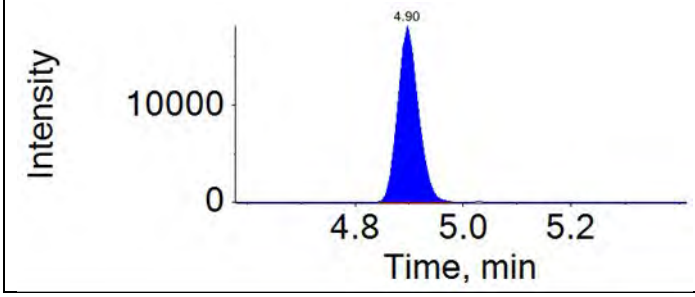


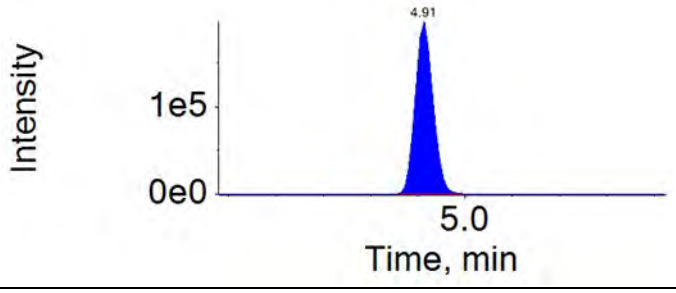
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



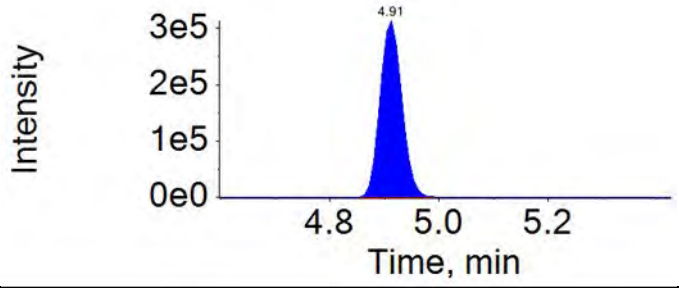


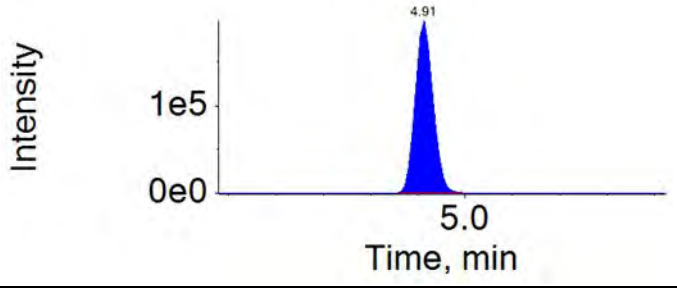
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

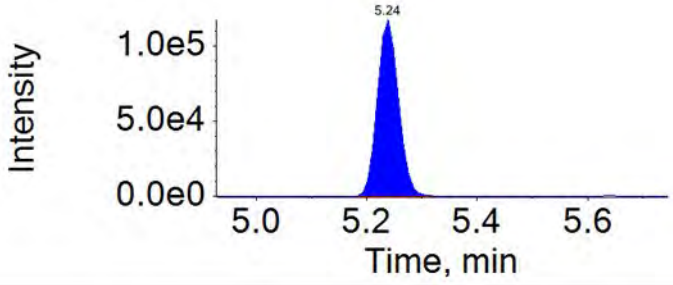
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

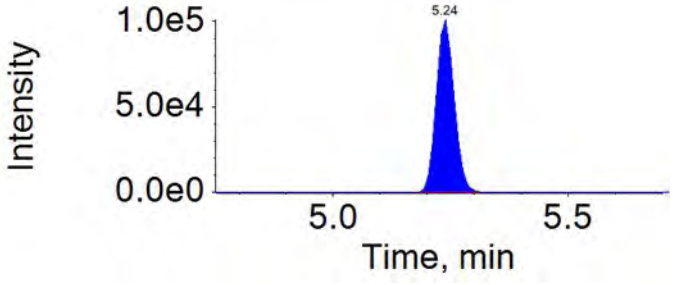
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



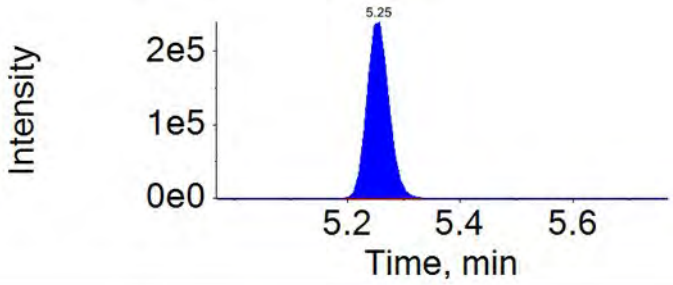


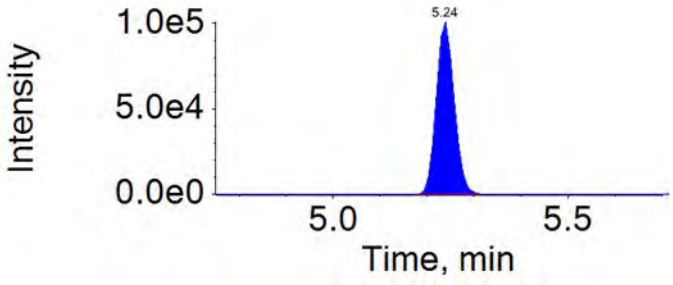
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



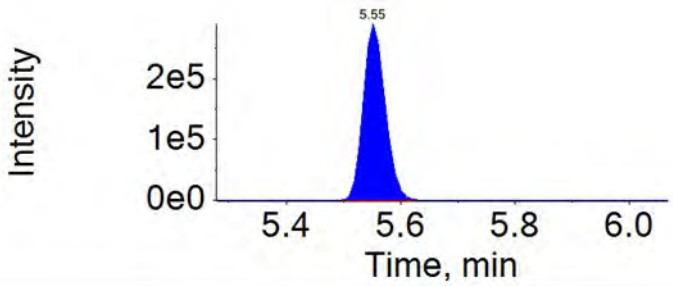


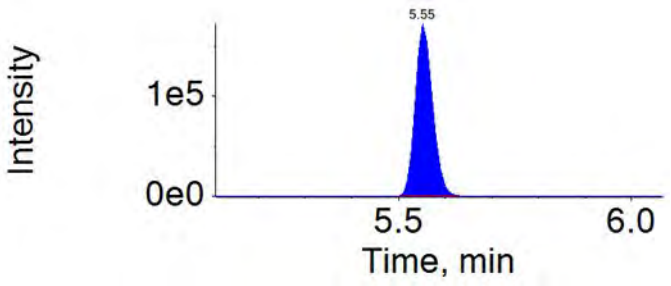
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



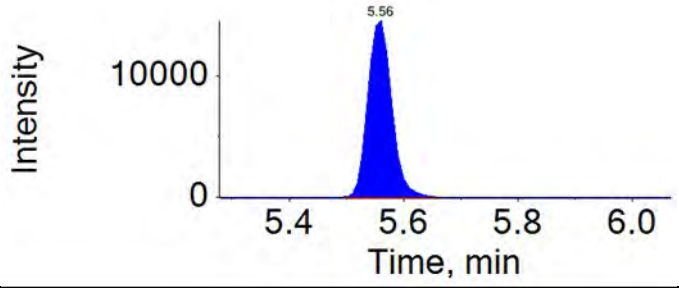


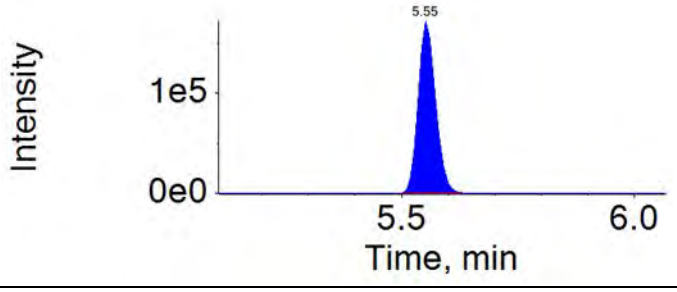
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

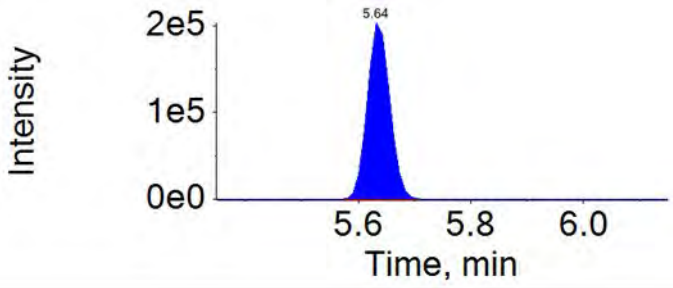
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

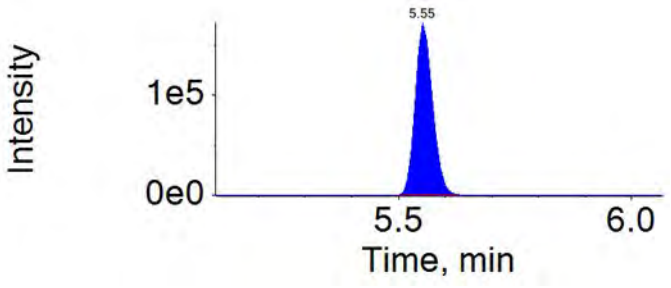
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



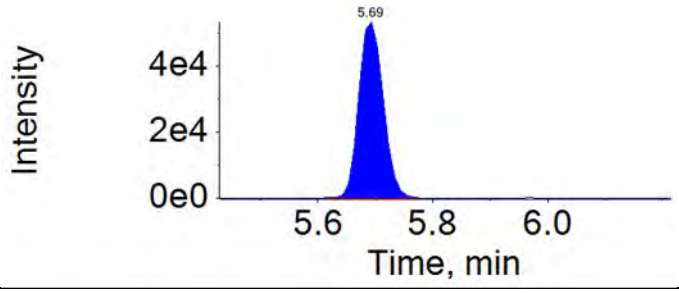


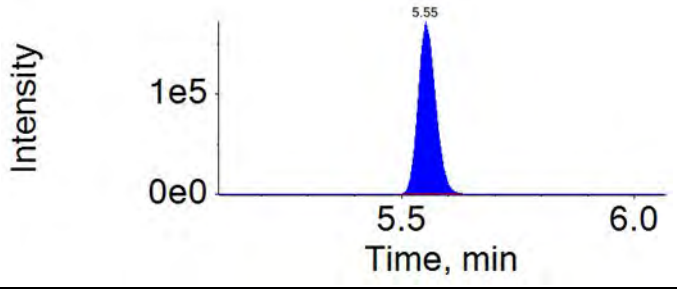
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



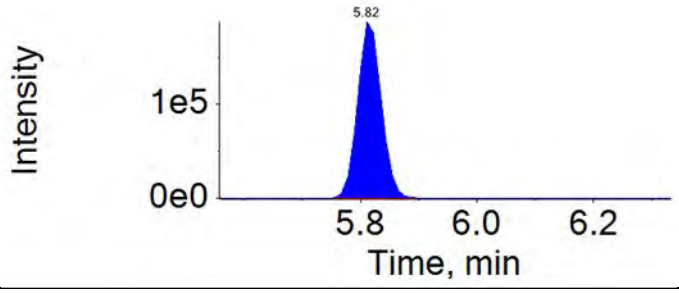


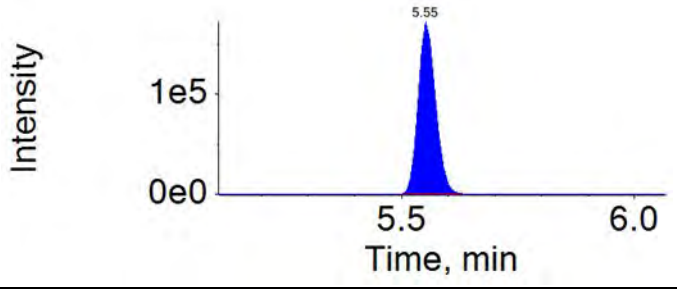
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



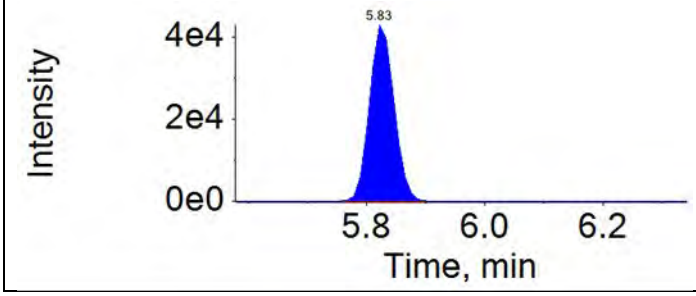


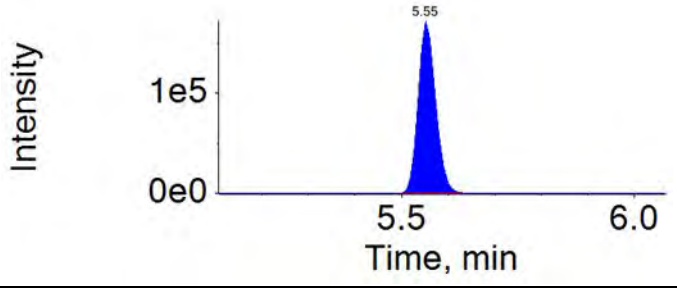
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

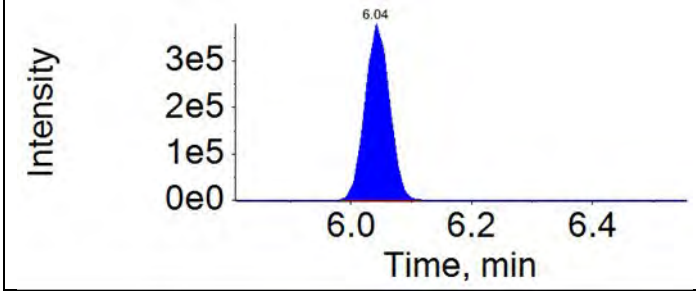
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

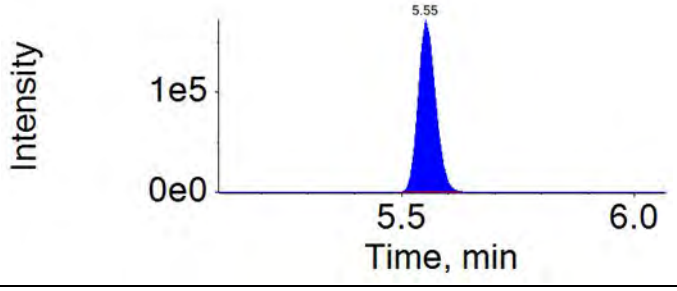
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



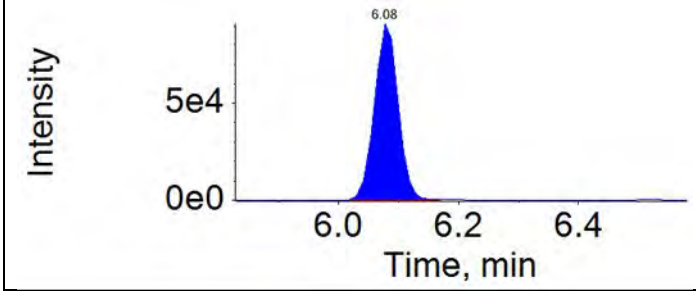


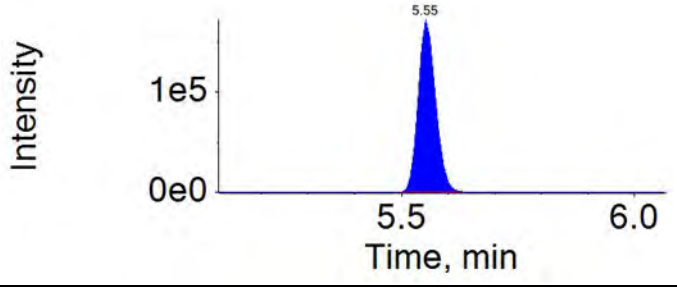
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



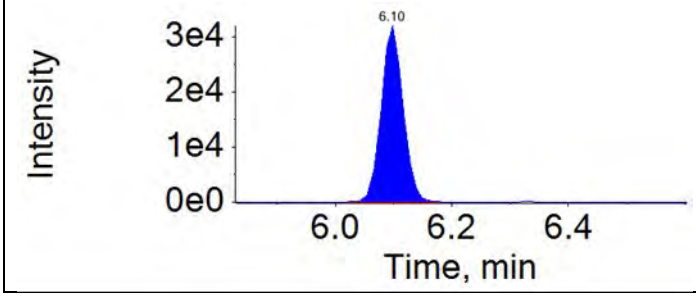


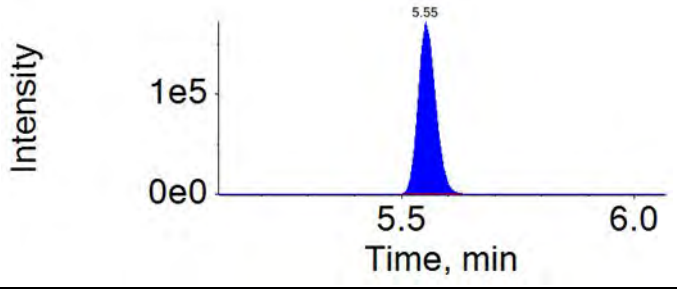
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



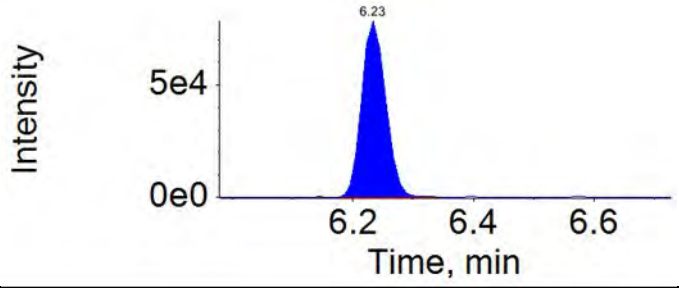


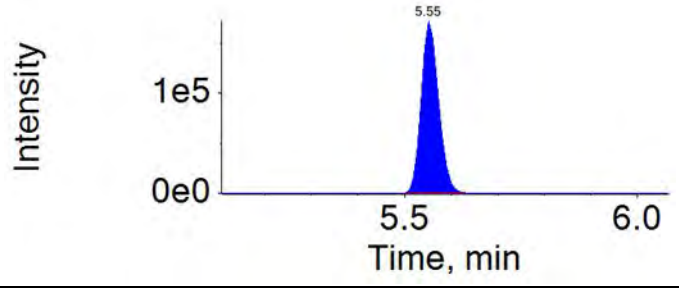
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

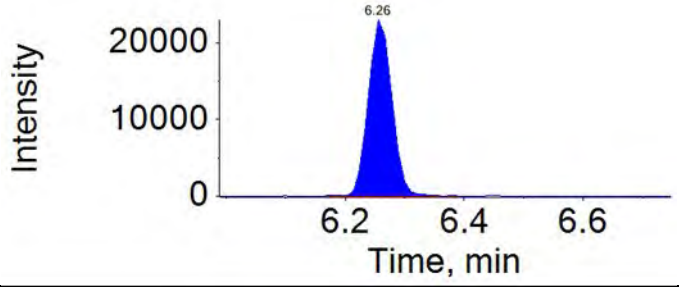
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

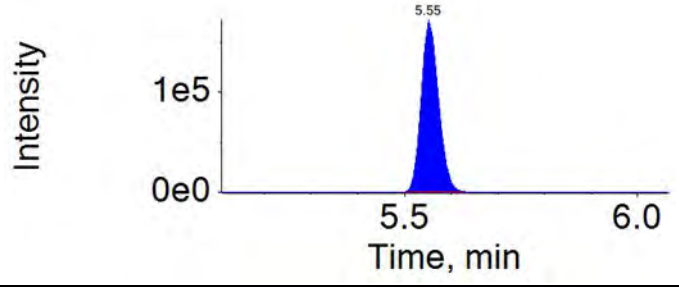
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



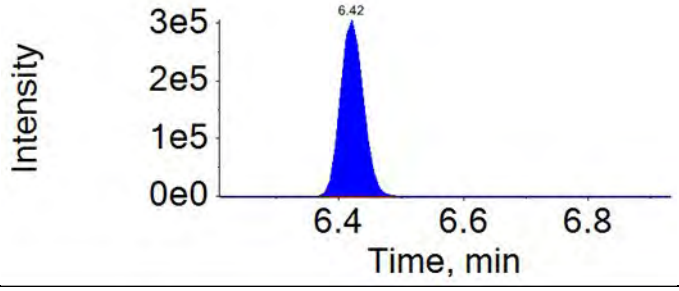


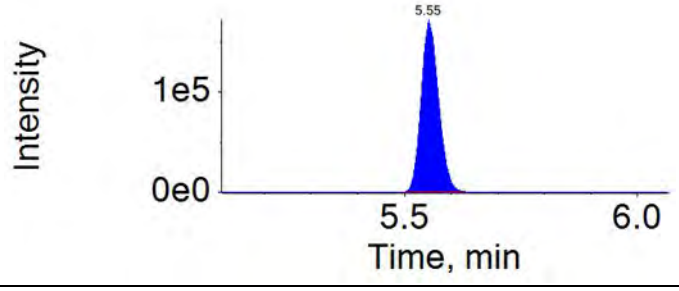
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



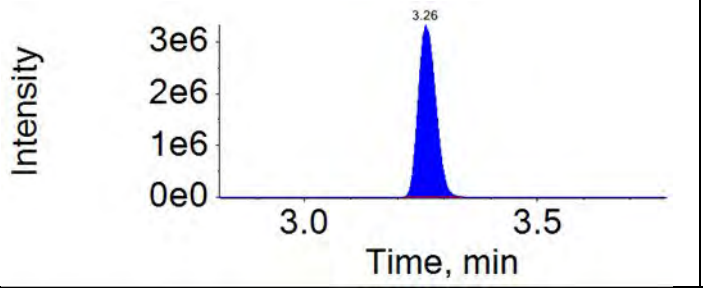


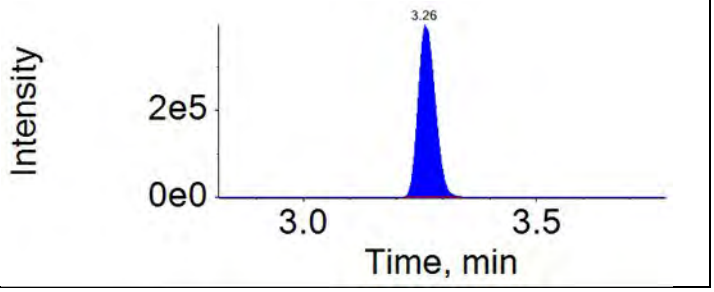
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

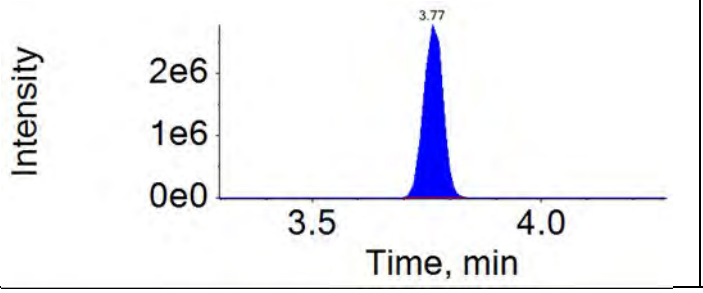
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

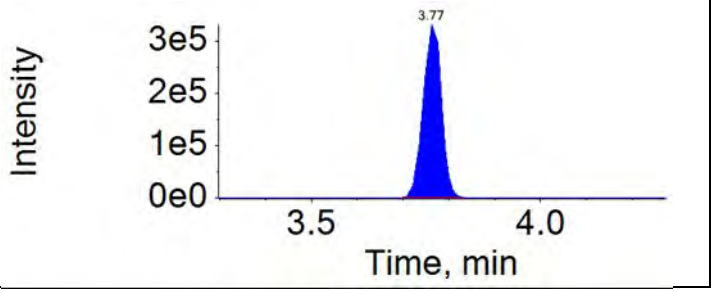
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



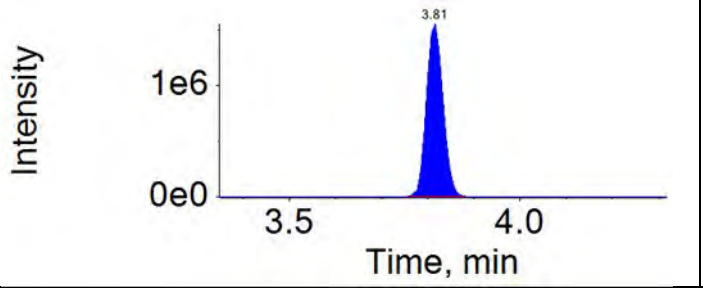


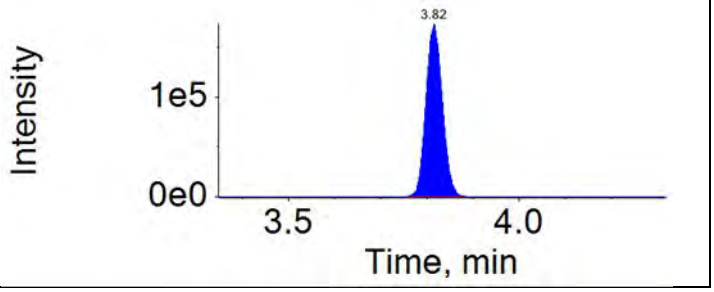
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



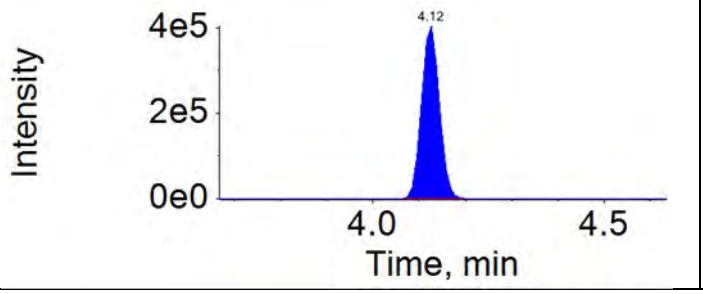


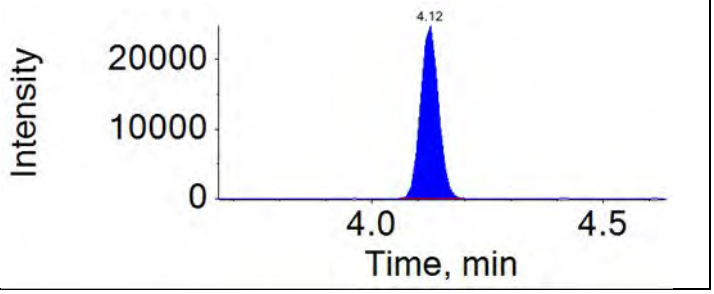
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



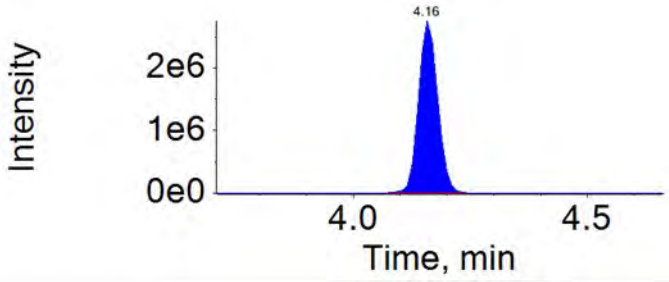


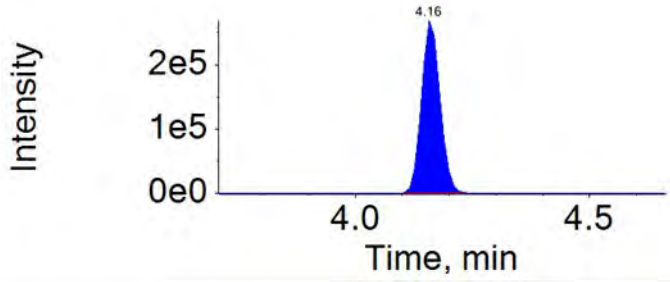
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

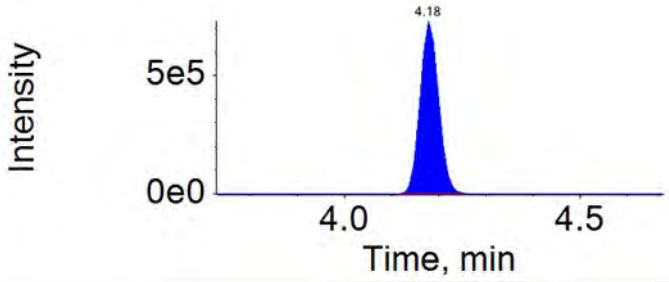
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

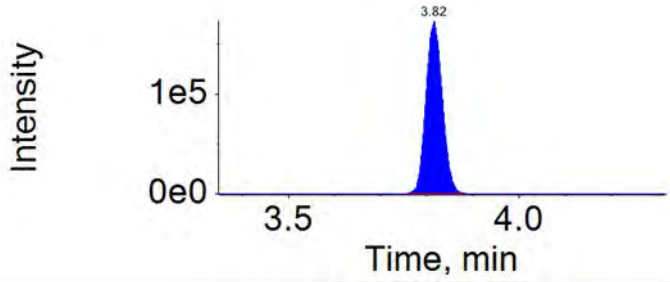
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



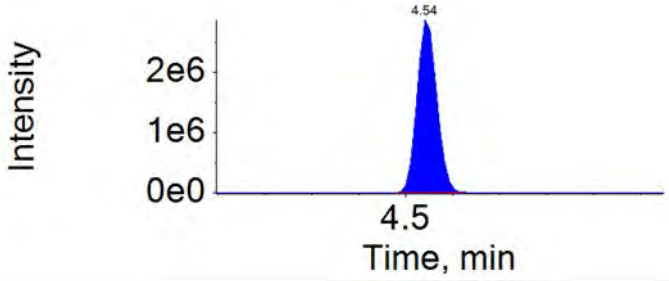


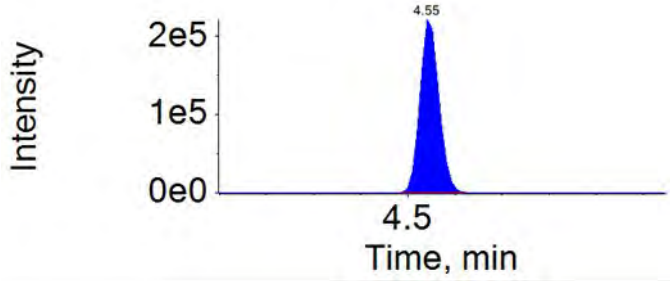
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



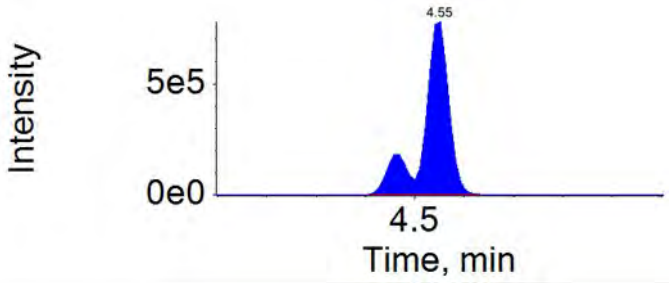


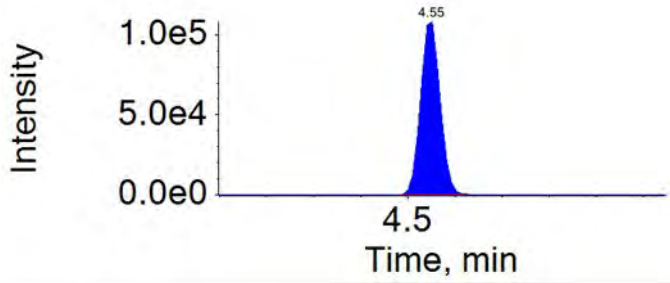
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



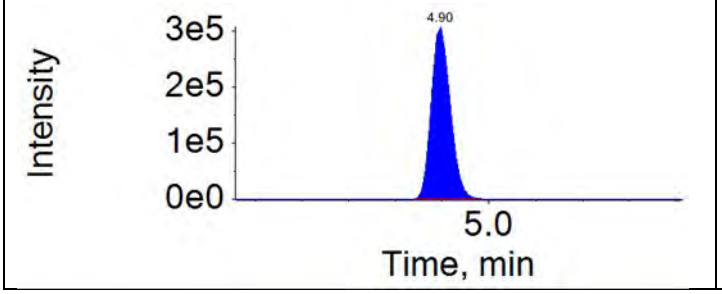


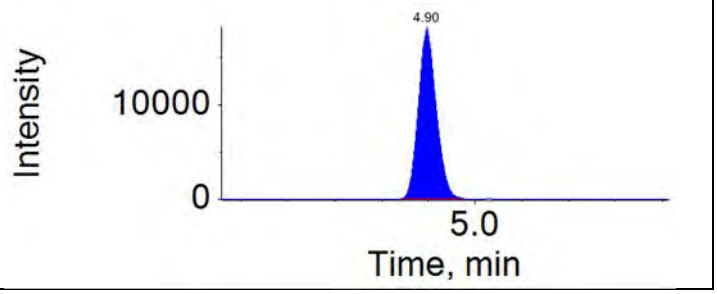
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

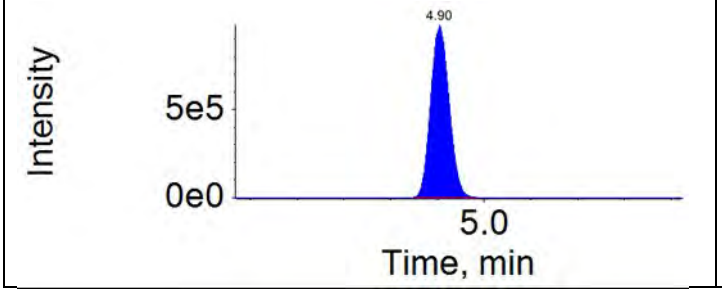
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

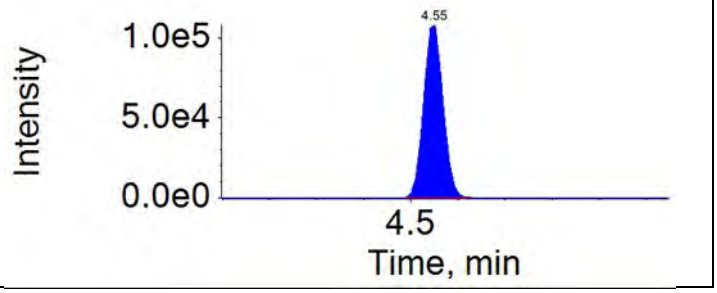
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



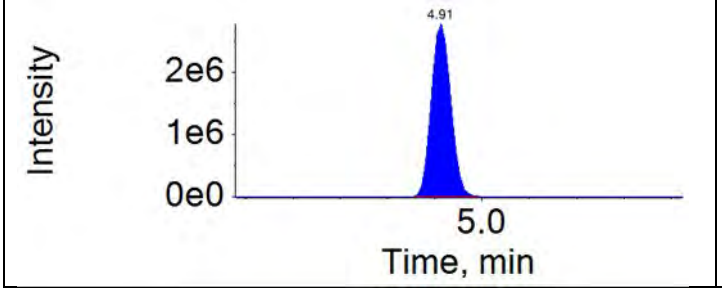


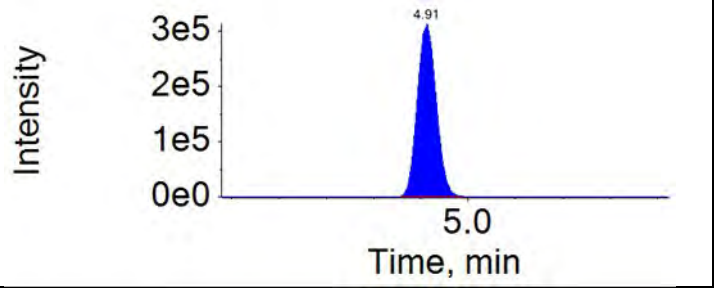
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



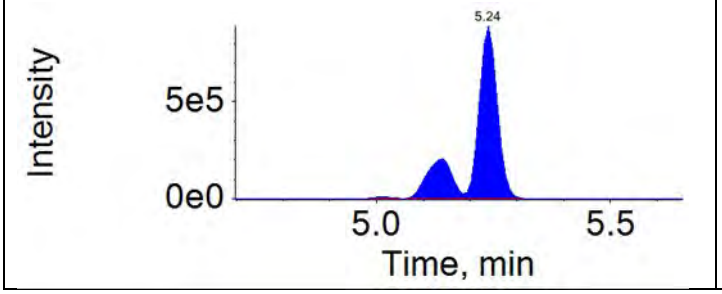


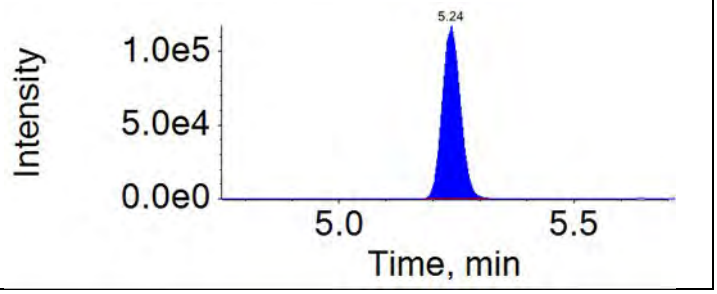
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



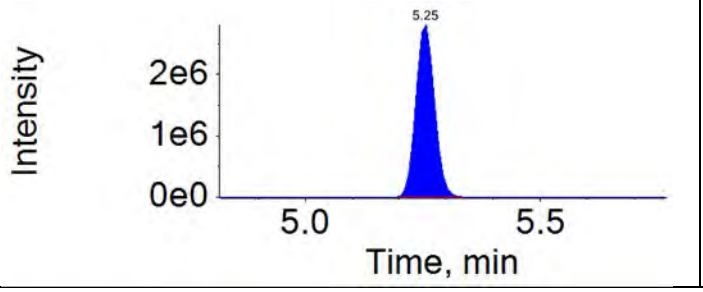


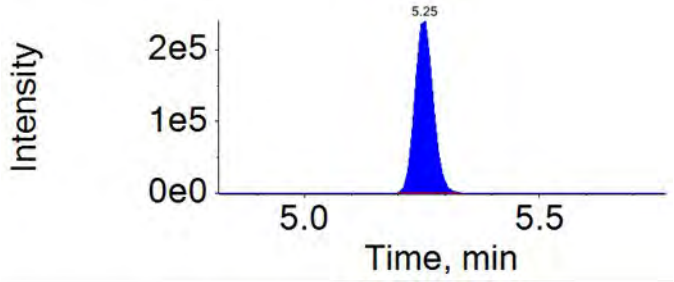
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

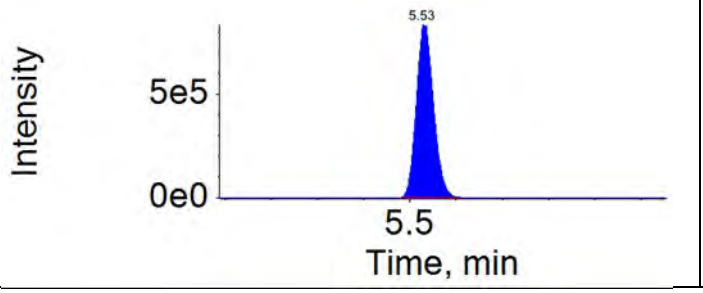
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

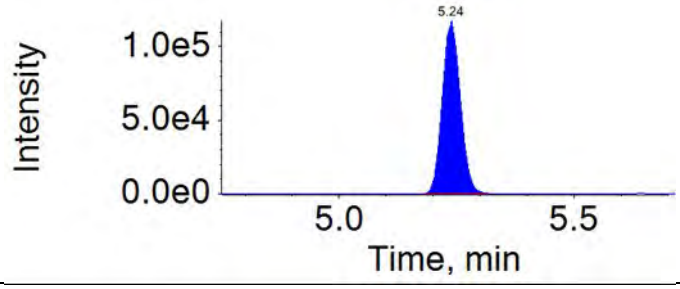
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



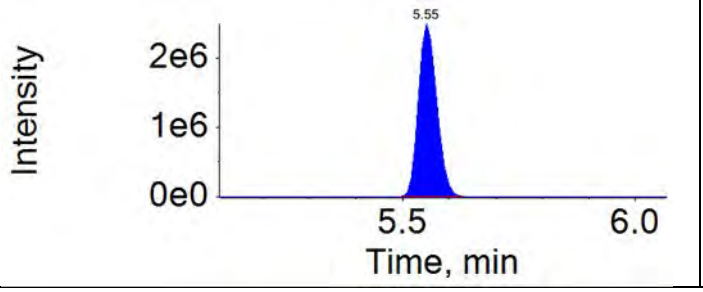


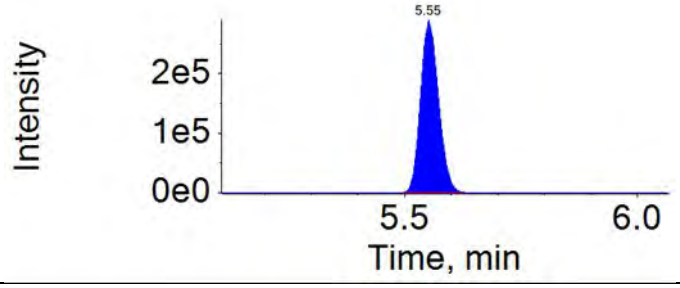
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



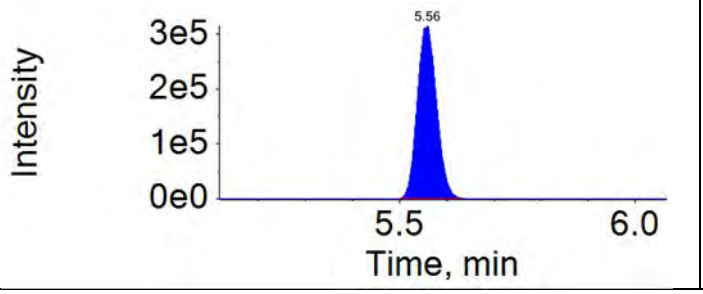


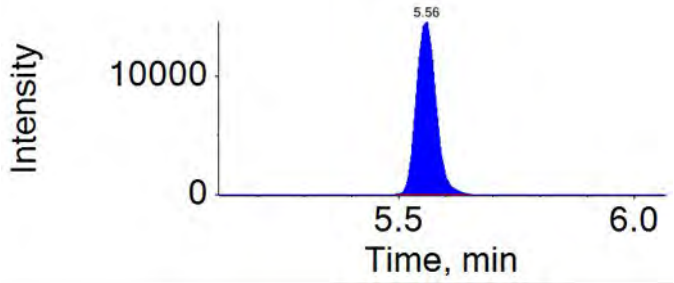
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



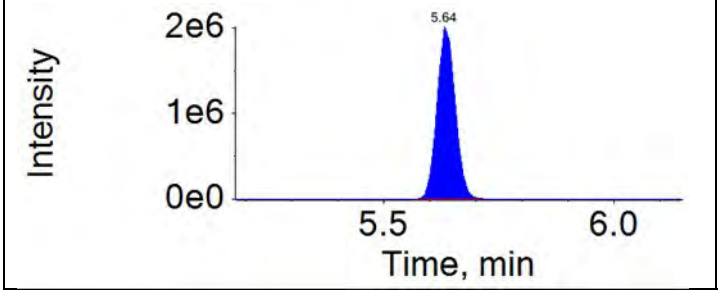


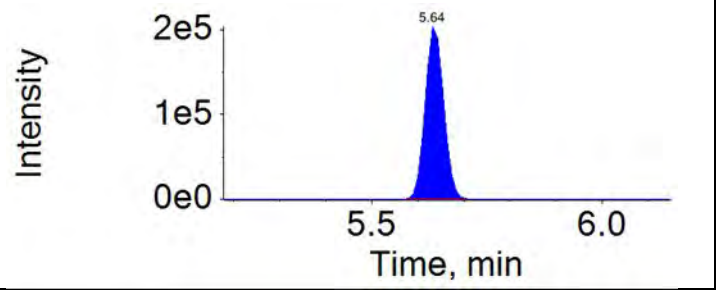
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

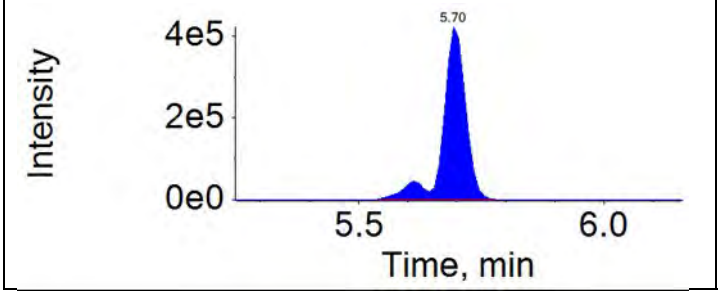
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

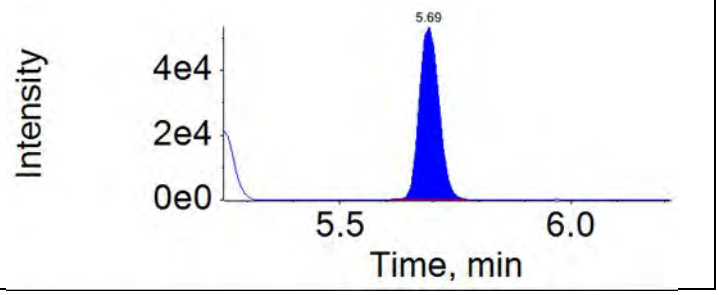
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



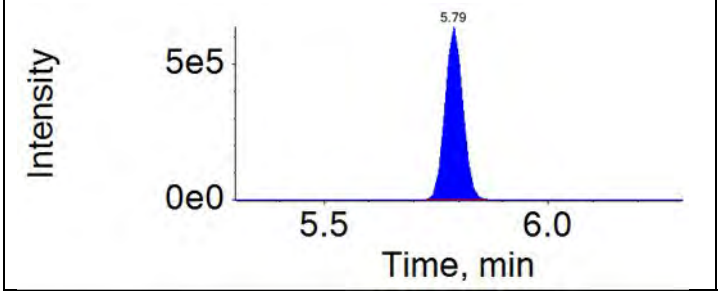


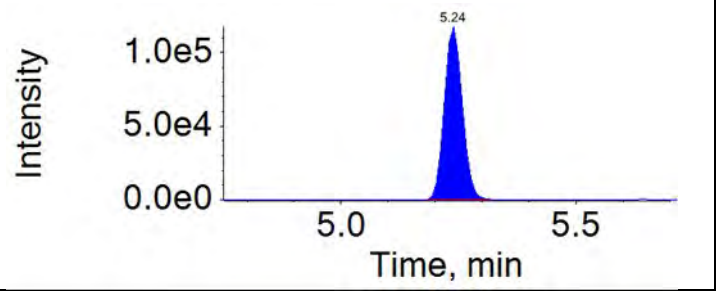
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



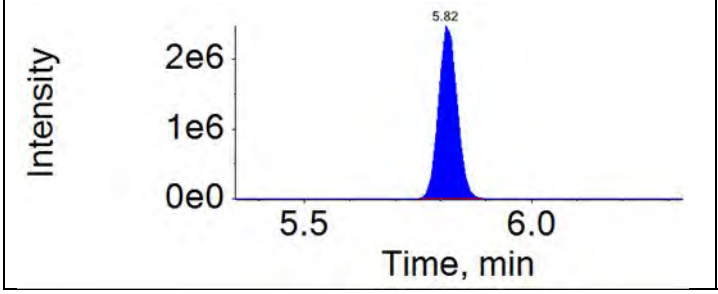


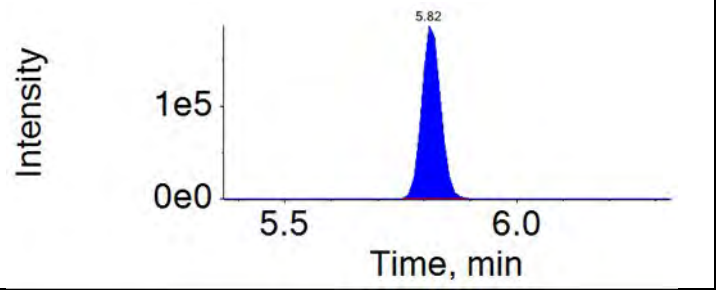
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



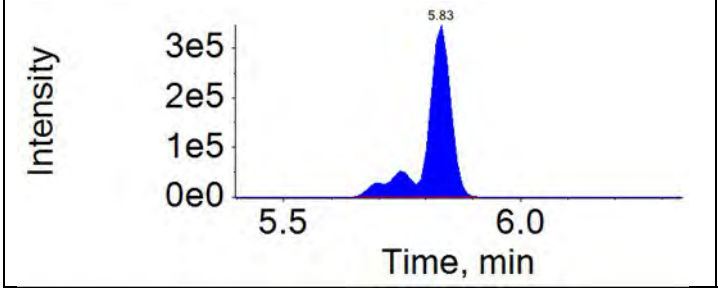


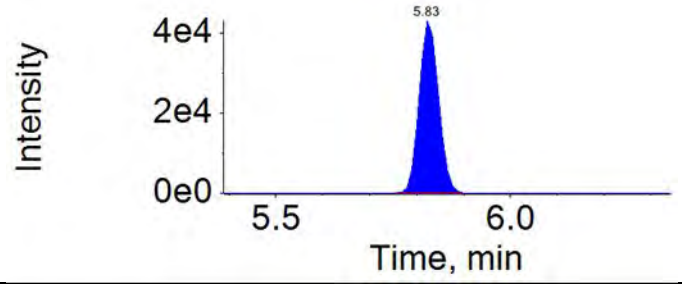
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

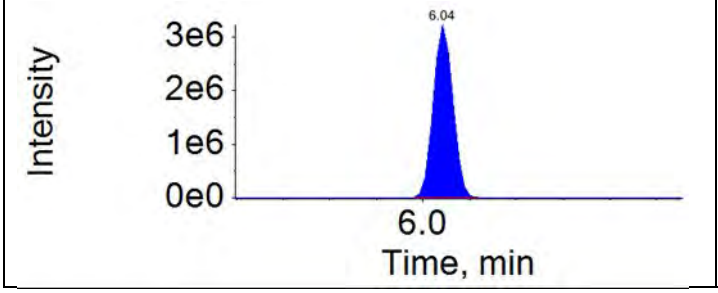
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

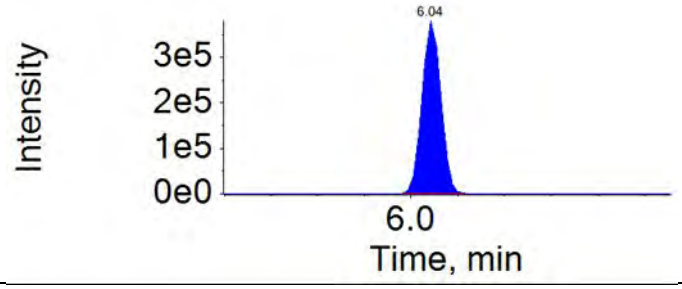
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



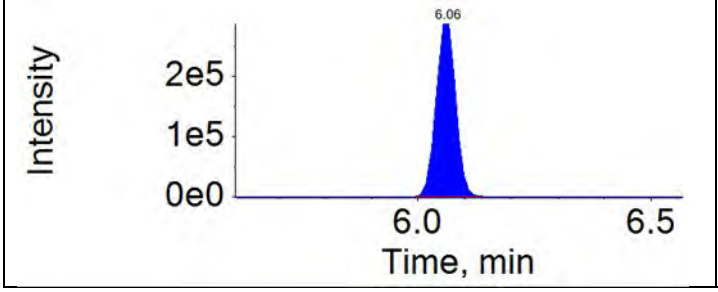


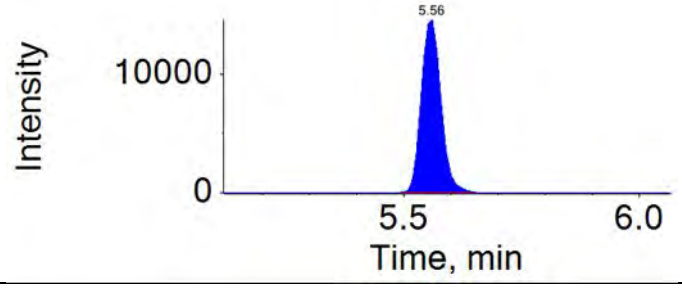
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



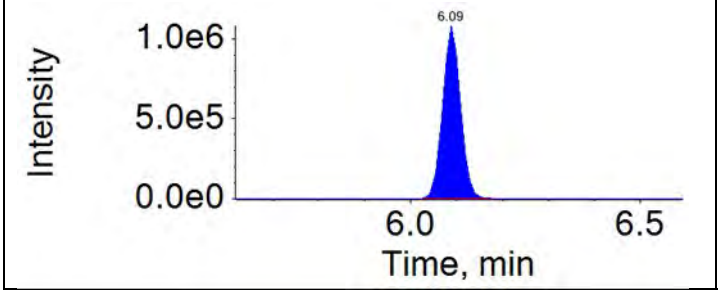


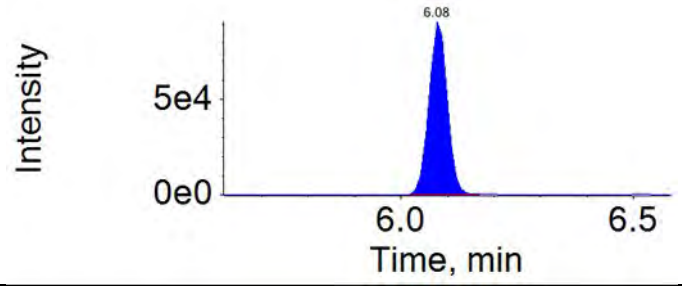
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



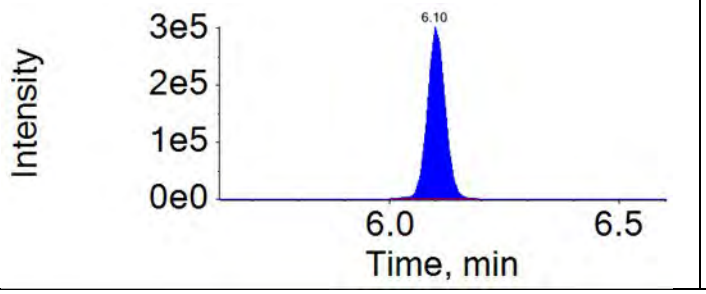


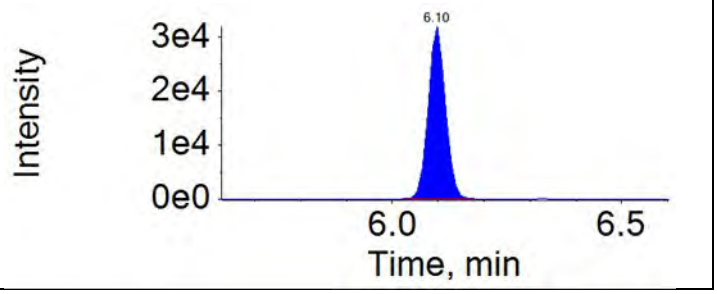
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

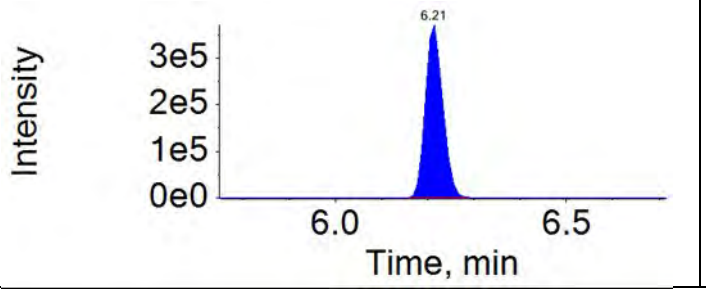
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

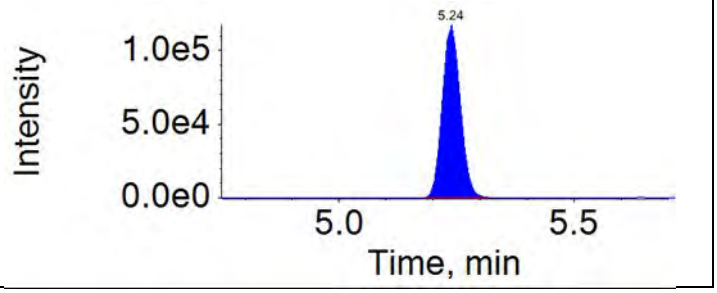
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



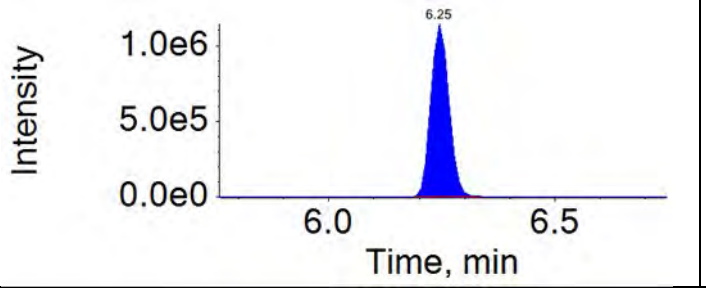


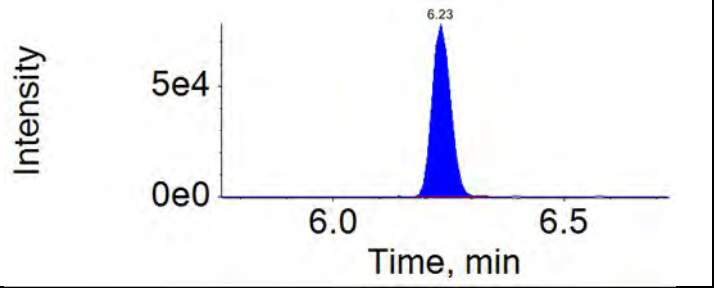
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



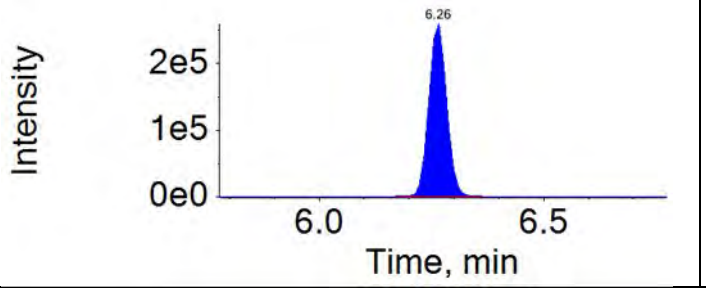


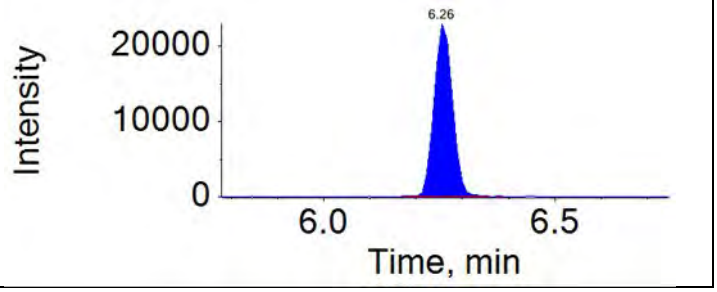
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



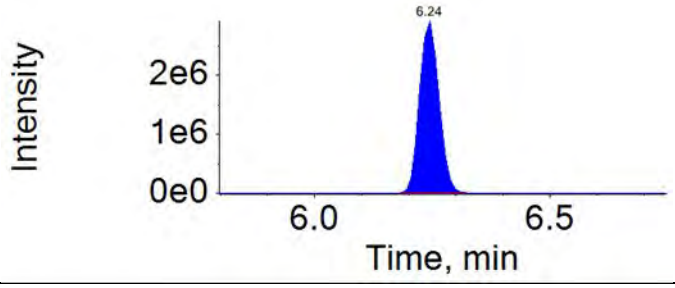


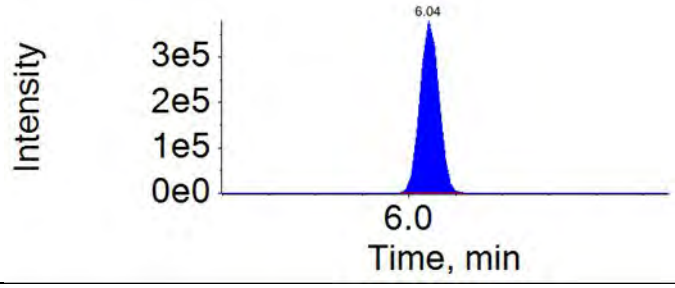
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

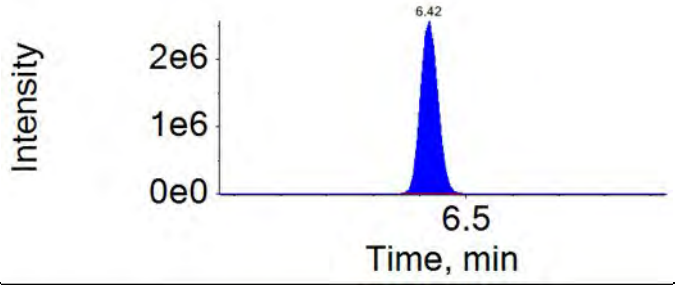
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

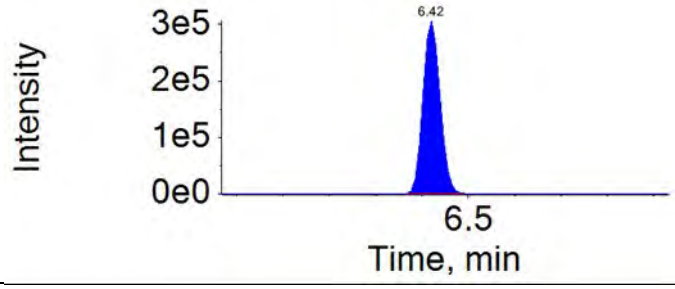
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



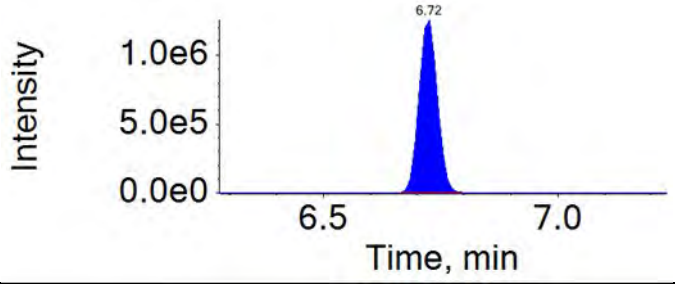


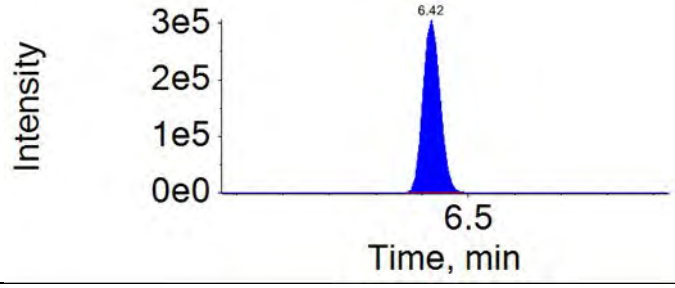
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



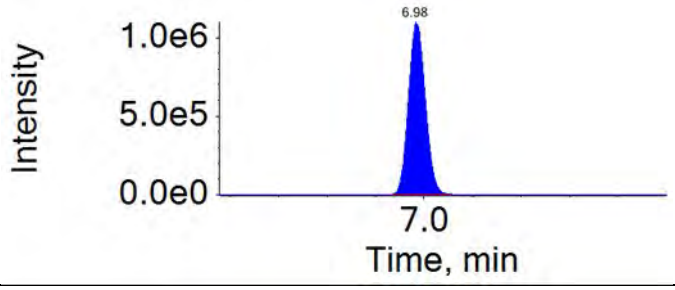


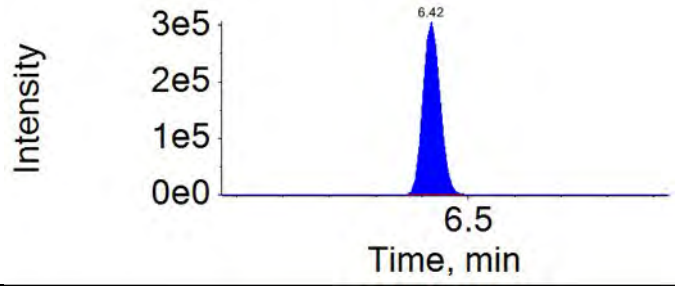
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0

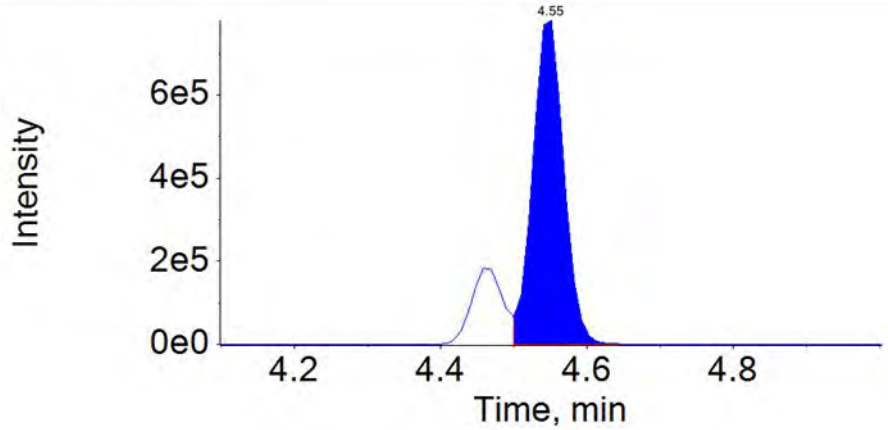


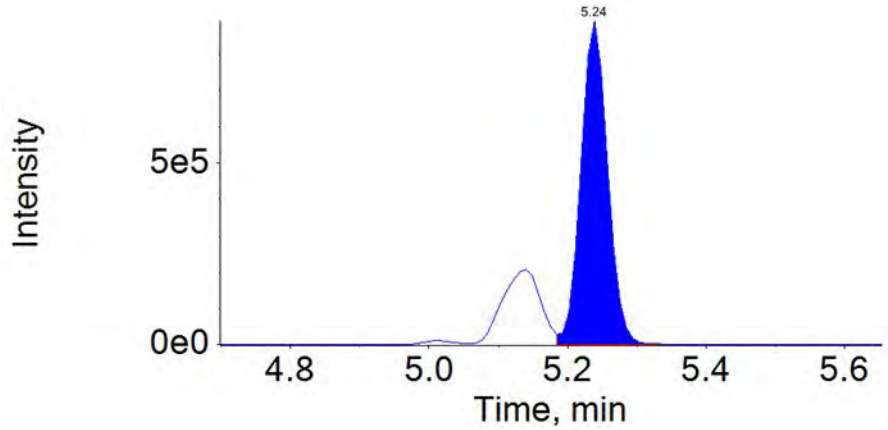


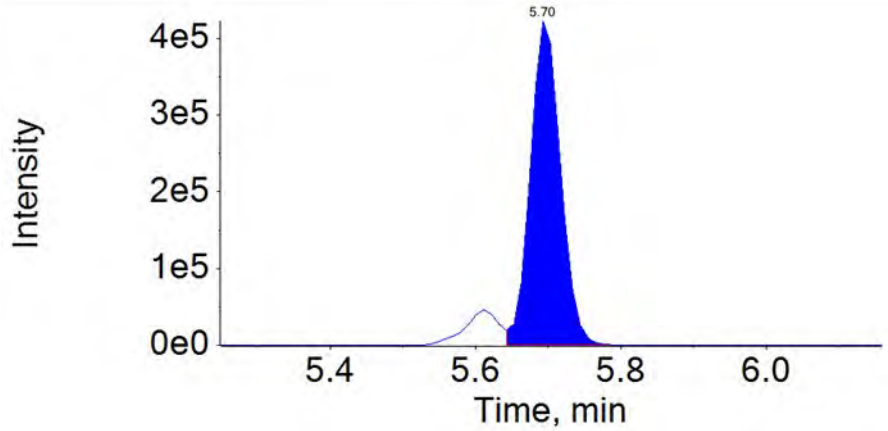
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFHxS **RT (min.):** 4.55 **Peak Area:** 2311667.77 **Mass Range:** 399.0 / 80.0 **File Name:** 18DEC26DCAL-11.wiff **Sample Name:** CAL6	 **Integration Comment:** incorrect integration

Component Name: PFOS **RT (min.):** 5.24 **Peak Area:** 2391032.27 **Mass Range:** 499.0 / 80.0 **File Name:** 18DEC26DCAL-11.wiff **Sample Name:** CAL6	 **Integration Comment:** incorrect integration

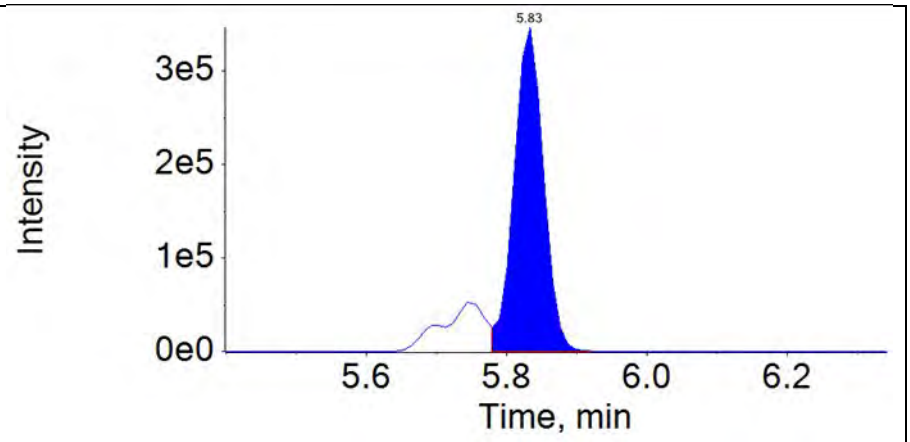
Component Name: NMeFOSAA **RT (min.):** 5.70 **Peak Area:** 1224078.05 **Mass Range:** 570.0 / 419.0 **File Name:** 18DEC26DCAL-11.wiff **Sample Name:** CAL6	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

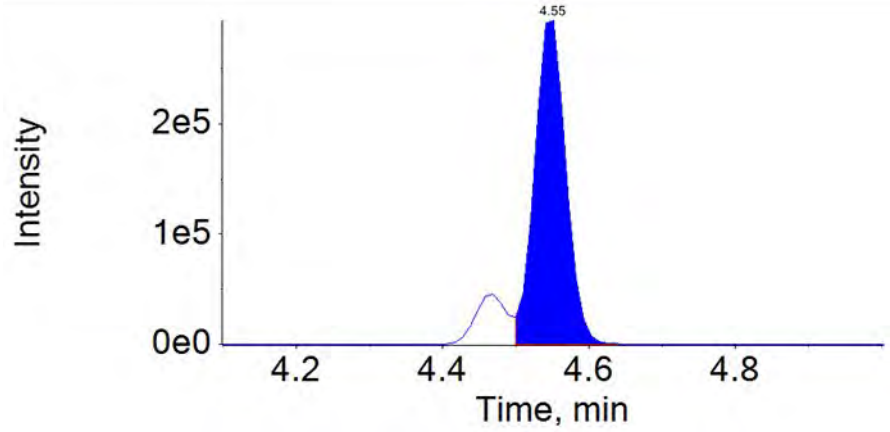
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
1010400.95
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



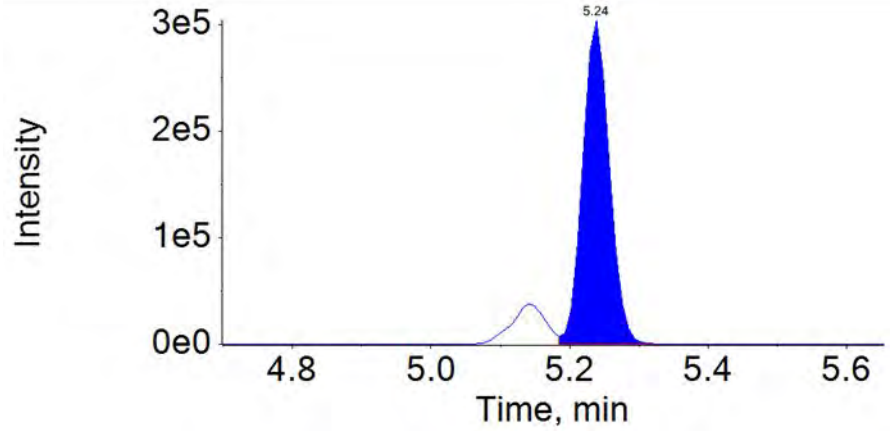
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
877957.31
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
815724.08
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



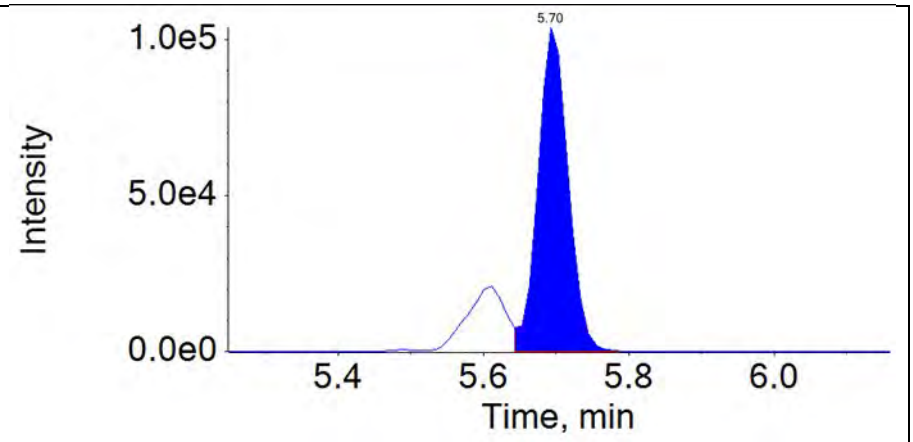
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

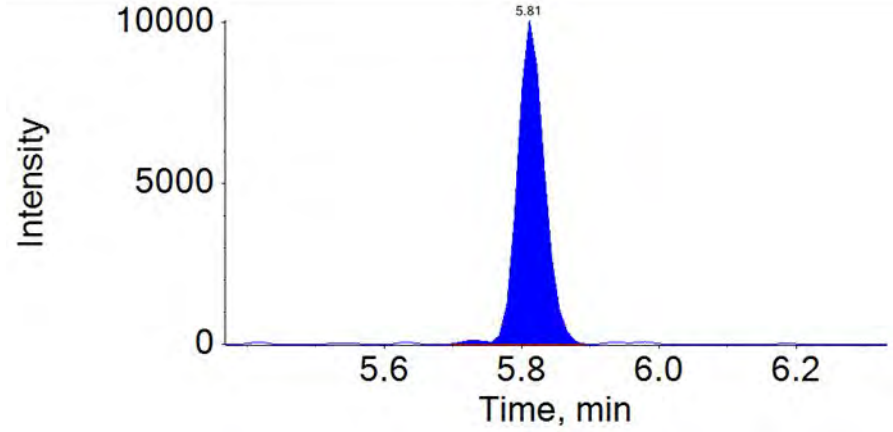
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
298934.26
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



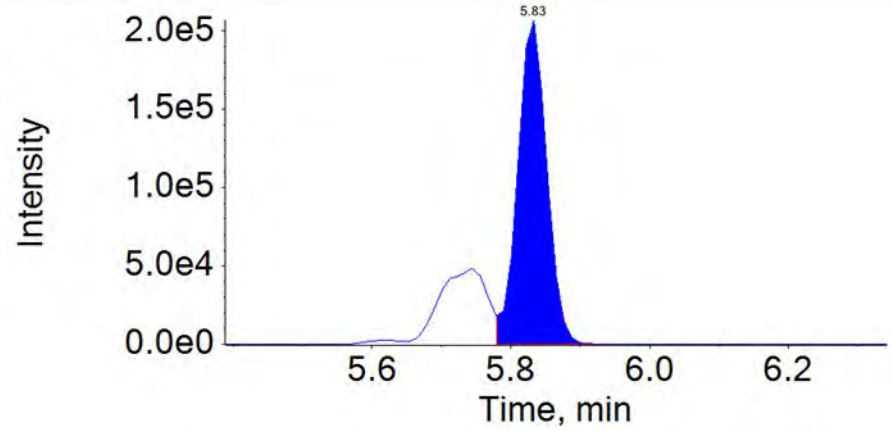
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.81
Peak Area:
27522.66
Mass Range:
563.0 / 169.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
604139.60
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-11.wiff
Sample Name:
CAL6



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Ion Ratio Report

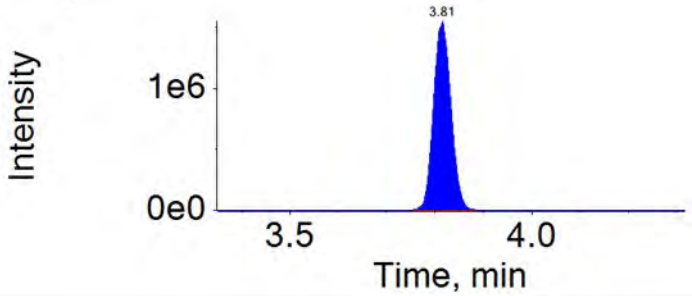
Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-11.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	3888343.86	A	1.0000	1.0000			
PFBS_2	3.81	1.00	1394964.66	A	0.3621	0.3588	-1	50	
4:2-FTS	4.12	1.00	1086392.26	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	681111.52	A	0.6132	0.6269	2	50	
PFHxA	4.16	1.00	7834311.23	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	95508.53	A	0.0123	0.0122	-1	50	
PFPeS	4.18	1.10	1994529.87	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	1036227.27	A	0.5068	0.5195	3	50	
PFHpA	4.54	1.00	8358401.35	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	460928.99	A	0.0570	0.0551	-3	50	
PFHxS	4.55	1.00	2859503.95	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	1016061.76	M	0.3566	0.3553	0	50	
6:2-FTS	4.90	1.00	867166.23	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	532199.97	A	0.6328	0.6137	-3	50	
PFHpS	4.90	1.08	2678186.43	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	1100023.62	A	0.4049	0.4107	1	50	
PFOA	4.91	1.00	7922682.92	A	1.0000	1.0000			
PFOA_2	4.91	1.00	484250.65	A	0.0570	0.0611	7	50	
PFOS	5.24	1.00	3211850.45	M	1.0000	1.0000			
PFOS_2	5.24	1.00	945761.25	M	0.3043	0.2945	-3	50	
PFNA	5.25	1.00	7794618.38	A	1.0000	1.0000			
PFNA_2	5.25	1.00	159122.96	A	0.0213	0.0204	-4	50	
PFNS	5.53	1.06	2152213.04	A	1.0000	1.0000			
PFNS_2	5.53	1.06	962825.71	A	0.4515	0.4474	-1	50	
PFDA	5.55	1.00	6811084.31	A	1.0000	1.0000			
PFDA_2	5.55	1.00	47693.87	A	0.0067	0.0070	4	50	
8:2-FTS	5.56	1.00	904843.31	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	517707.92	A	0.6016	0.5722	-5	50	
NMeFOSAA	5.70	1.00	1371700.16	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	375518.57	M	0.2579	0.2738	6	50	
PFDS	5.79	1.11	1737083.03	A	1.0000	1.0000			
PFDS_2	5.79	1.11	866316.17	A	0.4884	0.4987	2	50	
PFUnDA	5.82	1.00	7025081.87	A	1.0000	1.0000			
PFUnDA_2	5.81	1.00	27231.55	M	0.0042	0.0039	-8	50	
NEtFOSAA	5.83	1.00	1233822.93	M	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	830477.90	M	0.6799	0.6731	-1	50	
PFDoDA	6.04	1.00	9392590.48	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	130900.93	A	0.0139	0.0139	0	50	
10:2-FTS	6.06	1.09	852836.09	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	624335.00	A	0.6715	0.7321	9	50	
PFTrDA	6.24	1.03	8390939.29	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	72314.56	A	0.0088	0.0086	-3	50	
PFTeDA	6.42	1.00	6733908.22	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	42043.21	A	0.0063	0.0062	0	50	
PFHxDA	6.72	1.05	3431505.30	A	1.0000	1.0000			
PFHxDA_2	6.72	1.05	213798.29	A	0.0643	0.0623	-3	50	
PFODA	6.98	1.09	2650154.01	A	1.0000	1.0000			
PFODA_2	6.98	1.09	70316.63	A	0.0266	0.0265	0	50	

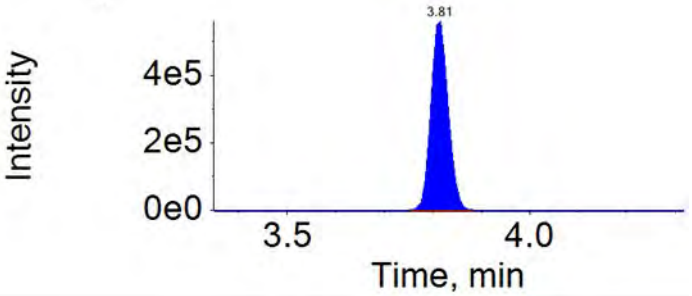
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

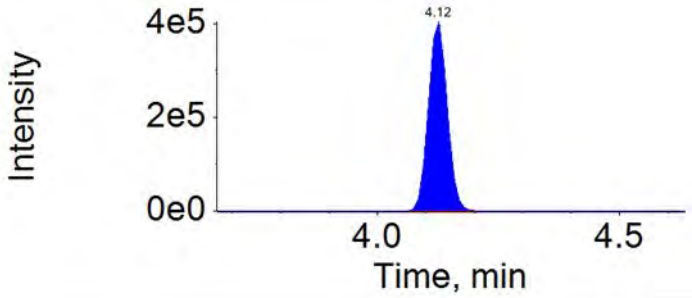
Component: PFBS
Primary Mass: 299.0 / 80.0



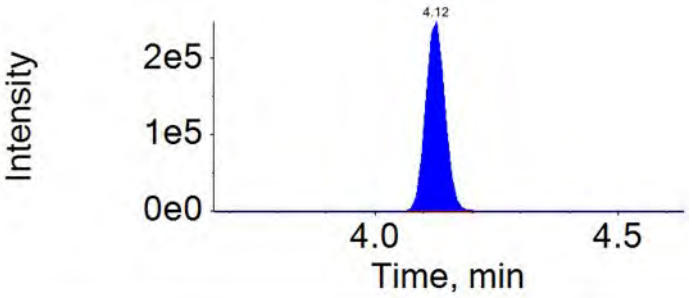
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



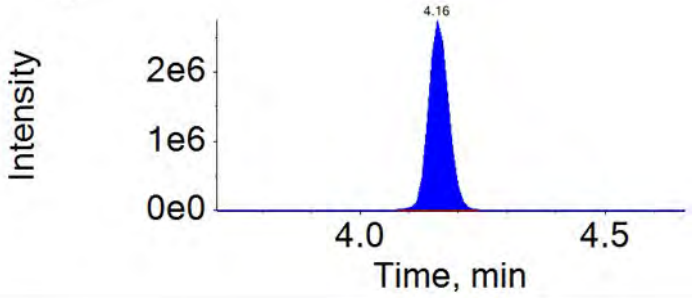
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



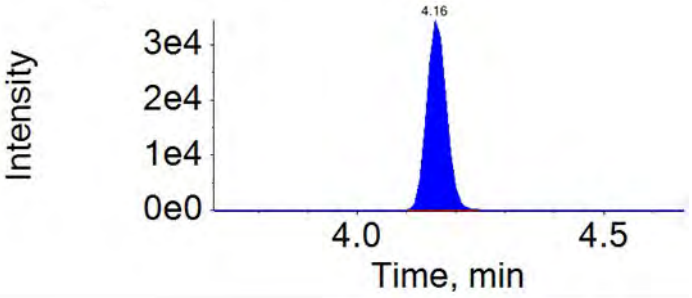
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Secondary Mass: 327.0 / 81.0



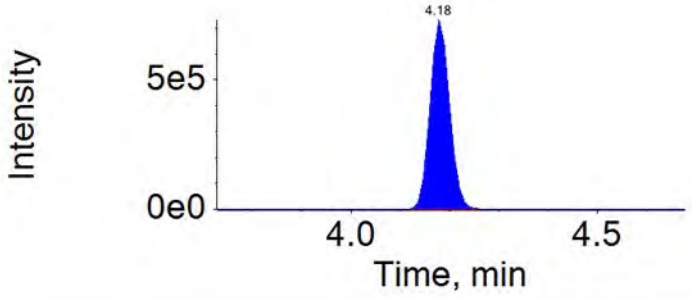
Component: PFHxA
Primary Mass: 313.0 / 269.0



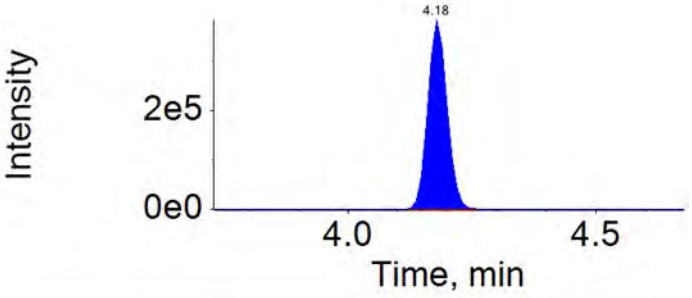
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



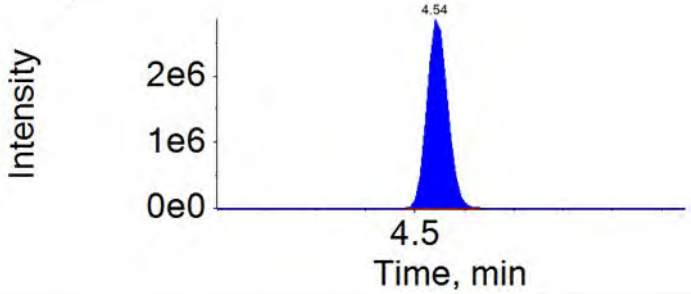
Component: PFPeS
Primary Mass: 349.0 / 80.0



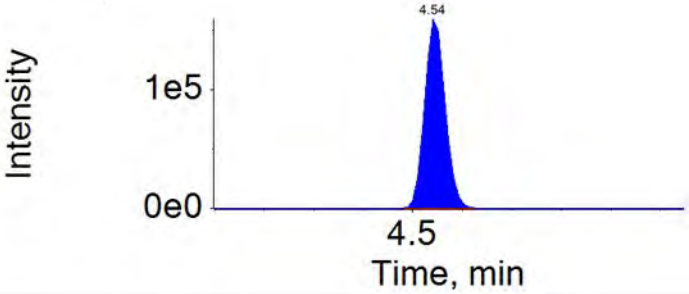
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



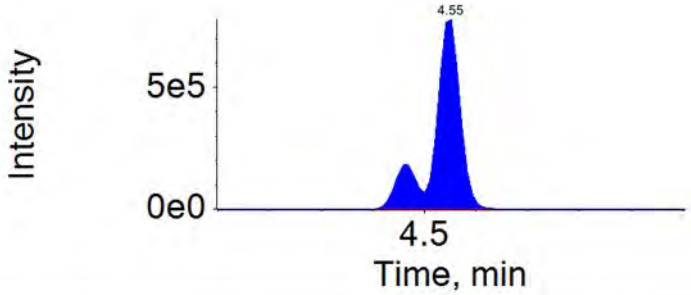
Component: PFHpA
Primary Mass: 363.0 / 319.0



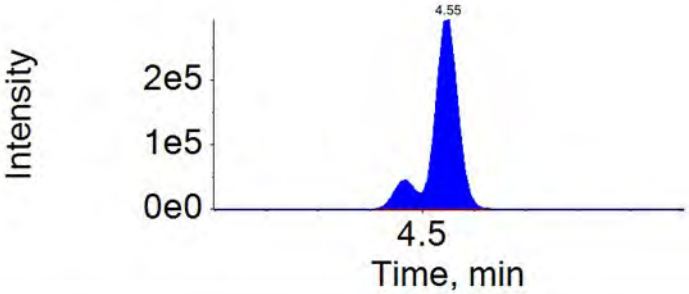
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



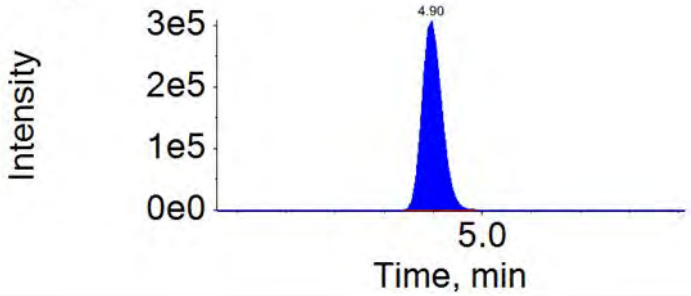
Component: PFHxS
Primary Mass: 399.0 / 80.0



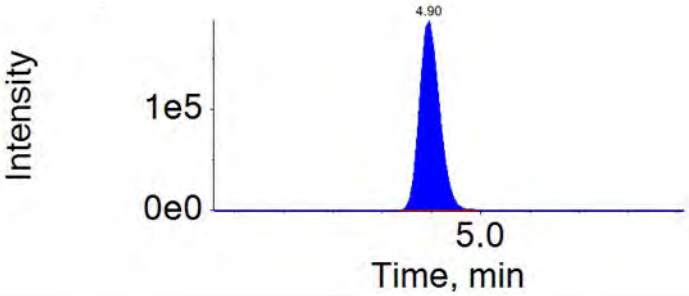
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



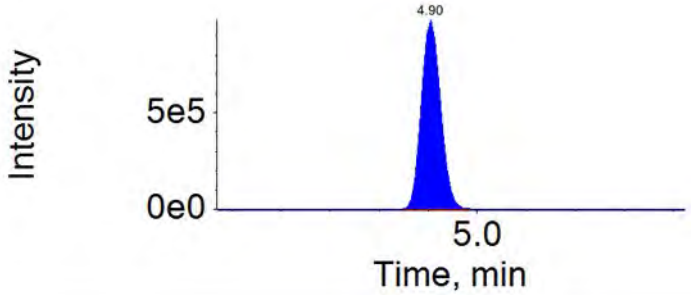
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



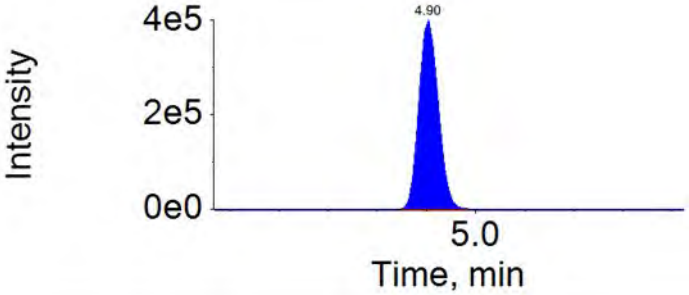
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



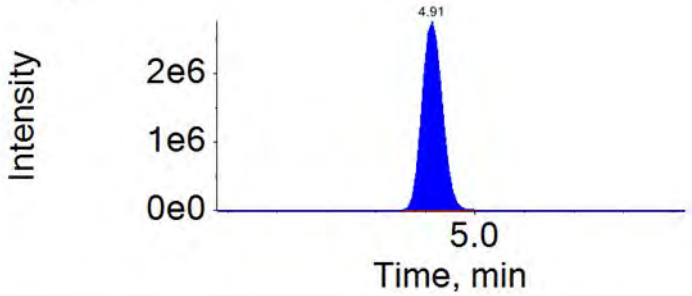
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



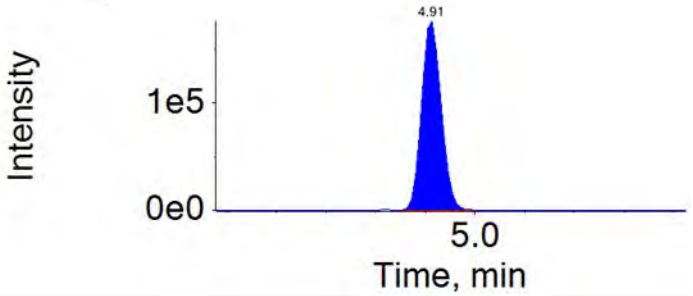
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

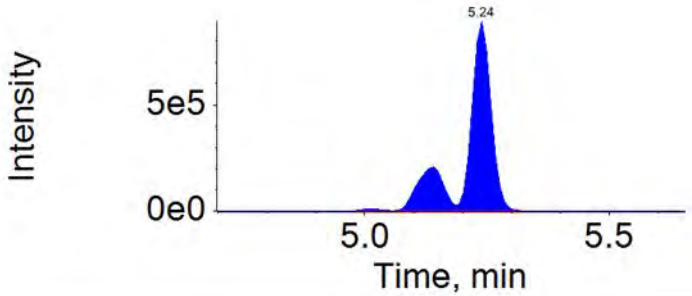
Component: PFOA
Primary Mass: 413.0 / 369.0



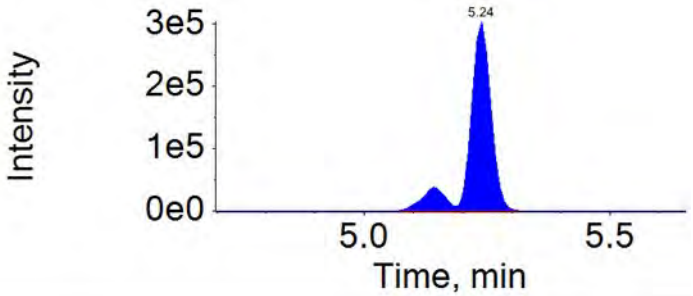
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



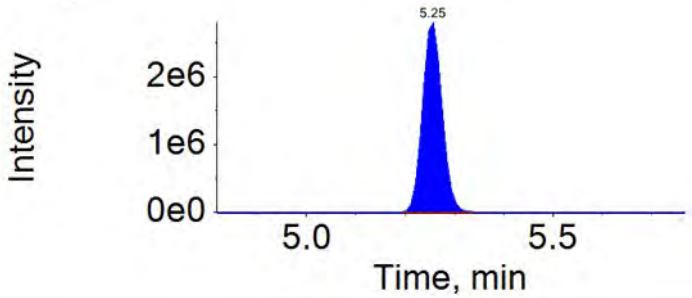
Component: PFOS
Primary Mass: 499.0 / 80.0



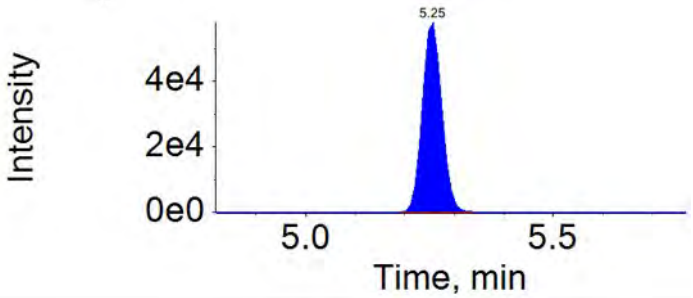
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



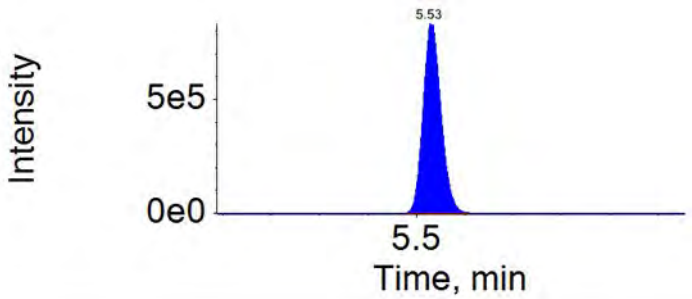
Component: PFNA
Primary Mass: 463.0 / 419.0



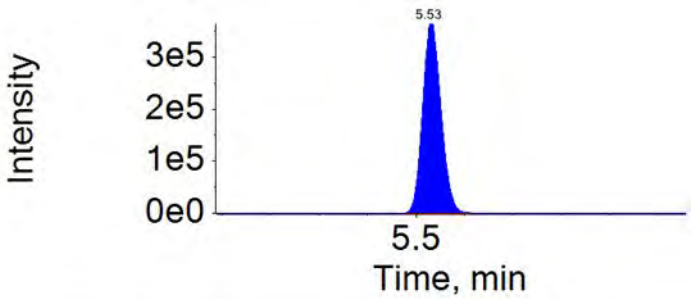
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



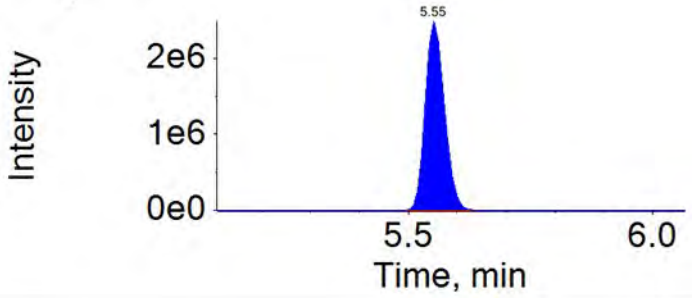
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



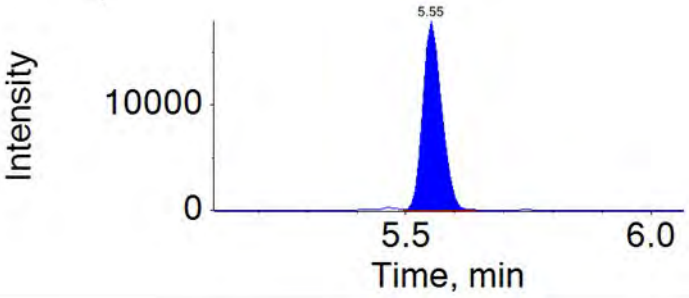
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REVIEWED
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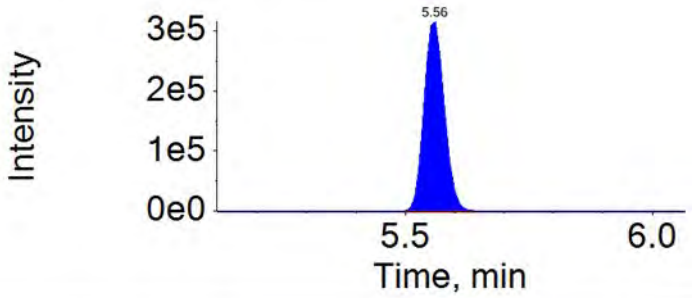
Component: PFDA
Primary Mass: 513.0 / 469.0



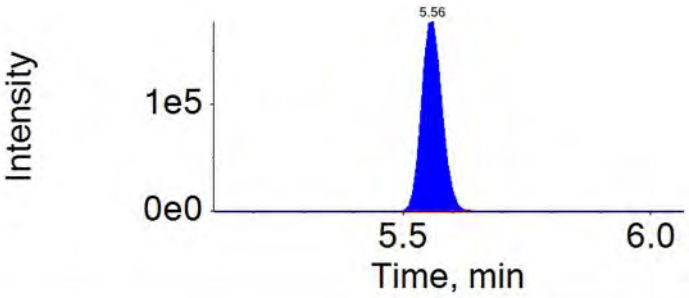
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



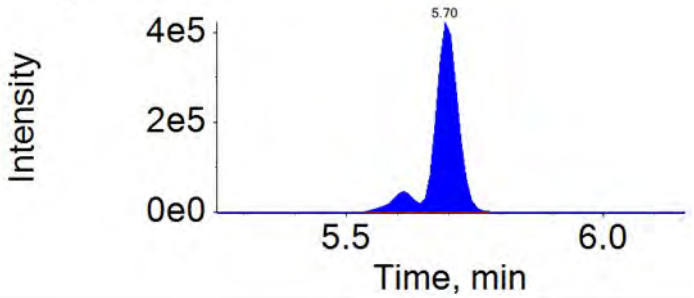
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



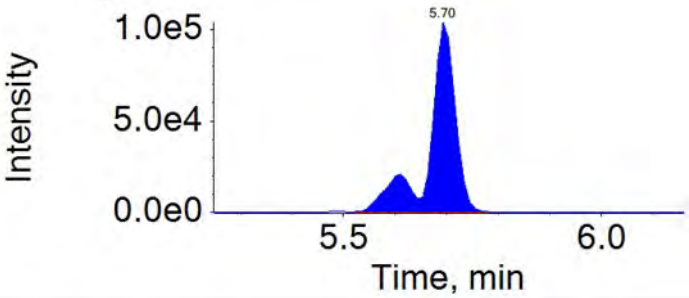
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



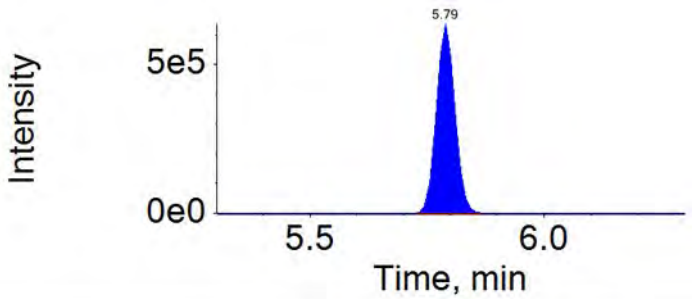
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



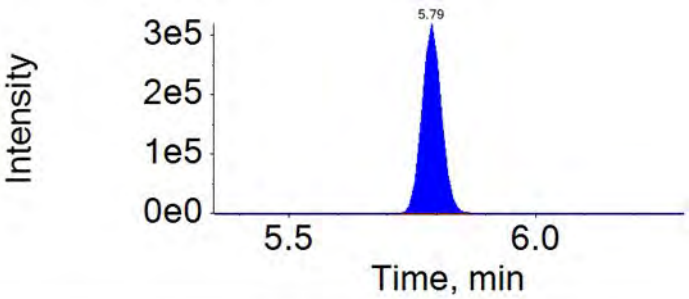
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



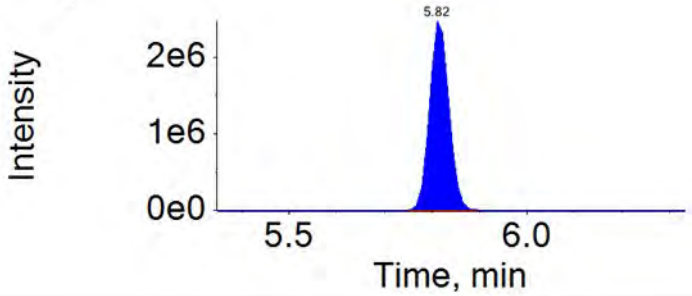
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



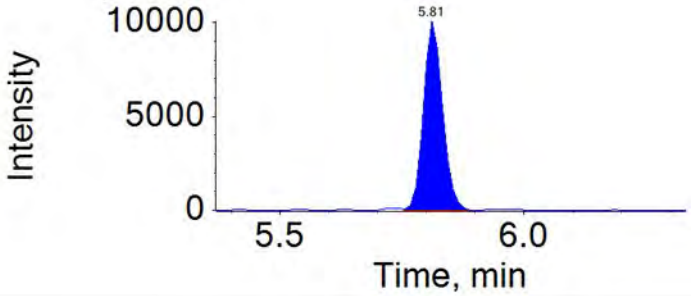
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

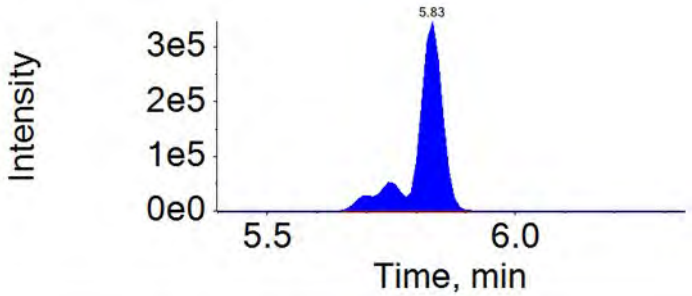
Component: PFUnDA
Primary Mass: 563.0 / 519.0



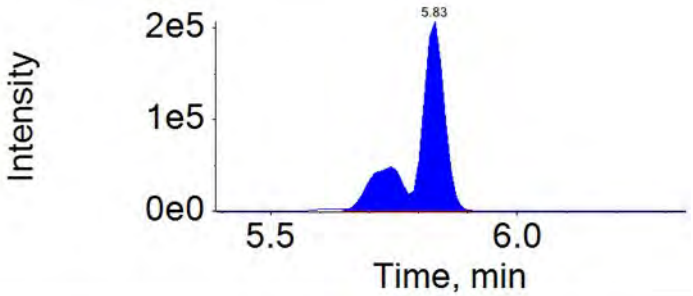
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Secondary Mass: 563.0 / 169.0



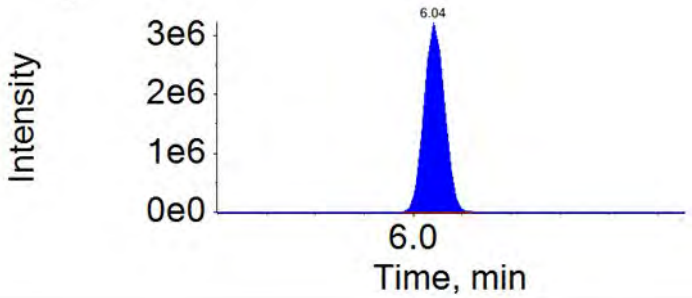
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



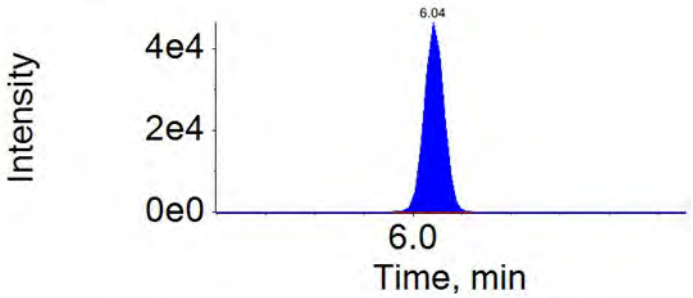
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



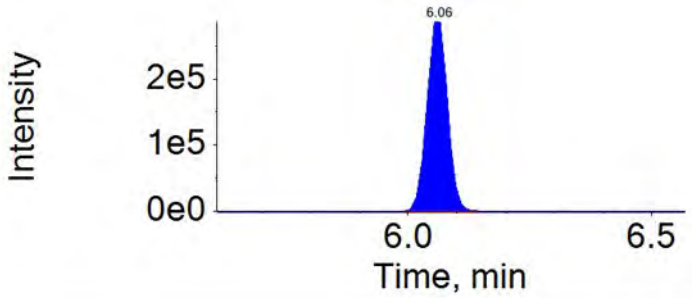
Component: PFDoDA
Primary Mass: 613.0 / 569.0



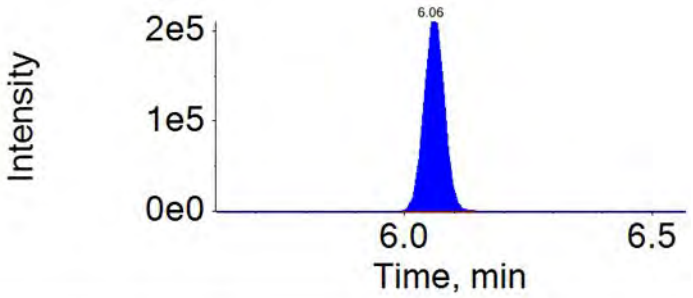
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



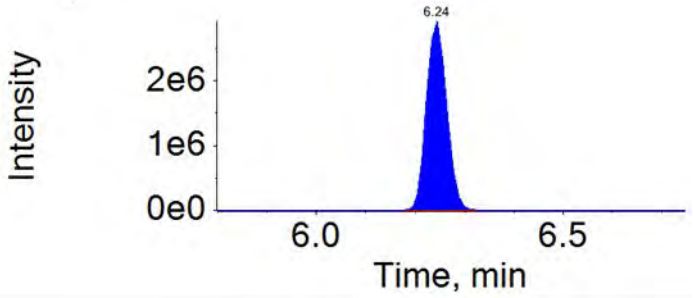
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



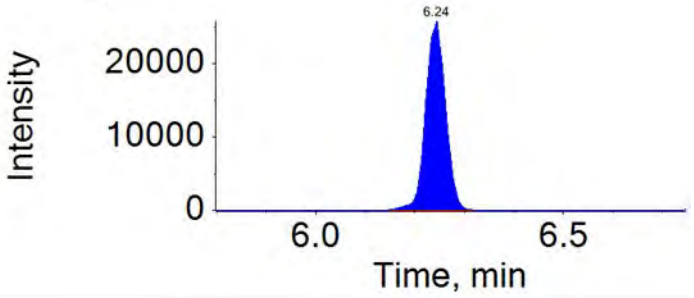
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

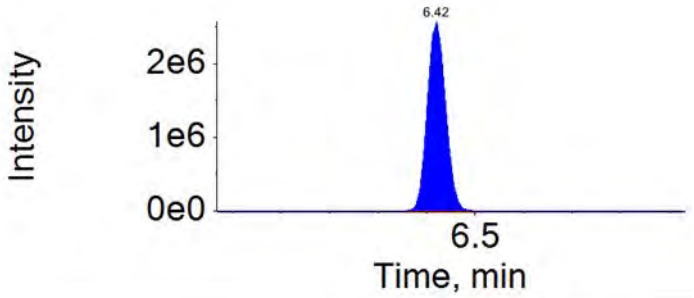
Component: PFTrDA
Primary Mass: 663.0 / 619.0



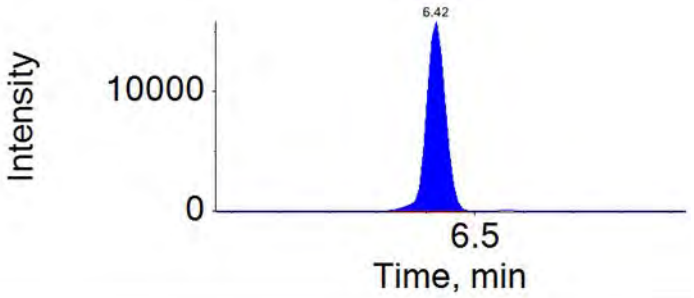
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



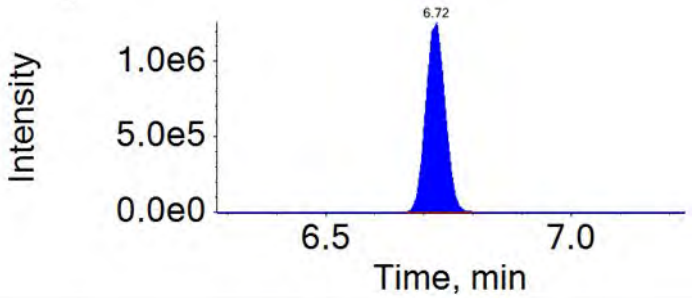
Component: PFTeDA
Primary Mass: 713.0 / 669.0



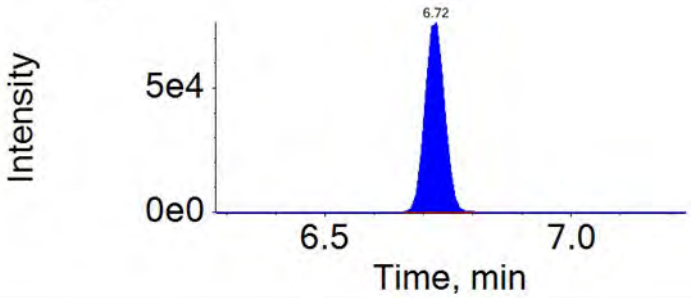
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



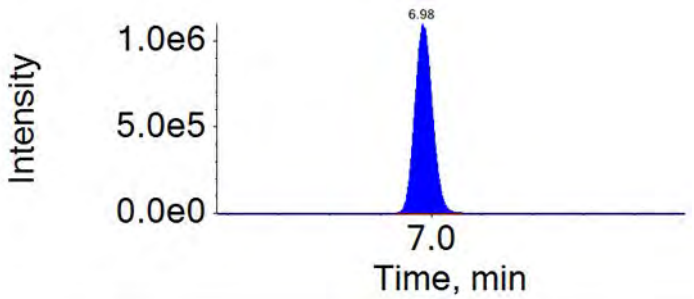
Component: PFHxDA
Primary Mass: 813.0 / 769.0



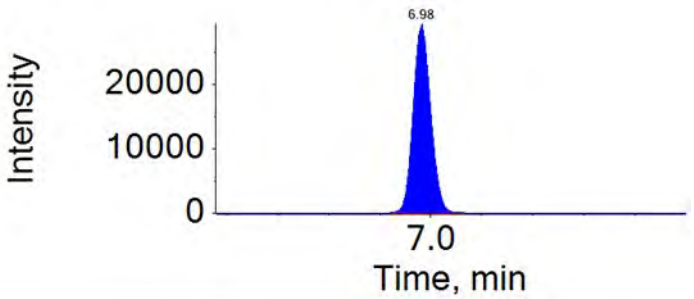
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL7			**Data File:**		18DEC26DCAL-12.wiff
Sample ID:	CALBRN71833B			**Acquis Date:**		2018-12-26T14:31:31
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	9			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	774536.7	965438.2	-20	50	
13C2-PFOA	5.0	528420.8	527066.0	0	50	
13C4-PFOS	4.8	246440.9	307230.6	-20	50	
13C2-PFDA	5.0	404042.1	493258.9	-18	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	878201.1	13C3-PFBA	774536.7	1.134	5.000	5.031	101	70-130	
E13C5-PFPeA	819950.3	13C3-PFBA	774536.7	1.059	5.000	5.042	101	70-130	
E13C3-PFBS	395950.7	13C3-PFBA	774536.7	0.511	4.650	4.967	107	70-130	
E13C2-4:2-FTS	61448.8	13C2-PFOA	528420.8	0.116	4.670	4.430	95	70-130	
E13C5-PFHxA	660093.2	13C2-PFOA	528420.8	1.249	5.000	4.570	91	70-130	
E13C3-PFHxS	253609.3	13C2-PFOA	528420.8	0.480	4.730	3.688	78	70-130	
E13C4-PFHpA	572881.2	13C2-PFOA	528420.8	1.084	5.000	4.884	98	70-130	
E13C2-6:2-FTS	40843.4	13C2-PFOA	528420.8	0.077	4.750	3.782	80	70-130	
E13C8-PFOA	788680.4	13C2-PFOA	528420.8	1.493	5.000	4.182	84	70-130	
E13C8-PFOS	268164.7	13C4-PFOS	246440.9	1.088	4.780	4.744	99	70-130	
E13C9-PFNA	610002.6	13C4-PFOS	246440.9	2.475	5.000	5.453	109	70-130	
E13C6-PFDA	674686.0	13C2-PFDA	404042.1	1.670	5.000	4.794	96	70-130	
E13C2-8:2-FTS	38524.7	13C2-PFDA	404042.1	0.095	4.790	4.933	103	70-130	
E13C8-PFOSA	546225.7	13C2-PFDA	404042.1	1.352	5.000	5.400	108	70-130	
Ed3-NMeFOSAA	175307.1	13C2-PFDA	404042.1	0.434	5.000	5.536	111	70-130	
E13C7-PFUnDA	458994.8	13C2-PFDA	404042.1	1.136	5.000	4.909	98	70-130	
Ed5-NEtFOSAA	115219.3	13C2-PFDA	404042.1	0.285	5.000	4.941	99	70-130	
E13C2-PFDoDA	969337.5	13C2-PFDA	404042.1	2.399	5.000	5.204	104	70-130	
Ed7-NMePFOSAE	253242.5	13C2-PFDA	404042.1	0.627	5.000	5.926	119	70-130	
Ed3-NMePFOSA	83787.4	13C2-PFDA	404042.1	0.207	5.000	5.879	118	70-130	
Ed9-NEtPFOSAE	230262.6	13C2-PFDA	404042.1	0.570	5.000	6.201	124	70-130	
Ed5-NEtPFOSA	64698.4	13C2-PFDA	404042.1	0.160	5.000	5.652	113	70-130	
E13C2-PFTeDA	727192.5	13C2-PFDA	404042.1	1.800	5.000	5.308	106	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

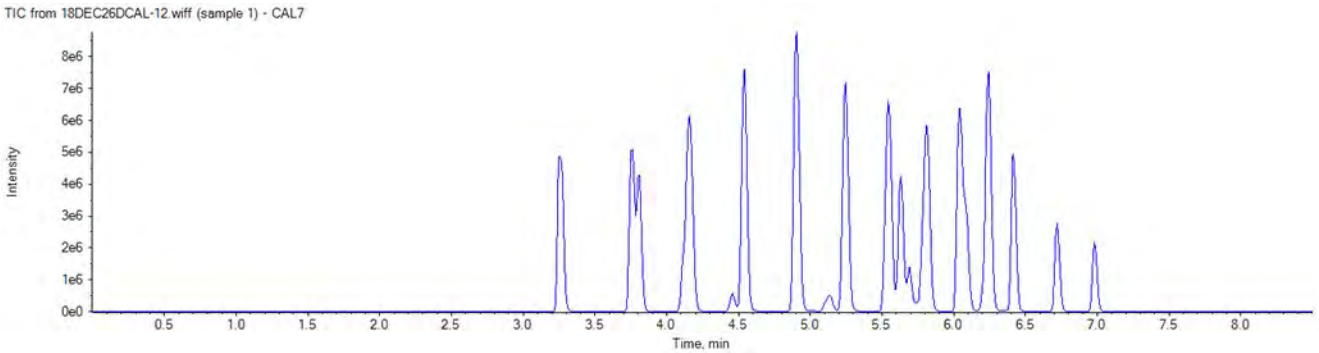
Analyte Quantitation Peak Table

Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-12.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	12736780.0		A	13C4-PFBA	3.26	878201.1	14.503	76.610
PFPeA	3.76	1.000	12846296.8		A	13C5-PFPeA	3.76	819950.3	15.667	77.766
PFBS	3.81	1.000	6903744.0		A	13C3-PFBS	3.81	395950.7	17.436	86.527
4:2-FTS	4.12	1.000	2176382.6		A	13C2-4:2-FTS	4.12	61448.8	35.418	86.840
PFHxA	4.15	1.000	12685251.1		A	13C5-PFHxA	4.15	660093.2	19.217	78.876
PFPeS	4.18	1.100	3622092.5		A	13C3-PFBS	3.81	395950.7	9.148	92.087
PFHpA	4.54	1.000	13139262.6		A	13C4-PFHpA	4.54	572881.2	22.935	72.475
PFHxS	4.54	1.000	5136124.3		M	13C3-PFHxS	4.54	253609.3	20.252	94.708
6:2-FTS	4.89	1.000	1412152.1		A	13C2-6:2-FTS	4.89	40843.4	34.575	82.892
PFHpS	4.90	1.080	4698233.8		A	13C3-PFHxS	4.54	253609.3	18.525	96.976
PFOA	4.91	1.000	13235720.4		A	13C8-PFOA	4.91	788680.4	16.782	88.790
PFOS	5.23	1.000	5815053.4		M	13C8-PFOS	5.23	268164.7	21.685	94.407
PFNA	5.25	1.000	13239275.3		A	13C9-PFNA	5.25	610002.6	21.704	87.219
PFNS	5.53	1.060	3779407.9		A	13C8-PFOS	5.23	268164.7	14.094	96.332
PFDA	5.55	1.000	11360880.8		A	13C6-PFDA	5.55	674686.0	16.839	97.081
8:2-FTS	5.55	1.000	1434315.0		A	13C2-8:2-FTS	5.55	38524.7	37.231	73.559
PFOSA	5.63	1.000	10018658.8		A	13C8-PFOSA	5.63	546225.7	18.342	96.491
NMeFOSAA	5.69	1.000	2467602.1		M	d3-NMeFOSAA	5.69	175307.1	14.076	82.079
PFDS	5.79	1.110	3199882.5		A	13C8-PFOS	5.23	268164.7	11.933	98.365
PFUnDA	5.81	1.000	11431506.6		A	13C7-PFUnDA	5.81	458994.8	24.906	95.248
NEtFOSAA	5.83	1.000	2187128.5		M	d5-NEtFOSAA	5.82	115219.3	18.982	97.596
PFDoDA	6.04	1.000	14001024.1		A	13C2-PFDoDA	6.04	969337.5	14.444	73.689
10:2-FTS	6.06	1.090	1644867.4		A	13C2-8:2-FTS	5.55	38524.7	42.696	87.164
NMePFOSAE	6.09	1.000	5404965.5		A	d7-NMePFOSAE	6.08	253242.5	21.343	90.229
NMePFOSA	6.10	1.000	1530972.3		A	d3-NMePFOSA	6.10	83787.4	18.272	91.171
PFDoS	6.21	1.190	1778999.0		A	13C8-PFOS	5.23	268164.7	6.634	99.149
NEtPFOSAE	6.24	1.000	5866444.2		A	d9-NEtPFOSAE	6.23	230262.6	25.477	84.299
NEtPFOSA	6.26	1.000	1345630.7		A	d5-NEtPFOSA	6.26	64698.4	20.799	97.786
PFTrDA	6.24	1.030	12316464.5		A	13C2-PFDoDA	6.04	969337.5	12.706	67.643
PFTeDA	6.42	1.000	11021797.3		A	13C2-PFTeDA	6.42	727192.5	15.157	86.201
PFHxDA	6.72	1.050	6144944.2		A	13C2-PFTeDA	6.42	727192.5	8.450	97.429
PFODA	6.98	1.090	4869902.1		A	13C2-PFTeDA	6.42	727192.5	6.697	99.024

Total Ion Chromatogram

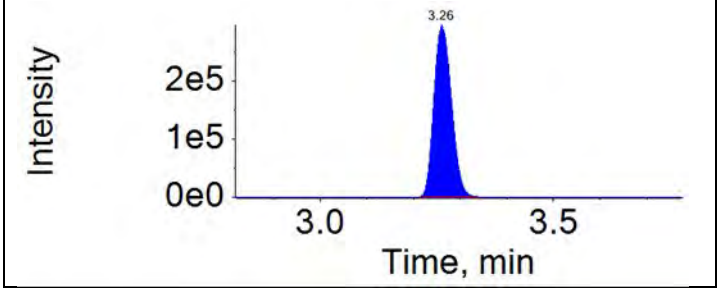


APPROVED
By MSM at 1:33 pm, 12/27/18

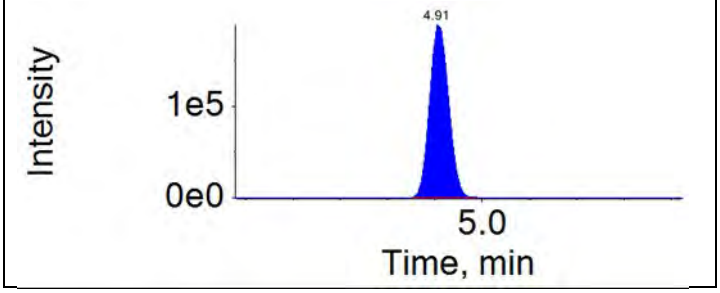
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

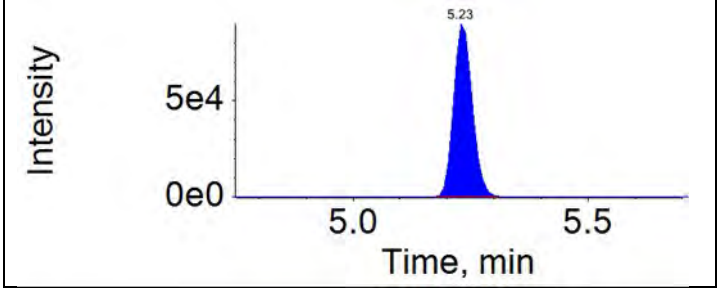
Injection Standard: 13C3-PFBA
216.0 / 172.0



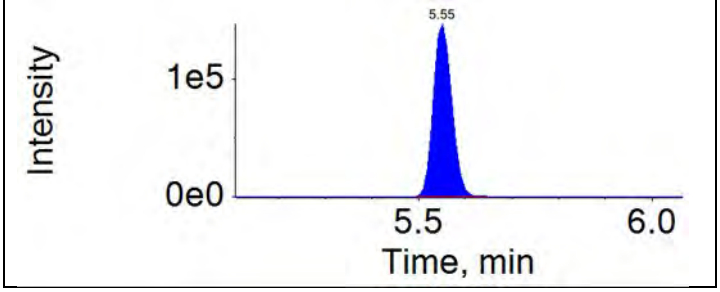
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

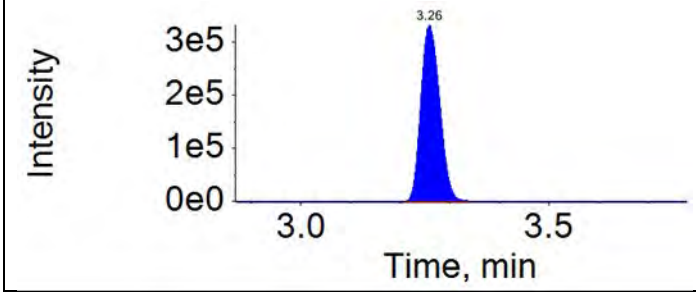


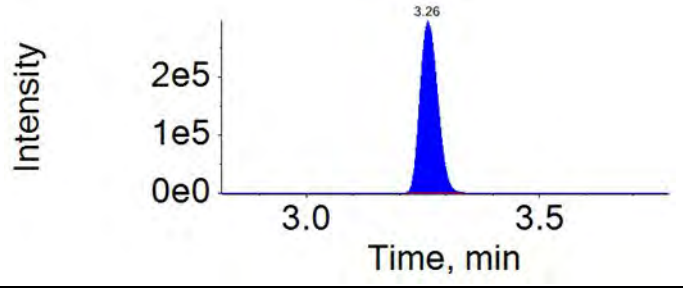
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

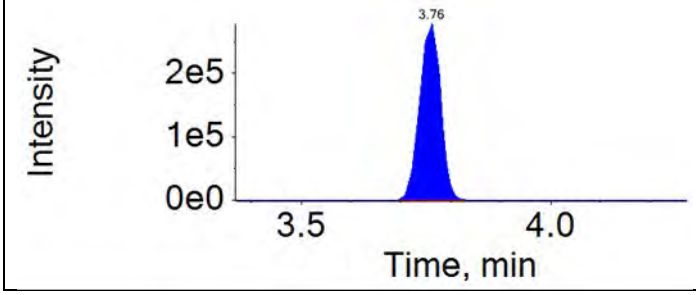
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

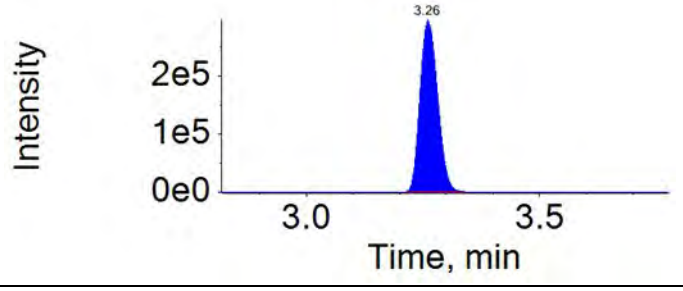
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



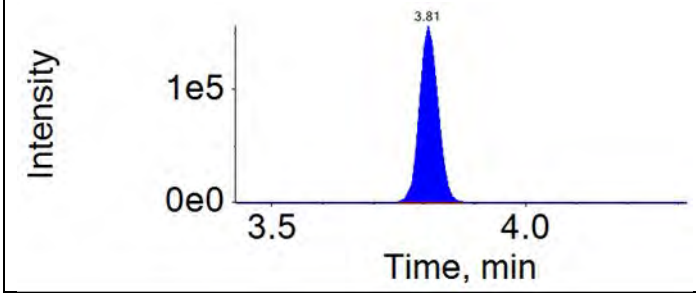


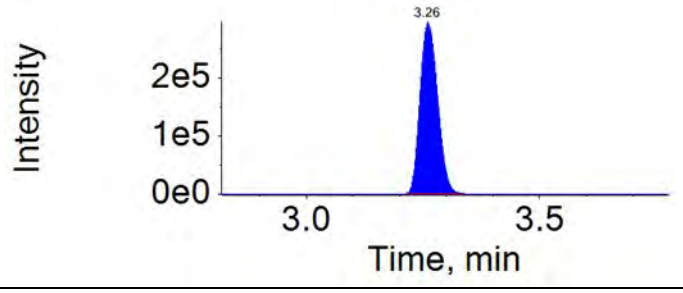
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



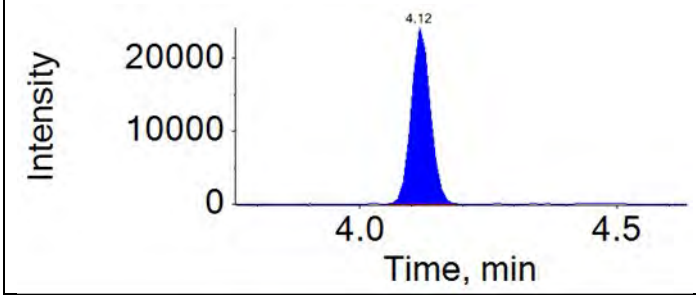


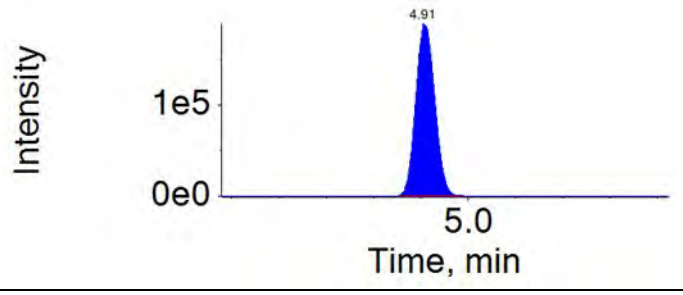
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



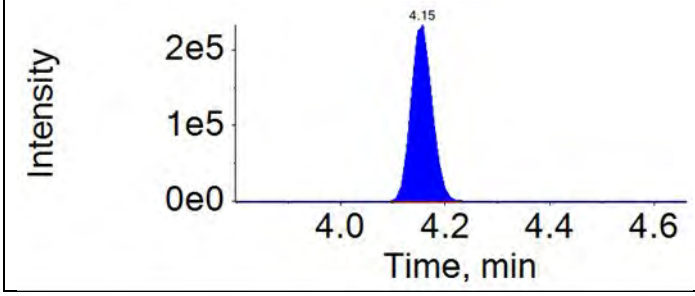


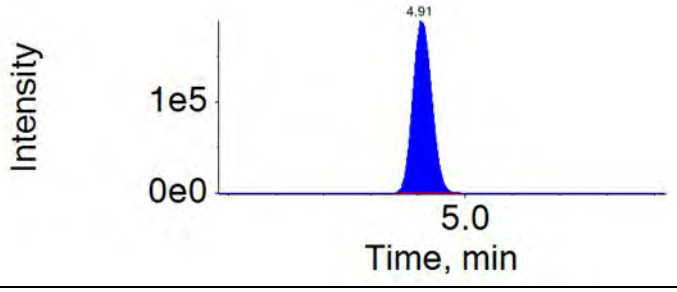
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

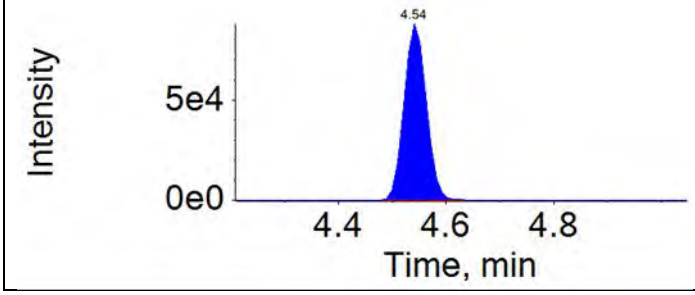
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

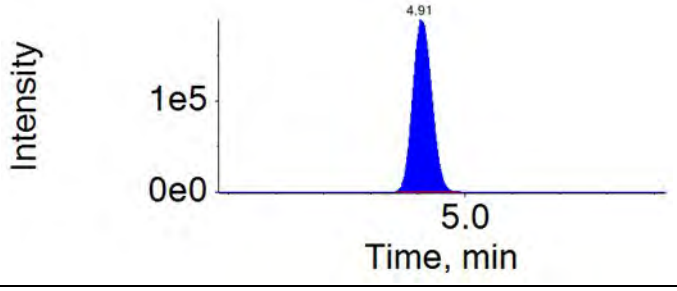
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



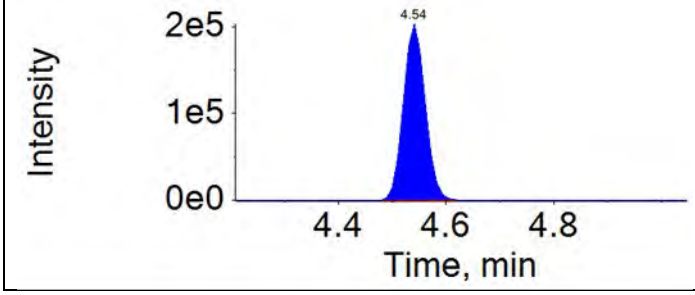


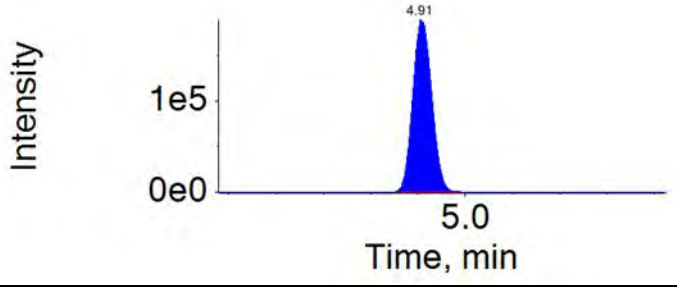
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



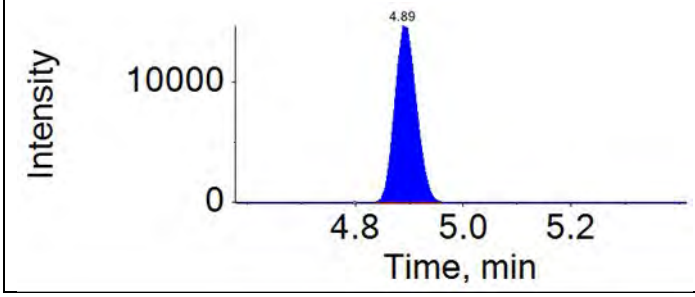


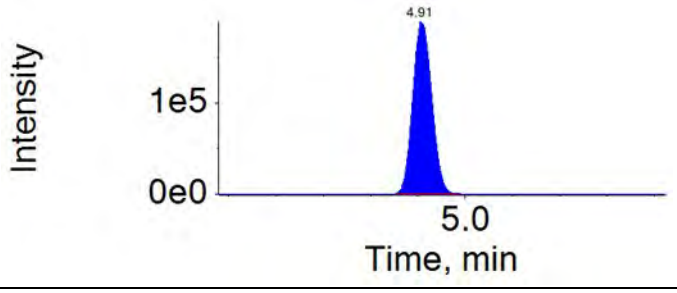
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



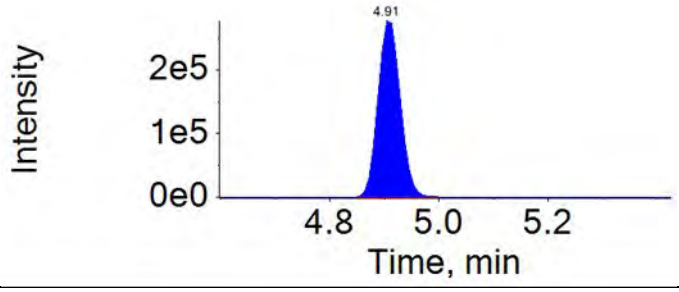


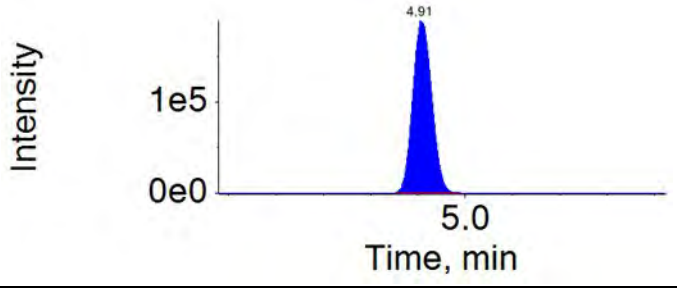
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

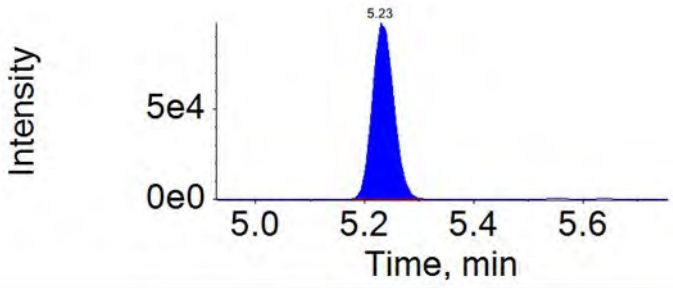
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

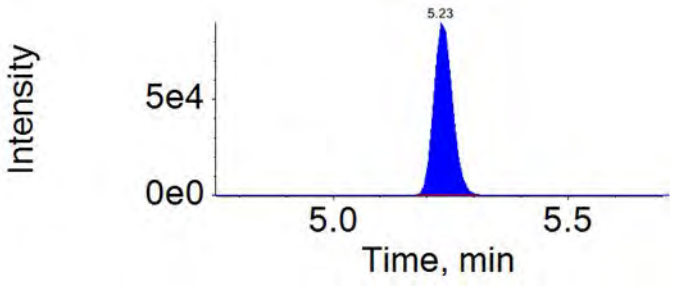
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



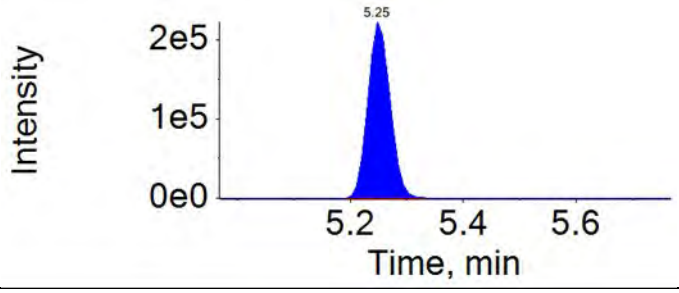


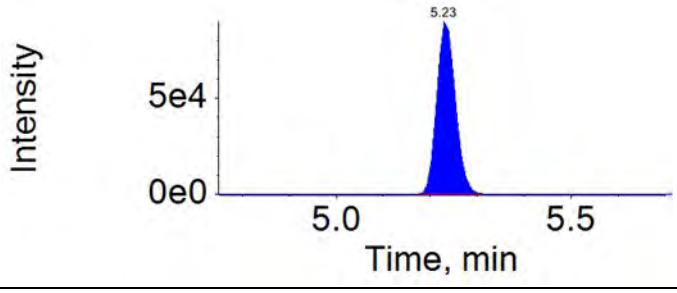
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



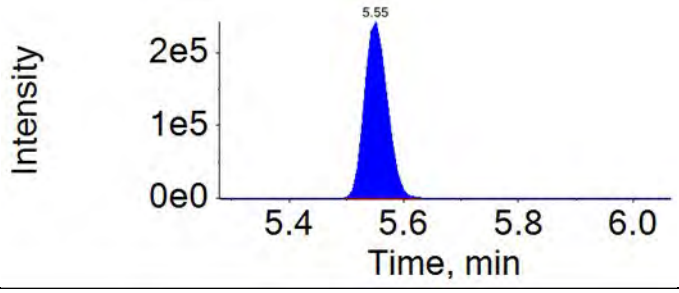


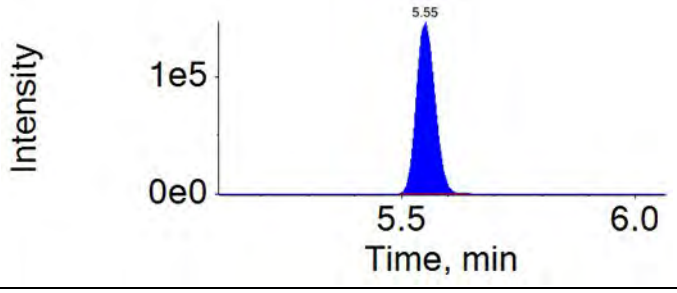
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



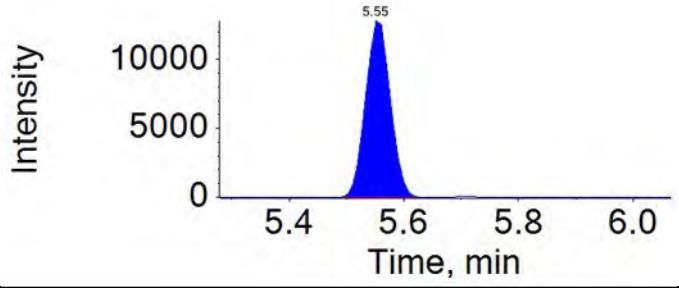


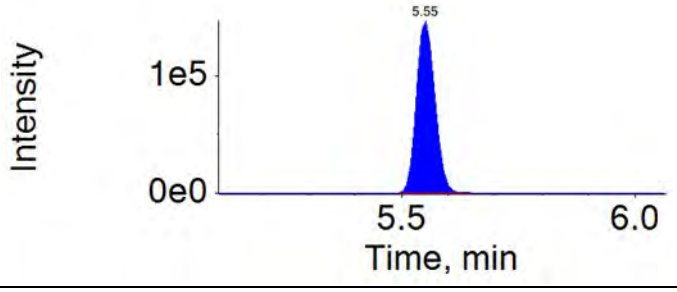
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

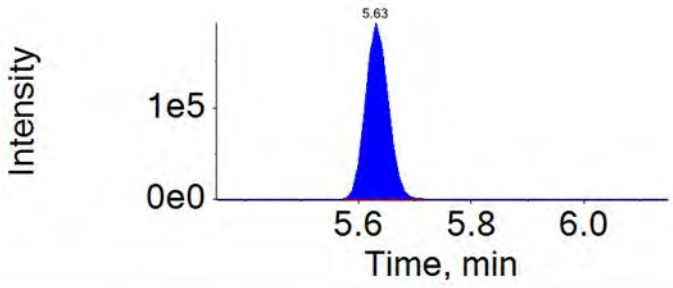
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

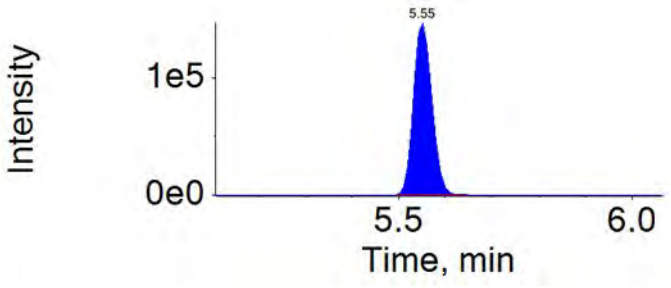
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



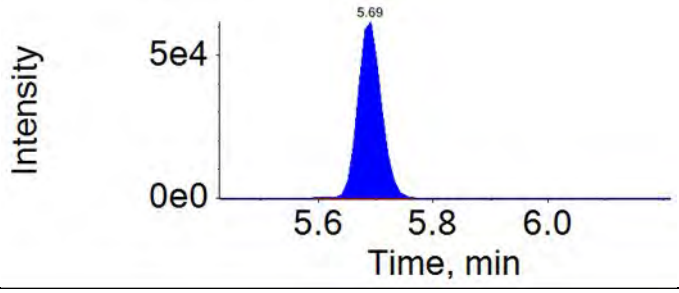


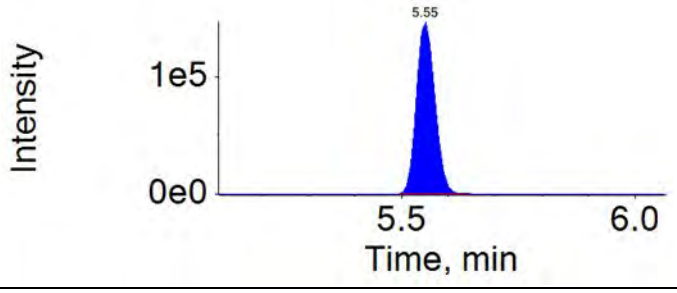
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



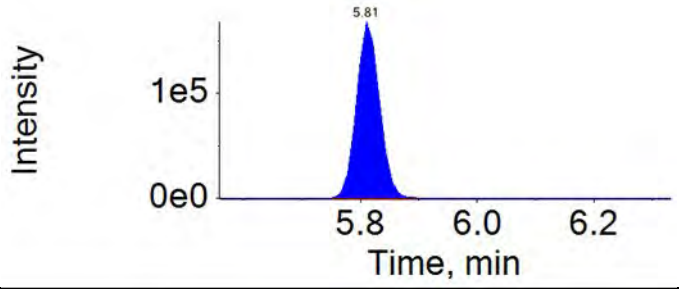


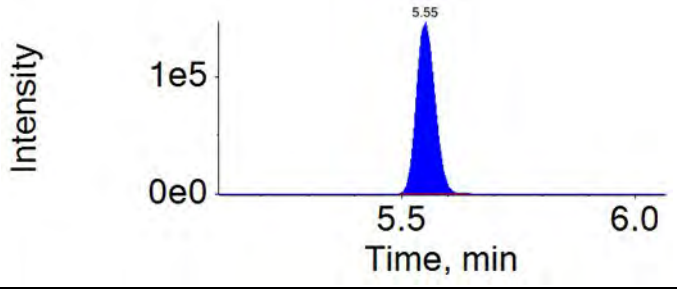
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



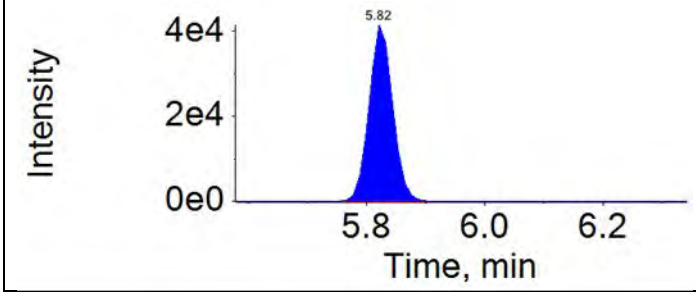


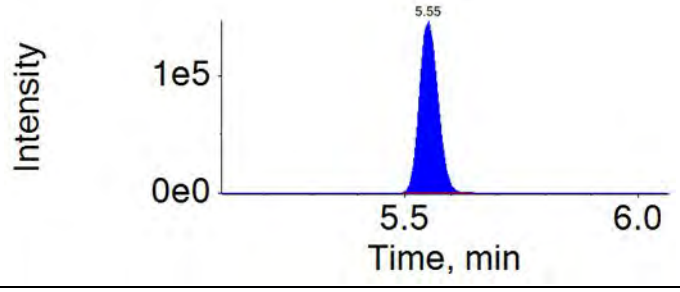
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

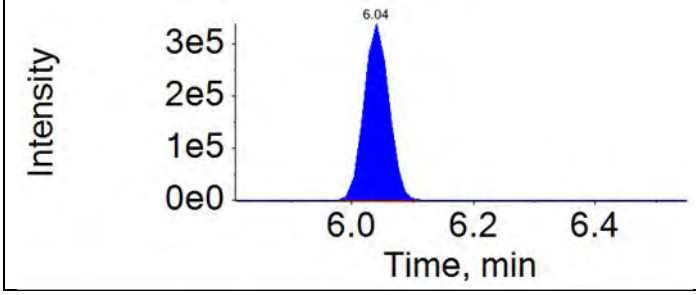
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

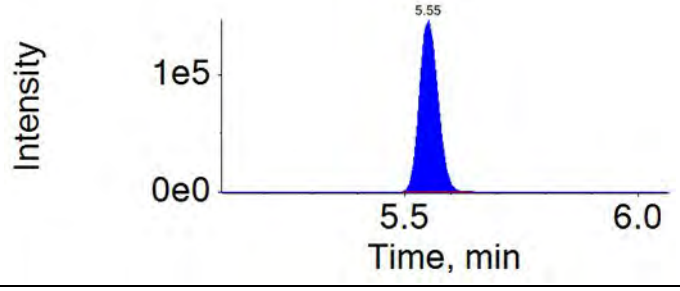
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



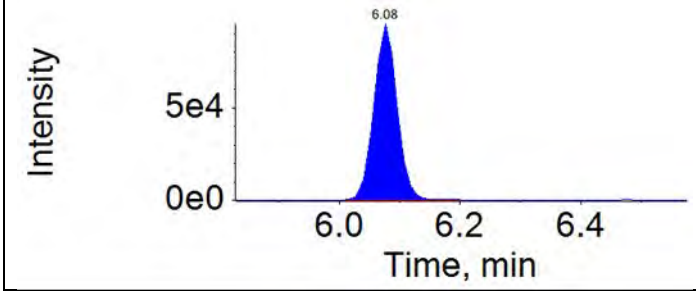


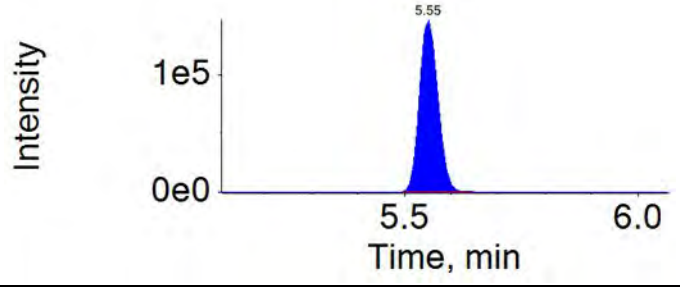
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



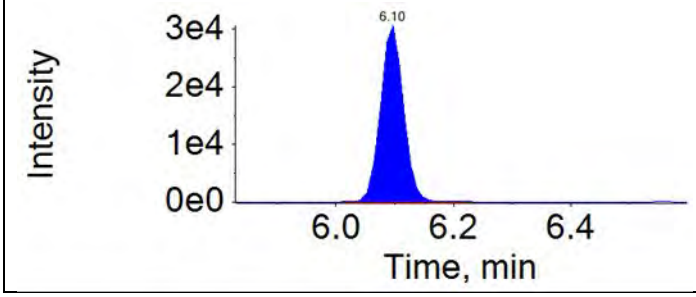


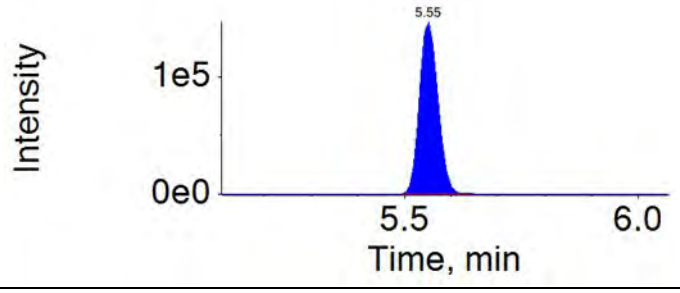
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





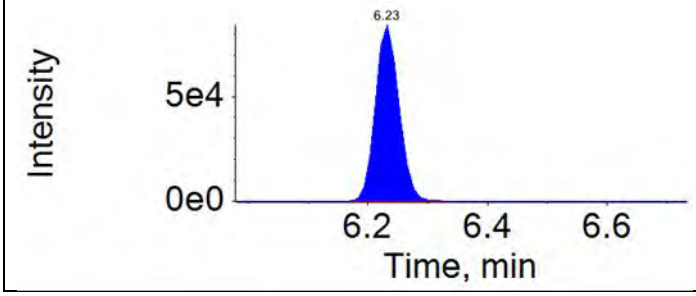
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

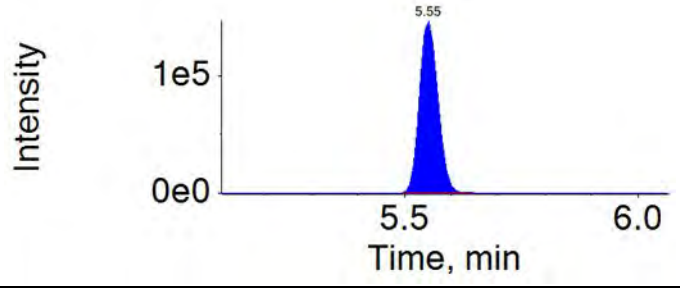




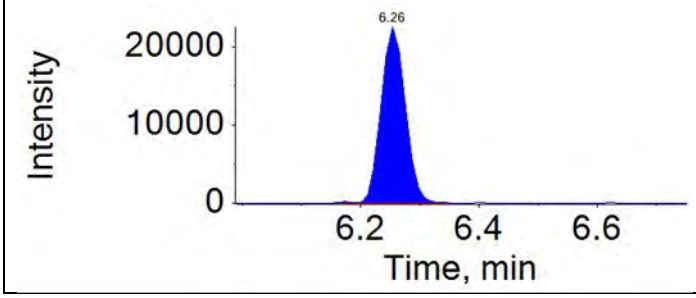
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

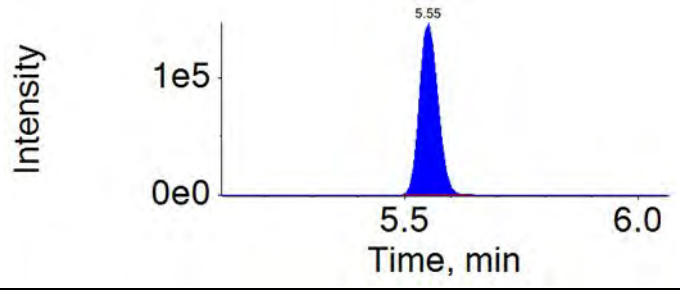
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



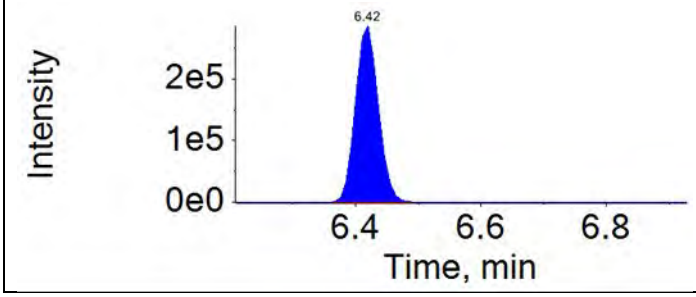


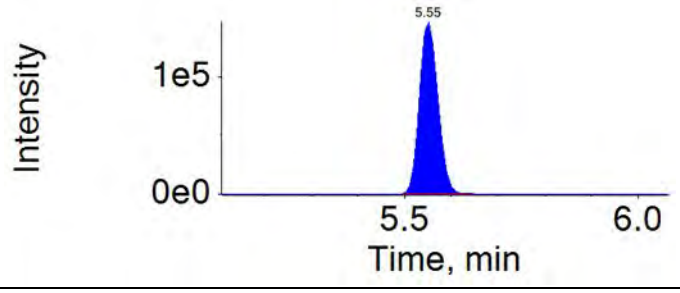
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



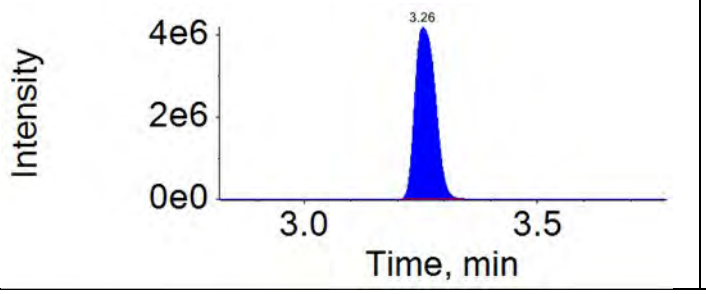


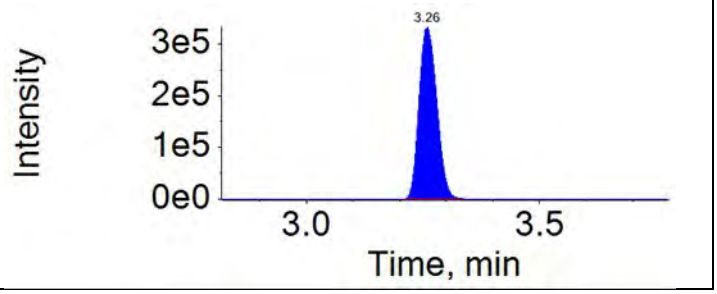
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

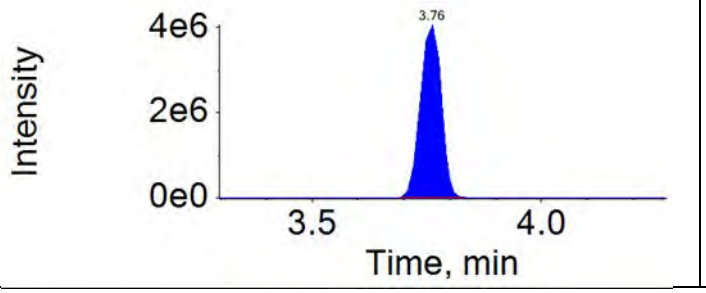
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

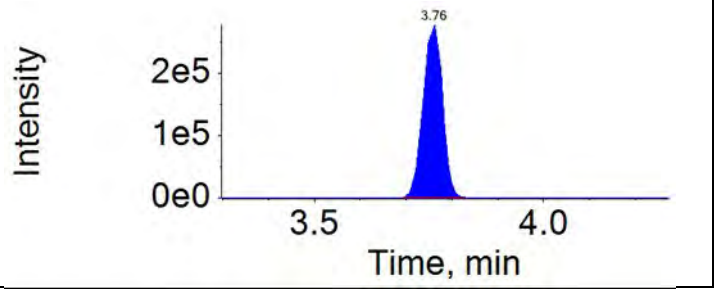
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



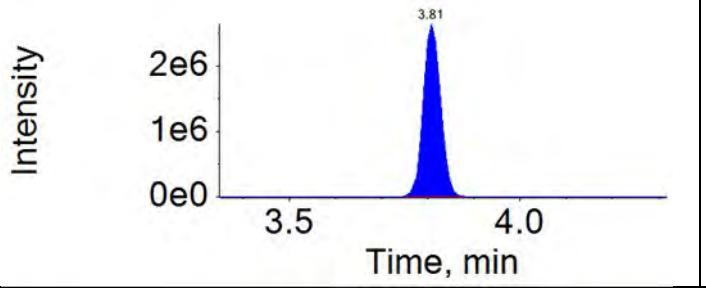


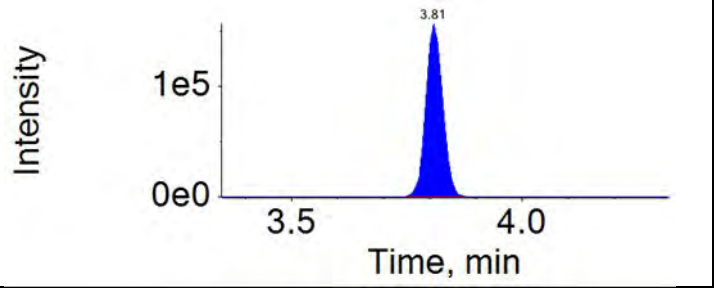
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



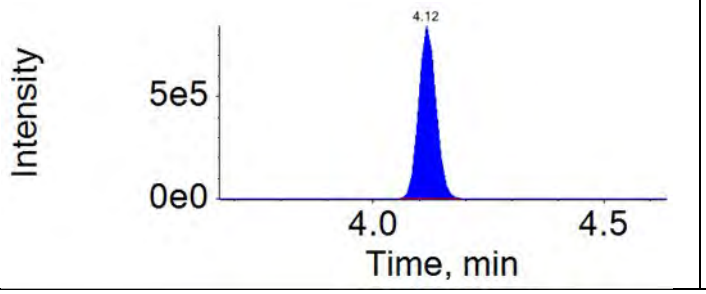


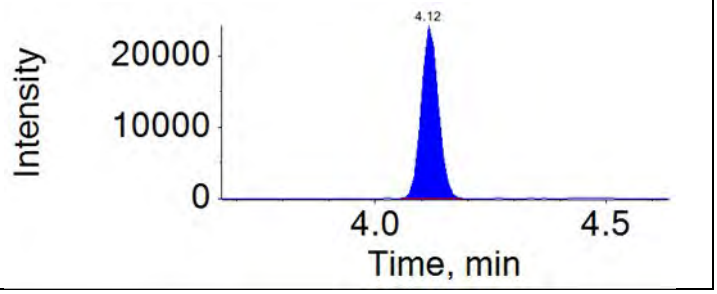
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



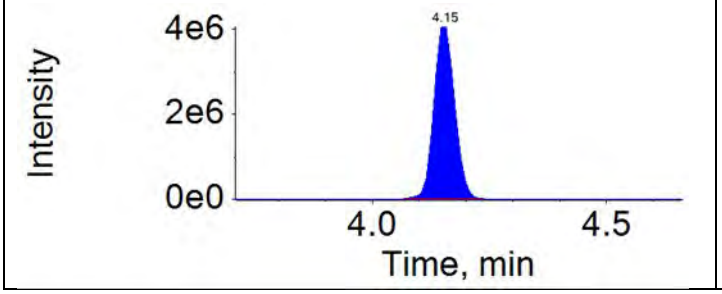


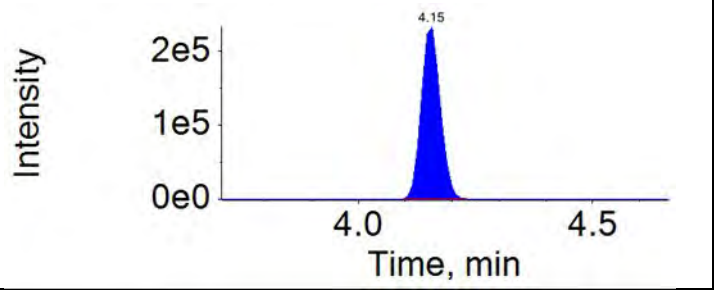
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

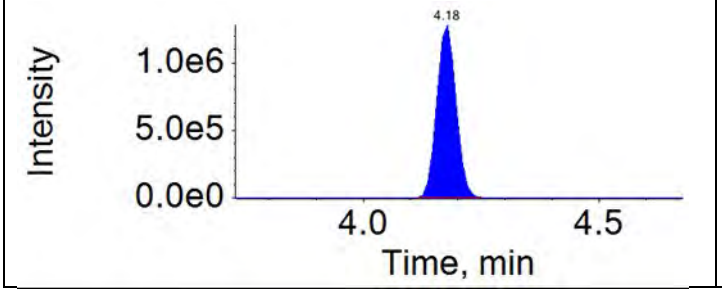
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

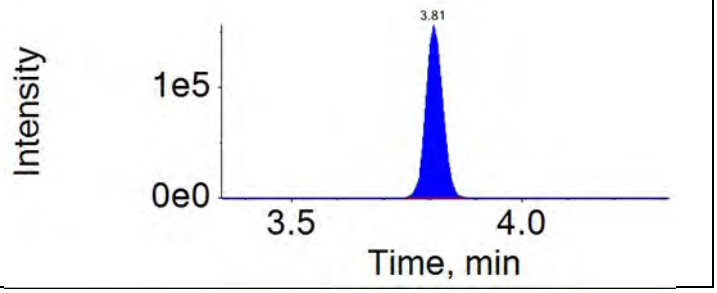
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



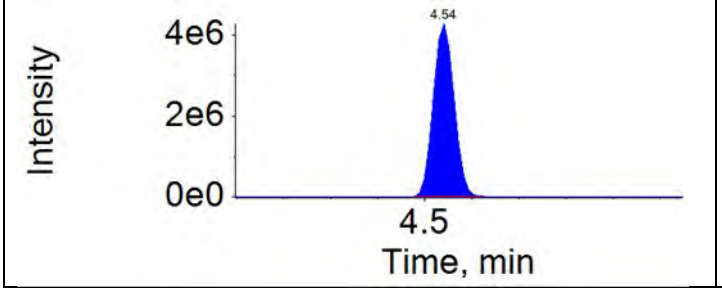


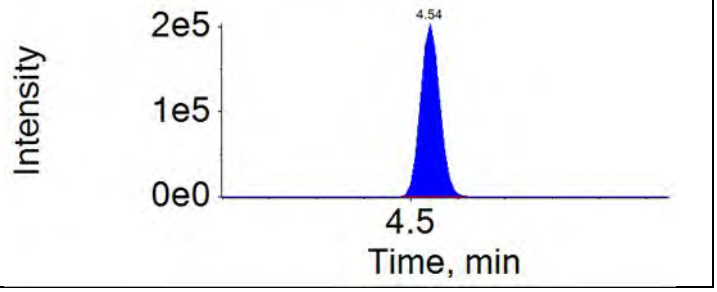
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



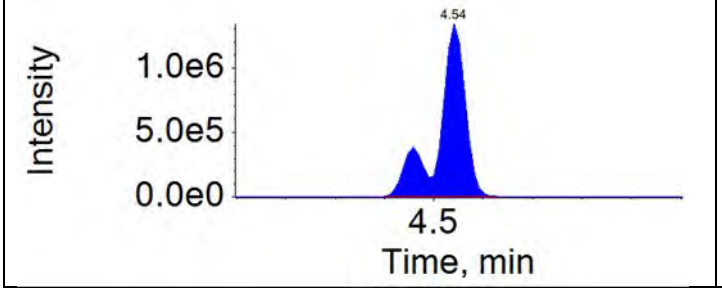


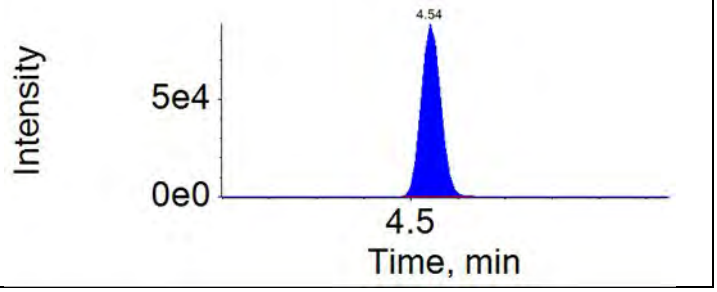
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



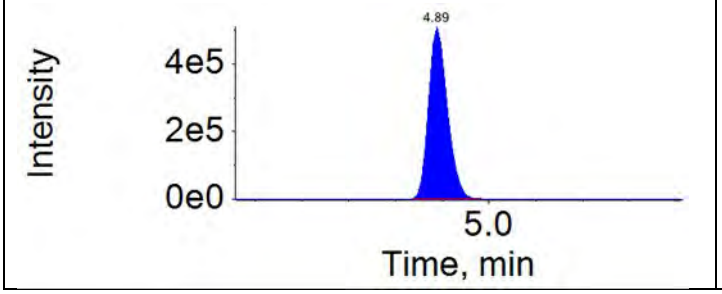


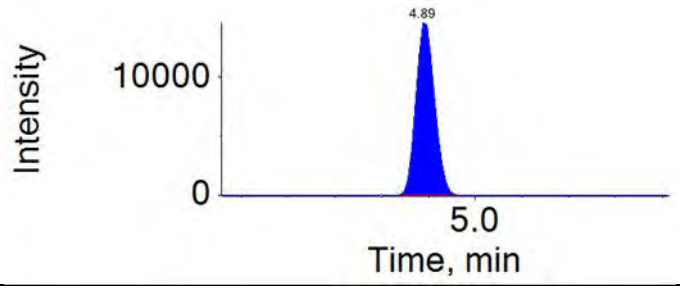
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

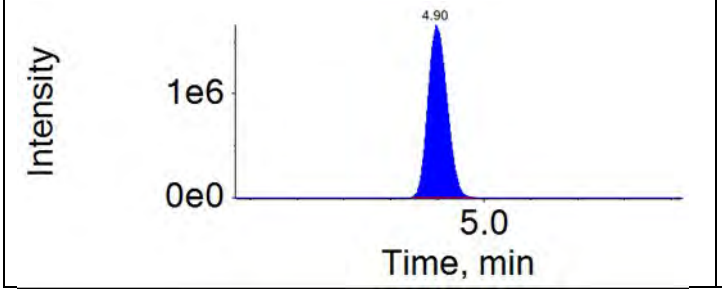
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

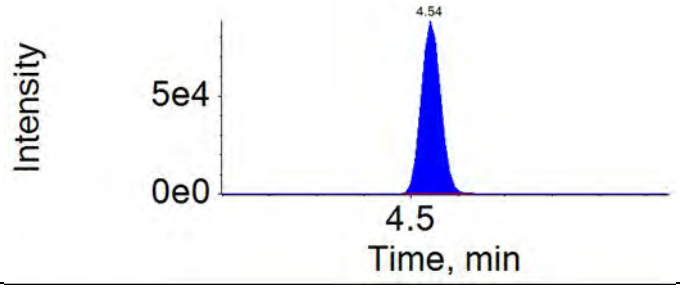
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



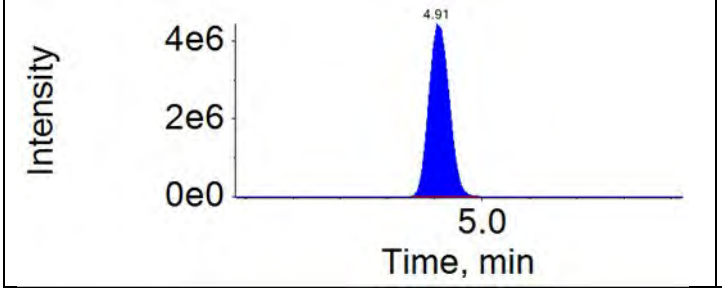


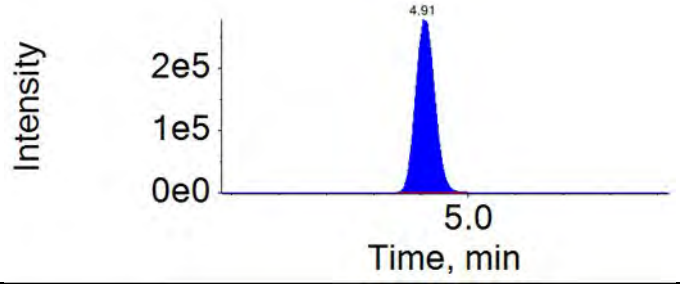
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



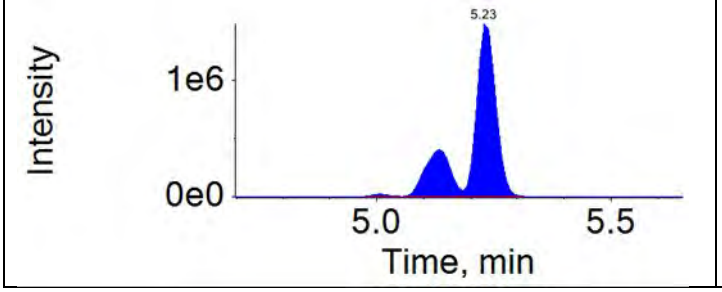


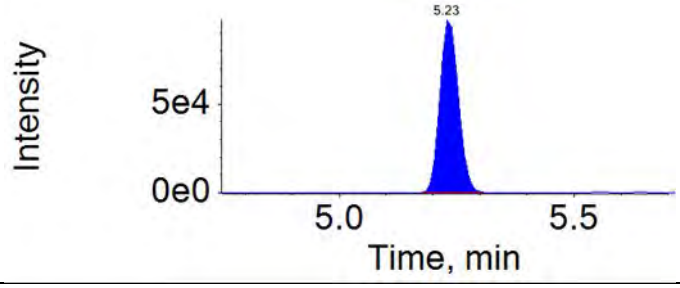
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



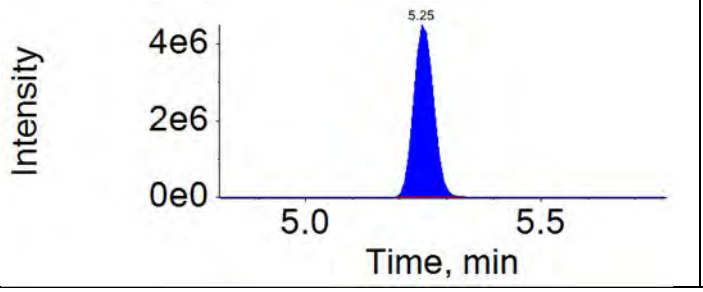


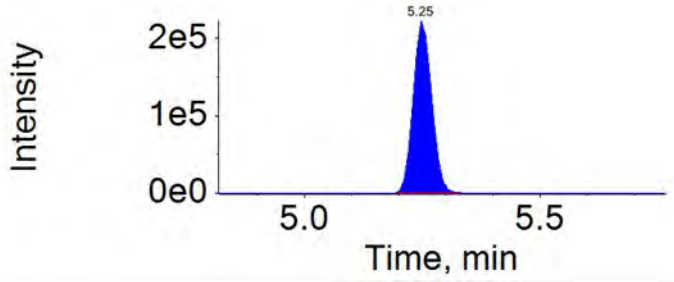
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

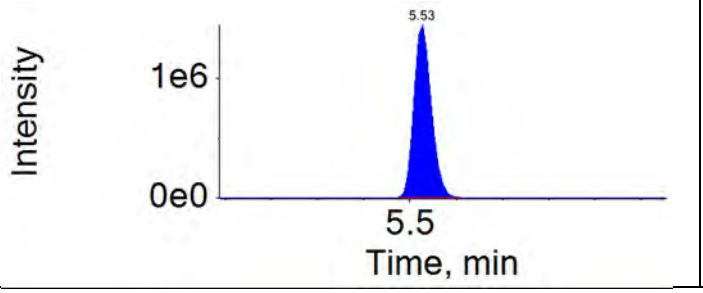
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

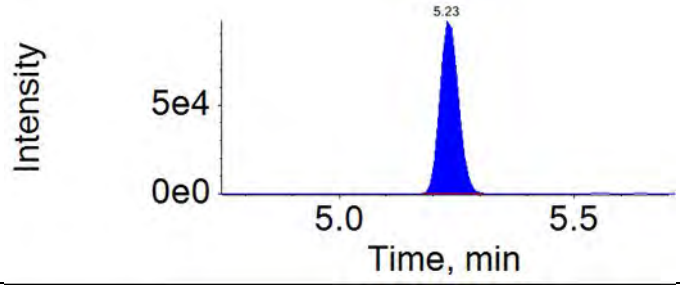
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



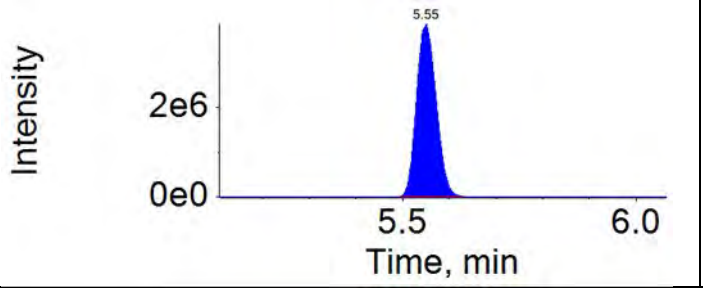


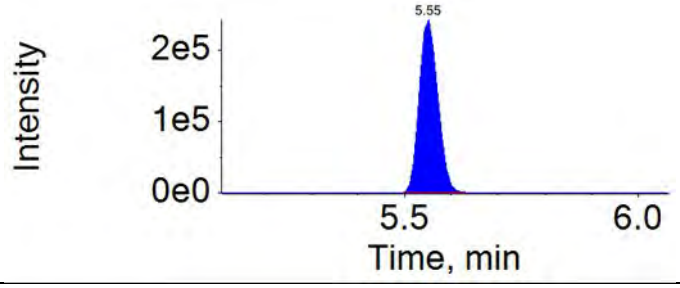
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



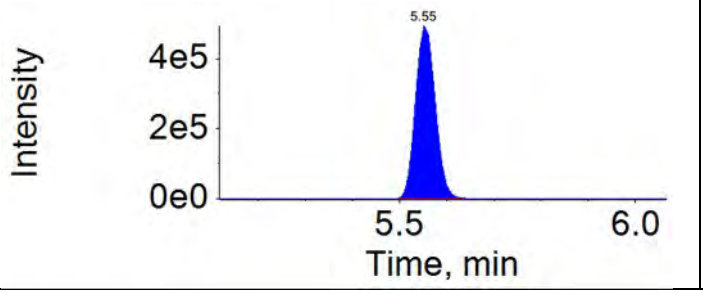


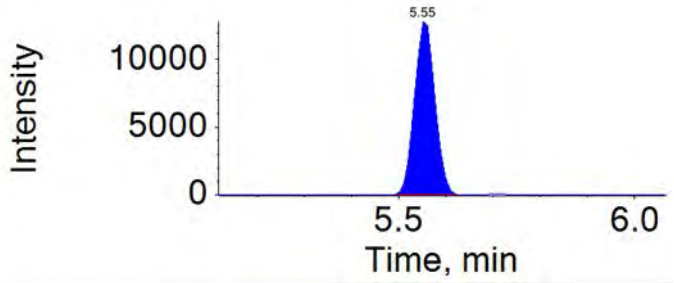
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



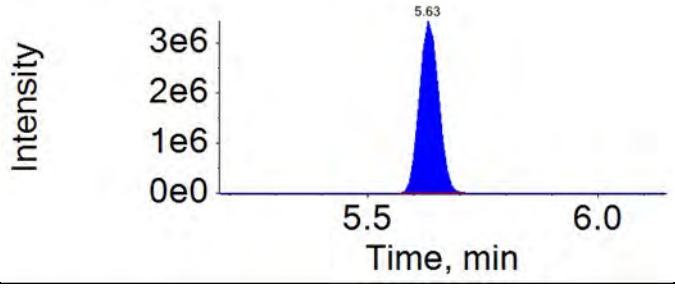


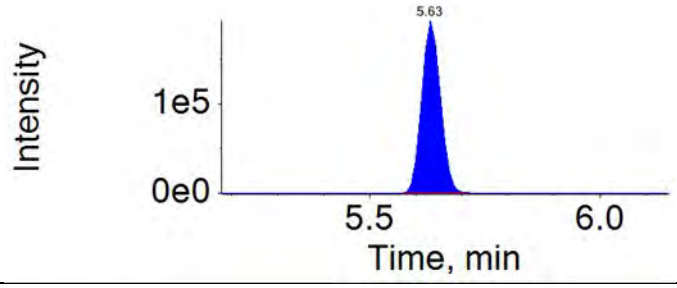
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

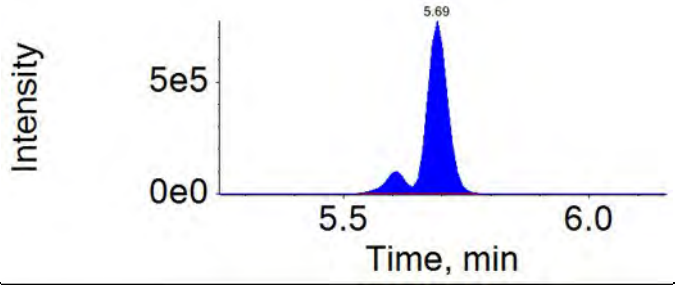
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

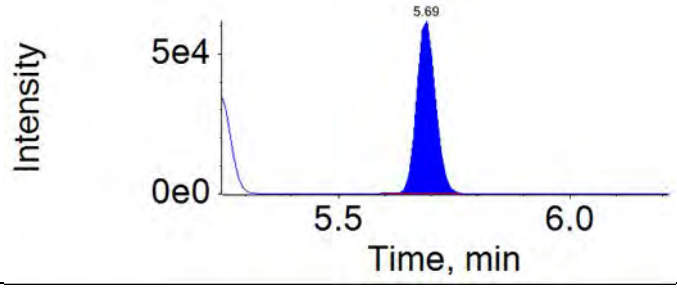
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



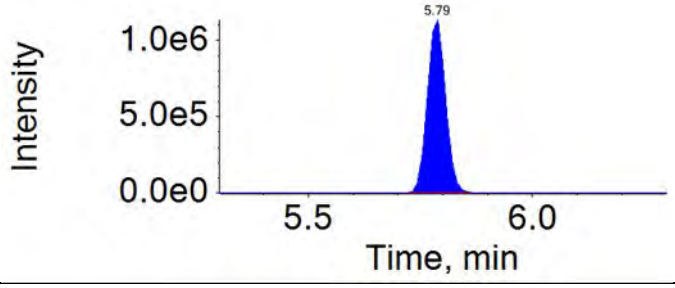


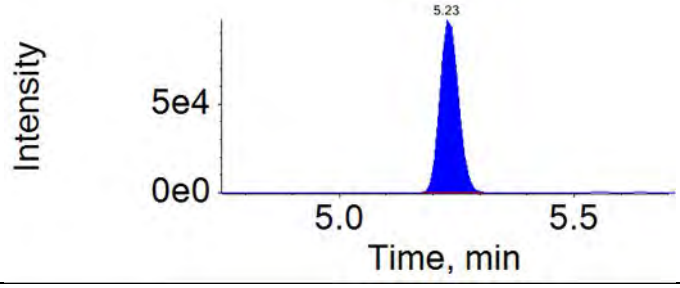
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



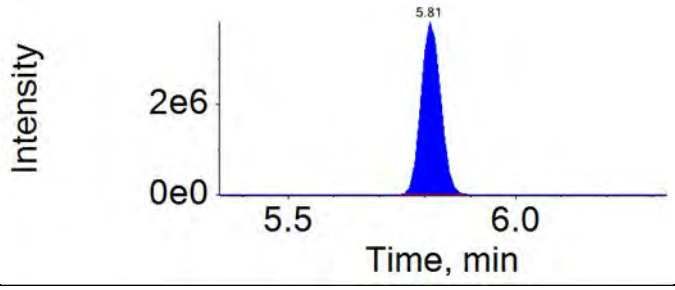


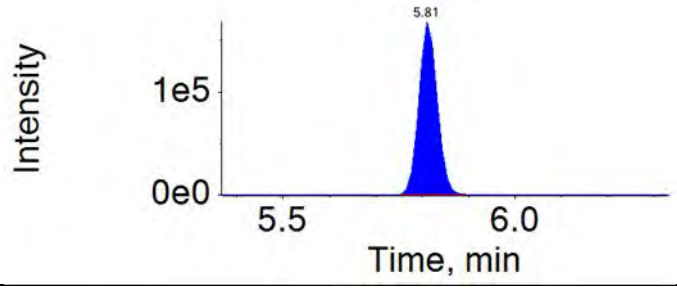
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



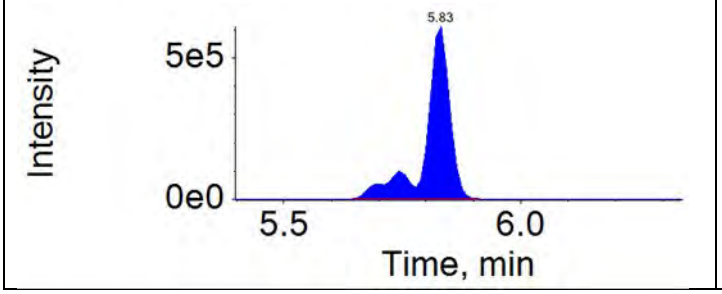


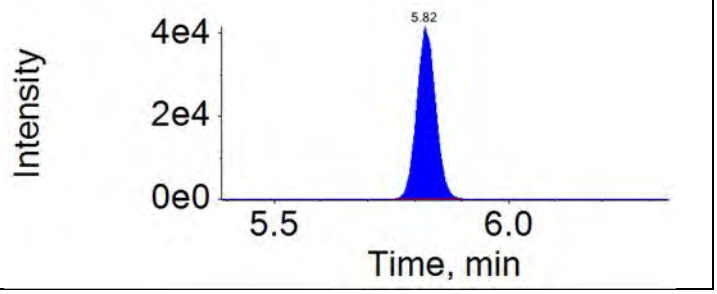
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

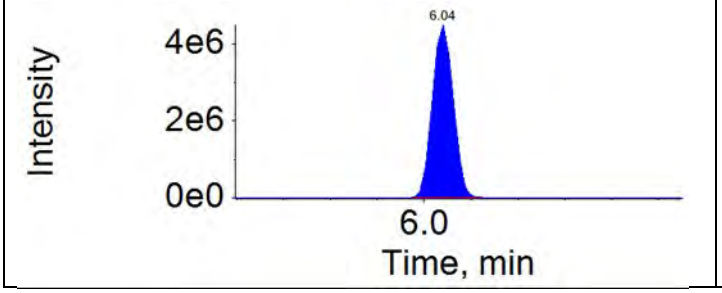
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

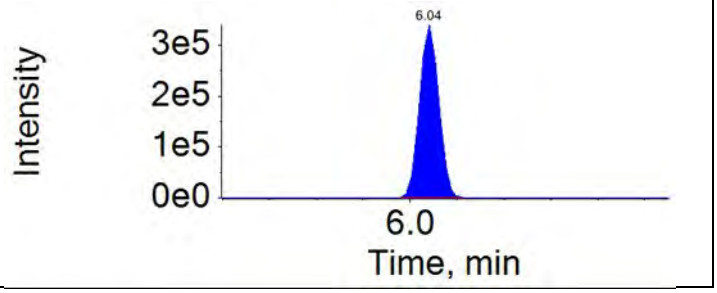
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



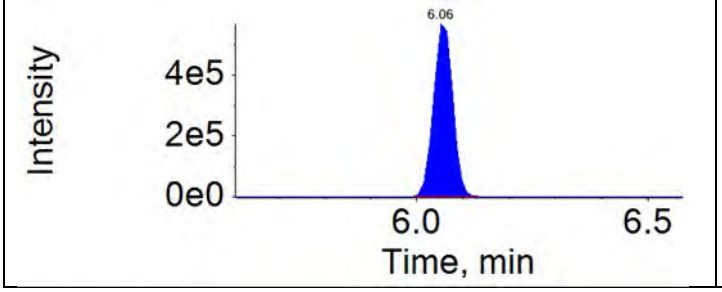


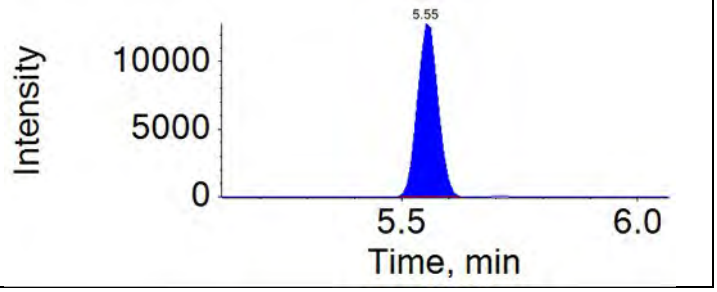
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



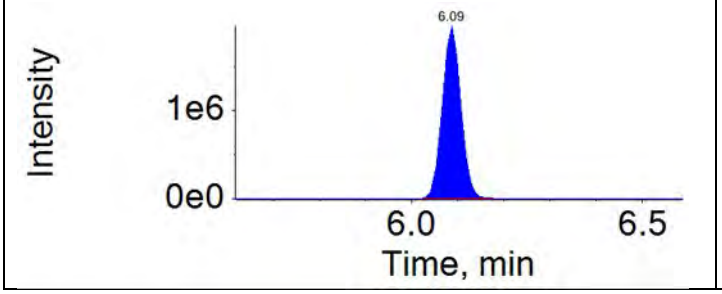


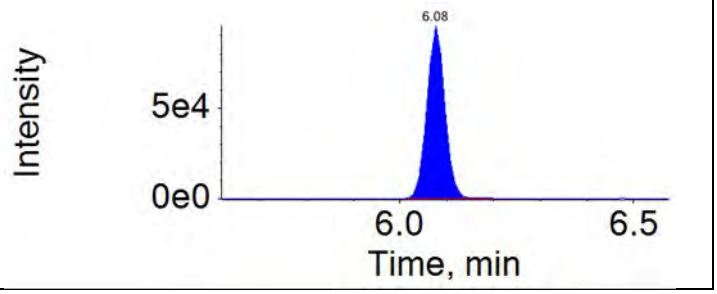
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



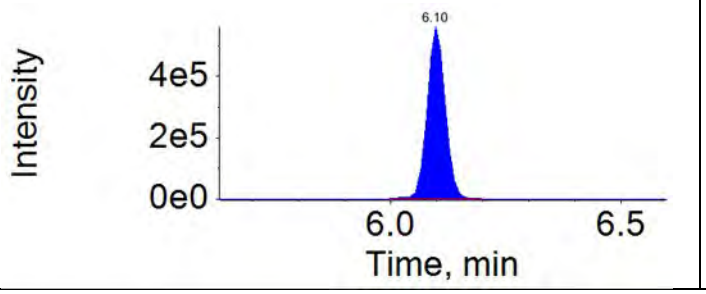


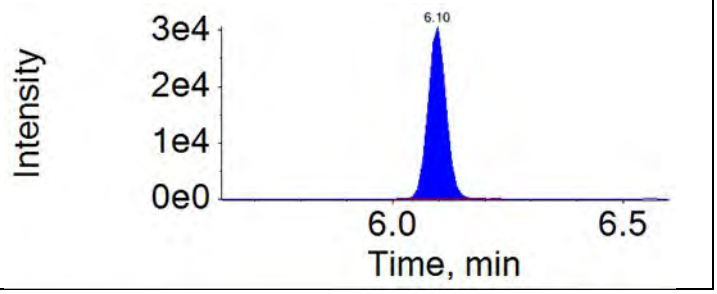
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

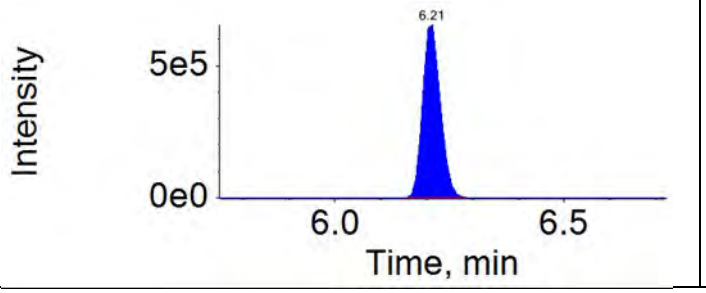
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

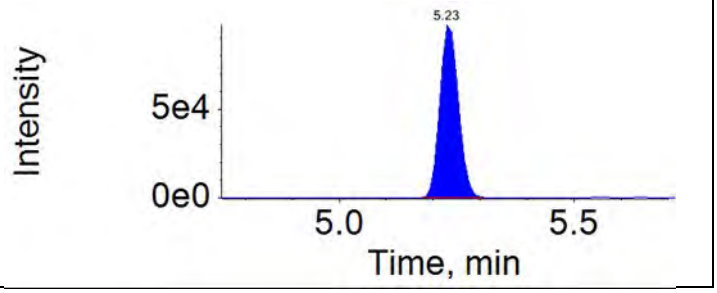
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



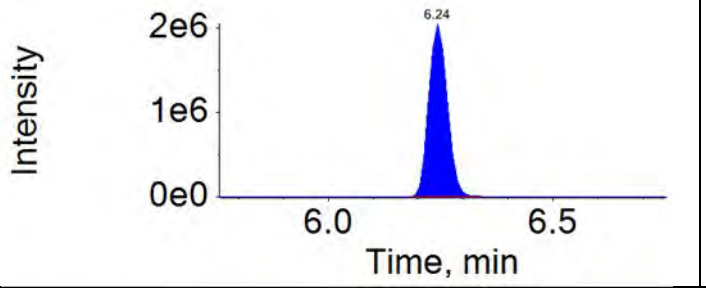


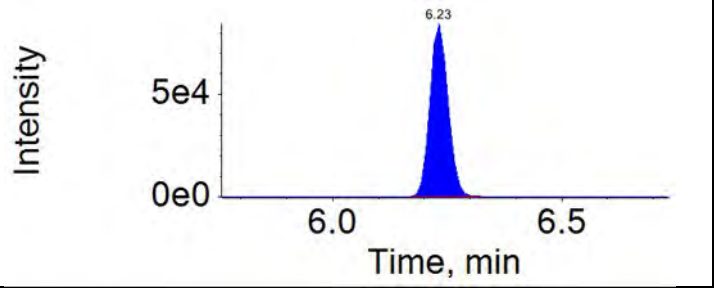
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



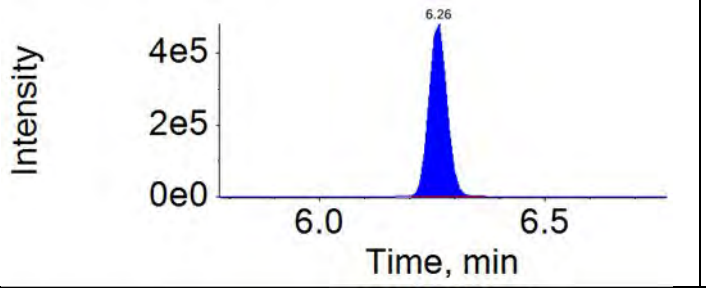


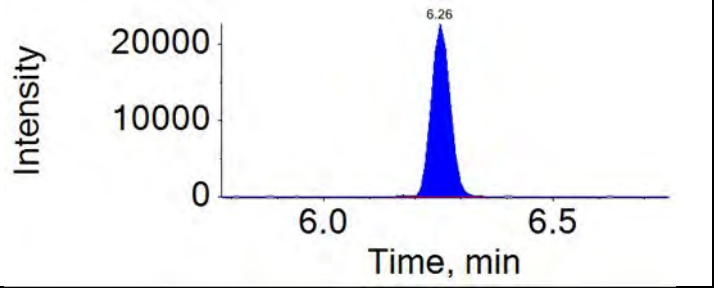
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



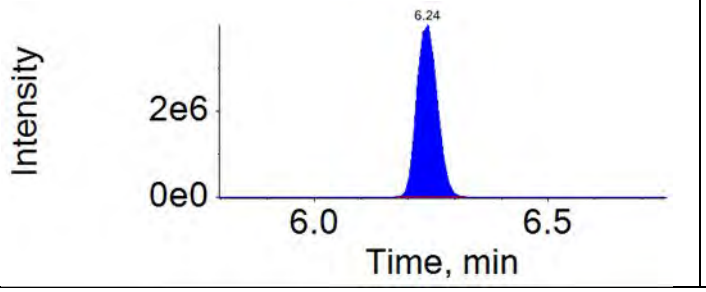


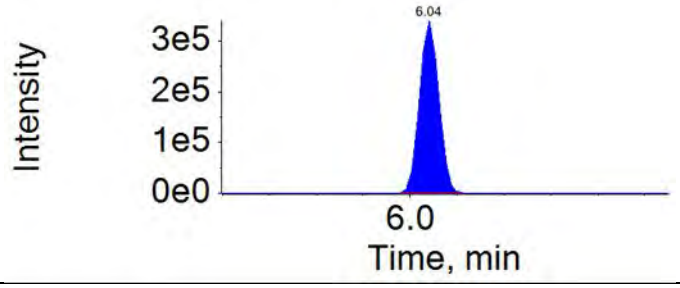
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

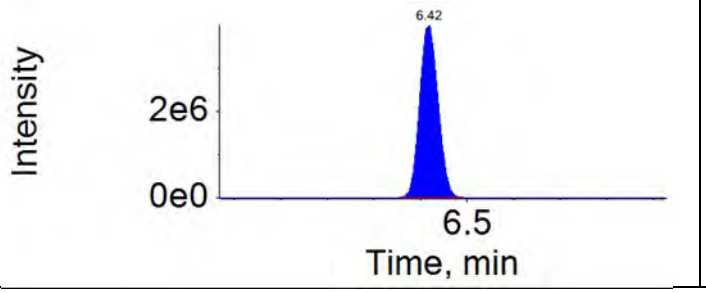
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

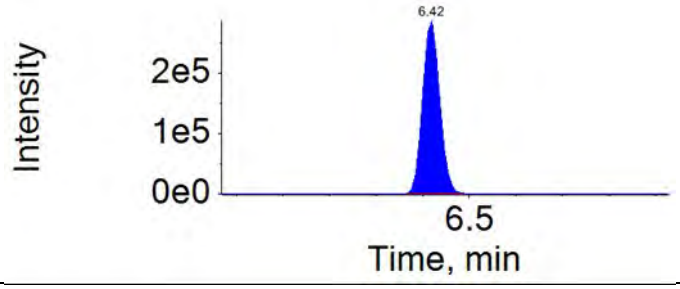
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



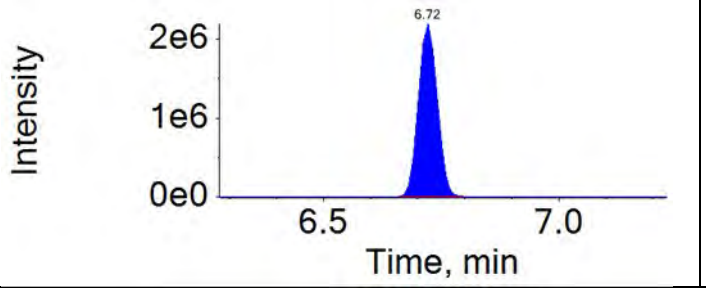


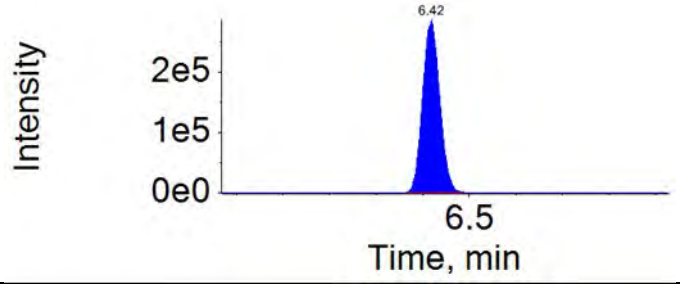
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



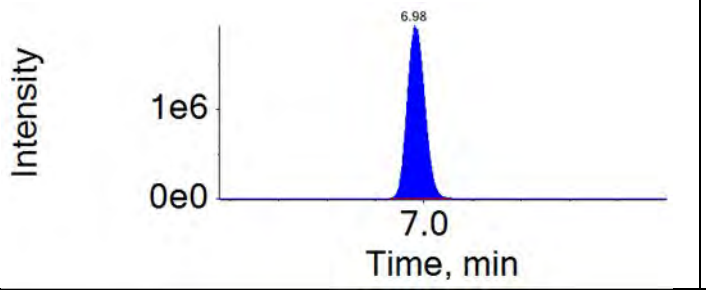


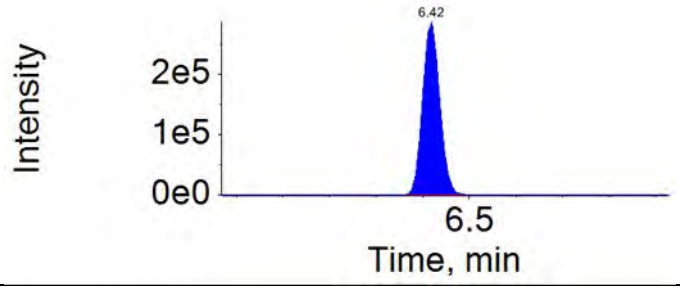
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



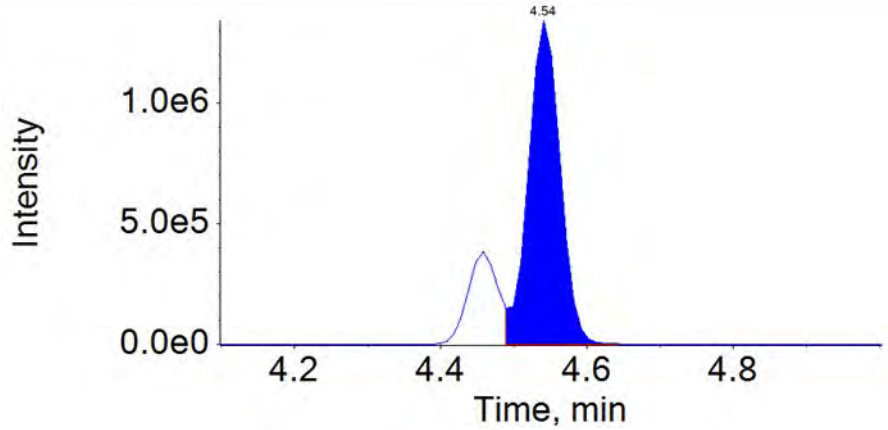


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

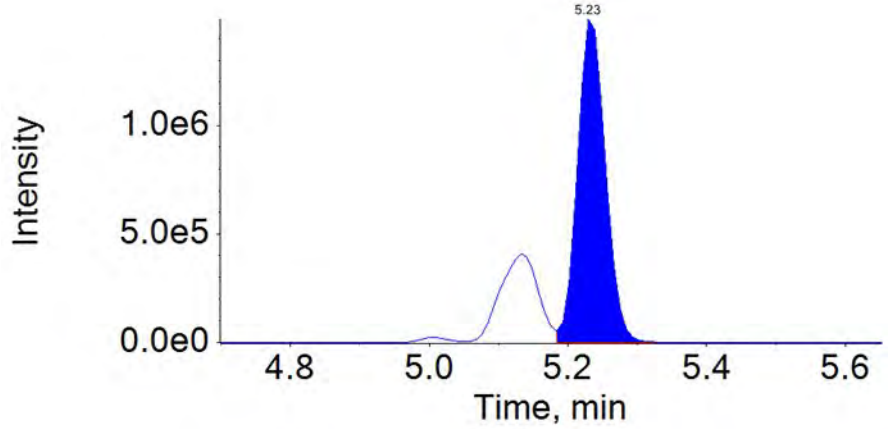
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
4061878.21
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7



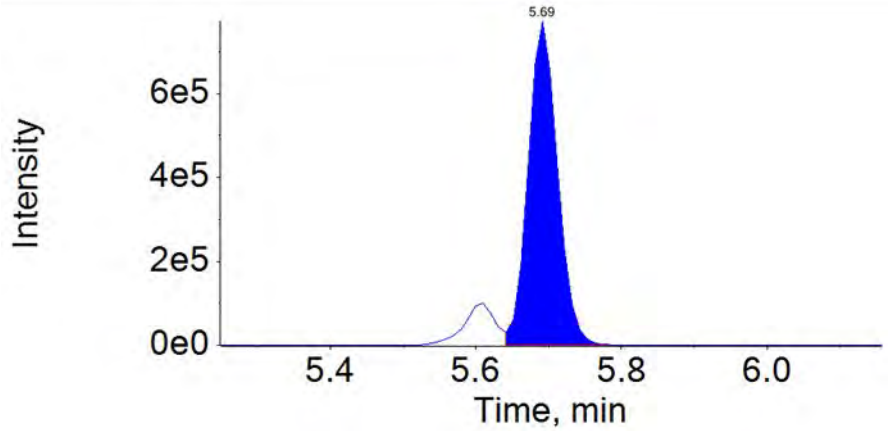
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
4186896.95
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.69
Peak Area:
2168222.20
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7



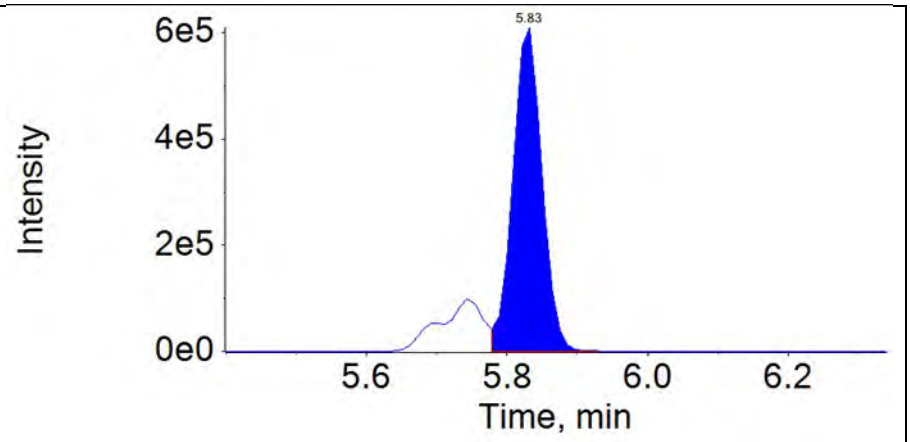
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

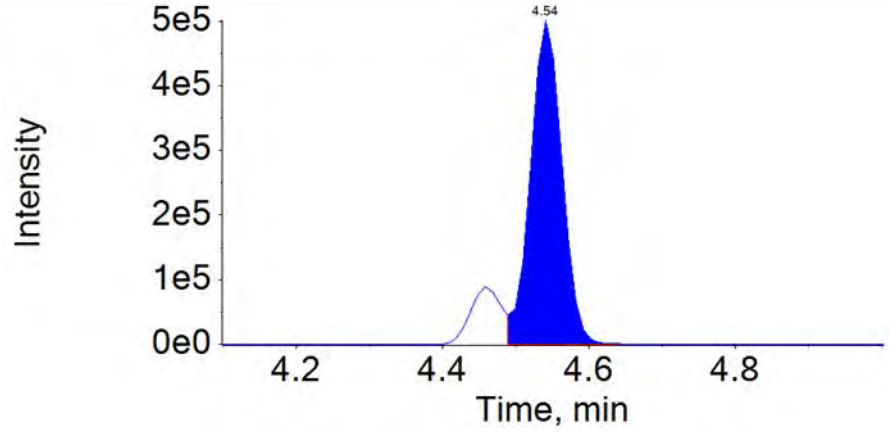
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
1765381.17
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7



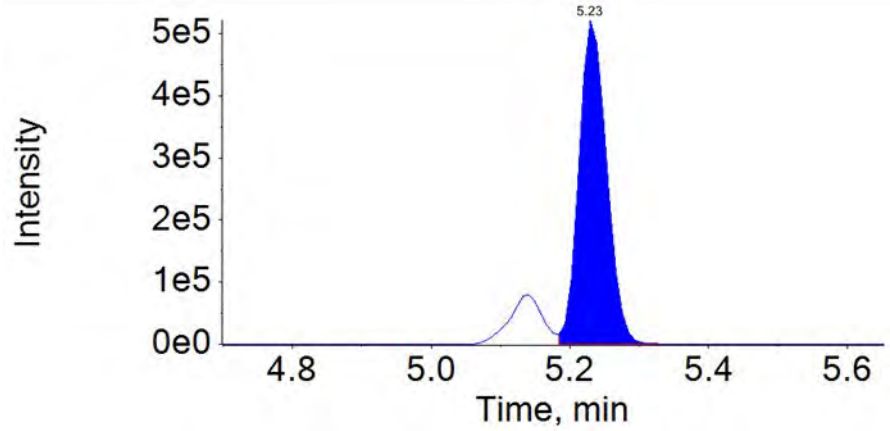
Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
1503622.27
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
1452001.75
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-12.wiff
Sample Name:
CAL7

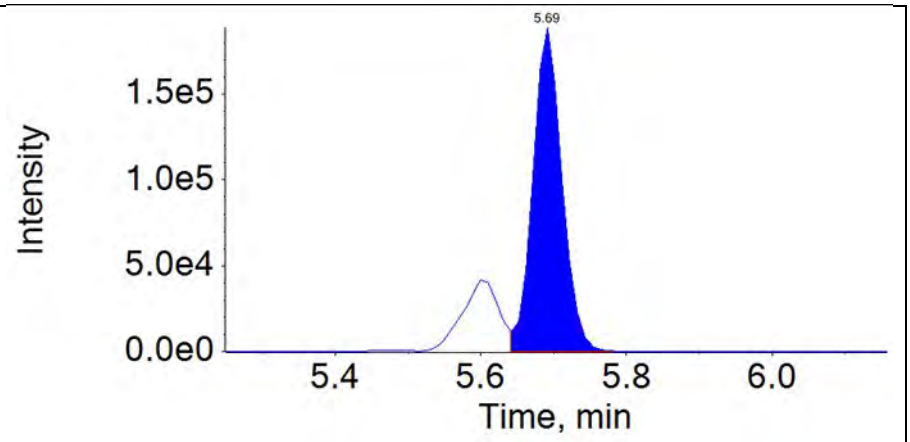
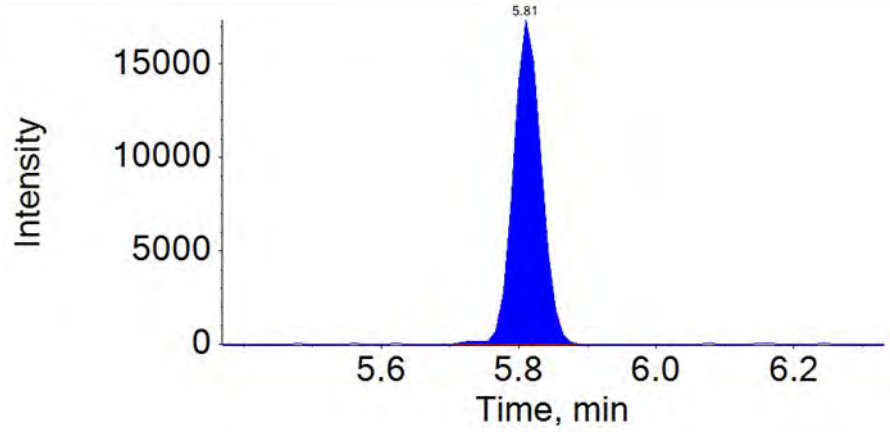
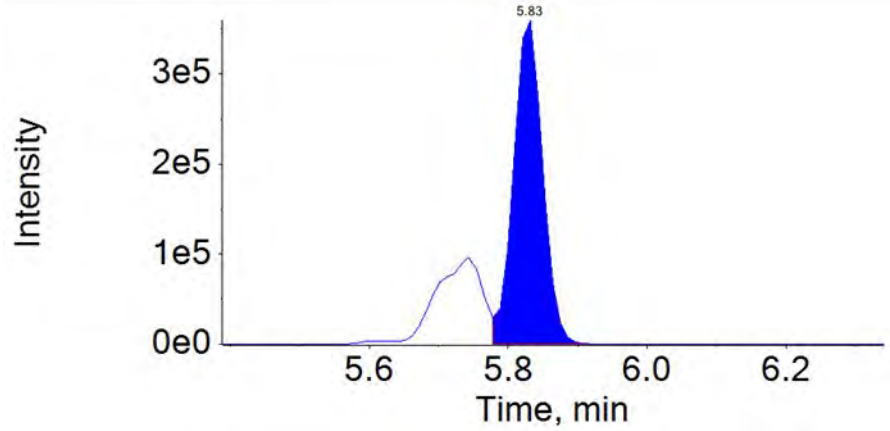


Integration Comment: incorrect integration

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Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: NMeFOSAA_2 **RT (min.):** 5.69 **Peak Area:** 523608.47 **Mass Range:** 570.0 / 483.0 **File Name:** 18DEC26DCAL-12.wiff **Sample Name:** CAL7	 **Integration Comment:** incorrect integration
Component Name: PFUnDA_2 **RT (min.):** 5.81 **Peak Area:** 48999.06 **Mass Range:** 563.0 / 169.0 **File Name:** 18DEC26DCAL-12.wiff **Sample Name:** CAL7	 **Integration Comment:** incorrect integration
Component Name: NEtFOSAA_2 **RT (min.):** 5.83 **Peak Area:** 1052527.18 **Mass Range:** 584.0 / 526.0 **File Name:** 18DEC26DCAL-12.wiff **Sample Name:** CAL7	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

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By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Ion Ratio Report

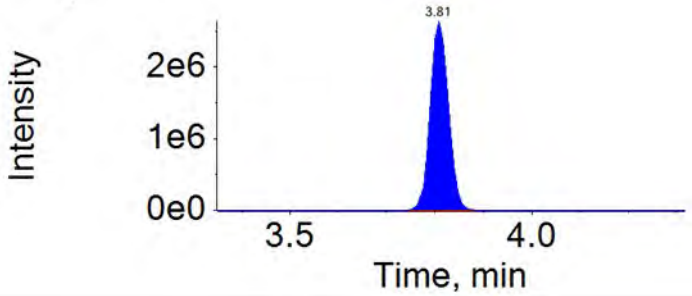
Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-12.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	6903744.00	A	1.0000	1.0000			
PFBS_2	3.81	1.00	2564596.42	A	0.3621	0.3715	3	50	
4:2-FTS	4.12	1.00	2176382.56	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	1334678.10	A	0.6132	0.6133	0	50	
PFHxA	4.15	1.00	12685251.05	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	164611.48	A	0.0123	0.0130	6	50	
PFPeS	4.18	1.10	3622092.50	A	1.0000	1.0000			
PFPeS_2	4.17	1.10	1770236.03	A	0.5068	0.4887	-4	50	
PFHpA	4.54	1.00	13139262.62	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	819638.63	A	0.0570	0.0624	9	50	
PFHxS	4.54	1.00	5136124.25	M	1.0000	1.0000			
PFHxS_2	4.54	1.00	1759319.24	M	0.3566	0.3425	-4	50	
6:2-FTS	4.89	1.00	1412152.14	A	1.0000	1.0000			
6:2-FTS_2	4.89	1.00	910523.87	A	0.6328	0.6448	2	50	
PFHpS	4.90	1.08	4698233.84	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	1954498.66	A	0.4049	0.4160	3	50	
PFOA	4.91	1.00	13235720.44	A	1.0000	1.0000			
PFOA_2	4.91	1.00	885792.83	A	0.0570	0.0669	17	50	
PFOS	5.23	1.00	5815053.40	M	1.0000	1.0000			
PFOS_2	5.23	1.00	1716149.25	M	0.3043	0.2951	-3	50	
PFNA	5.25	1.00	13239275.29	A	1.0000	1.0000			
PFNA_2	5.25	1.00	304647.97	A	0.0213	0.0230	8	50	
PFNS	5.53	1.06	3779407.90	A	1.0000	1.0000			
PFNS_2	5.53	1.06	1700367.94	A	0.4515	0.4499	0	50	
PFDA	5.55	1.00	11360880.81	A	1.0000	1.0000			
PFDA_2	5.55	1.00	85347.82	A	0.0067	0.0075	12	50	
8:2-FTS	5.55	1.00	1434315.04	A	1.0000	1.0000			
8:2-FTS_2	5.55	1.00	884474.97	A	0.6016	0.6167	2	50	
NMeFOSAA	5.69	1.00	2467602.14	M	1.0000	1.0000			
NMeFOSAA_2	5.69	1.00	669127.92	M	0.2579	0.2712	5	50	
PFDS	5.79	1.11	3199882.45	A	1.0000	1.0000			
PFDS_2	5.79	1.11	1561413.15	A	0.4884	0.4880	0	50	
PFUnDA	5.81	1.00	11431506.61	A	1.0000	1.0000			
PFUnDA_2	5.81	1.00	48740.26	M	0.0042	0.0043	2	50	
NEtFOSAA	5.83	1.00	2187128.52	M	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	1488081.51	M	0.6799	0.6804	0	50	
PFDoDA	6.04	1.00	14001024.12	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	232437.27	A	0.0139	0.0166	19	50	
10:2-FTS	6.06	1.09	1644867.36	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	1055290.36	A	0.6715	0.6416	-4	50	
PFTrDA	6.24	1.03	12316464.54	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	127145.12	A	0.0088	0.0103	17	50	
PFTeDA	6.42	1.00	11021797.34	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	80437.00	A	0.0063	0.0073	16	50	
PFHxDA	6.72	1.05	6144944.21	A	1.0000	1.0000			
PFHxDA_2	6.72	1.05	424200.04	A	0.0643	0.0690	7	50	
PFODA	6.98	1.09	4869902.10	A	1.0000	1.0000			
PFODA_2	6.98	1.09	132378.33	A	0.0266	0.0272	2	50	

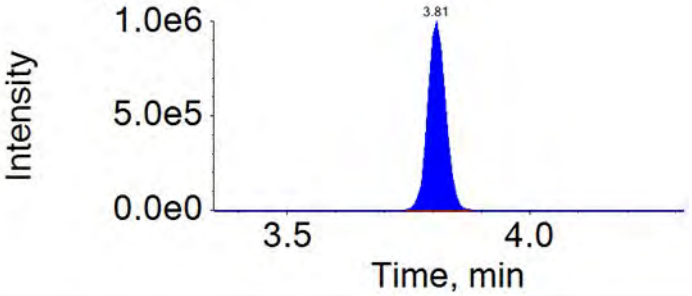
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

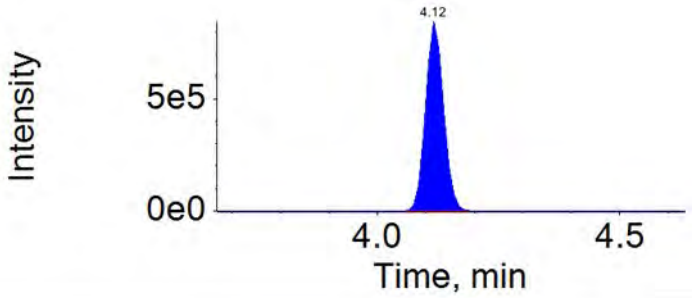
Component: PFBS
Primary Mass: 299.0 / 80.0



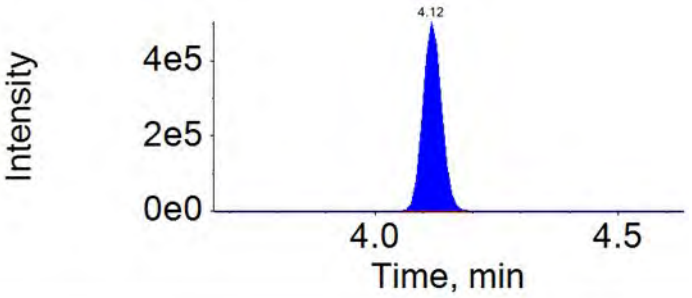
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



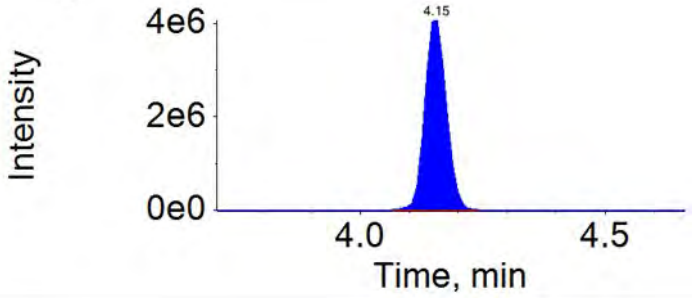
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



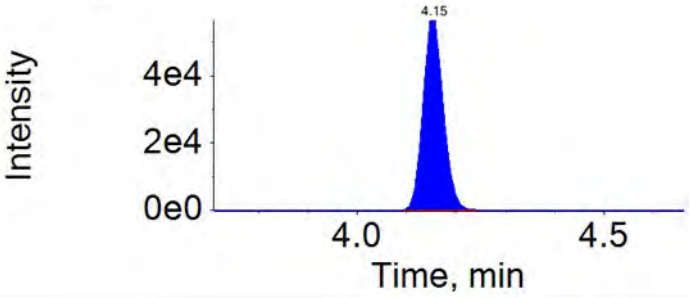
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



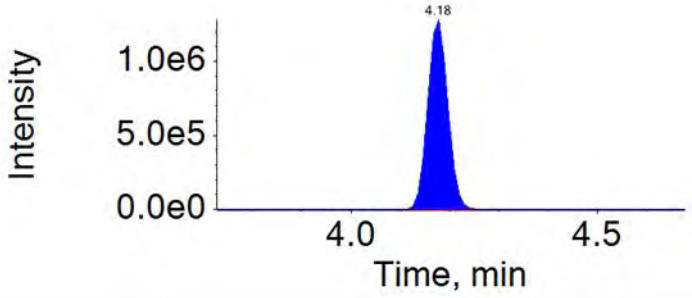
Component: PFHxA
Primary Mass: 313.0 / 269.0



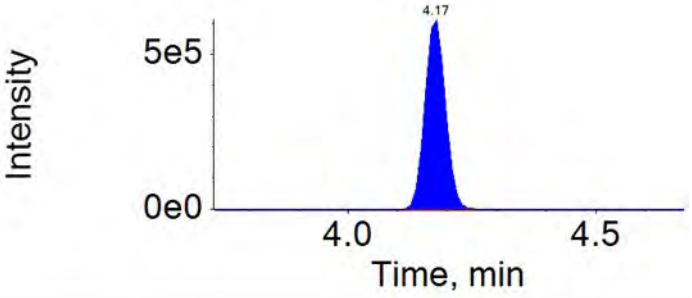
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



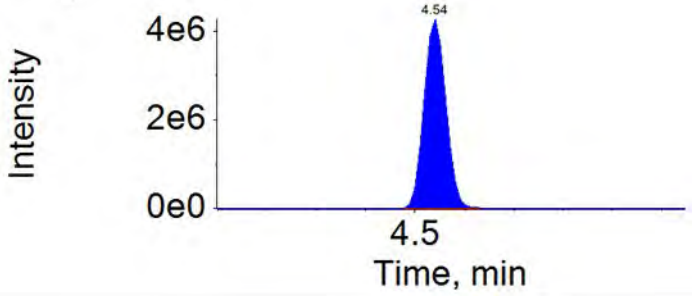
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



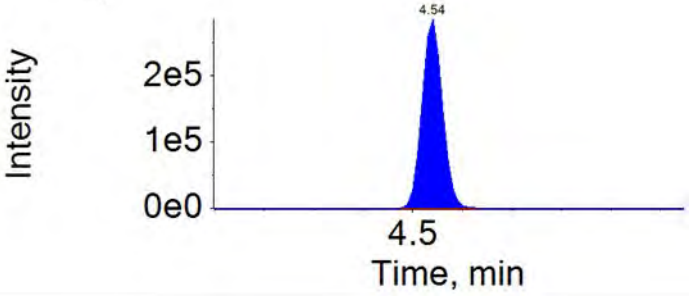
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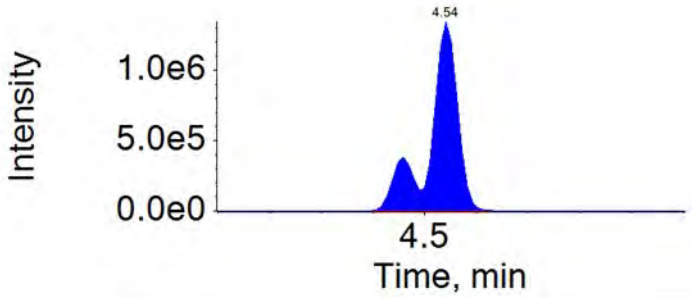
Component: PFHpA
Primary Mass: 363.0 / 319.0



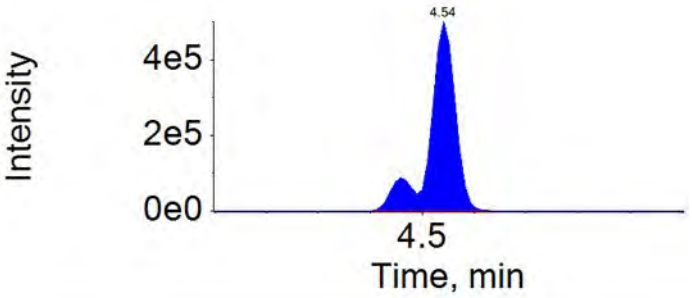
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



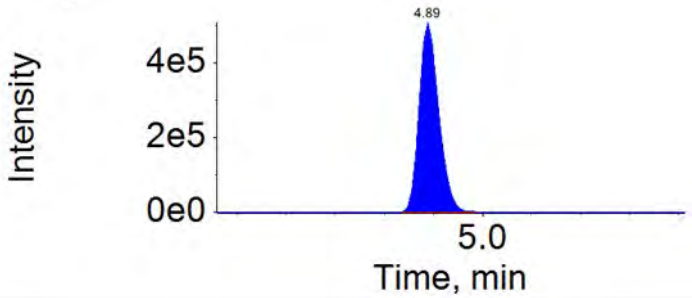
Component: PFHxS
Primary Mass: 399.0 / 80.0



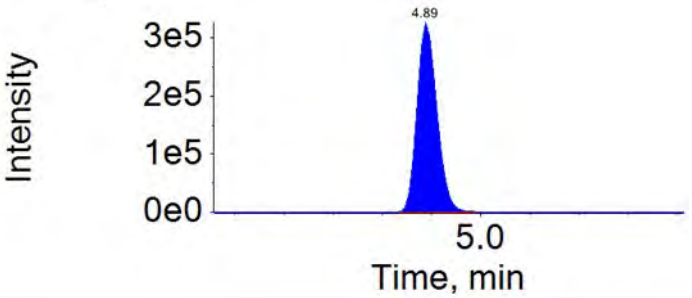
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



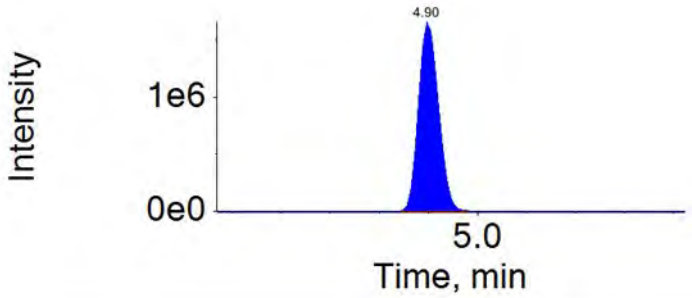
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



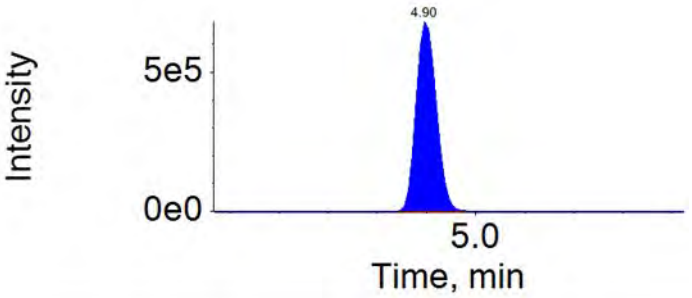
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



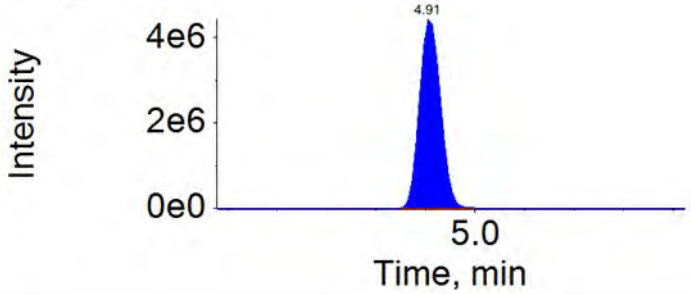
Component: PFHpS
Primary Mass: 449.0 / 80.0



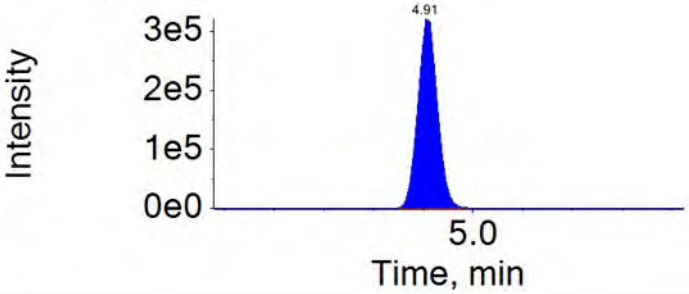
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



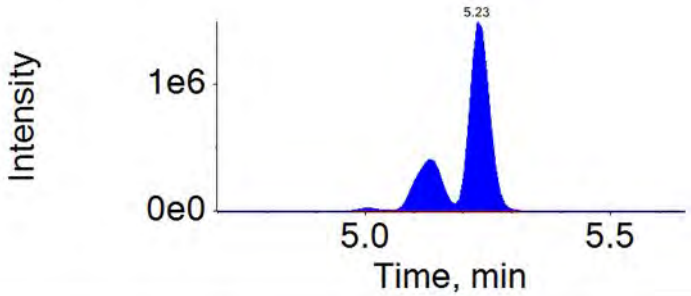
Component: PFOA
Primary Mass: 413.0 / 369.0



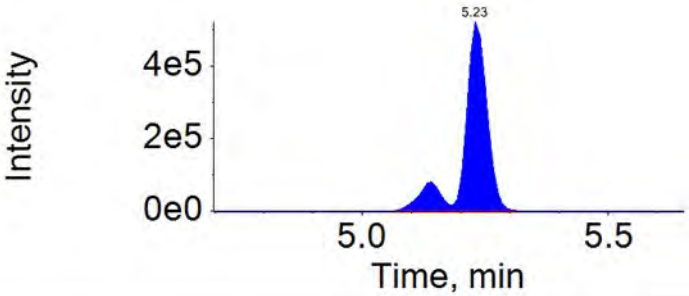
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



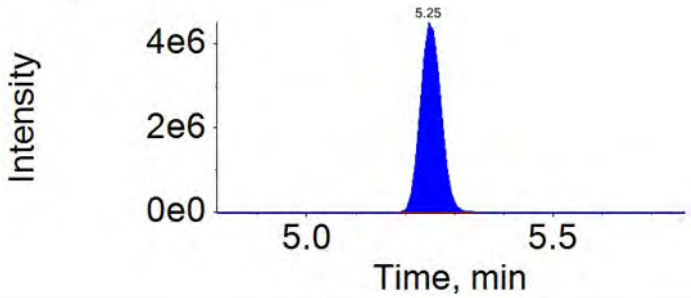
Component: PFOS
Primary Mass: 499.0 / 80.0



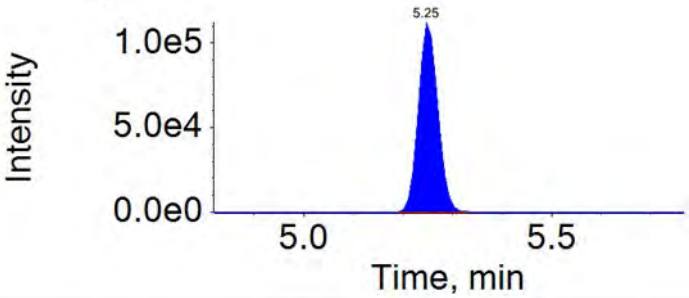
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



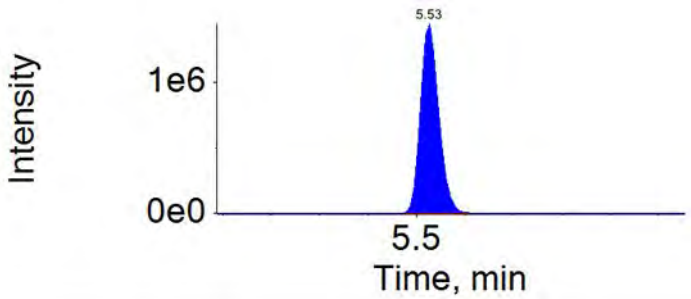
Component: PFNA
Primary Mass: 463.0 / 419.0



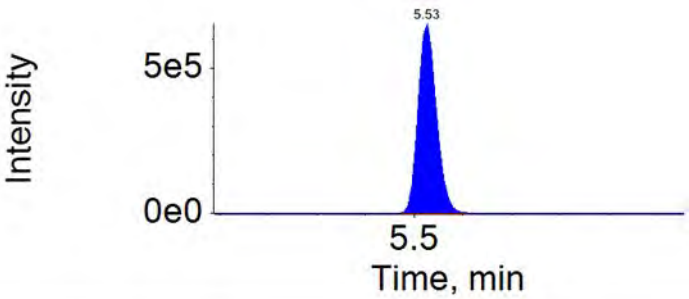
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



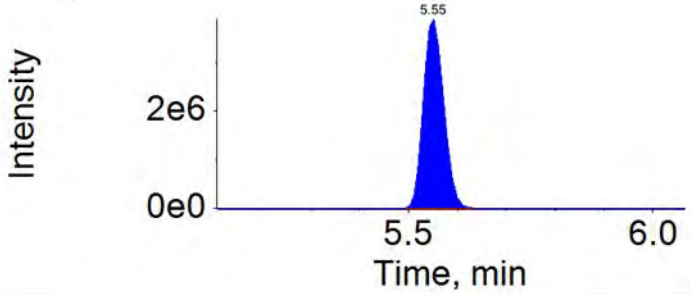
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



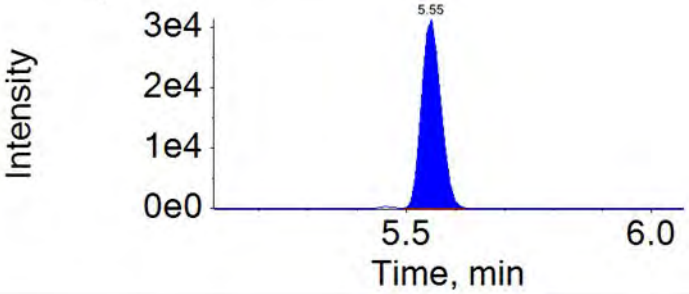
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

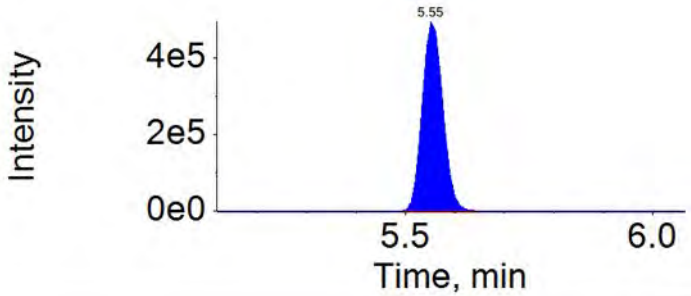
Component: PFDA
Primary Mass: 513.0 / 469.0



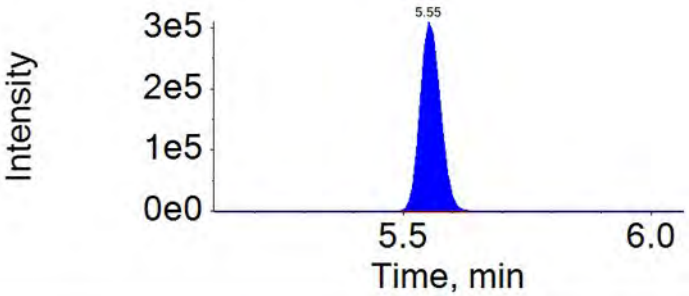
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



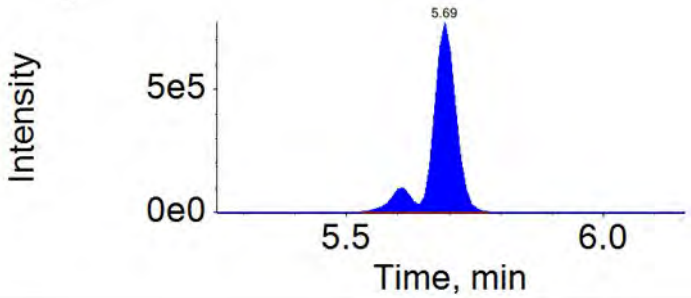
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



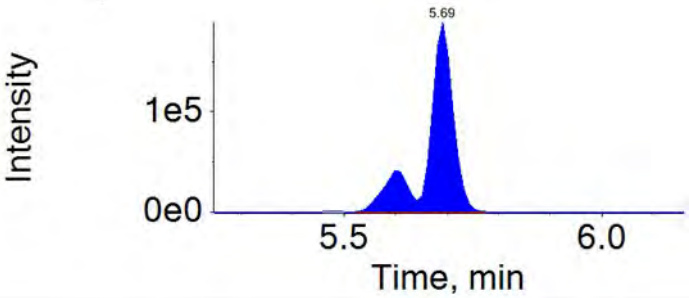
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



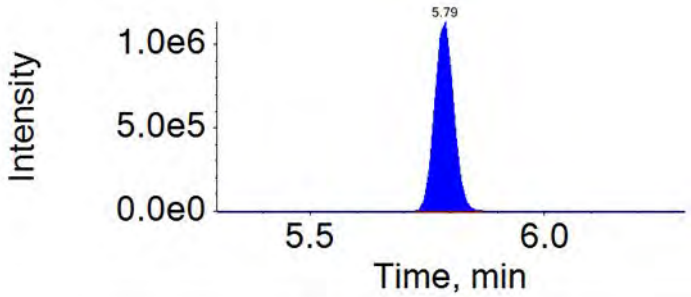
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



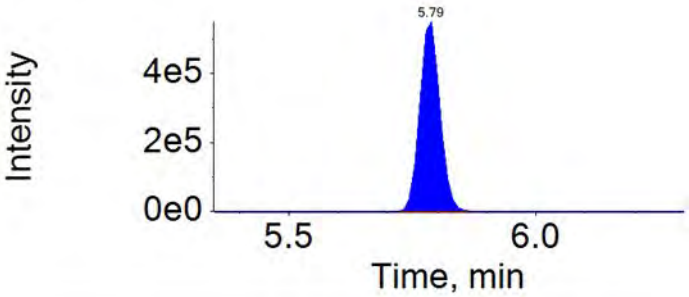
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



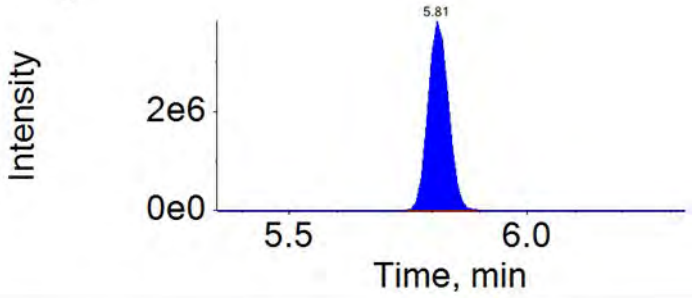
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



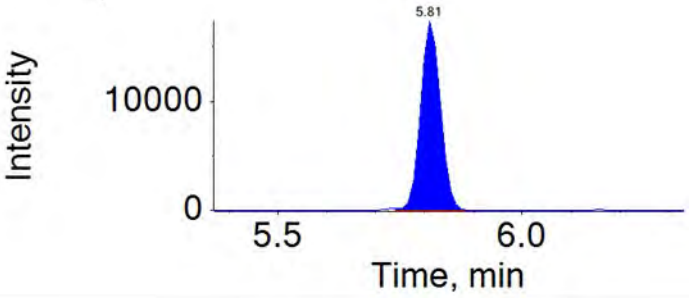
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

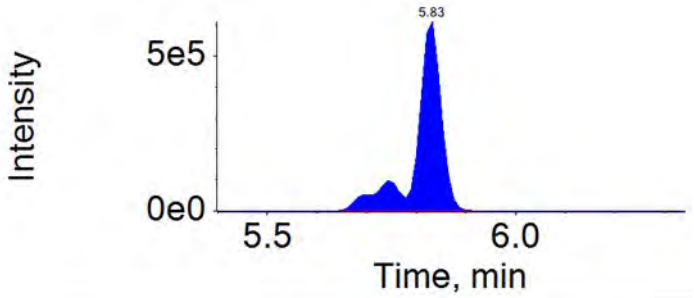
Component: PFUnDA
Primary Mass: 563.0 / 519.0



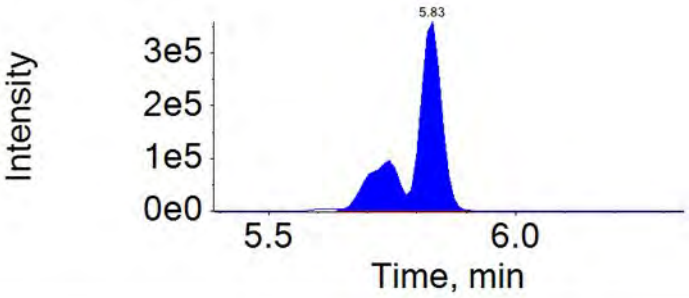
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



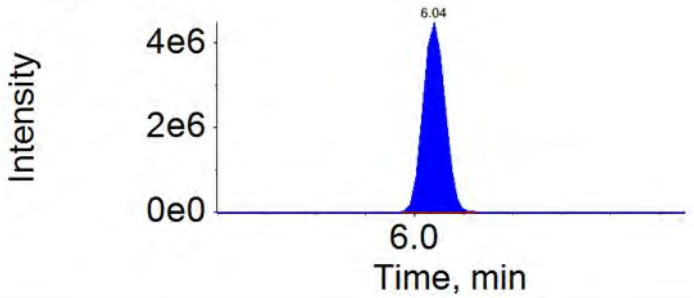
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



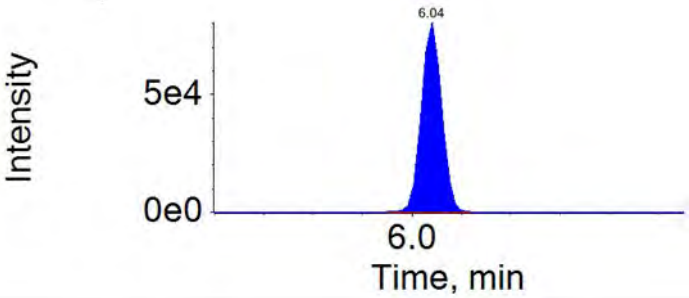
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



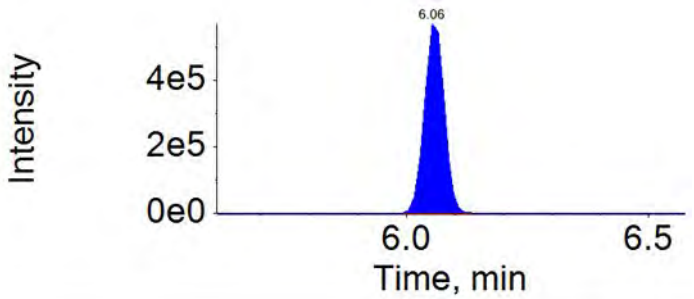
Component: PFDoDA
Primary Mass: 613.0 / 569.0



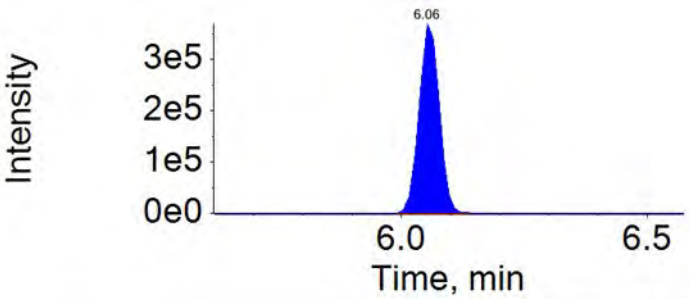
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



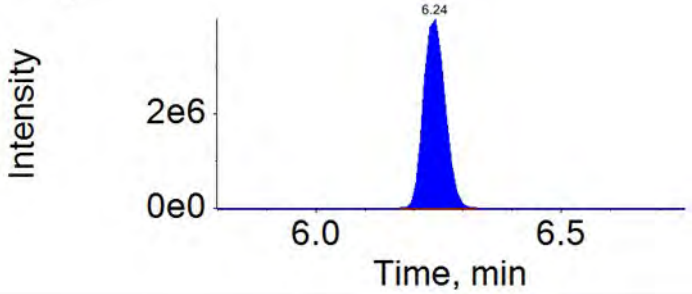
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



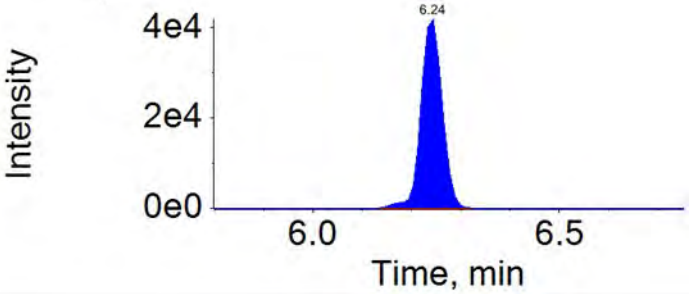
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



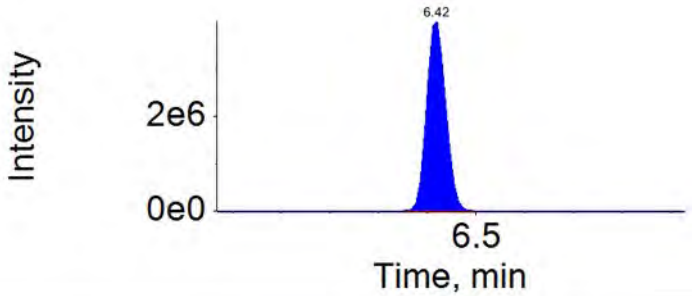
Component: PFTrDA
Primary Mass: 663.0 / 619.0



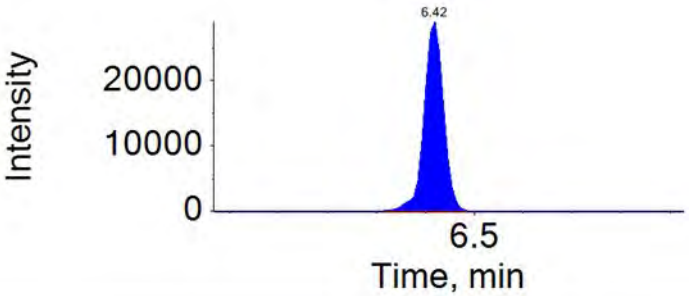
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



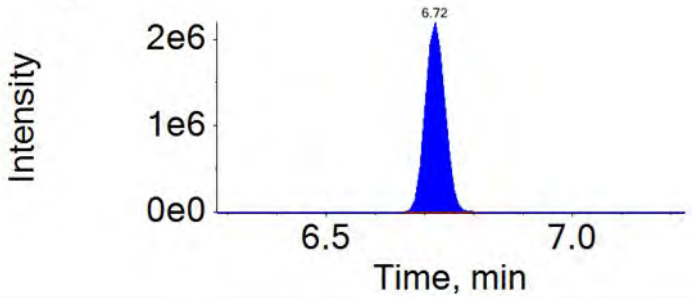
Component: PFTeDA
Primary Mass: 713.0 / 669.0



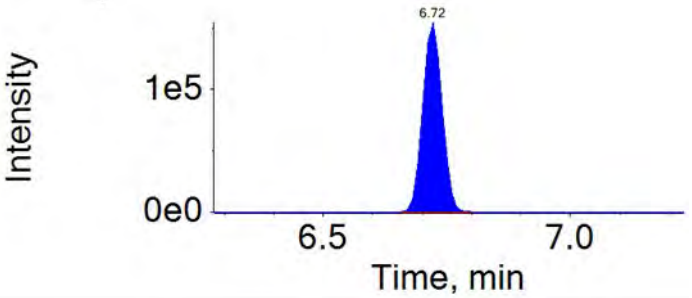
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



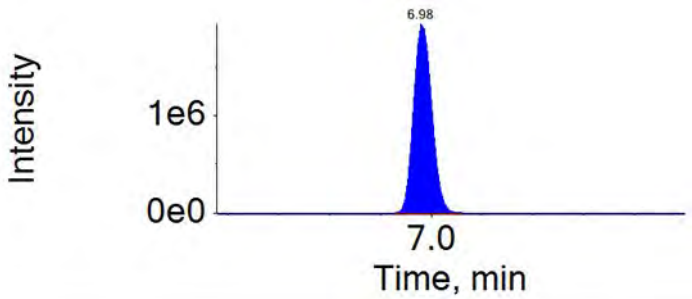
Component: PFHxDA
Primary Mass: 813.0 / 769.0



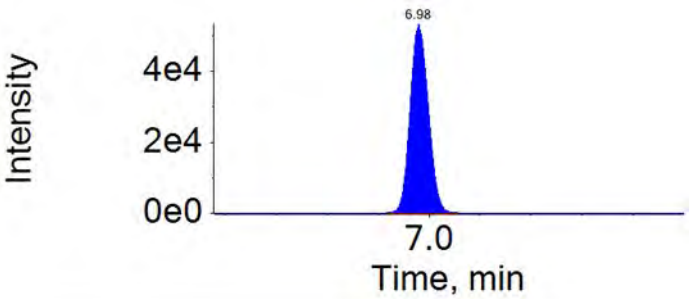
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC26DCAL-13.wiff
Sample ID:	methanol + labels			**Acquis Date:**		2018-12-26T14:40:34
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1057038.6	965438.2	9	50	
13C2-PFOA	5.0	558772.1	527066.0	6	50	
13C4-PFOS	4.8	333185.0	307230.6	8	50	
13C2-PFDA	5.0	539633.6	493258.9	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1357047.2	13C3-PFBA	1057038.6	1.284	5.000	5.696	114	70-130	
E13C5-PFPeA	1278942.9	13C3-PFBA	1057038.6	1.210	5.000	5.763	115	70-130	
E13C3-PFBS	541901.5	13C3-PFBA	1057038.6	0.513	4.650	4.981	107	70-130	
E13C2-4:2-FTS	85388.2	13C2-PFOA	558772.1	0.153	4.670	5.822	125	70-130	
E13C5-PFHxA	872654.0	13C2-PFOA	558772.1	1.562	5.000	5.713	114	70-130	
E13C3-PFHxS	419782.9	13C2-PFOA	558772.1	0.751	4.730	5.773	122	70-130	
E13C4-PFHpA	697135.1	13C2-PFOA	558772.1	1.248	5.000	5.621	112	70-130	
E13C2-6:2-FTS	67440.9	13C2-PFOA	558772.1	0.121	4.750	5.905	124	70-130	
E13C8-PFOA	1263629.2	13C2-PFOA	558772.1	2.261	5.000	6.336	127	70-130	
E13C8-PFOS	413886.4	13C4-PFOS	333185.0	1.242	4.780	5.415	113	70-130	
E13C9-PFNA	862502.7	13C4-PFOS	333185.0	2.589	5.000	5.703	114	70-130	
E13C6-PFDA	1101028.0	13C2-PFDA	539633.6	2.040	5.000	5.858	117	70-130	
E13C2-8:2-FTS	58116.9	13C2-PFDA	539633.6	0.108	4.790	5.572	116	70-130	
E13C8-PFOSA	845581.4	13C2-PFDA	539633.6	1.567	5.000	6.259	125	70-130	
Ed3-NMeFOSAA	256690.4	13C2-PFDA	539633.6	0.476	5.000	6.070	121	70-130	
E13C7-PFUnDA	731843.0	13C2-PFDA	539633.6	1.356	5.000	5.860	117	70-130	
Ed5-NEtFOSAA	172455.0	13C2-PFDA	539633.6	0.320	5.000	5.537	111	70-130	
E13C2-PFDoDA	1382640.9	13C2-PFDA	539633.6	2.562	5.000	5.557	111	70-130	
Ed7-NMePFOSAE	317681.6	13C2-PFDA	539633.6	0.589	5.000	5.566	111	70-130	
Ed3-NMePFOSA	102020.1	13C2-PFDA	539633.6	0.189	5.000	5.359	107	70-130	
Ed9-NEtPFOSAE	279894.4	13C2-PFDA	539633.6	0.519	5.000	5.644	113	70-130	
Ed5-NEtPFOSA	88137.2	13C2-PFDA	539633.6	0.163	5.000	5.765	115	70-130	
E13C2-PFTeDA	1049294.4	13C2-PFDA	539633.6	1.944	5.000	5.735	115	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

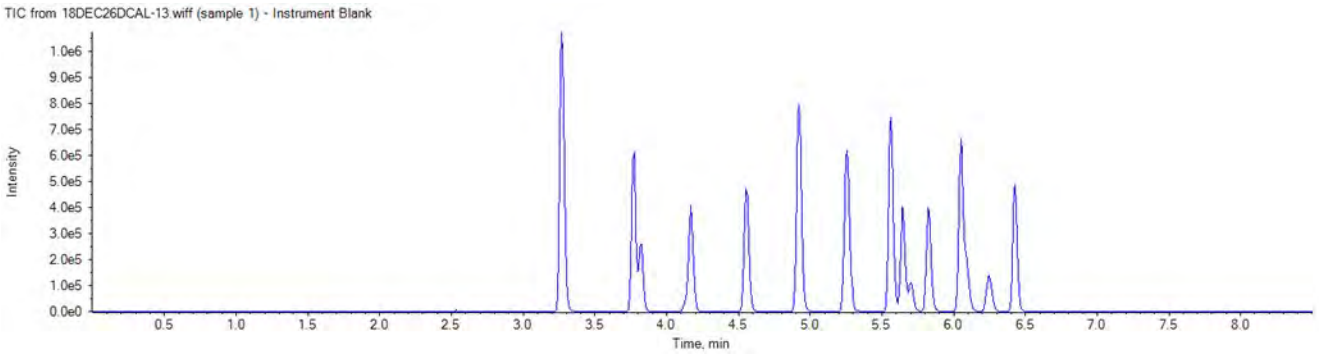
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-13.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.27	1357047.2	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	1278942.9	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	541901.5	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	85388.2	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	872654.0	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	541901.5	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.56	697135.1	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	419782.9	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	67440.9	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	419782.9	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	1263629.2	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	413886.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	862502.7	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	413886.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	1101028.0	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	58116.9	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	845581.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	256690.4	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	413886.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	731843.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	172455.0	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1382640.9	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	58116.9	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	317681.6	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	102020.1	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	413886.4	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	279894.4	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.27	88137.2	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1382640.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	1049294.4	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	1049294.4	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	1049294.4	N/A	

Total Ion Chromatogram

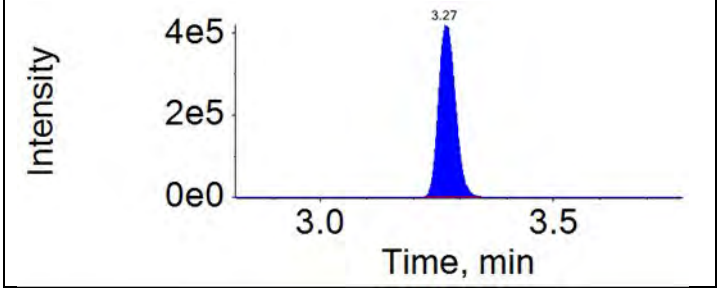


APPROVED
By MSM at 1:33 pm, 12/27/18

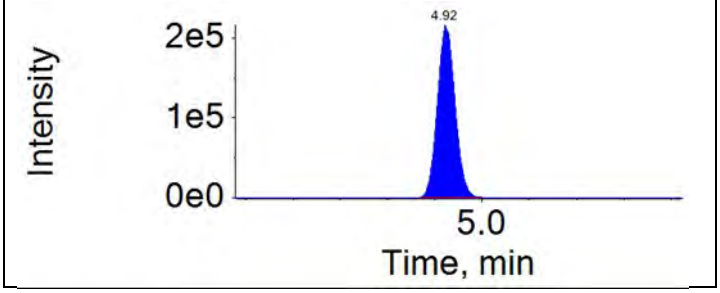
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

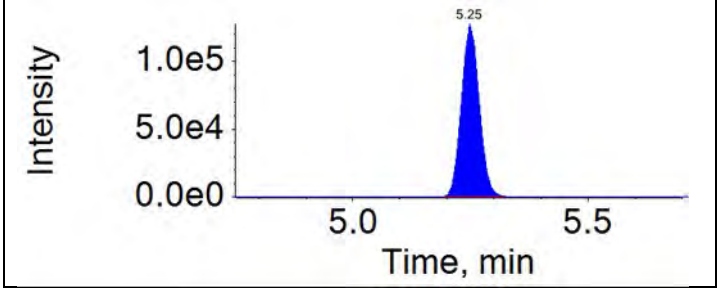
Injection Standard: 13C3-PFBA
216.0 / 172.0



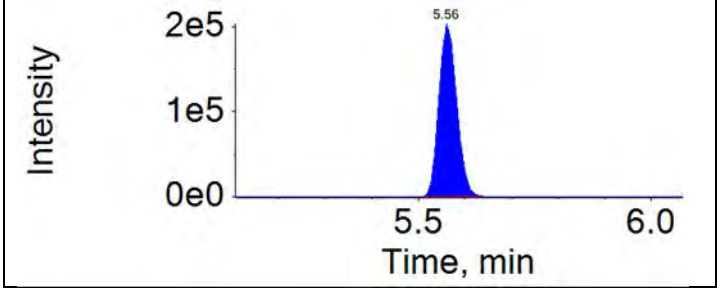
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



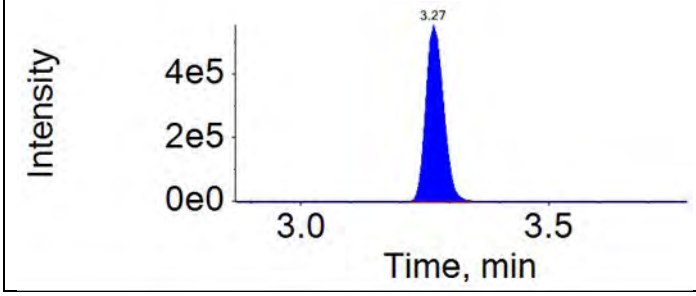
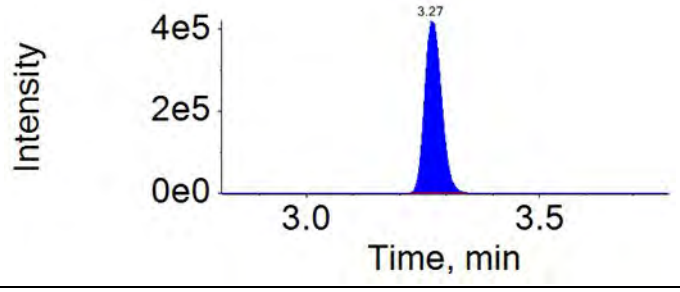
Injection Standard: 13C2-PFDA
515.0 / 470.0

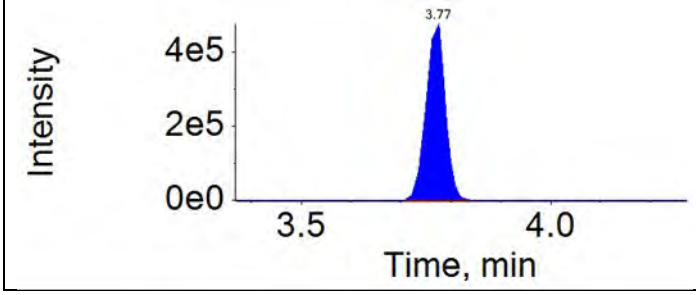
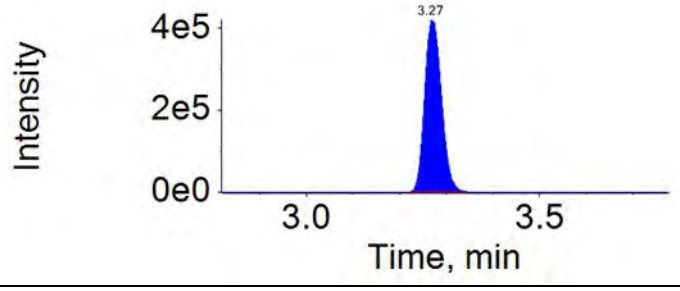


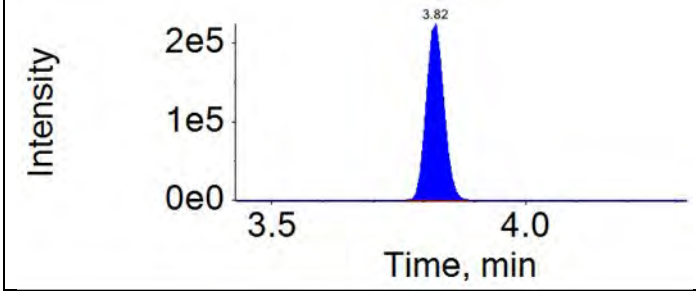
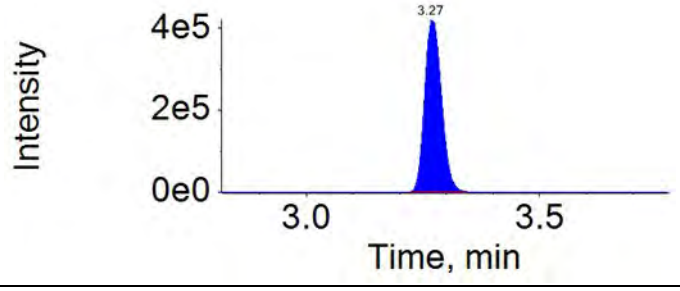
APPROVED
By MSM at 1:33 pm, 12/27/18

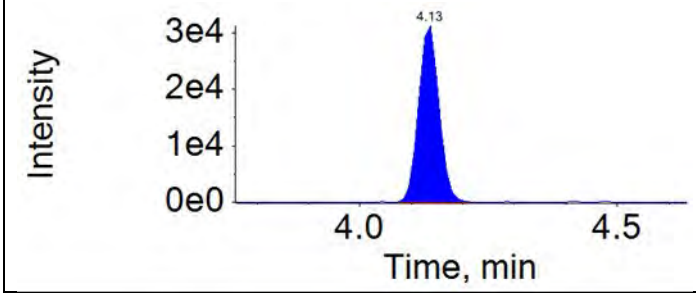
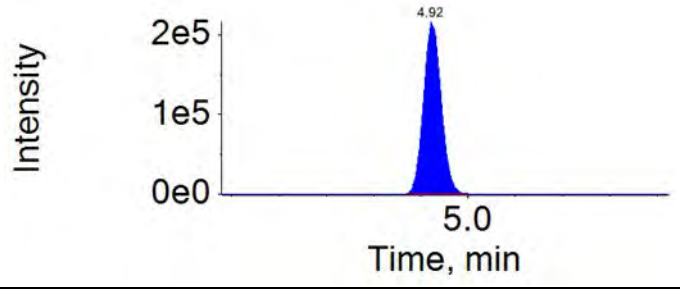
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

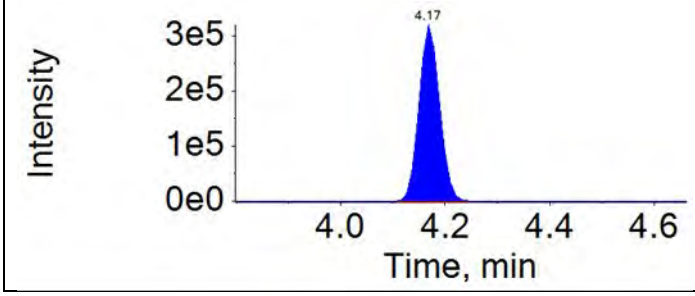
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

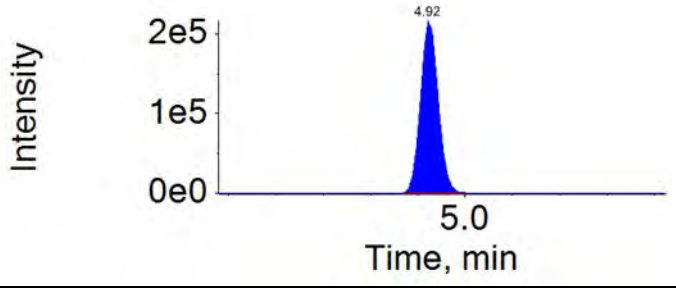
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

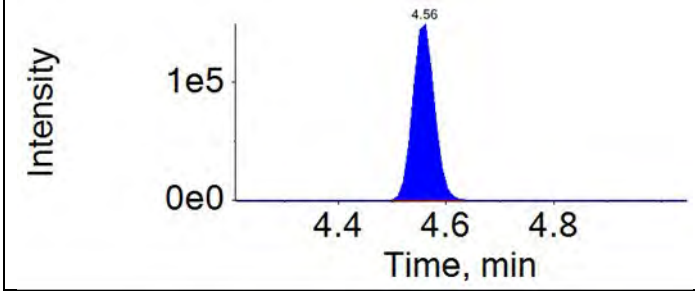
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

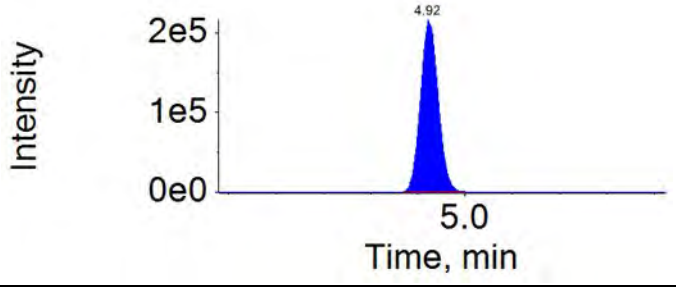
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



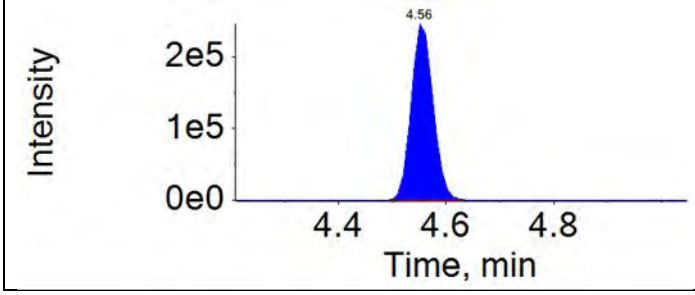


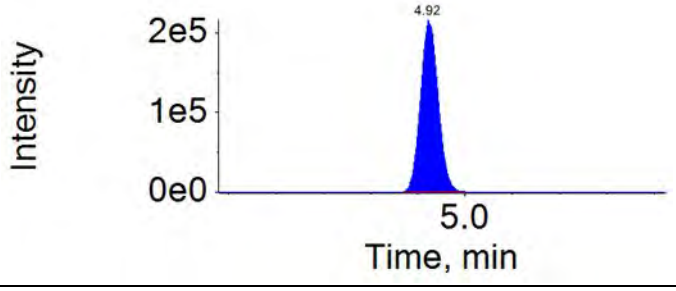
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



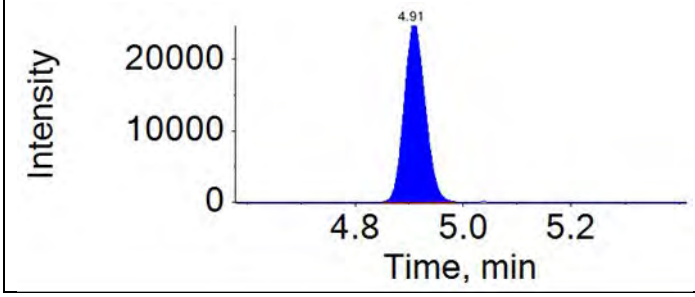


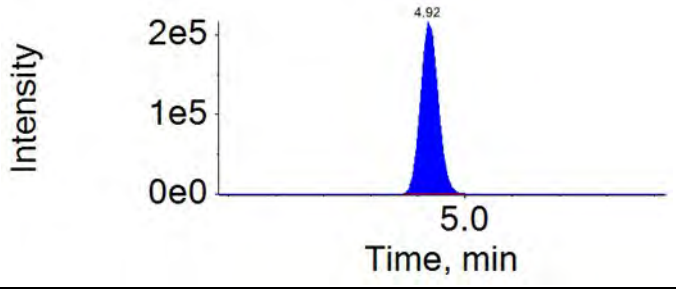
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

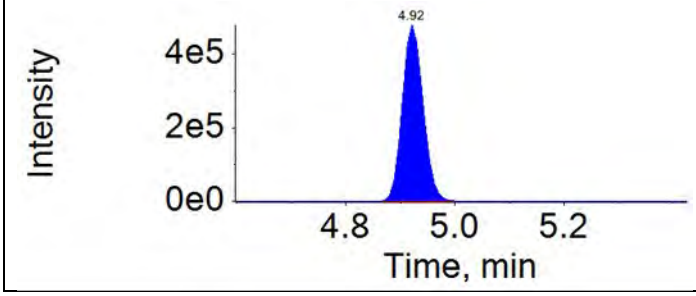
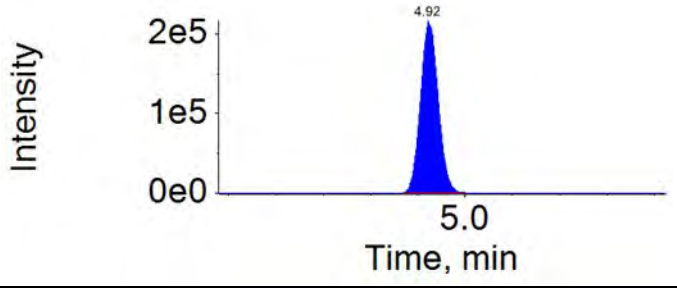


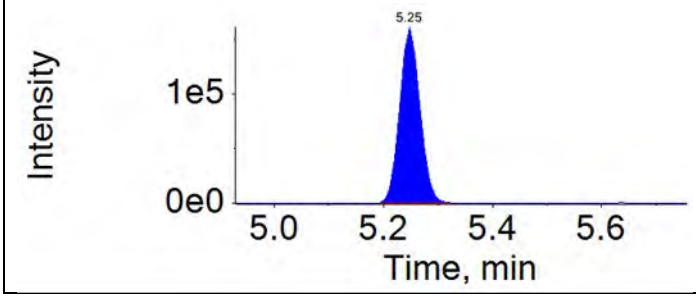
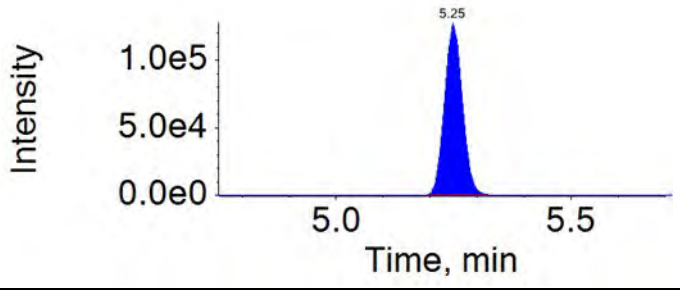


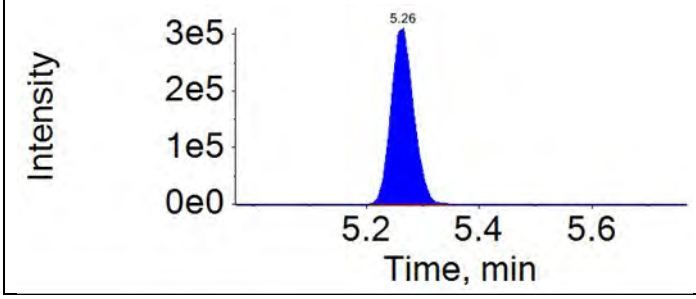
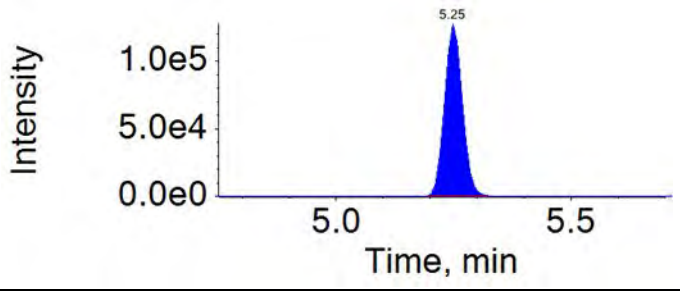
APPROVED
By MSM at 1:33 pm, 12/27/18

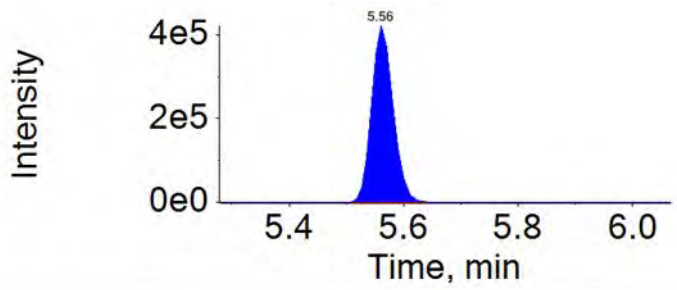
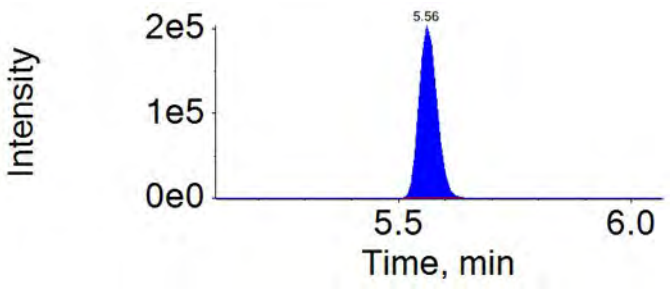
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

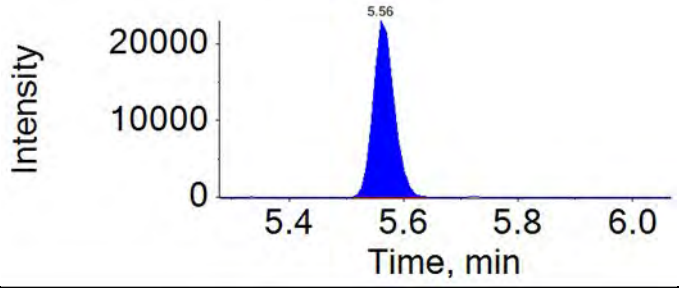
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

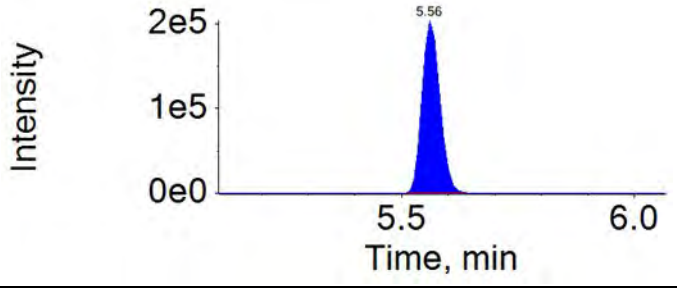
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

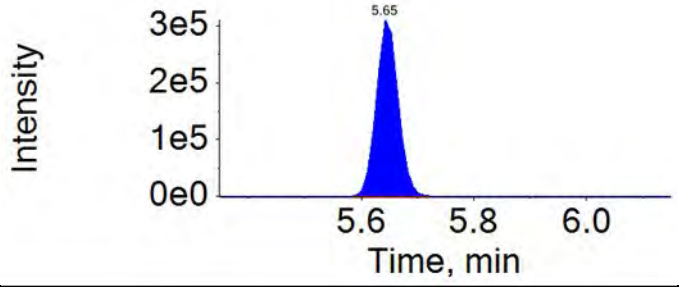
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

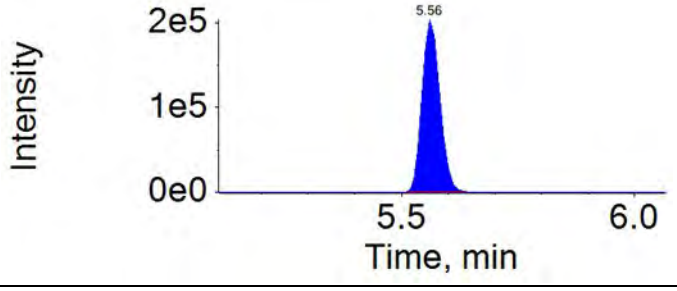
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



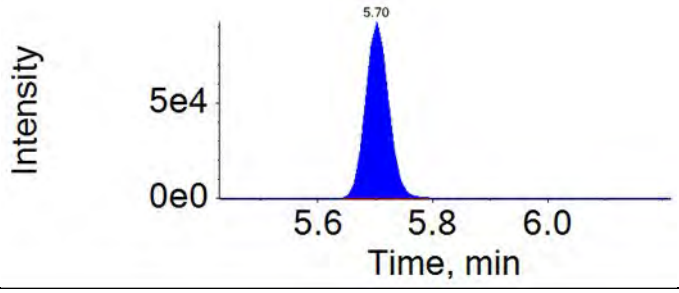


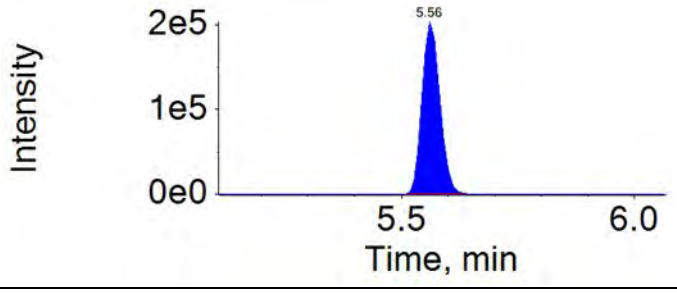
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



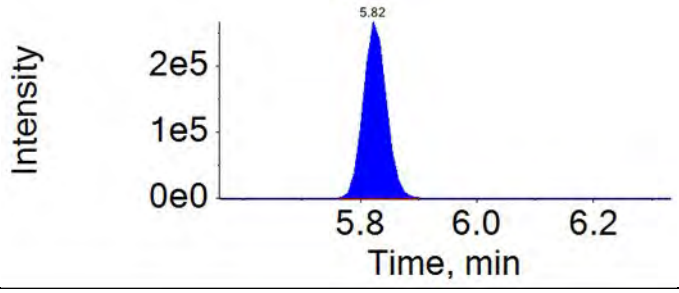


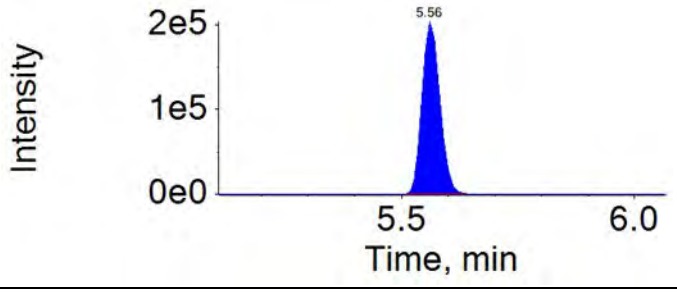
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



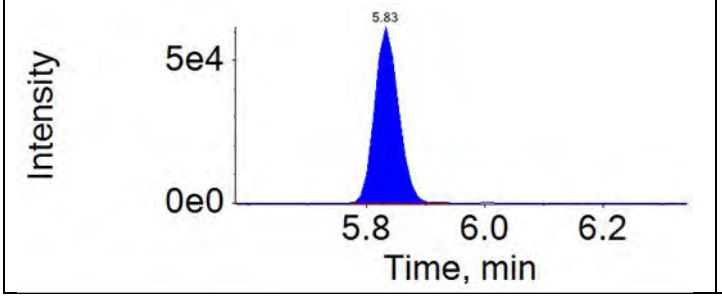


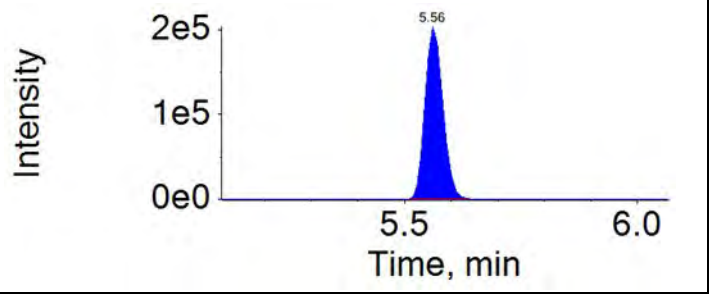
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

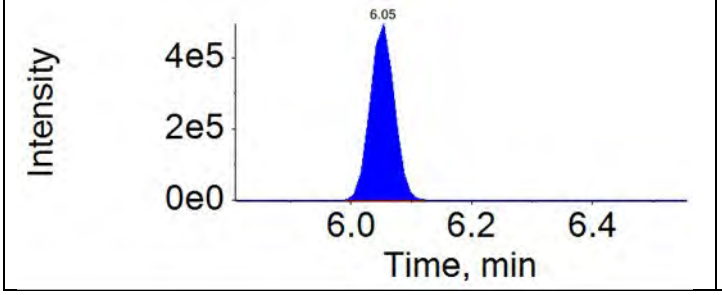
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

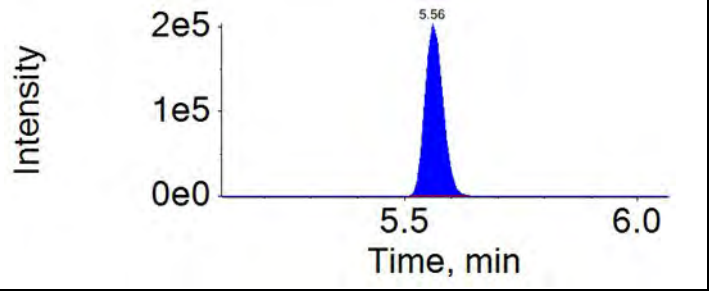
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



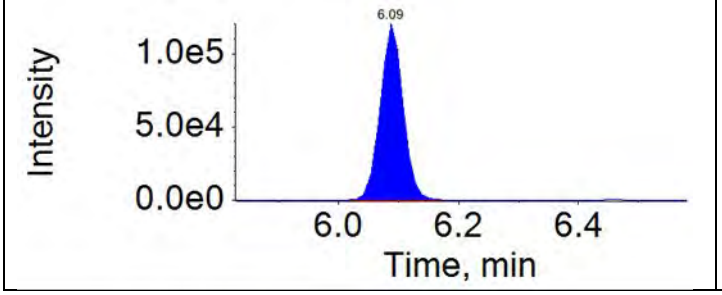


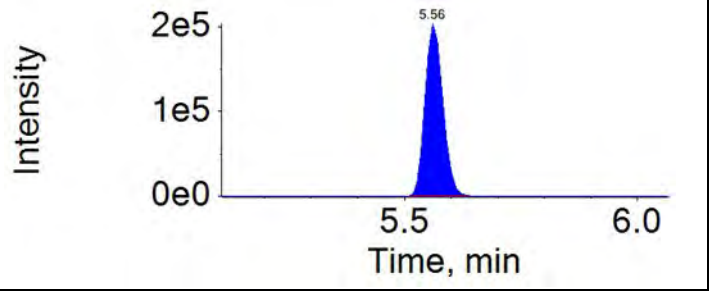
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



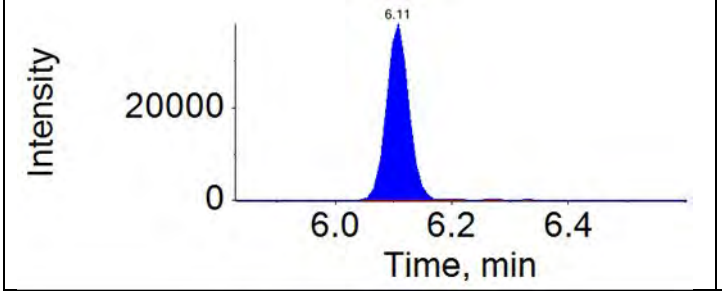


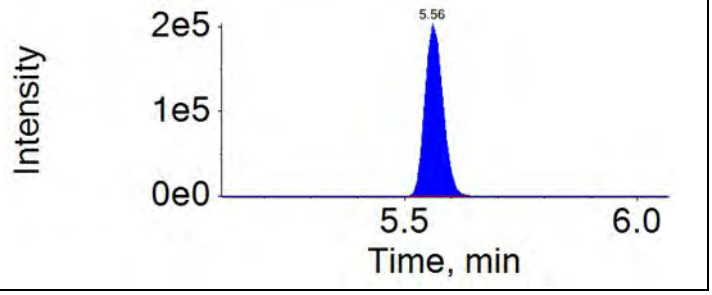
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



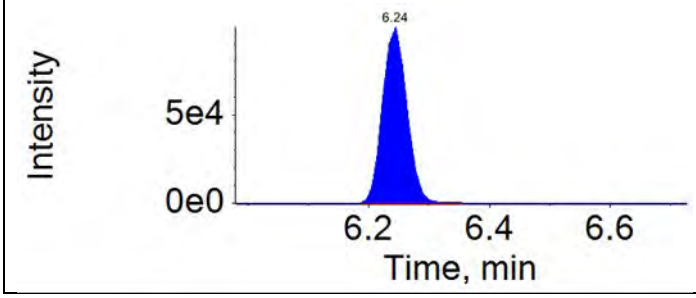


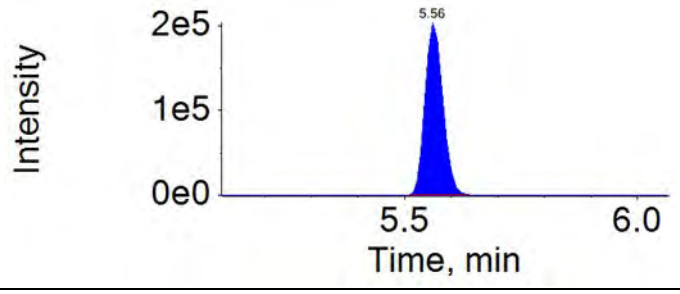
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

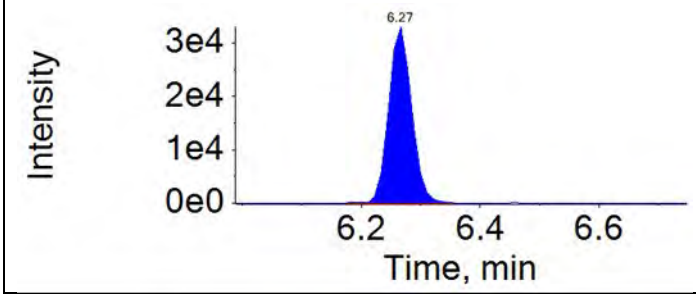
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

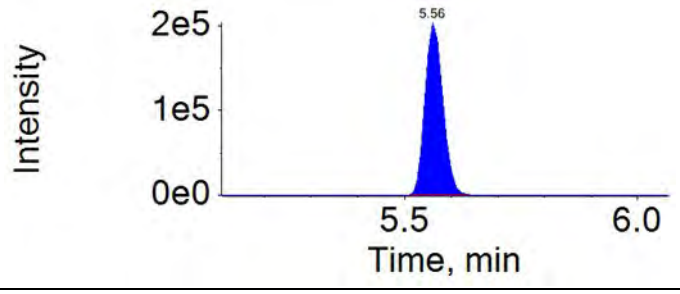
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



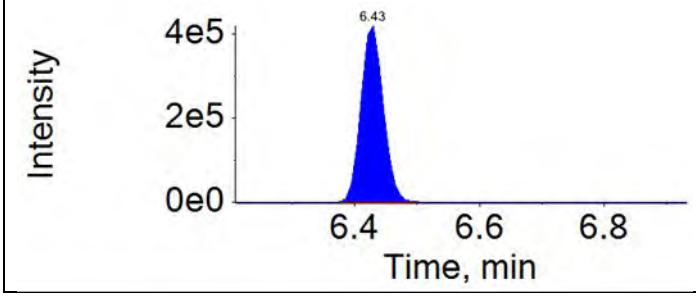


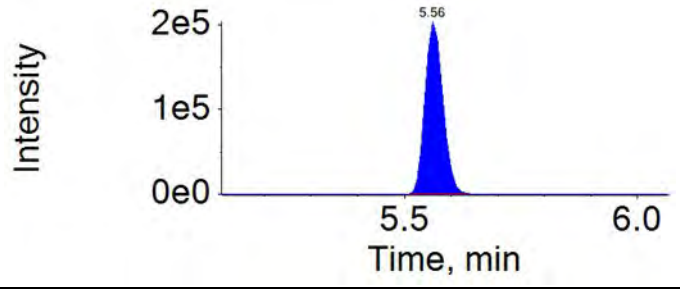
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



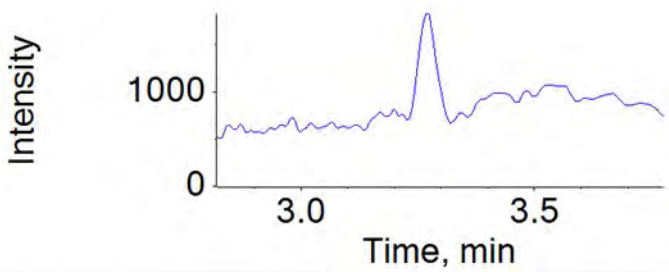


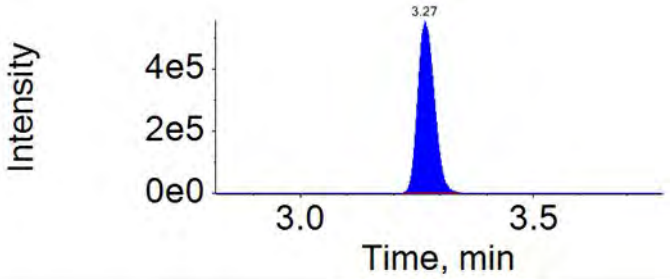
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

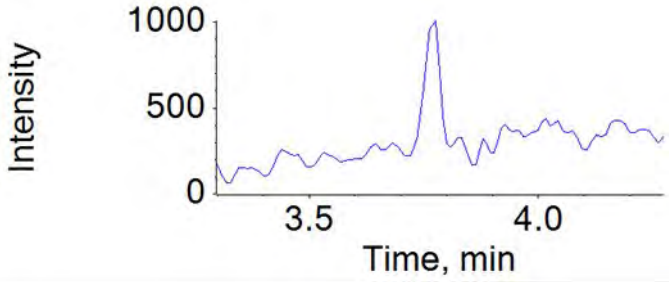
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

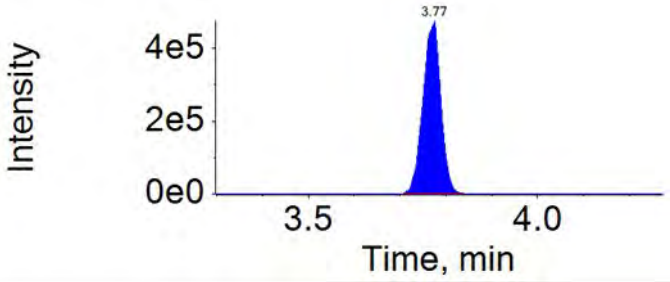
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



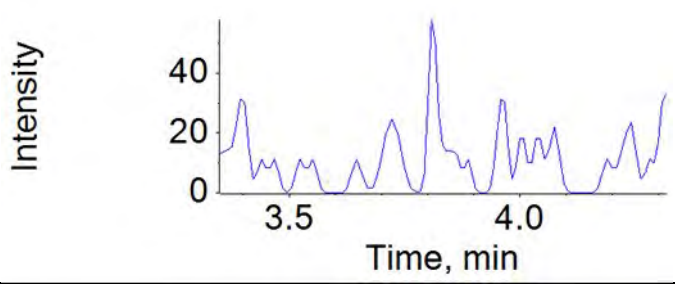


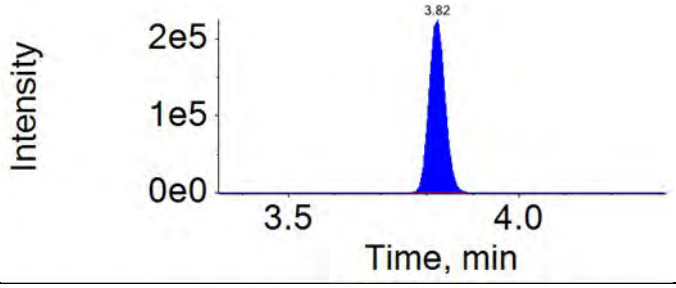
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



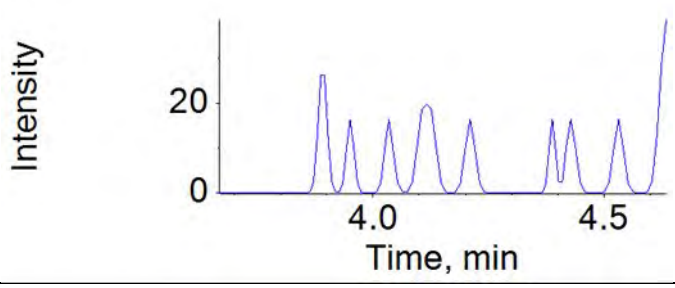


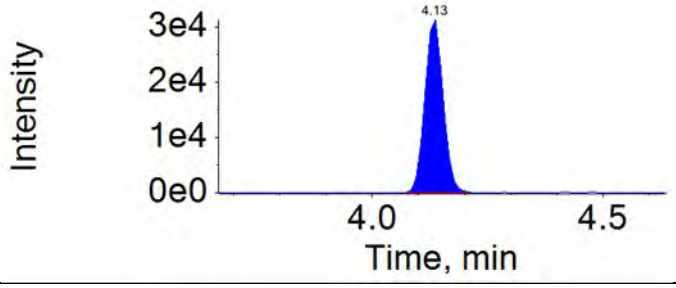
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



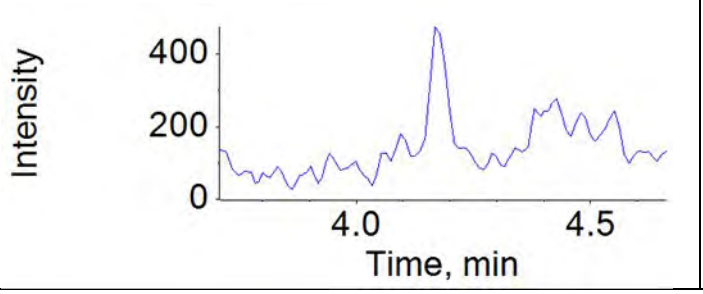


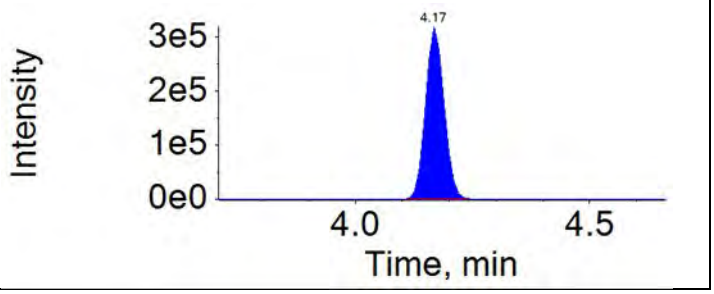
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

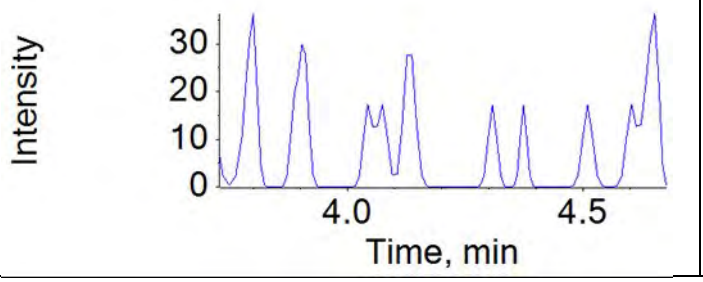
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

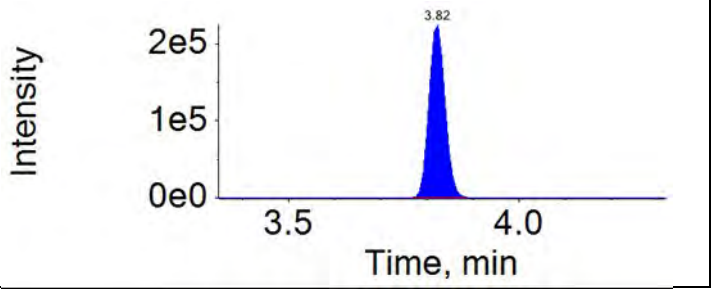
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



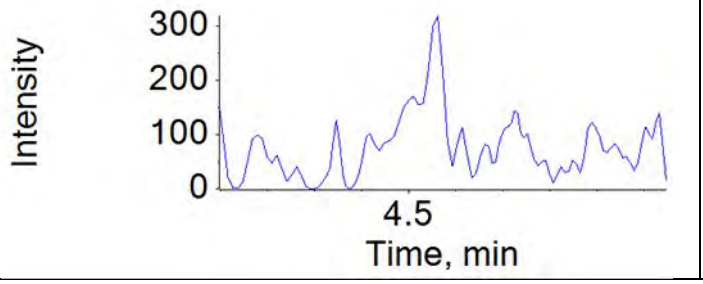


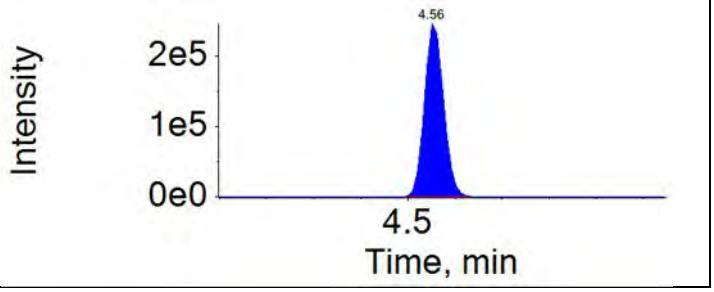
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



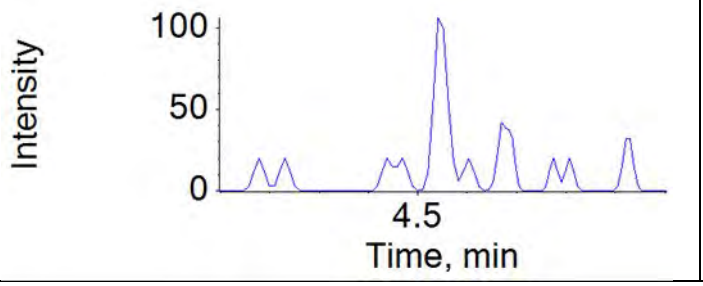


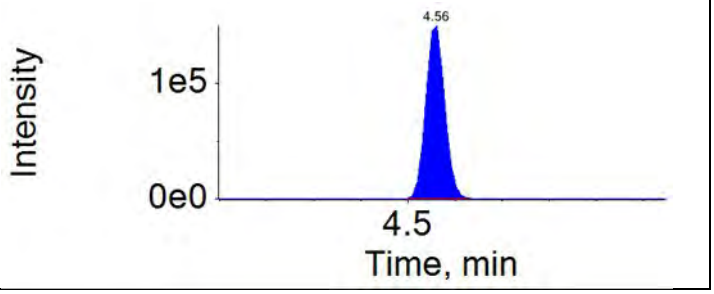
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



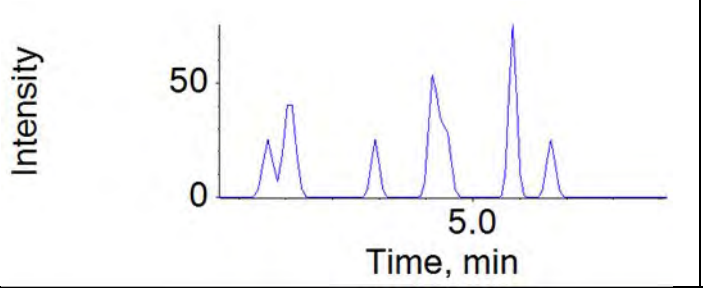


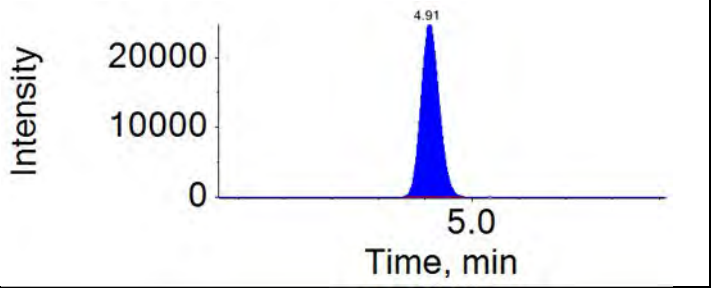
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

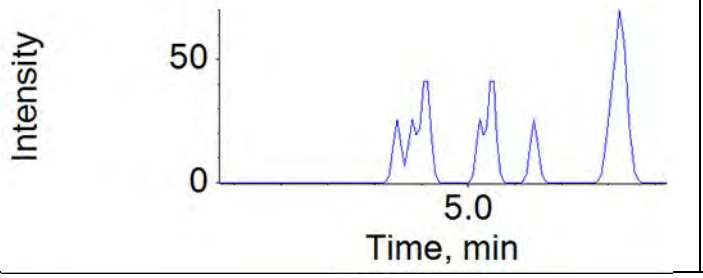
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

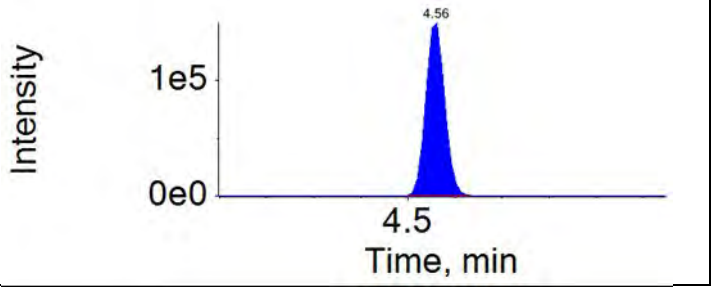
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



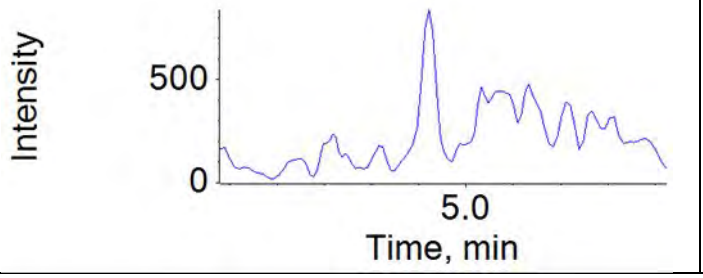


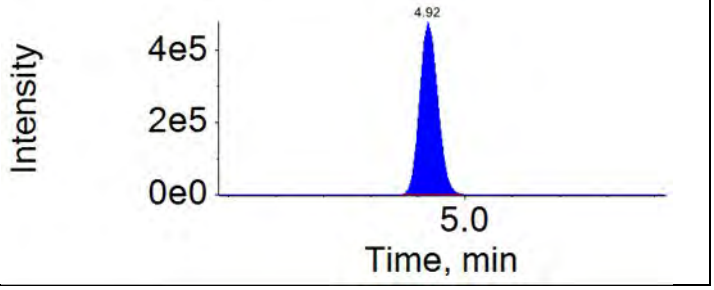
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



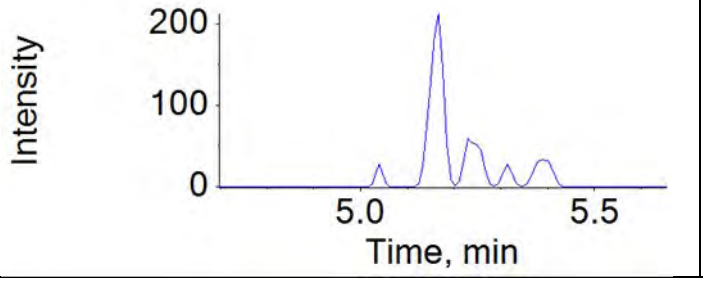


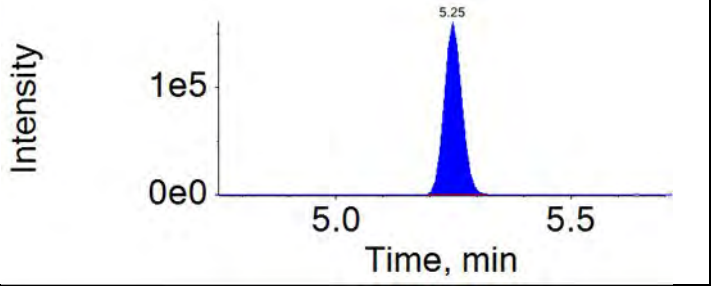
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



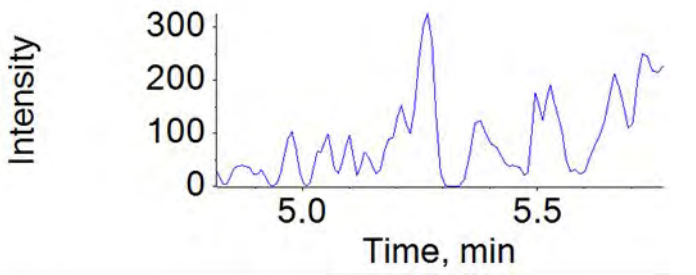


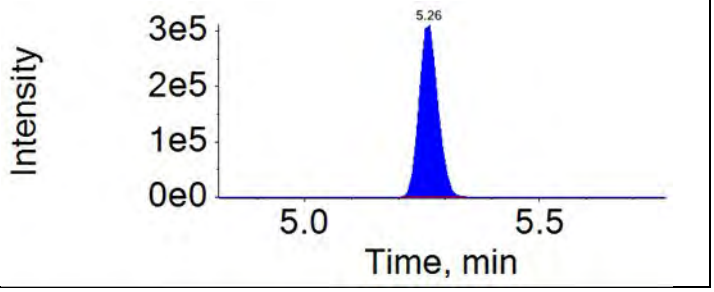
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

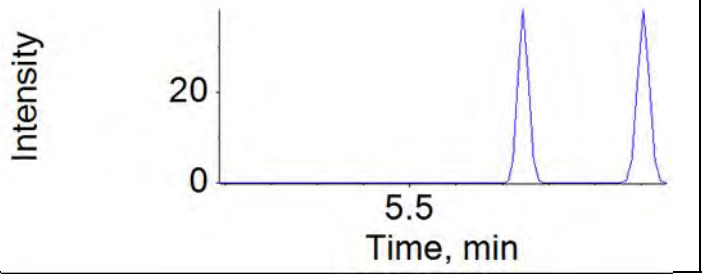
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

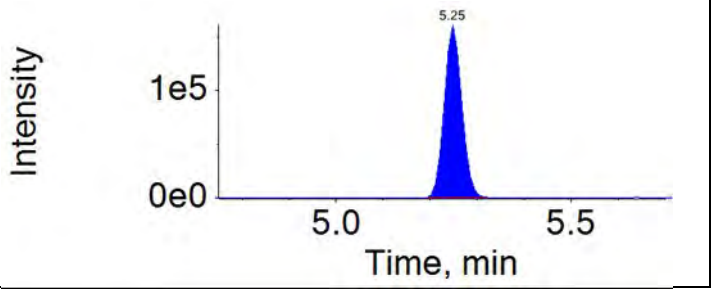
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



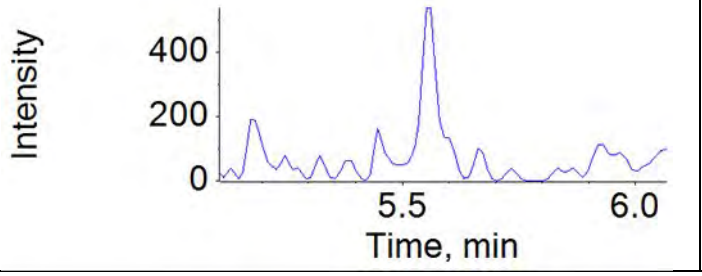


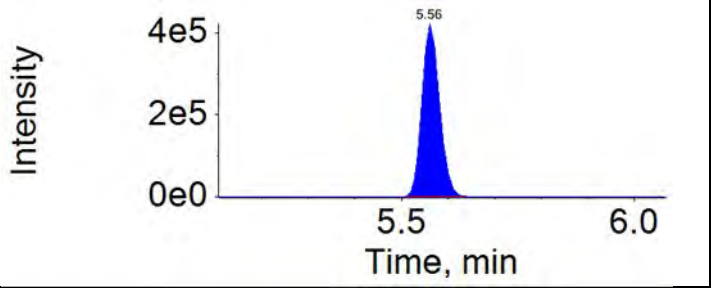
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



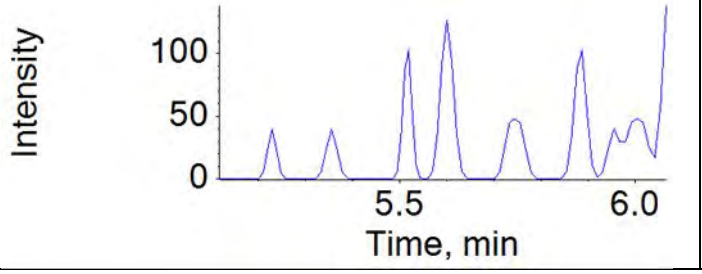


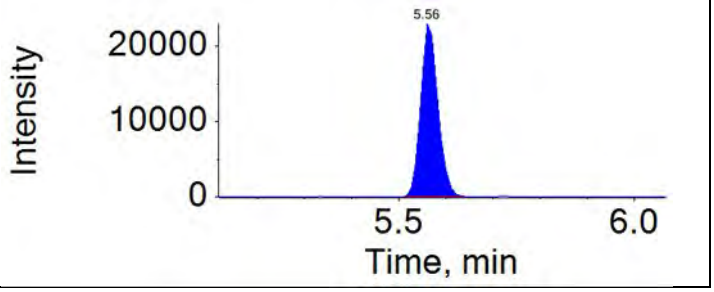
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



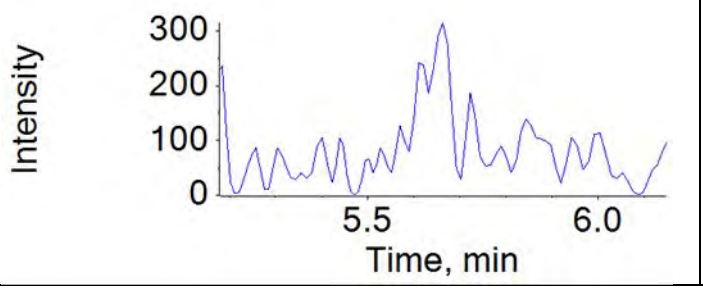


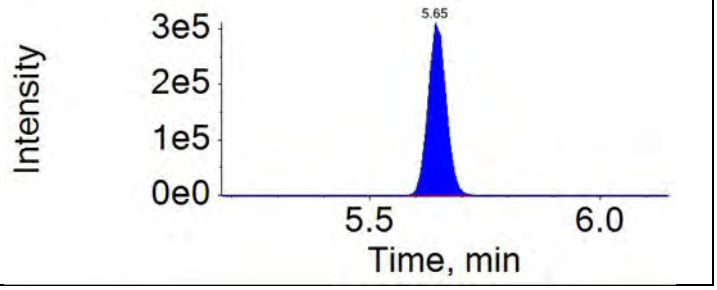
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

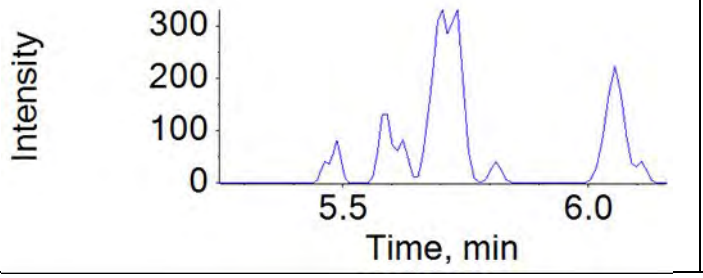
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

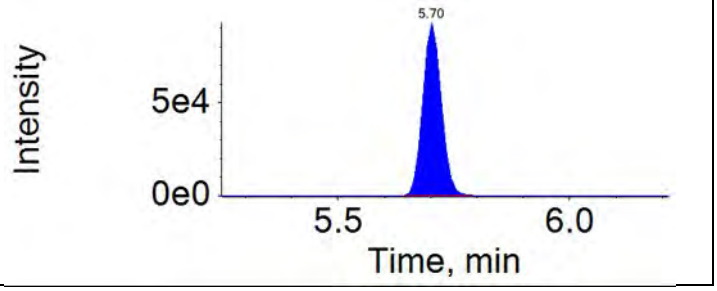
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



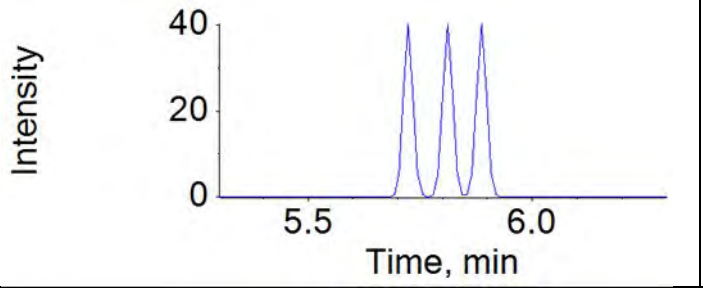


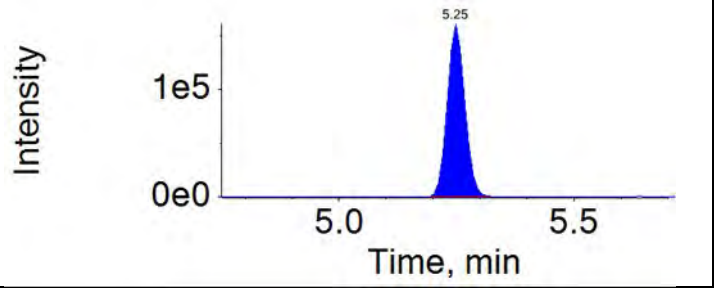
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



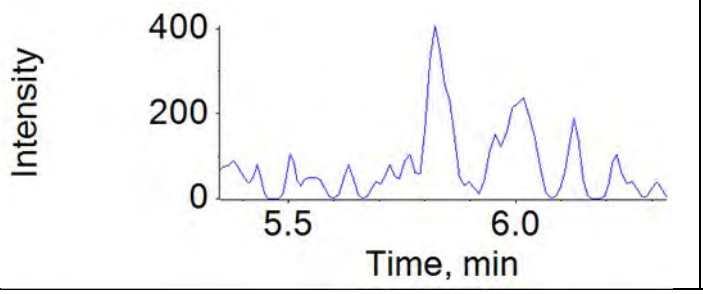


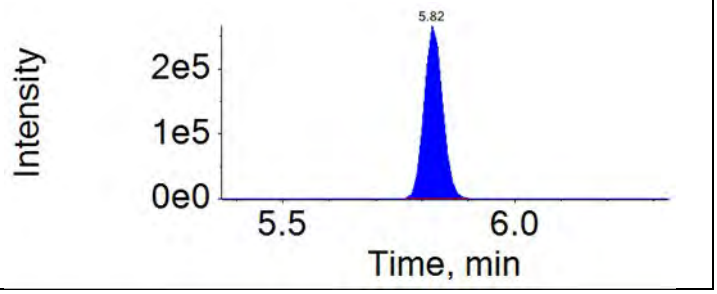
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



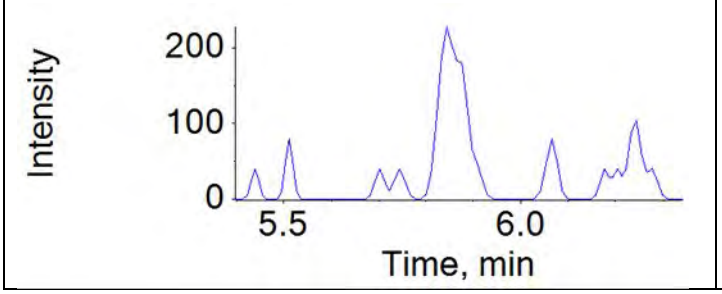


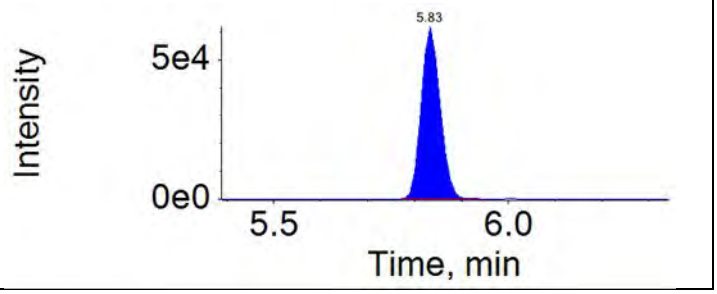
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

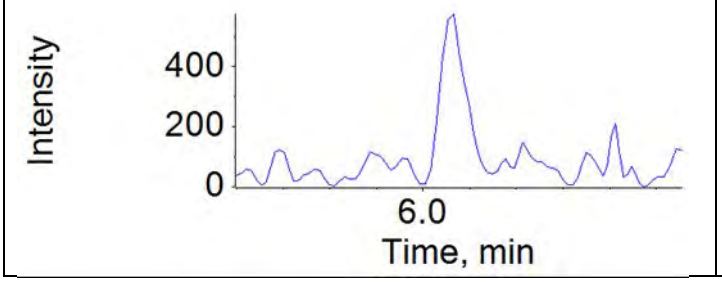
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

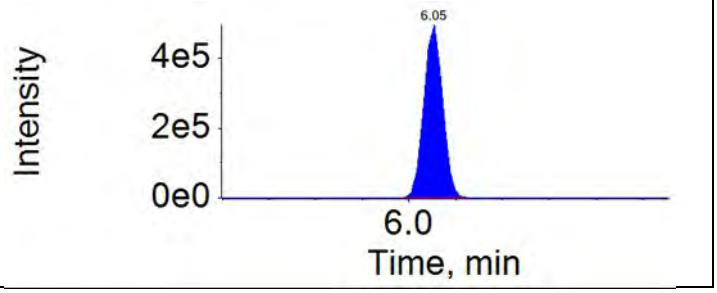
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



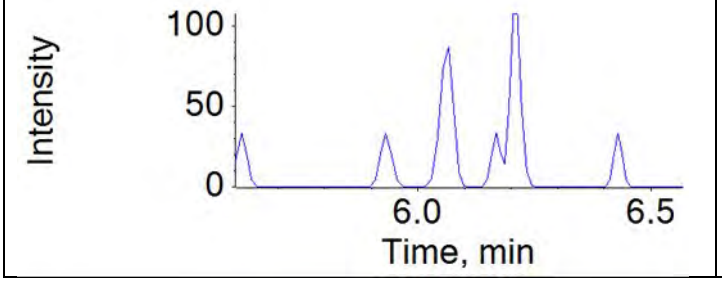


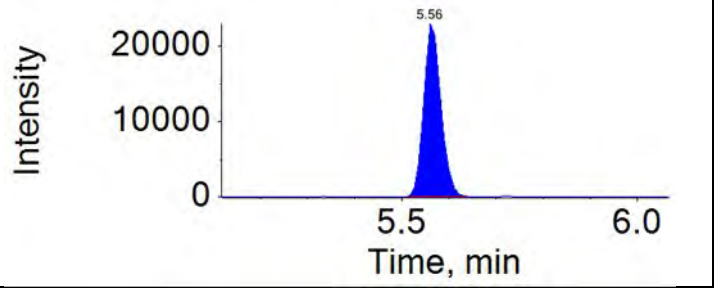
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



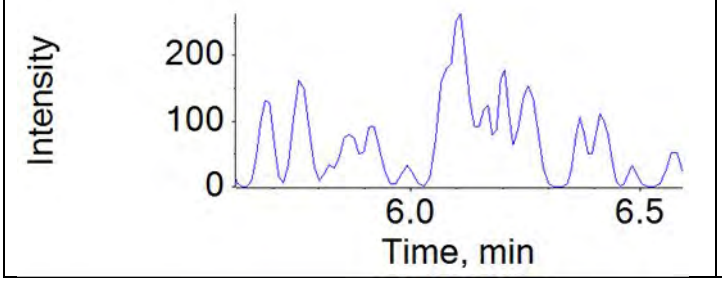


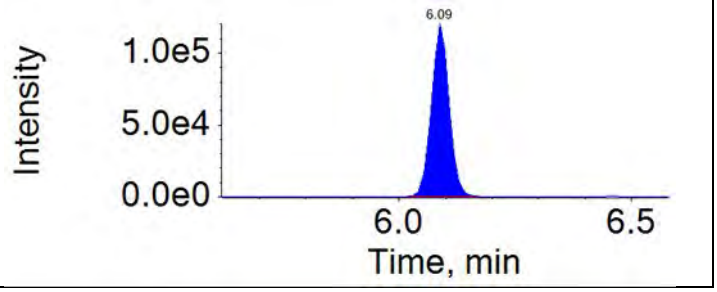
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



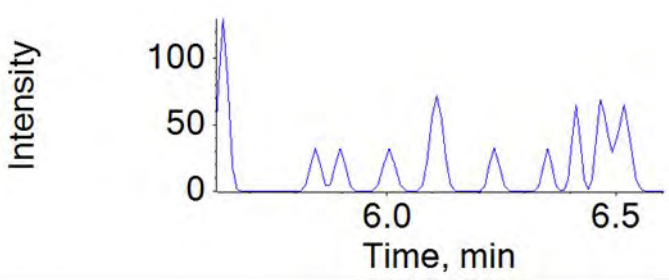


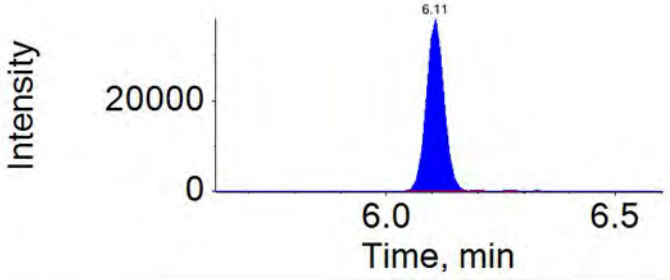
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

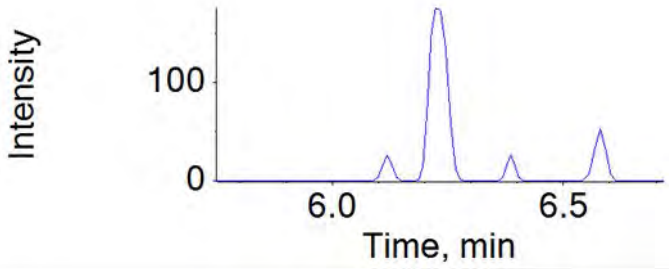
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

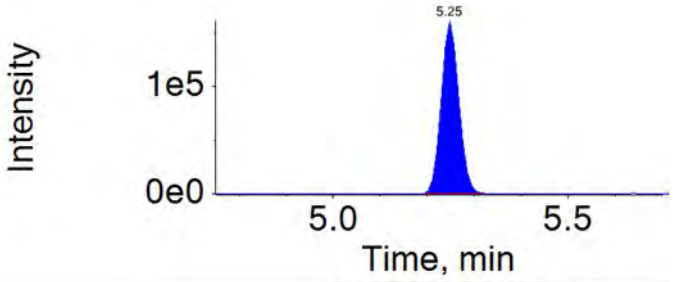
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



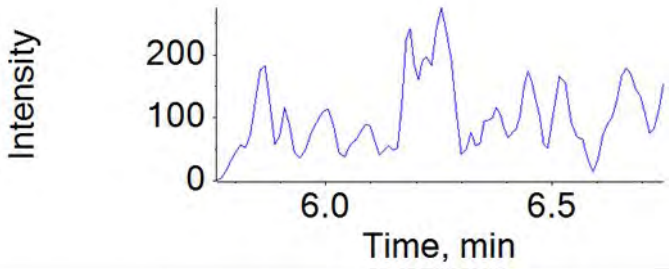


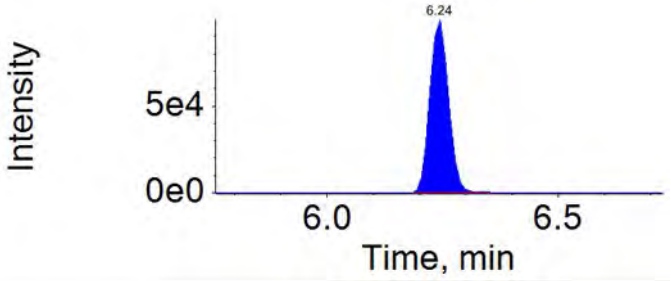
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



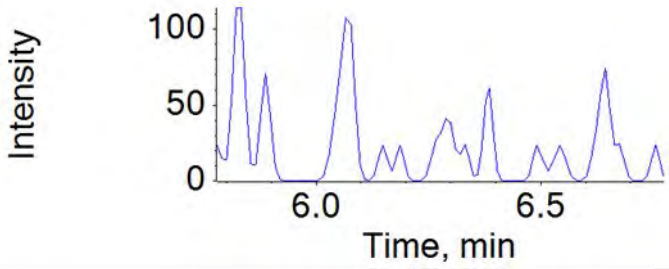


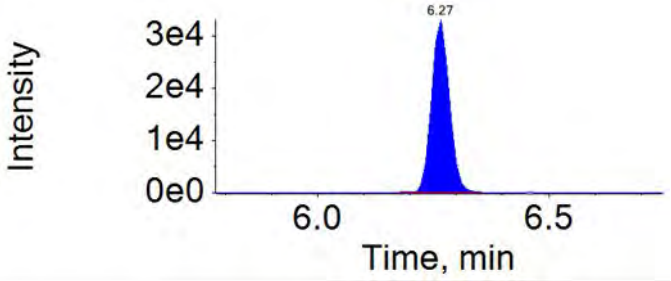
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



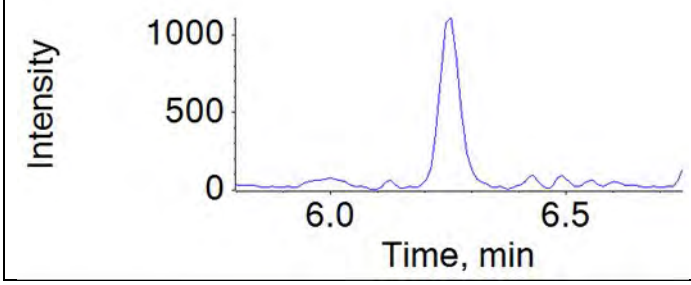


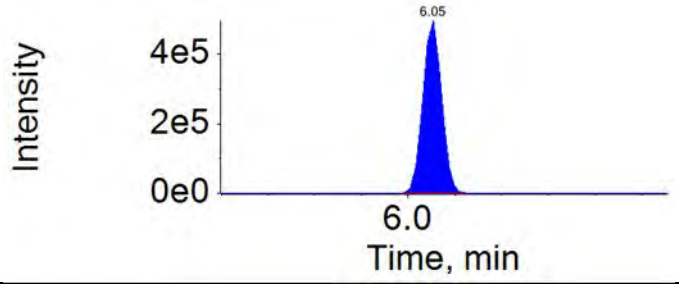
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

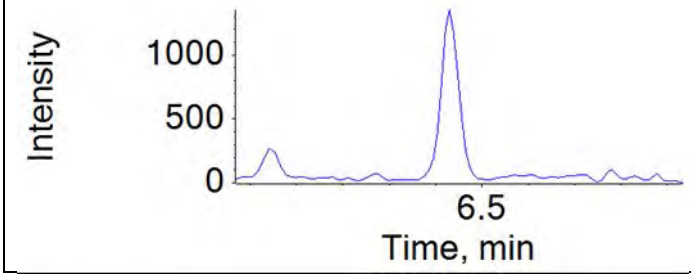
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

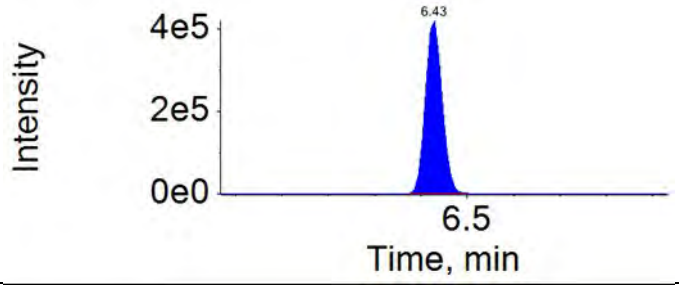
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



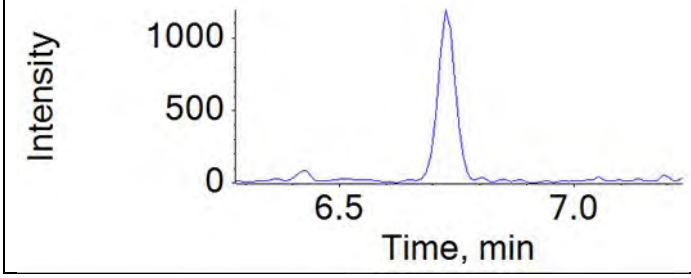


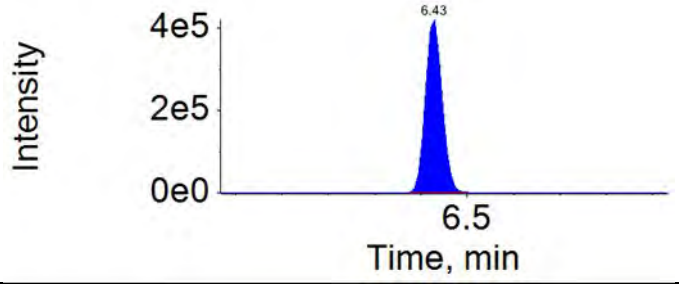
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



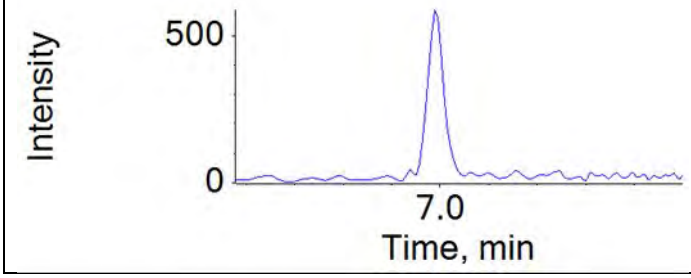


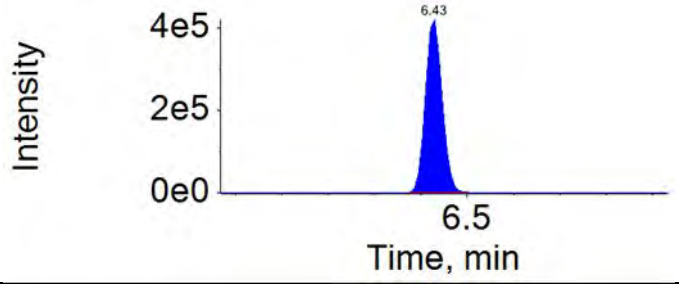
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Ion Ratio Report

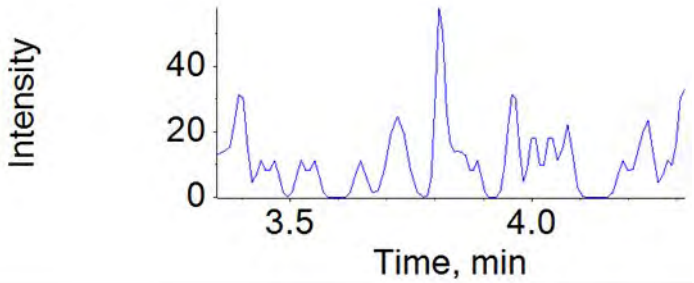
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-13.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3621	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6132	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0123	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5068	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0570	N/A		50	
PFHxS	N/A	N/A	N/A	A	1.0000	N/A			
PFHxS_2	N/A	N/A	N/A	A	0.3566	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6328	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4049	N/A		50	
PFOA	N/A	N/A	N/A	A	1.0000	N/A			
PFOA_2	N/A	N/A	N/A	A	0.0570	N/A		50	
PFOS	N/A	N/A	N/A	A	1.0000	N/A			
PFOS_2	N/A	N/A	N/A	A	0.3043	N/A		50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0213	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4515	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0067	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6016	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2579	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4884	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0042	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6799	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0139	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6715	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0088	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0063	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0643	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0266	N/A		50	

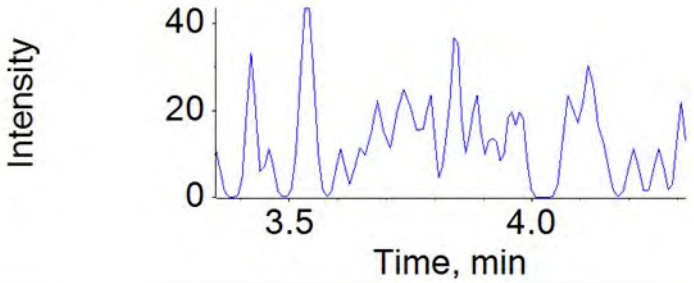
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

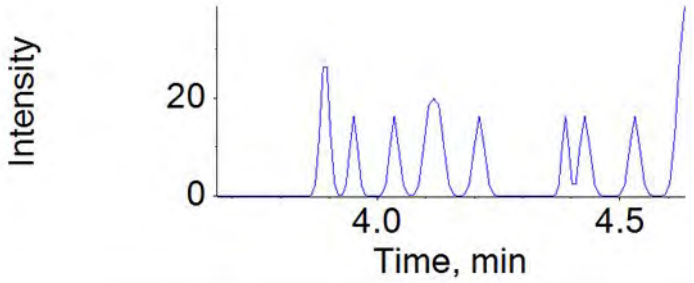
Component: PFBS
Primary Mass: 299.0 / 80.0



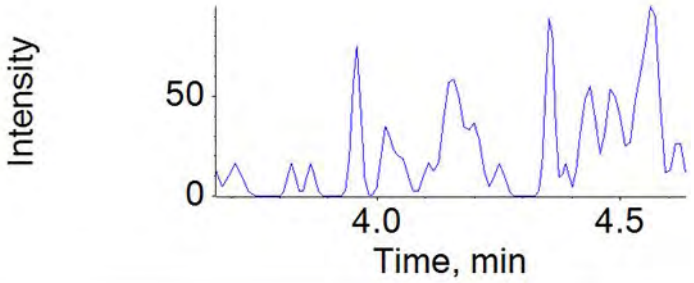
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



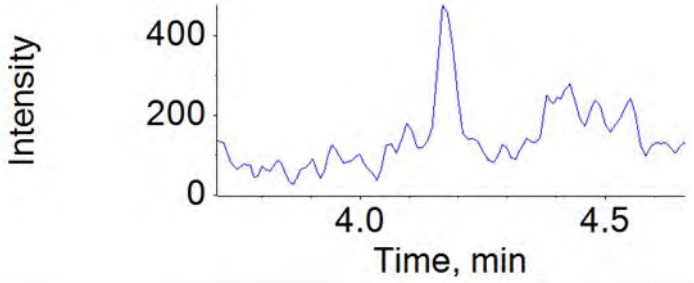
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



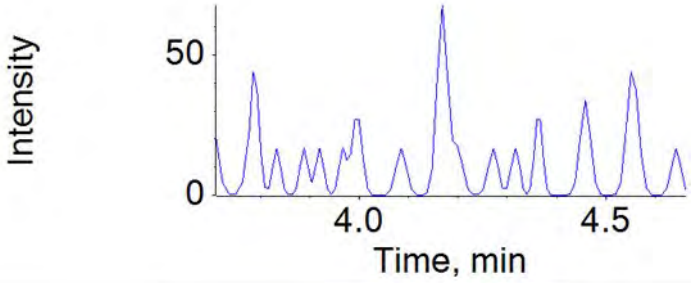
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



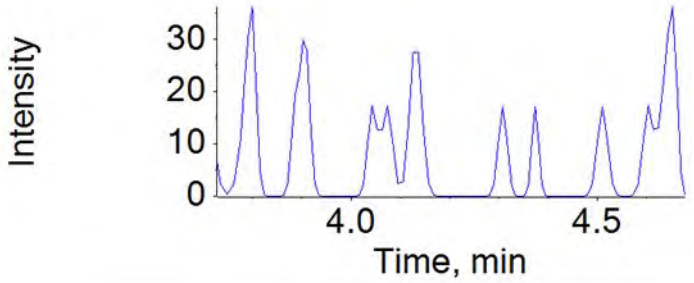
Component: PFHxA
Primary Mass: 313.0 / 269.0



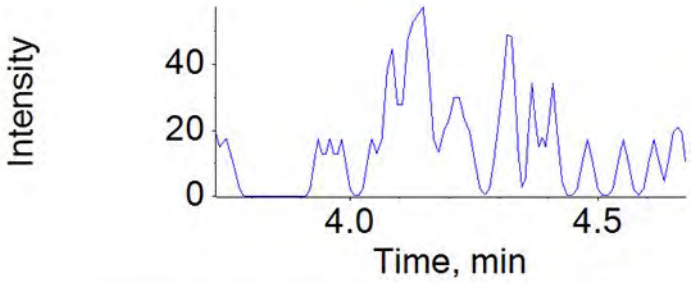
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



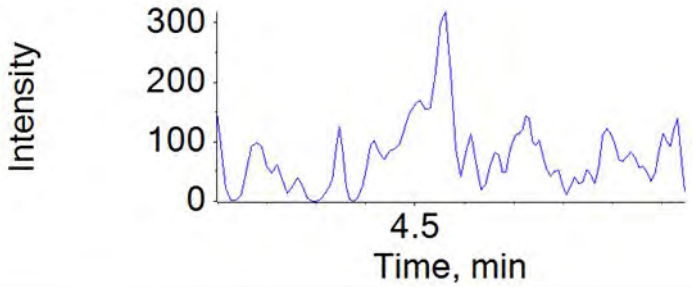
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



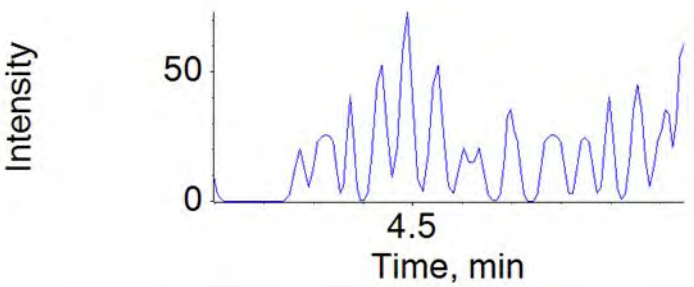
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

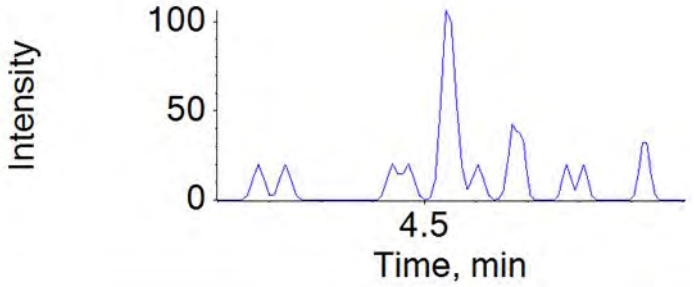
Component: PFHpA
Primary Mass: 363.0 / 319.0



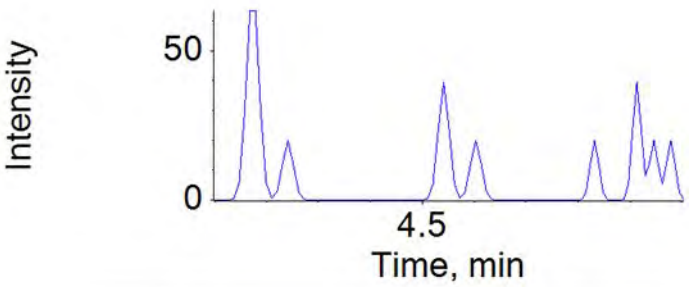
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



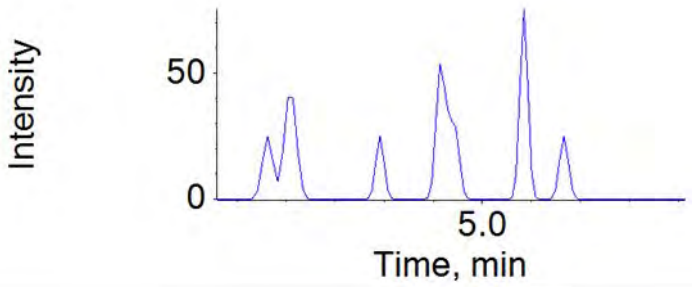
Component: PFHxS
Primary Mass: 399.0 / 80.0



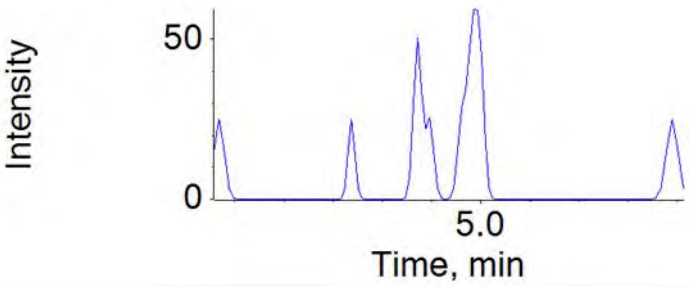
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



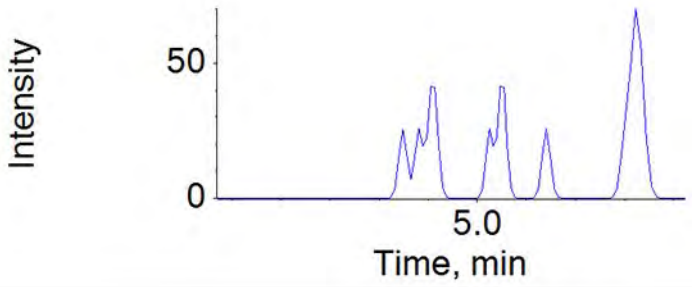
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



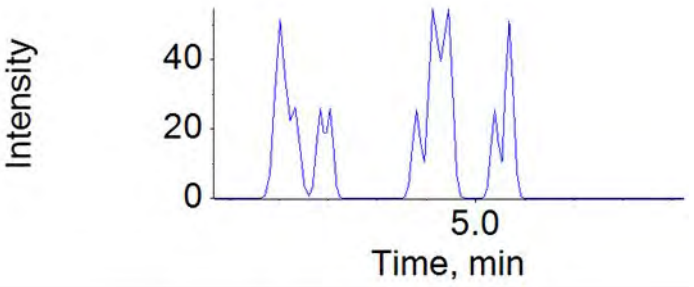
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



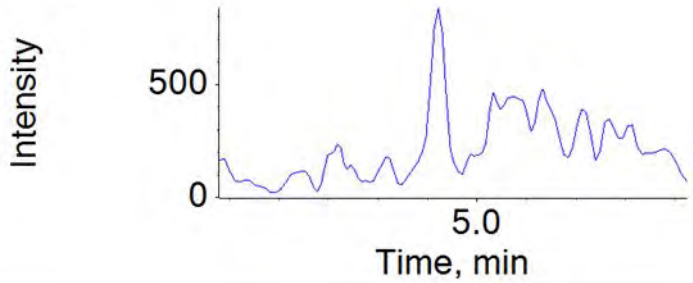
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



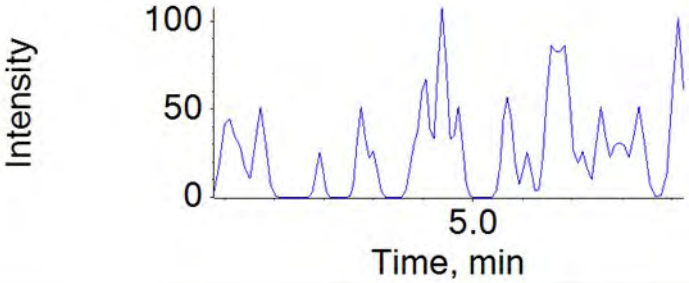
APPROVED
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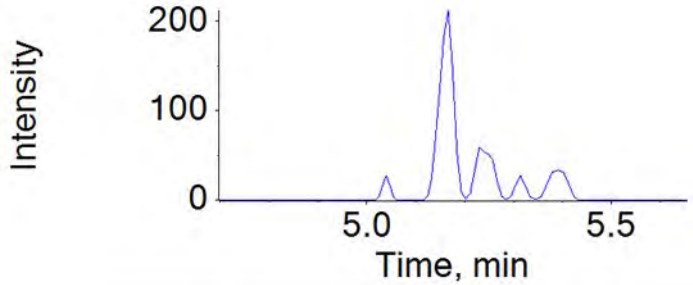
Component: PFOA
Primary Mass: 413.0 / 369.0



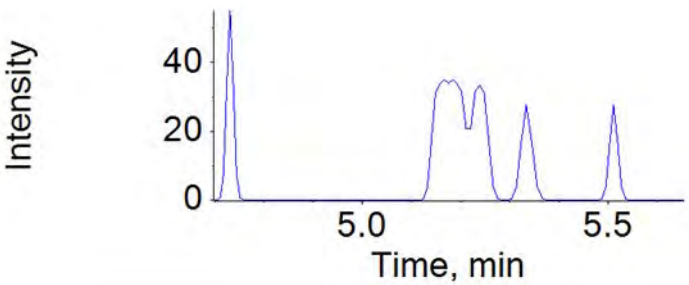
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



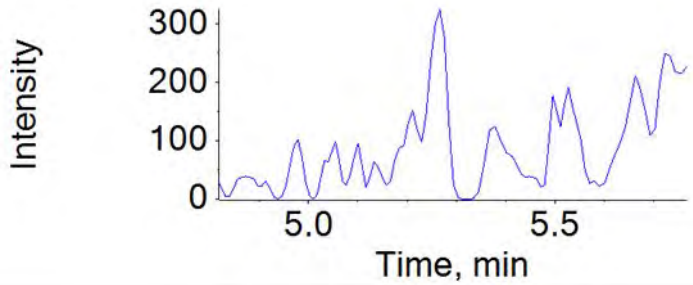
Component: PFOS
Primary Mass: 499.0 / 80.0



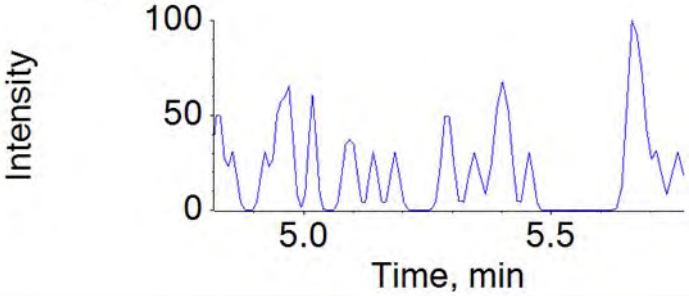
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



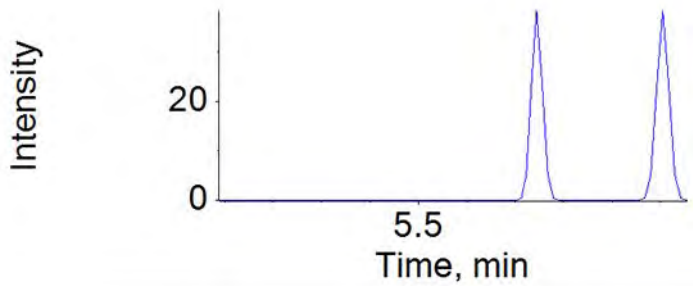
Component: PFNA
Primary Mass: 463.0 / 419.0



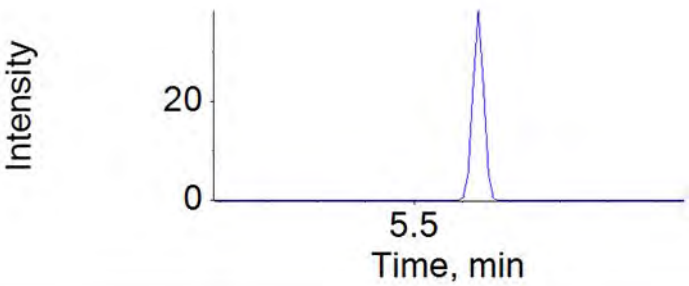
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



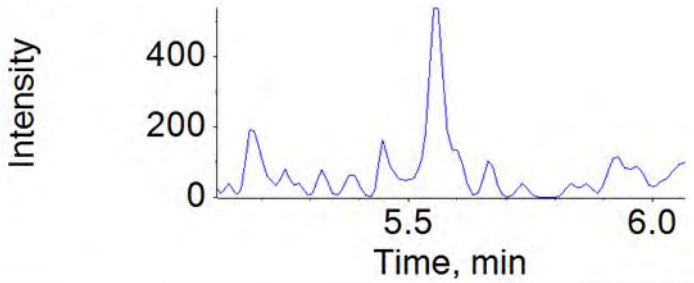
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



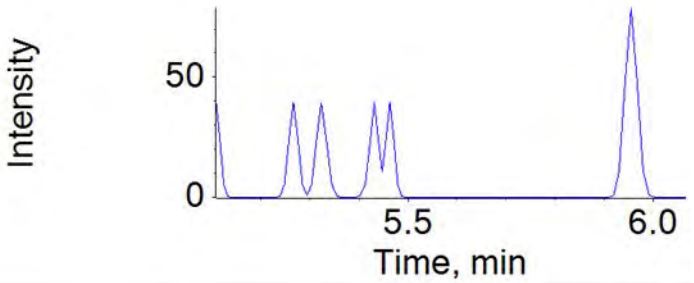
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

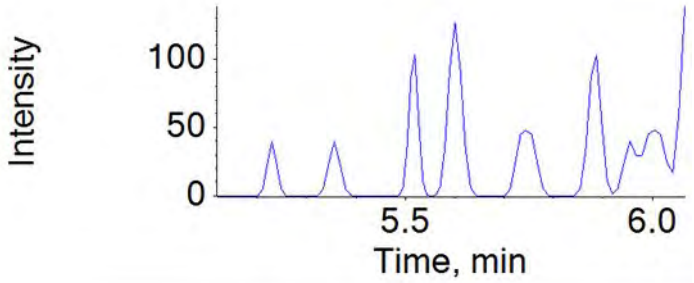
Component: PFDA
Primary Mass: 513.0 / 469.0



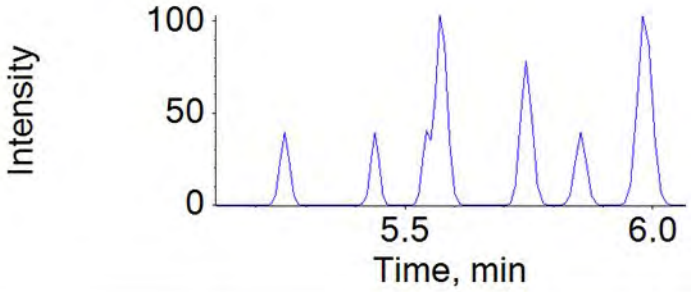
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



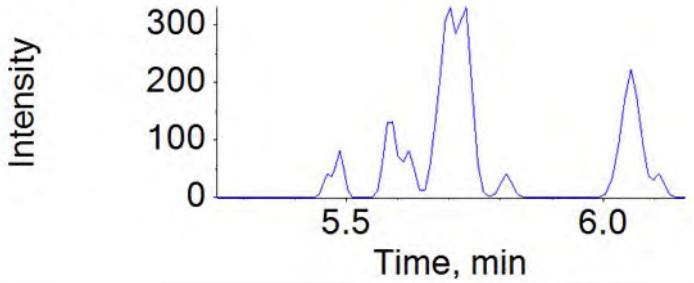
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



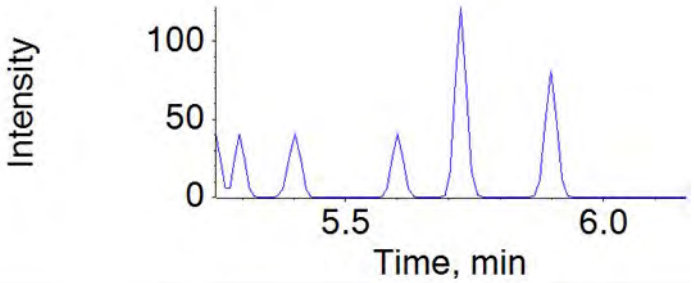
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



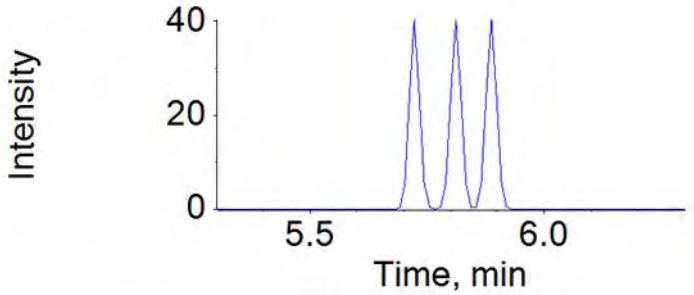
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



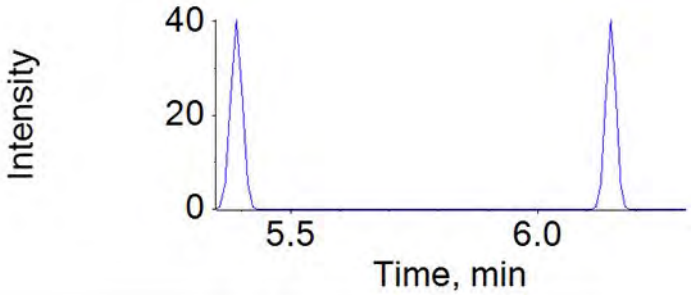
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



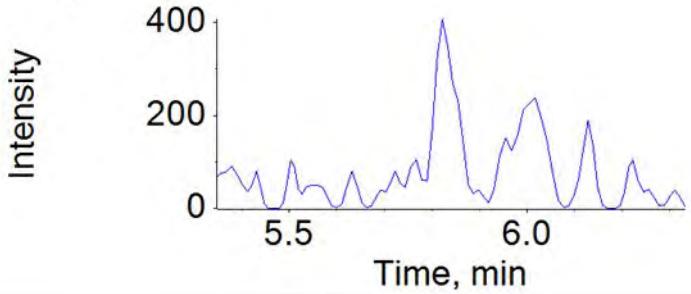
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



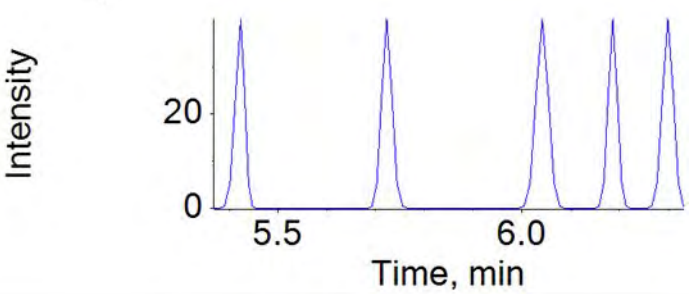
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

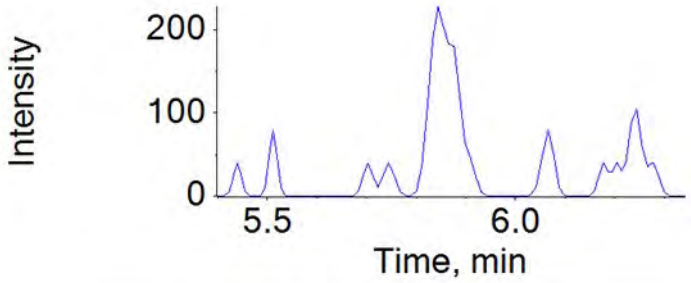
Component: PFUnDA
Primary Mass: 563.0 / 519.0



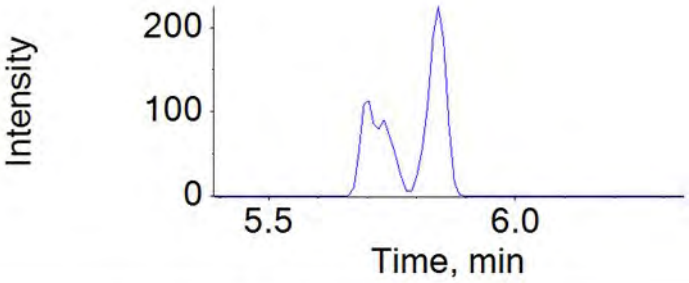
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



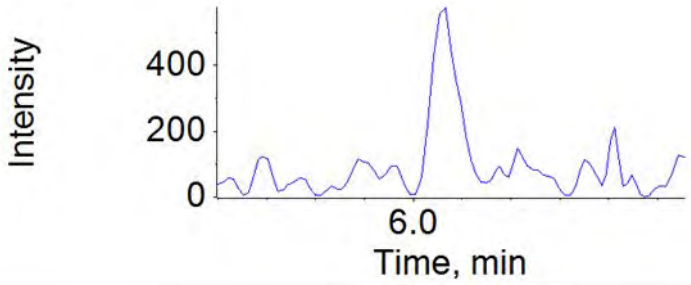
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



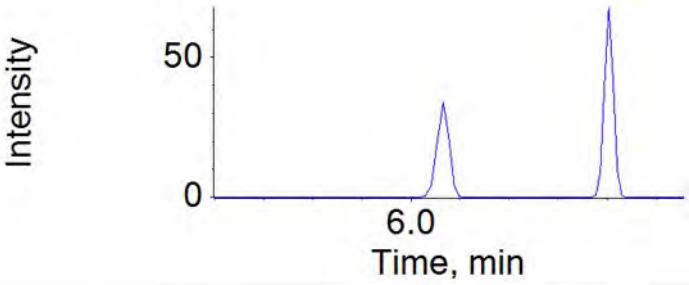
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



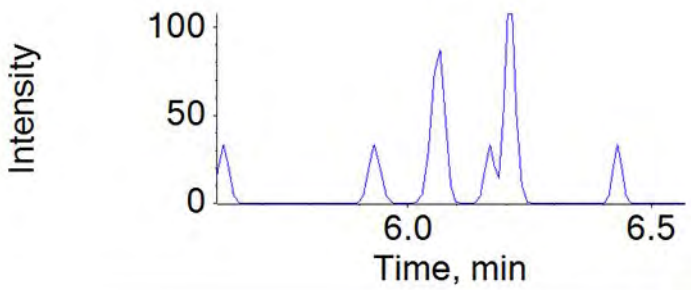
Component: PFDoDA
Primary Mass: 613.0 / 569.0



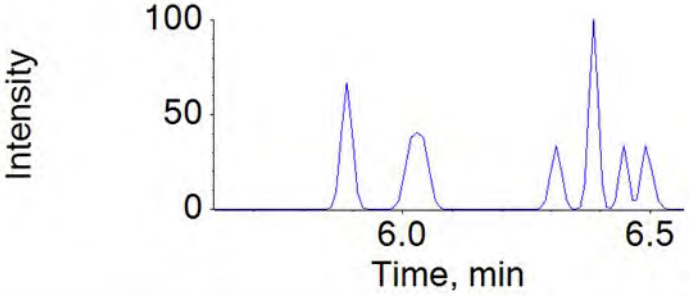
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



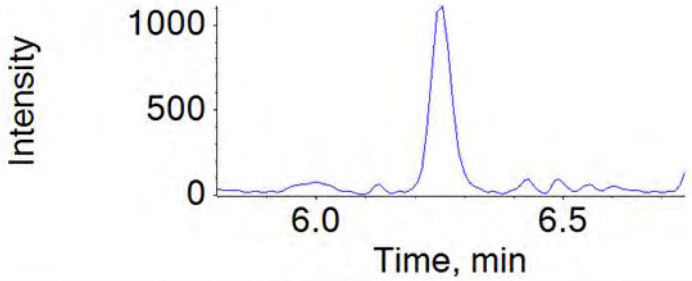
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



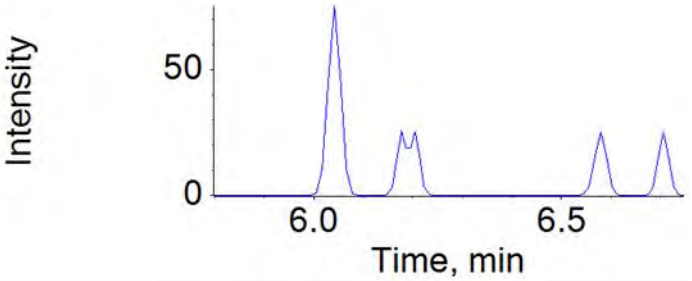
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

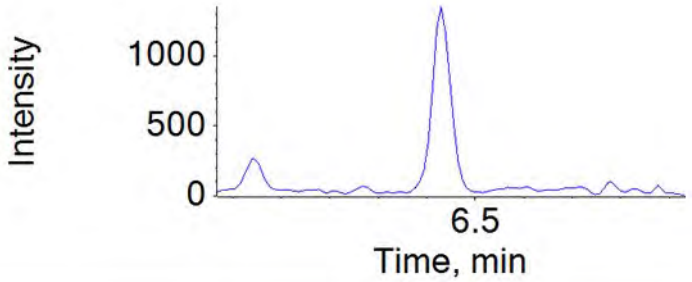
Component: PFTrDA
Primary Mass: 663.0 / 619.0



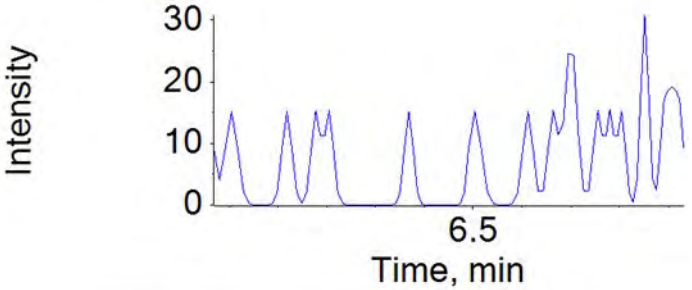
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



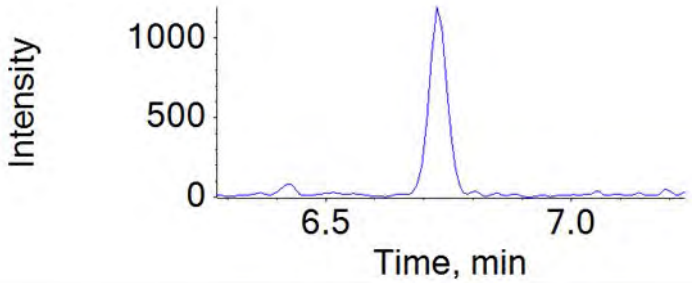
Component: PFTeDA
Primary Mass: 713.0 / 669.0



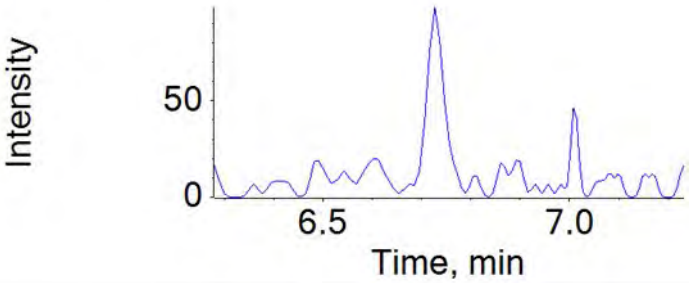
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



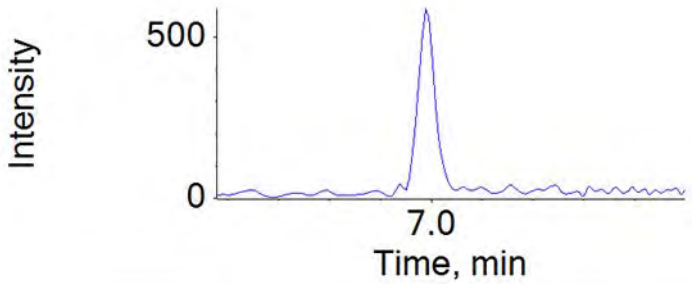
Component: PFHxDA
Primary Mass: 813.0 / 769.0



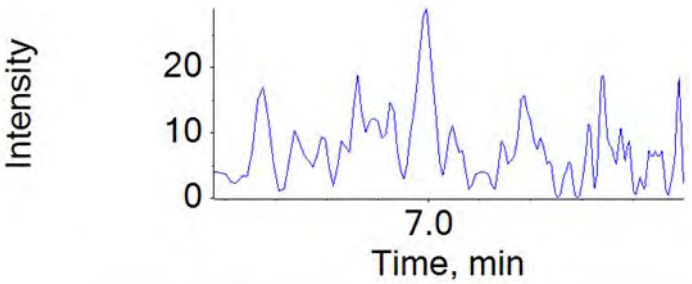
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	MDL			**Data File:**		18DEC26DCAL-05.wiff
Sample ID:	MDLMODX1833F			**Acquis Date:**		2018-12-26T13:28:16
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	2			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1036265.3	965438.2	7	50	
13C2-PFOA	5.0	539224.1	527066.0	2	50	
13C4-PFOS	4.8	316768.3	307230.6	3	50	
13C2-PFDA	5.0	504438.4	493258.9	2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1151913.0	13C3-PFBA	1036265.3	1.112	5.000	4.932	99	70-130	
E13C5-PFPeA	1101830.5	13C3-PFBA	1036265.3	1.063	5.000	5.064	101	70-130	
E13C3-PFBS	460016.2	13C3-PFBA	1036265.3	0.444	4.650	4.313	93	70-130	
E13C2-4:2-FTS	70453.1	13C2-PFOA	539224.1	0.131	4.670	4.978	107	70-130	
E13C5-PFHxA	754206.5	13C2-PFOA	539224.1	1.399	5.000	5.117	102	70-130	
E13C3-PFHxS	364642.1	13C2-PFOA	539224.1	0.676	4.730	5.196	110	70-130	
E13C4-PFHpA	608275.4	13C2-PFOA	539224.1	1.128	5.000	5.082	102	70-130	
E13C2-6:2-FTS	56535.4	13C2-PFOA	539224.1	0.105	4.750	5.130	108	70-130	
E13C8-PFOA	1087265.8	13C2-PFOA	539224.1	2.016	5.000	5.649	113	70-130	
E13C8-PFOS	350653.2	13C4-PFOS	316768.3	1.107	4.780	4.826	101	70-130	
E13C9-PFNA	709822.0	13C4-PFOS	316768.3	2.241	5.000	4.936	99	70-130	
E13C6-PFDA	919187.6	13C2-PFDA	504438.4	1.822	5.000	5.232	105	70-130	
E13C2-8:2-FTS	51899.8	13C2-PFDA	504438.4	0.103	4.790	5.323	111	70-130	
E13C8-PFOSA	645188.6	13C2-PFDA	504438.4	1.279	5.000	5.109	102	70-130	
Ed3-NMeFOSAA	192830.8	13C2-PFDA	504438.4	0.382	5.000	4.878	98	70-130	
E13C7-PFUnDA	638051.9	13C2-PFDA	504438.4	1.265	5.000	5.465	109	70-130	
Ed5-NEtFOSAA	154459.1	13C2-PFDA	504438.4	0.306	5.000	5.305	106	70-130	
E13C2-PFDoDA	1219490.4	13C2-PFDA	504438.4	2.418	5.000	5.244	105	70-130	
Ed7-NMePFOSAE	254614.5	13C2-PFDA	504438.4	0.505	5.000	4.772	95	70-130	
Ed3-NMePFOSA	89461.8	13C2-PFDA	504438.4	0.177	5.000	5.027	101	70-130	
Ed9-NEtPFOSAE	223363.5	13C2-PFDA	504438.4	0.443	5.000	4.818	96	70-130	
Ed5-NEtPFOSA	73041.0	13C2-PFDA	504438.4	0.145	5.000	5.111	102	70-130	
E13C2-PFTeDA	885330.0	13C2-PFDA	504438.4	1.755	5.000	5.176	104	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

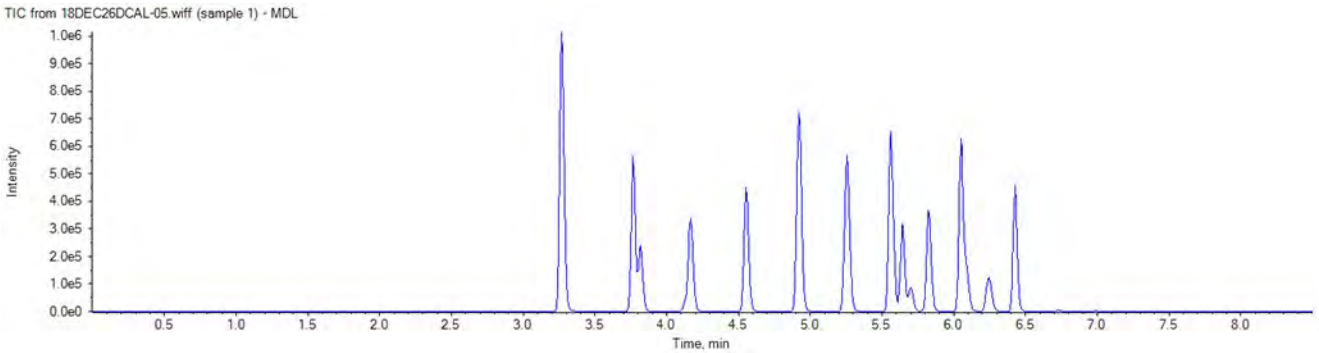
Analyte Quantitation Peak Table

Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-05.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	38711.0		A	13C4-PFBA	3.27	1151913.0	0.034	0.178
PFPeA	3.77	1.000	29846.7		A	13C5-PFPeA	3.77	1101830.5	0.027	0.134
PFBS	3.82	1.000	11679.4		A	13C3-PFBS	3.82	460016.2	0.025	0.126
4:2-FTS	4.13	1.000	2261.6		A	13C2-4:2-FTS	4.13	70453.1	0.032	0.079
PFHxA	4.17	1.000	25456.2		A	13C5-PFHxA	4.17	754206.5	0.034	0.139
PFPeS	4.19	1.100	4263.6		A	13C3-PFBS	3.82	460016.2	0.009	0.093
PFHpA	4.55	1.000	27745.7		A	13C4-PFHpA	4.55	608275.4	0.046	0.144
PFHxS	4.55	1.000	9165.6		A	13C3-PFHxS	4.56	364642.1	0.025	0.118
6:2-FTS	4.91	1.000	3270.6		A	13C2-6:2-FTS	4.91	56535.4	0.058	0.139
PFHpS	4.92	1.080	9711.1		A	13C3-PFHxS	4.56	364642.1	0.027	0.139
PFOA	4.92	1.000	27884.3		A	13C8-PFOA	4.92	1087265.8	0.026	0.136
PFOS	5.25	1.000	8503.1		M	13C8-PFOS	5.25	350653.2	0.024	0.106
PFNA	5.26	1.000	25340.2		A	13C9-PFNA	5.26	709822.0	0.036	0.143
PFNS	5.54	1.060	5407.6		A	13C8-PFOS	5.25	350653.2	0.015	0.105
PFDA	5.56	1.000	22741.5		A	13C6-PFDA	5.56	919187.6	0.025	0.143
8:2-FTS	5.57	1.000	2649.3		A	13C2-8:2-FTS	5.57	51899.8	0.051	0.101
PFOSA	5.64	1.000	14819.1		A	13C8-PFOSA	5.64	645188.6	0.023	0.121
NMeFOSAA	5.70	1.000	5497.1		A	d3-NMeFOSAA	5.70	192830.8	0.029	0.166
PFDS	5.80	1.100	5614.9		A	13C8-PFOS	5.25	350653.2	0.016	0.132
PFUnDA	5.82	1.000	24836.1		A	13C7-PFUnDA	5.82	638051.9	0.039	0.149
NEtFOSAA	5.84	1.000	4657.1		A	d5-NEtFOSAA	5.84	154459.1	0.030	0.155
PFDoDA	6.05	1.000	32337.5		A	13C2-PFDoDA	6.05	1219490.4	0.027	0.135
10:2-FTS	6.07	1.090	2866.7		A	13C2-8:2-FTS	5.57	51899.8	0.055	0.113
NMePFOSAE	6.09	1.000	5817.1		A	d7-NMePFOSAE	6.09	254614.5	0.023	0.097
NMePFOSA	6.10	1.000	1442.3		A	d3-NMePFOSA	6.10	89461.8	0.016	0.080
PFDoS	6.23	1.190	2711.0		A	13C8-PFOS	5.25	350653.2	0.008	0.116
NEtPFOSAE	6.25	1.000	7501.3		A	d9-NEtPFOSAE	6.24	223363.5	0.034	0.111
NEtPFOSA	6.27	1.000	1416.4		A	d5-NEtPFOSA	6.26	73041.0	0.019	0.091
PFTrDA	6.25	1.030	30802.7		A	13C2-PFDoDA	6.05	1219490.4	0.025	0.134
PFTeDA	6.43	1.000	21501.0		A	13C2-PFTeDA	6.43	885330.0	0.024	0.138
PFHxDA	6.73	1.050	10879.7		A	13C2-PFTeDA	6.43	885330.0	0.012	0.142
PFODA	6.99	1.090	6592.8		A	13C2-PFTeDA	6.43	885330.0	0.007	0.110

Total Ion Chromatogram

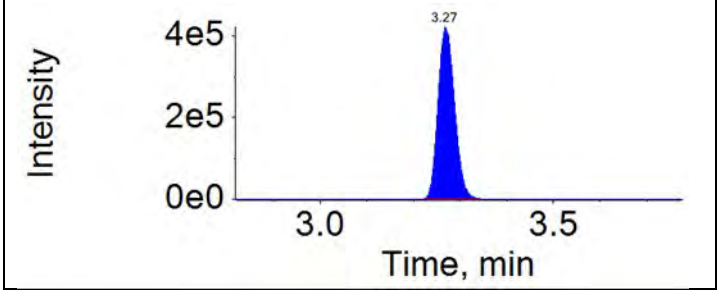


APPROVED
By MSM at 1:33 pm, 12/27/18

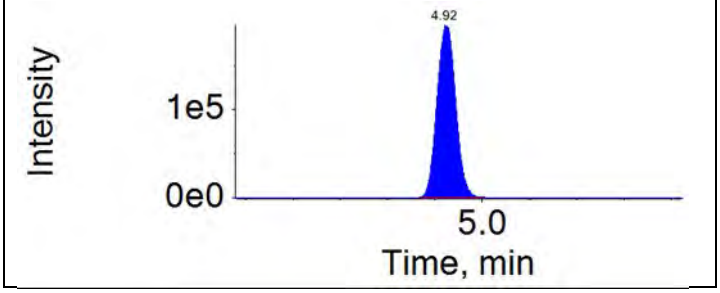
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

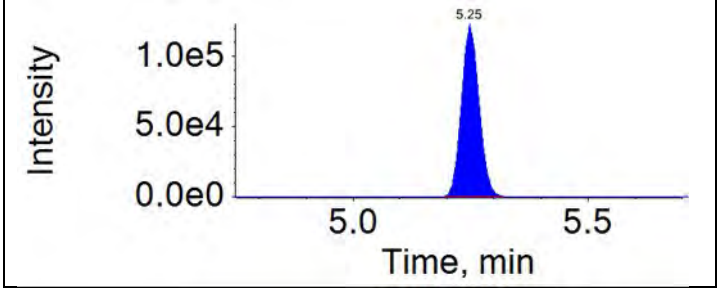
Injection Standard: 13C3-PFBA
216.0 / 172.0



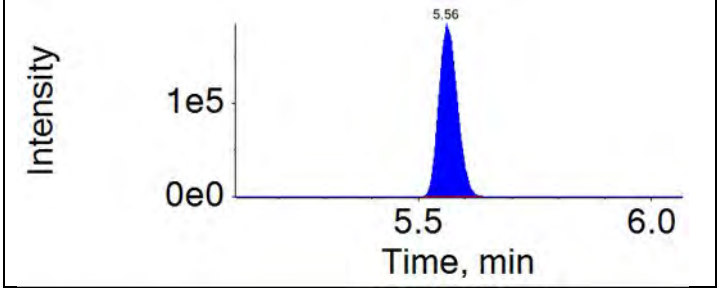
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

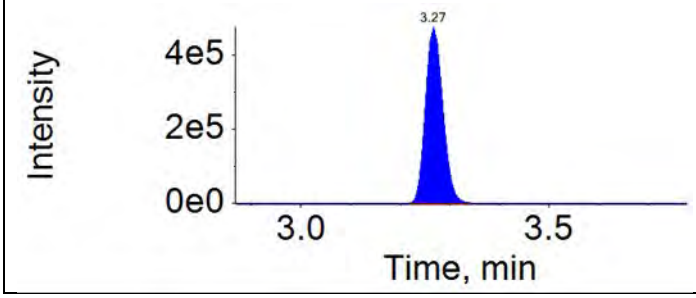


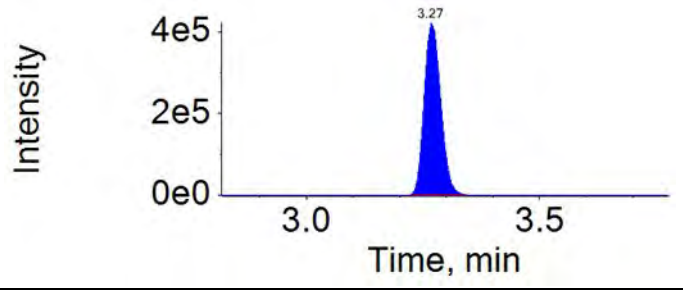
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

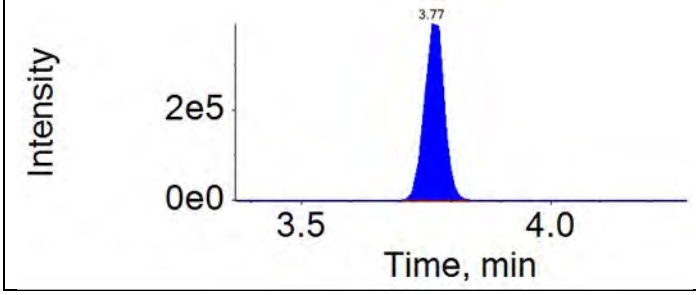
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

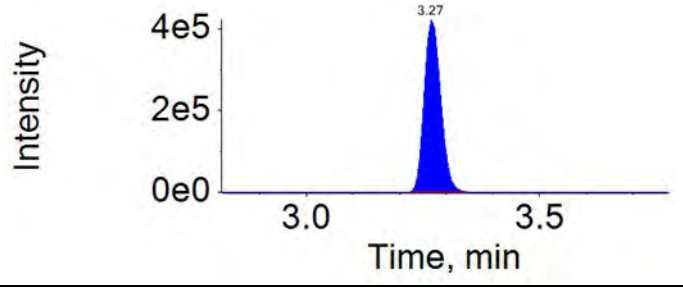
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



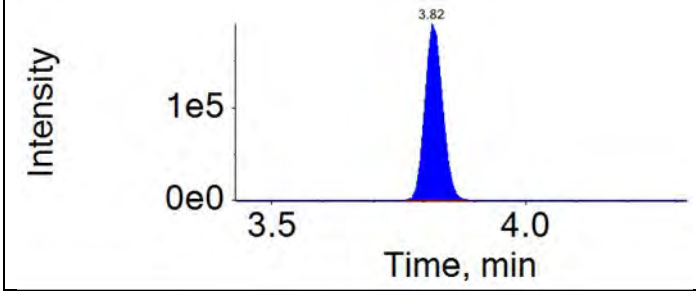


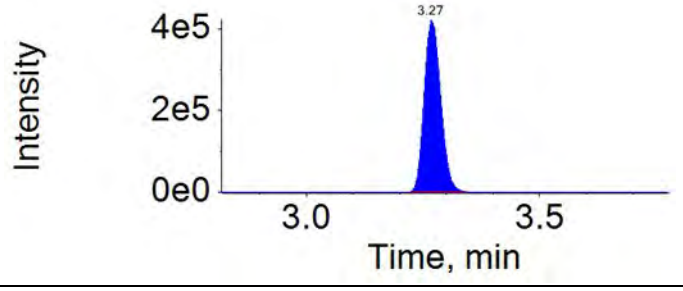
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



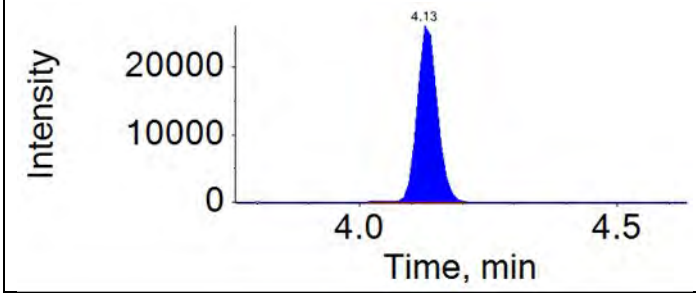


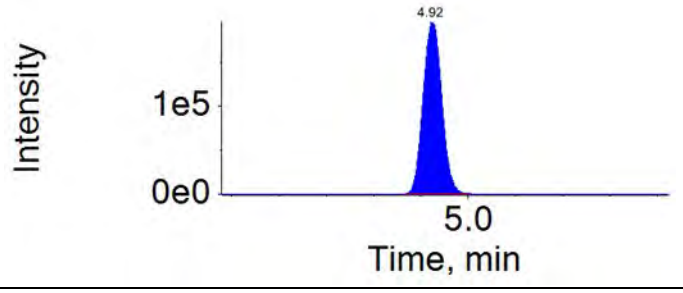
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



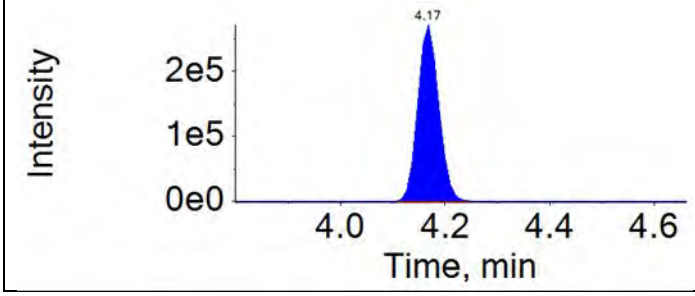


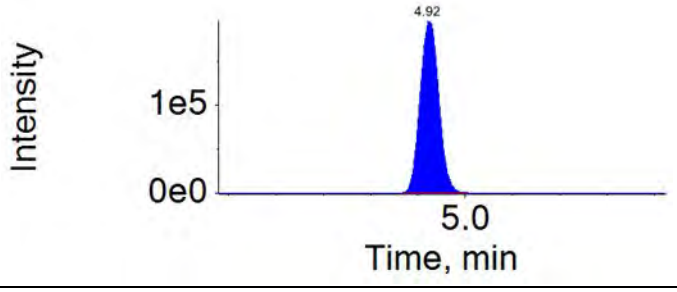
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

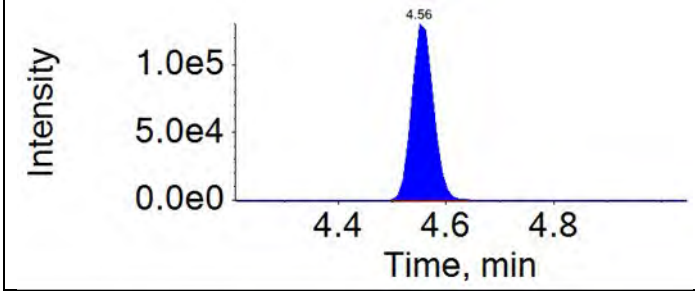
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

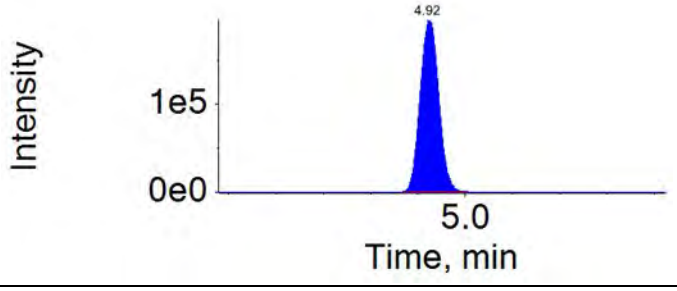
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



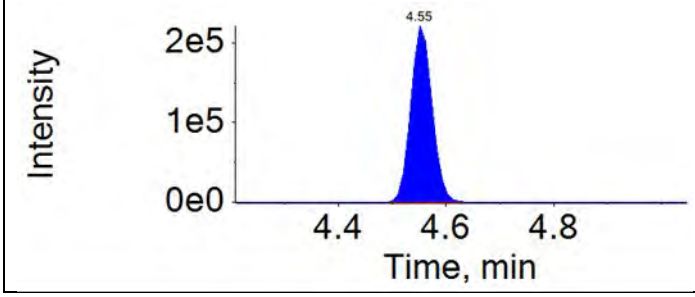


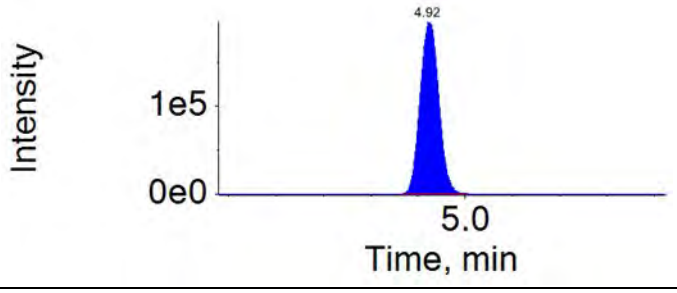
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



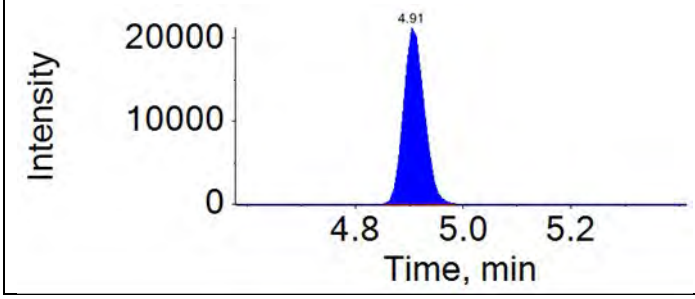


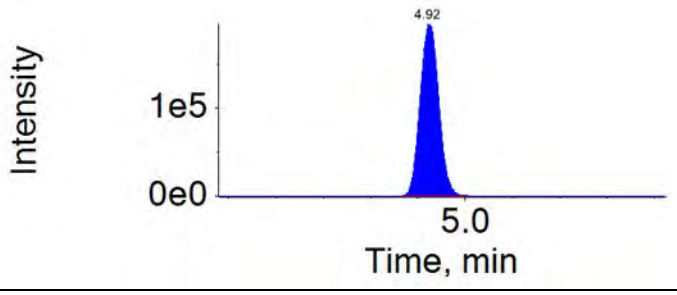
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



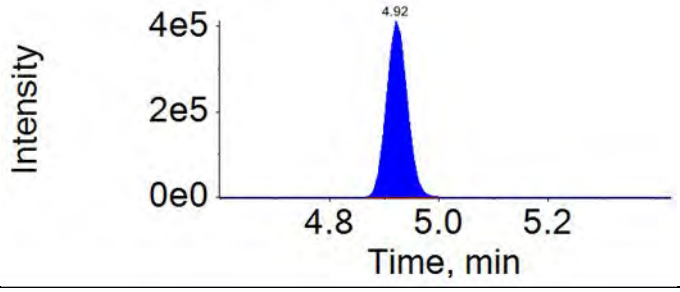


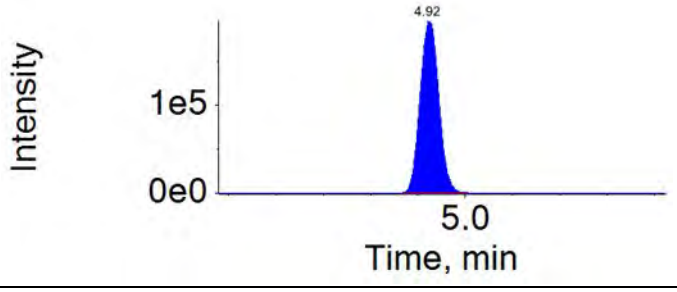
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

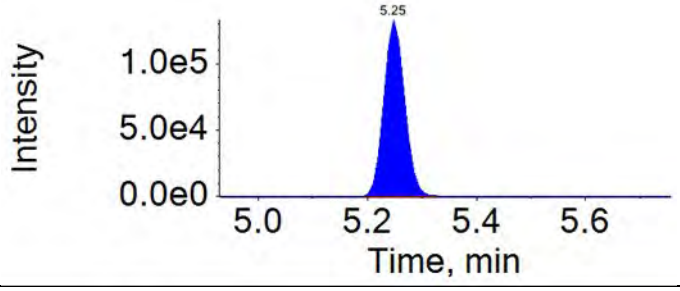
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

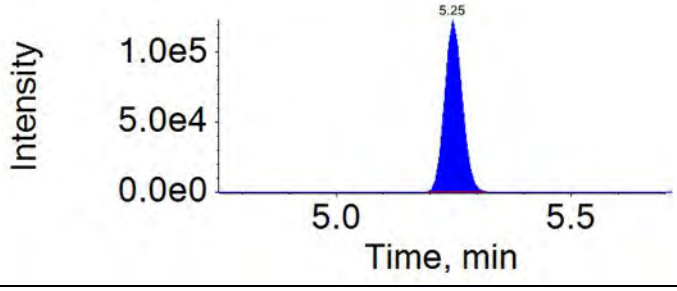
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



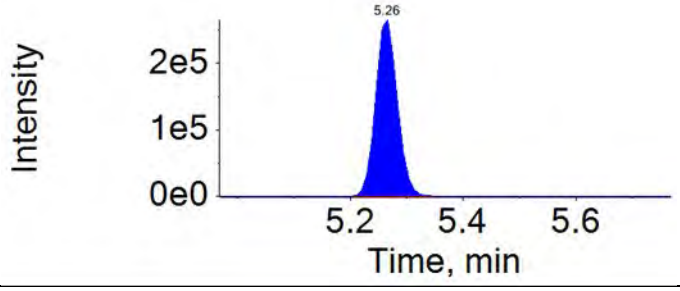


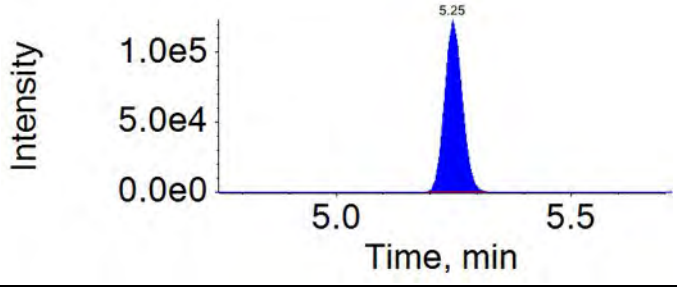
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



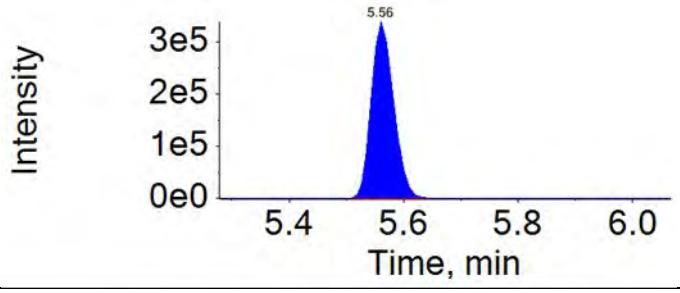


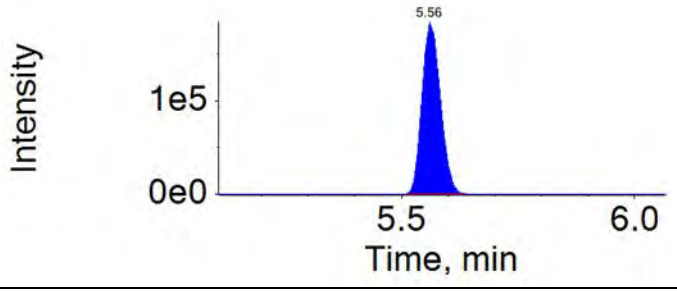
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



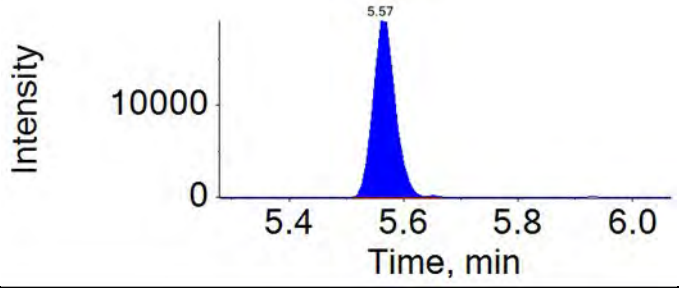


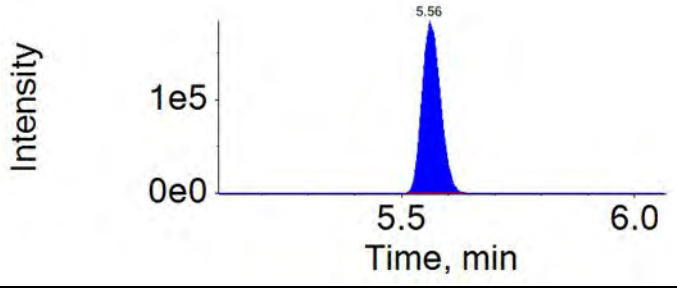
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

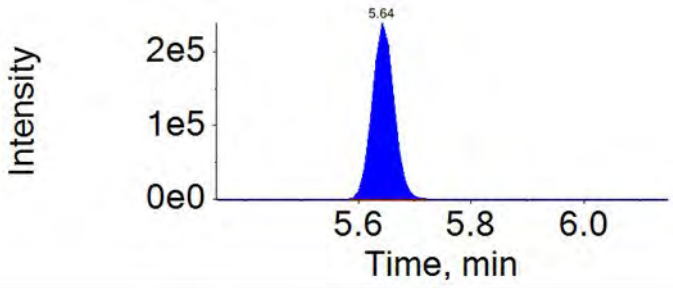
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

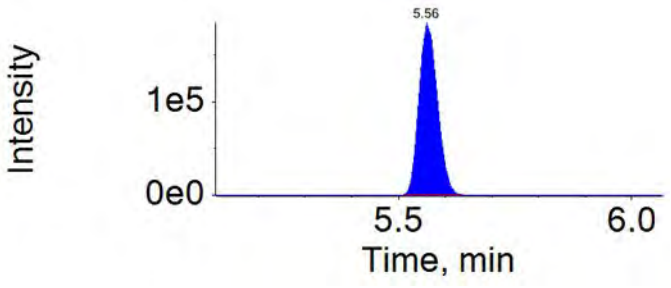
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



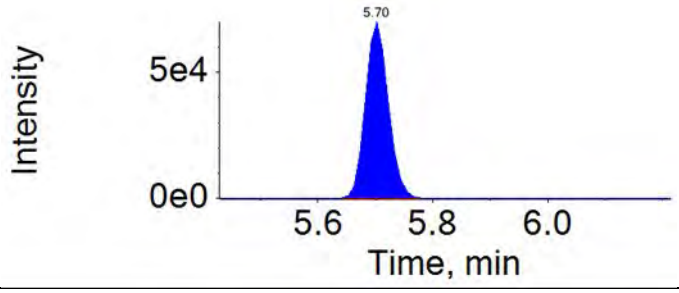


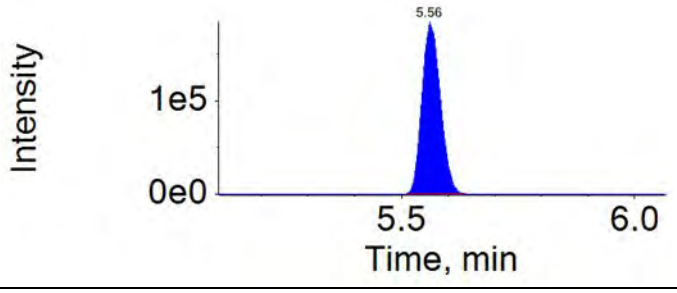
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



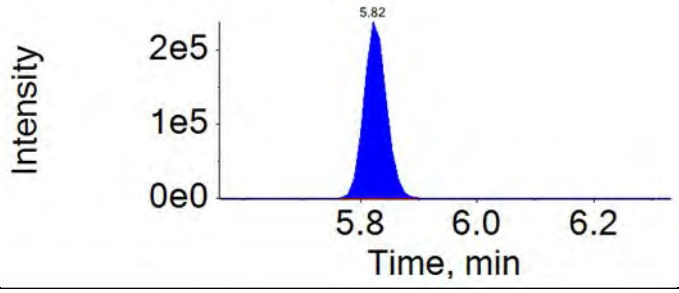


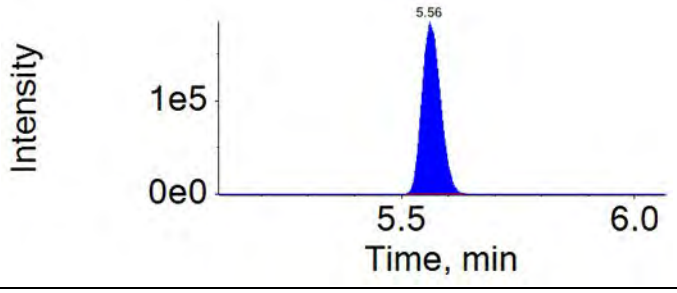
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



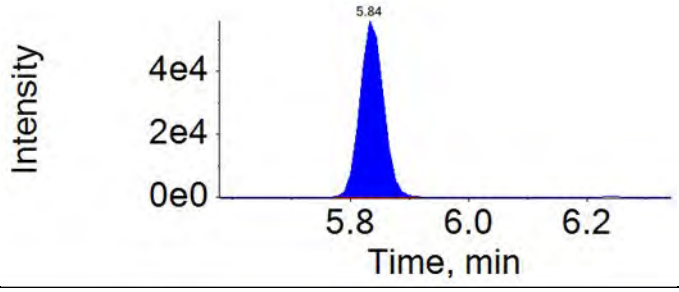


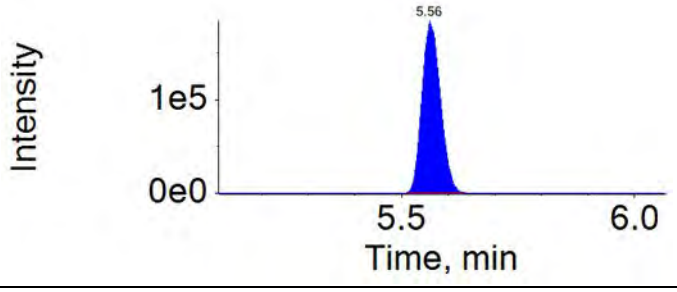
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

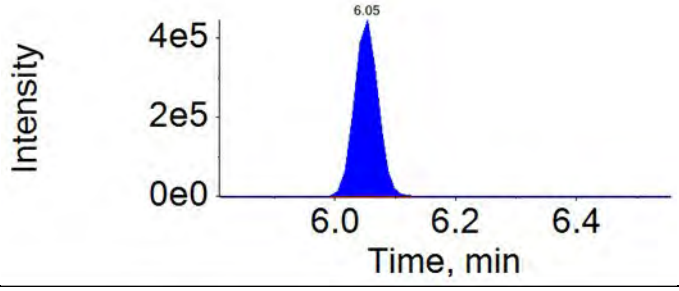
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

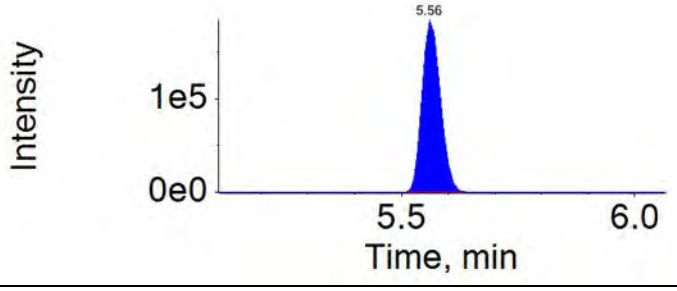
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



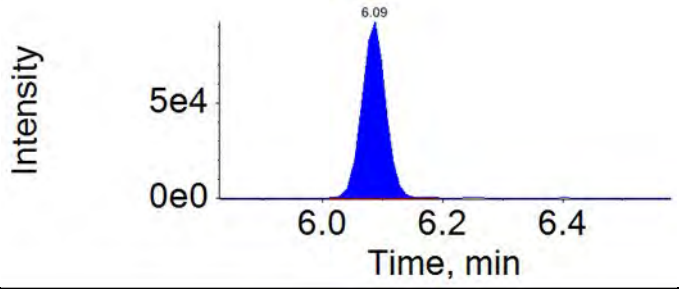


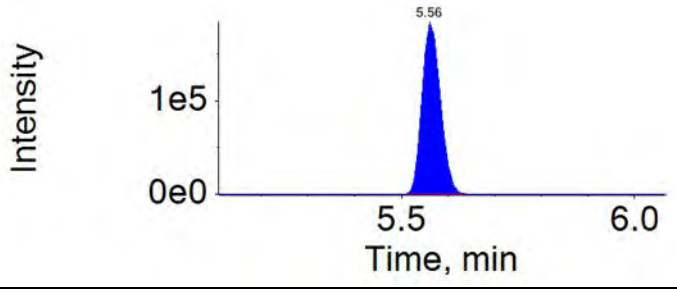
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



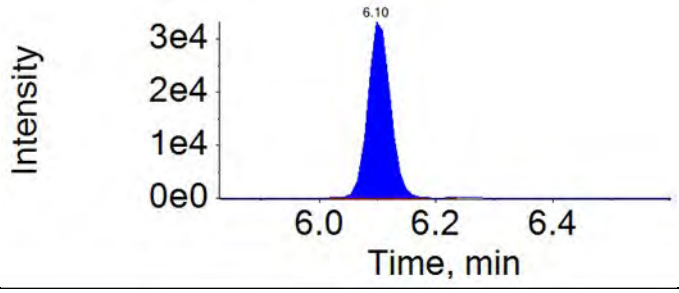


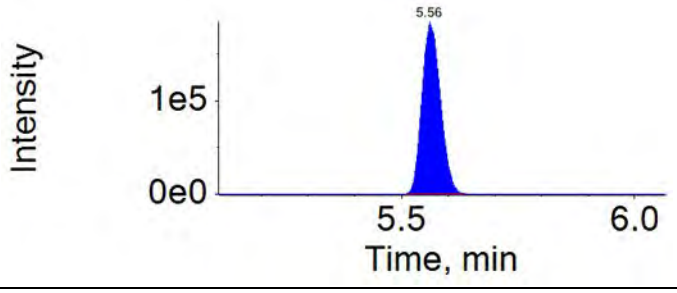
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





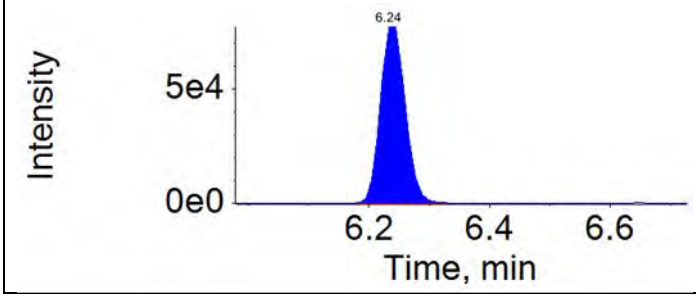
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

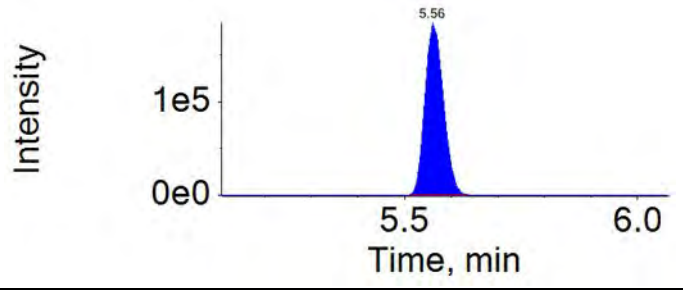




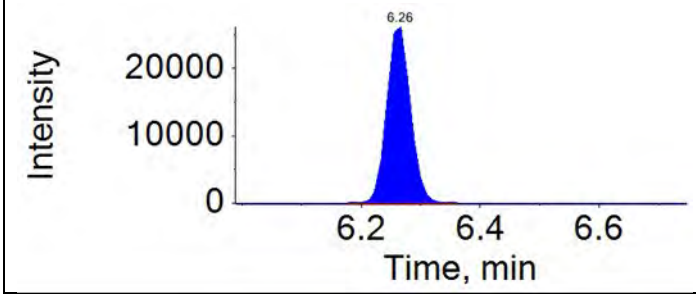
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

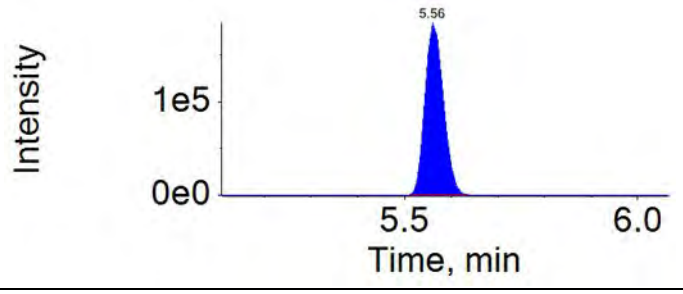
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



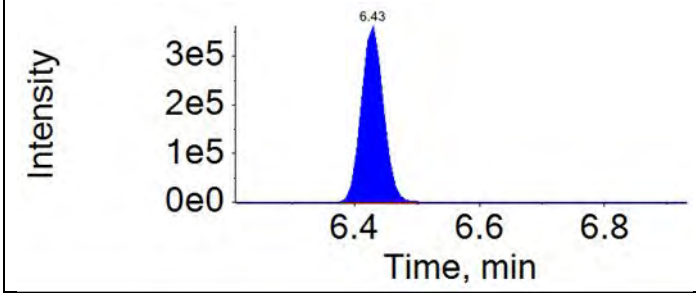


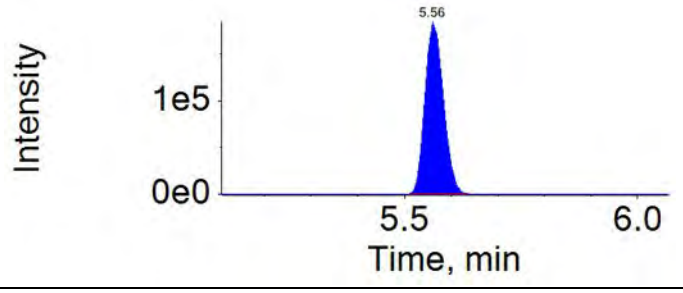
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



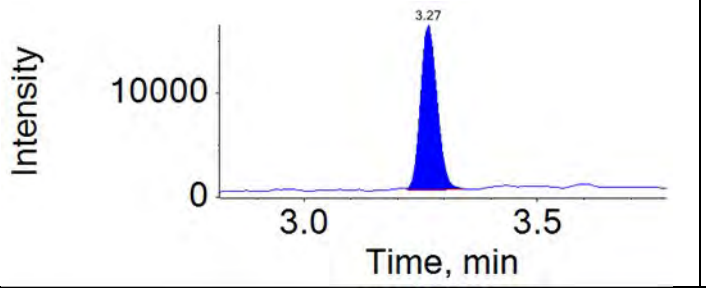


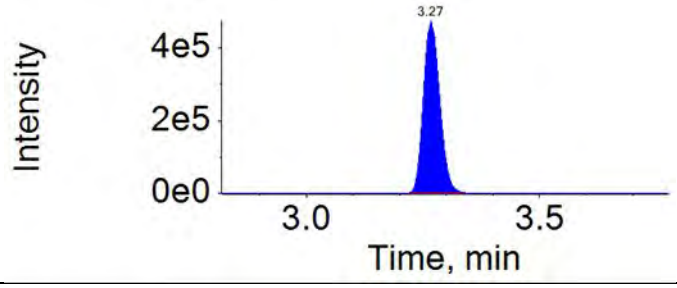
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

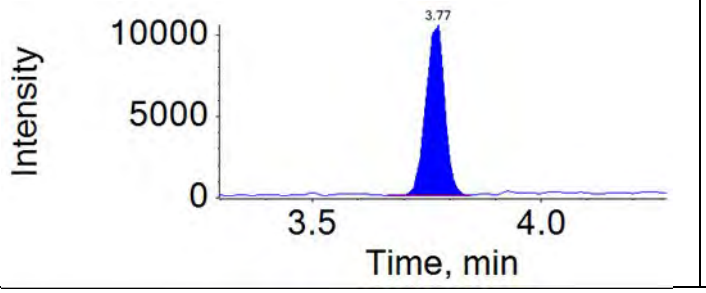
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

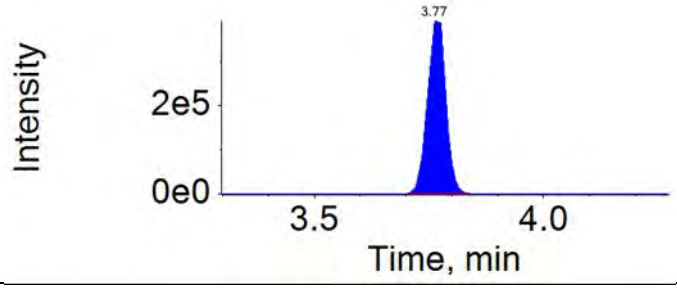
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



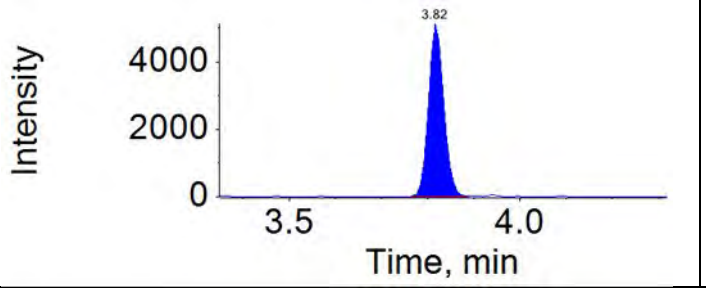


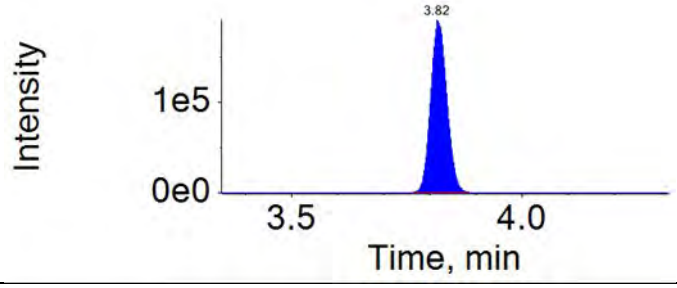
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



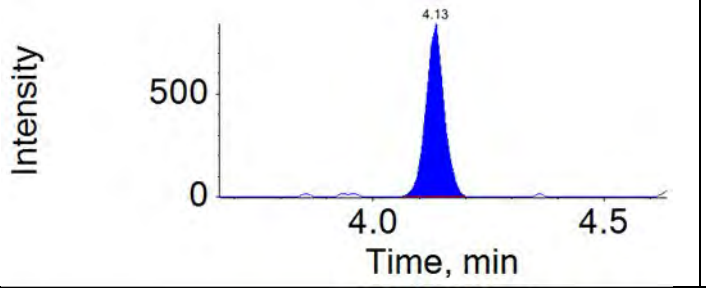


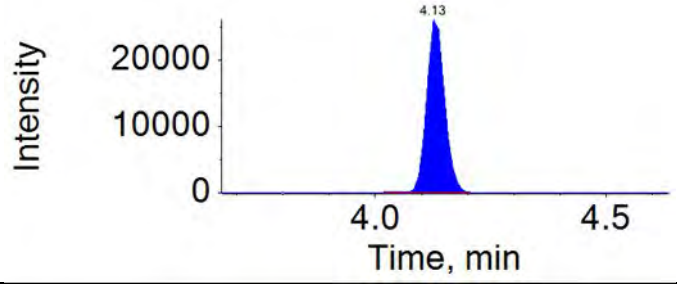
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



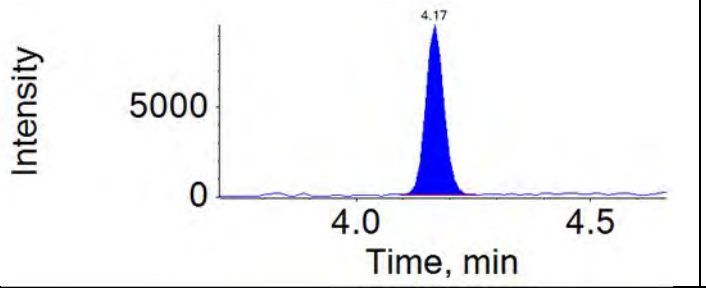


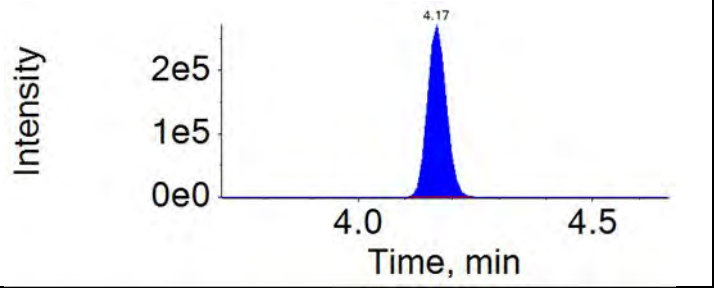
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

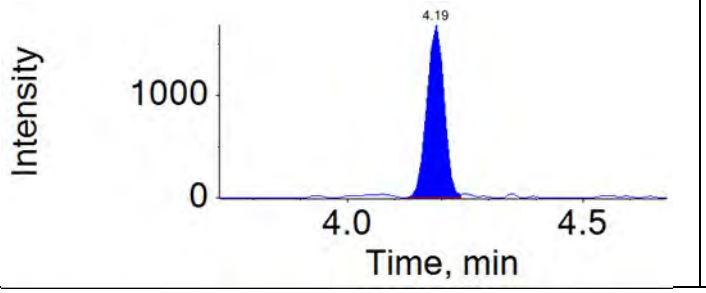
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

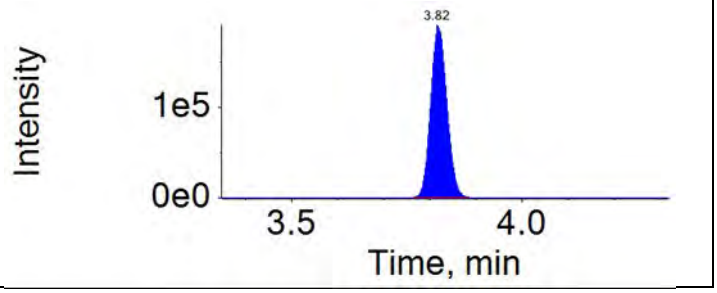
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



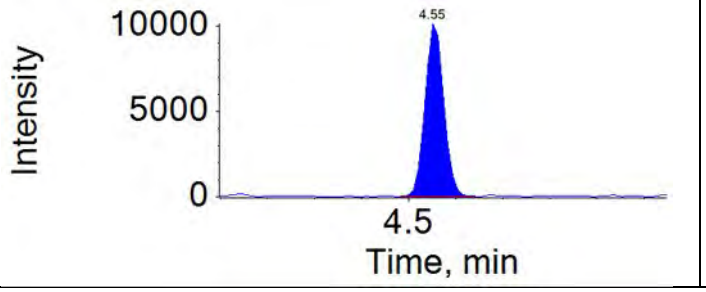


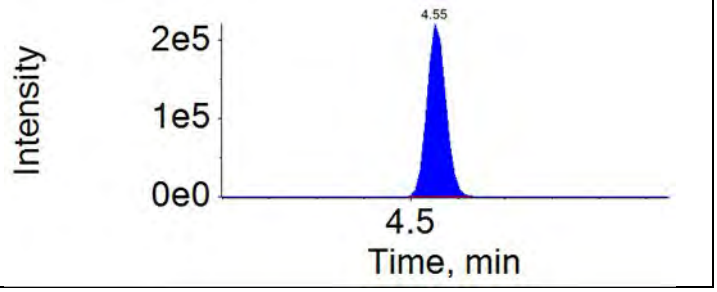
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



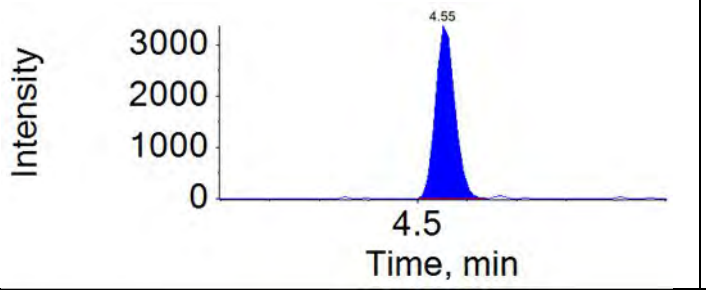


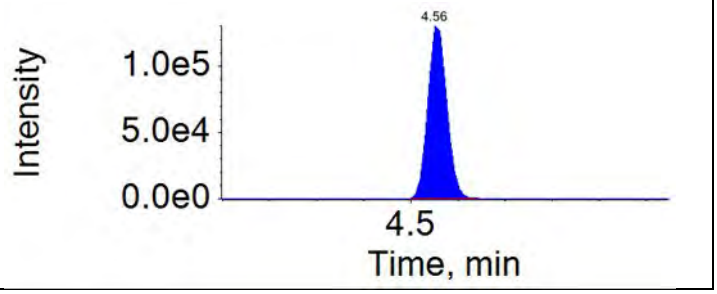
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



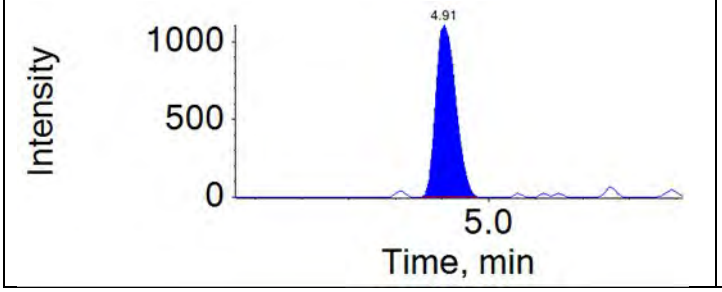


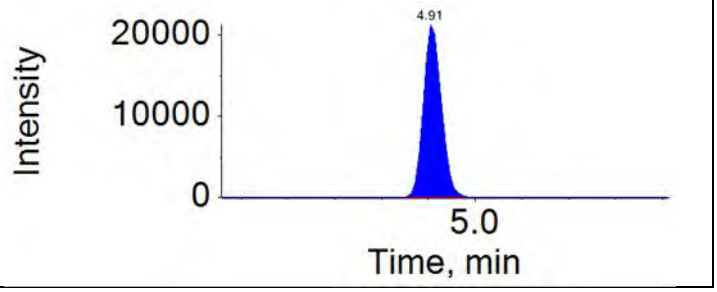
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

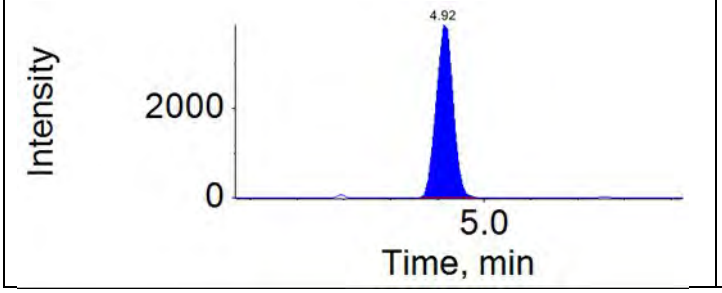
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

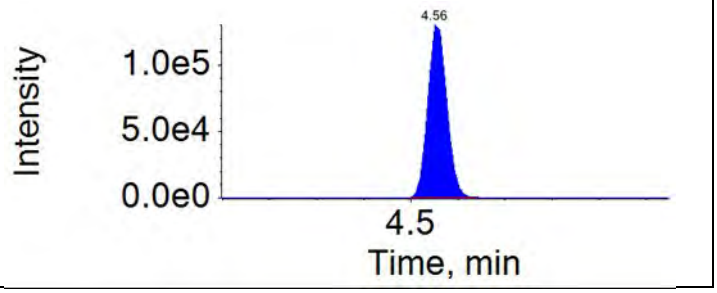
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



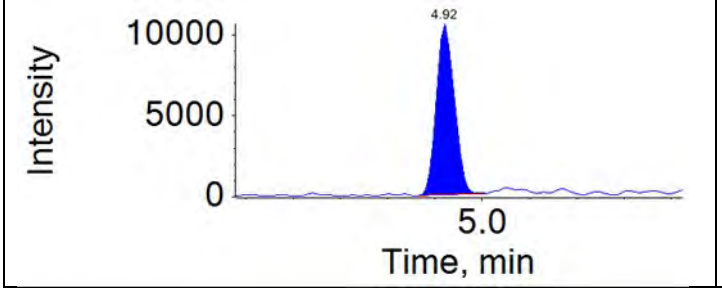


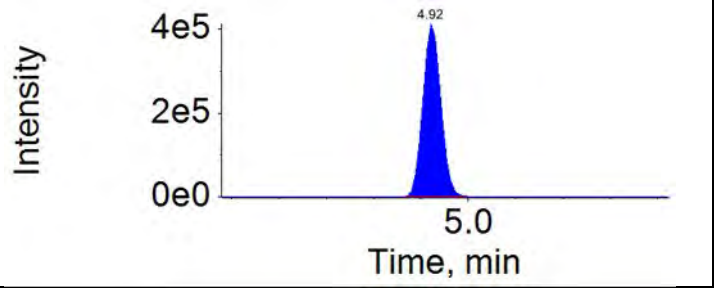
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



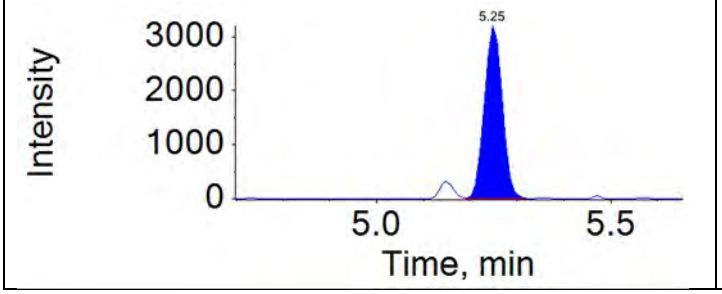


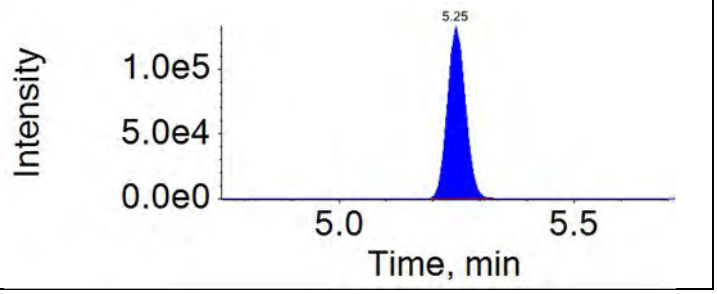
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



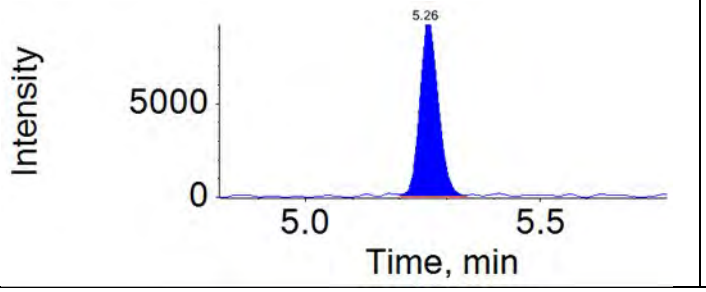


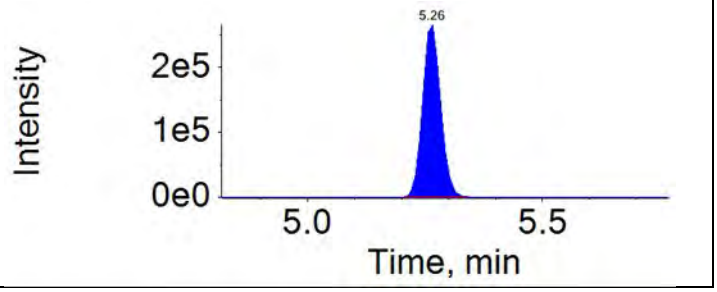
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

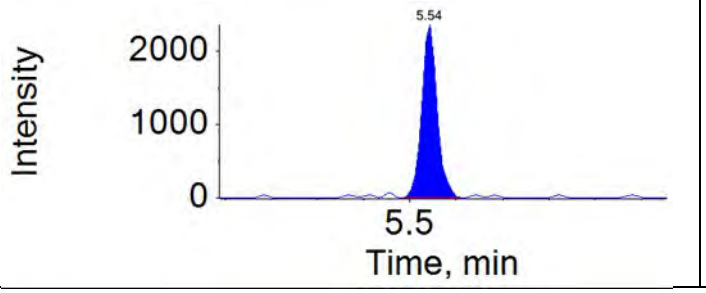
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

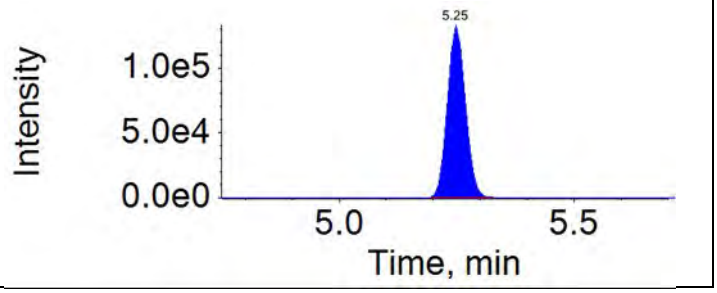
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



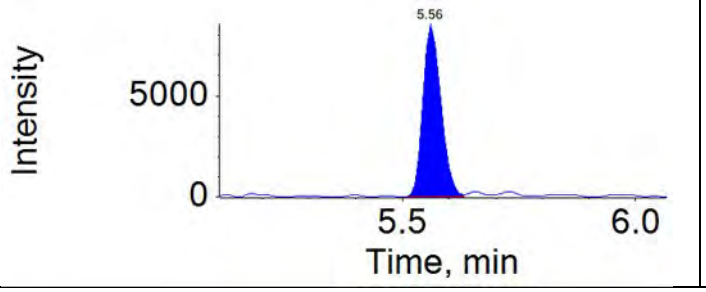


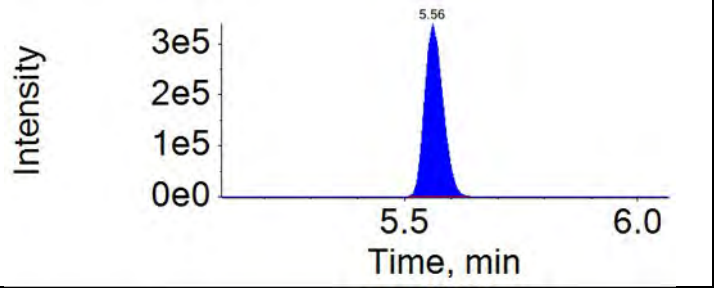
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



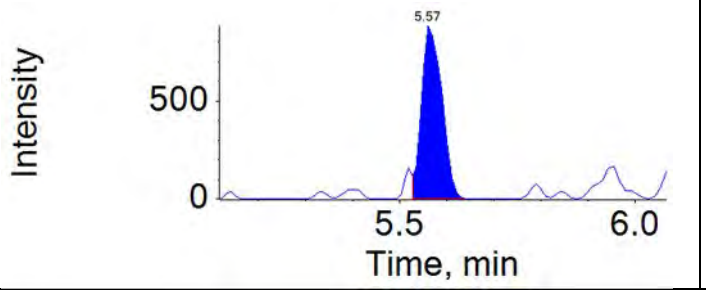


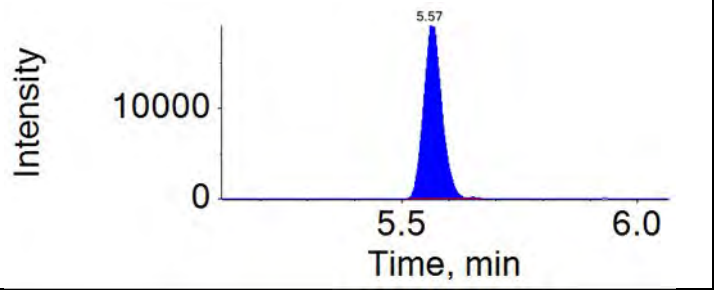
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



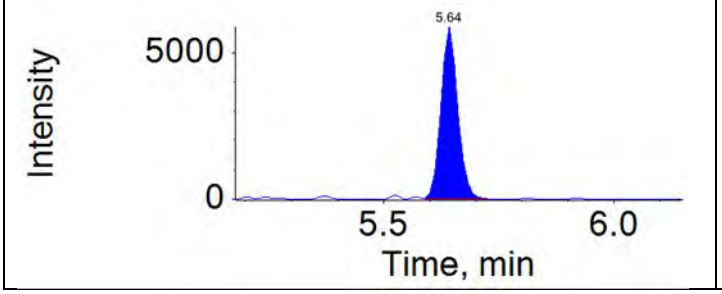


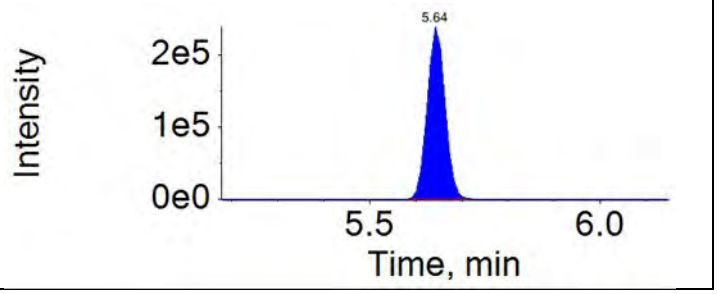
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

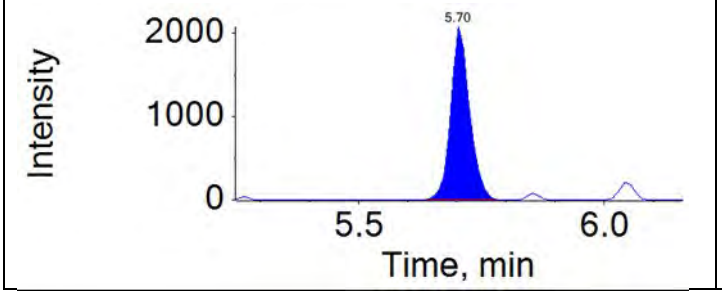
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

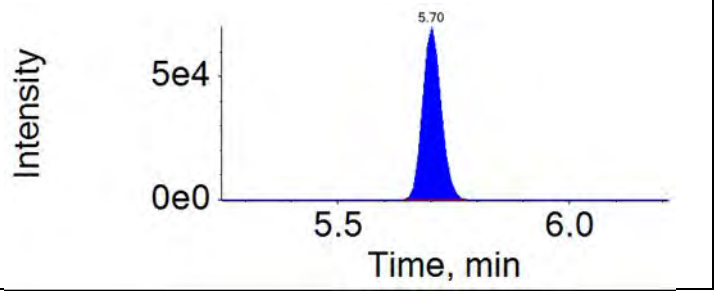
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



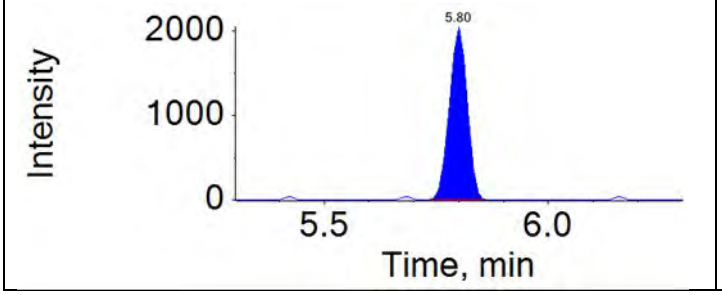


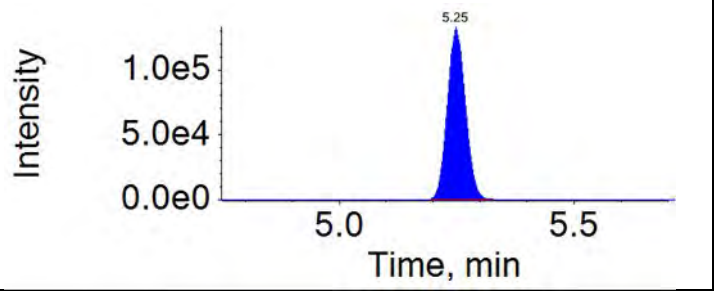
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



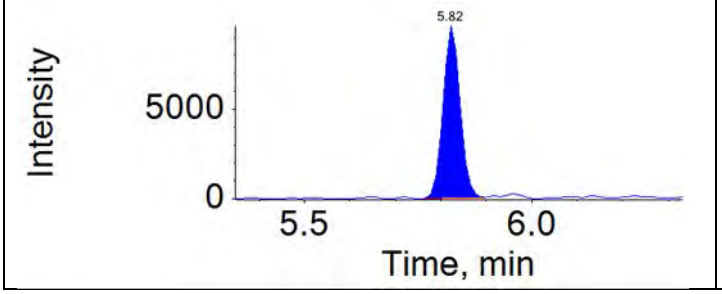


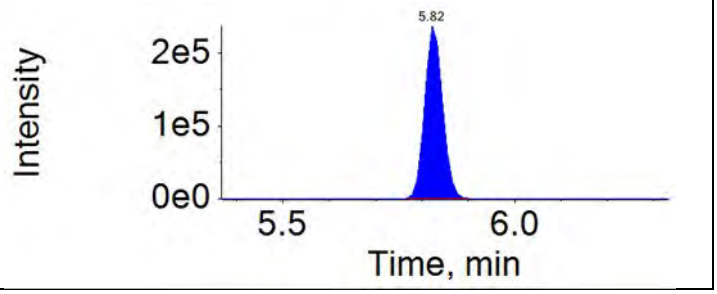
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



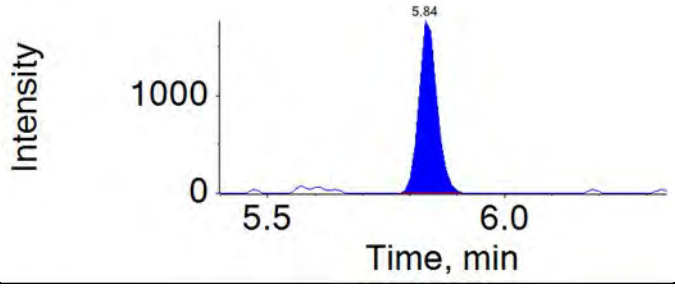


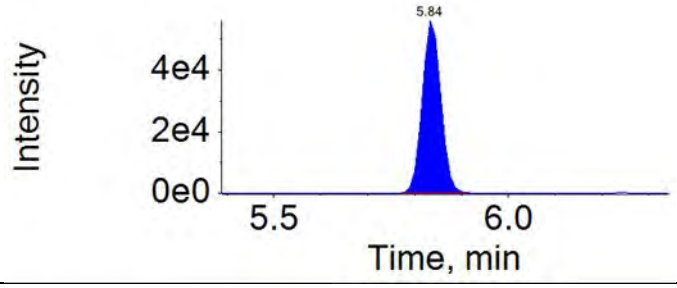
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

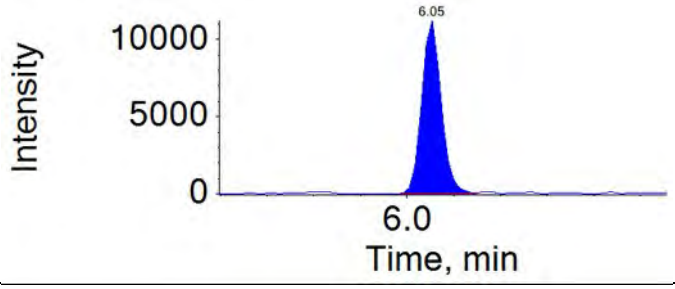
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

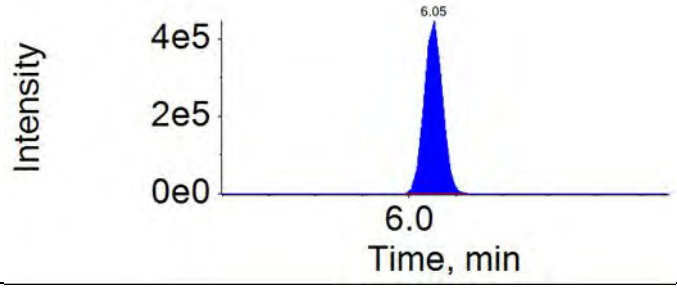
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



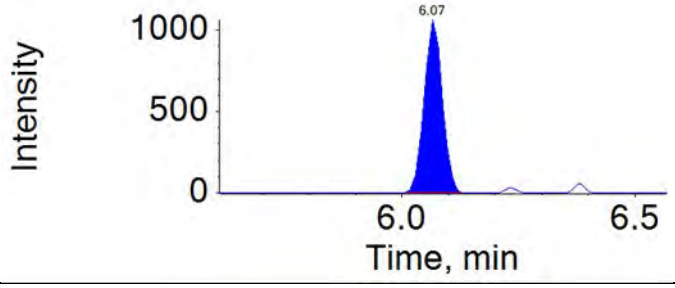


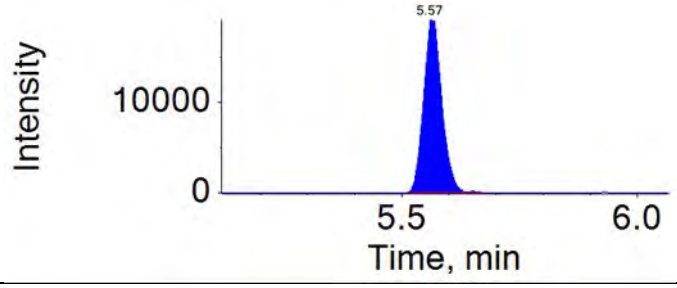
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



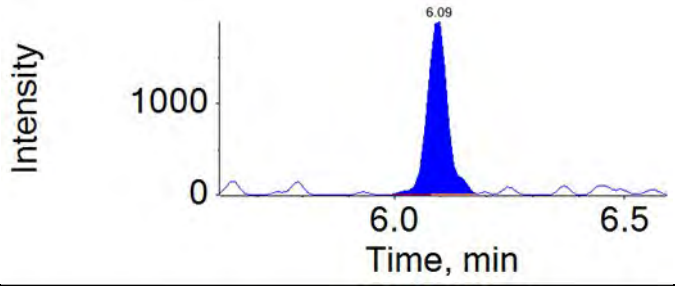


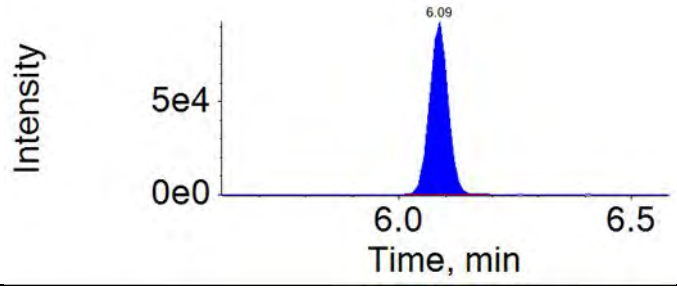
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



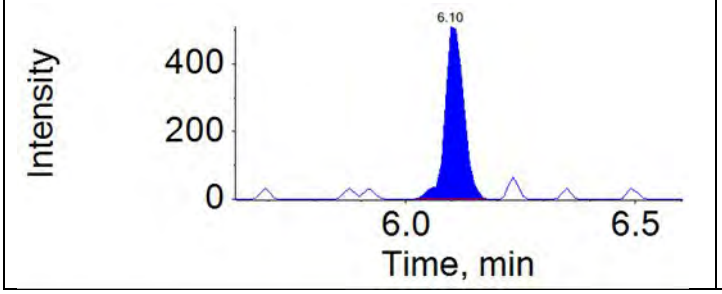


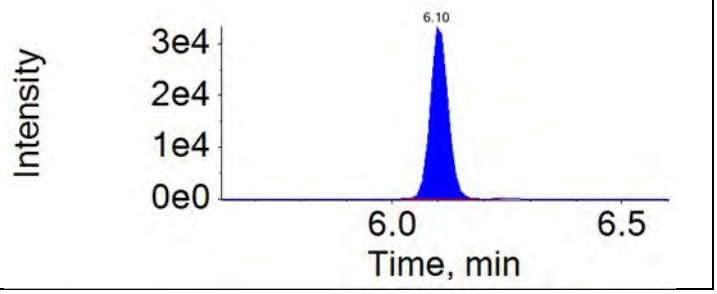
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

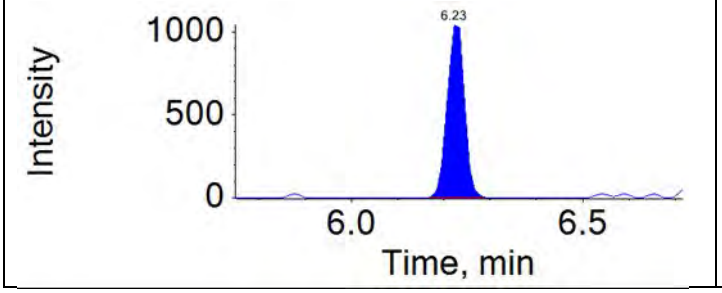
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

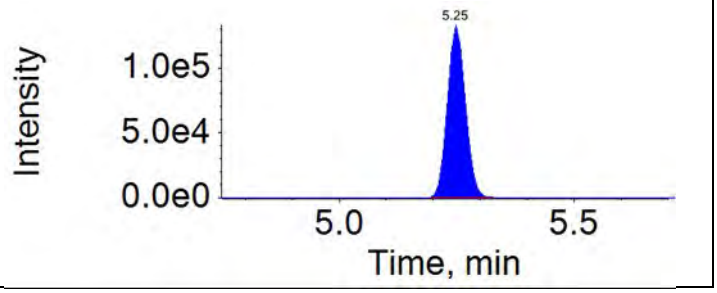
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



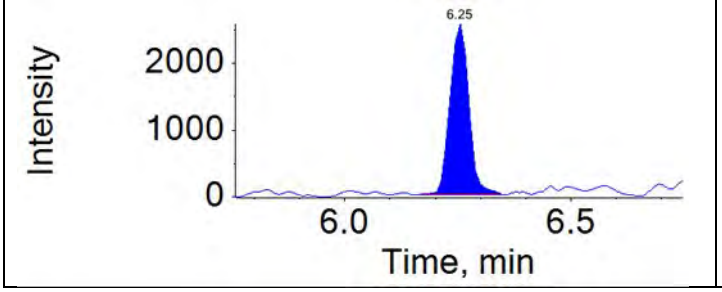


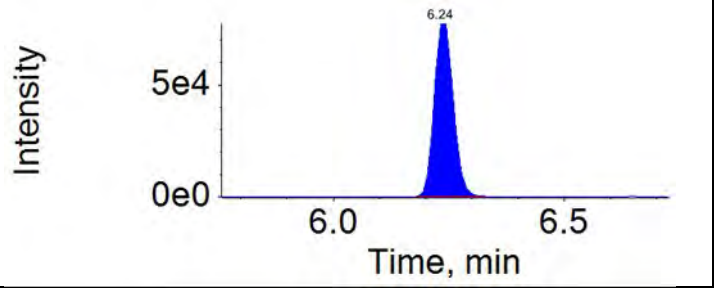
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



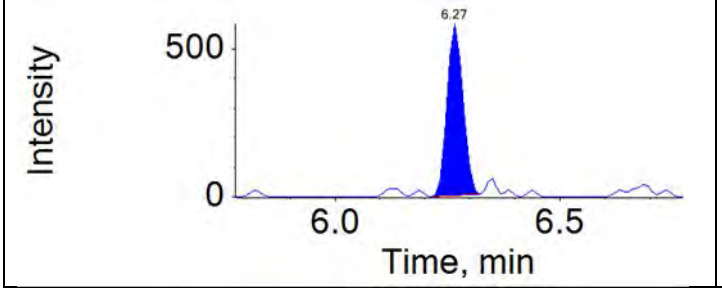


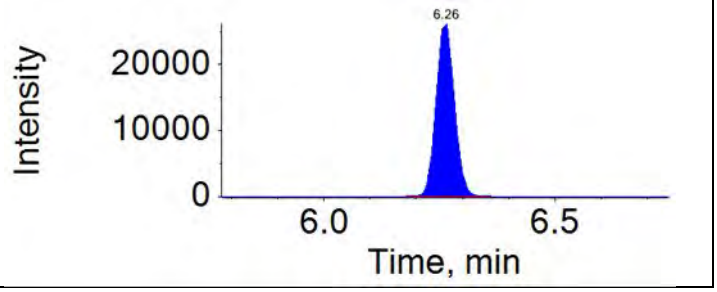
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



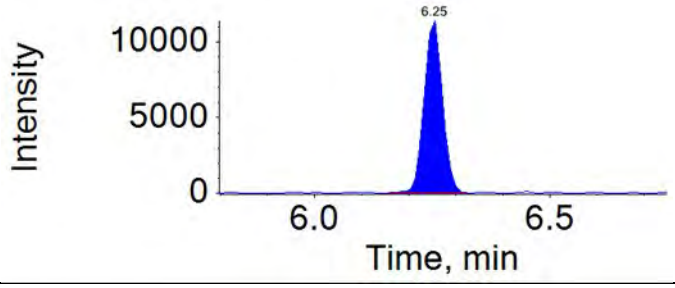


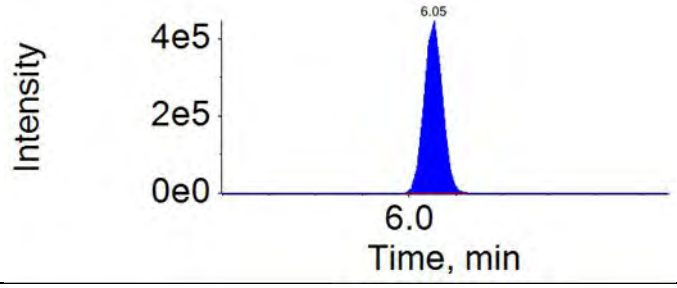
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

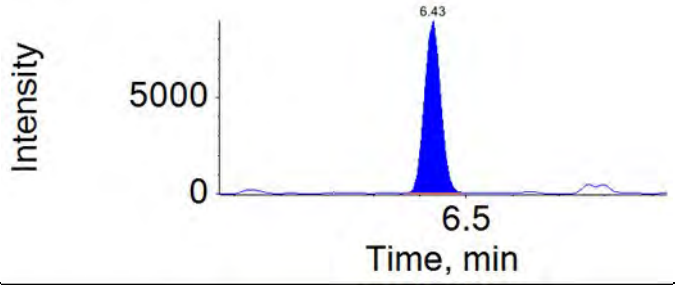
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

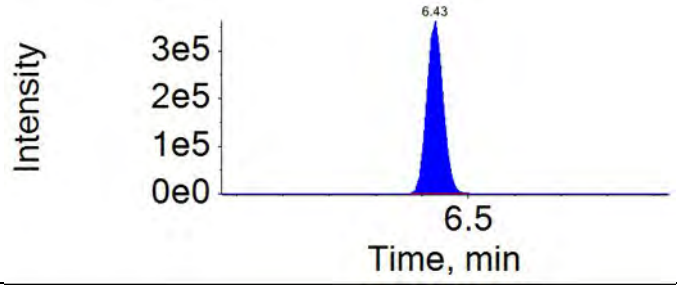
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



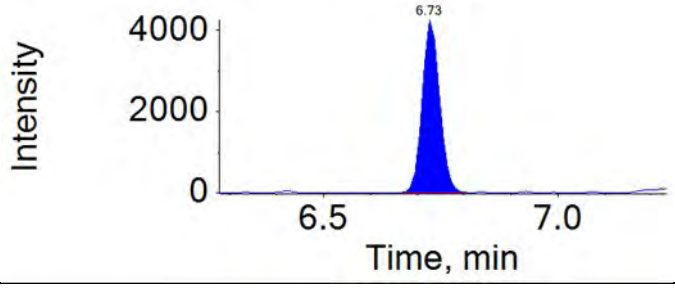


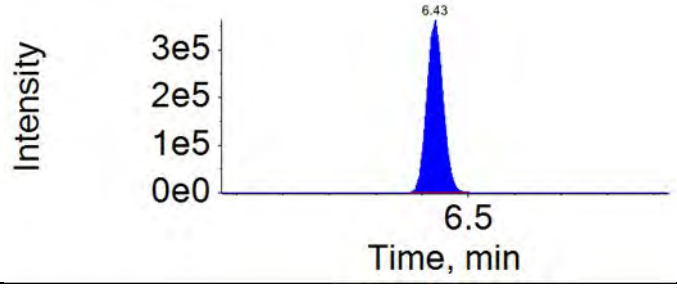
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



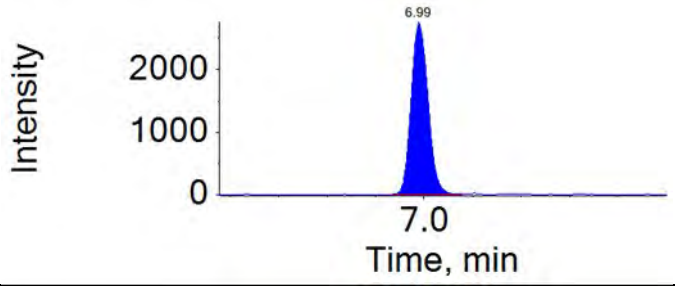


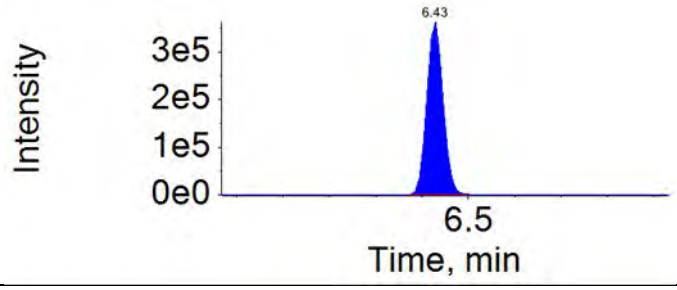
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



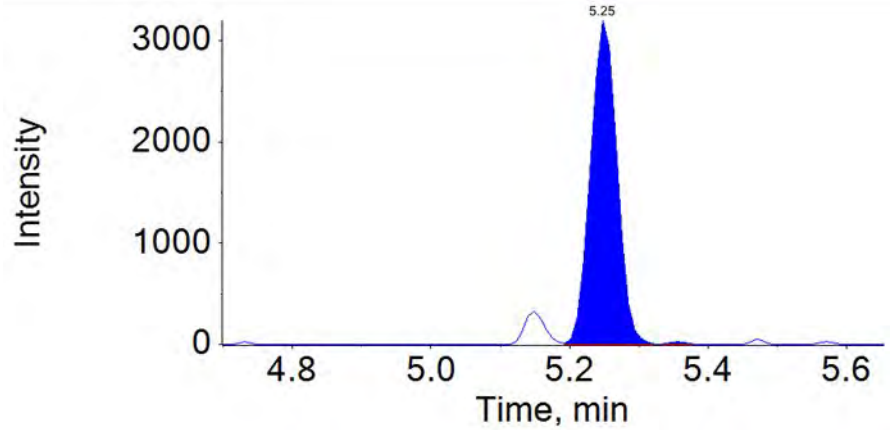


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REVIEWED
By HMK at 10:43 am, 12/28/18

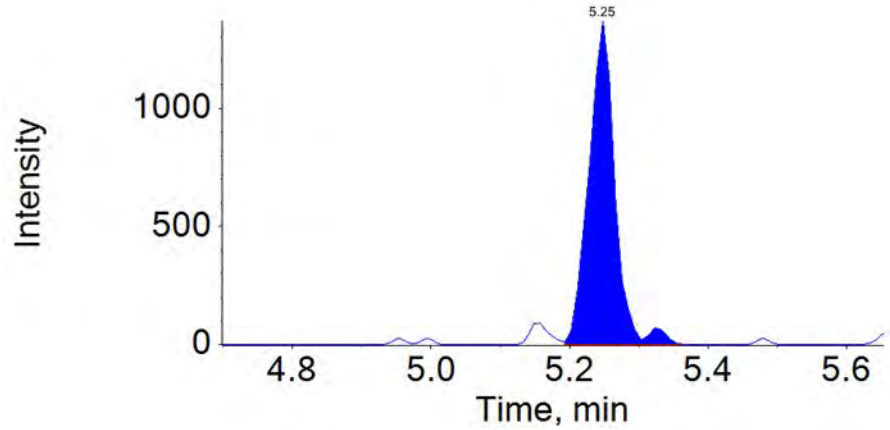
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
8545.62
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



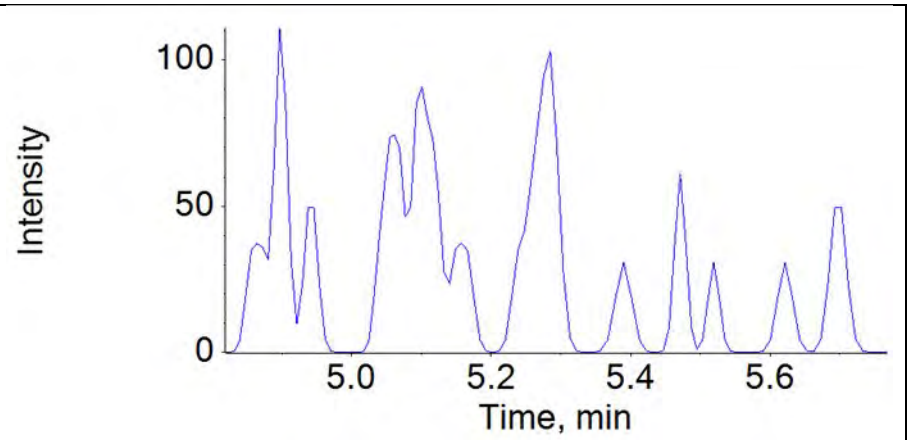
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
3617.46
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFNA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
463.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



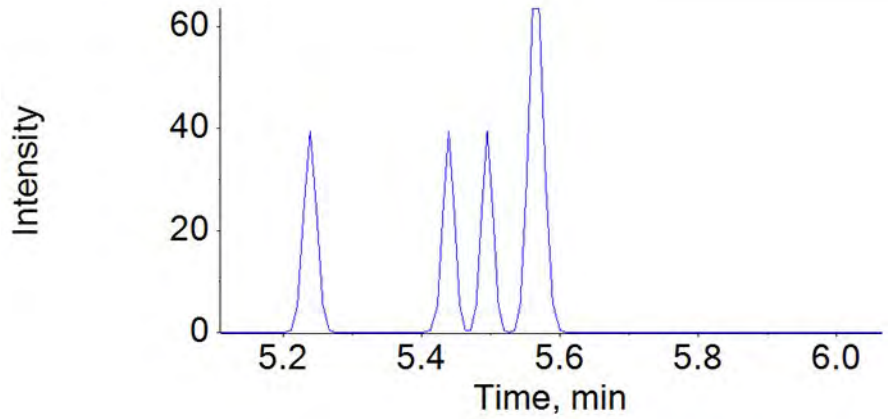
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
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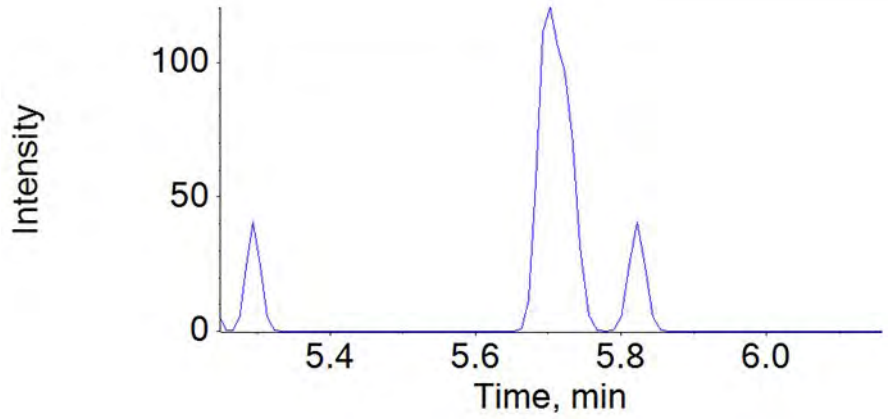
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
513.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



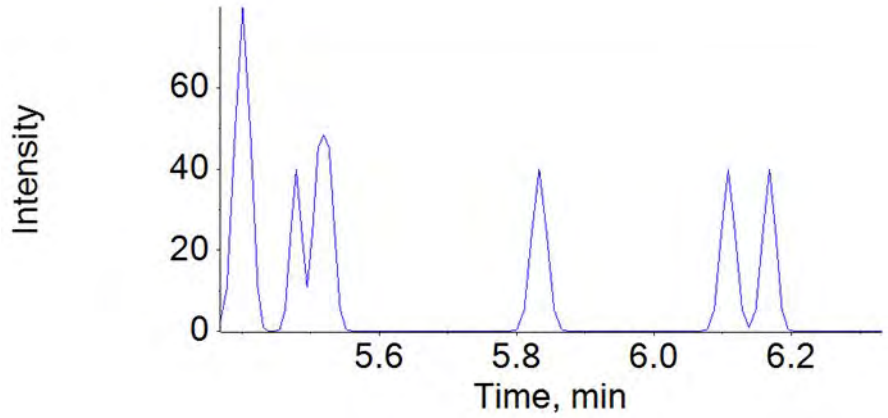
Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
563.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



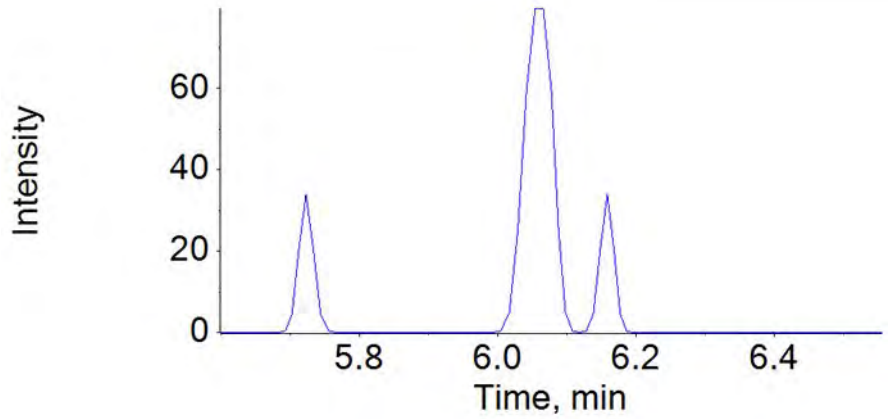
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

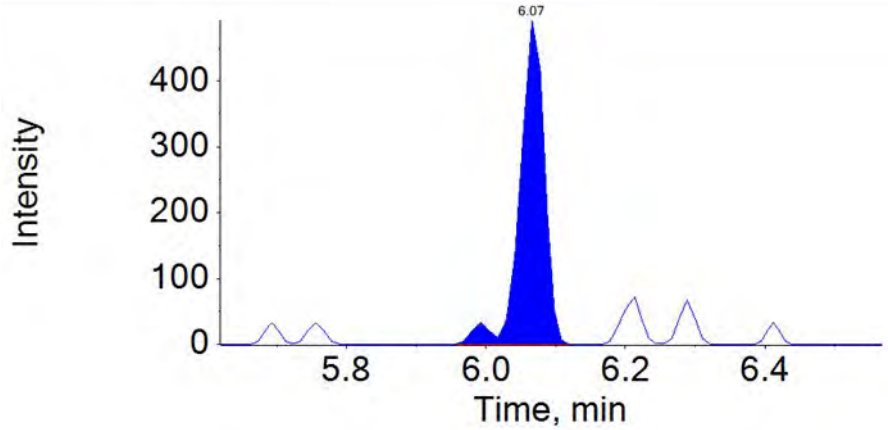
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDoDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
613.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



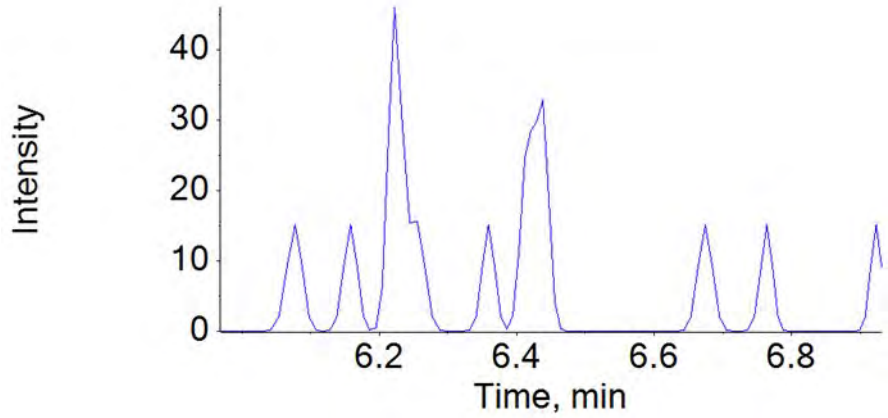
Integration Comment: incorrect integration

Component Name:
10:2-FTS_2
RT (min.):
6.07
Peak Area:
1216.88
Mass Range:
627.0 / 81.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
713.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

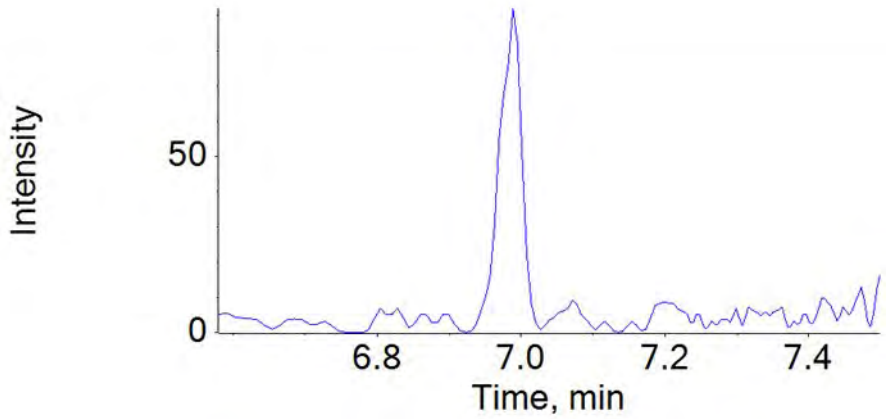
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFODA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
913.0 / 169.0
File Name:
18DEC26DCAL-05.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

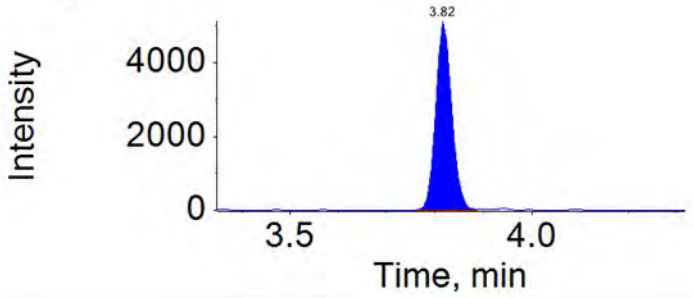
Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-05.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	11679.37	A	1.0000	1.0000			
PFBS_2	3.82	1.00	4098.54	A	0.3621	0.3509	-3	50	
4:2-FTS	4.13	1.00	2261.58	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	1739.64	A	0.6132	0.7692	25	50	
PFHxA	4.17	1.00	25456.23	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	656.75	A	0.0123	0.0258	110	50	OOS
PFPeS	4.19	1.10	4263.56	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	2597.61	A	0.5068	0.6093	20	50	
PFHpA	4.55	1.00	27745.68	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	1727.66	A	0.0570	0.0623	9	50	
PFHxS	4.55	1.00	9165.64	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	2646.63	A	0.3566	0.2888	-19	50	
6:2-FTS	4.91	1.00	3270.57	A	1.0000	1.0000			
6:2-FTS_2	4.92	1.00	2467.95	A	0.6328	0.7546	19	50	
PFHpS	4.92	1.08	9711.11	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	2841.33	A	0.4049	0.2926	-28	50	
PFOA	4.92	1.00	27884.28	A	1.0000	1.0000			
PFOA_2	4.92	1.00	1591.43	A	0.0570	0.0571	0	50	
PFOS	5.25	1.00	8503.08	M	1.0000	1.0000			
PFOS_2	5.25	1.00	3488.45	M	0.3043	0.4103	35	50	
PFNA	5.26	1.00	25340.20	A	1.0000	1.0000			
PFNA_2	5.28	1.00	298.78	M	0.0213	0.0118	-45	50	
PFNS	5.54	1.06	5407.60	A	1.0000	1.0000			
PFNS_2	5.54	1.06	2201.68	A	0.4515	0.4071	-10	50	
PFDA	5.56	1.00	22741.51	A	1.0000	1.0000			
PFDA_2	5.57	1.00	110.78	M	0.0067	0.0049	-28	50	
8:2-FTS	5.57	1.00	2649.26	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	2298.25	A	0.6016	0.8675	44	50	
NMeFOSAA	5.70	1.00	5497.10	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	372.70	M	0.2579	0.0678	-74	50	OOS
PFDS	5.80	1.10	5614.91	A	1.0000	1.0000			
PFDS_2	5.80	1.11	3363.73	A	0.4884	0.5991	23	50	
PFUnDA	5.82	1.00	24836.08	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	64.90	M	0.0042	0.0026	-38	50	
NEtFOSAA	5.84	1.00	4657.13	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	2457.35	A	0.6799	0.5277	-22	50	
PFDoDA	6.05	1.00	32337.51	A	1.0000	1.0000			
PFDoDA_2	6.06	1.00	239.57	M	0.0139	0.0074	-47	50	
10:2-FTS	6.07	1.09	2866.66	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	1155.34	M	0.6715	0.4030	-40	50	
PFTrDA	6.25	1.03	30802.66	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	369.75	A	0.0088	0.0120	36	50	
PFTeDA	6.43	1.00	21500.98	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	80.19	M	0.0063	0.0037	-40	50	
PFHxDA	6.73	1.05	10879.68	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	702.64	A	0.0643	0.0646	0	50	
PFODA	6.99	1.09	6592.84	A	1.0000	1.0000			
PFODA_2	6.99	1.09	199.31	M	0.0266	0.0302	14	50	

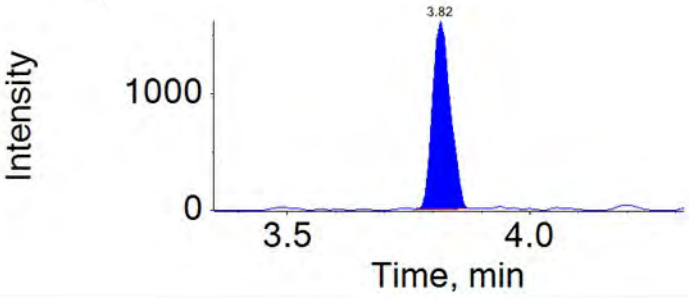
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

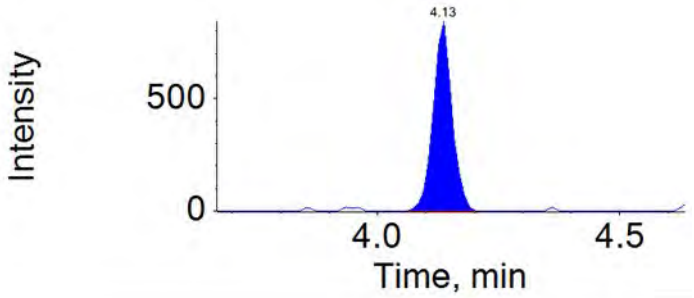
Component: PFBS
Primary Mass: 299.0 / 80.0



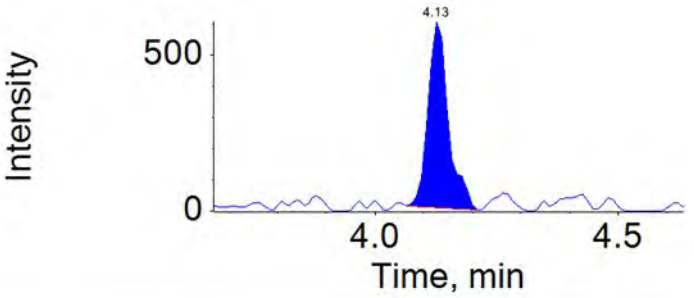
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



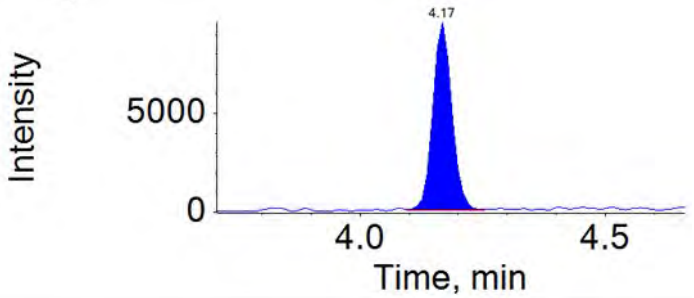
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



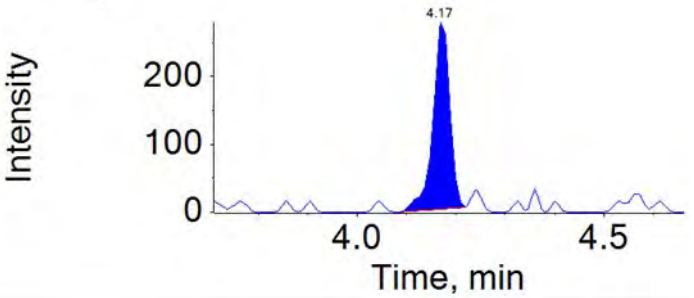
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



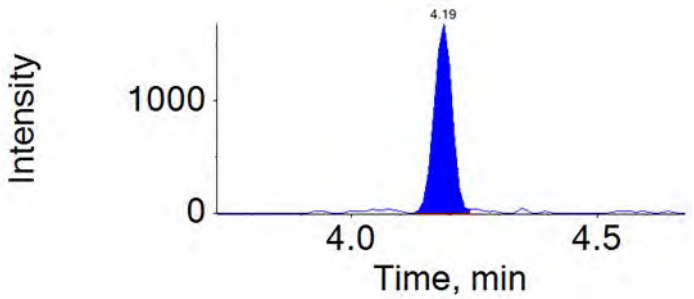
Component: PFHxA
Primary Mass: 313.0 / 269.0



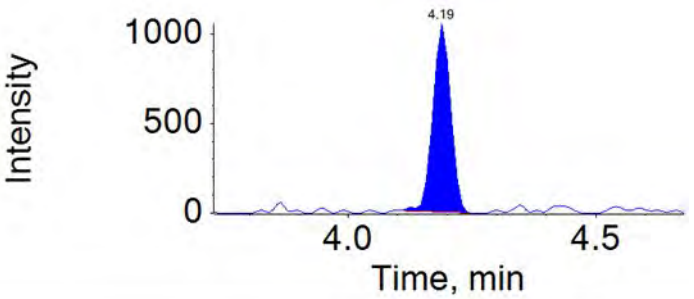
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



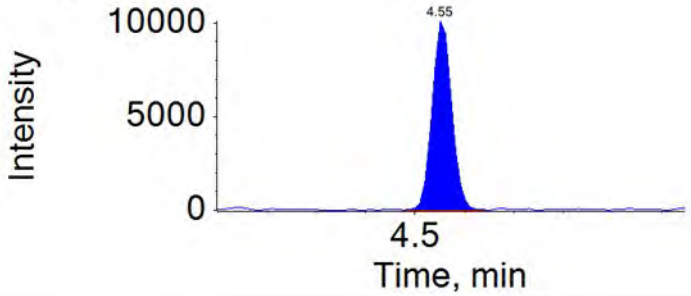
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



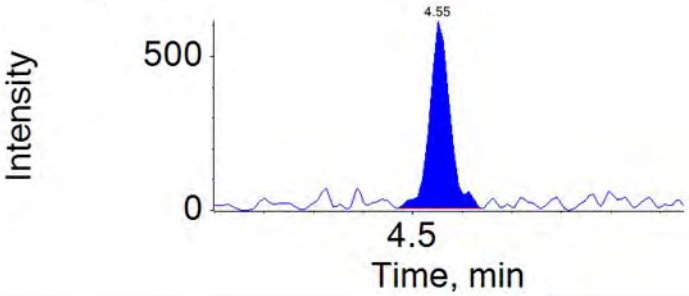
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

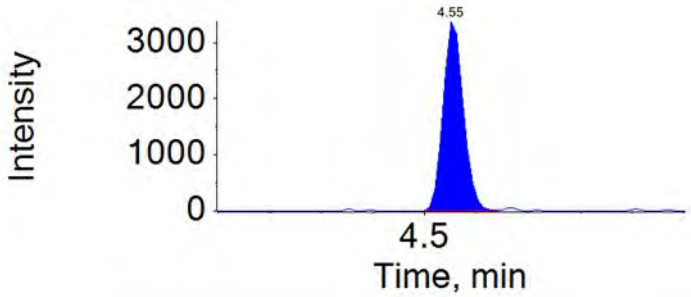
Component: PFHpA
Primary Mass: 363.0 / 319.0



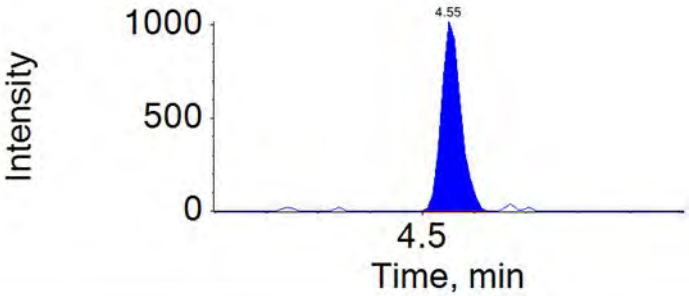
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



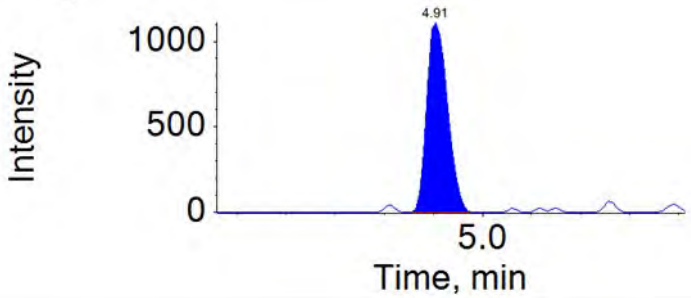
Component: PFHxS
Primary Mass: 399.0 / 80.0



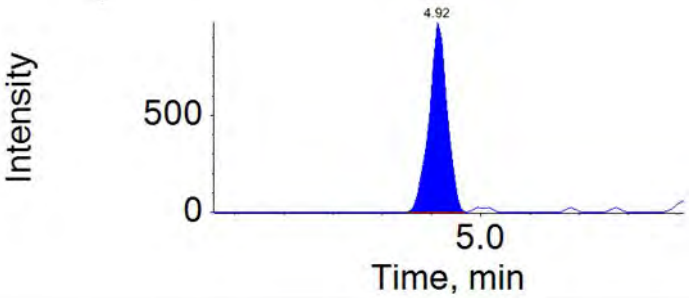
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



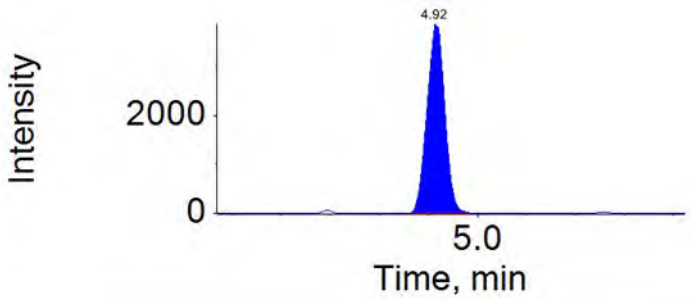
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



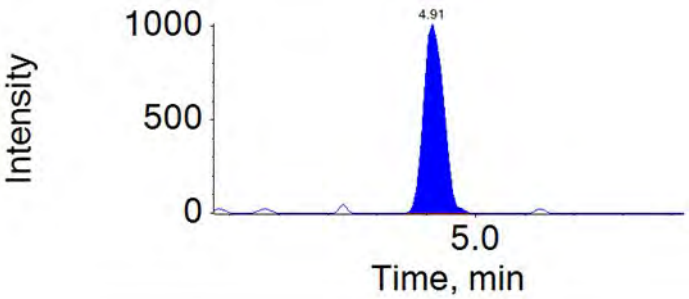
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



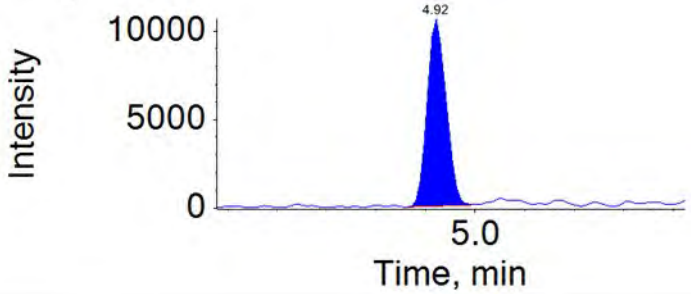
Component: PFHpS
Primary Mass: 449.0 / 80.0



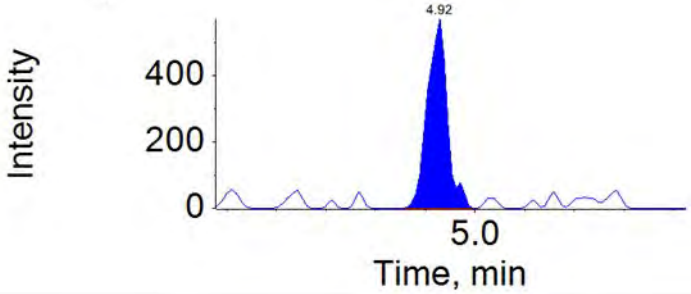
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Secondary Mass: 449.0 / 99.0



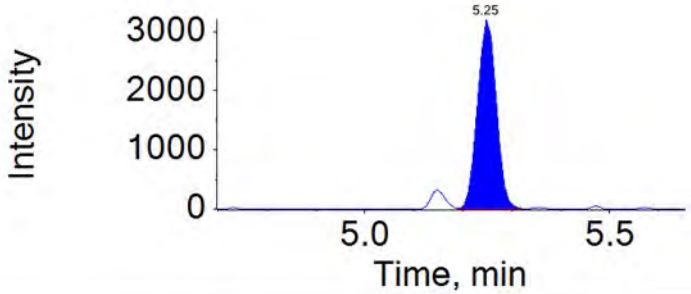
Component: PFOA
Primary Mass: 413.0 / 369.0



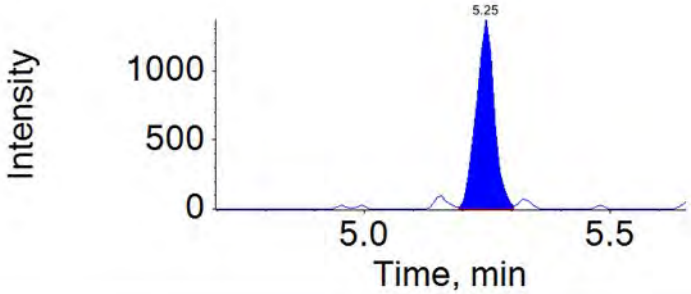
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



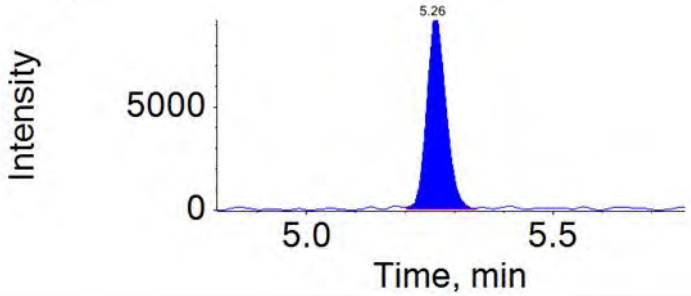
Component: PFOS
Primary Mass: 499.0 / 80.0



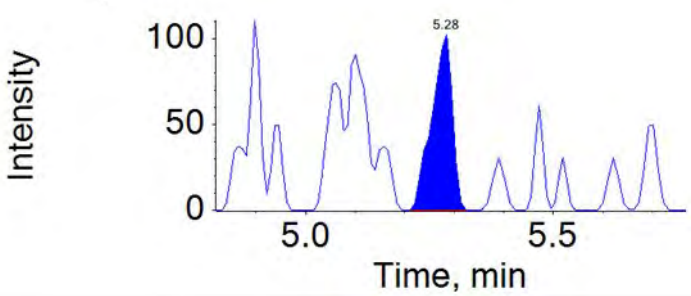
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



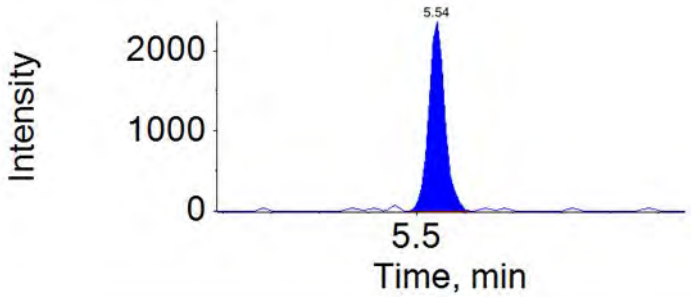
Component: PFNA
Primary Mass: 463.0 / 419.0



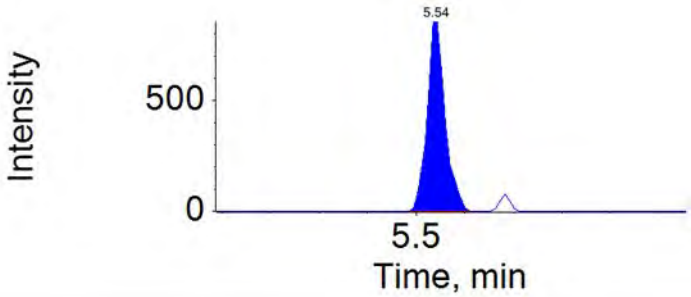
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



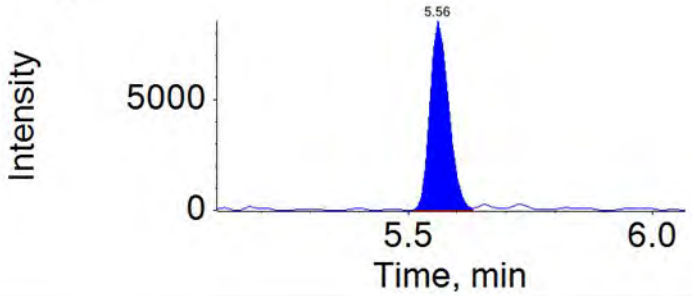
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



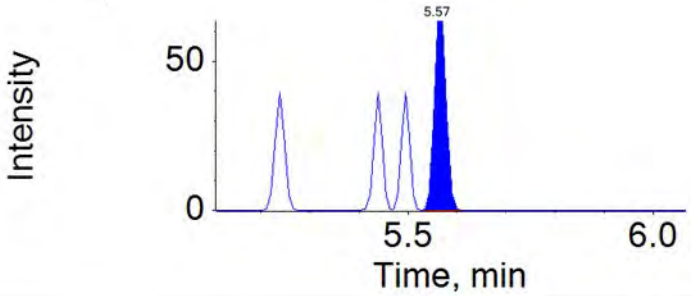
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

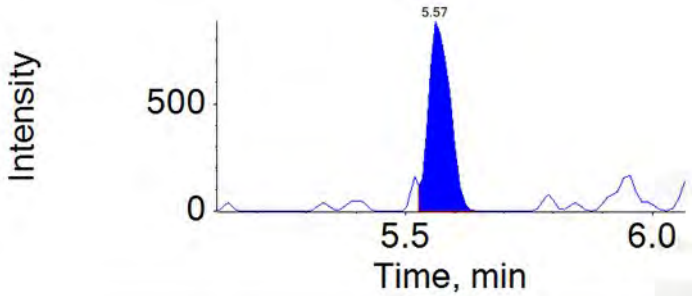
Component: PFDA
Primary Mass: 513.0 / 469.0



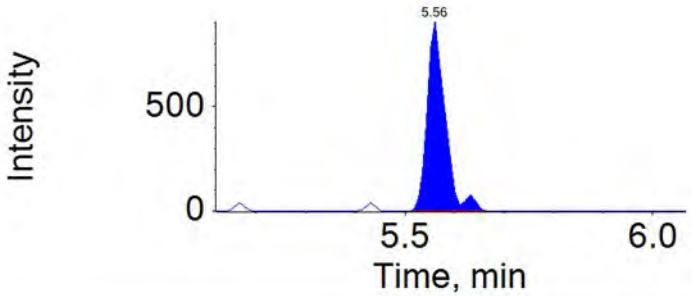
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



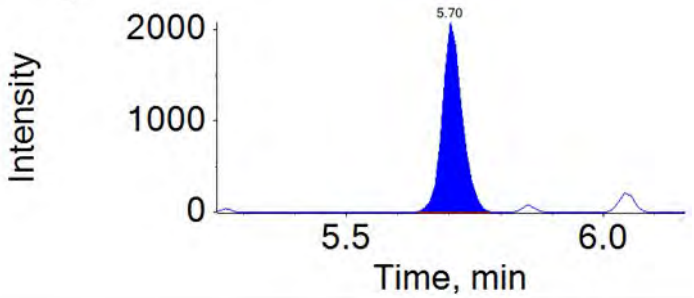
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



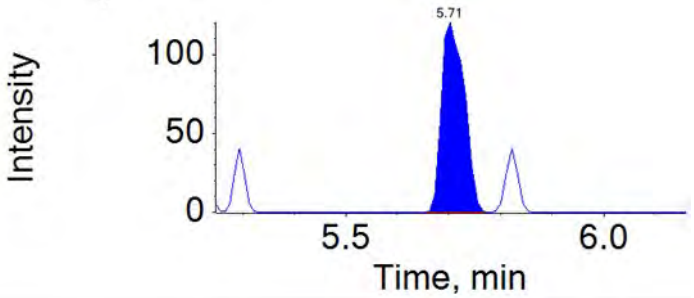
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



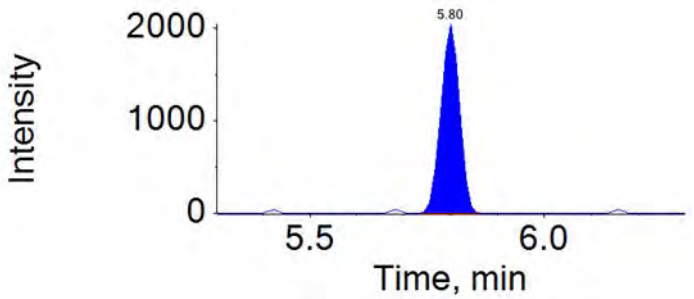
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



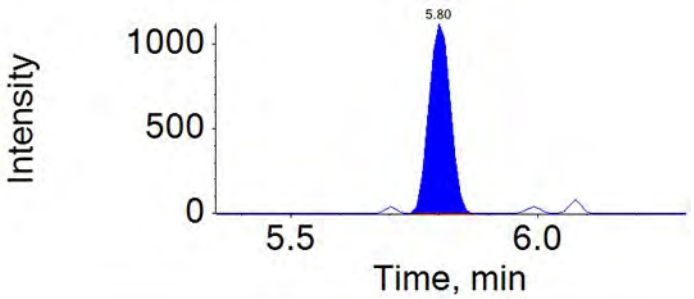
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



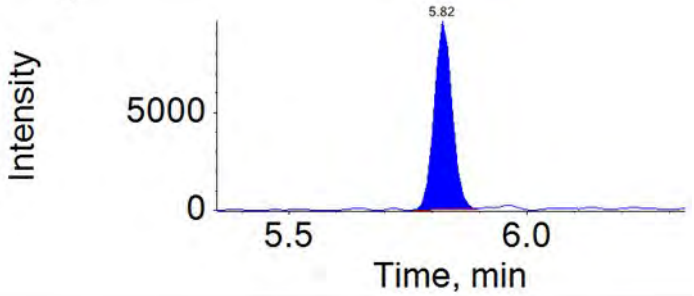
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



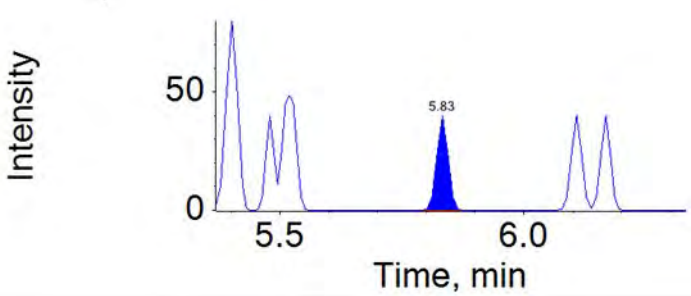
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

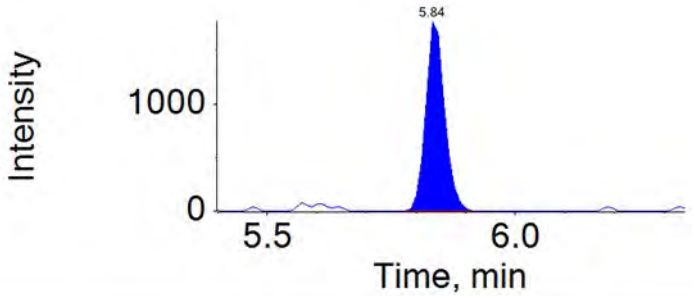
Component: PFUnDA
Primary Mass: 563.0 / 519.0



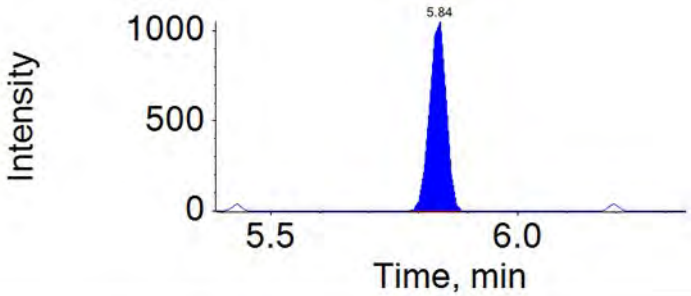
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Secondary Mass: 563.0 / 169.0



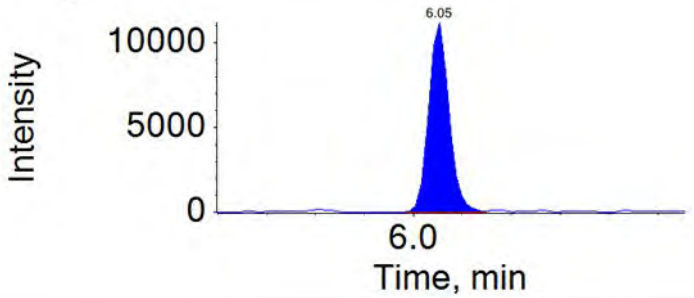
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



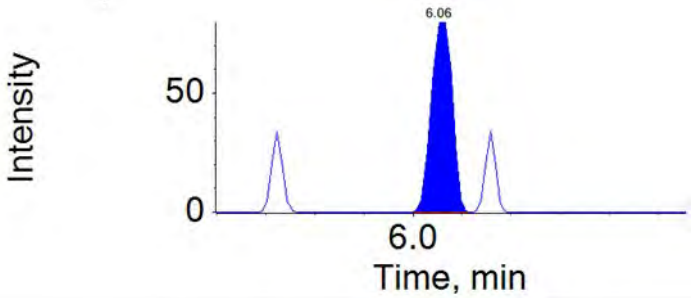
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



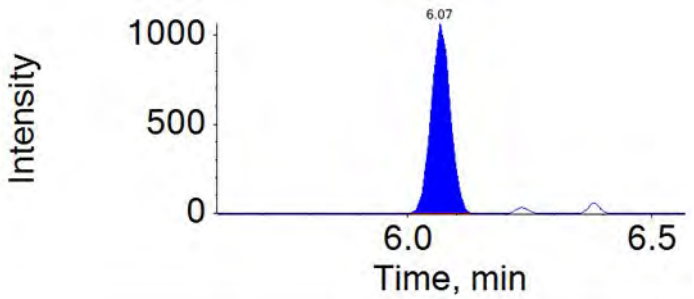
Component: PFDoDA
Primary Mass: 613.0 / 569.0



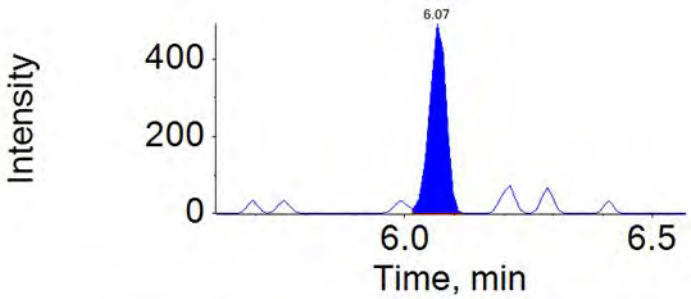
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



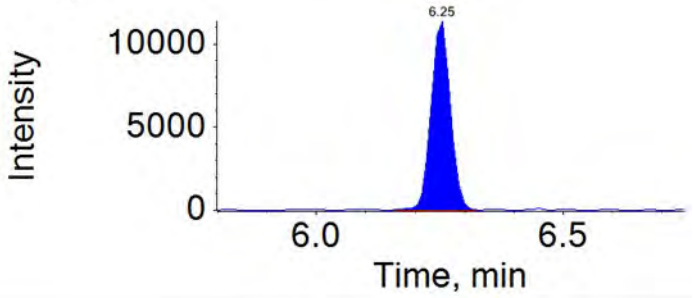
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



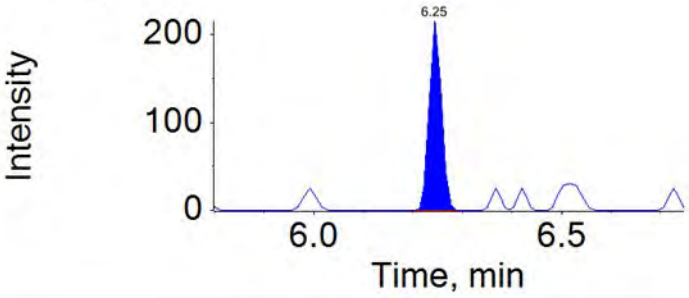
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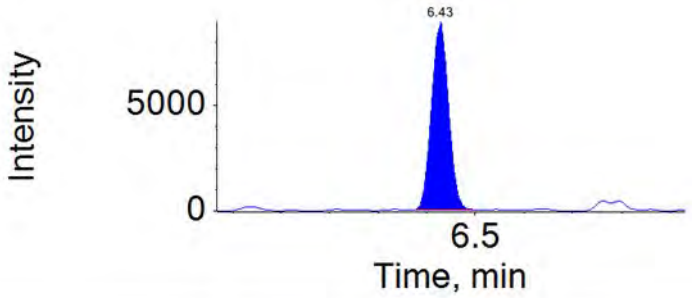
Component: PFTrDA
Primary Mass: 663.0 / 619.0



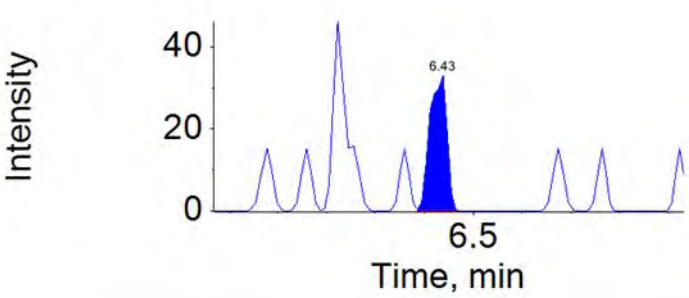
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Secondary Mass: 663.0 / 169.0



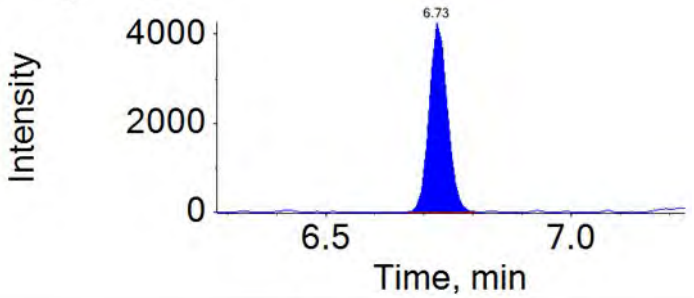
Component: PFTeDA
Primary Mass: 713.0 / 669.0



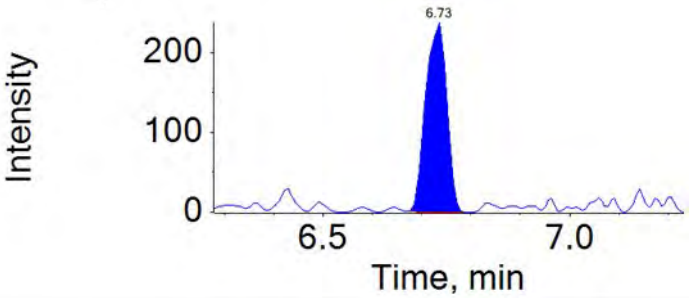
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



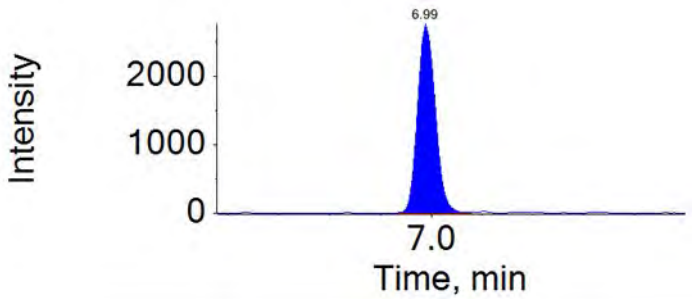
Component: PFHxDA
Primary Mass: 813.0 / 769.0



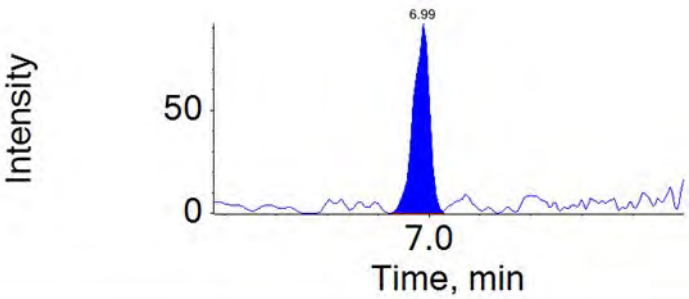
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	ICV			**Data File:**		18DEC26DCAL-14.wiff
Sample ID:	ICVMODX1833G			**Acquis Date:**		2018-12-26T14:49:37
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	10			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1159620.2	965438.2	20	50	
13C2-PFOA	5.0	615721.7	527066.0	17	50	
13C4-PFOS	4.8	358965.0	307230.6	17	50	
13C2-PFDA	5.0	560688.3	493258.9	14	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1274531.2	13C3-PFBA	1159620.2	1.099	5.000	4.876	98	70-130	
E13C5-PFPeA	1202683.0	13C3-PFBA	1159620.2	1.037	5.000	4.940	99	70-130	
E13C3-PFBS	525378.8	13C3-PFBA	1159620.2	0.453	4.650	4.402	95	70-130	
E13C2-4:2-FTS	78305.7	13C2-PFOA	615721.7	0.127	4.670	4.845	104	70-130	
E13C5-PFHxA	865200.0	13C2-PFOA	615721.7	1.405	5.000	5.141	103	70-130	
E13C3-PFHxS	406077.7	13C2-PFOA	615721.7	0.660	4.730	5.068	107	70-130	
E13C4-PFHpA	695461.3	13C2-PFOA	615721.7	1.130	5.000	5.089	102	70-130	
E13C2-6:2-FTS	65984.2	13C2-PFOA	615721.7	0.107	4.750	5.243	110	70-130	
E13C8-PFOA	1143527.2	13C2-PFOA	615721.7	1.857	5.000	5.204	104	70-130	
E13C8-PFOS	382569.0	13C4-PFOS	358965.0	1.066	4.780	4.646	97	70-130	
E13C9-PFNA	778657.4	13C4-PFOS	358965.0	2.169	5.000	4.779	96	70-130	
E13C6-PFDA	966429.3	13C2-PFDA	560688.3	1.724	5.000	4.949	99	70-130	
E13C2-8:2-FTS	54848.6	13C2-PFDA	560688.3	0.098	4.790	5.061	106	70-130	
E13C8-PFOSA	745043.2	13C2-PFDA	560688.3	1.329	5.000	5.308	106	70-130	
Ed3-NMeFOSAA	215524.0	13C2-PFDA	560688.3	0.384	5.000	4.905	98	70-130	
E13C7-PFUnDA	653648.7	13C2-PFDA	560688.3	1.166	5.000	5.037	101	70-130	
Ed5-NEtFOSAA	175415.1	13C2-PFDA	560688.3	0.313	5.000	5.421	108	70-130	
E13C2-PFDoDA	1320623.5	13C2-PFDA	560688.3	2.355	5.000	5.109	102	70-130	
Ed7-NMePFOSAE	299803.8	13C2-PFDA	560688.3	0.535	5.000	5.055	101	70-130	
Ed3-NMePFOSA	101767.7	13C2-PFDA	560688.3	0.182	5.000	5.145	103	70-130	
Ed9-NEtPFOSAE	256659.0	13C2-PFDA	560688.3	0.458	5.000	4.981	100	70-130	
Ed5-NEtPFOSA	84773.8	13C2-PFDA	560688.3	0.151	5.000	5.337	107	70-130	
E13C2-PFTeDA	978034.6	13C2-PFDA	560688.3	1.744	5.000	5.145	103	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

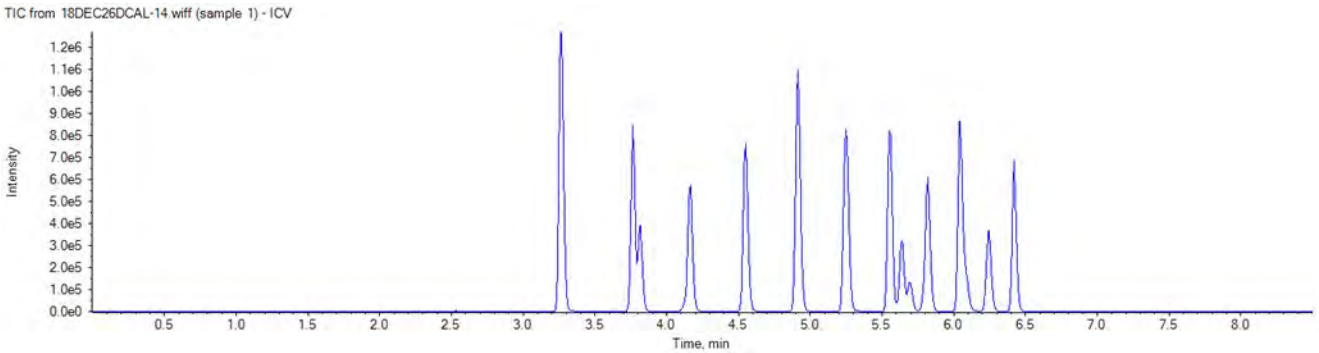
Analyte Quantitation Peak Table

Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-14.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	486055.2		A	13C4-PFBA	3.26	1274531.2	0.381	2.014
PFPeA	3.77	1.000	468928.8		A	13C5-PFPeA	3.77	1202683.0	0.390	1.935
PFBS	3.82	1.000	199850.9		A	13C3-PFBS	3.82	525378.8	0.380	1.888
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	78305.7	N/A	
PFHxA	4.16	1.000	446661.4		A	13C5-PFHxA	4.16	865200.0	0.516	2.119
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	525378.8	N/A	
PFHpA	4.55	1.000	452912.7		A	13C4-PFHpA	4.55	695461.3	0.651	2.058
PFHxS	4.55	1.000	156598.9		A	13C3-PFHxS	4.55	406077.7	0.386	1.803
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	65984.2	N/A	
PFHpS	4.91	1.080	150754.9		A	13C3-PFHxS	4.55	406077.7	0.371	1.943
PFOA	4.92	1.000	454955.8		M	13C8-PFOA	4.92	1143527.2	0.398	2.105
PFOS	5.24	1.000	145800.5		A	13C8-PFOS	5.24	382569.0	0.381	1.659
PFNA	5.26	1.000	435342.2		A	13C9-PFNA	5.26	778657.4	0.559	2.247
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	382569.0	N/A	
PFDA	5.56	1.000	371411.9		A	13C6-PFDA	5.56	966429.3	0.384	2.216
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	54848.6	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.64	745043.2	N/A	
NMeFOSAA	5.70	1.000	81324.3		M	d3-NMeFOSAA	5.70	215524.0	0.377	2.200
PFDS	5.79	1.110	95399.1		A	13C8-PFOS	5.24	382569.0	0.249	2.056
PFUnDA	5.82	1.000	394982.7		A	13C7-PFUnDA	5.82	653648.7	0.604	2.311
NEtFOSAA	5.83	1.000	75399.3		A	d5-NEtFOSAA	5.83	175415.1	0.430	2.210
PFDoDA	6.04	1.000	532458.4		A	13C2-PFDoDA	6.05	1320623.5	0.403	2.057
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	54848.6	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	299803.8	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.10	101767.7	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	382569.0	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	256659.0	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	84773.8	N/A	
PFTrDA	6.25	1.030	522069.8		A	13C2-PFDoDA	6.05	1320623.5	0.395	2.105
PFTeDA	6.42	1.000	355376.9		A	13C2-PFTeDA	6.42	978034.6	0.363	2.067
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	978034.6	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	978034.6	N/A	

Total Ion Chromatogram

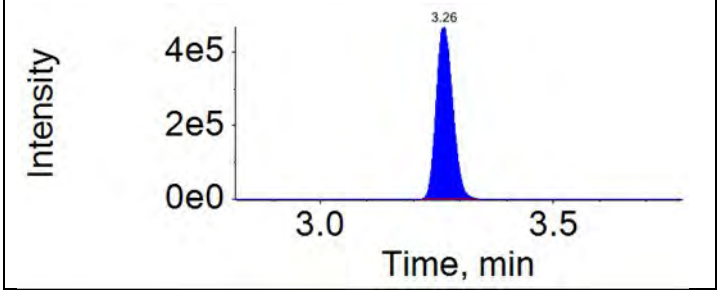


APPROVED
By MSM at 1:33 pm, 12/27/18

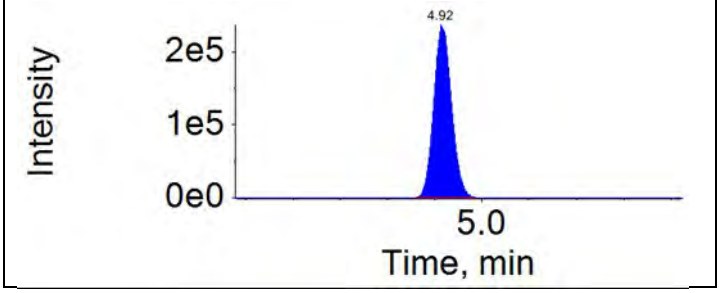
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

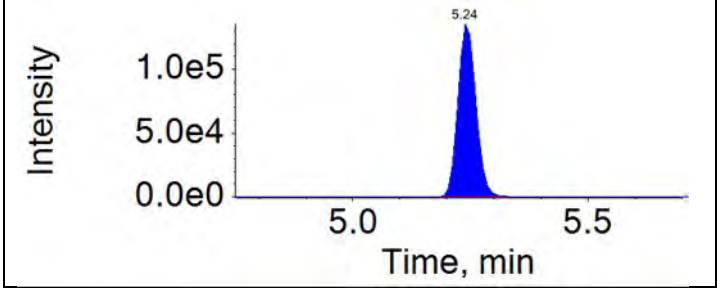
Injection Standard: 13C3-PFBA
216.0 / 172.0



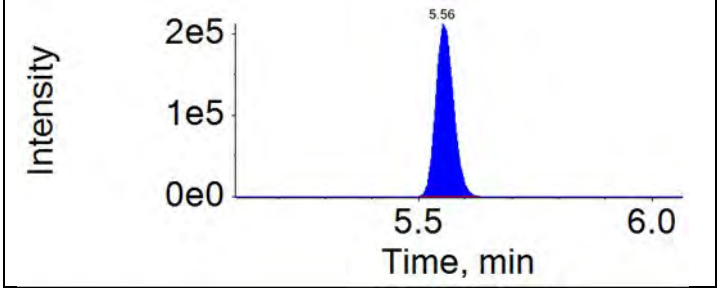
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



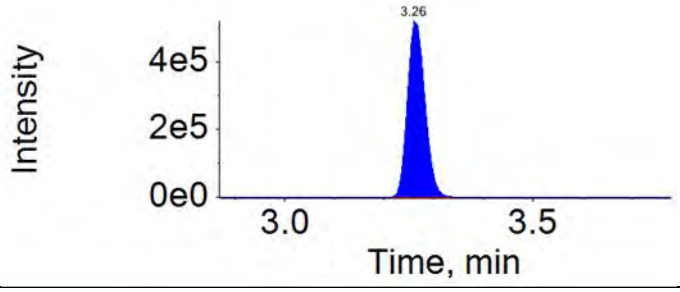
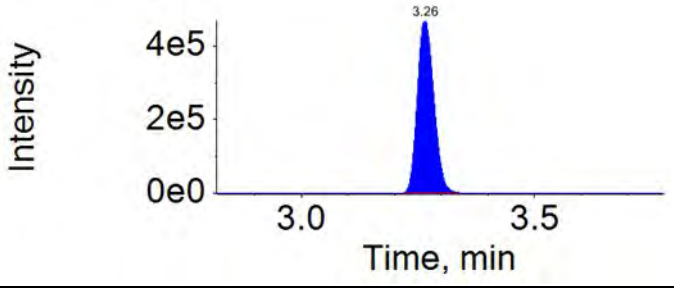
Injection Standard: 13C2-PFDA
515.0 / 470.0

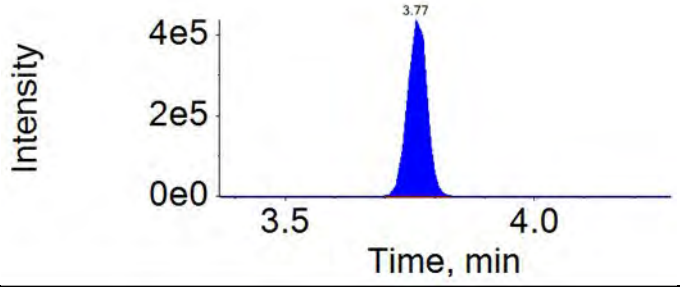
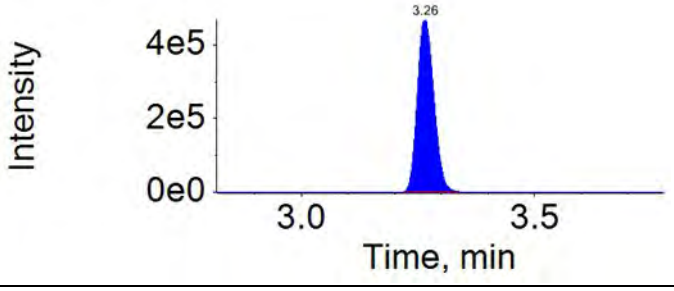


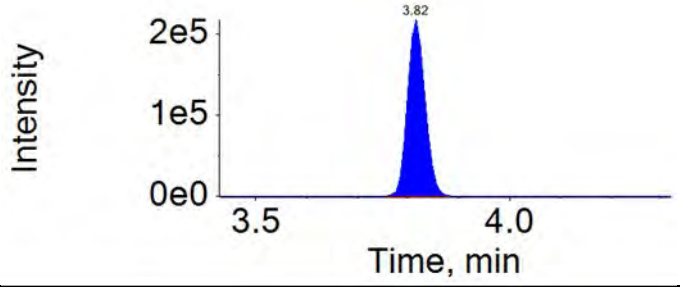
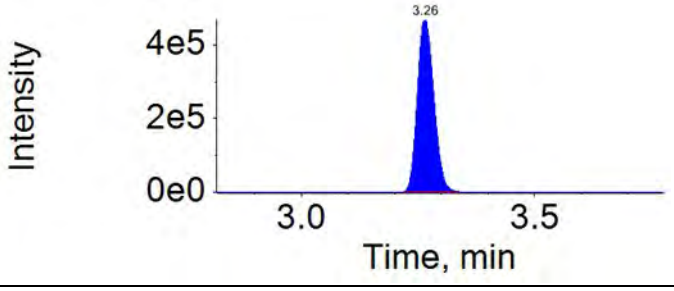
APPROVED
By MSM at 1:33 pm, 12/27/18

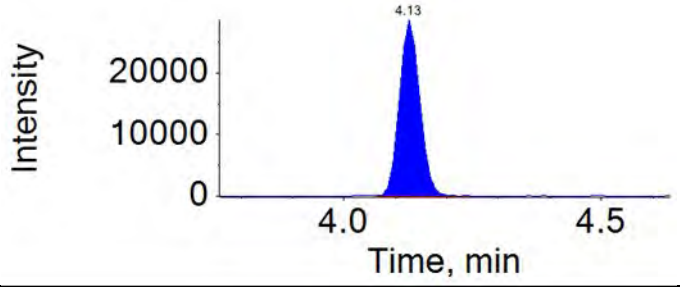
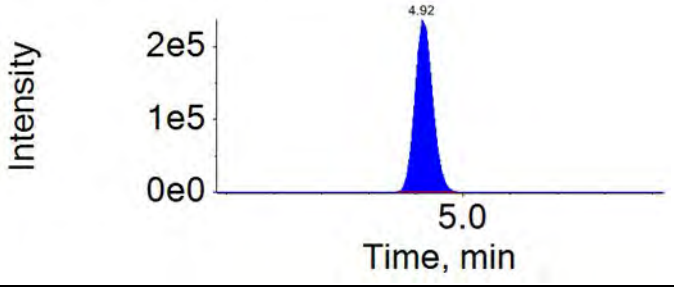
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

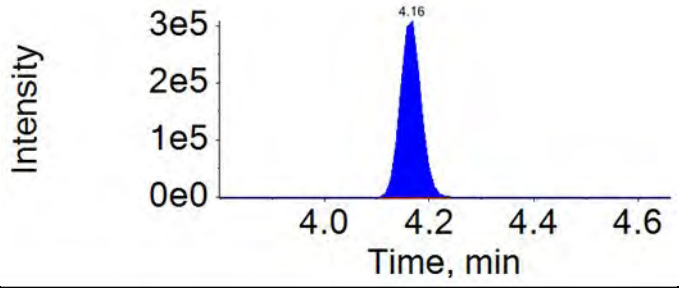
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

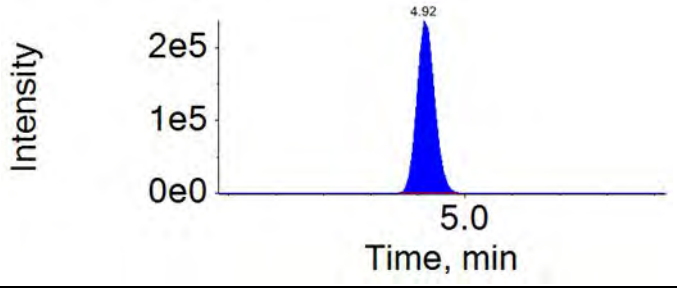
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

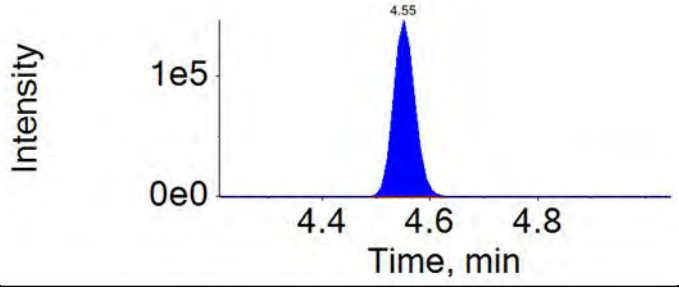
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

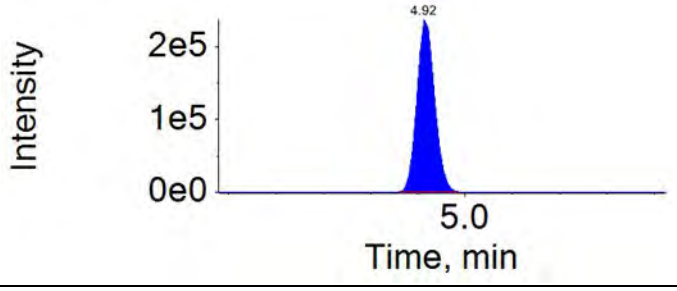
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



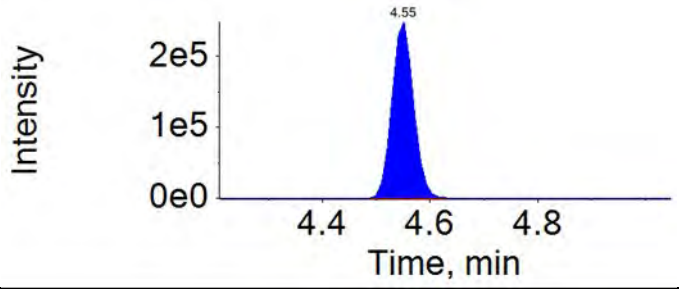


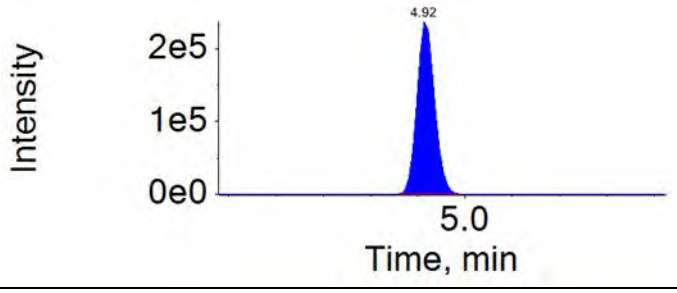
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



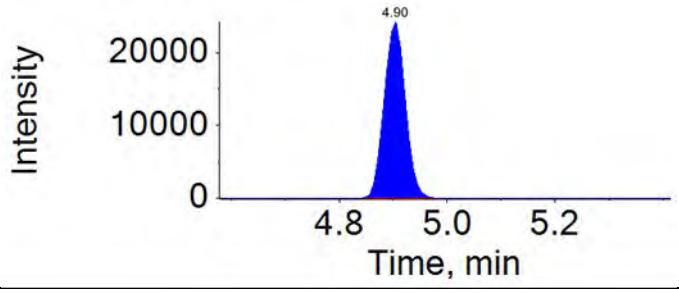


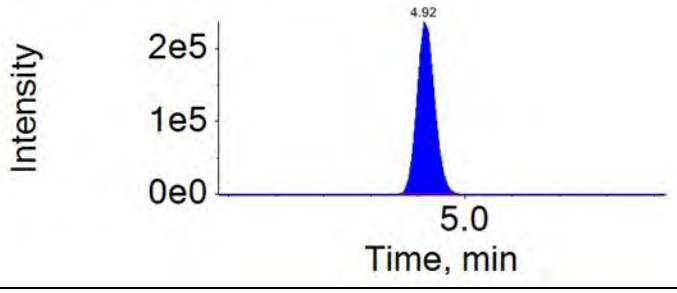
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



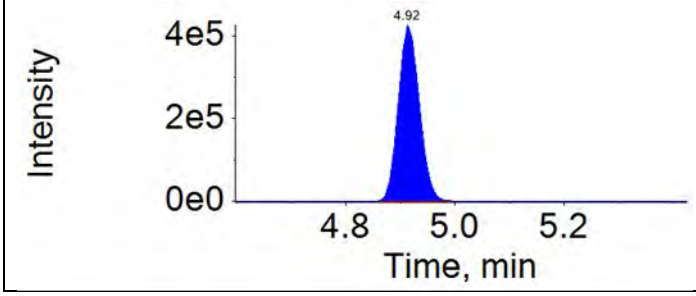


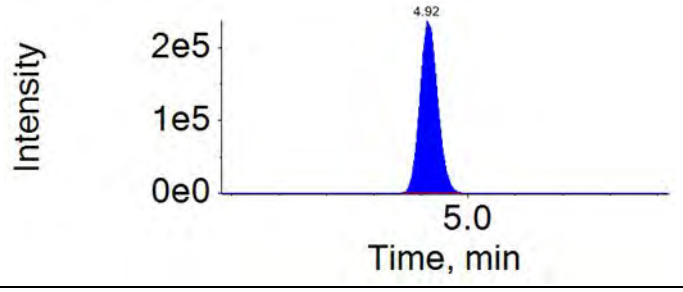
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

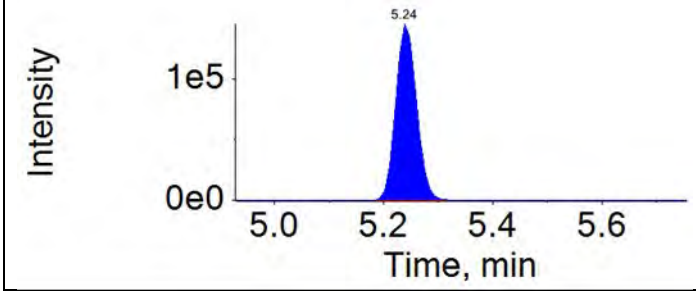
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

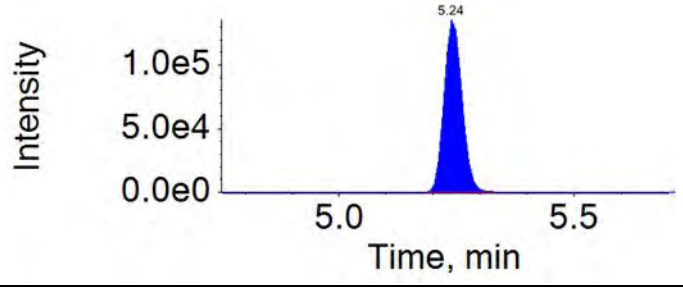
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



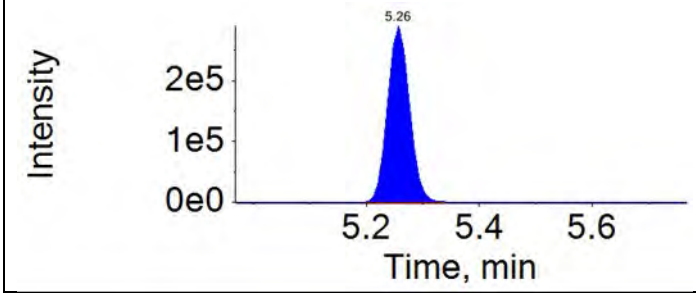


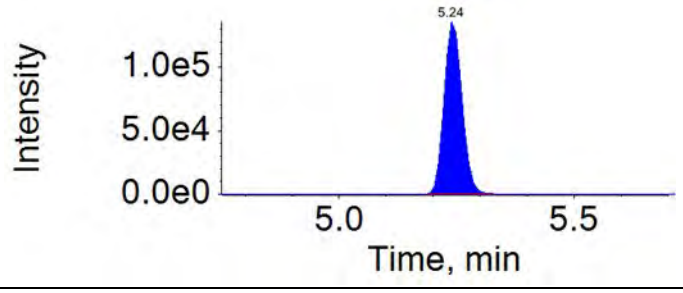
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



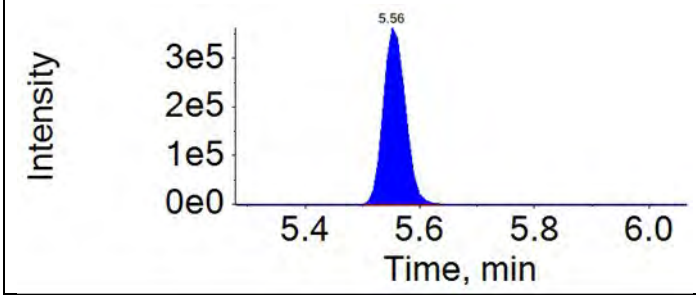


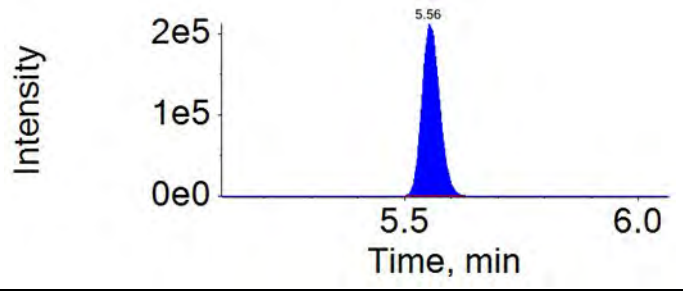
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0



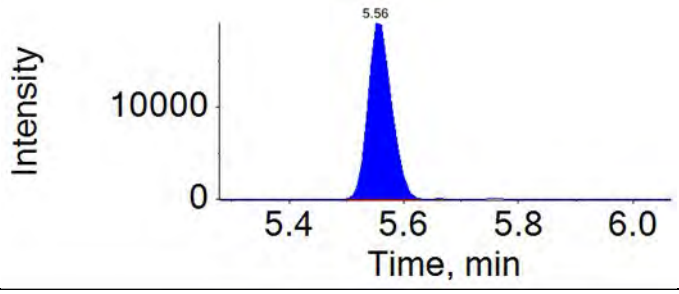


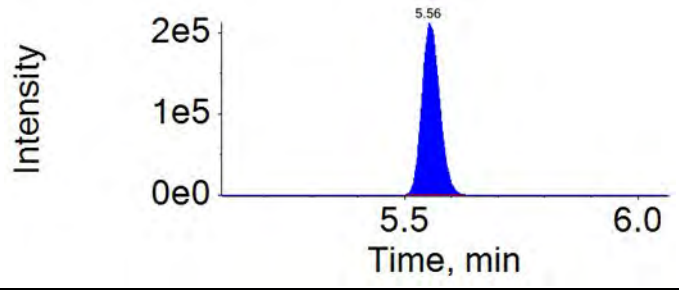
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

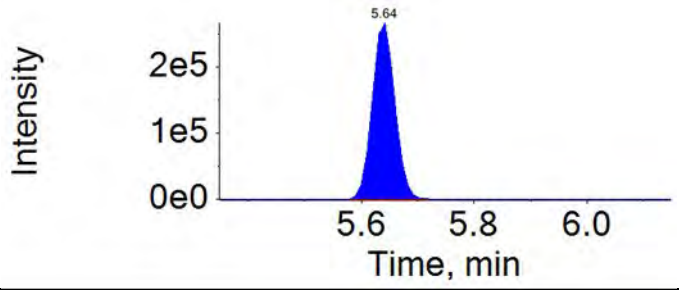
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

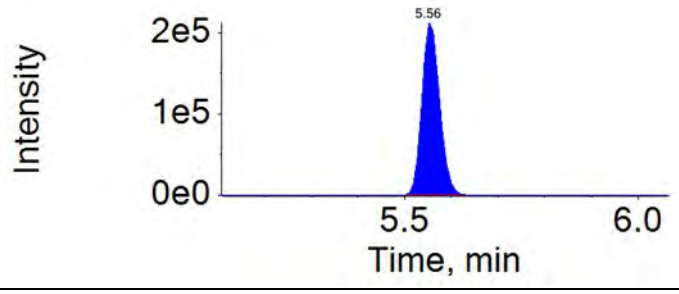
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



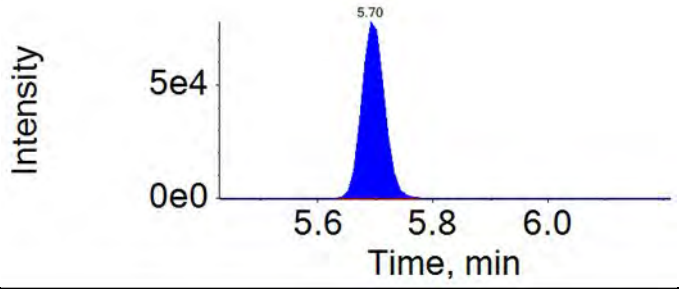


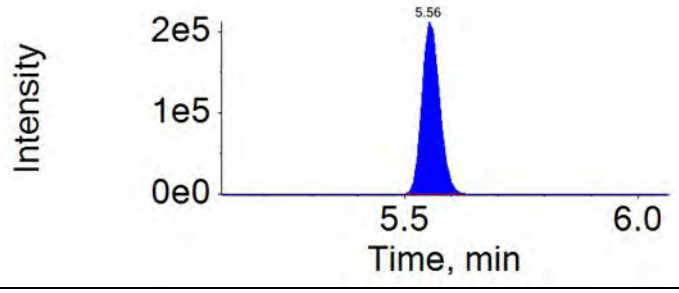
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



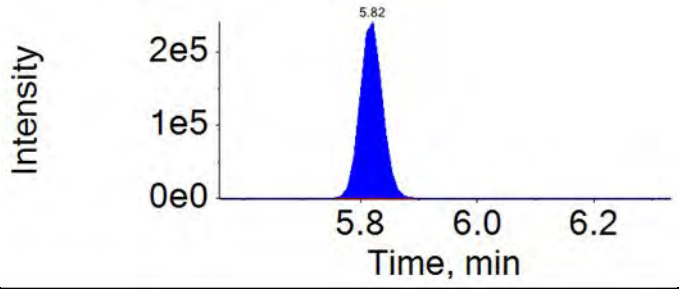


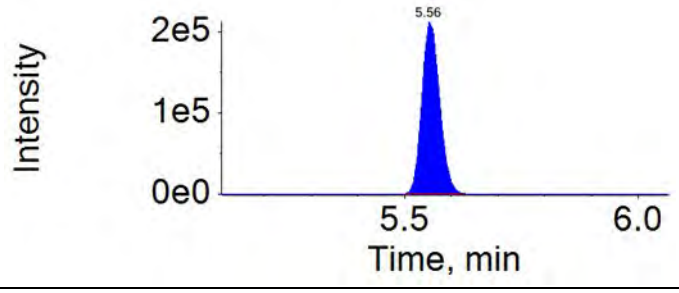
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0



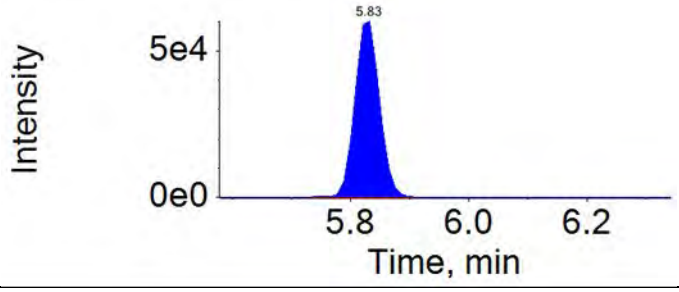


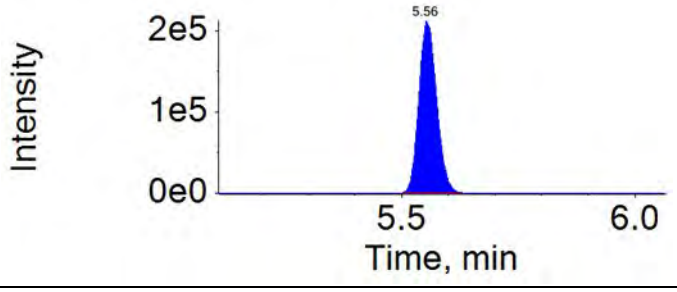
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

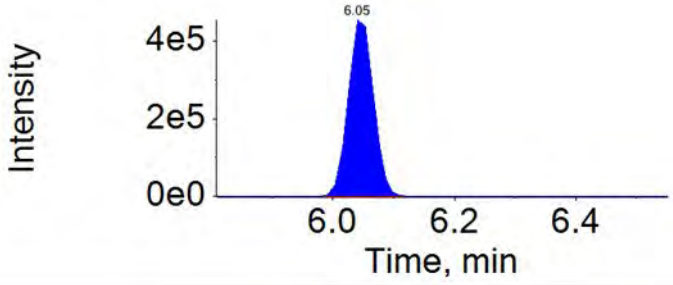
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

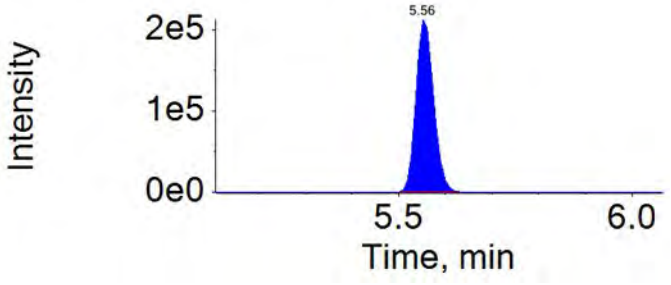
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



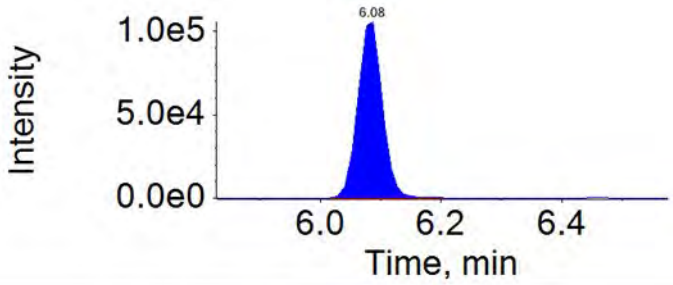


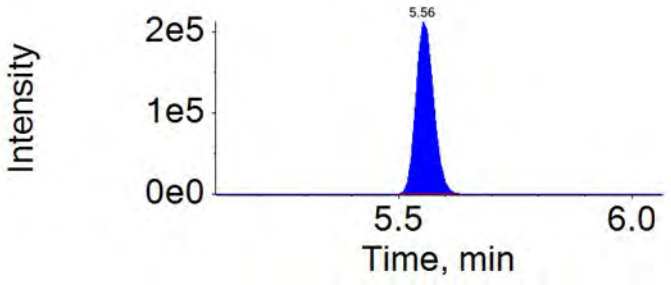
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



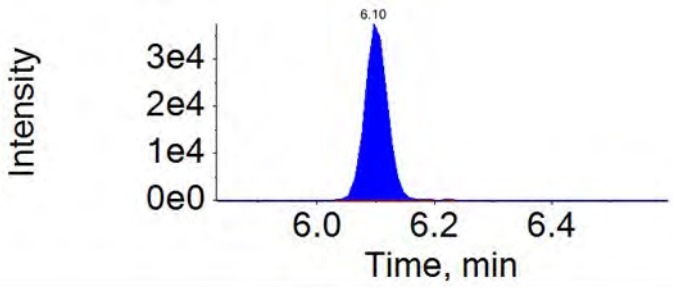


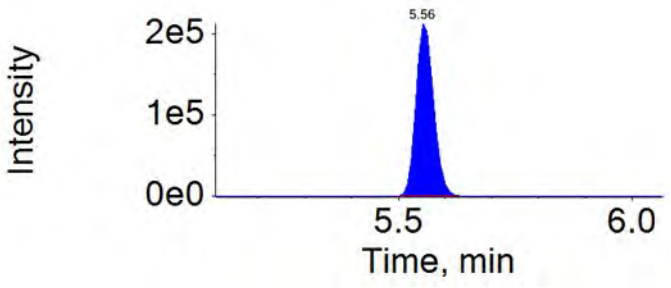
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



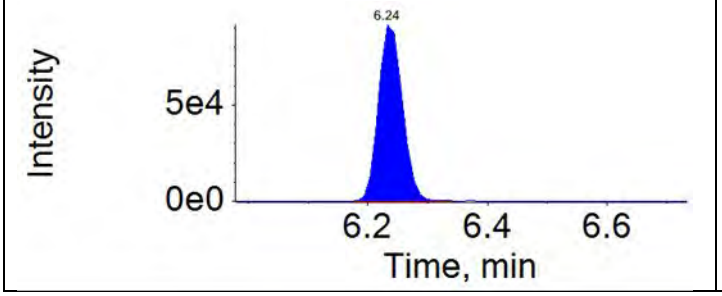


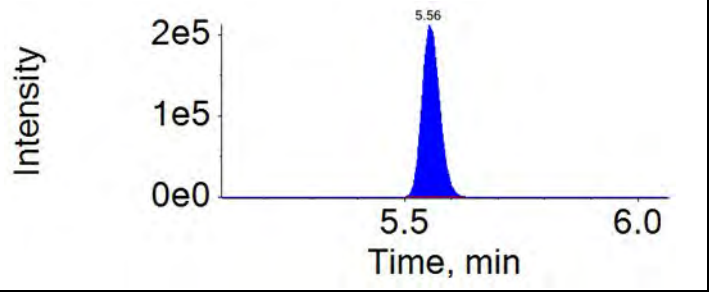
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

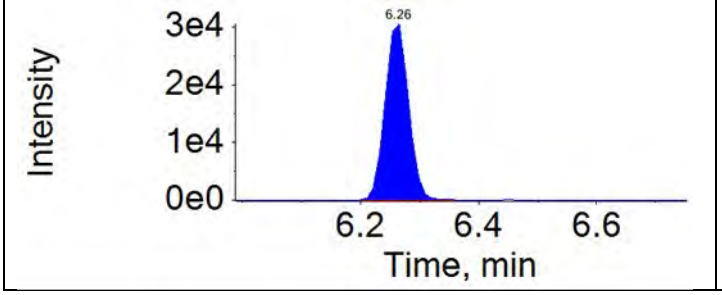
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

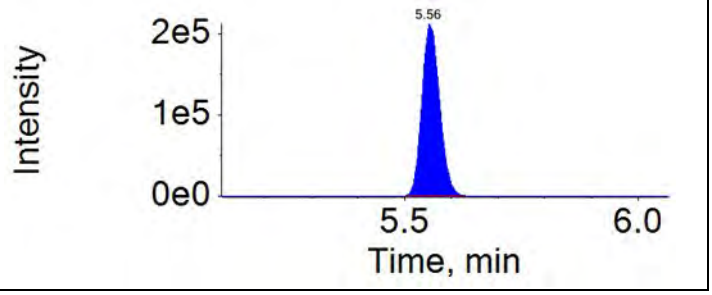
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



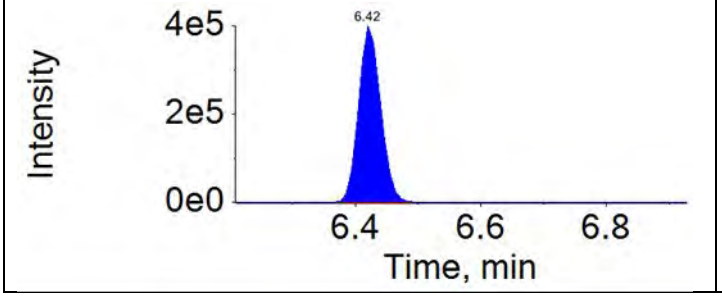


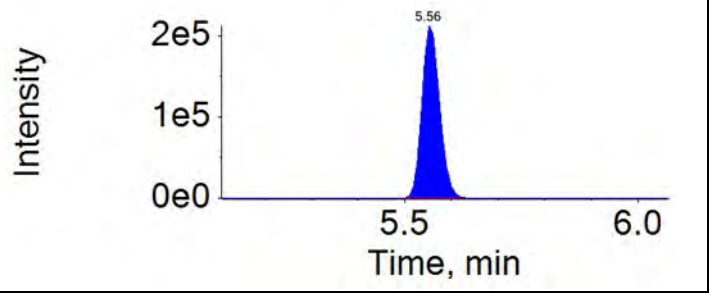
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



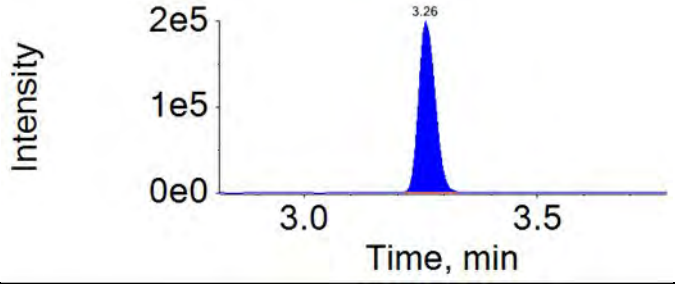


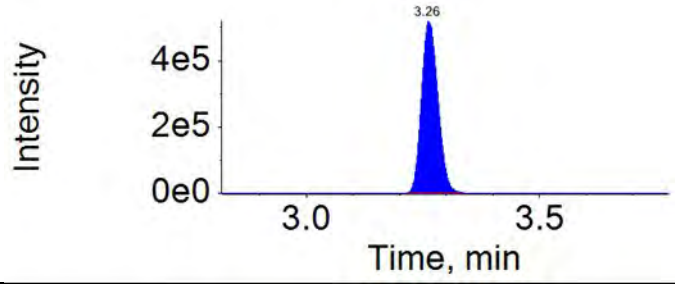
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

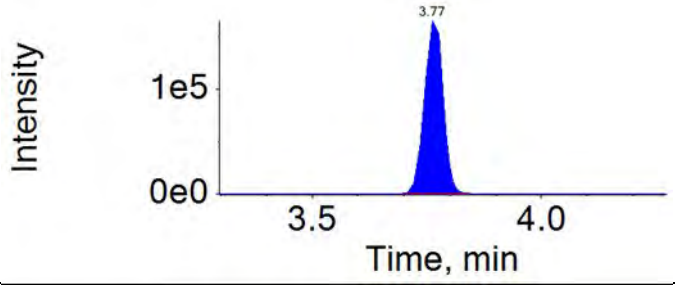
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

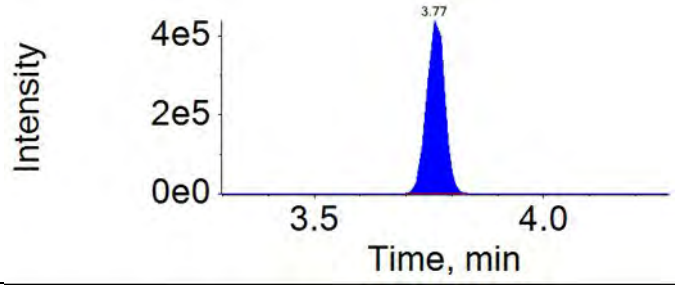
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



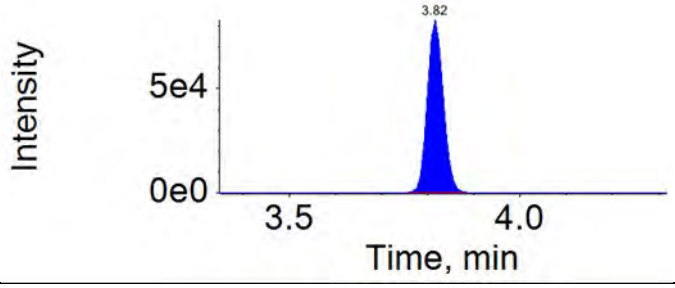


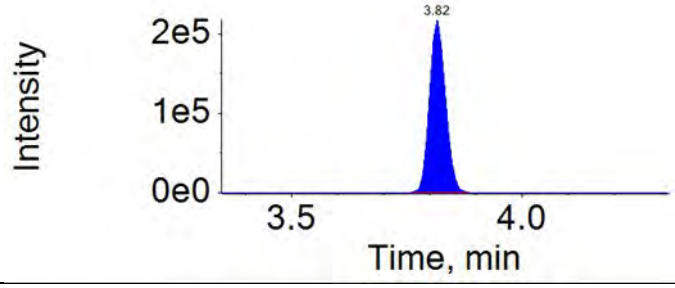
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



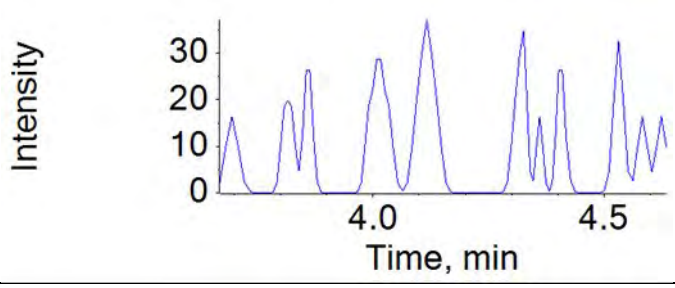


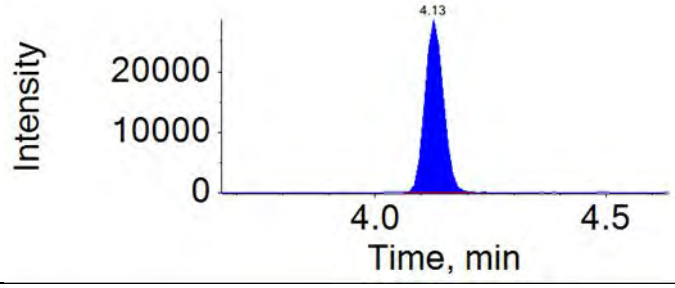
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



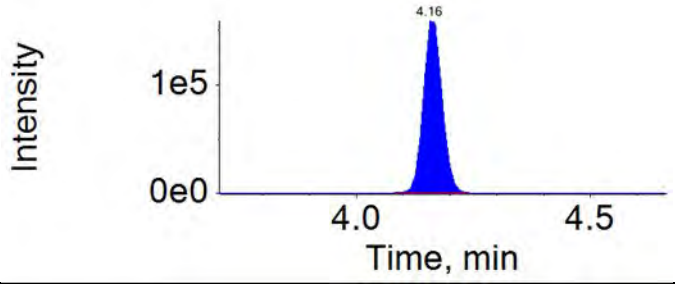


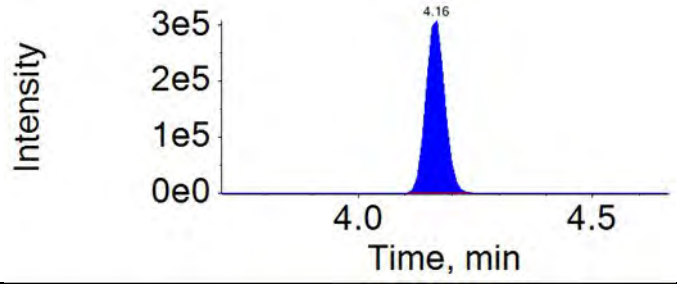
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

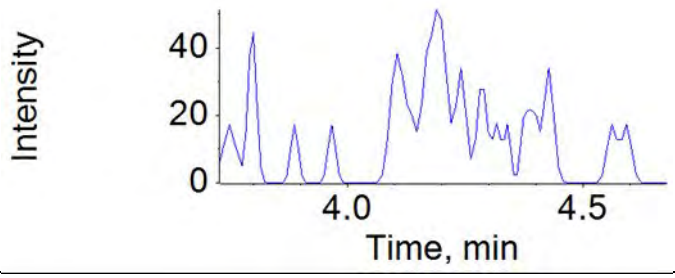
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

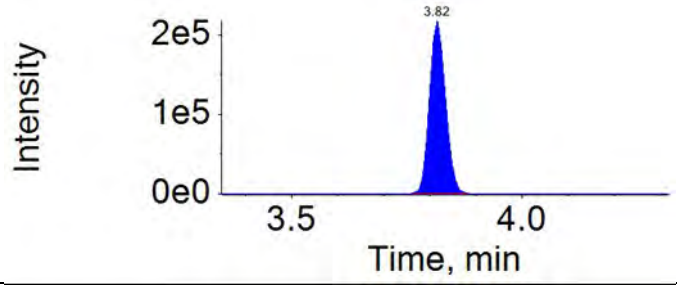
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



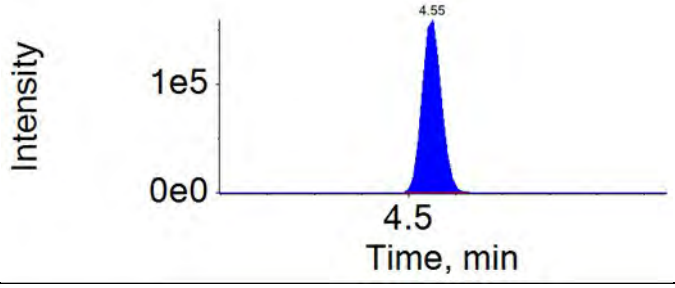


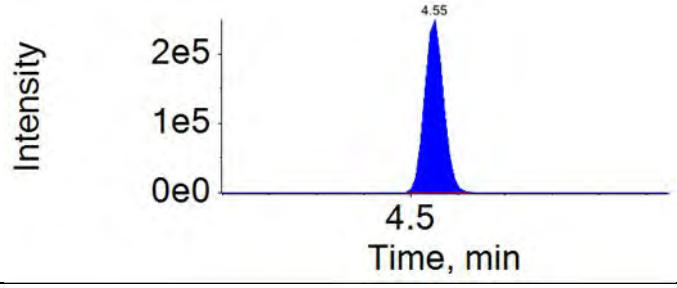
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



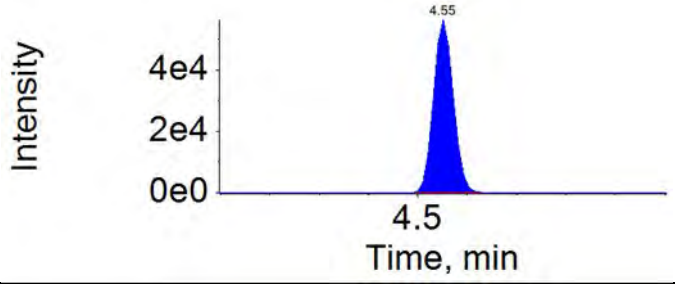


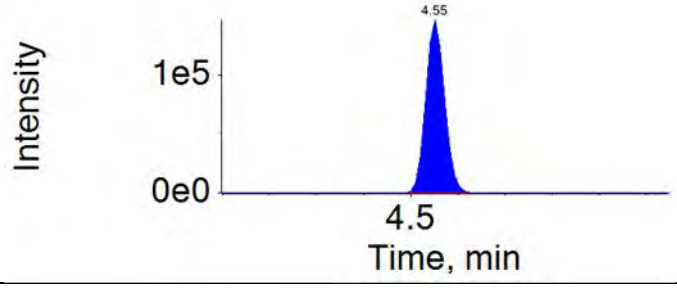
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



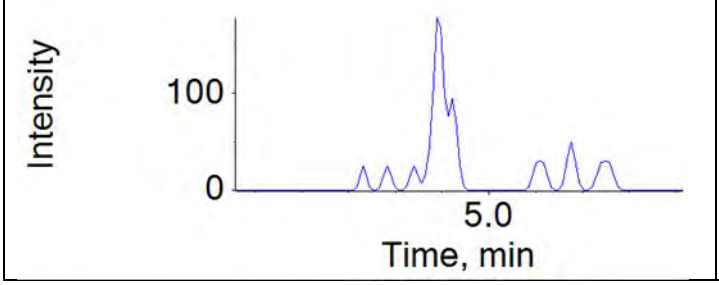


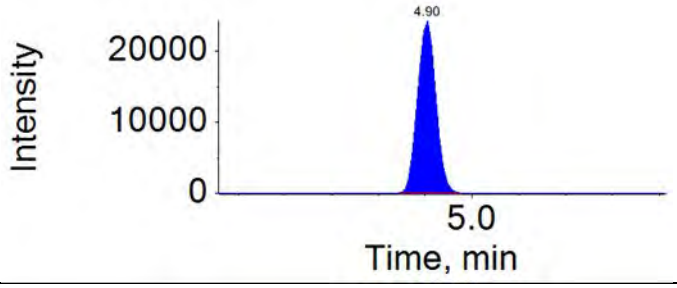
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

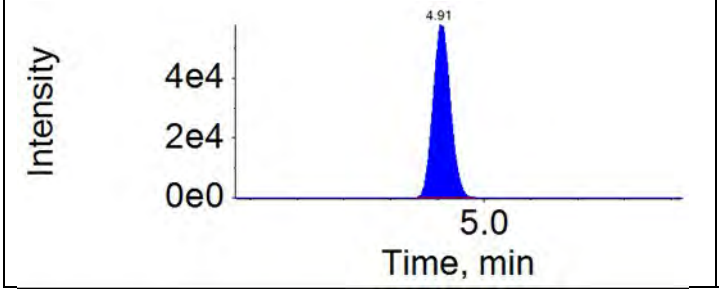
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

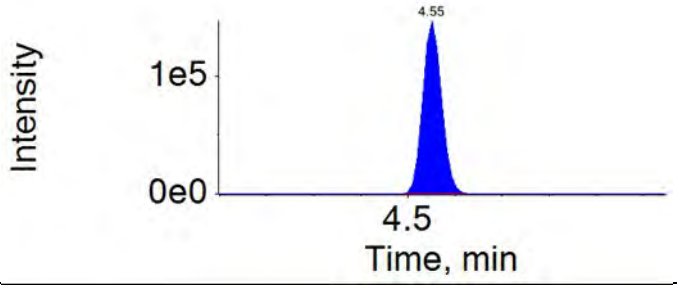
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



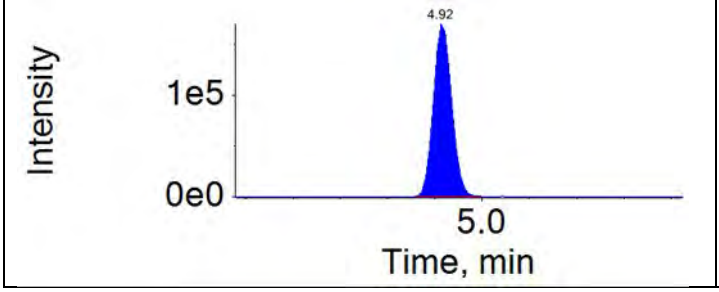


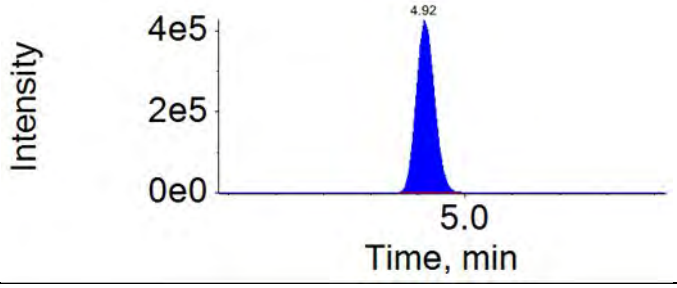
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



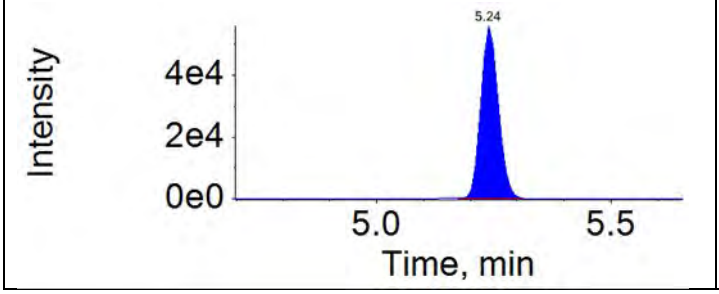


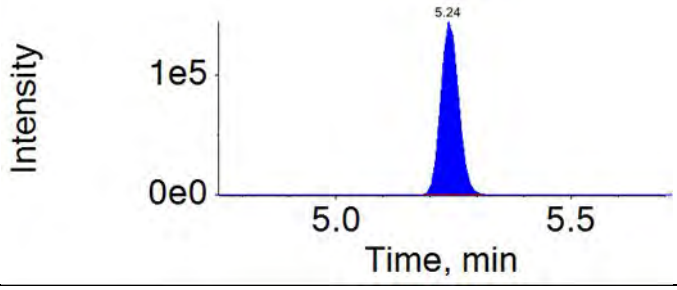
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



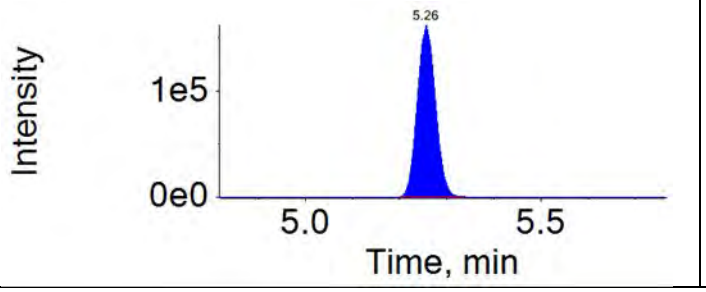


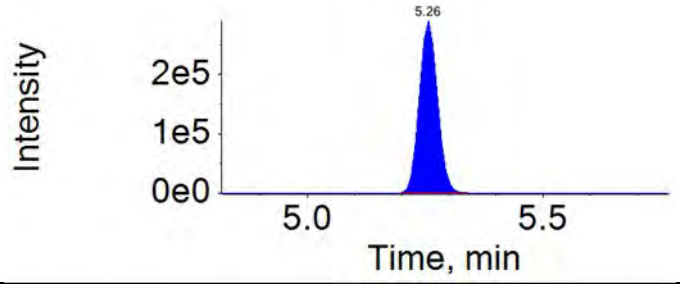
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

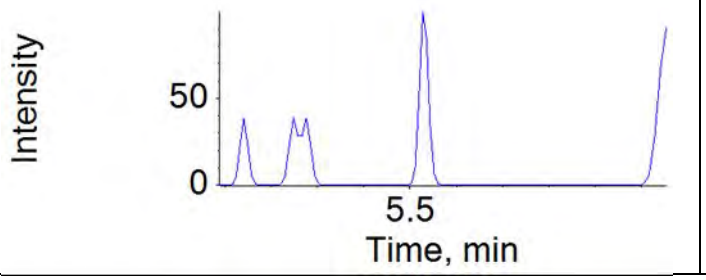
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

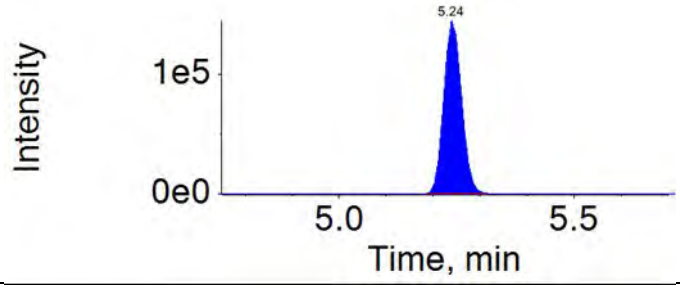
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



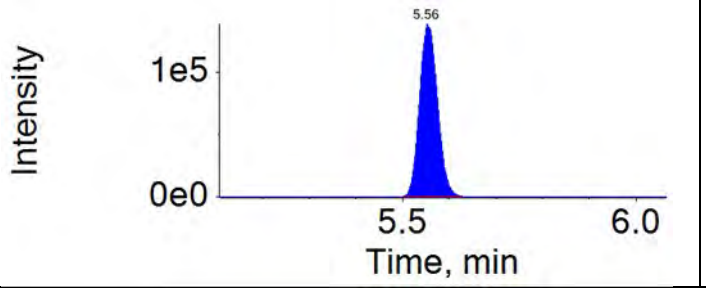


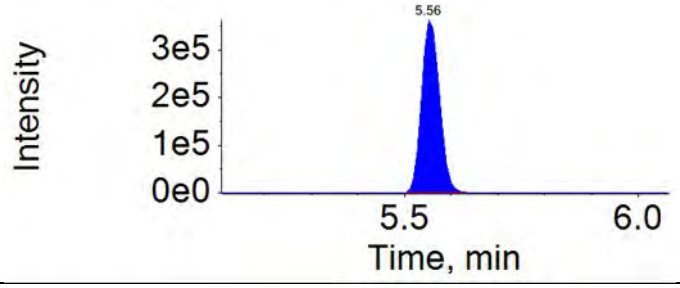
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



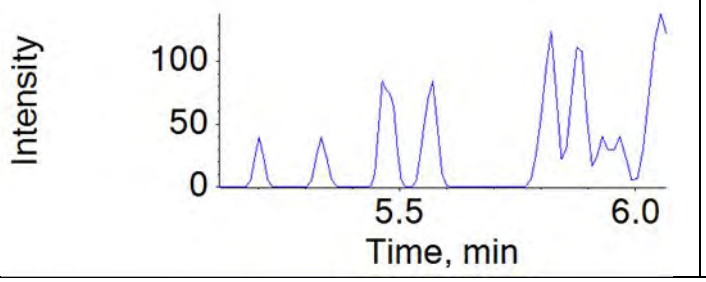


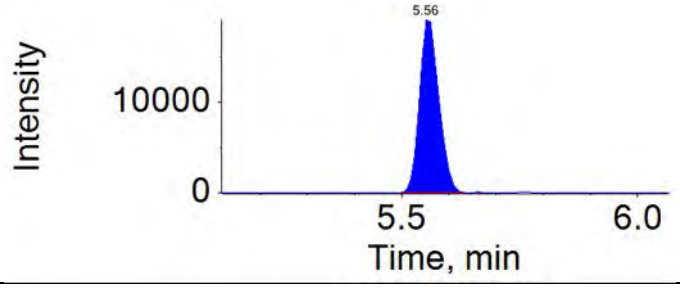
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



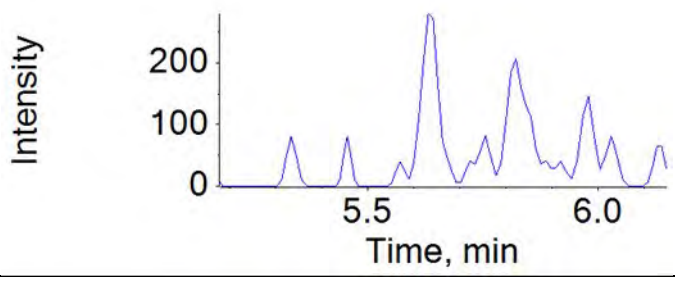


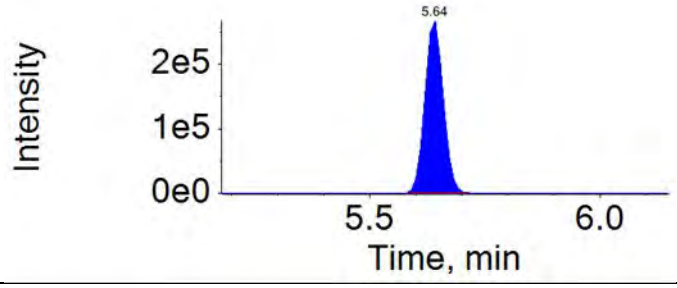
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

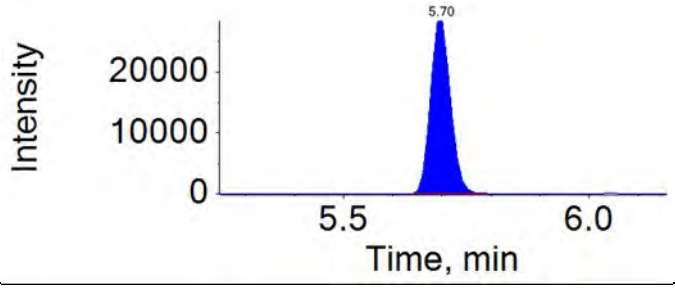
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

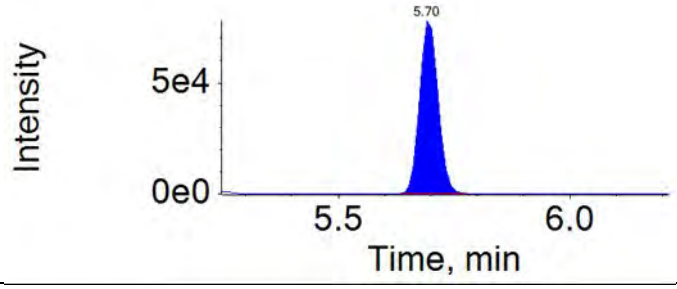
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



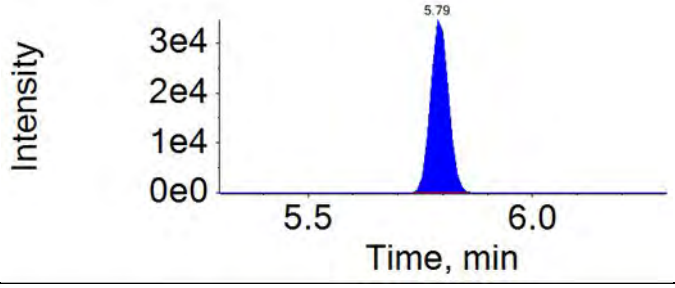


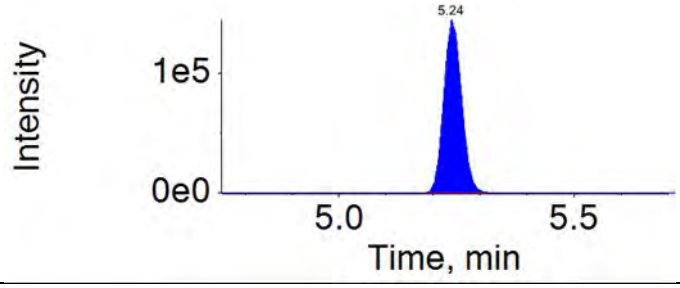
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



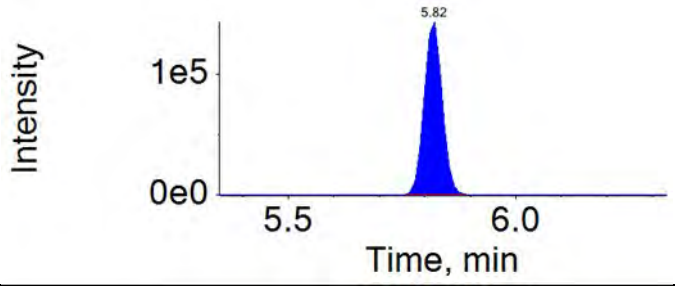


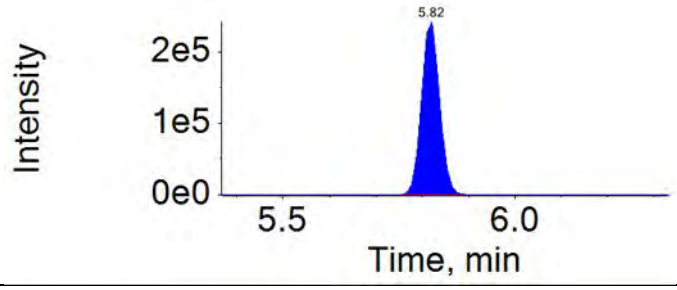
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



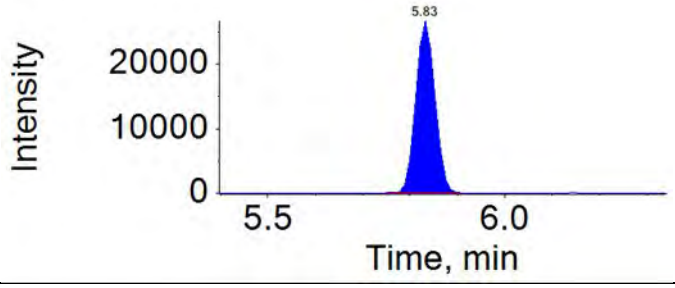


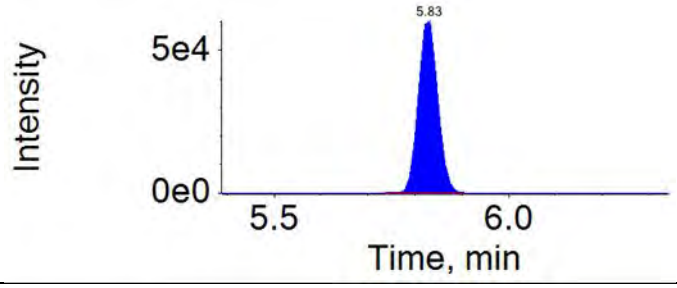
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

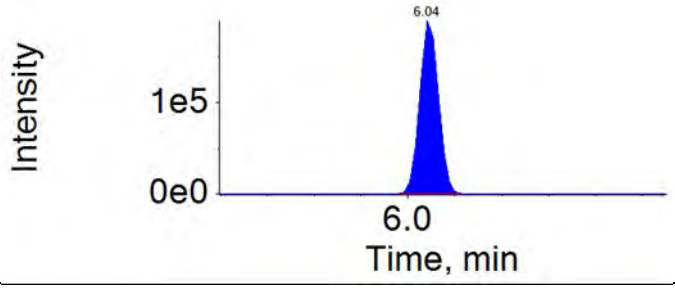
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

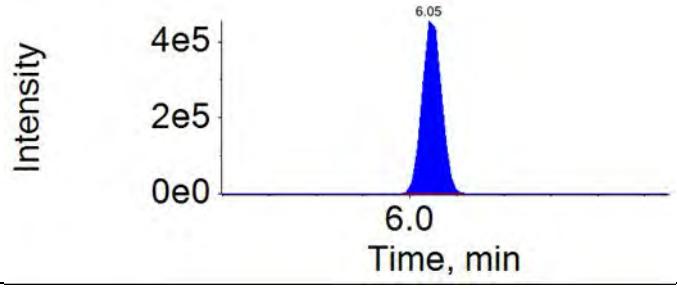
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



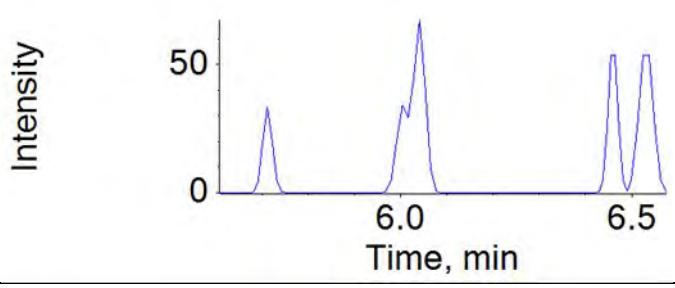


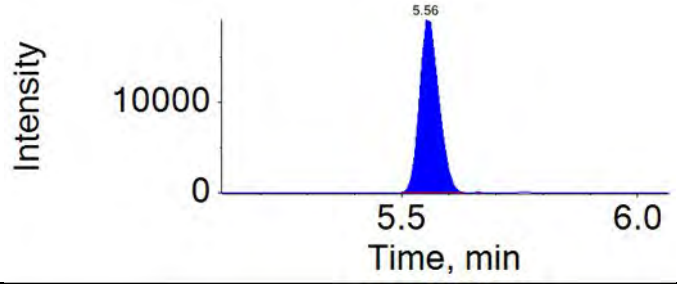
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



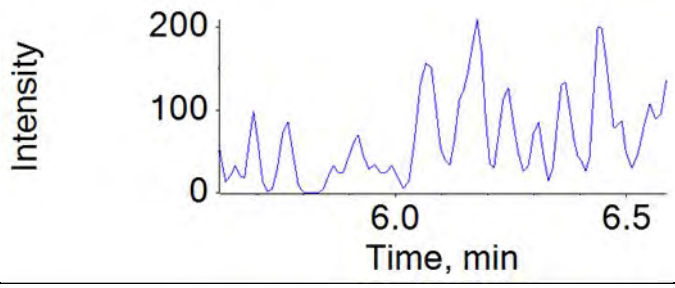


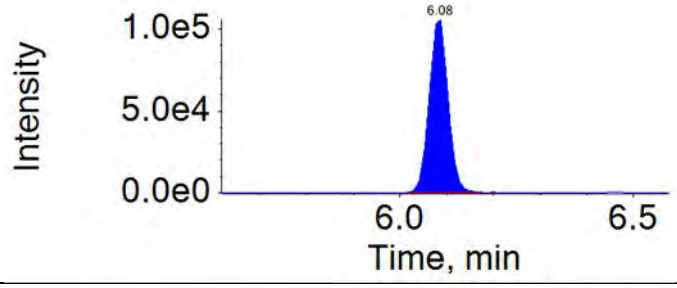
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



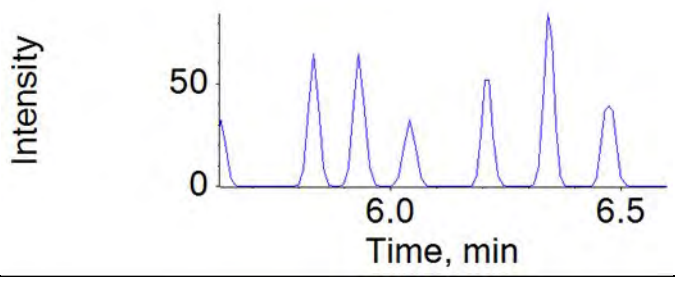


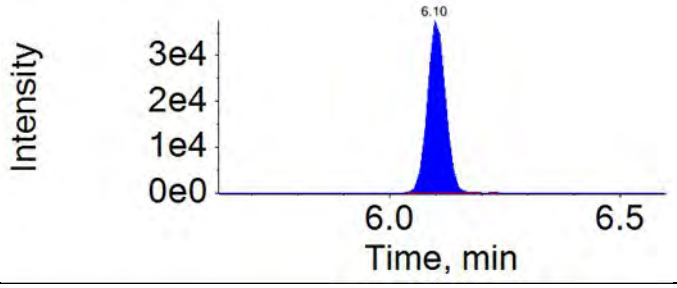
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

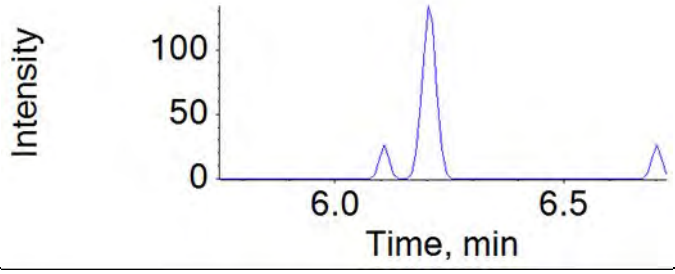
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

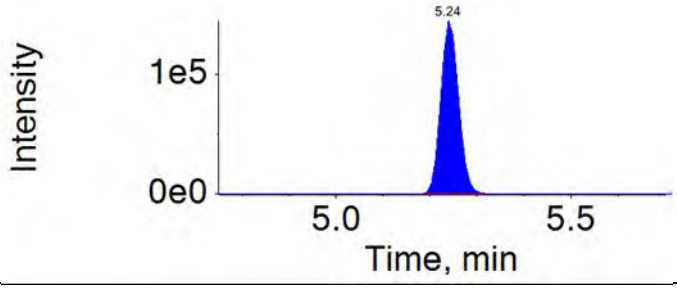
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



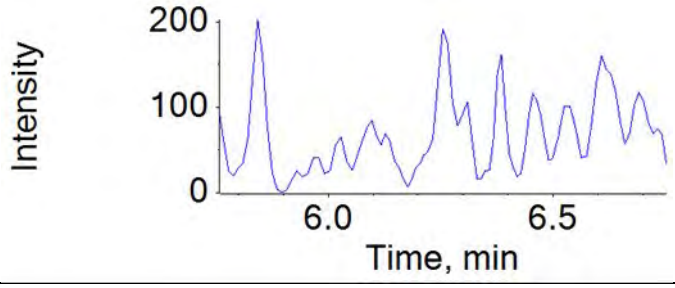


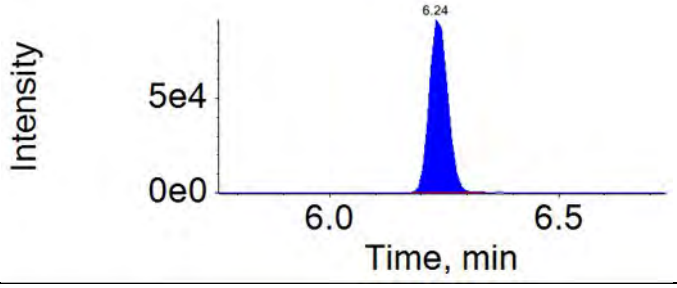
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



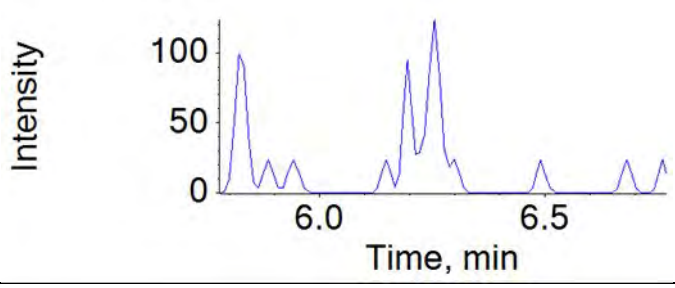


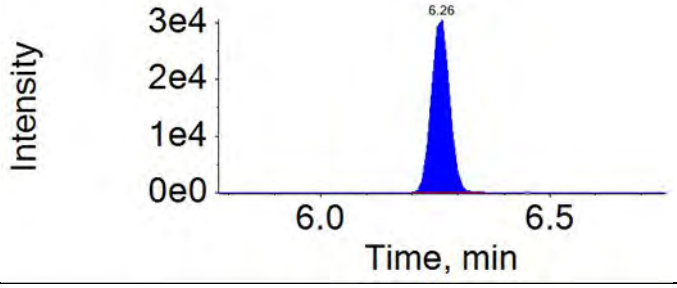
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



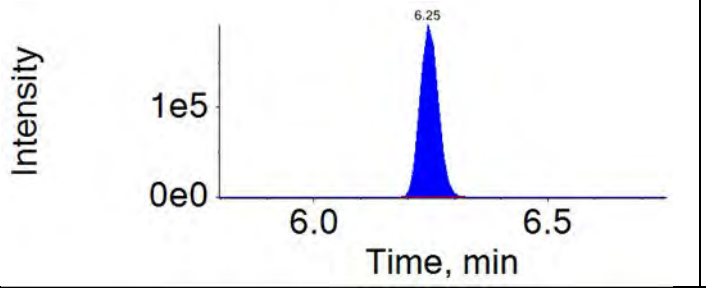


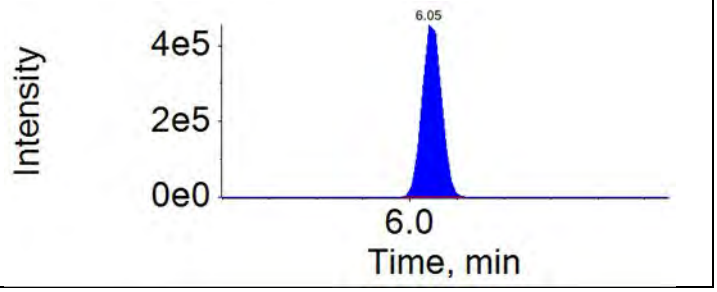
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

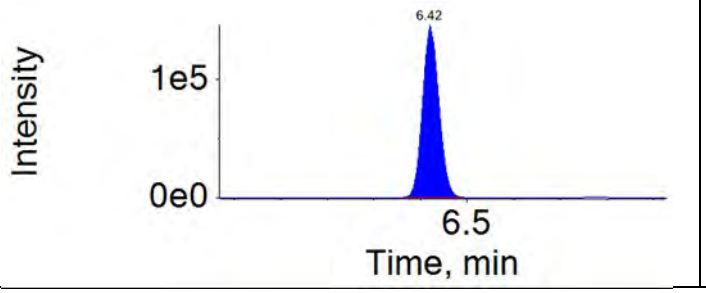
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

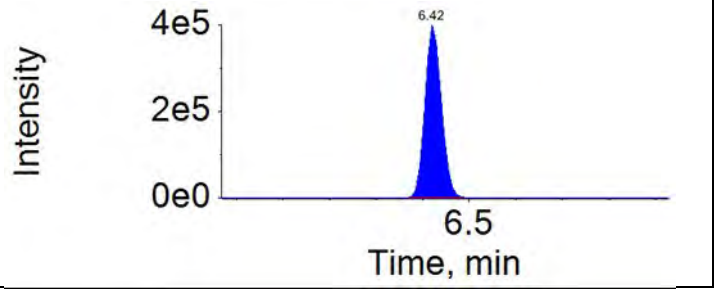
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



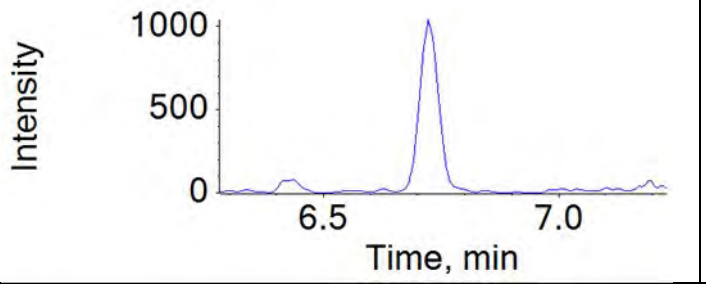


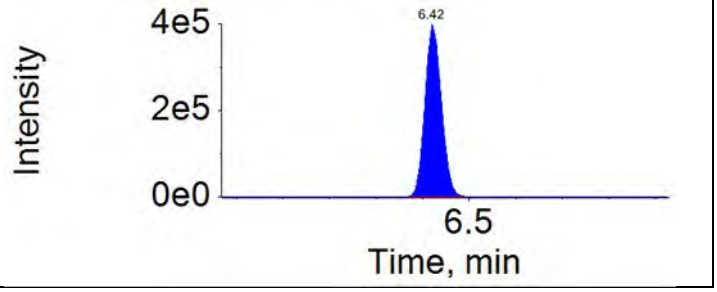
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



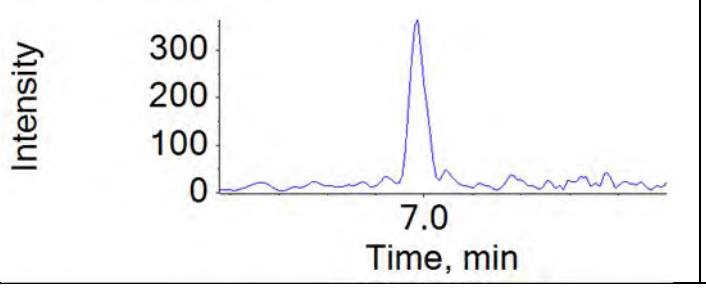


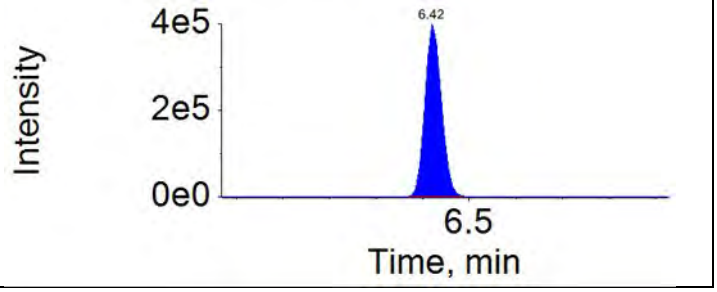
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



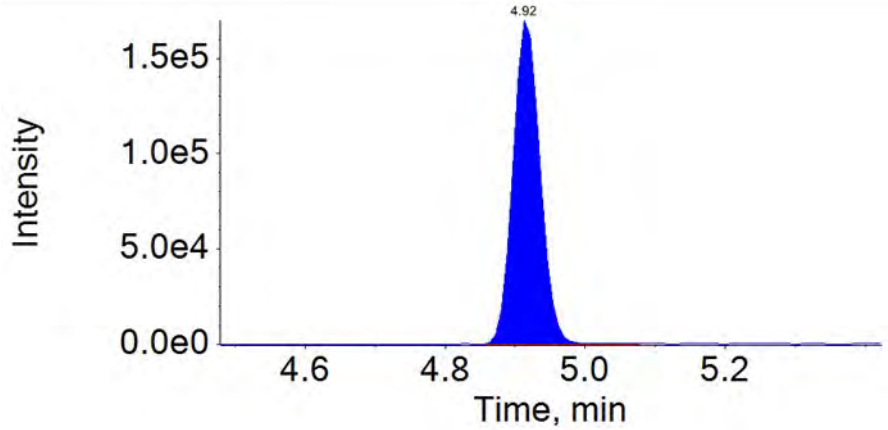


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

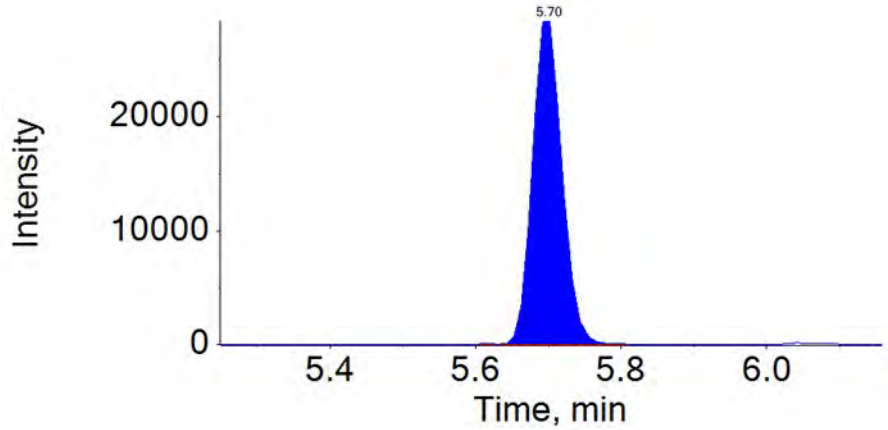
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
456123.34
Mass Range:
413.0 / 369.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



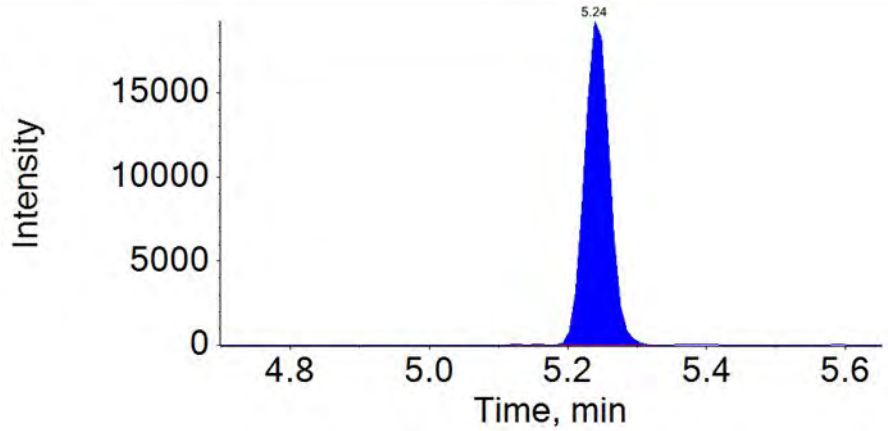
Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
81351.53
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
48568.11
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



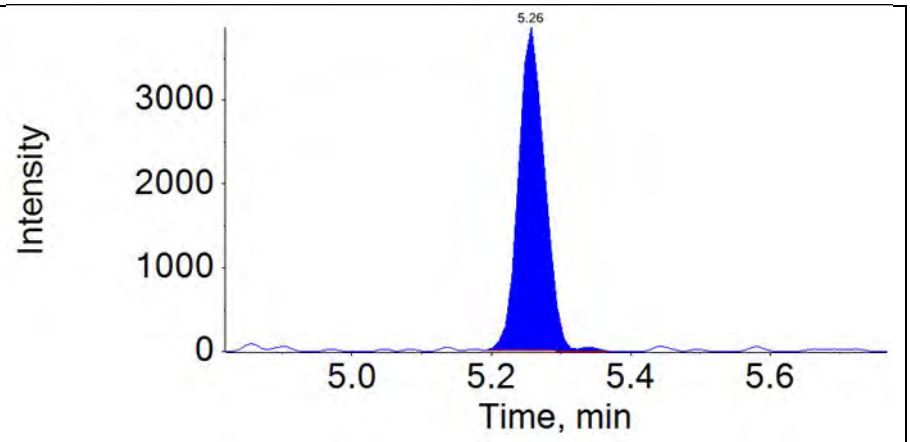
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

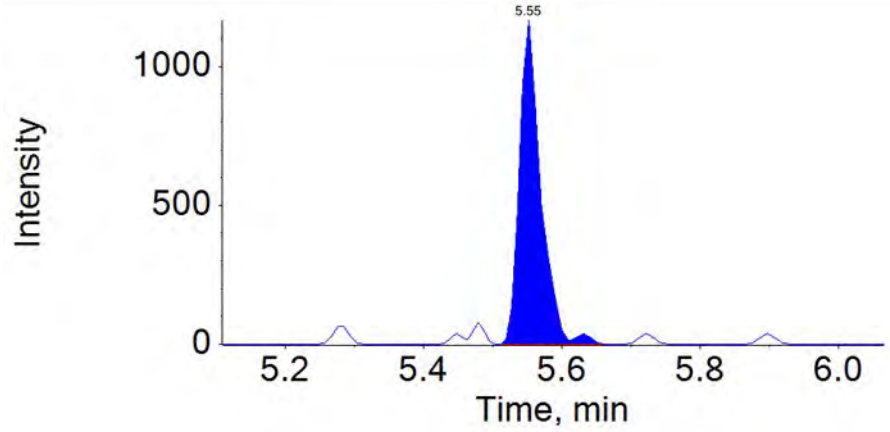
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFNA_2
RT (min.):
5.26
Peak Area:
10106.87
Mass Range:
463.0 / 169.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



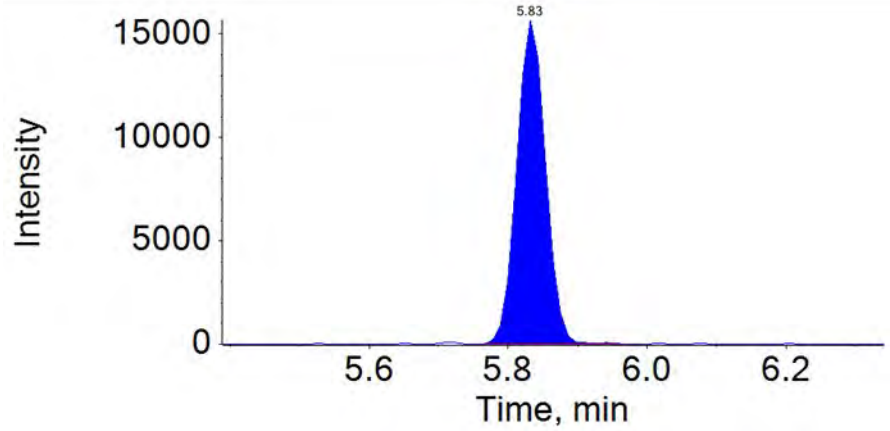
Integration Comment: incorrect integration

Component Name:
PFDA_2
RT (min.):
5.55
Peak Area:
2530.03
Mass Range:
513.0 / 169.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
45156.38
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

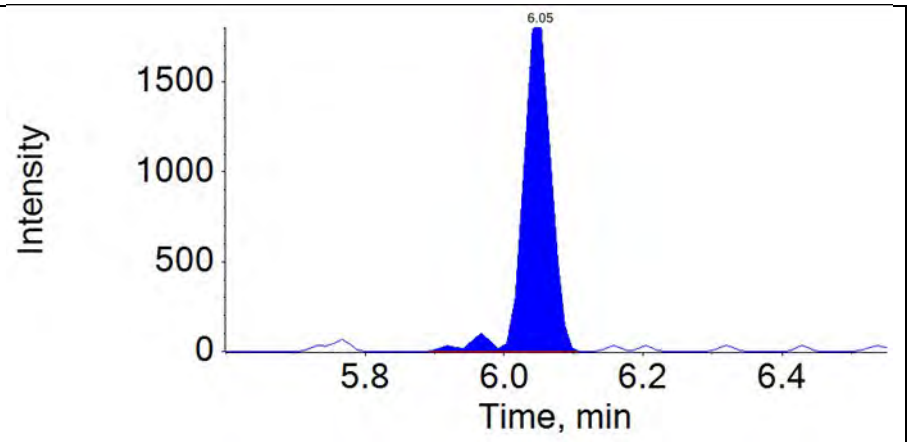
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

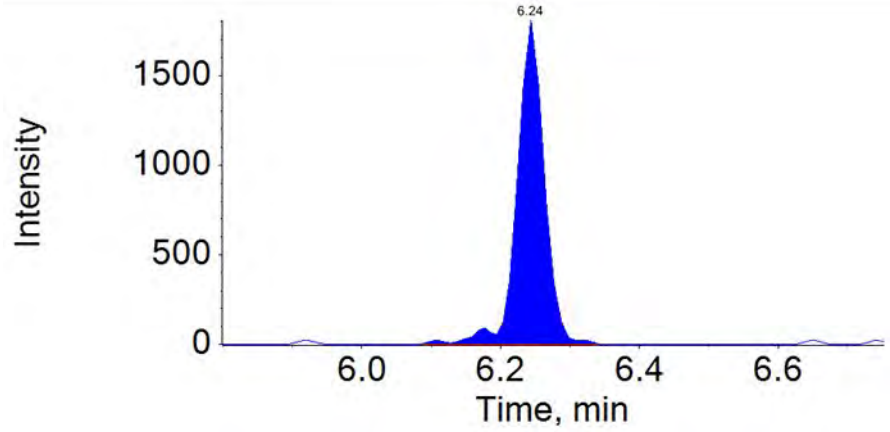
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDoDA_2
RT (min.):
6.05
Peak Area:
5166.08
Mass Range:
613.0 / 169.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
6.24
Peak Area:
4968.21
Mass Range:
663.0 / 169.0
File Name:
18DEC26DCAL-14.wiff
Sample Name:
ICV



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

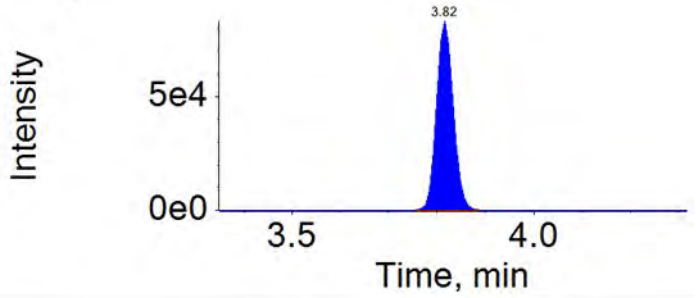
Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-14.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	199850.89	A	1.0000	1.0000			
PFBS_2	3.81	1.00	71021.47	A	0.3621	0.3554	-2	50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6132	N/A		50	
PFHxA	4.16	1.00	446661.38	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	5236.51	A	0.0123	0.0117	-5	50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5068	N/A		50	
PFHpA	4.55	1.00	452912.67	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	24126.89	A	0.0570	0.0533	-7	50	
PFHxS	4.55	1.00	156598.87	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	55460.17	A	0.3566	0.3542	-1	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6328	N/A		50	
PFHpS	4.91	1.08	150754.85	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	60517.17	A	0.4049	0.4014	-1	50	
PFOA	4.92	1.00	454955.80	M	1.0000	1.0000			
PFOA_2	4.92	1.00	26402.83	A	0.0570	0.0580	2	50	
PFOS	5.24	1.00	145800.49	A	1.0000	1.0000			
PFOS_2	5.24	1.00	48432.57	M	0.3043	0.3322	9	50	
PFNA	5.26	1.00	435342.18	A	1.0000	1.0000			
PFNA_2	5.26	1.00	10022.12	M	0.0213	0.0230	8	50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4515	N/A		50	
PFDA	5.56	1.00	371411.88	A	1.0000	1.0000			
PFDA_2	5.55	1.00	2467.20	M	0.0067	0.0066	-1	50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6016	N/A		50	
NMeFOSAA	5.70	1.00	81324.33	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	17680.54	A	0.2579	0.2174	-16	50	
PFDS	5.79	1.11	95399.08	A	1.0000	1.0000			
PFDS_2	5.79	1.11	45782.91	A	0.4884	0.4799	-2	50	
PFUnDA	5.82	1.00	394982.66	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	1632.08	A	0.0042	0.0041	-2	50	
NEtFOSAA	5.83	1.00	75399.31	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	45027.45	M	0.6799	0.5972	-12	50	
PFDoDA	6.04	1.00	532458.40	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	4926.18	M	0.0139	0.0093	-34	50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6715	N/A		50	
PFTrDA	6.25	1.03	522069.80	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	4707.33	M	0.0088	0.0090	2	50	
PFTeDA	6.42	1.00	355376.86	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	2028.62	A	0.0063	0.0057	-9	50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0643	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0266	N/A		50	

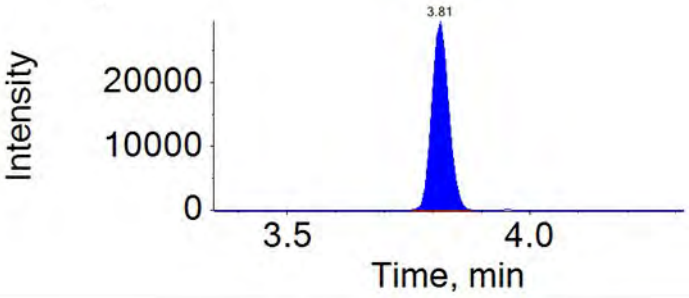
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

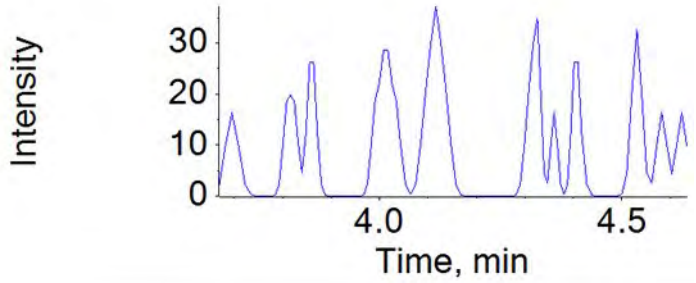
Component: PFBS
Primary Mass: 299.0 / 80.0



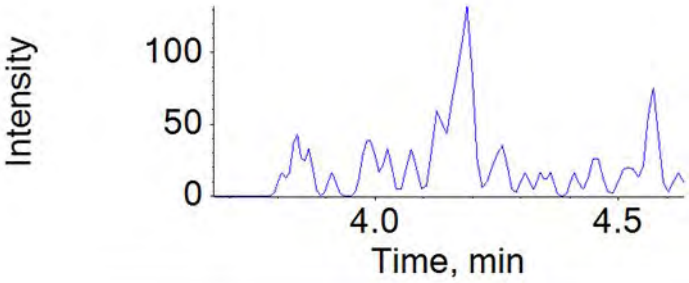
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



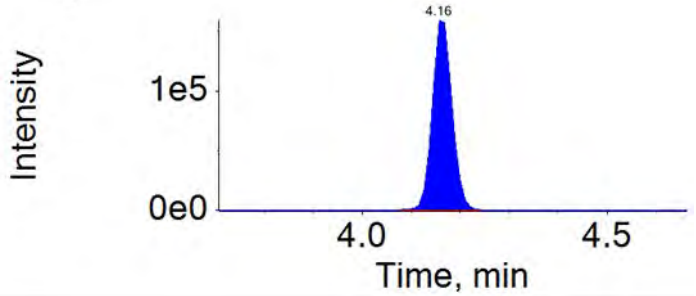
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



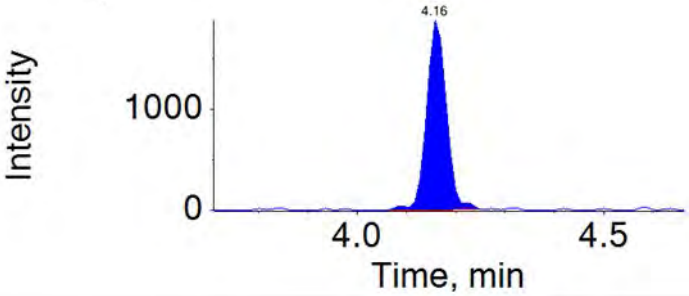
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



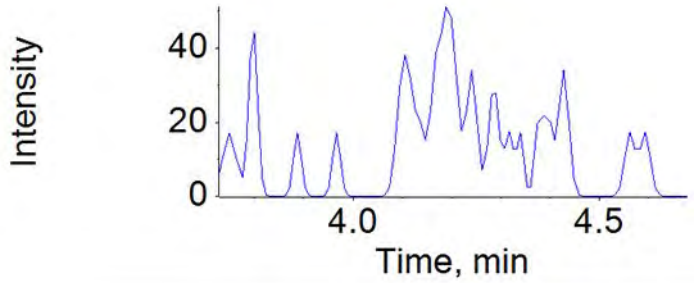
Component: PFHxA
Primary Mass: 313.0 / 269.0



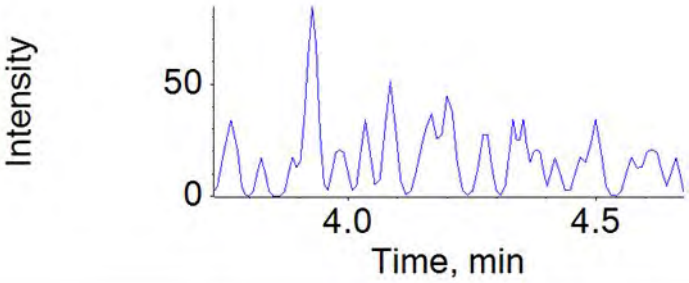
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



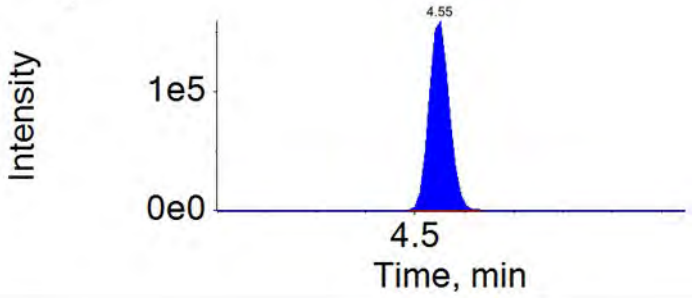
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



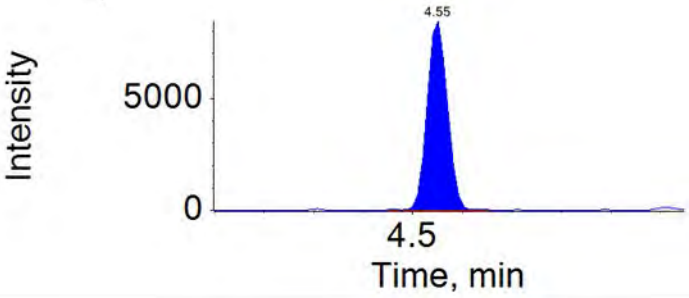
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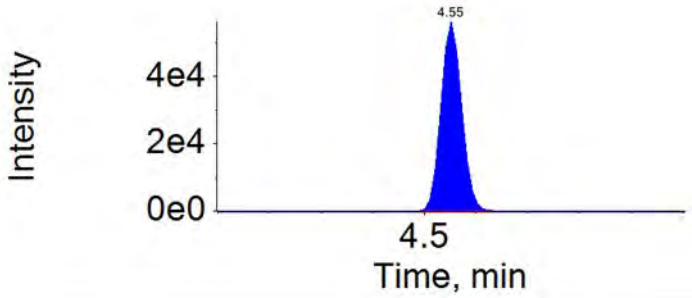
Component: PFHpA
Primary Mass: 363.0 / 319.0



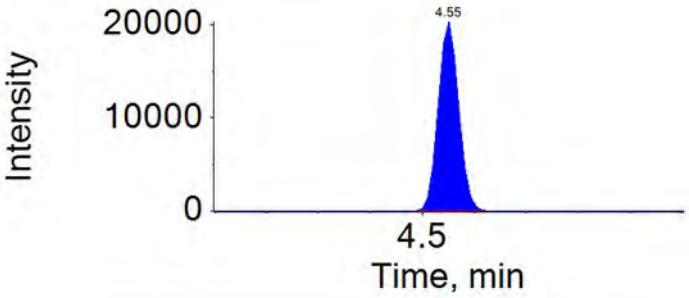
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



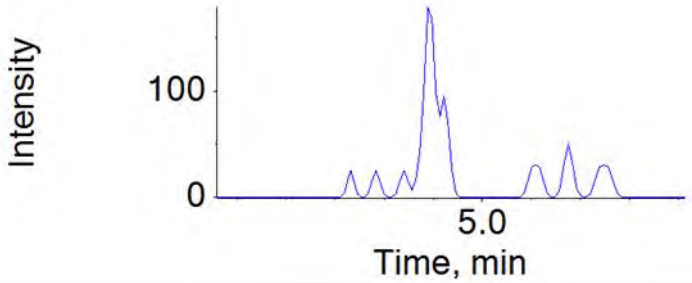
Component: PFHxS
Primary Mass: 399.0 / 80.0



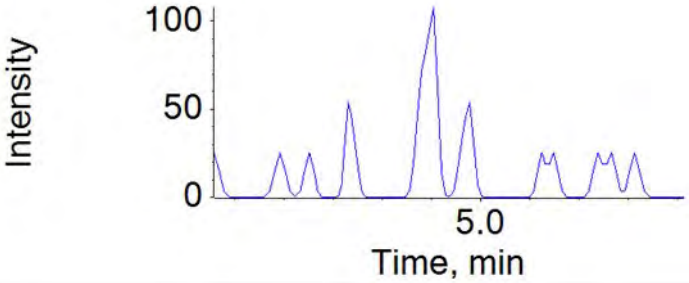
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



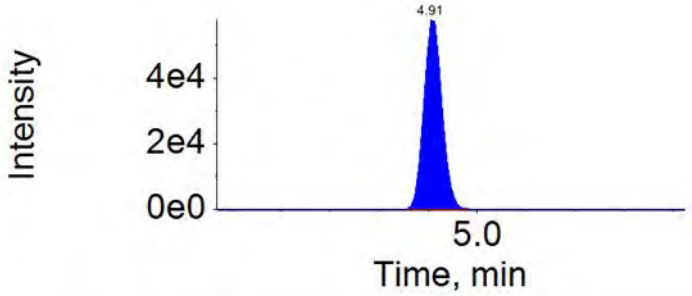
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



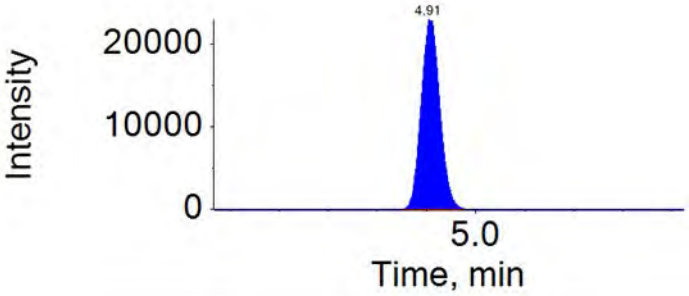
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



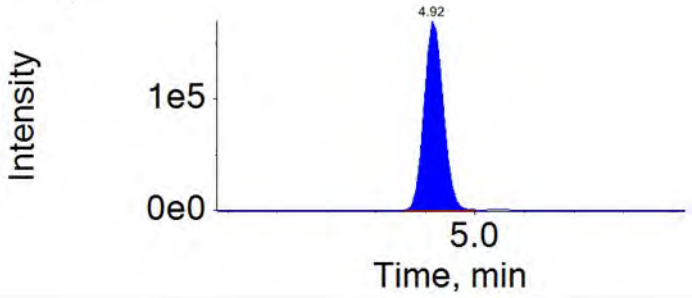
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



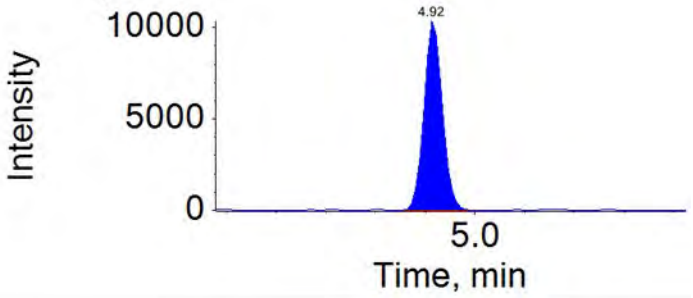
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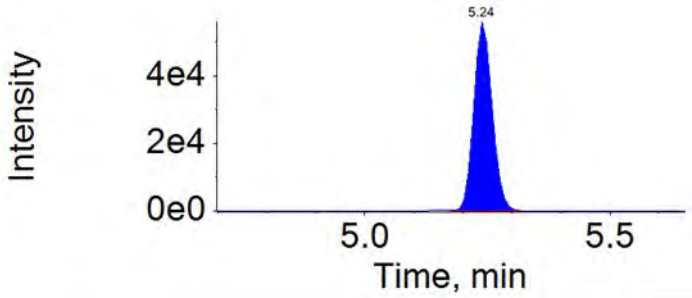
Component: PFOA
Primary Mass: 413.0 / 369.0



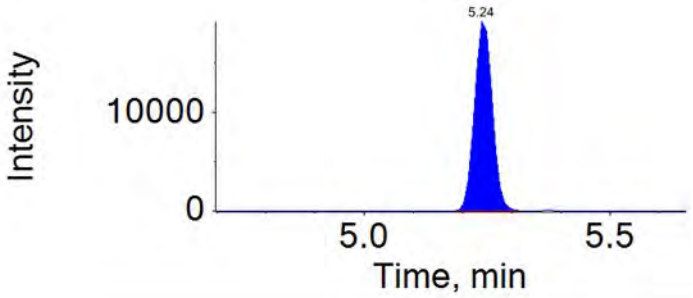
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



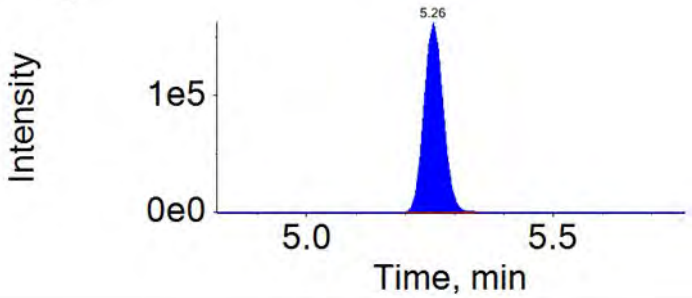
Component: PFOS
Primary Mass: 499.0 / 80.0



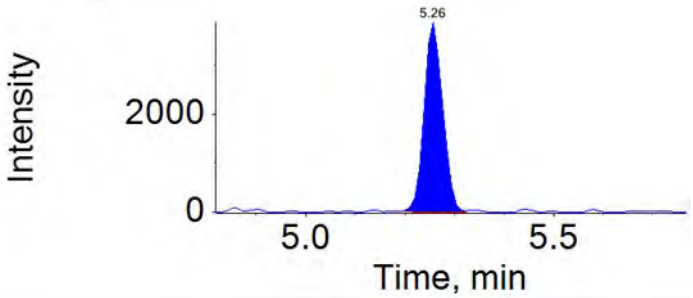
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



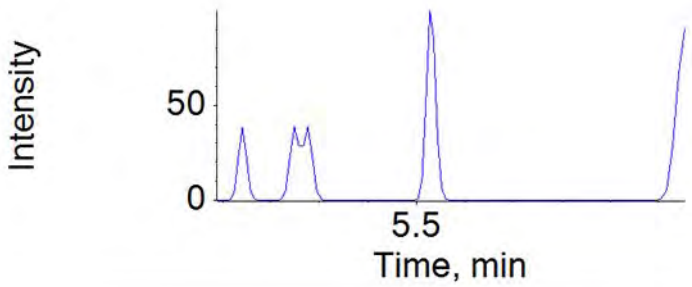
Component: PFNA
Primary Mass: 463.0 / 419.0



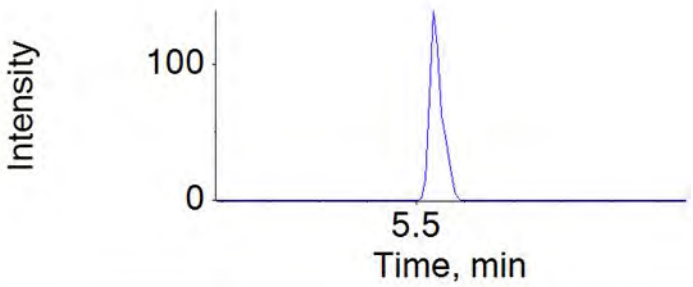
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



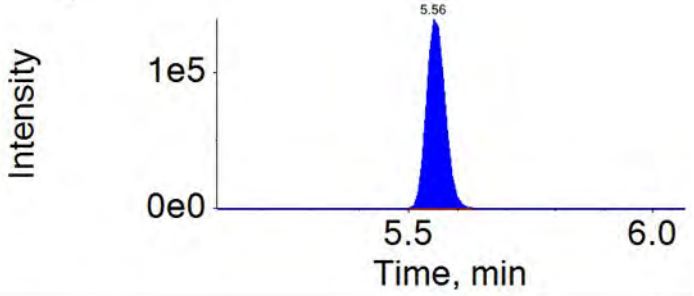
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



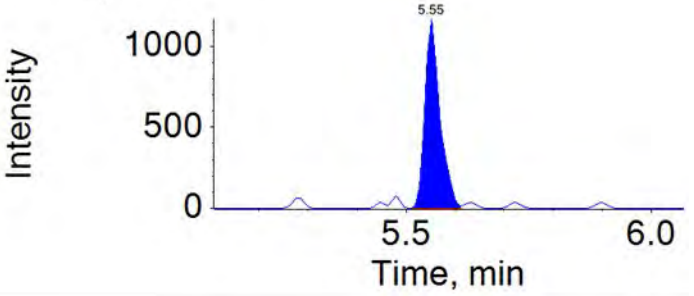
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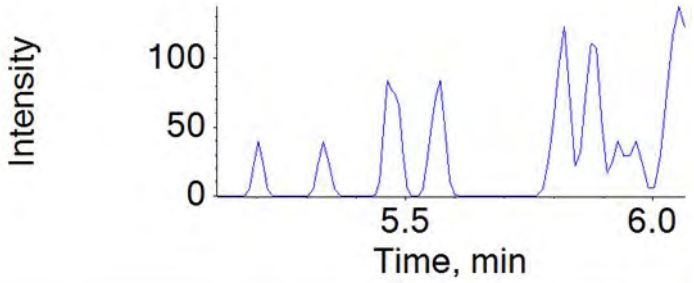
Component: PFDA
Primary Mass: 513.0 / 469.0



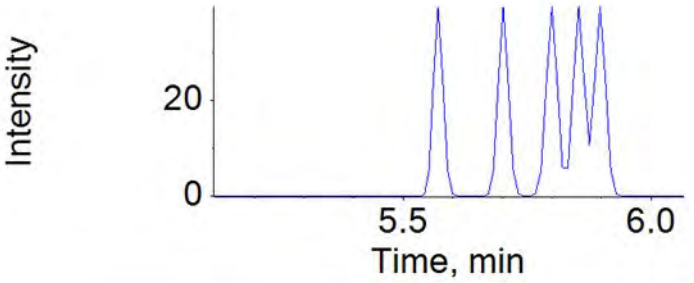
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



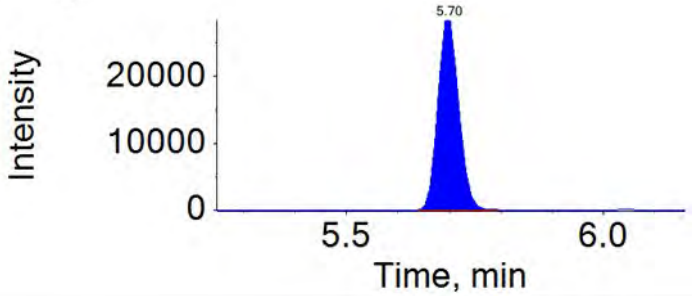
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



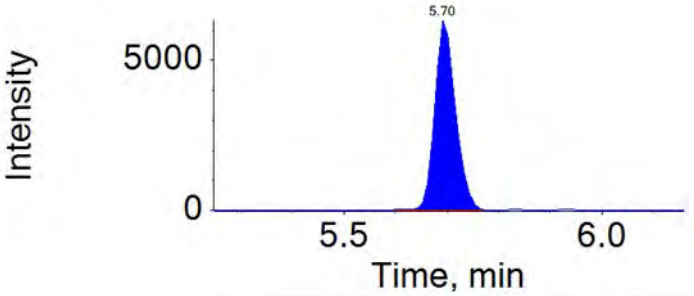
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



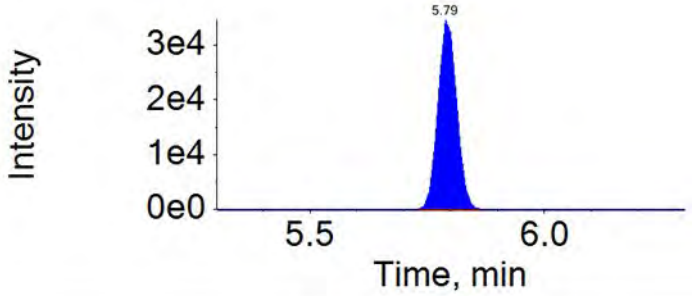
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



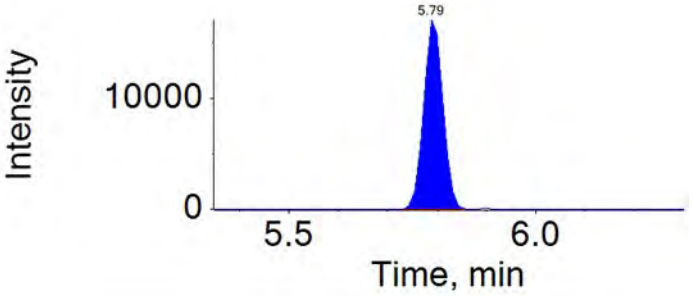
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



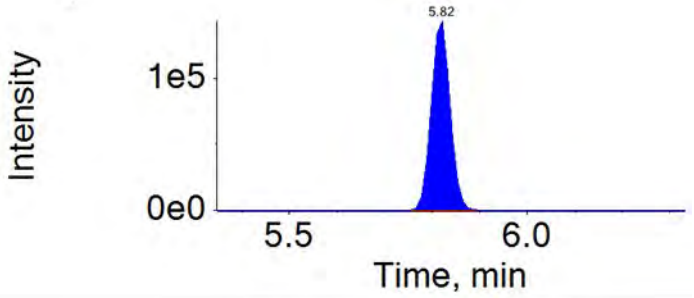
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



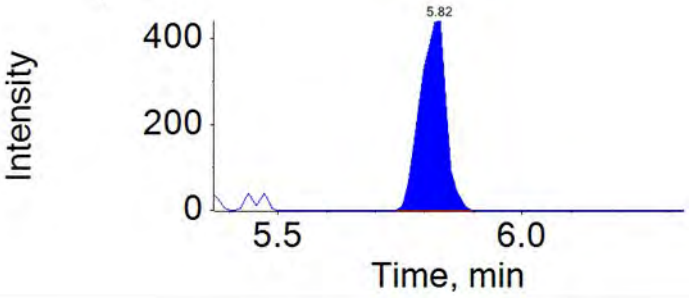
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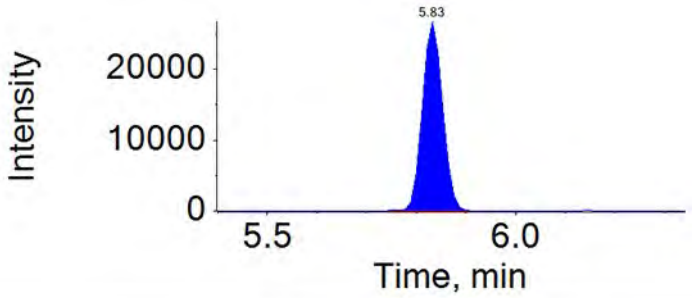
Component: PFUnDA
Primary Mass: 563.0 / 519.0



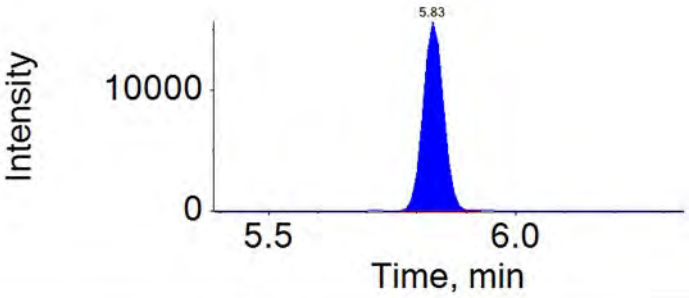
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



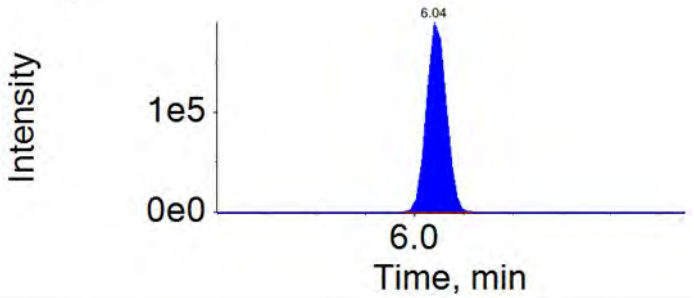
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



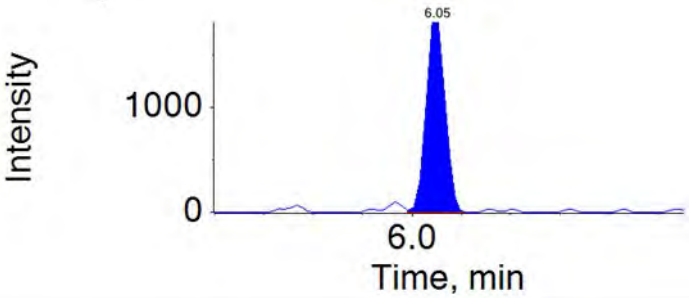
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



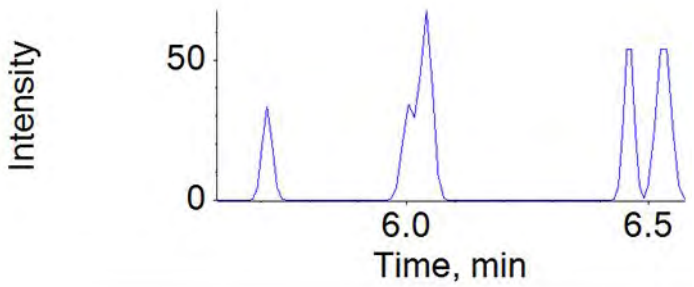
Component: PFDoDA
Primary Mass: 613.0 / 569.0



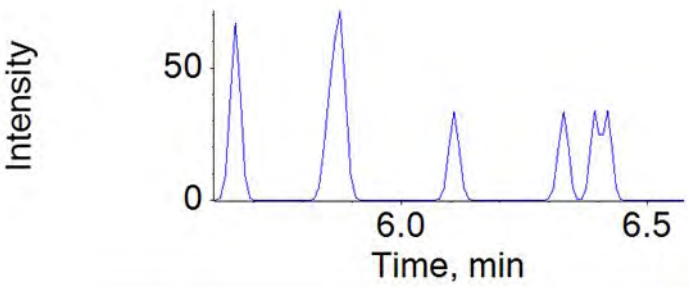
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



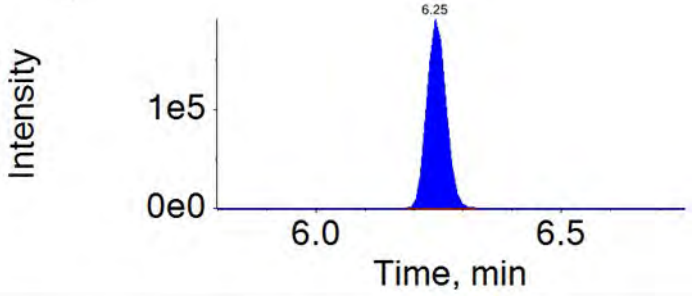
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



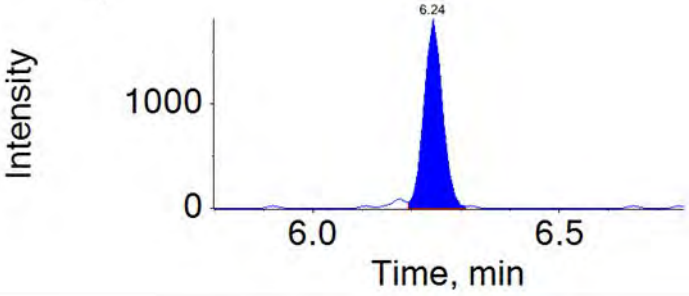
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



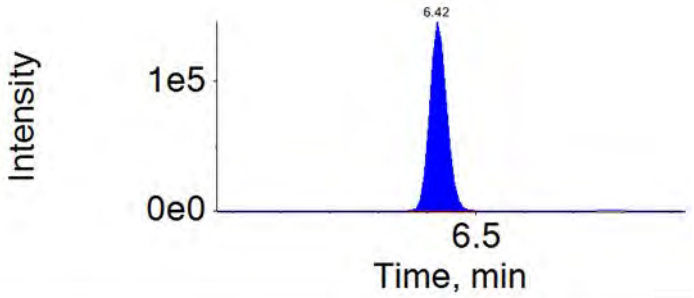
Component: PFTrDA
Primary Mass: 663.0 / 619.0



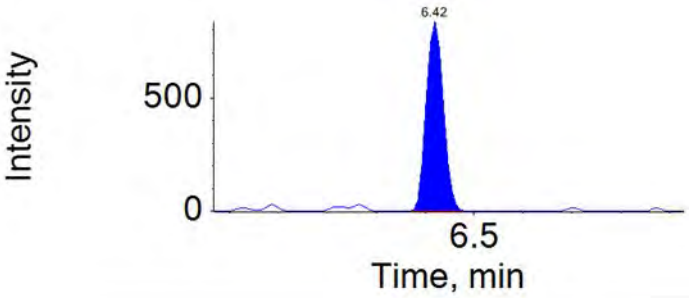
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



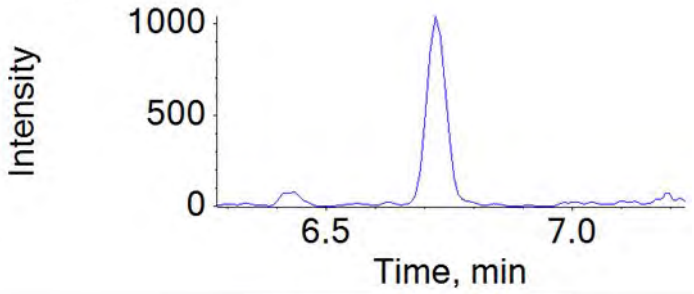
Component: PFTeDA
Primary Mass: 713.0 / 669.0



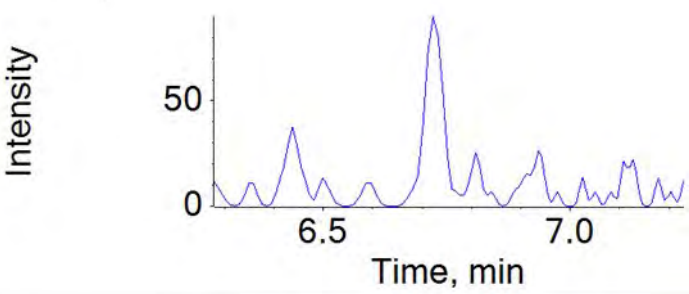
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



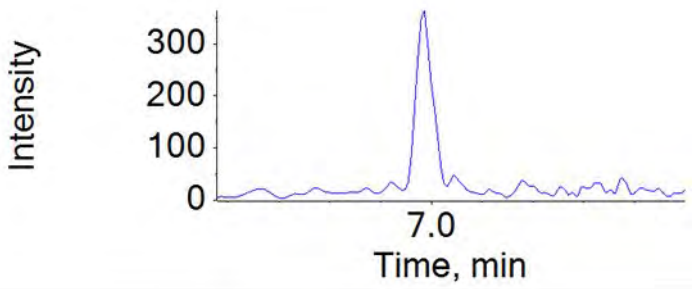
Component: PFHxDA
Primary Mass: 813.0 / 769.0



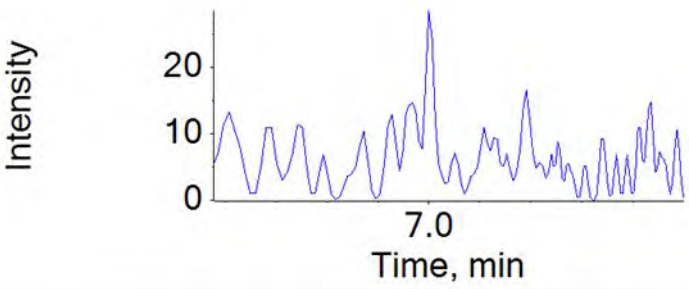
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	L+B CAL3			**Data File:**		18DEC26DCAL-15.wiff
Sample ID:	LBMODX1833D			**Acquis Date:**		2018-12-26T14:58:40
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	11			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1121197.5	965438.2	16	50	
13C2-PFOA	5.0	604374.5	527066.0	15	50	
13C4-PFOS	4.8	344551.5	307230.6	12	50	
13C2-PFDA	5.0	542290.6	493258.9	10	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1233916.1	13C3-PFBA	1121197.5	1.101	5.000	4.883	98	70-130	
E13C5-PFPeA	1130145.4	13C3-PFBA	1121197.5	1.008	5.000	4.801	96	70-130	
E13C3-PFBS	484733.7	13C3-PFBA	1121197.5	0.432	4.650	4.200	90	70-130	
E13C2-4:2-FTS	77321.9	13C2-PFOA	604374.5	0.128	4.670	4.874	104	70-130	
E13C5-PFHxA	777491.2	13C2-PFOA	604374.5	1.286	5.000	4.706	94	70-130	
E13C3-PFHxS	389175.7	13C2-PFOA	604374.5	0.644	4.730	4.948	105	70-130	
E13C4-PFHpA	601806.5	13C2-PFOA	604374.5	0.996	5.000	4.486	90	70-130	
E13C2-6:2-FTS	63019.2	13C2-PFOA	604374.5	0.104	4.750	5.102	107	70-130	
E13C8-PFOA	1113234.9	13C2-PFOA	604374.5	1.842	5.000	5.161	103	70-130	
E13C8-PFOS	355308.9	13C4-PFOS	344551.5	1.031	4.780	4.495	94	70-130	
E13C9-PFNA	752266.7	13C4-PFOS	344551.5	2.183	5.000	4.810	96	70-130	
E13C6-PFDA	959997.1	13C2-PFDA	542290.6	1.770	5.000	5.083	102	70-130	
E13C2-8:2-FTS	55630.1	13C2-PFDA	542290.6	0.103	4.790	5.307	111	70-130	
E13C8-PFOSA	746105.6	13C2-PFDA	542290.6	1.376	5.000	5.496	110	70-130	
Ed3-NMeFOSAA	218599.8	13C2-PFDA	542290.6	0.403	5.000	5.144	103	70-130	
E13C7-PFUnDA	636367.7	13C2-PFDA	542290.6	1.173	5.000	5.070	101	70-130	
Ed5-NEtFOSAA	178534.0	13C2-PFDA	542290.6	0.329	5.000	5.704	114	70-130	
E13C2-PFDoDA	1268918.3	13C2-PFDA	542290.6	2.340	5.000	5.075	102	70-130	
Ed7-NMePFOSAE	296179.2	13C2-PFDA	542290.6	0.546	5.000	5.164	103	70-130	
Ed3-NMePFOSA	101880.0	13C2-PFDA	542290.6	0.188	5.000	5.326	107	70-130	
Ed9-NEtPFOSAE	254921.5	13C2-PFDA	542290.6	0.470	5.000	5.115	102	70-130	
Ed5-NEtPFOSA	85643.8	13C2-PFDA	542290.6	0.158	5.000	5.574	111	70-130	
E13C2-PFTeDA	902573.4	13C2-PFDA	542290.6	1.664	5.000	4.909	98	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

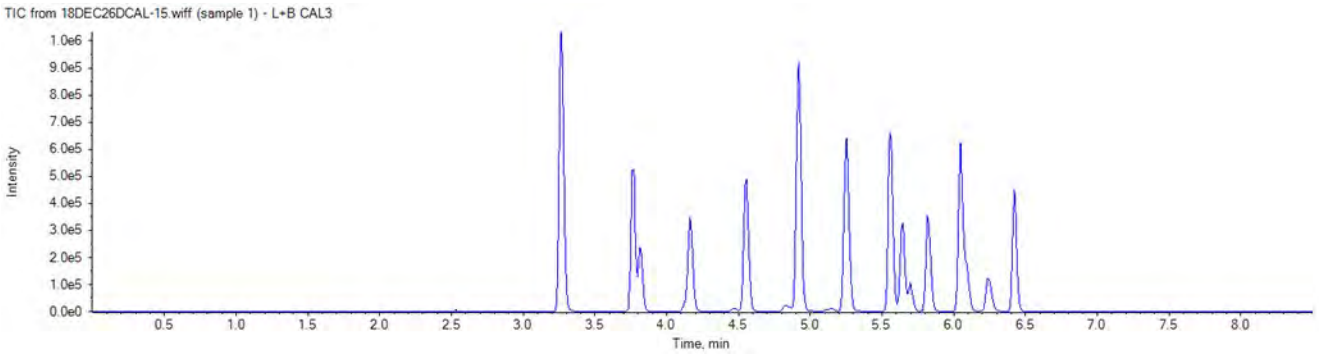
Analyte Quantitation Peak Table

Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-15.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.26	1233916.1	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	1130145.4	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	484733.7	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	77321.9	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	777491.2	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	484733.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	601806.5	N/A	
PFHxS	4.55	1.000	154845.8		M	13C3-PFHxS	4.55	389175.7	0.398	1.861
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	63019.2	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	389175.7	N/A	
PFOA	4.92	1.000	404422.4		M	13C8-PFOA	4.92	1113234.9	0.363	1.922
PFOS	5.25	1.000	136479.0		M	13C8-PFOS	5.25	355308.9	0.384	1.672
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	752266.7	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	355308.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	959997.1	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	55630.1	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.64	746105.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	218599.8	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	355308.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	636367.7	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	178534.0	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1268918.3	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	55630.1	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	296179.2	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.10	101880.0	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	355308.9	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	254921.5	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	85643.8	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1268918.3	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	902573.4	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	902573.4	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	902573.4	N/A	

Total Ion Chromatogram

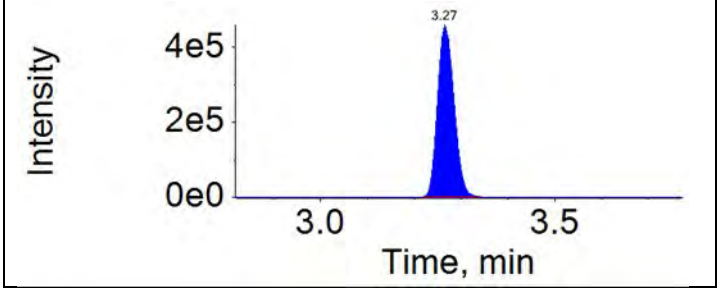


APPROVED
By MSM at 1:33 pm, 12/27/18

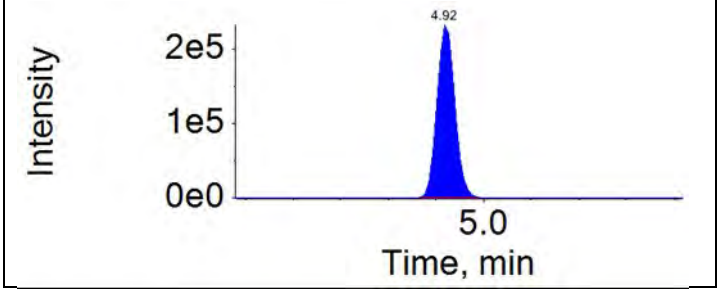
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

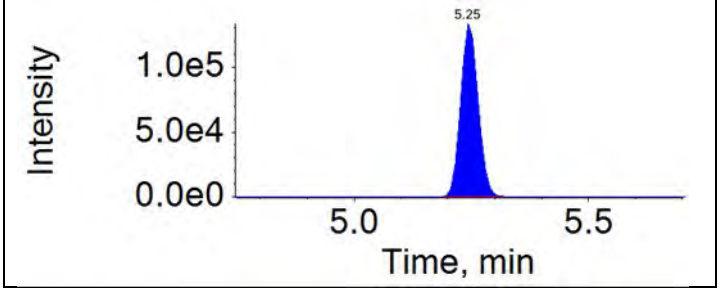
Injection Standard: 13C3-PFBA
216.0 / 172.0



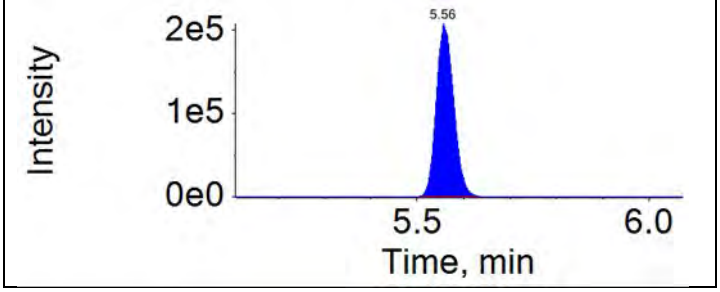
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

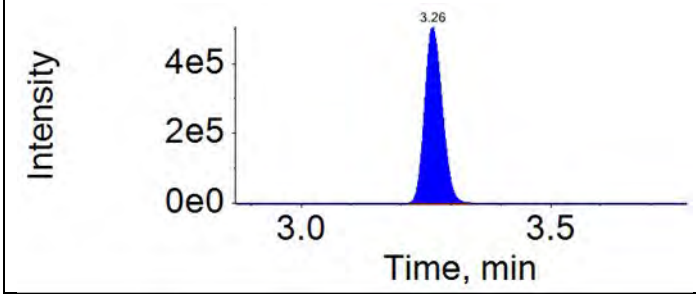


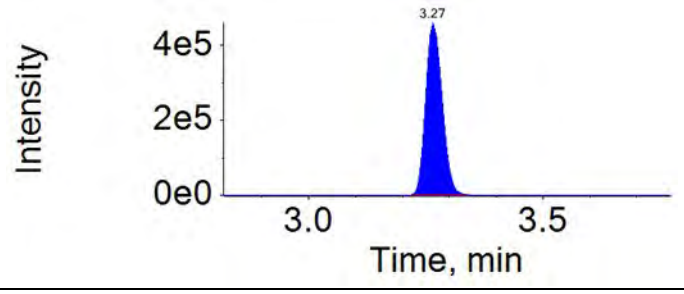
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

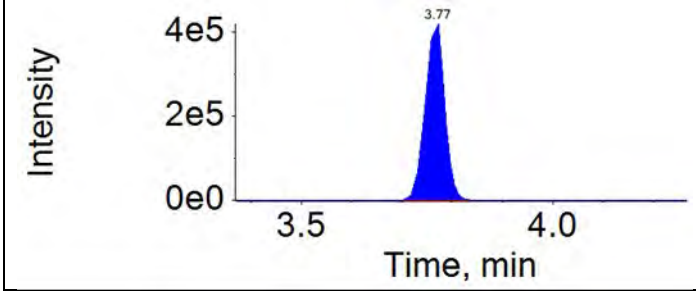
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

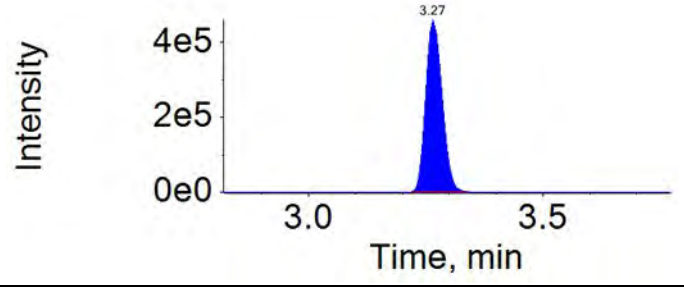
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



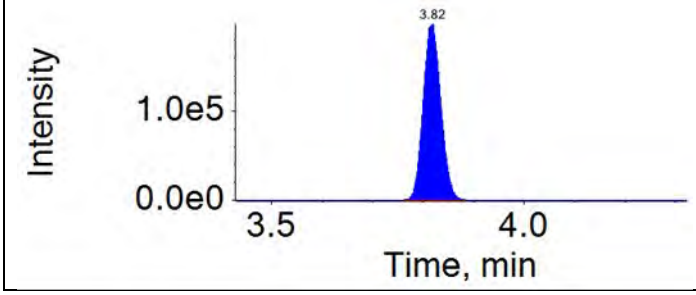


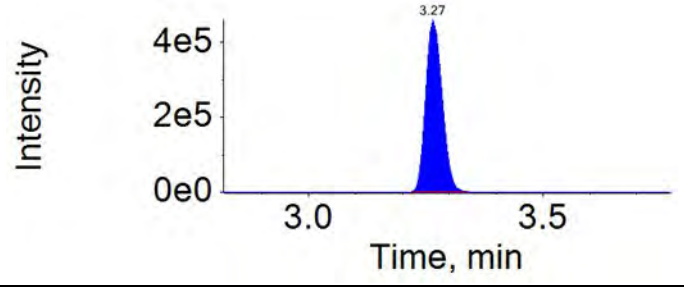
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



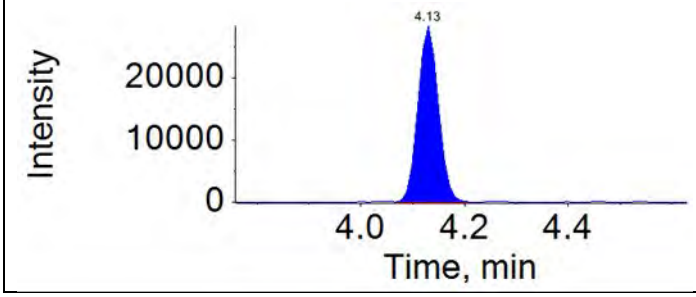


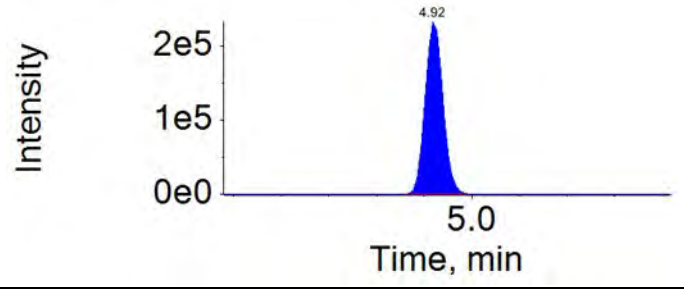
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



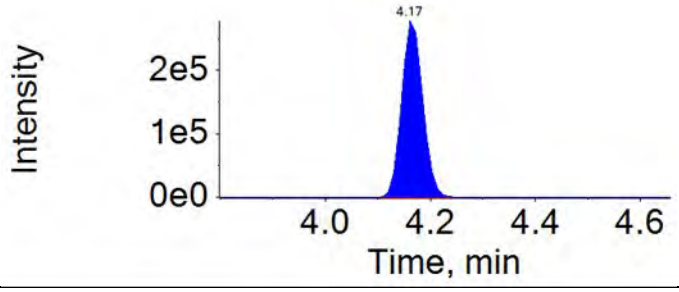


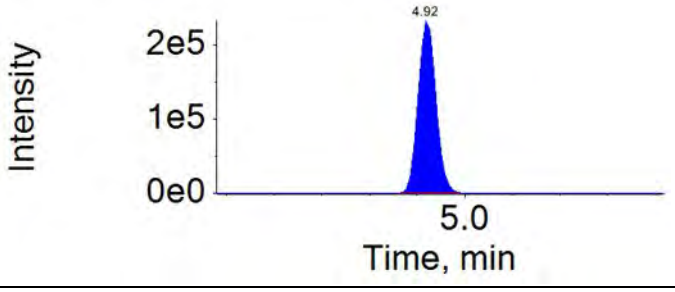
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

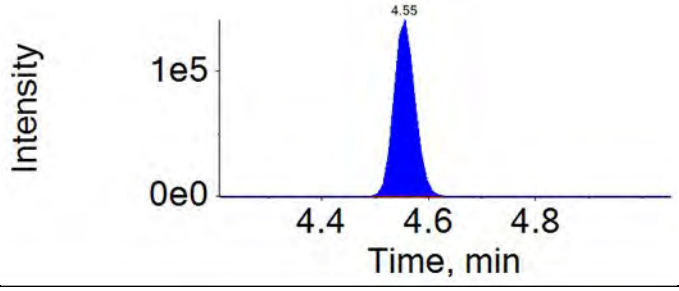
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

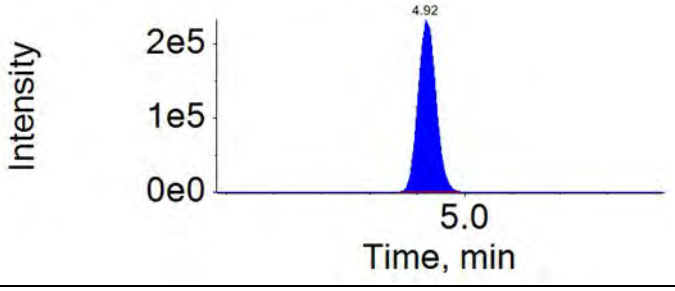
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



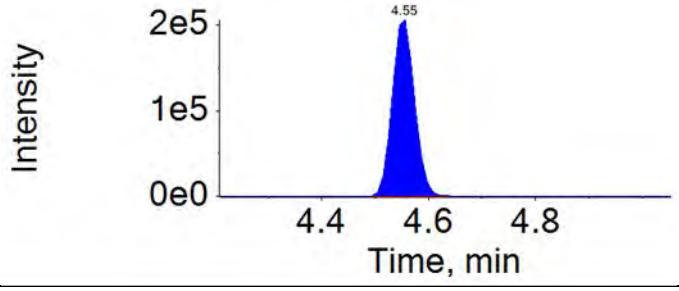


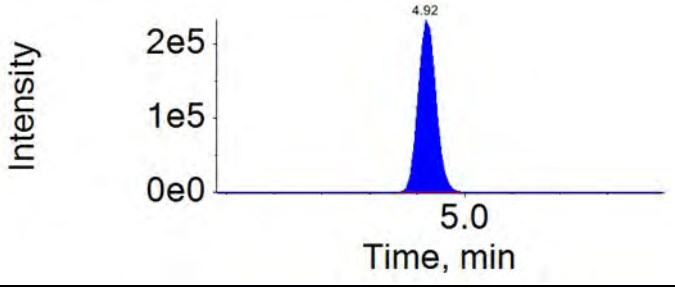
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



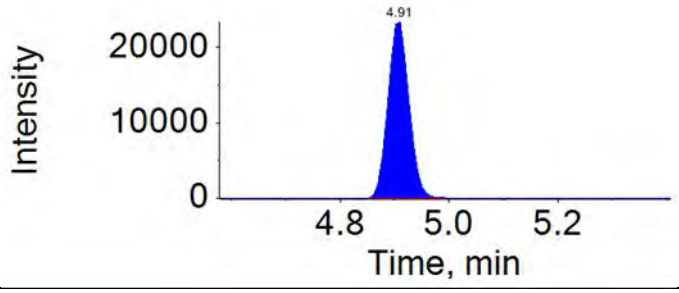


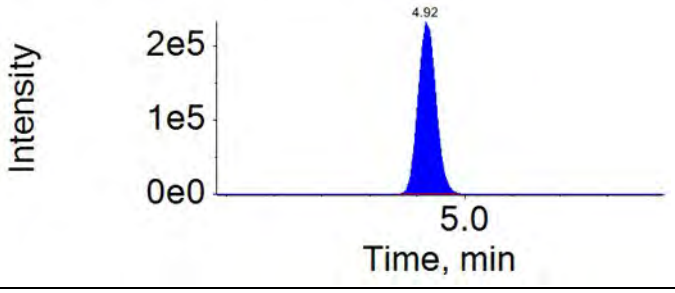
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



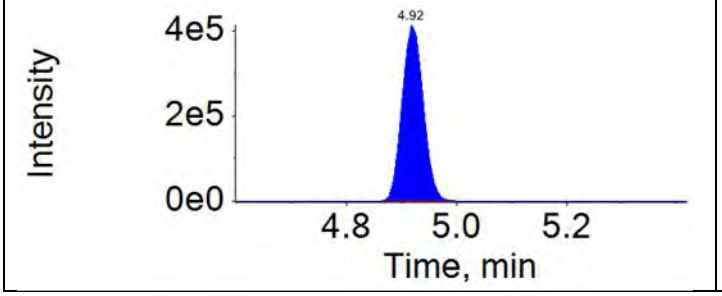


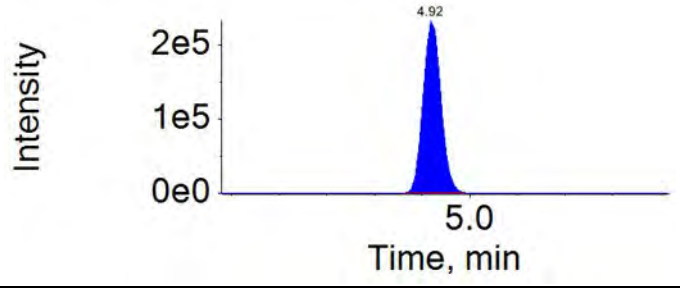
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

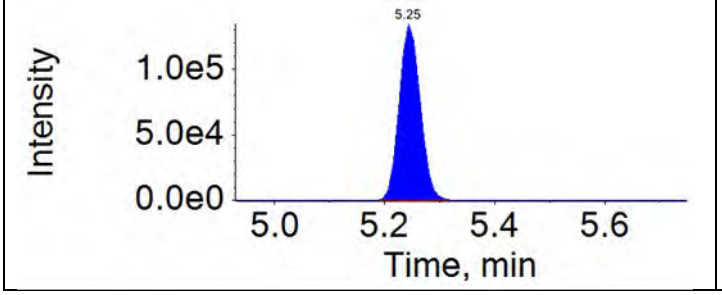
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

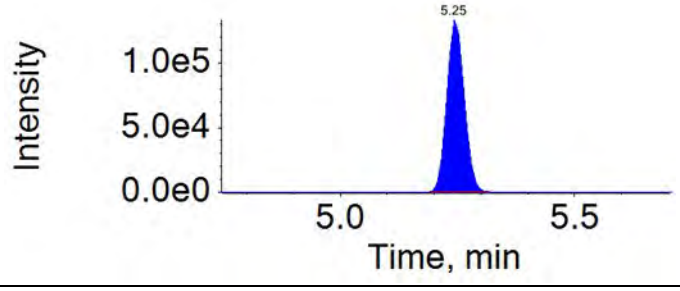
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



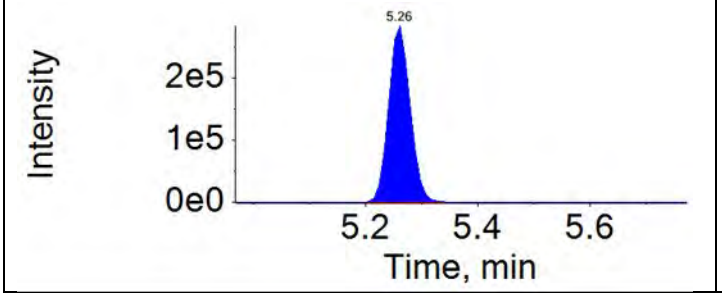


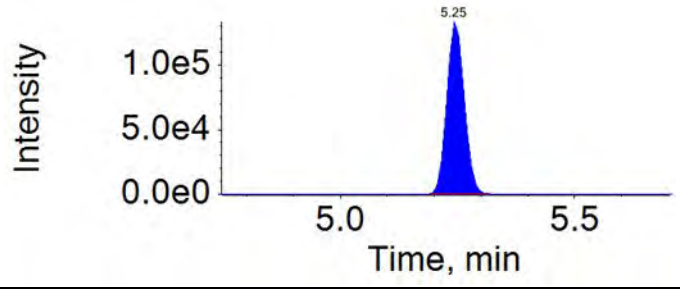
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



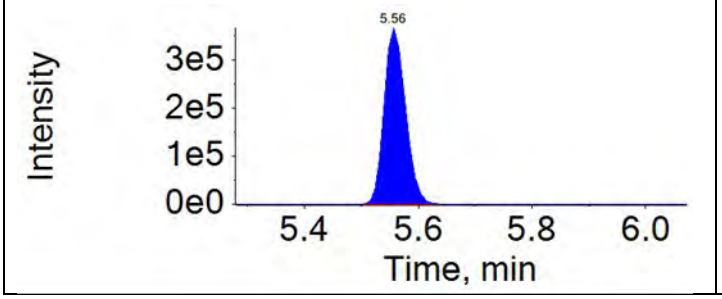


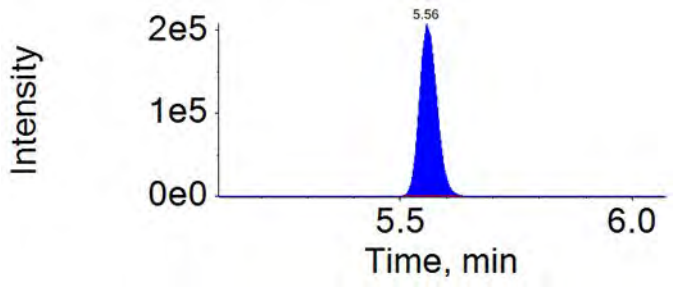
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

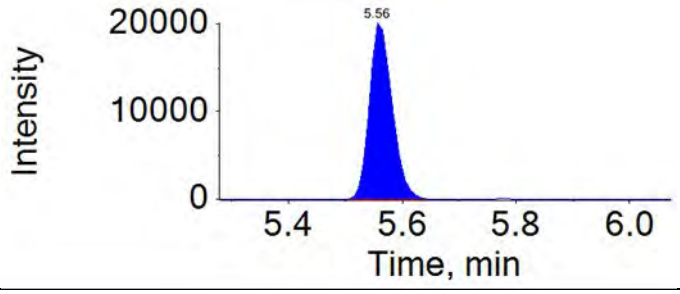
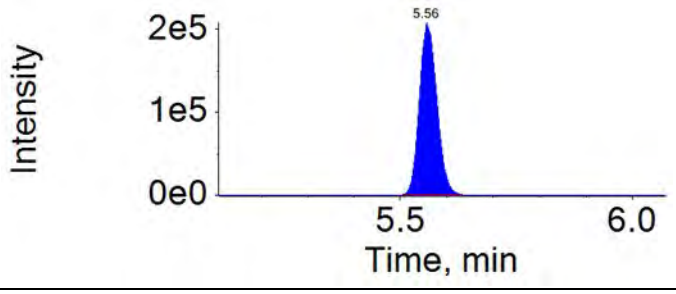


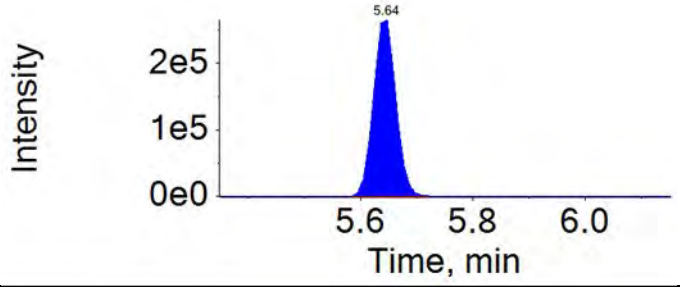
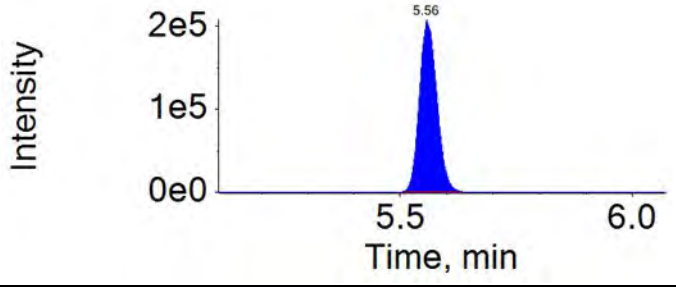


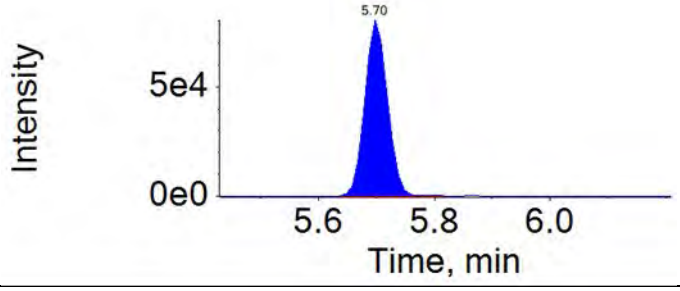
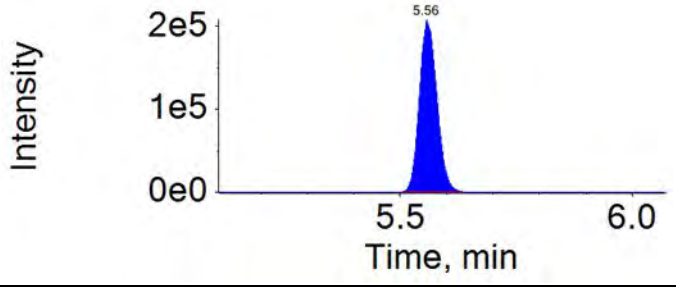
APPROVED
By MSM at 1:33 pm, 12/27/18

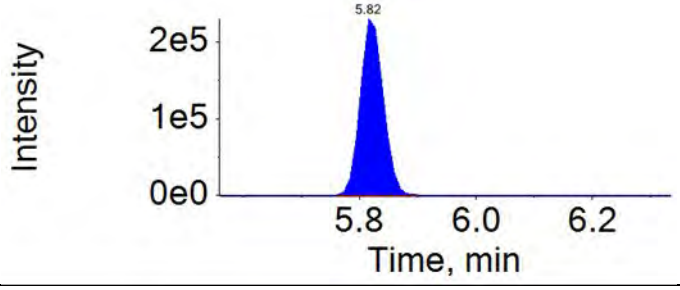
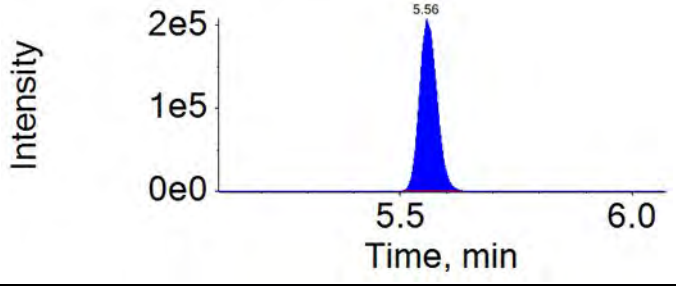
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

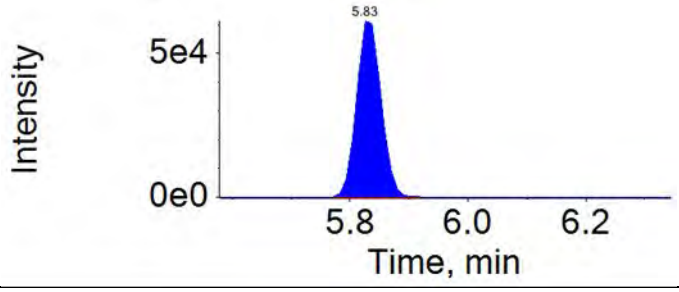
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

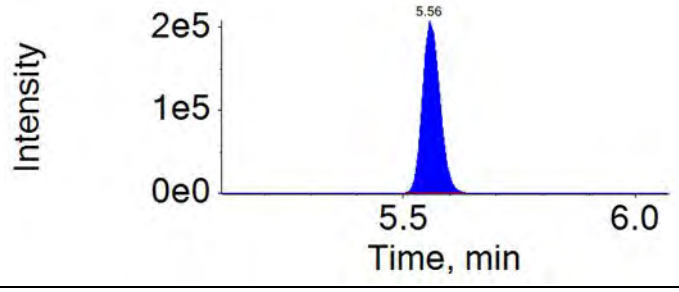
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

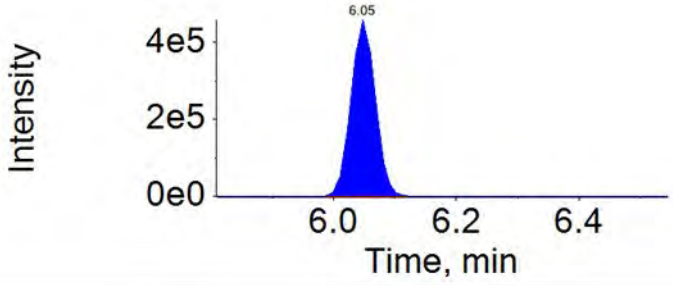
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

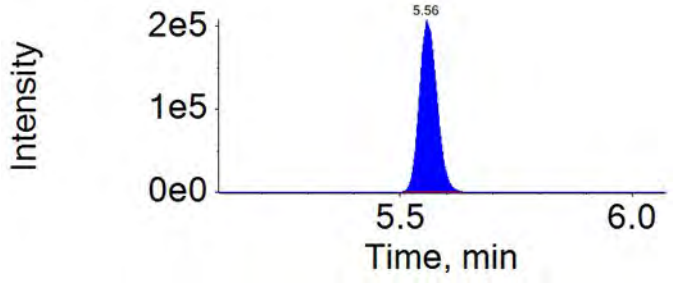
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



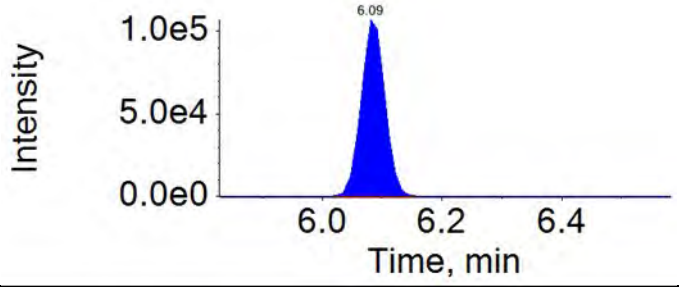


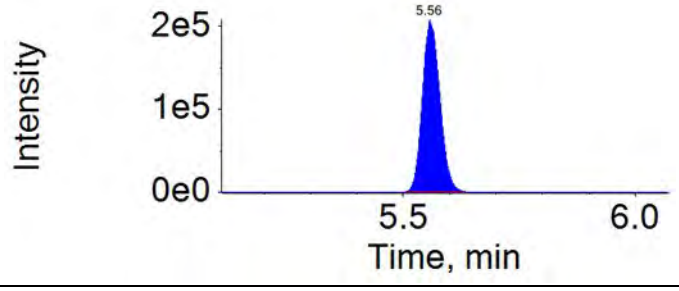
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



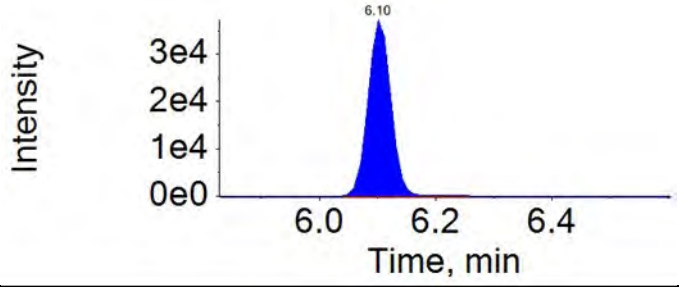


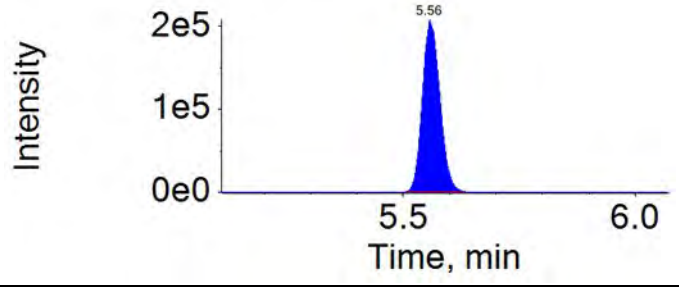
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



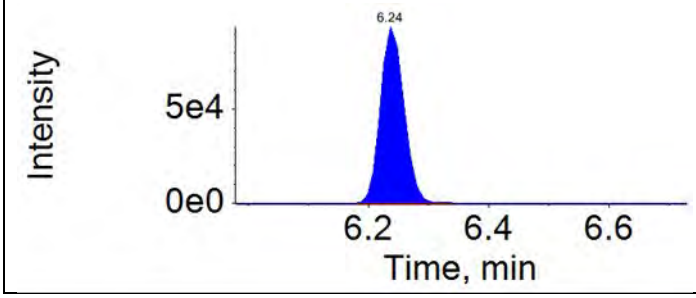


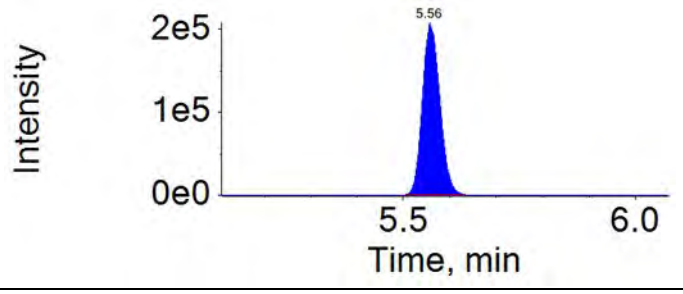
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

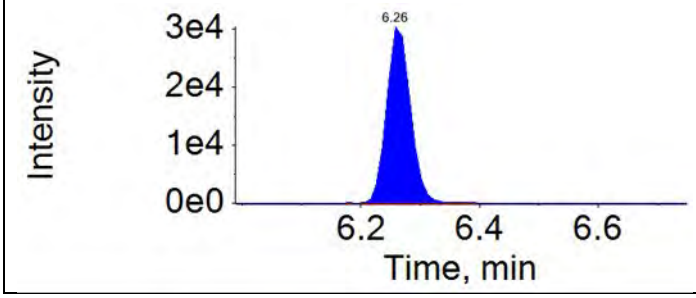
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

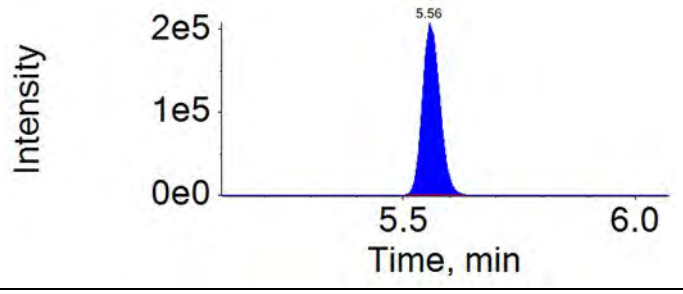
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



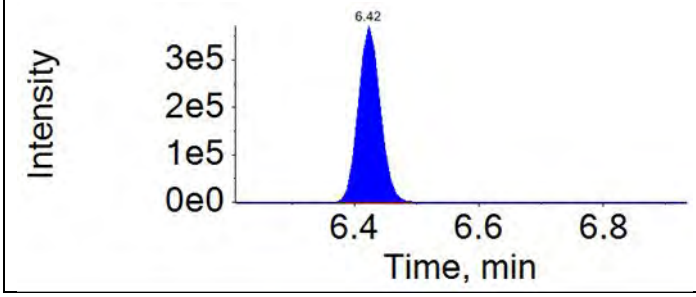


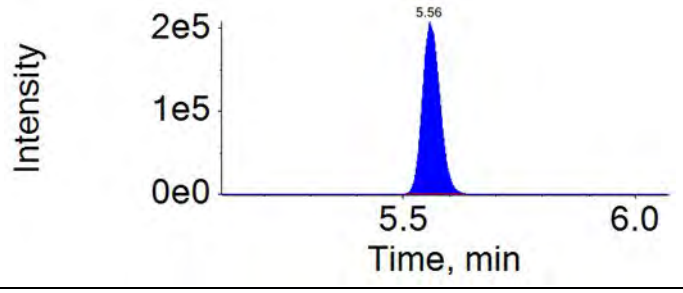
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



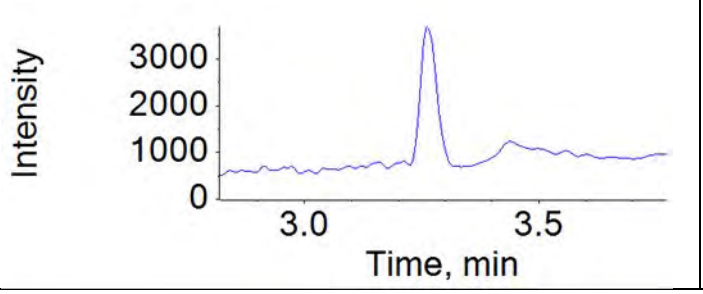


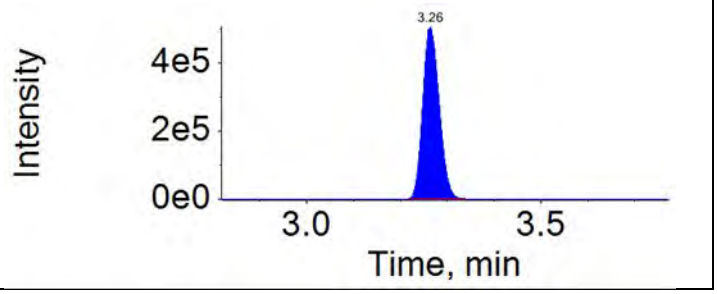
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

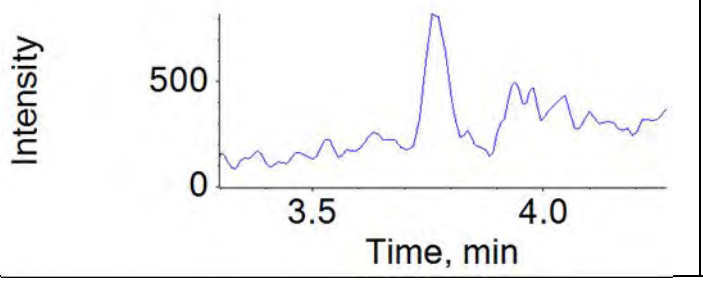
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

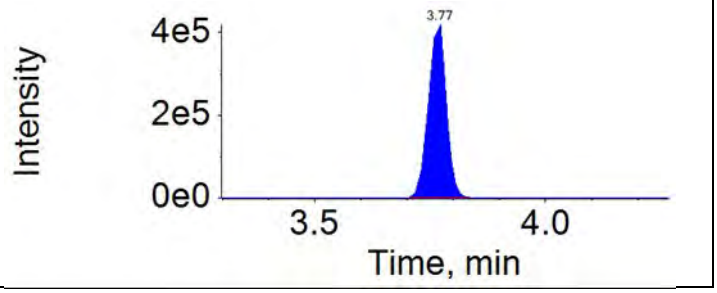
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



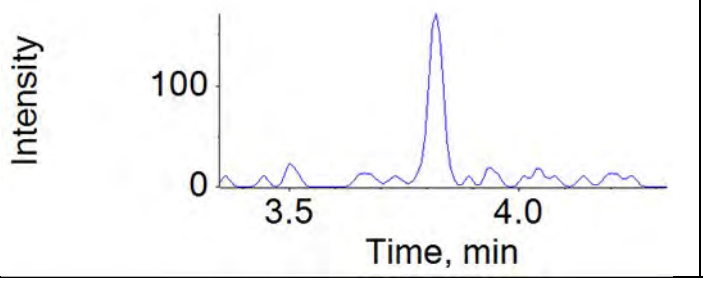


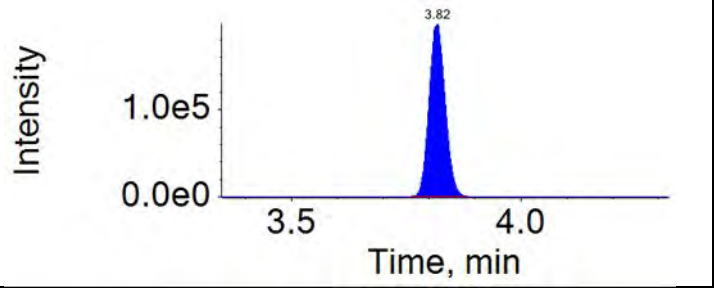
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



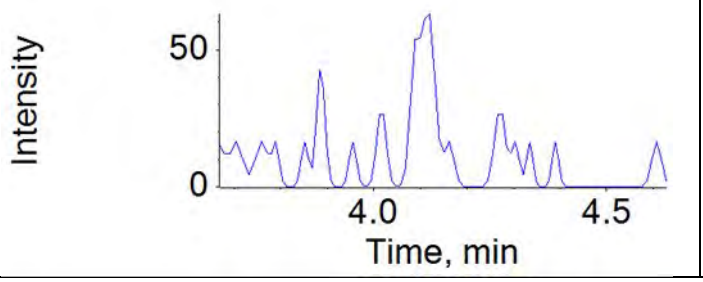


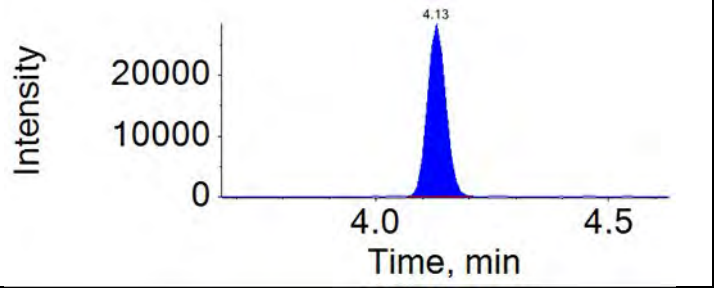
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



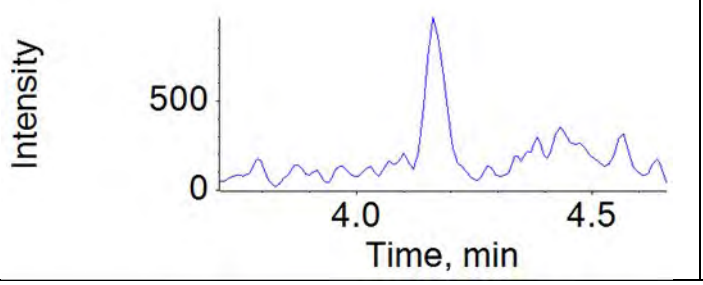


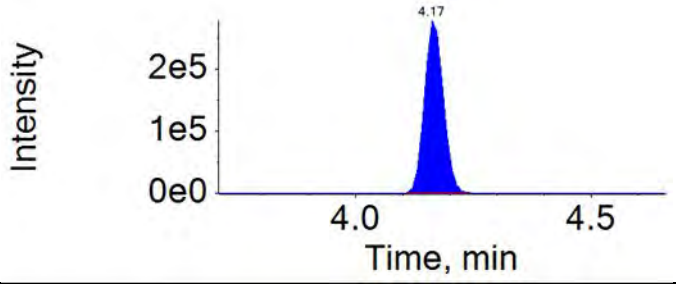
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

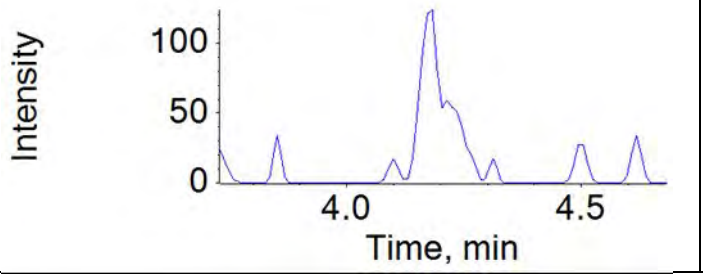
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

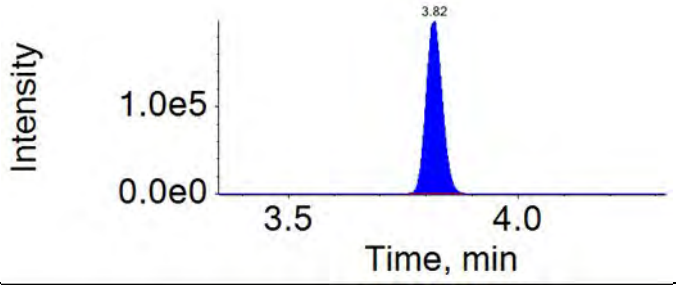
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



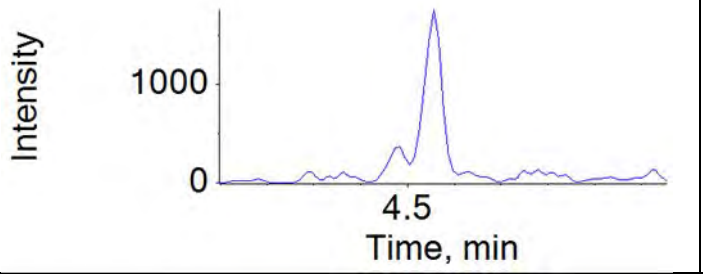


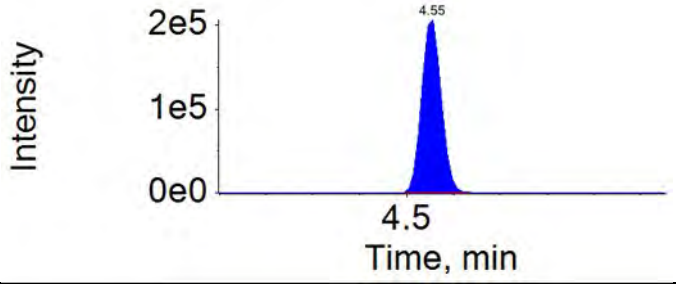
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



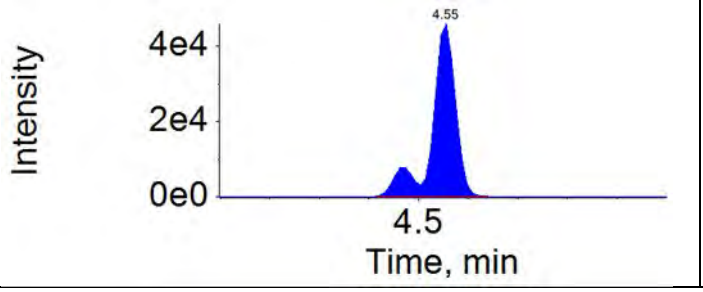


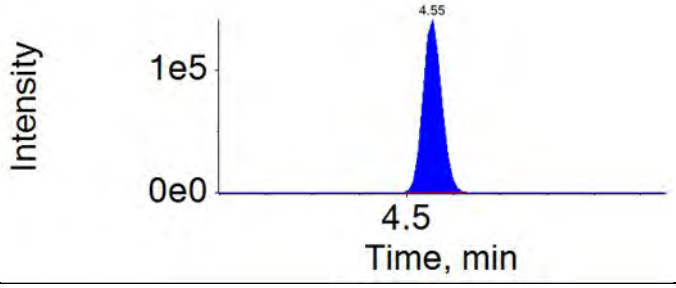
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



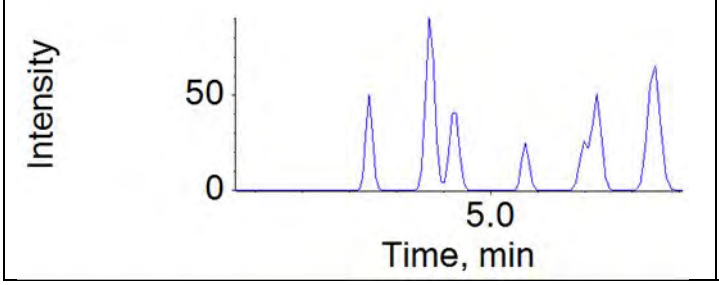


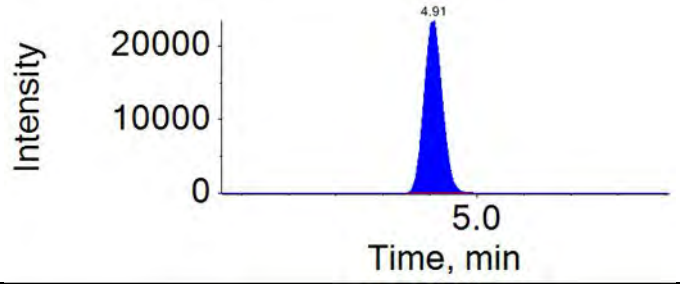
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

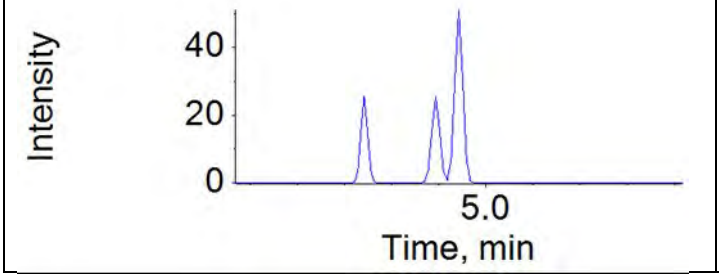
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

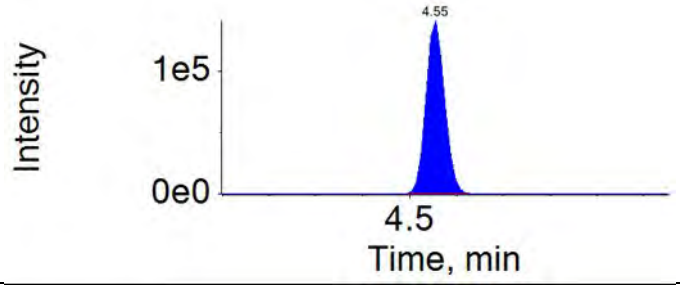
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



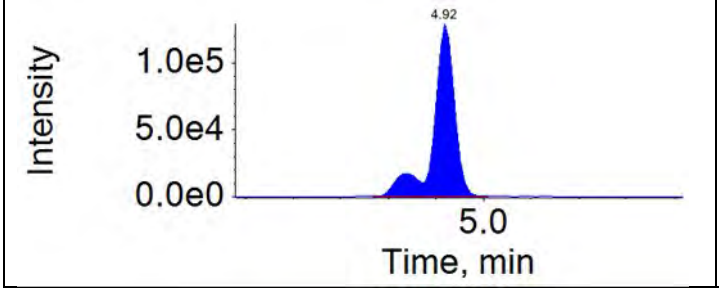


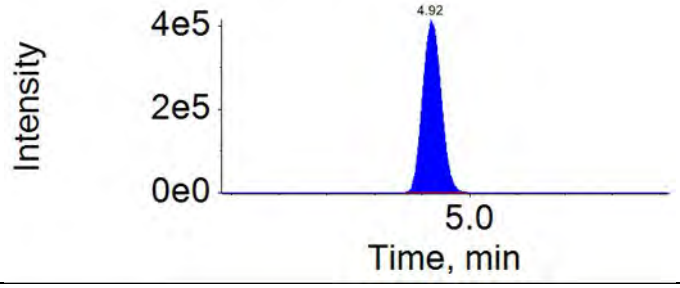
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



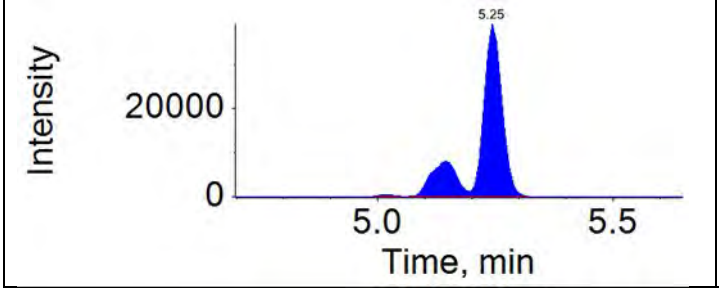


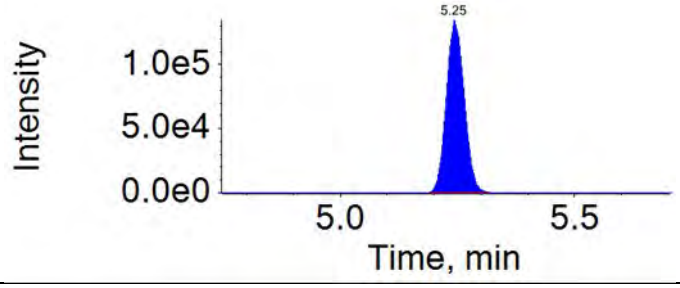
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



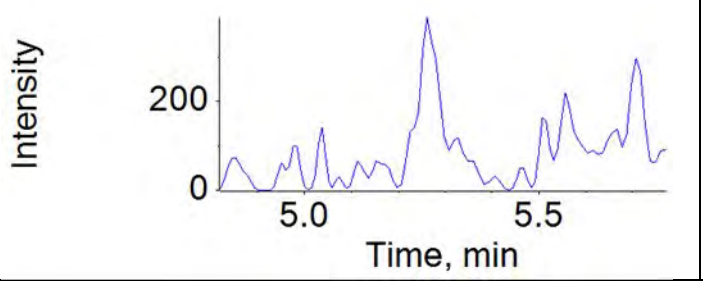


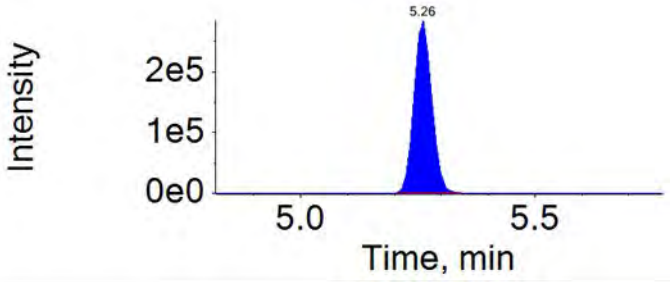
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

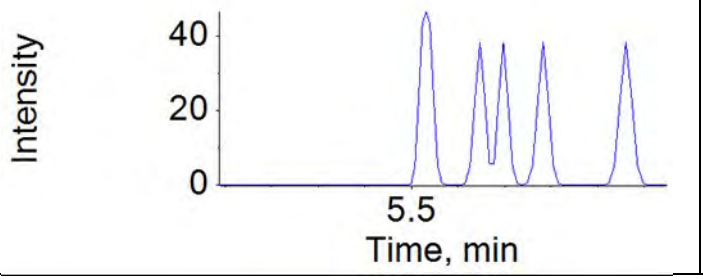
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

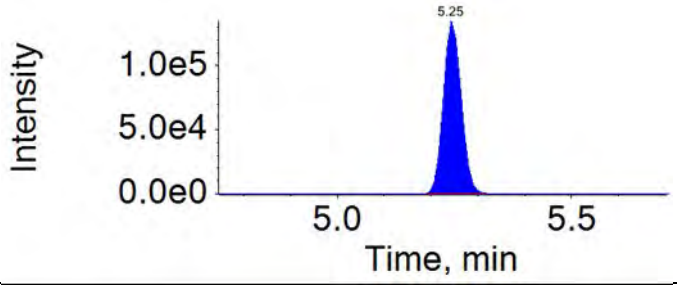
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



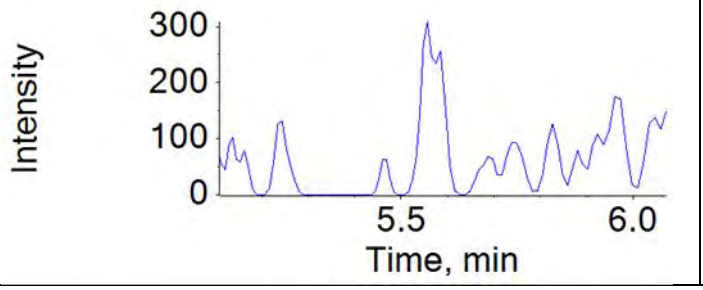


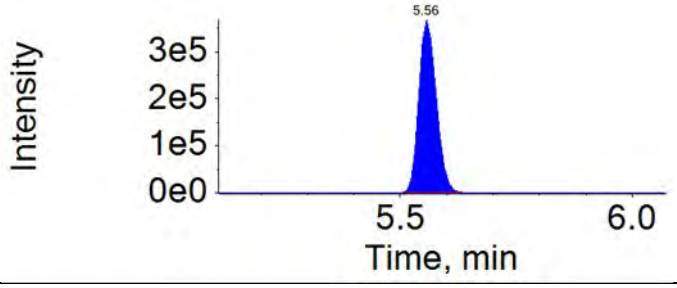
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



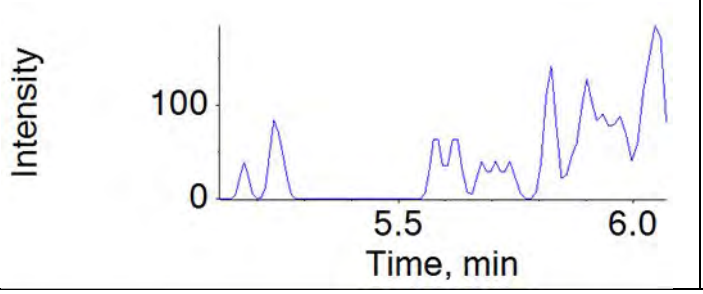


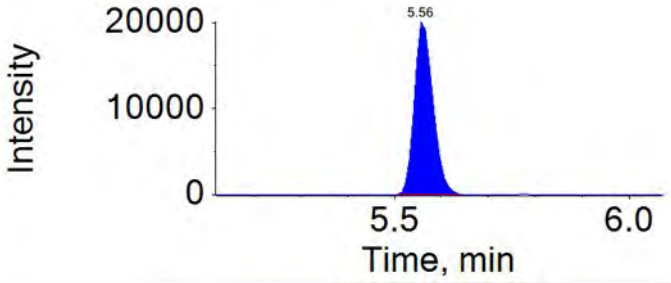
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



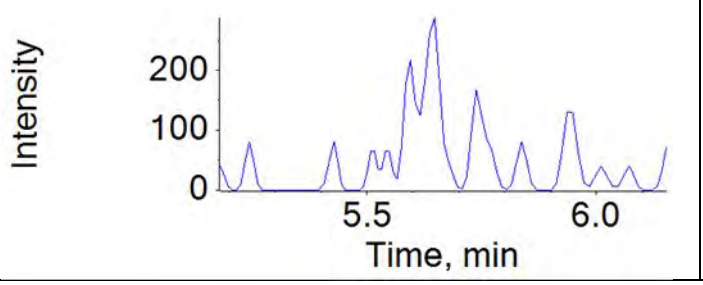


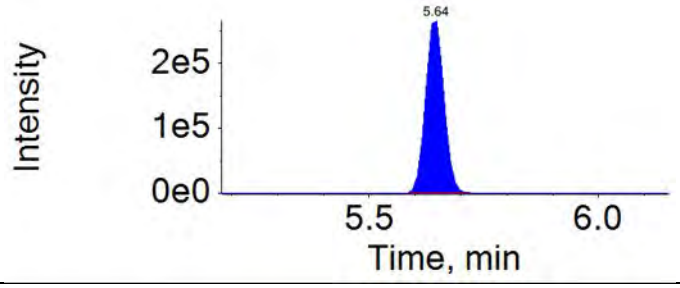
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

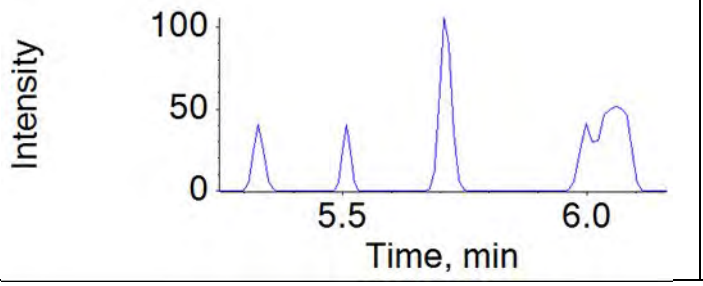
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

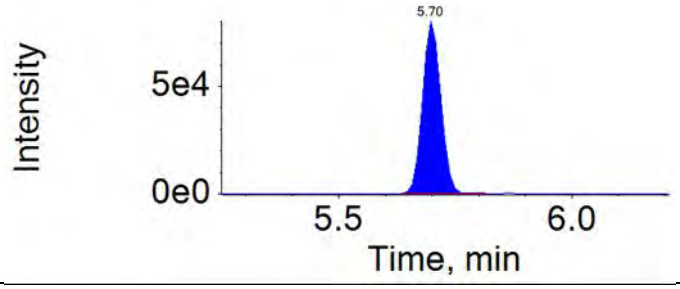
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



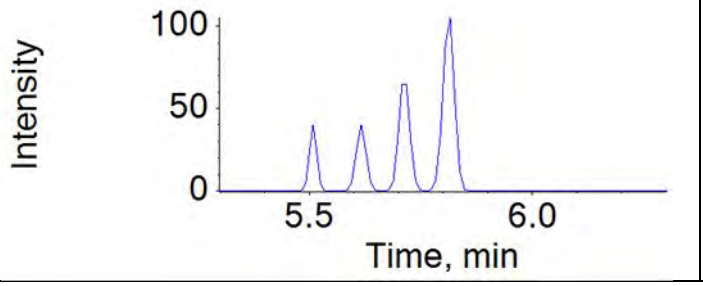


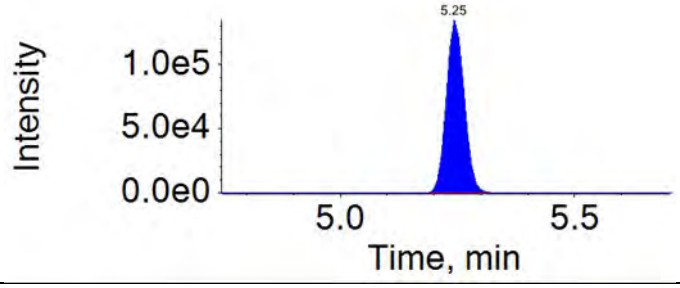
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



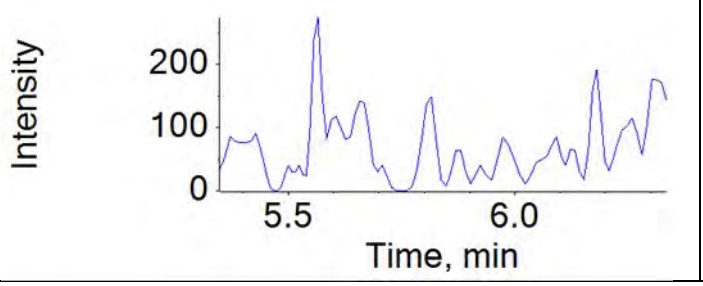


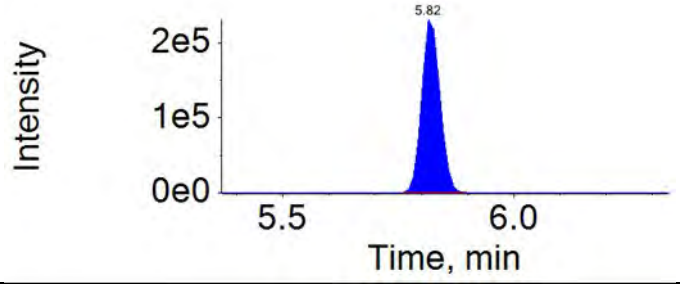
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



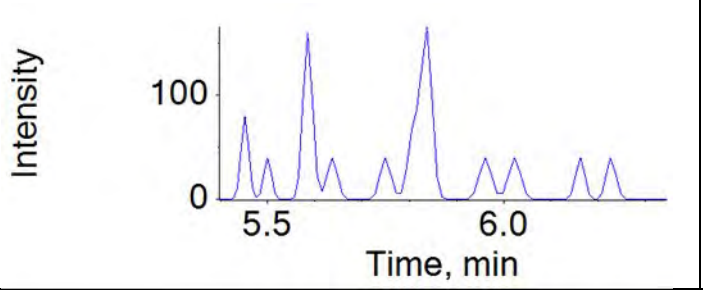


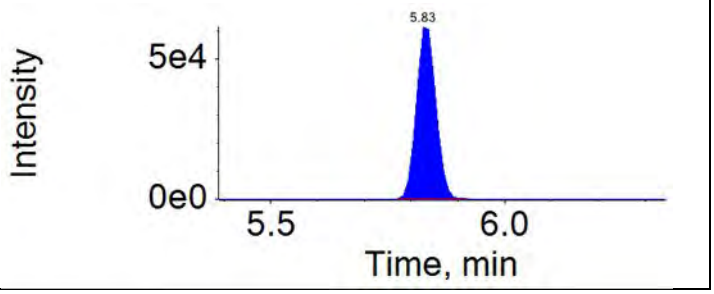
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

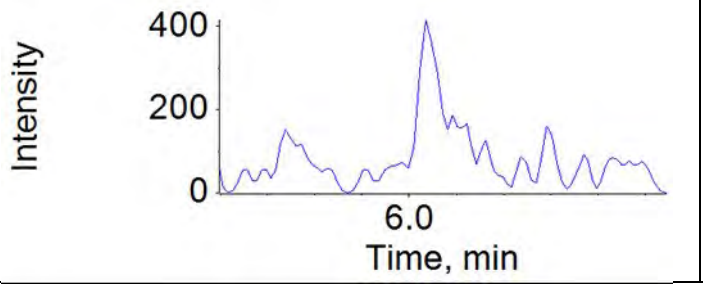
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

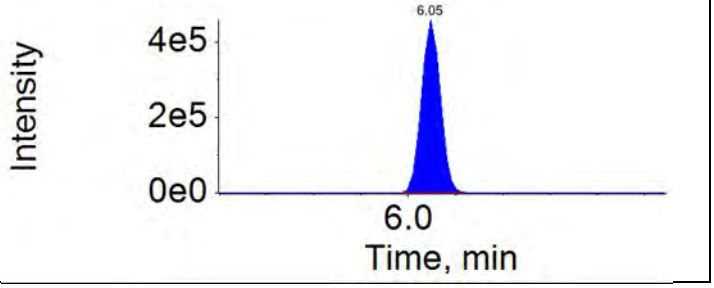
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



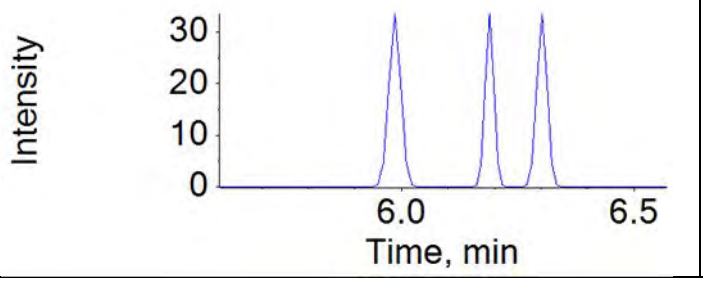


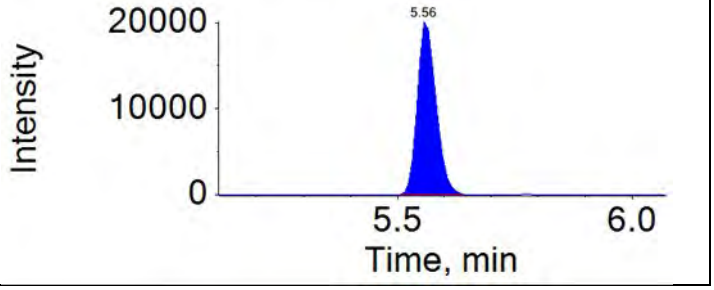
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



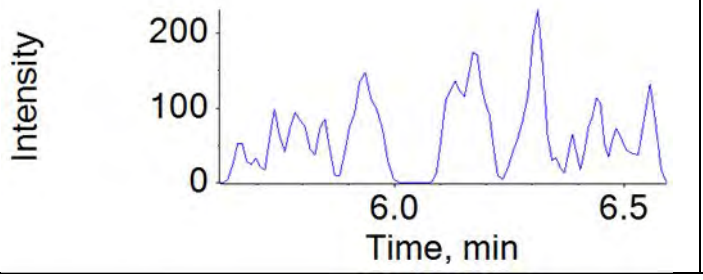


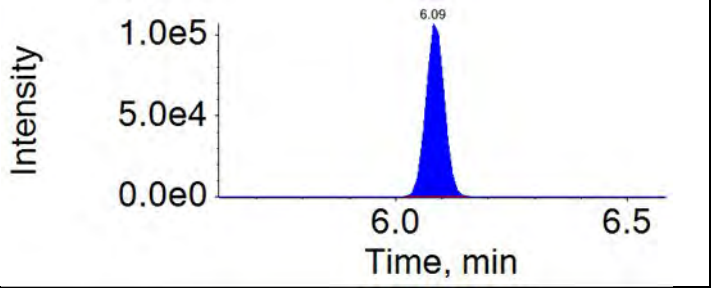
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



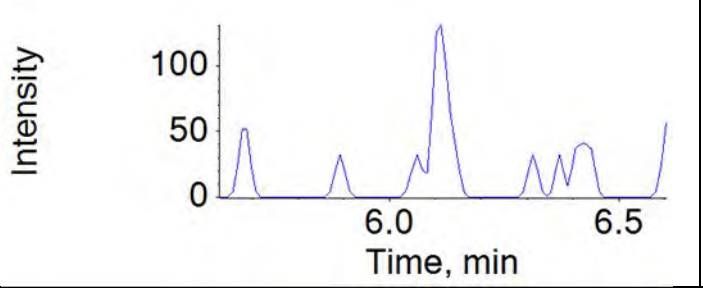


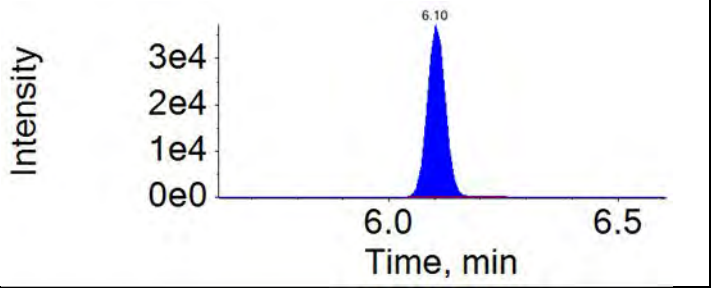
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

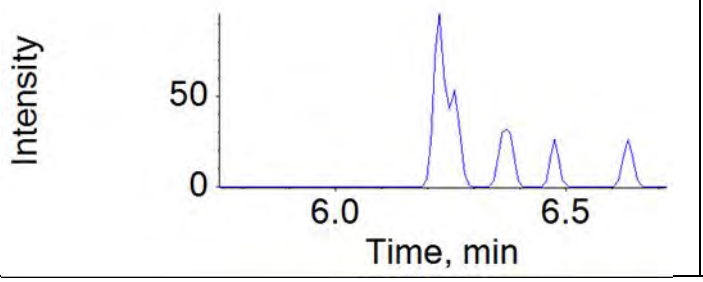
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QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

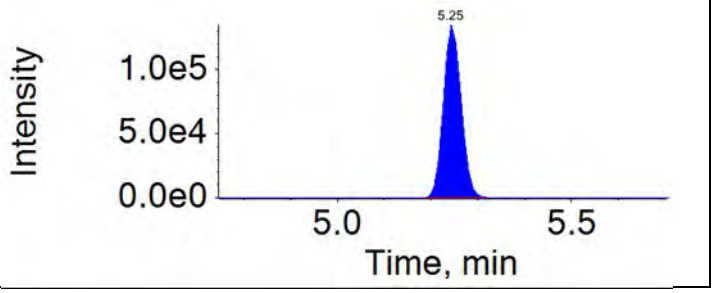
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



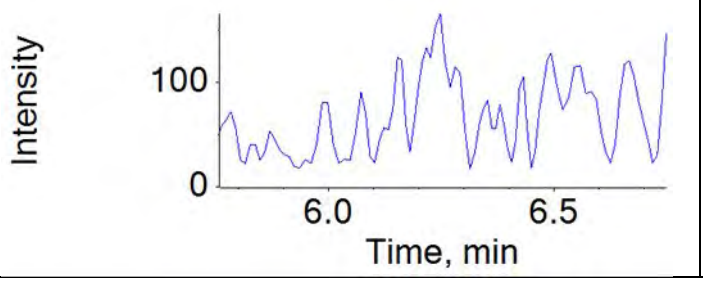


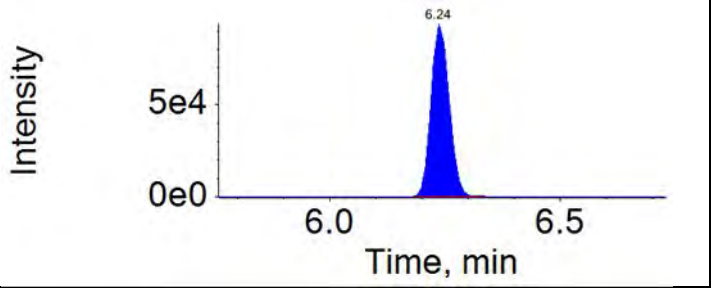
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



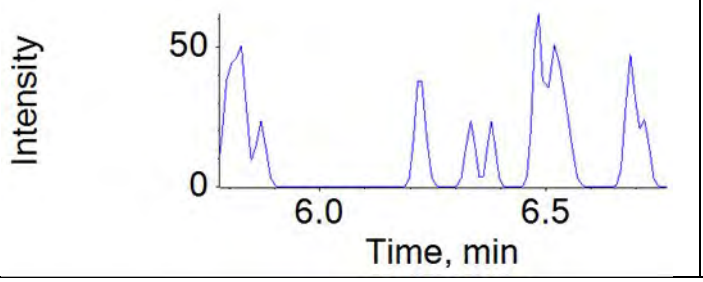


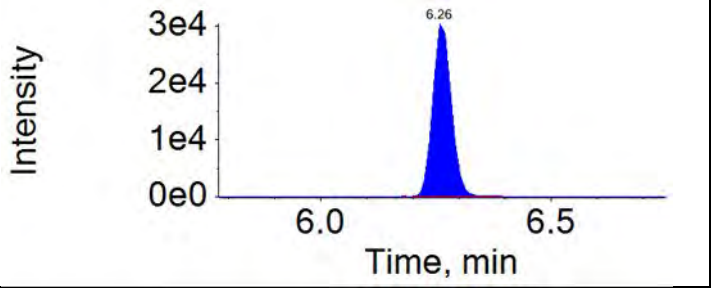
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



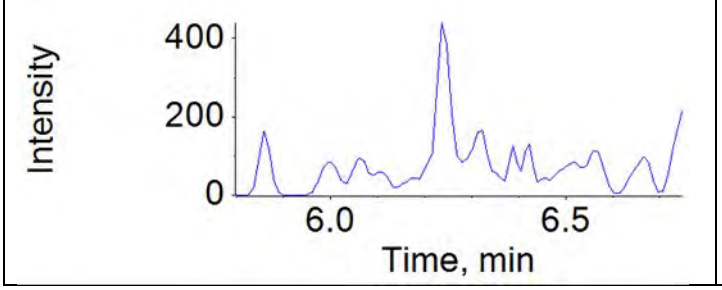


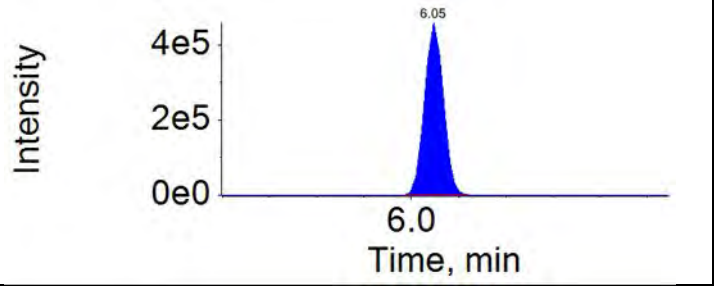
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By MSM at 1:33 pm, 12/27/18

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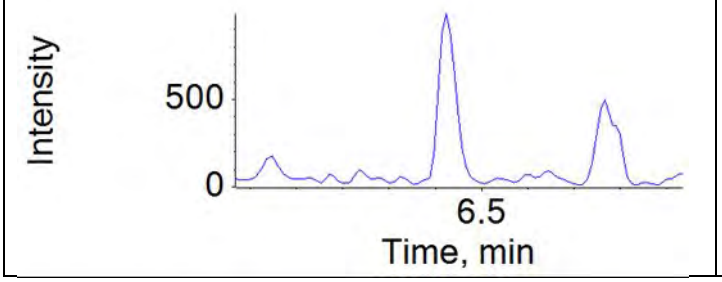
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

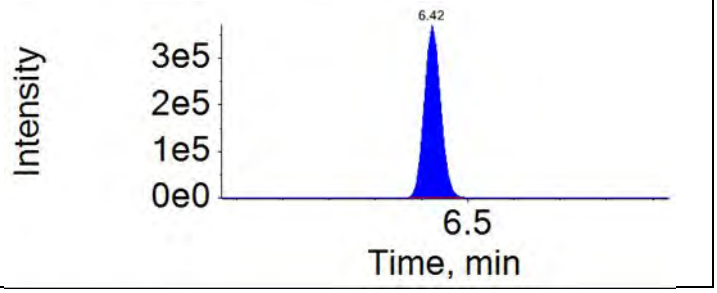
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



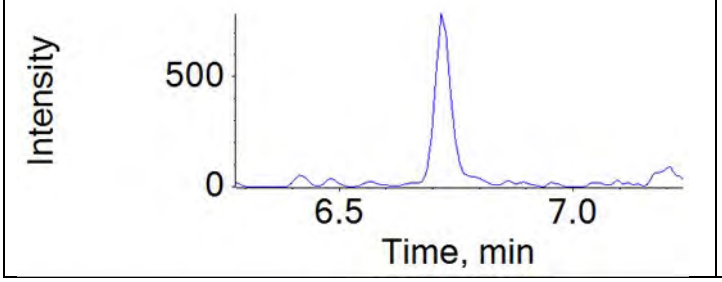


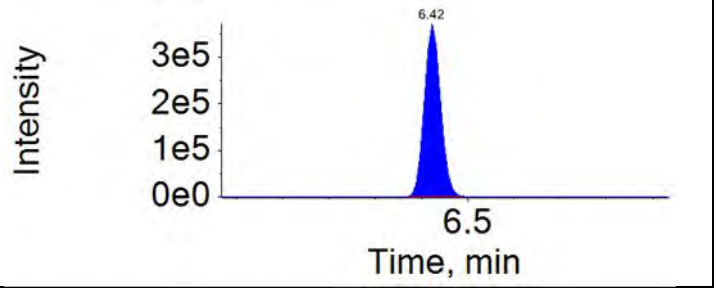
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



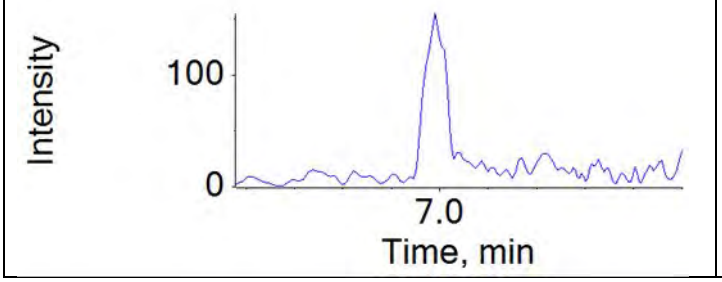


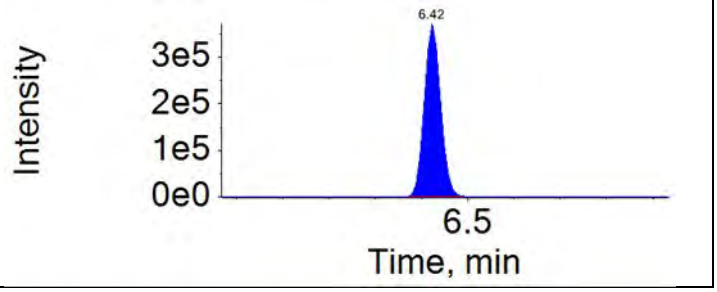
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



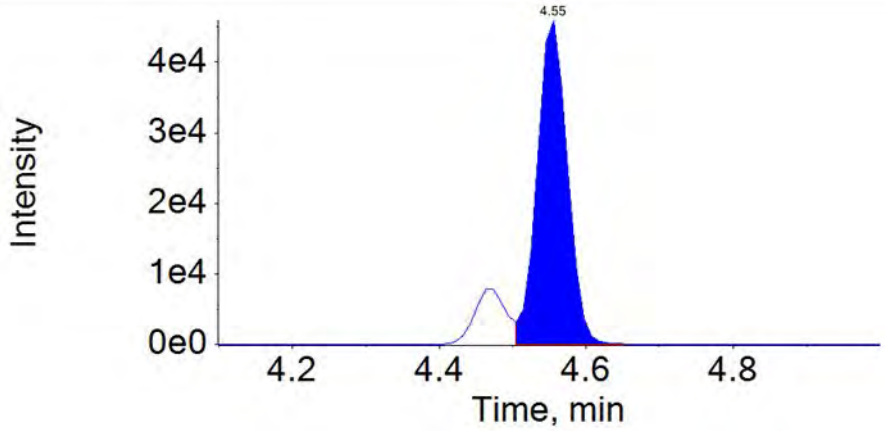


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

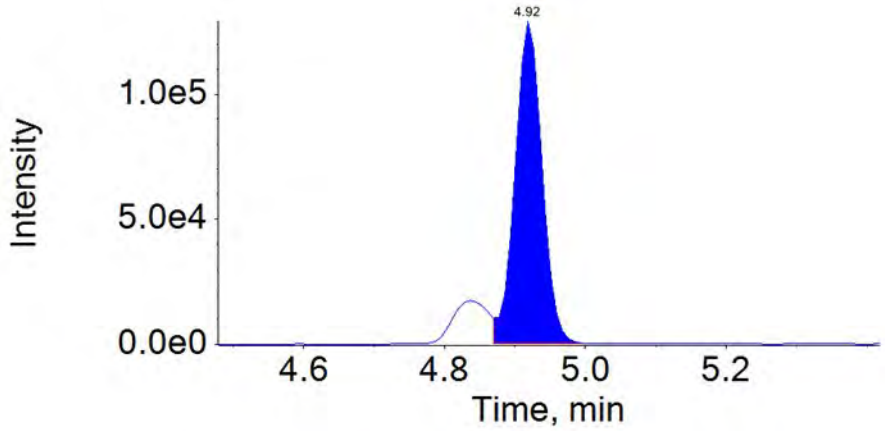
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
131506.21
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



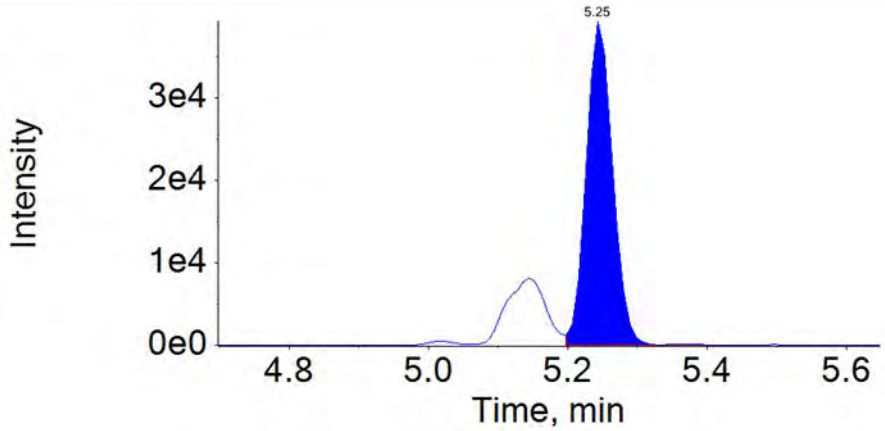
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
345424.26
Mass Range:
413.0 / 369.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
103617.56
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



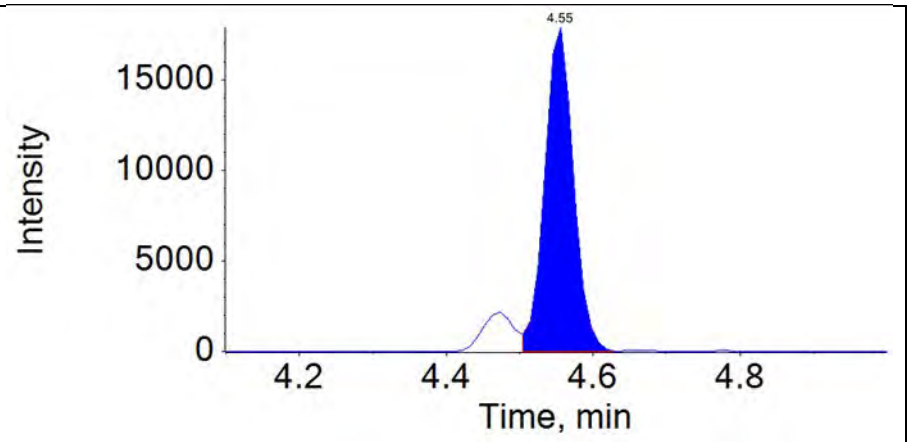
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

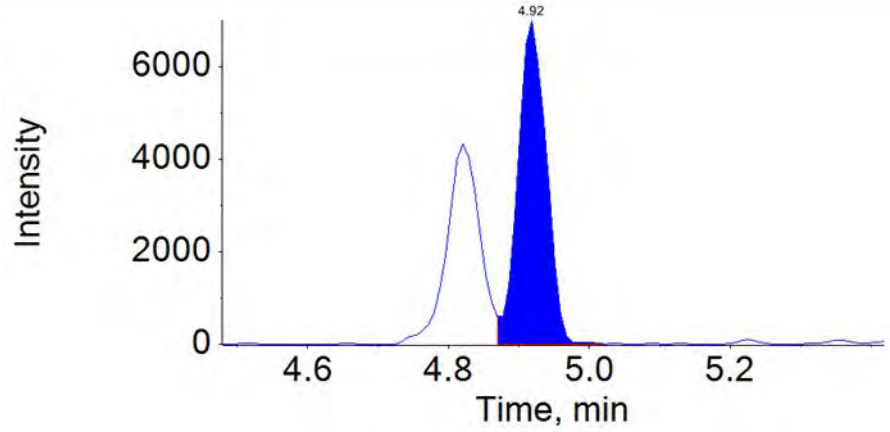
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
48602.63
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



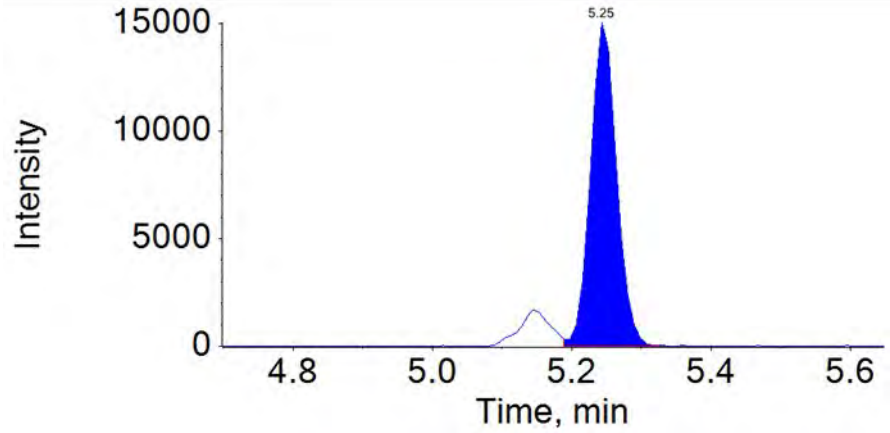
Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.92
Peak Area:
19680.53
Mass Range:
413.0 / 169.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.25
Peak Area:
39143.55
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-15.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Ion Ratio Report

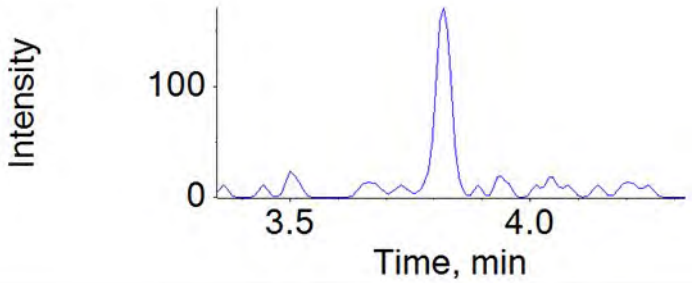
Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-15.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3621	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	0.6132	N/A		50	
PFHxA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxA_2	N/A	N/A	N/A	A	0.0123	N/A		50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5068	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0570	N/A		50	
PFHxS	4.55	1.00	154845.84	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	54966.45	M	0.3566	0.3550	0	50	
6:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	0.6328	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.4049	N/A		50	
PFOA	4.92	1.00	404422.41	M	1.0000	1.0000			
PFOA_2	4.90	1.00	33798.67	M	0.0570	0.0836	47	50	
PFOS	5.25	1.00	136479.00	M	1.0000	1.0000			
PFOS_2	5.25	1.00	44327.84	M	0.3043	0.3248	7	50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0213	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4515	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0067	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	0.6016	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2579	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4884	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0042	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6799	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0139	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	1.0000	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	0.6715	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0088	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0063	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0643	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0266	N/A		50	

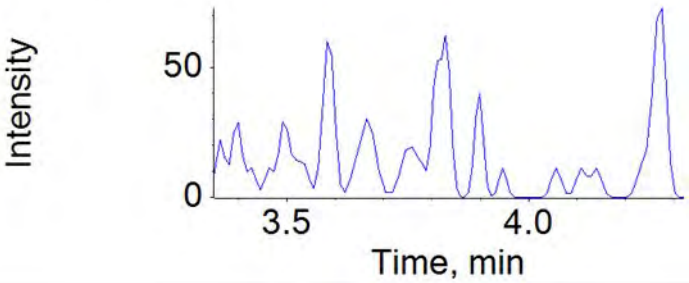
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

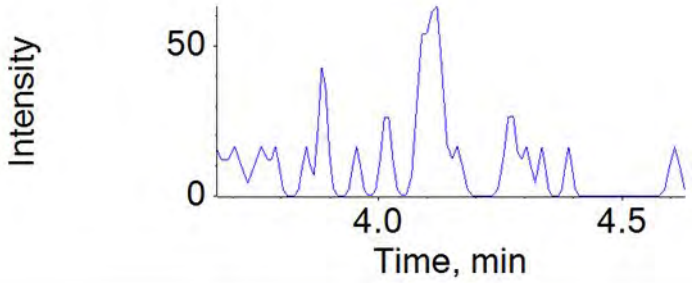
Component: PFBS
Primary Mass: 299.0 / 80.0



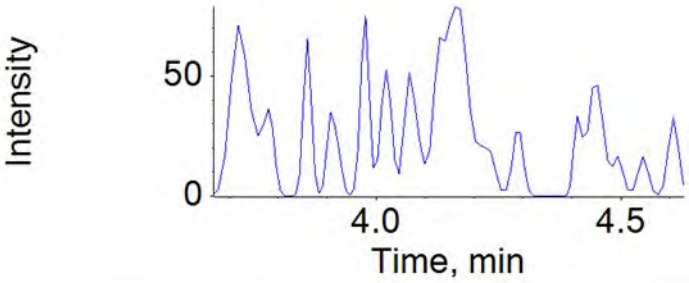
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



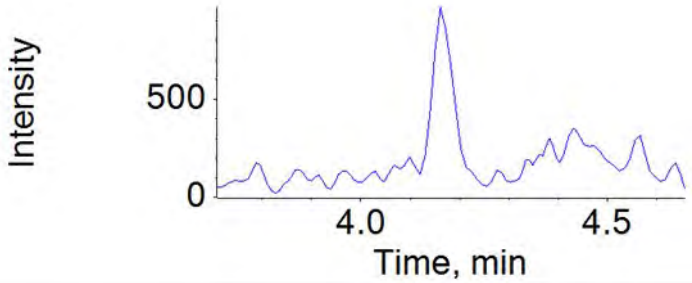
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



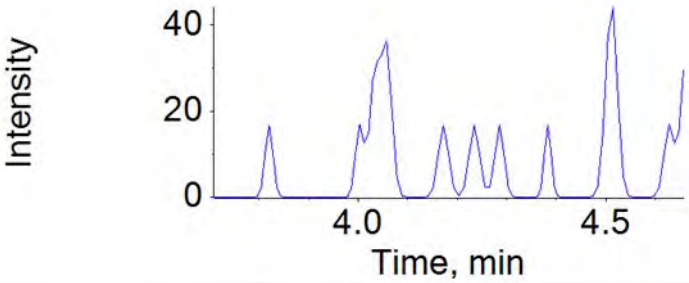
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



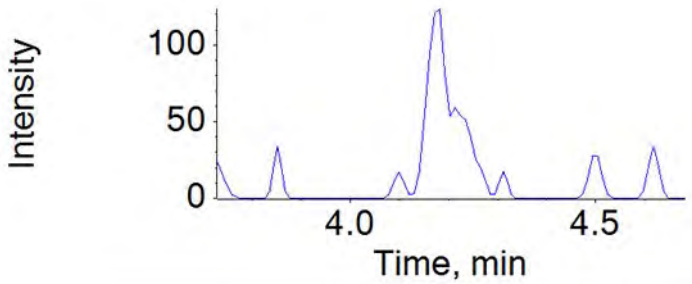
Component: PFHxA
Primary Mass: 313.0 / 269.0



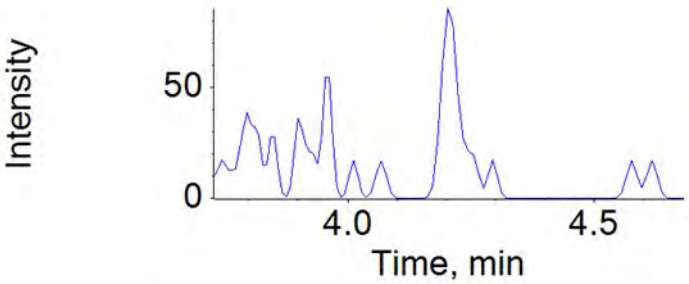
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



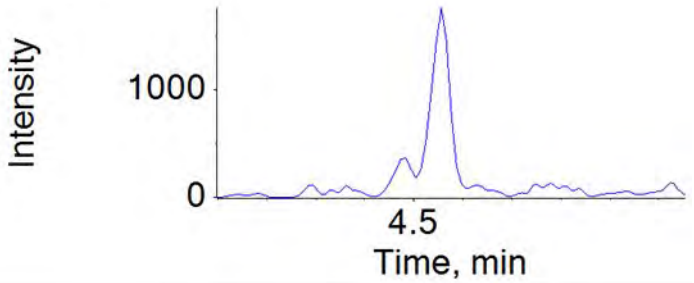
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



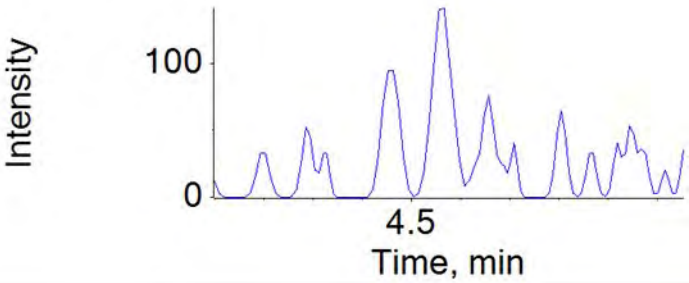
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

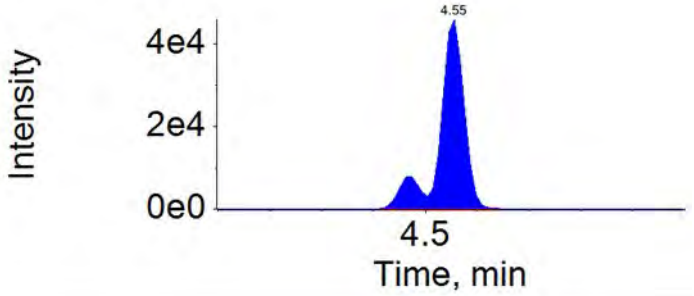
Component: PFHpA
Primary Mass: 363.0 / 319.0



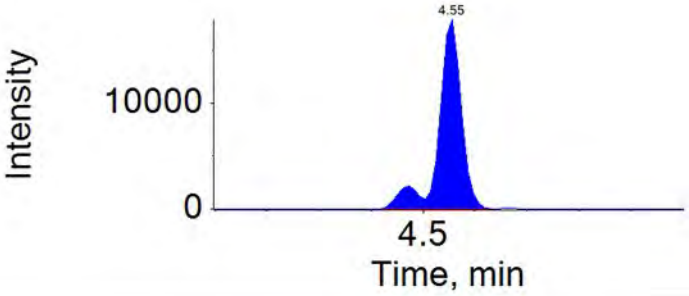
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



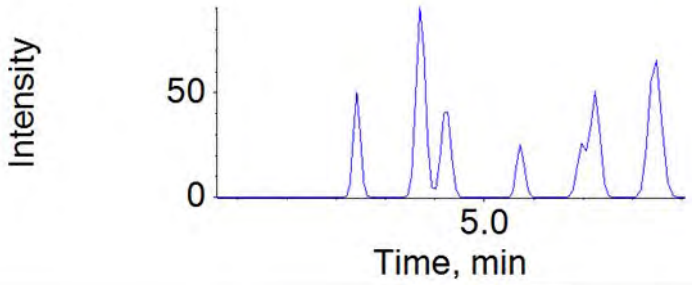
Component: PFHxS
Primary Mass: 399.0 / 80.0



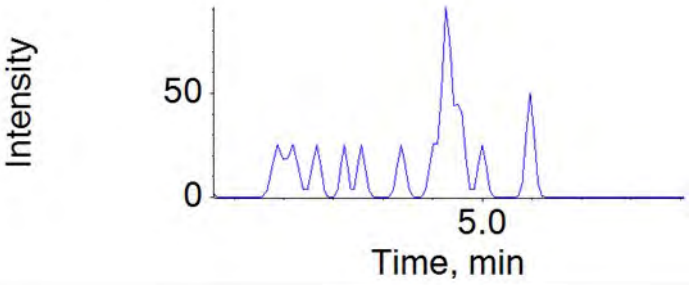
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



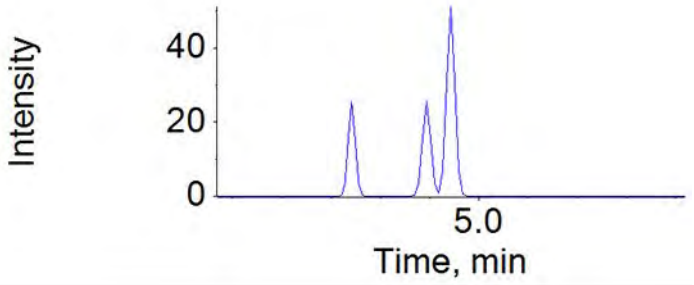
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



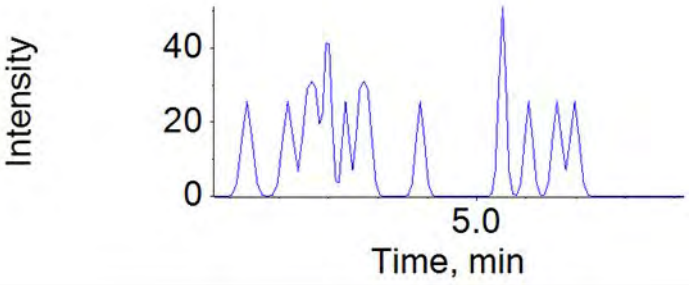
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



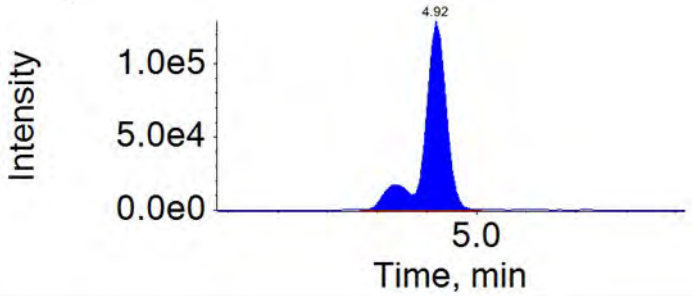
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



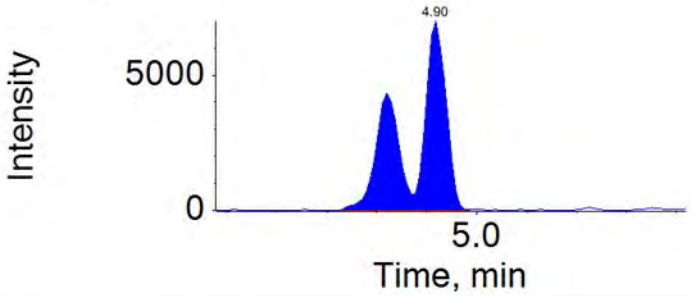
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By HMK at 10:43 am, 12/28/18

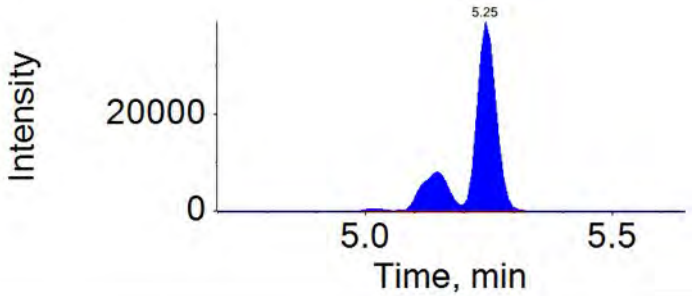
Component: PFOA
Primary Mass: 413.0 / 369.0



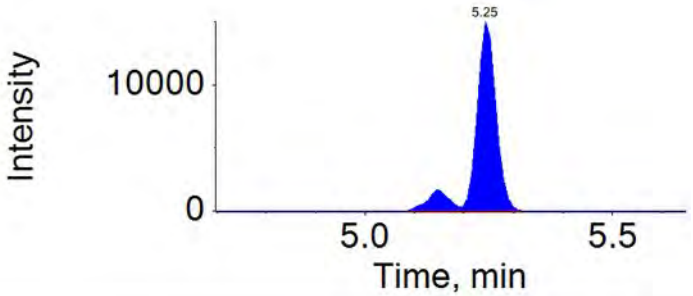
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Secondary Mass: 413.0 / 169.0



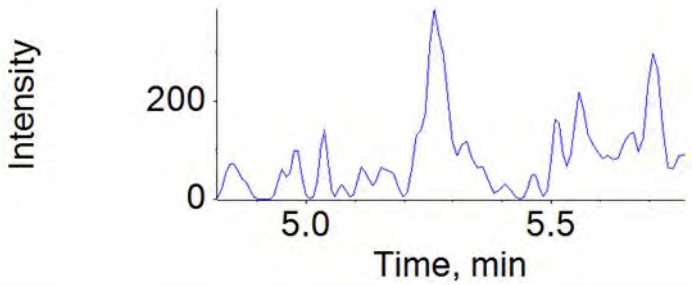
Component: PFOS
Primary Mass: 499.0 / 80.0



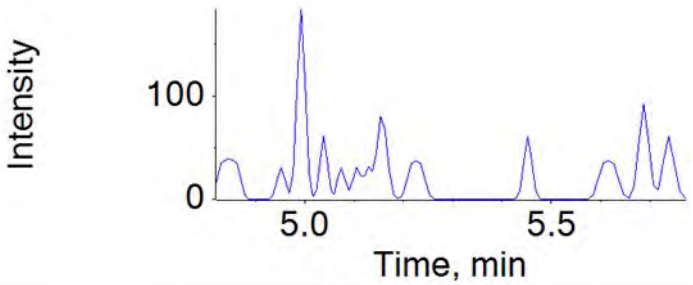
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



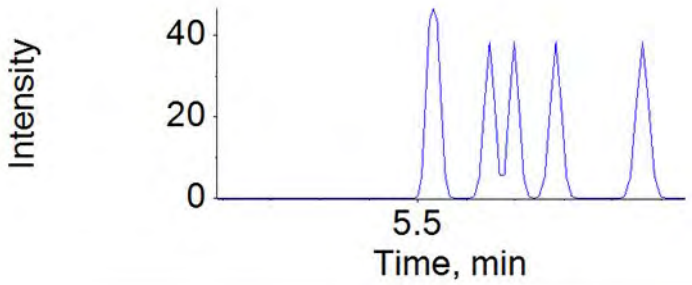
Component: PFNA
Primary Mass: 463.0 / 419.0



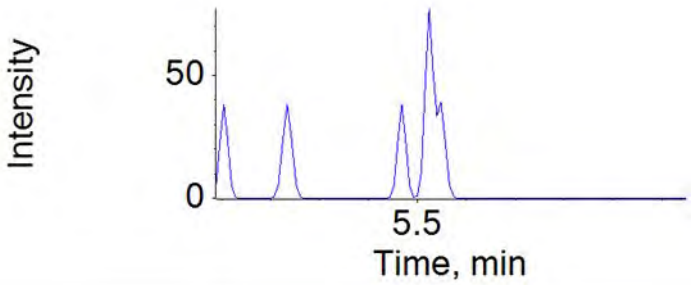
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



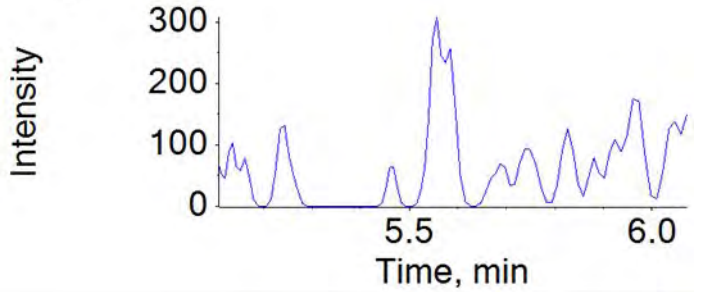
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



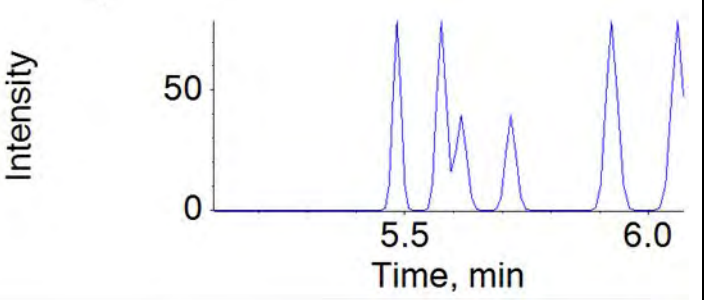
APPROVED
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REVIEWED
By HMK at 10:43 am, 12/28/18

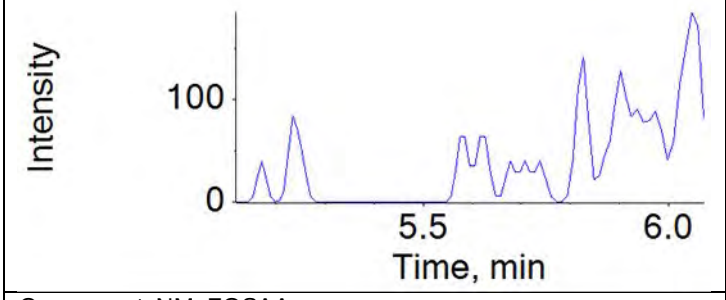
Component: PFDA
Primary Mass: 513.0 / 469.0



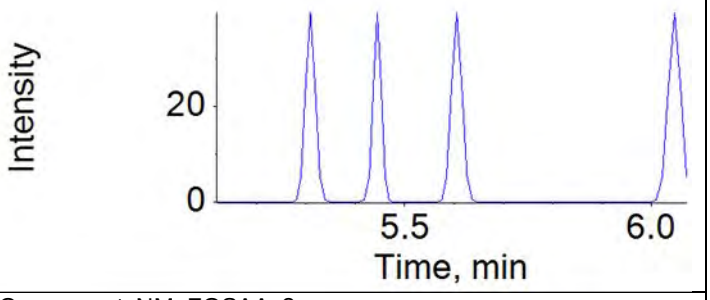
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



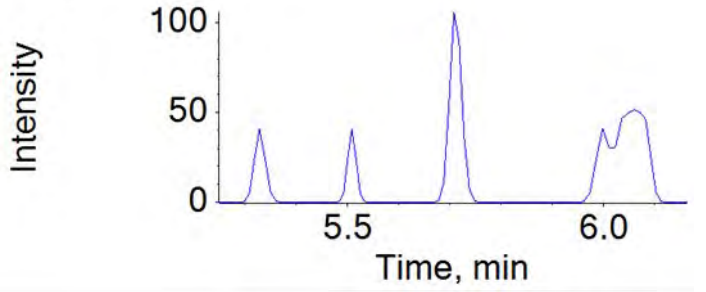
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



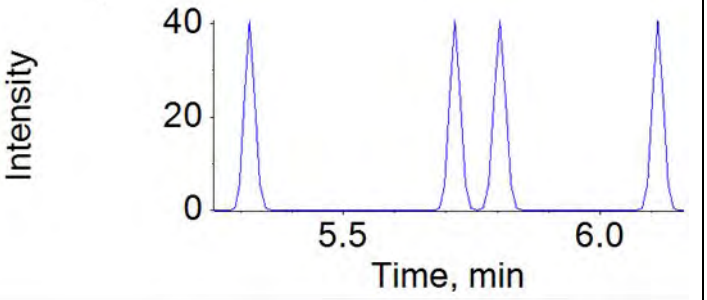
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



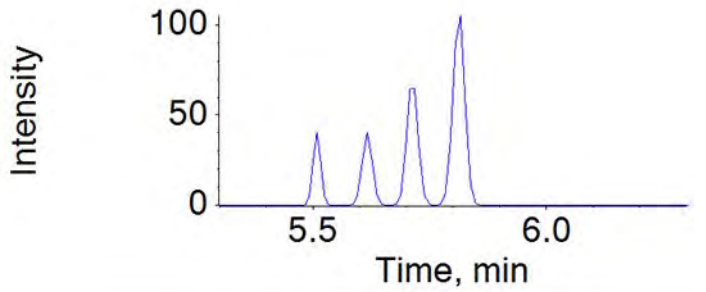
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



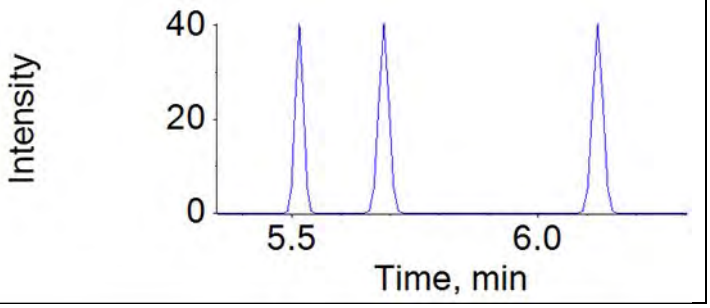
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



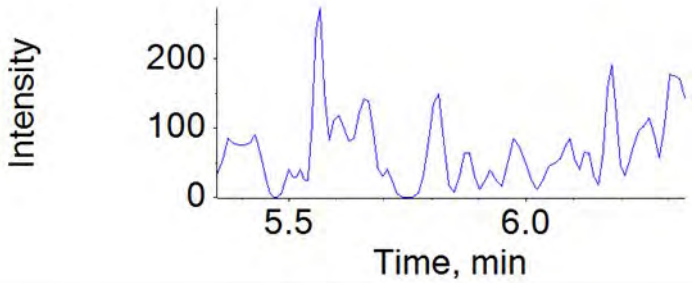
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



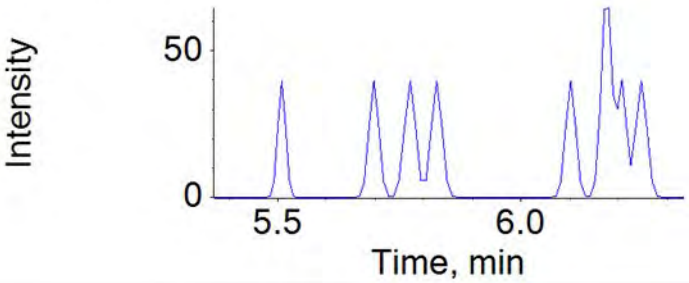
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

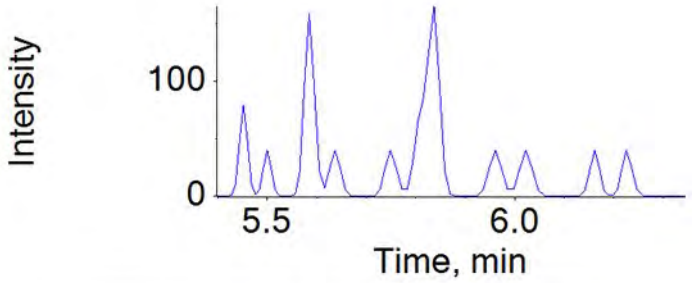
Component: PFUnDA
Primary Mass: 563.0 / 519.0



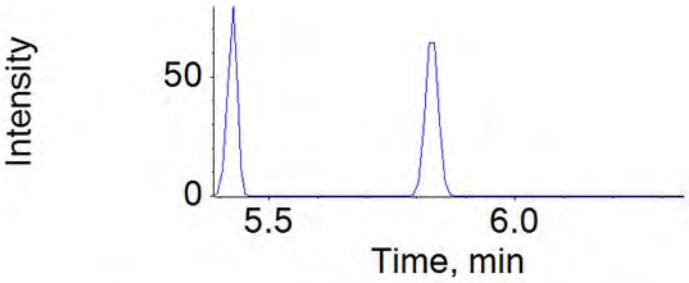
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



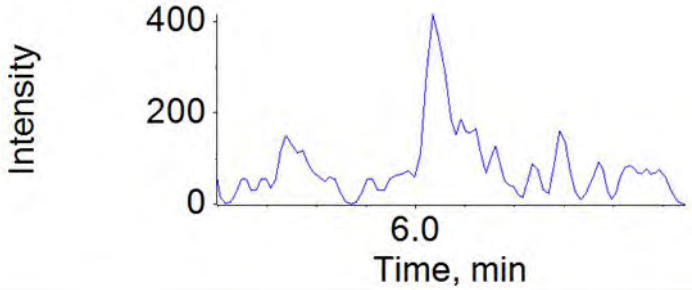
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



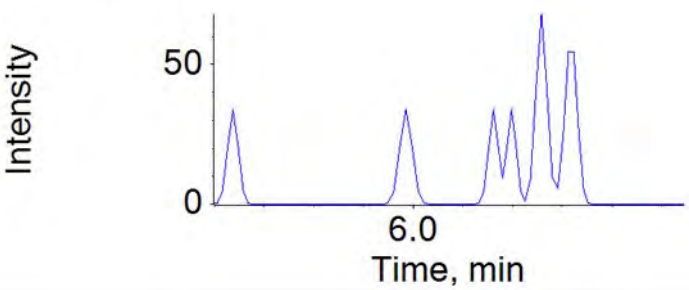
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



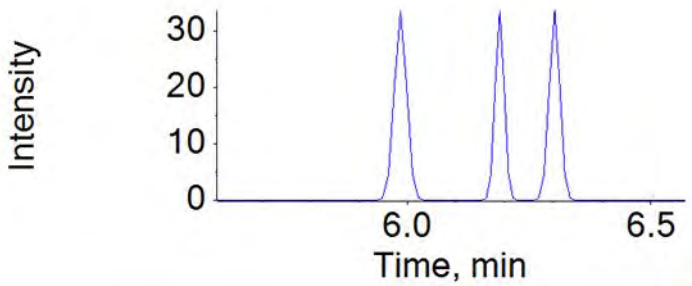
Component: PFDoDA
Primary Mass: 613.0 / 569.0



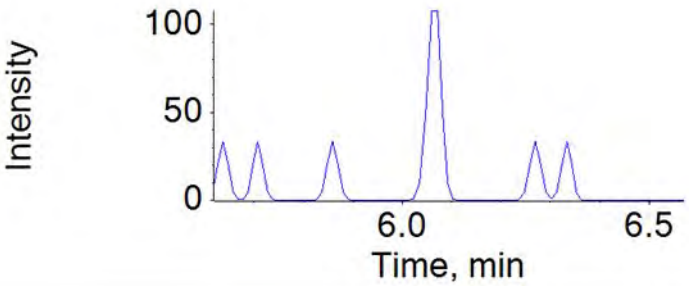
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



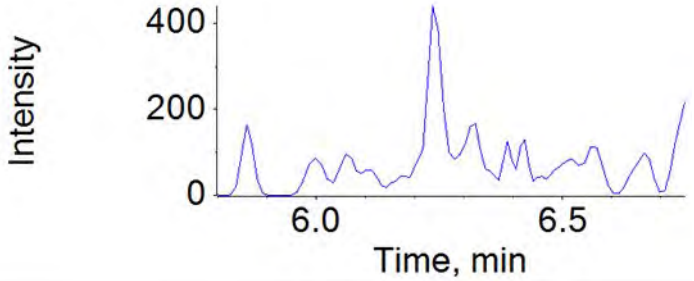
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



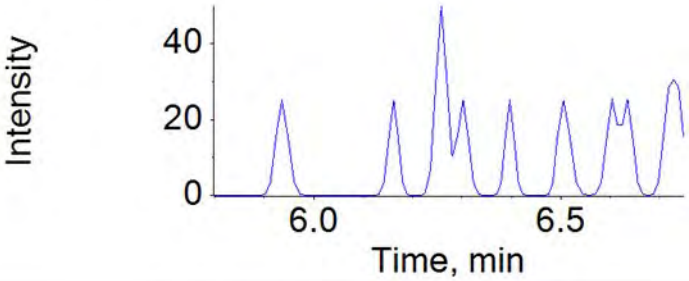
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

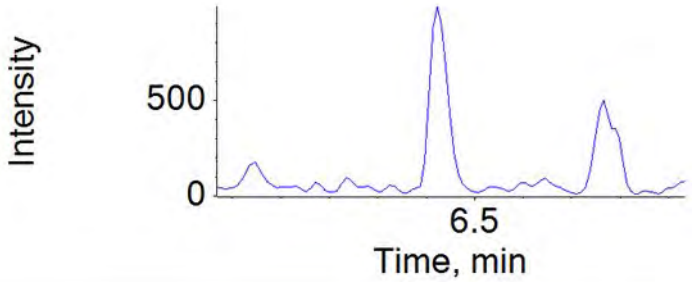
Component: PFTrDA
Primary Mass: 663.0 / 619.0



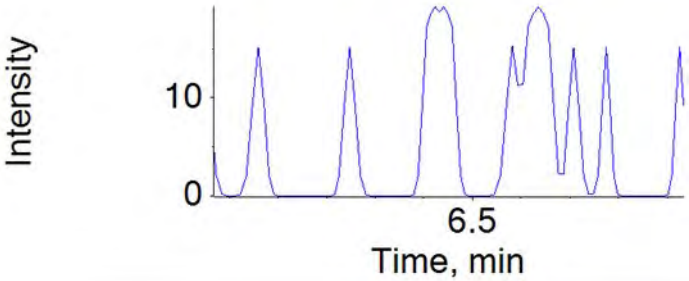
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



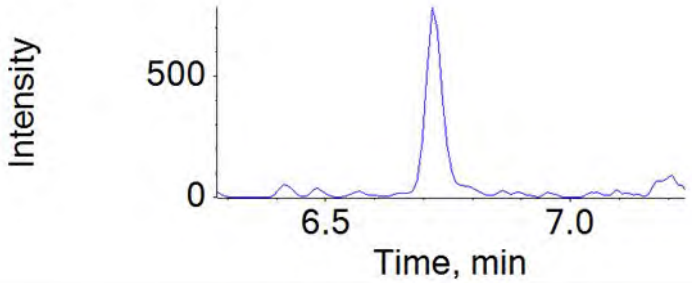
Component: PFTeDA
Primary Mass: 713.0 / 669.0



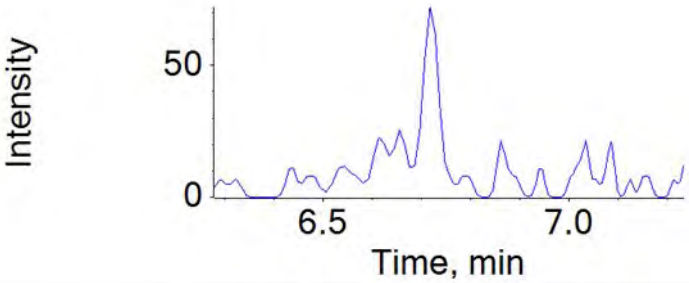
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



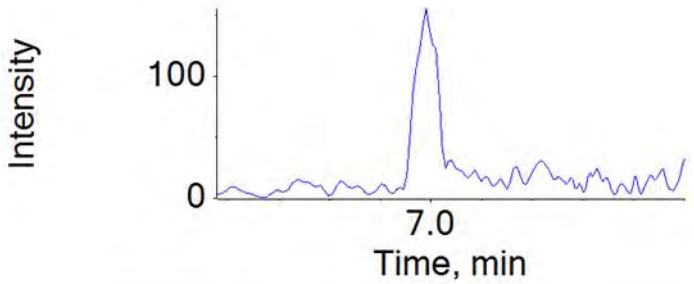
Component: PFHxDA
Primary Mass: 813.0 / 769.0



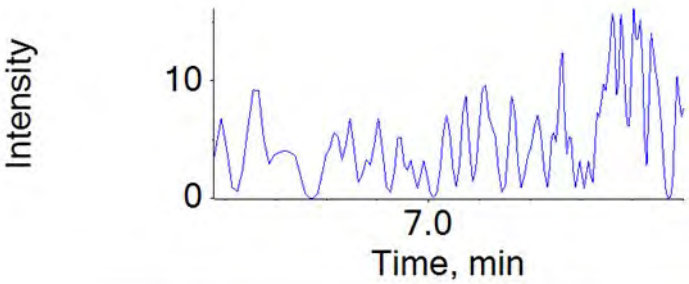
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



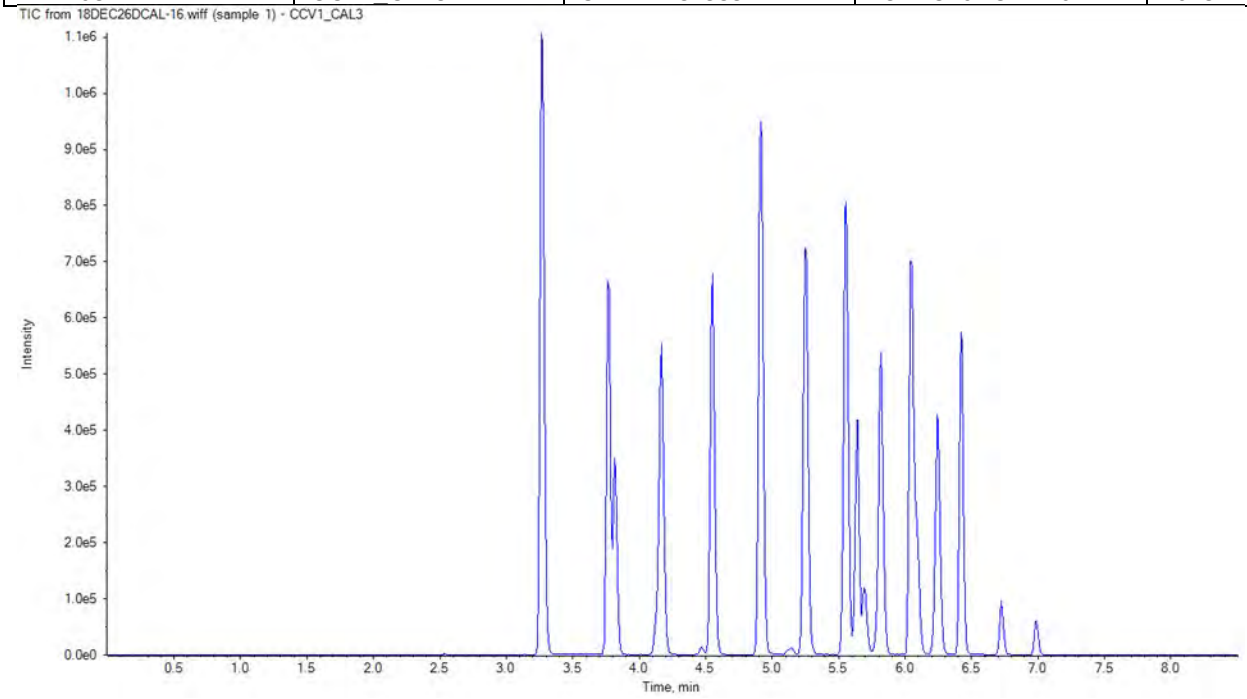
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC26DCAL-16.wiff	2018-12-26T15:07:46



Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	965044.6	965438.2	0	50	
13C2-PFOA	5.0	513765.8	527066.0	-3	50	
13C4-PFOS	4.8	312543.6	307230.6	2	50	
13C2-PFDA	5.0	488976.2	493258.9	-1	50	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALBRN31833B	18DEC26DCAL-16.wiff	2018-12-26T15:07:46

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	443636.4	10	13C4-PFBA	1076389.3	5.0	0.412	3.27	1.000	2.000	2.177	9	30	
PFPeA	443947.1	11	13C5-PFPeA	1003197.6	5.0	0.443	3.77	1.000	2.000	2.197	10	30	
PFBS	180361.5	10	13C3-PFBS	457672.8	4.7	0.394	3.82	1.000	1.770	1.956	10	30	
4:2-FTS	53169.8	11	13C2-4:2-FTS	67107.7	4.7	0.792	4.13	1.000	1.870	1.943	4	30	
PFHxA	410299.5	11	13C5-PFHxA	733970.6	5.0	0.559	4.17	1.000	2.000	2.294	15	30	
PFPeS	95346.9	11	13C3-PFBS	457672.8	4.7	0.208	4.18	1.100	1.880	2.097	12	30	
PFHpA	432861.1	11	13C4-PFHpA	594157.8	5.0	0.729	4.55	1.000	2.000	2.302	15	30	
PFHxS	137179.8	18	13C3-PFHxS	345062.2	4.7	0.398	4.55	1.000	1.820	1.859	2	30	
6:2-FTS	52433.2	11	13C2-6:2-FTS	54802.0	4.8	0.957	4.90	1.000	1.900	2.294	21	30	
PFHpS	143706.6	11	13C3-PFHxS	345062.2	4.7	0.416	4.91	1.080	1.900	2.180	15	30	
PFOA	453958.1	11	13C8-PFOA	1006150.2	5.0	0.451	4.92	1.000	2.000	2.387	19	30	
PFOS	149355.0	21	13C8-PFOS	323560.6	4.8	0.462	5.24	1.000	1.850	2.010	9	30	
PFNA	386712.8	11	13C9-PFNA	687269.4	5.0	0.563	5.26	1.000	2.000	2.261	13	30	
PFNS	105758.5	10	13C8-PFOS	323560.6	4.8	0.327	5.53	1.060	1.920	2.234	16	30	
PFDA	346411.3	11	13C6-PFDA	826480.2	5.0	0.419	5.56	1.000	2.000	2.416	21	30	
8:2-FTS	50376.5	11	13C2-8:2-FTS	49600.7	4.8	1.016	5.56	1.000	1.920	2.007	5	30	
PFOSA	269540.6	11	13C8-PFOSA	618151.2	5.0	0.436	5.64	1.000	2.000	2.294	15	30	
NMeFOSAA	67416.4	17	d3-NMeFOSAA	193809.8	5.0	0.348	5.70	1.000	2.000	2.028	1	30	
PFDS	83451.9	11	13C8-PFOS	323560.6	4.8	0.258	5.79	1.100	1.930	2.126	10	30	
PFUnDA	374117.3	11	13C7-PFUnDA	577728.7	5.0	0.648	5.82	1.000	2.000	2.477	24	30	
NEtFOSAA	66771.9	22	d5-NEtFOSAA	155557.0	5.0	0.429	5.83	1.000	2.000	2.207	10	30	
PFDoDA	513299.9	11	13C2-PFDoDA	1077309.5	5.0	0.476	6.05	1.000	2.000	2.431	22	30	
10:2-FTS	47459.4	11	13C2-8:2-FTS	49600.7	4.8	0.957	6.06	1.090	1.930	1.953	1	30	
NMePFOSAE	134536.9	11	d7-NMePFOSAE	262834.9	5.0	0.512	6.09	1.000	2.000	2.164	8	30	
NMePFOSA	34634.8	12	d3-NMePFOSA	85219.5	5.0	0.406	6.11	1.000	2.000	2.028	1	30	
PFDoS	45537.3	11	13C8-PFOS	323560.6	4.8	0.141	6.22	1.190	1.940	2.103	8	30	
NEtPFOSAE	141589.3	11	d9-NEtPFOSAE	248643.5	5.0	0.569	6.25	1.000	2.000	1.884	-6	30	
NEtPFOSA	31681.4	11	d5-NEtPFOSA	69883.1	5.0	0.453	6.27	1.000	2.000	2.131	7	30	
PFTrDA	495383.4	11	13C2-PFDoDA	1077309.5	5.0	0.460	6.25	1.030	2.000	2.448	22	30	
PFTeDA	340197.7	10	13C2-PFTeDA	858058.8	5.0	0.396	6.42	1.000	2.000	2.255	13	30	
PFHxDA	178493.2	11	13C2-PFTeDA	858058.8	5.0	0.208	6.73	1.050	2.000	2.398	20	30	
PFODA	127567.3	10	13C2-PFTeDA	858058.8	5.0	0.149	6.99	1.090	2.000	2.198	10	30	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL
QMethod Name: 18AUG20QM
Result Table: 18DEC26DCAL 12/26/2018 4:04:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_CAL3			**Data File:**		18DEC26DCAL-16.wiff
Sample ID:	CALBRN31833B			**Acquis Date:**		2018-12-26T15:07:46
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCAL
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	965044.6	965438.2	0	50	
13C2-PFOA	5.0	513765.8	527066.0	-3	50	
13C4-PFOS	4.8	312543.6	307230.6	2	50	
13C2-PFDA	5.0	488976.2	493258.9	-1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1076389.3	13C3-PFBA	965044.6	1.115	5.000	4.949	99	70-130	
E13C5-PFPeA	1003197.6	13C3-PFBA	965044.6	1.040	5.000	4.951	99	70-130	
E13C3-PFBS	457672.8	13C3-PFBA	965044.6	0.474	4.650	4.608	99	70-130	
E13C2-4:2-FTS	67107.7	13C2-PFOA	513765.8	0.131	4.670	4.976	107	70-130	
E13C5-PFHxA	733970.6	13C2-PFOA	513765.8	1.429	5.000	5.226	105	70-130	
E13C3-PFHxS	345062.2	13C2-PFOA	513765.8	0.672	4.730	5.161	109	70-130	
E13C4-PFHpA	594157.8	13C2-PFOA	513765.8	1.156	5.000	5.210	104	70-130	
E13C2-6:2-FTS	54802.0	13C2-PFOA	513765.8	0.107	4.750	5.219	110	70-130	
E13C8-PFOA	1006150.2	13C2-PFOA	513765.8	1.958	5.000	5.487	110	70-130	
E13C8-PFOS	323560.6	13C4-PFOS	312543.6	1.035	4.780	4.513	94	70-130	
E13C9-PFNA	687269.4	13C4-PFOS	312543.6	2.199	5.000	4.844	97	70-130	
E13C6-PFDA	826480.2	13C2-PFDA	488976.2	1.690	5.000	4.853	97	70-130	
E13C2-8:2-FTS	49600.7	13C2-PFDA	488976.2	0.101	4.790	5.248	110	70-130	
E13C8-PFOSA	618151.2	13C2-PFDA	488976.2	1.264	5.000	5.050	101	70-130	
Ed3-NMeFOSAA	193809.8	13C2-PFDA	488976.2	0.396	5.000	5.058	101	70-130	
E13C7-PFUnDA	577728.7	13C2-PFDA	488976.2	1.182	5.000	5.105	102	70-130	
Ed5-NEtFOSAA	155557.0	13C2-PFDA	488976.2	0.318	5.000	5.512	110	70-130	
E13C2-PFDoDA	1077309.5	13C2-PFDA	488976.2	2.203	5.000	4.779	96	70-130	
Ed7-NMePFOSAE	262834.9	13C2-PFDA	488976.2	0.538	5.000	5.082	102	70-130	
Ed3-NMePFOSA	85219.5	13C2-PFDA	488976.2	0.174	5.000	4.940	99	70-130	
Ed9-NEtPFOSAE	248643.5	13C2-PFDA	488976.2	0.508	5.000	5.533	111	70-130	
Ed5-NEtPFOSA	69883.1	13C2-PFDA	488976.2	0.143	5.000	5.044	101	70-130	
E13C2-PFTeDA	858058.8	13C2-PFDA	488976.2	1.755	5.000	5.175	104	70-130	

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

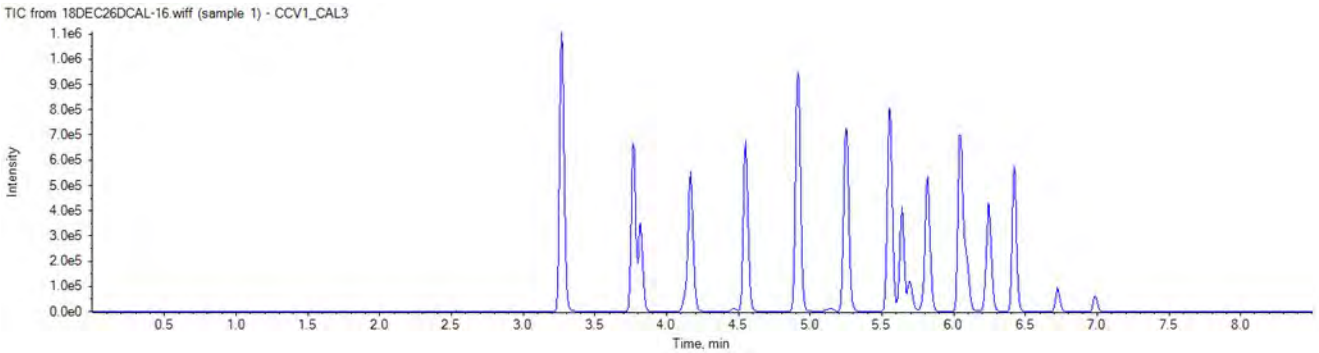
Analyte Quantitation Peak Table

Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-16.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	443636.4		A	13C4-PFBA	3.27	1076389.3	0.412	2.177
PFPeA	3.77	1.000	443947.1		A	13C5-PFPeA	3.77	1003197.6	0.443	2.197
PFBS	3.82	1.000	180361.5		A	13C3-PFBS	3.82	457672.8	0.394	1.956
4:2-FTS	4.13	1.000	53169.8		A	13C2-4:2-FTS	4.13	67107.7	0.792	1.943
PFHxA	4.17	1.000	410299.5		A	13C5-PFHxA	4.17	733970.6	0.559	2.294
PFPeS	4.18	1.100	95346.9		A	13C3-PFBS	3.82	457672.8	0.208	2.097
PFHpA	4.55	1.000	432861.1		A	13C4-PFHpA	4.55	594157.8	0.729	2.302
PFHxS	4.55	1.000	137179.8		M	13C3-PFHxS	4.55	345062.2	0.398	1.859
6:2-FTS	4.90	1.000	52433.2		A	13C2-6:2-FTS	4.90	54802.0	0.957	2.294
PFHpS	4.91	1.080	143706.6		A	13C3-PFHxS	4.55	345062.2	0.416	2.180
PFOA	4.92	1.000	453958.1		M	13C8-PFOA	4.92	1006150.2	0.451	2.387
PFOS	5.24	1.000	149355.0		M	13C8-PFOS	5.24	323560.6	0.462	2.010
PFNA	5.26	1.000	386712.8		A	13C9-PFNA	5.26	687269.4	0.563	2.261
PFNS	5.53	1.060	105758.5		A	13C8-PFOS	5.24	323560.6	0.327	2.234
PFDA	5.56	1.000	346411.3		A	13C6-PFDA	5.56	826480.2	0.419	2.416
8:2-FTS	5.56	1.000	50376.5		A	13C2-8:2-FTS	5.56	49600.7	1.016	2.007
PFOSA	5.64	1.000	269540.6		A	13C8-PFOSA	5.64	618151.2	0.436	2.294
NMeFOSAA	5.70	1.000	67416.4		M	d3-NMeFOSAA	5.69	193809.8	0.348	2.028
PFDS	5.79	1.100	83451.9		A	13C8-PFOS	5.24	323560.6	0.258	2.126
PFUnDA	5.82	1.000	374117.3		A	13C7-PFUnDA	5.82	577728.7	0.648	2.477
NEtFOSAA	5.83	1.000	66771.9		M	d5-NEtFOSAA	5.83	155557.0	0.429	2.207
PFDoDA	6.05	1.000	513299.9		A	13C2-PFDoDA	6.05	1077309.5	0.476	2.431
10:2-FTS	6.06	1.090	47459.4		A	13C2-8:2-FTS	5.56	49600.7	0.957	1.953
NMePFOSAE	6.09	1.000	134536.9		A	d7-NMePFOSAE	6.08	262834.9	0.512	2.164
NMePFOSA	6.11	1.000	34634.8		A	d3-NMePFOSA	6.10	85219.5	0.406	2.028
PFDoS	6.22	1.190	45537.3		A	13C8-PFOS	5.24	323560.6	0.141	2.103
NEtPFOSAE	6.25	1.000	141589.3		A	d9-NEtPFOSAE	6.24	248643.5	0.569	1.884
NEtPFOSA	6.27	1.000	31681.4		A	d5-NEtPFOSA	6.26	69883.1	0.453	2.131
PFTrDA	6.25	1.030	495383.4		A	13C2-PFDoDA	6.05	1077309.5	0.460	2.448
PFTeDA	6.42	1.000	340197.7		A	13C2-PFTeDA	6.42	858058.8	0.396	2.255
PFHxDA	6.73	1.050	178493.2		A	13C2-PFTeDA	6.42	858058.8	0.208	2.398
PFODA	6.99	1.090	127567.3		A	13C2-PFTeDA	6.42	858058.8	0.149	2.198

Total Ion Chromatogram

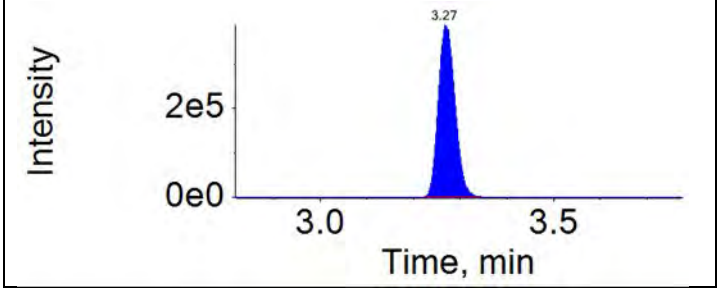


APPROVED
By MSM at 1:33 pm, 12/27/18

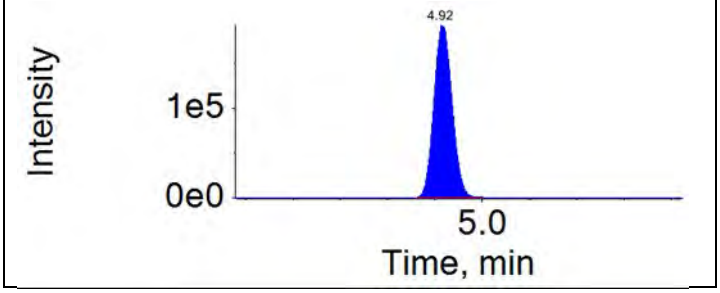
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

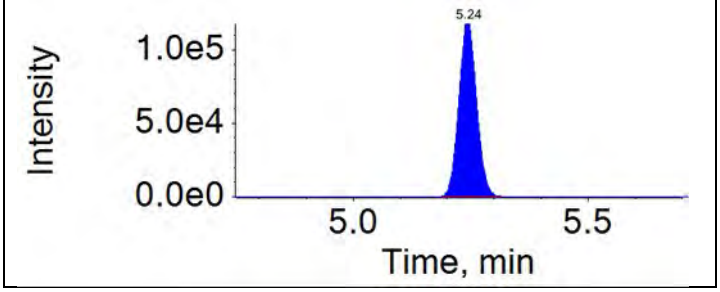
Injection Standard: 13C3-PFBA
216.0 / 172.0



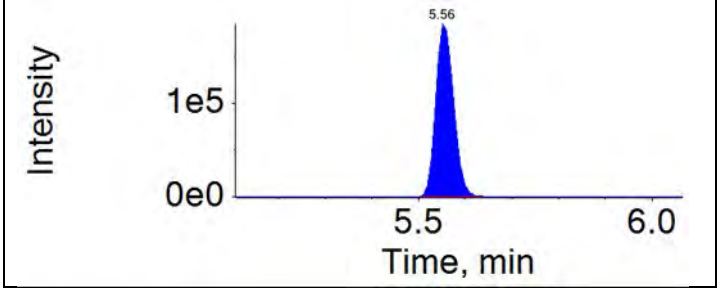
Injection Standard: 13C2-PFOA
415.0 / 370.0



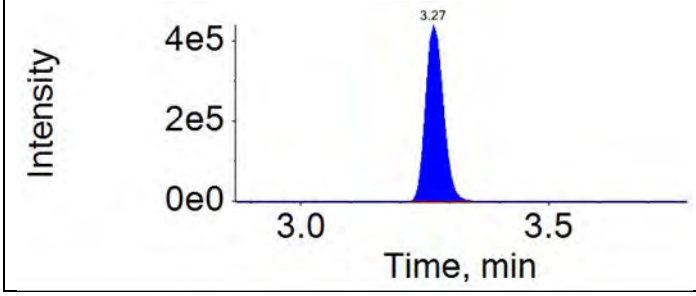
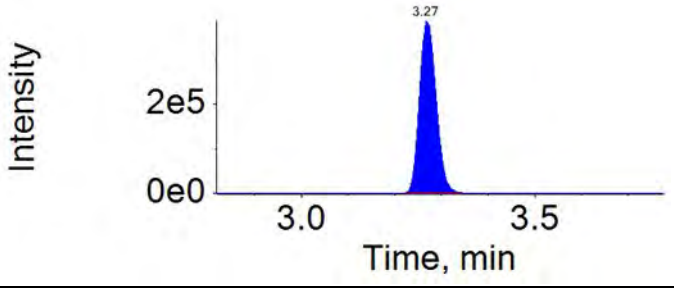
Injection Standard: 13C4-PFOS
503.0 / 80.0

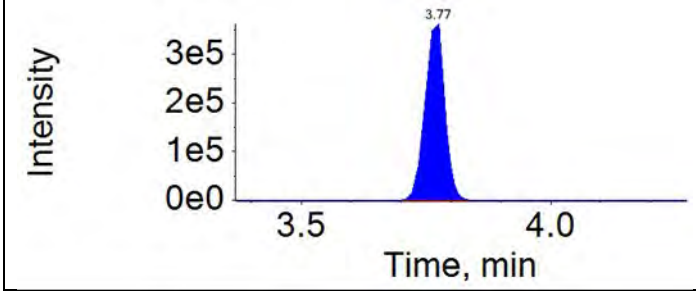
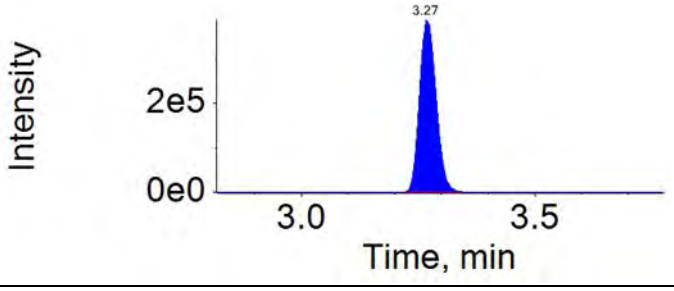


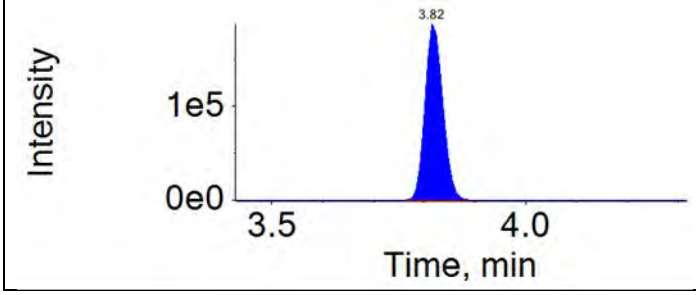
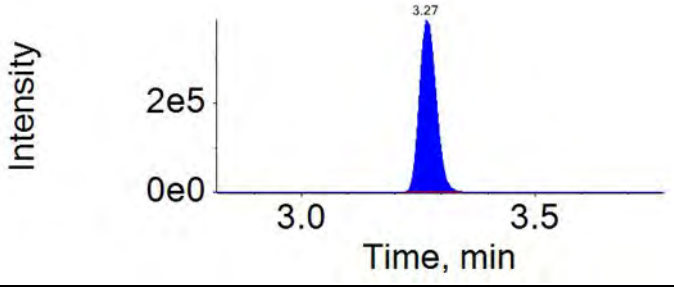
Injection Standard: 13C2-PFDA
515.0 / 470.0

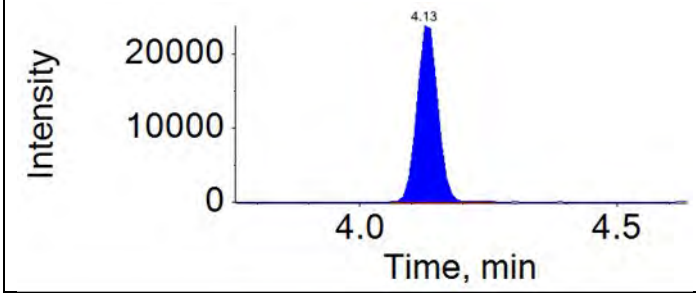
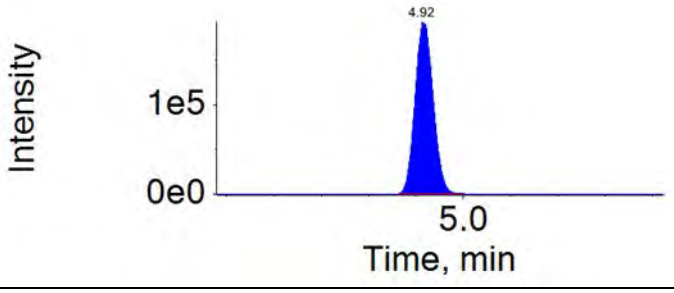


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

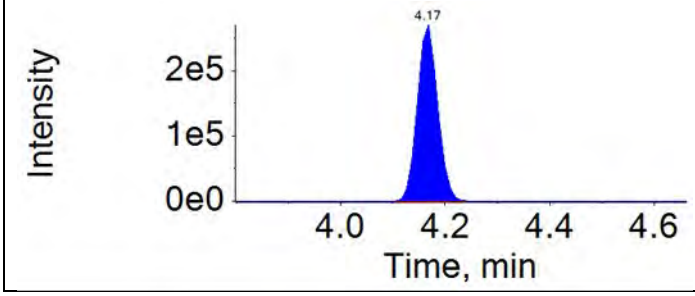
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

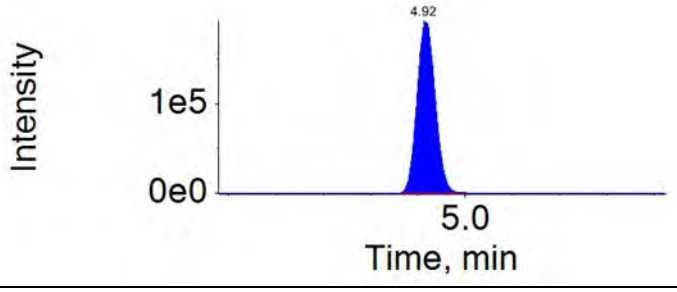
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

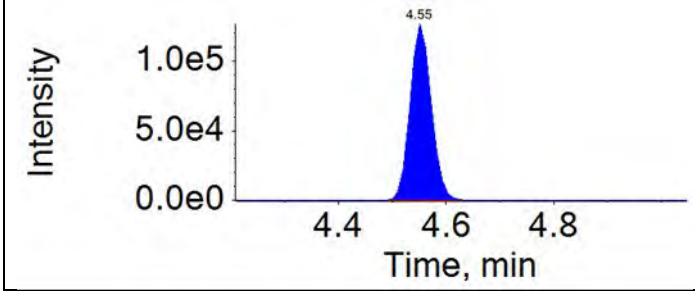
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

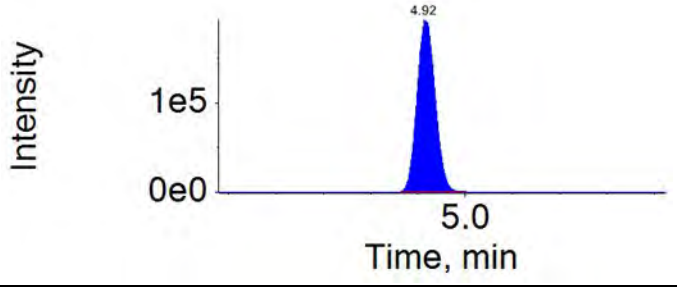
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



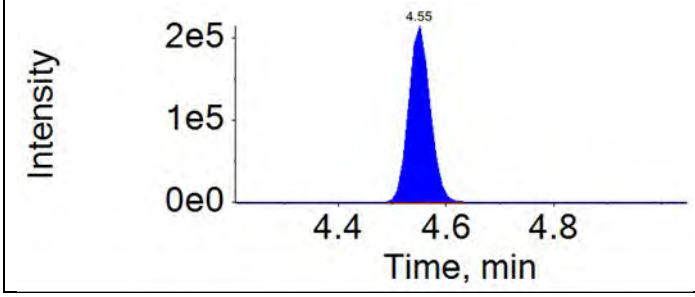


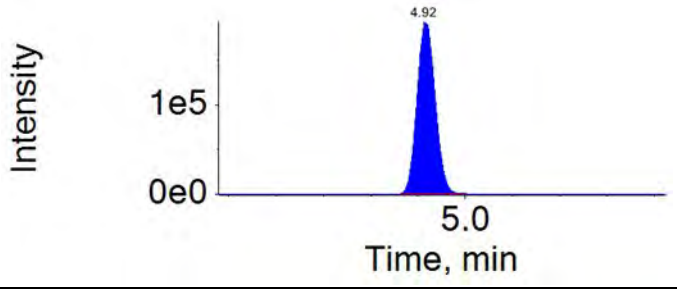
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



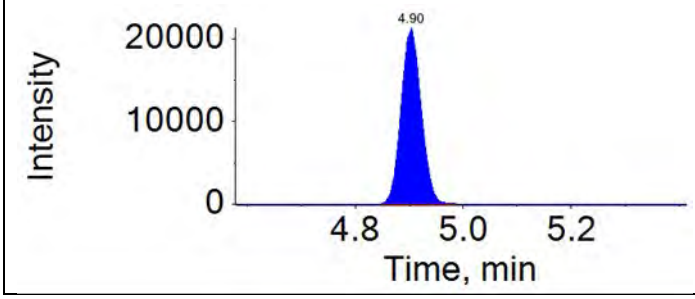


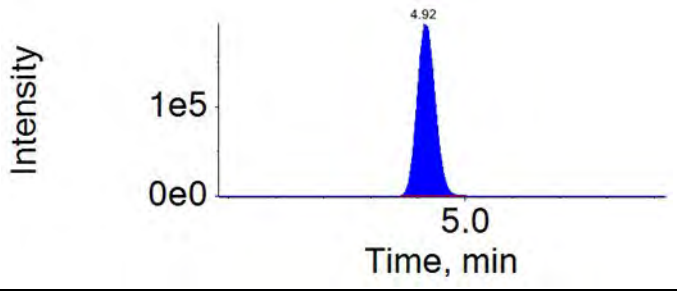
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



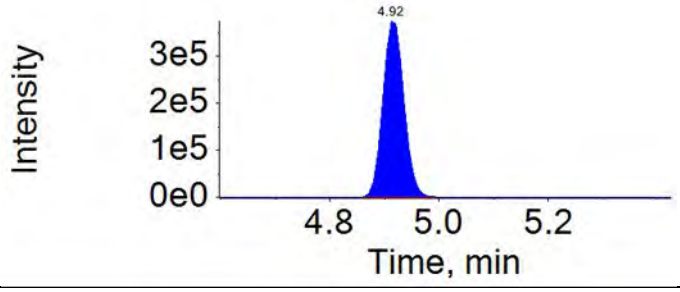


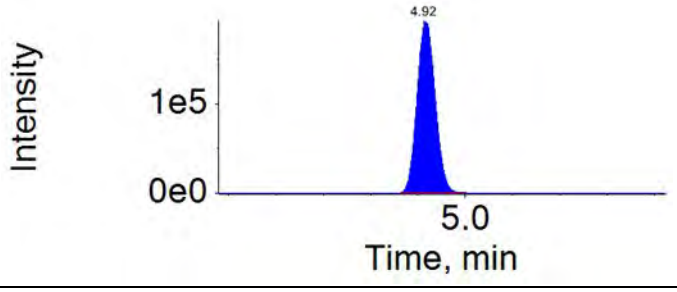
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

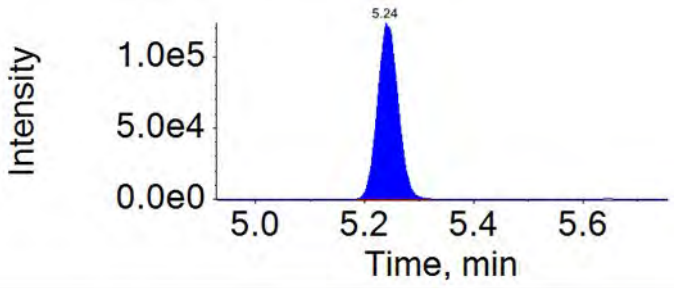
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

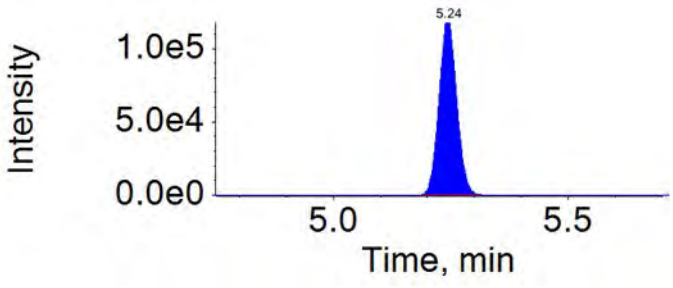
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



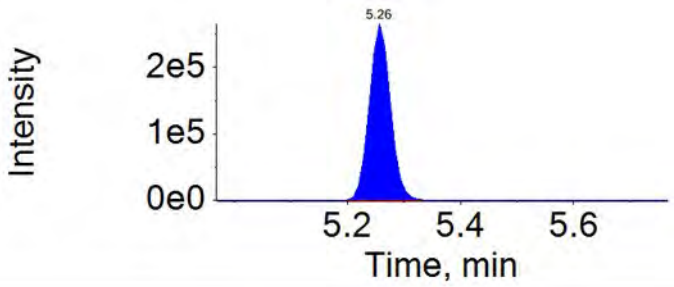


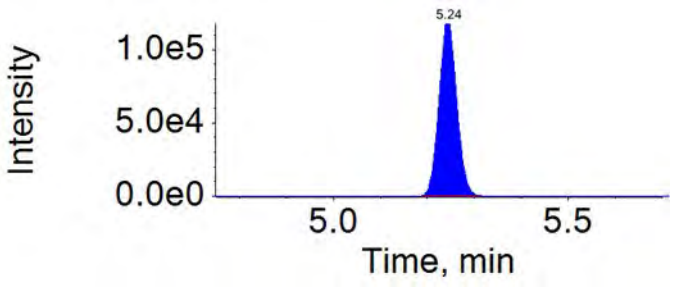
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



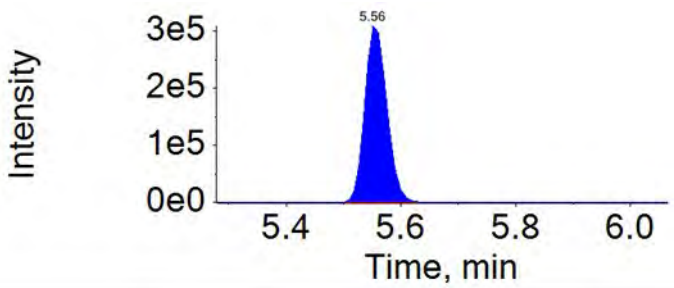


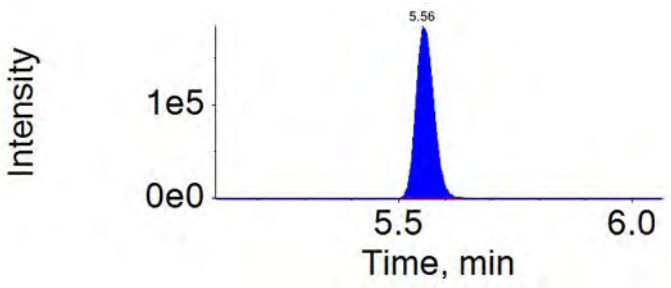
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

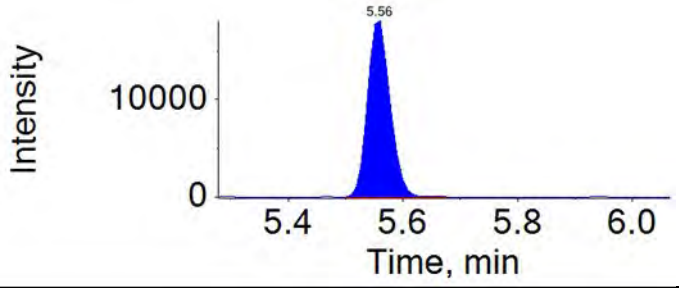
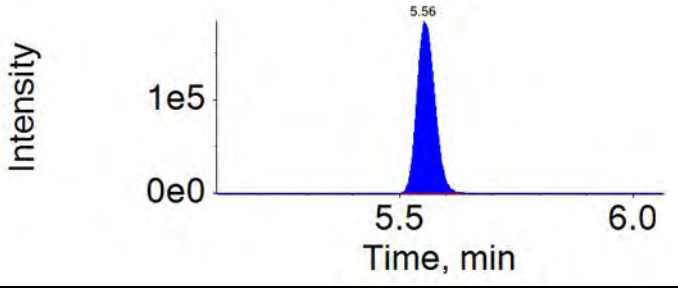


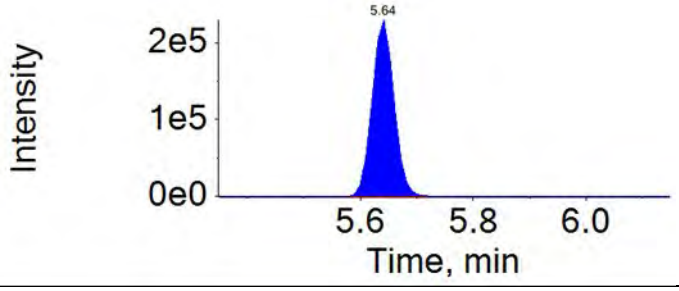
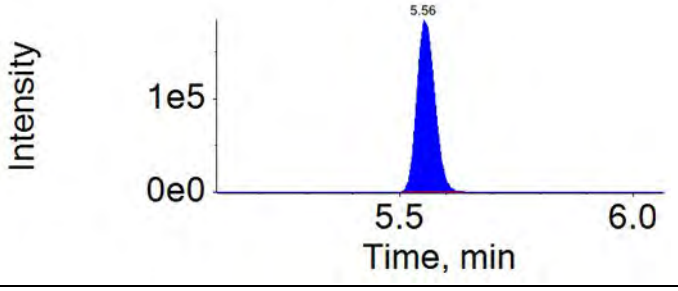


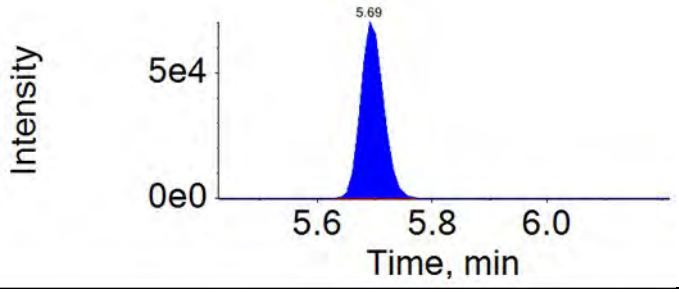
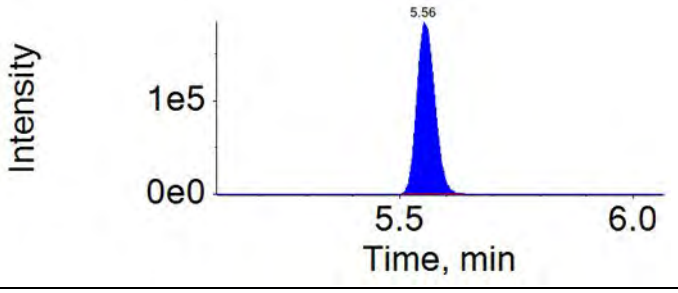
APPROVED
By MSM at 1:33 pm, 12/27/18

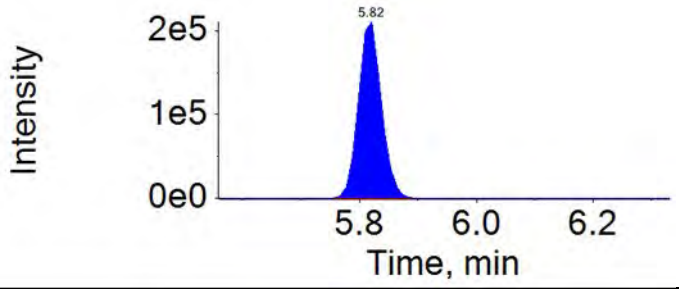
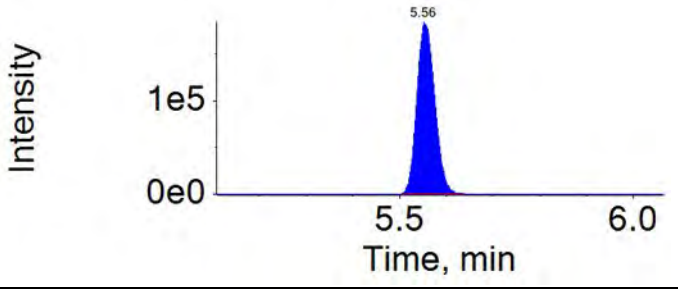
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

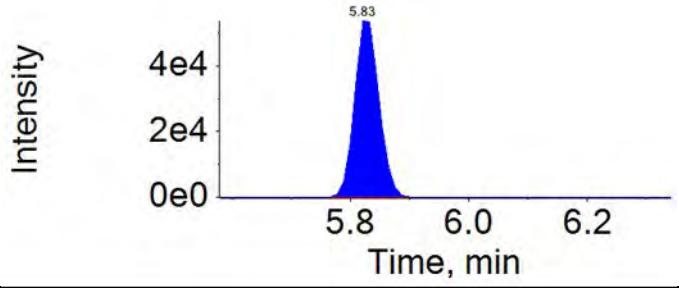
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

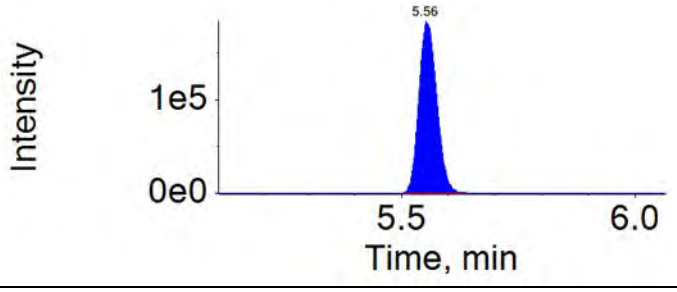
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

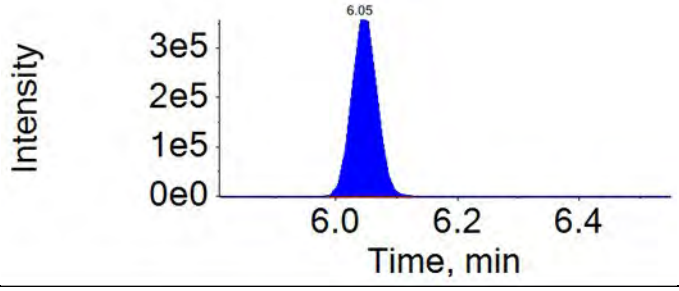
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

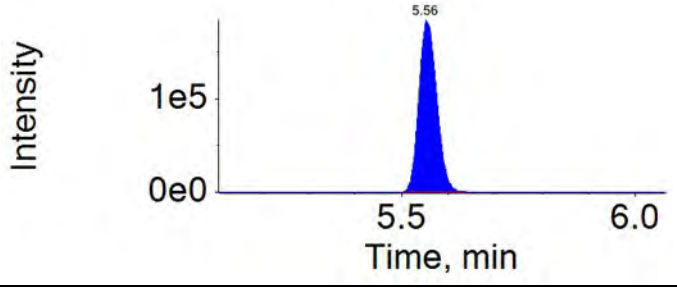
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



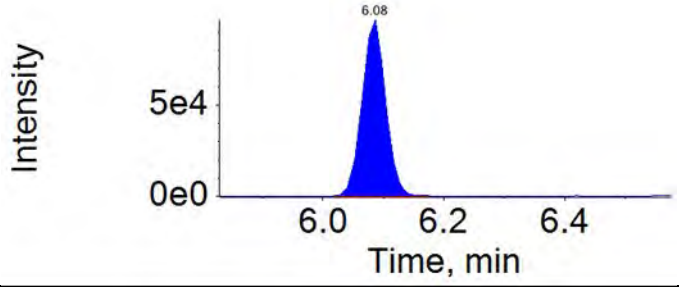


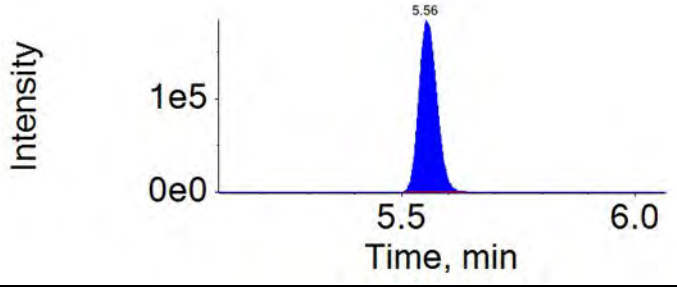
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



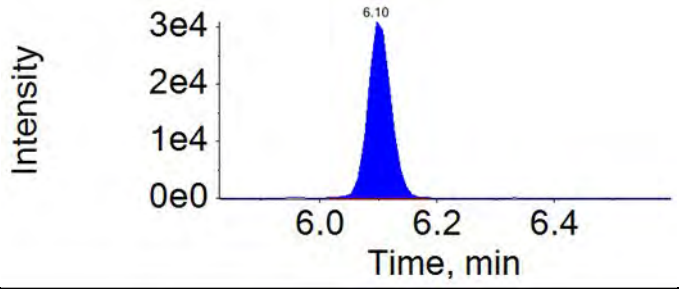


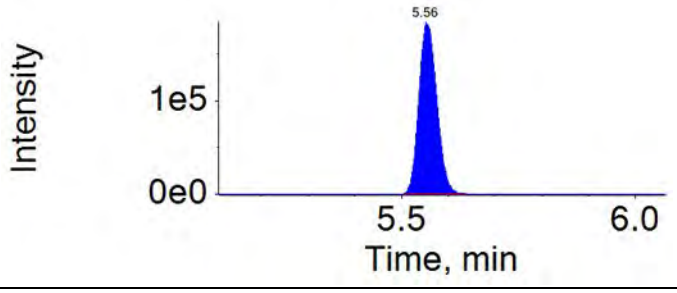
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



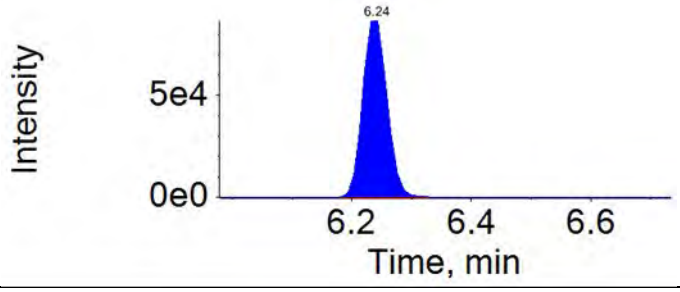


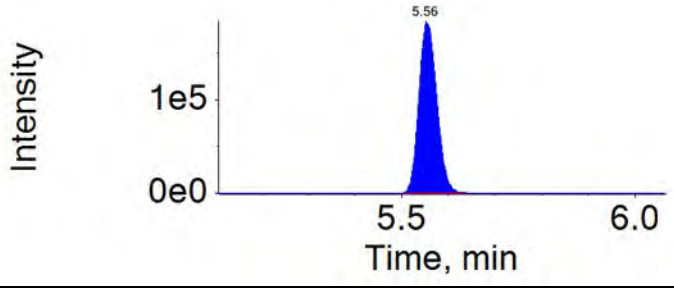
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

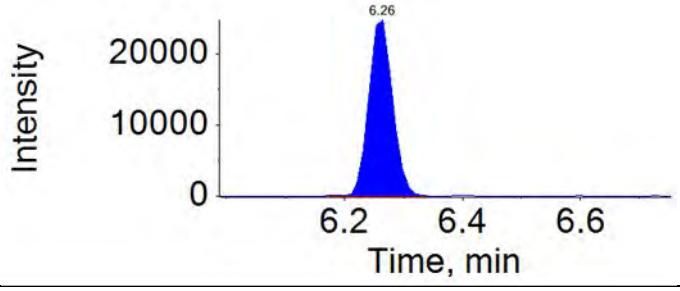
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

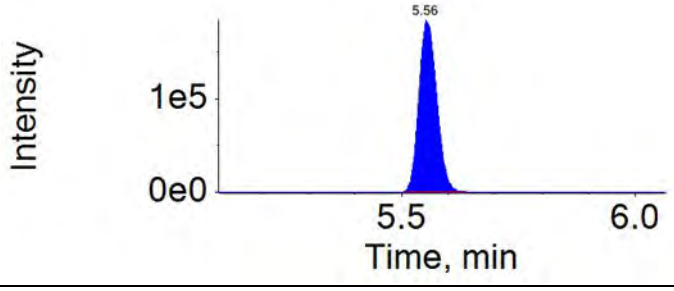
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



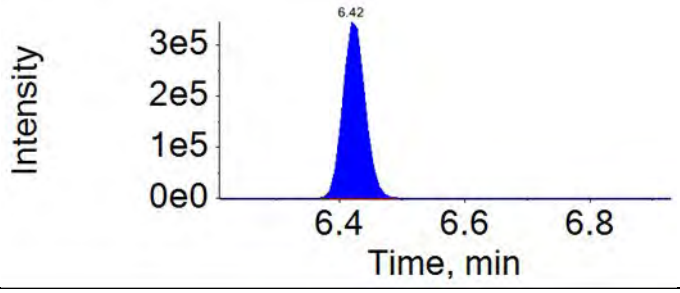


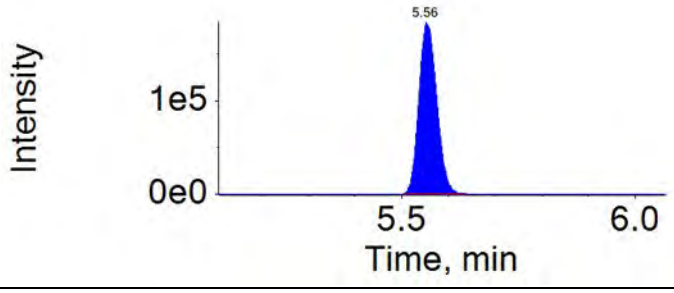
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



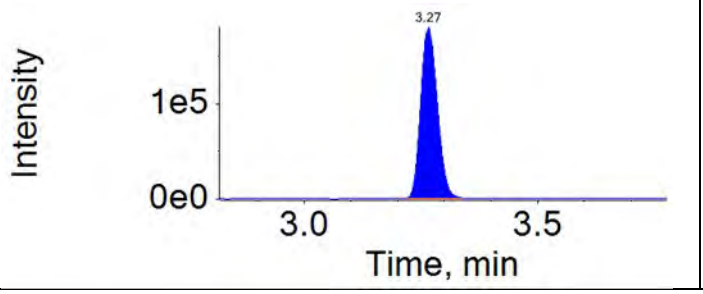


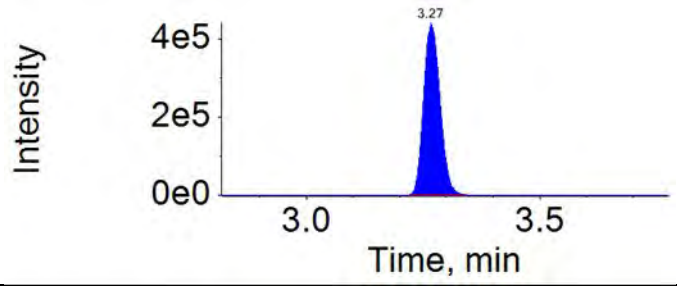
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

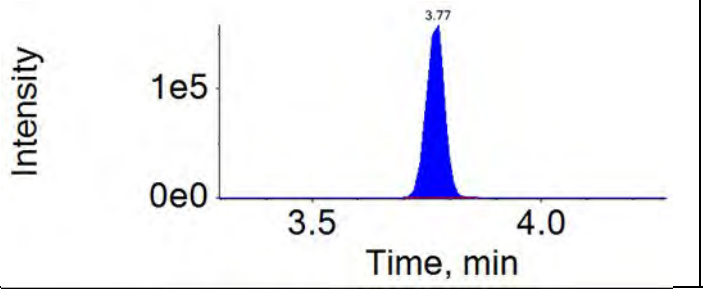
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

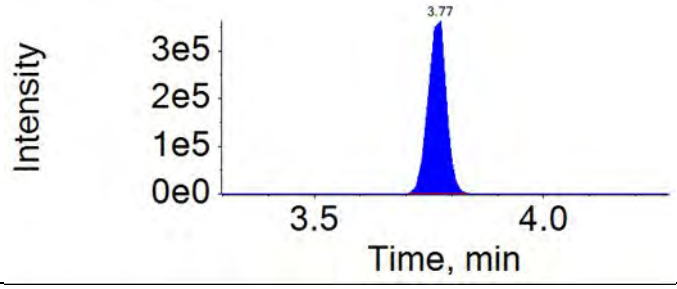
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



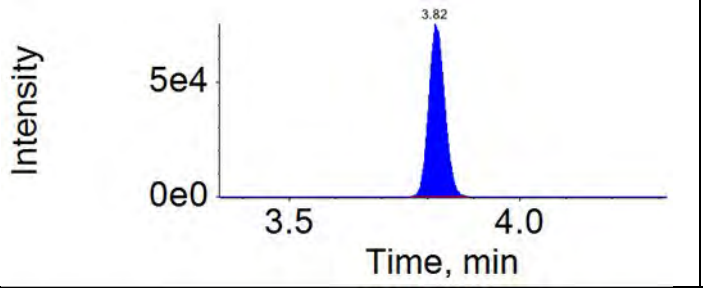


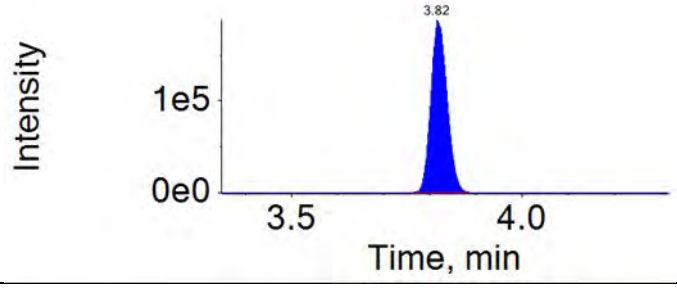
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



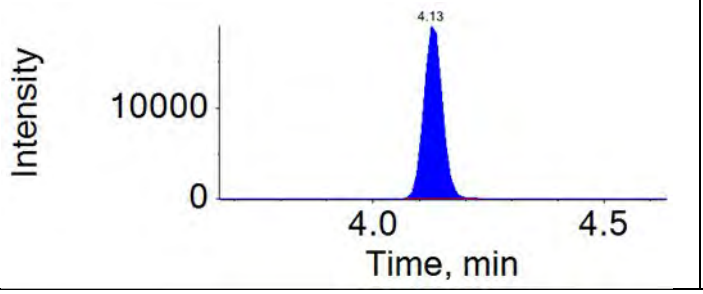


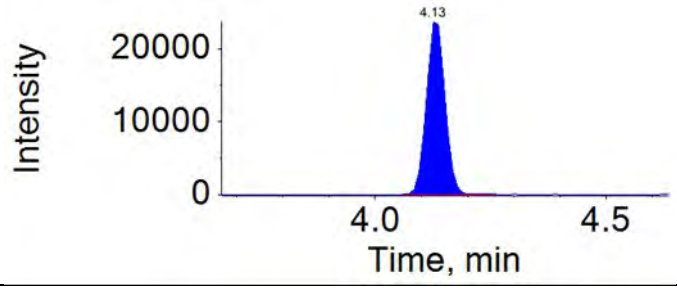
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



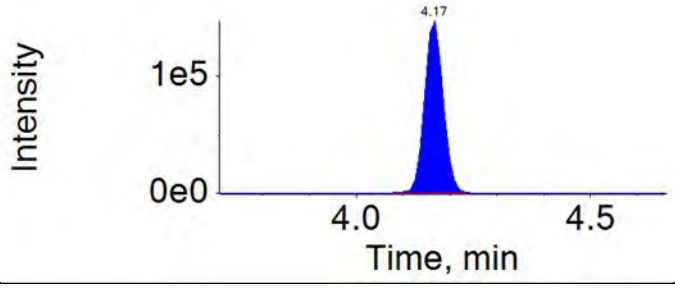


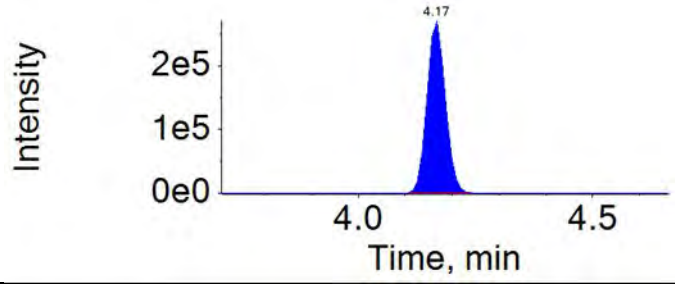
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

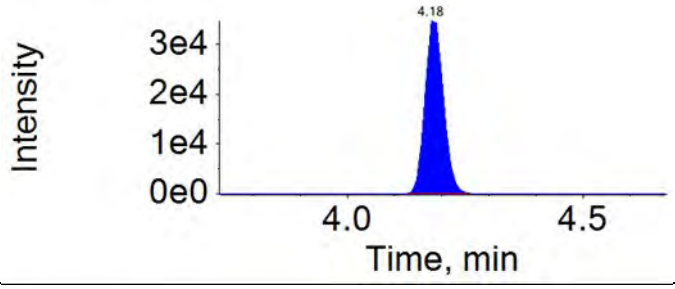
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

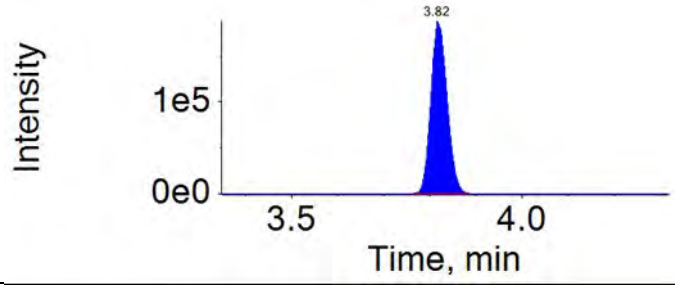
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



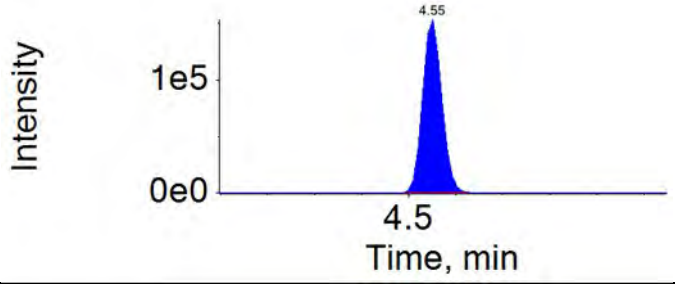


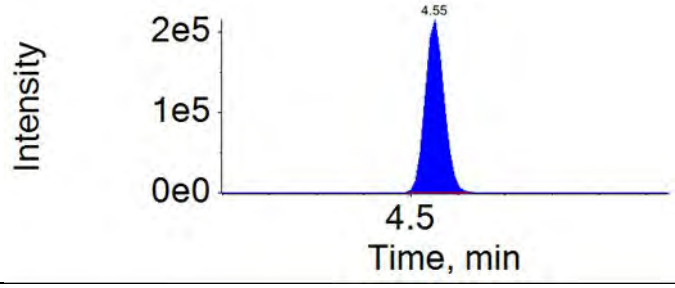
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



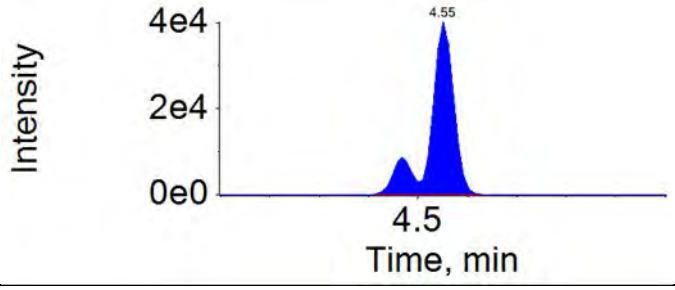


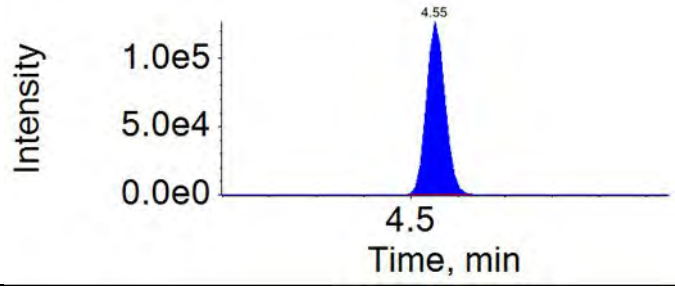
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0



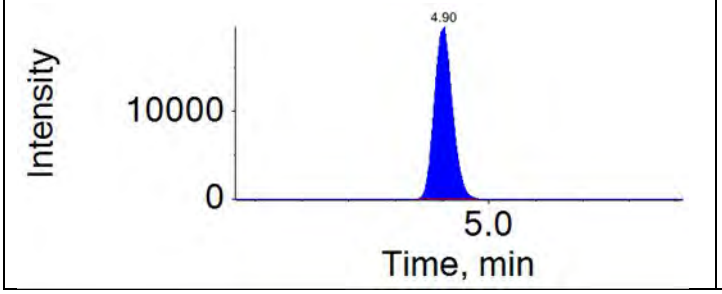


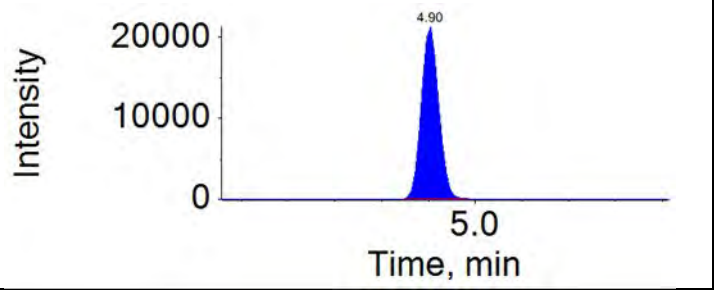
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

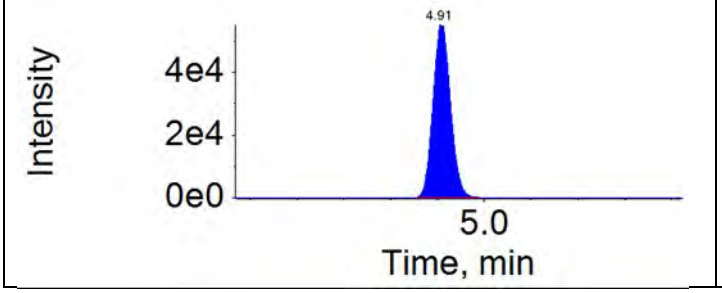
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

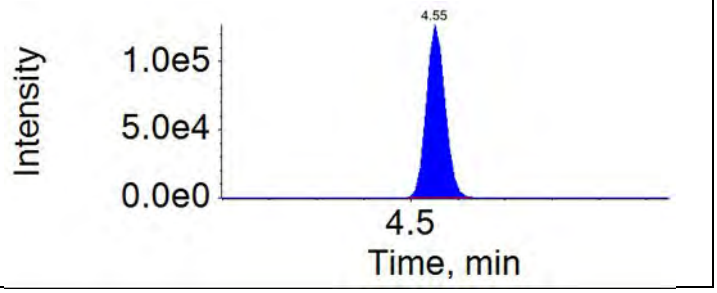
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



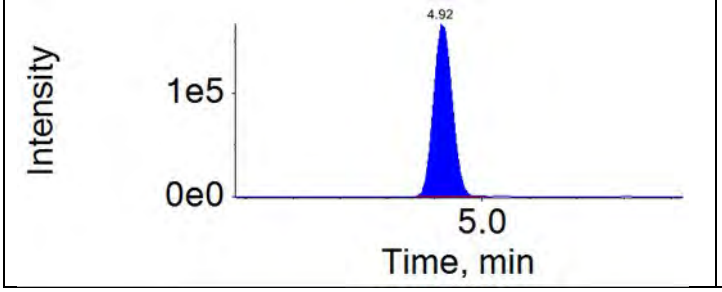


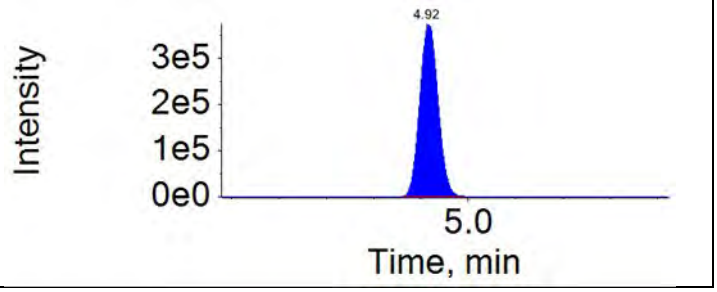
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



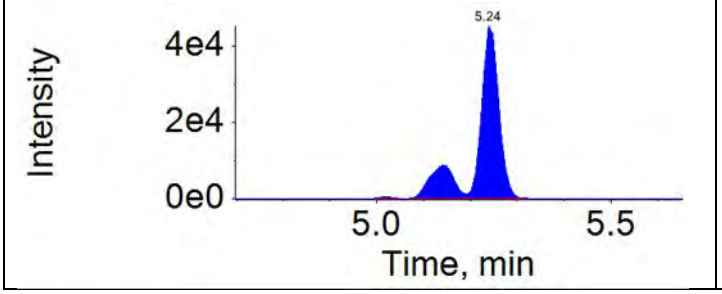


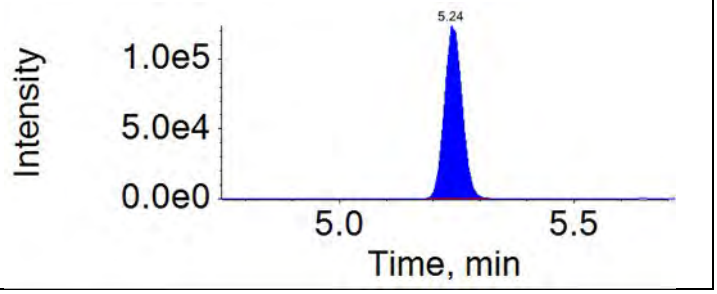
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



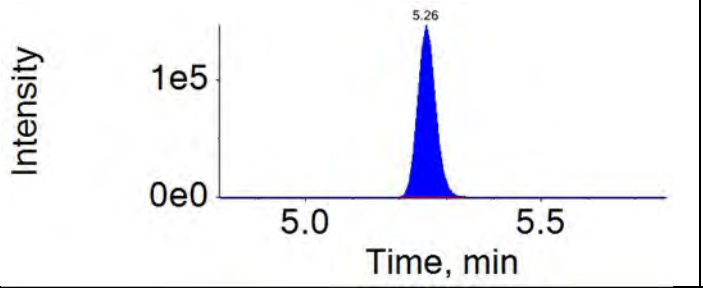


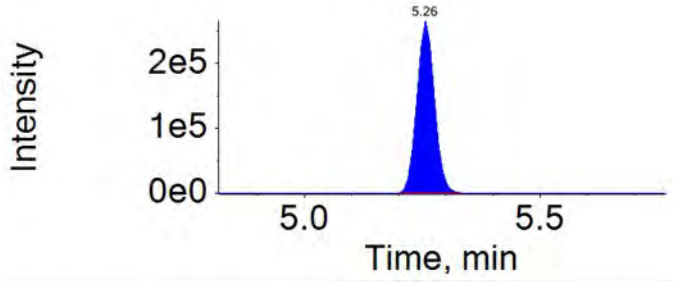
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

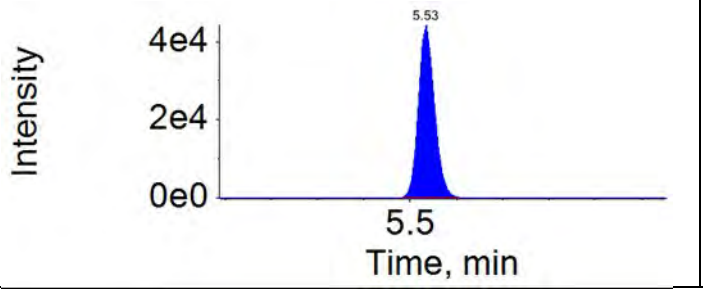
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

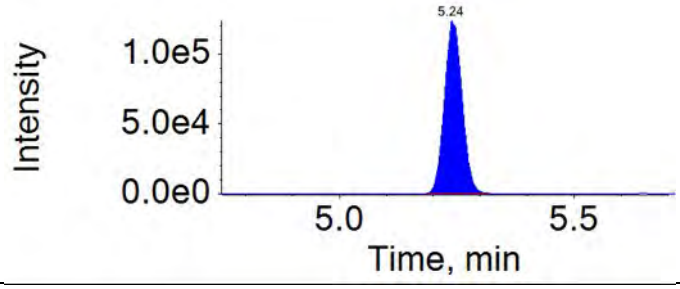
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



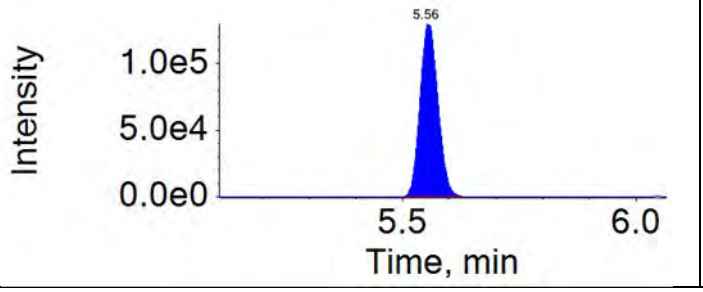


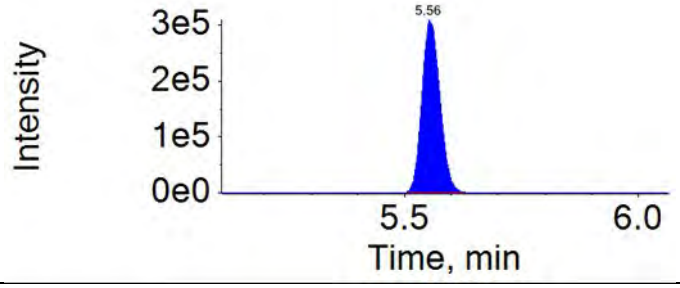
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



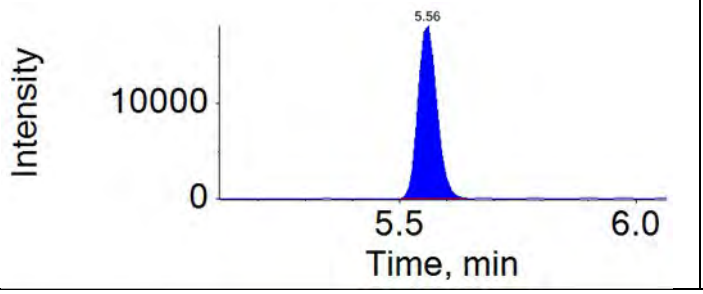


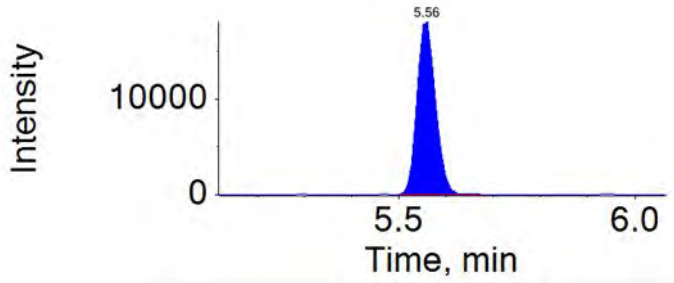
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



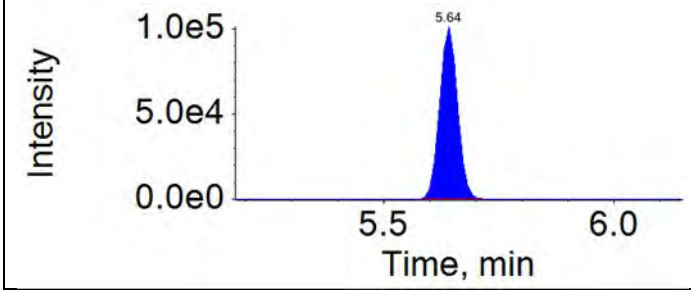


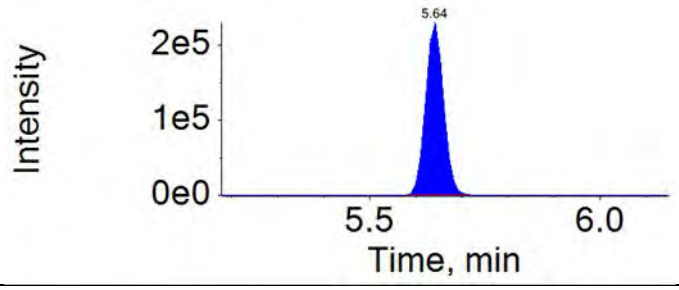
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

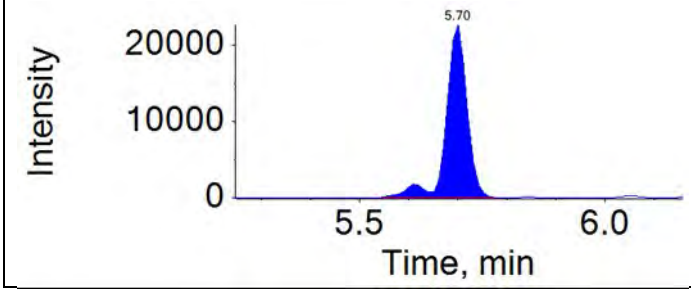
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

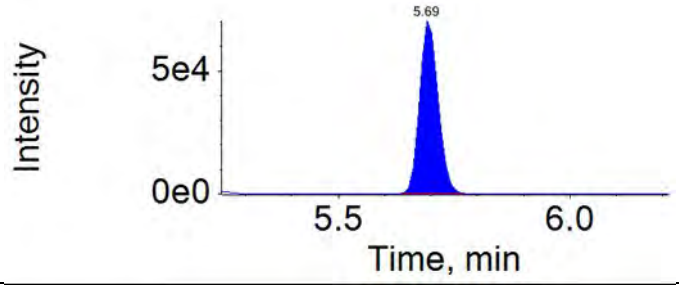
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



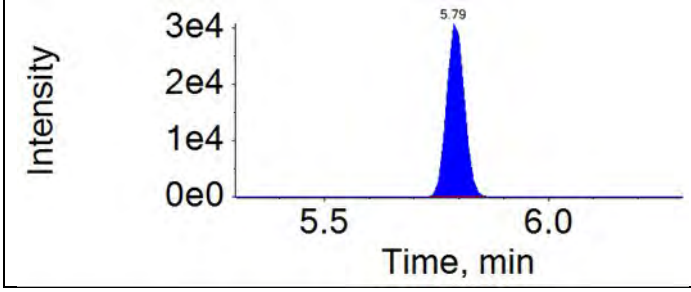


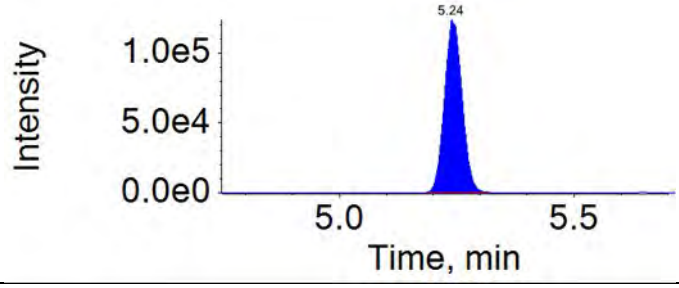
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



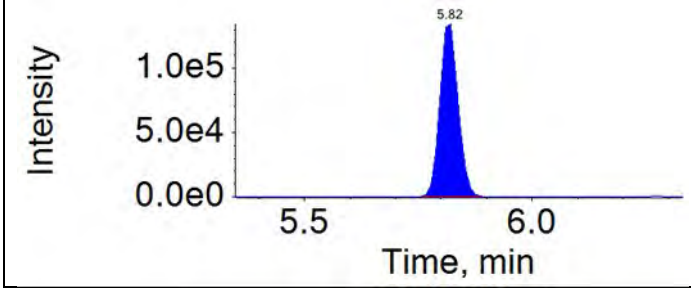


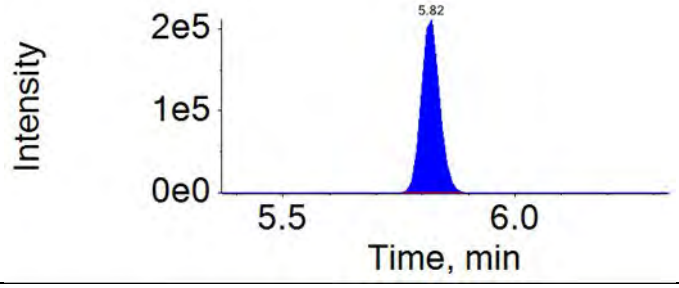
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

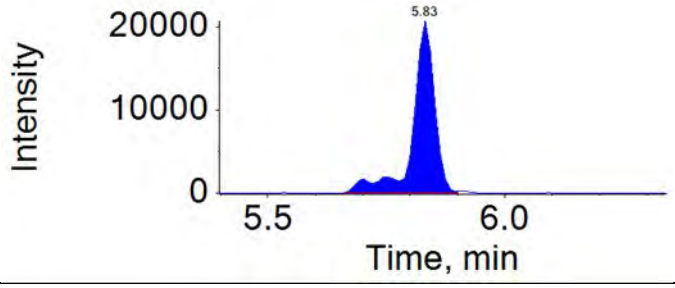
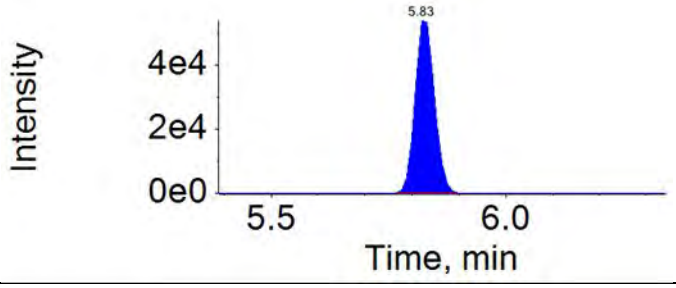


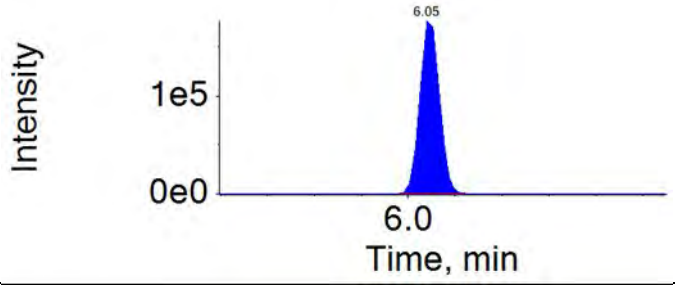
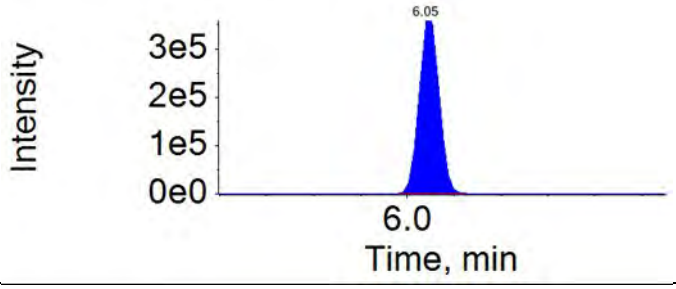


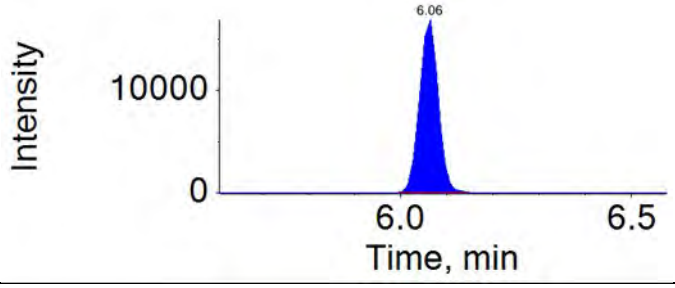
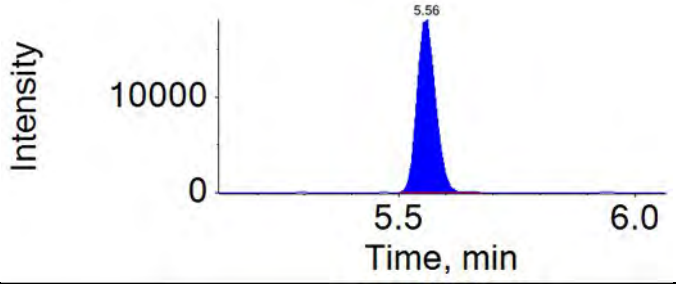
APPROVED
By MSM at 1:33 pm, 12/27/18

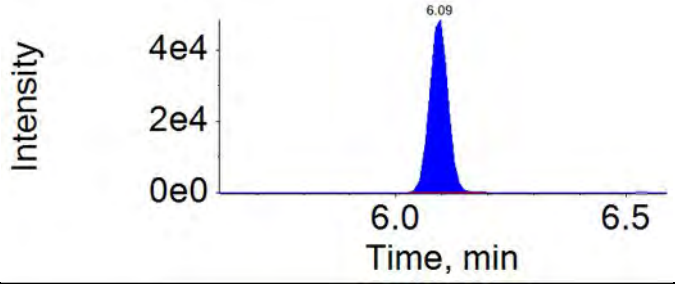
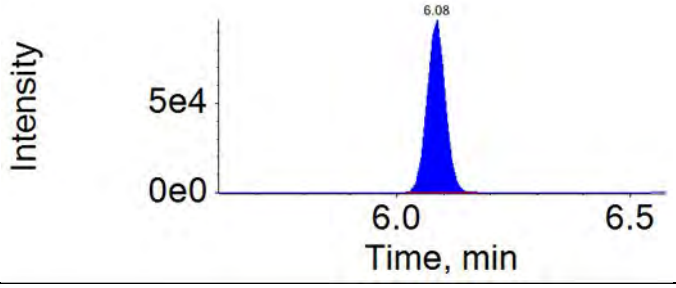
REVIEWED
By HMK at 10:43 am, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

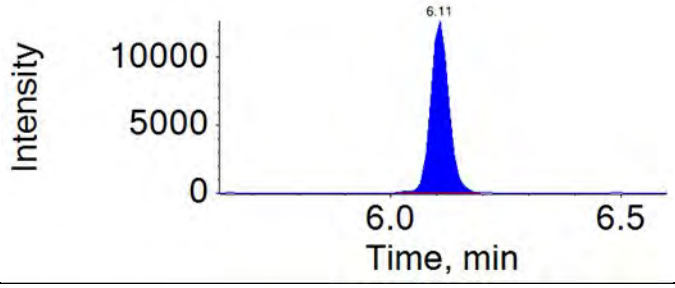
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

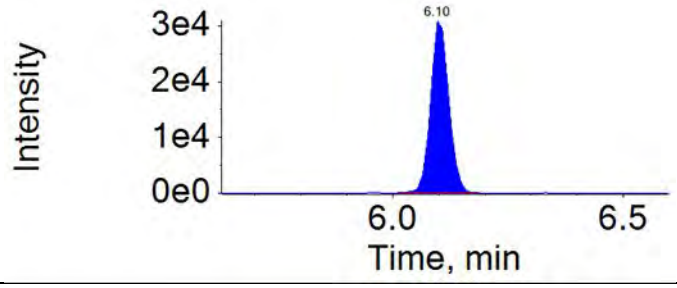
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

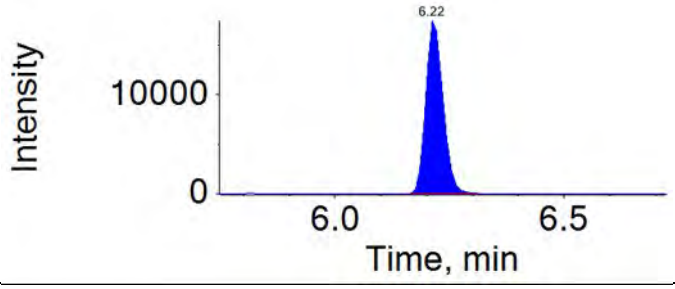
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

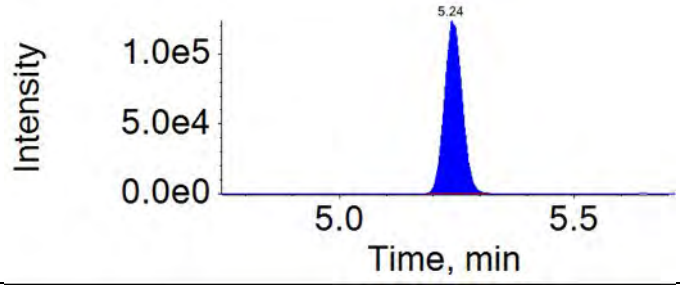
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



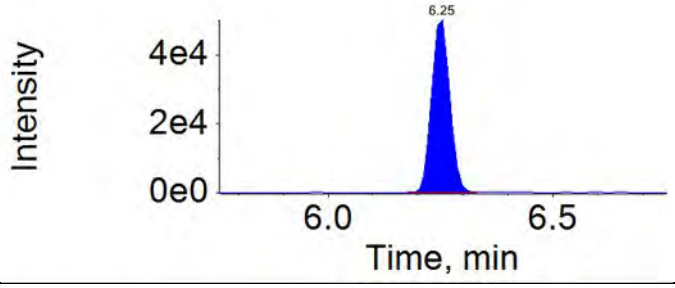


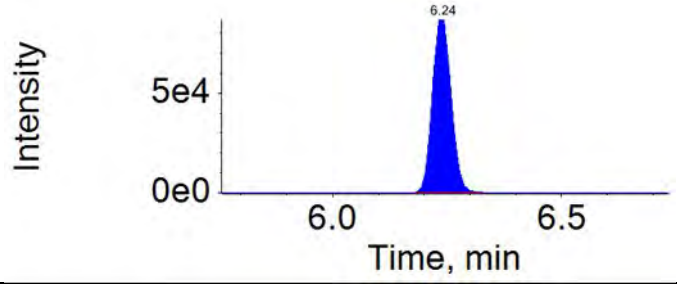
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



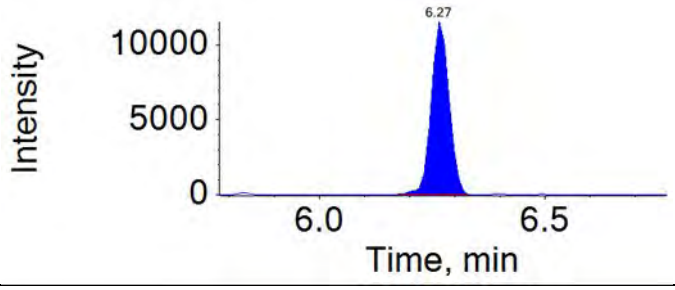


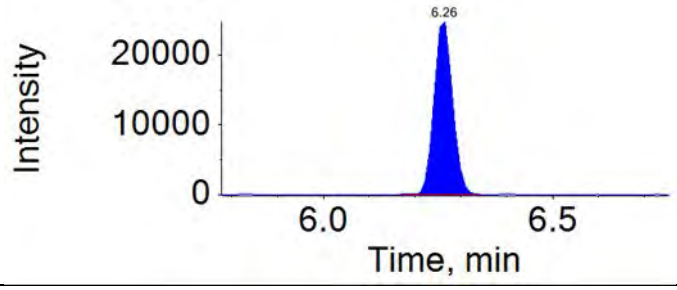
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



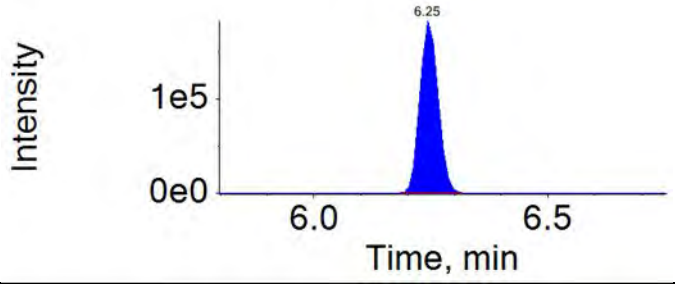


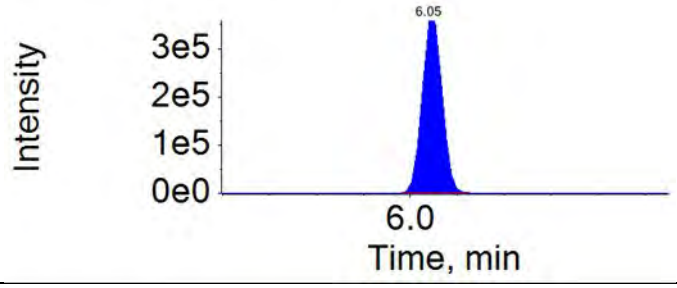
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

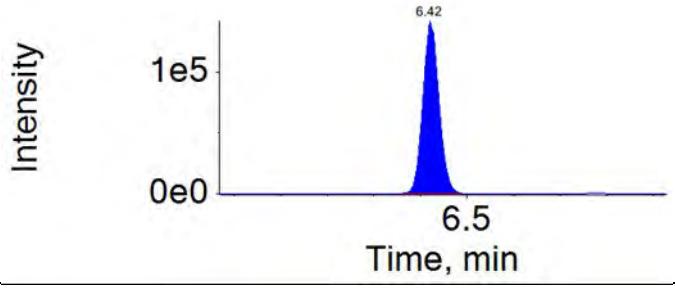
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCAL 12/26/2018 4:04:52 PM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

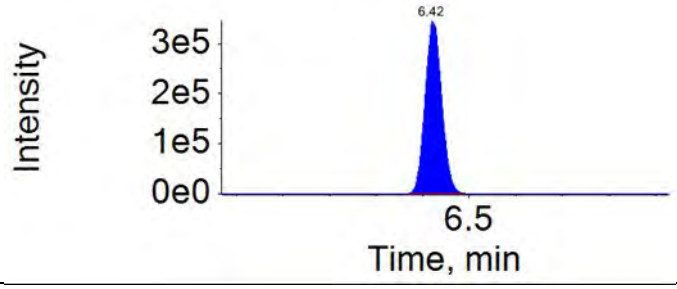
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



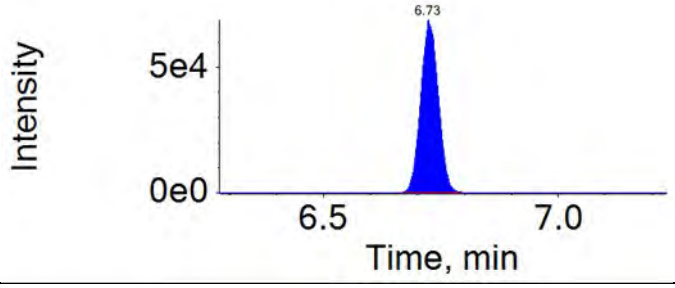


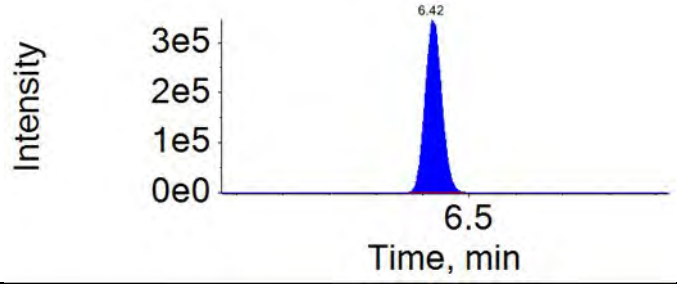
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



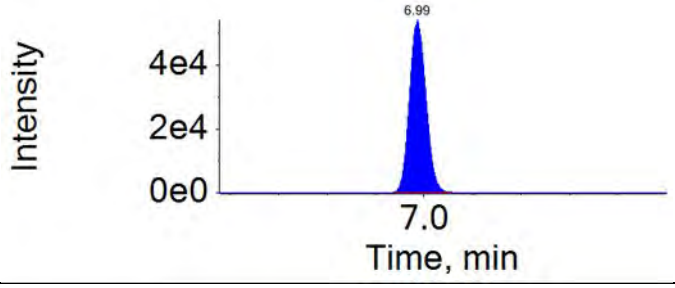


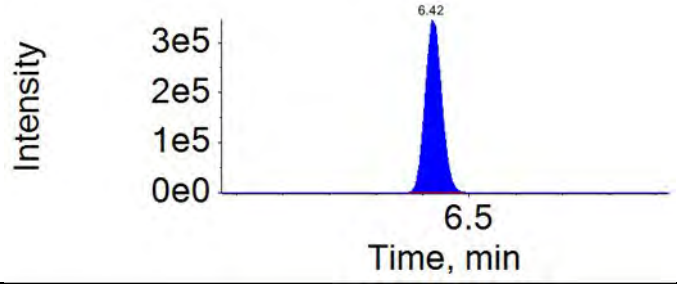
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



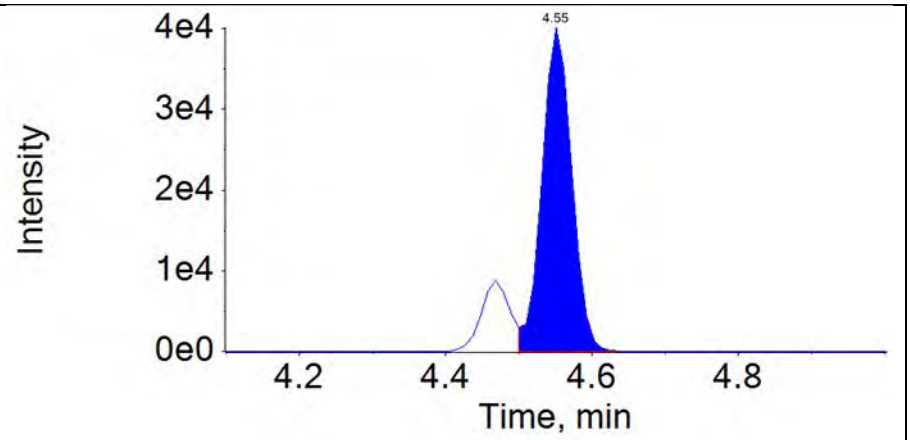


APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

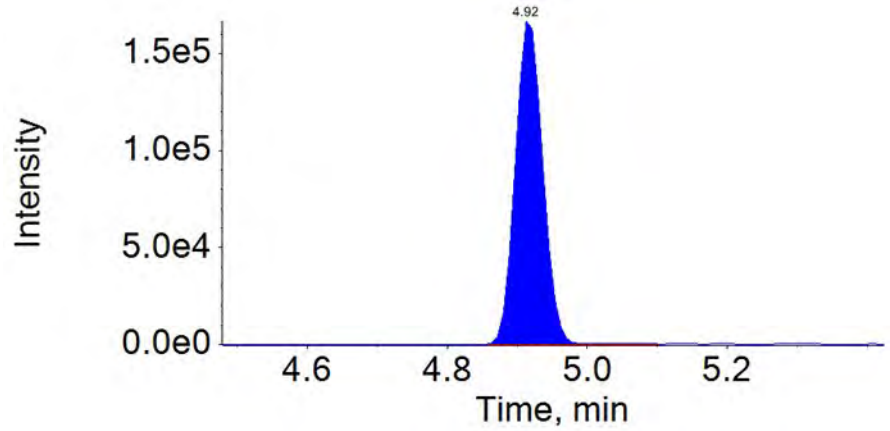
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
113993.81
Mass Range:
399.0 / 80.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



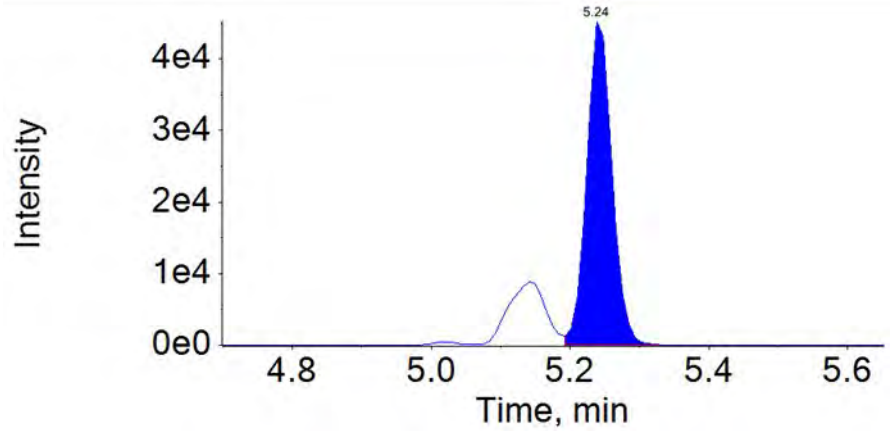
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
455082.30
Mass Range:
413.0 / 369.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
114925.11
Mass Range:
499.0 / 80.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



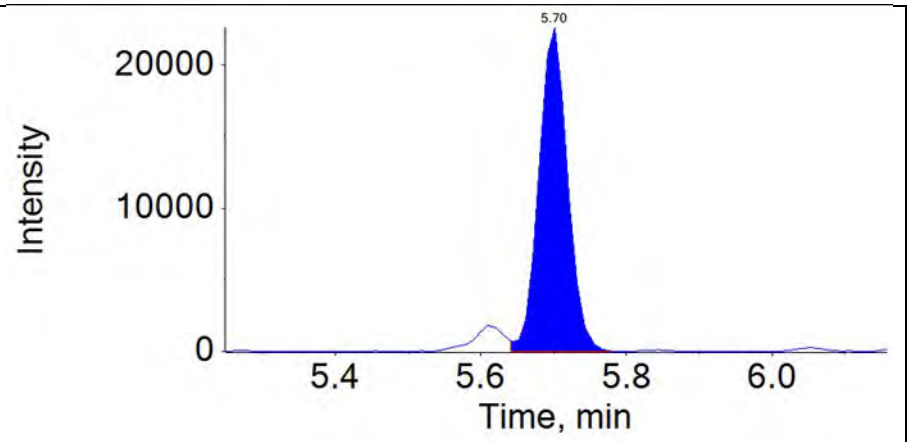
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

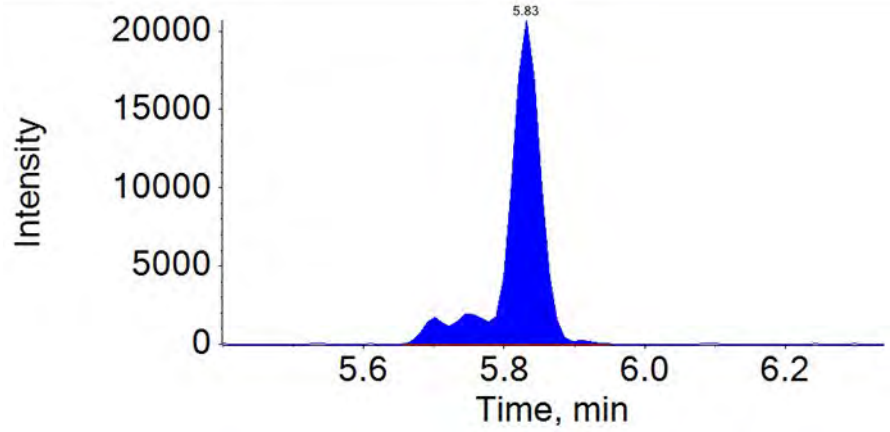
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
62134.73
Mass Range:
570.0 / 419.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



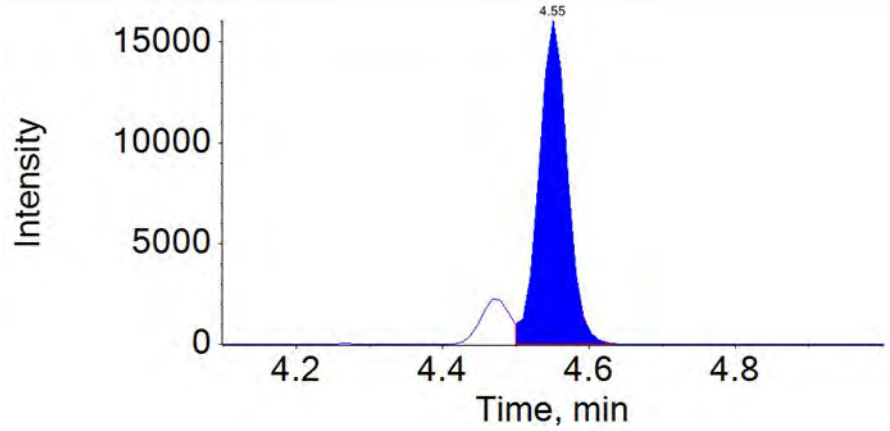
Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
67223.15
Mass Range:
584.0 / 419.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
43456.14
Mass Range:
399.0 / 99.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



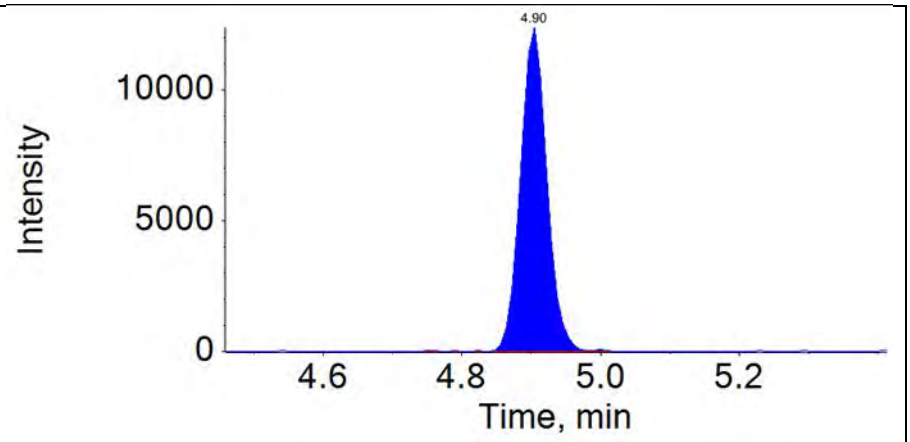
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

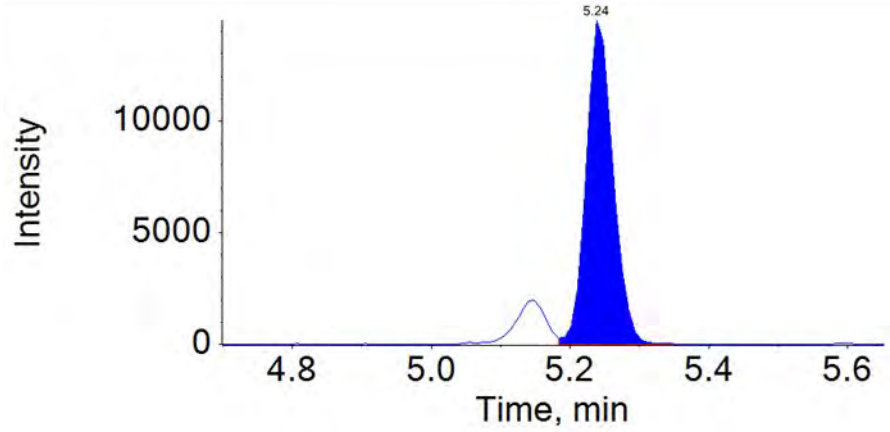
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
6:2-FTS_2
RT (min.):
4.90
Peak Area:
32974.52
Mass Range:
427.0 / 81.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



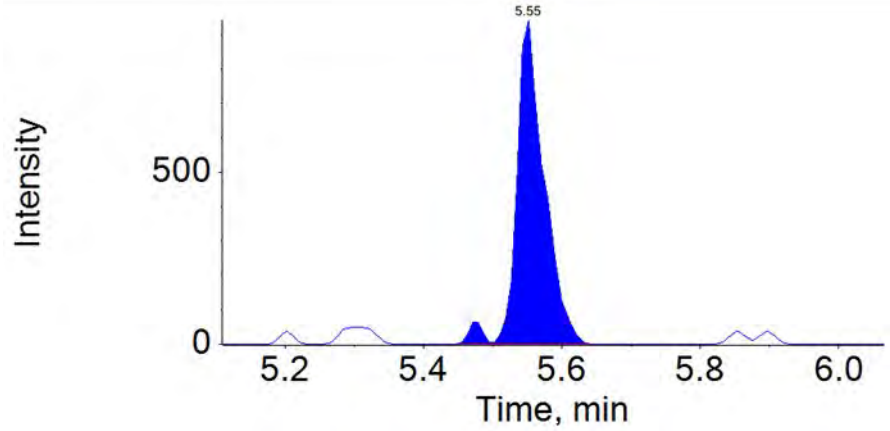
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
39214.85
Mass Range:
499.0 / 99.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
PFDA_2
RT (min.):
5.55
Peak Area:
2634.76
Mass Range:
513.0 / 169.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



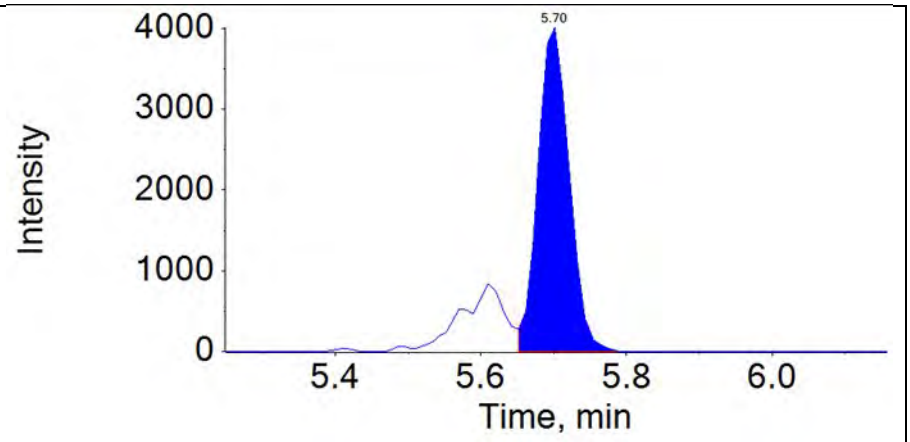
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

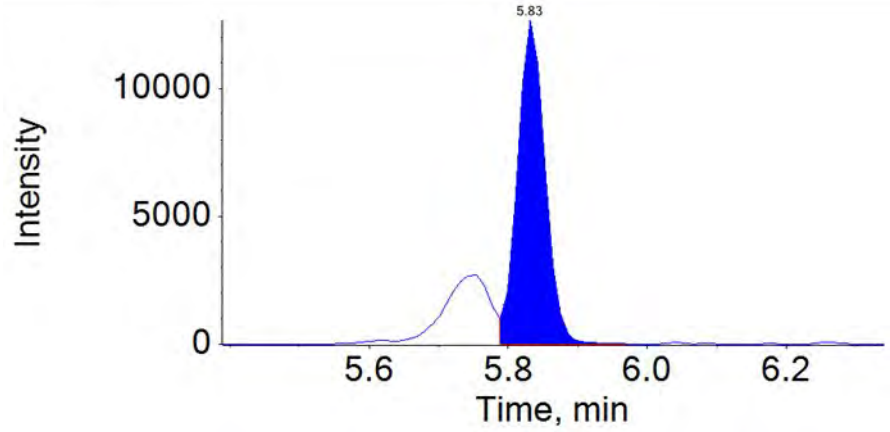
Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
12014.20
Mass Range:
570.0 / 483.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



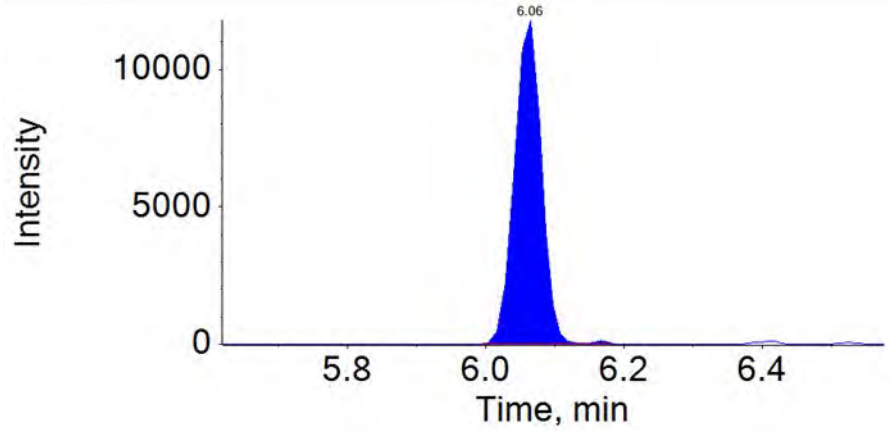
Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
34919.12
Mass Range:
584.0 / 526.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

Component Name:
10:2-FTS_2
RT (min.):
6.06
Peak Area:
32284.35
Mass Range:
627.0 / 81.0
File Name:
18DEC26DCAL-16.wiff
Sample Name:
CCV1_CAL3

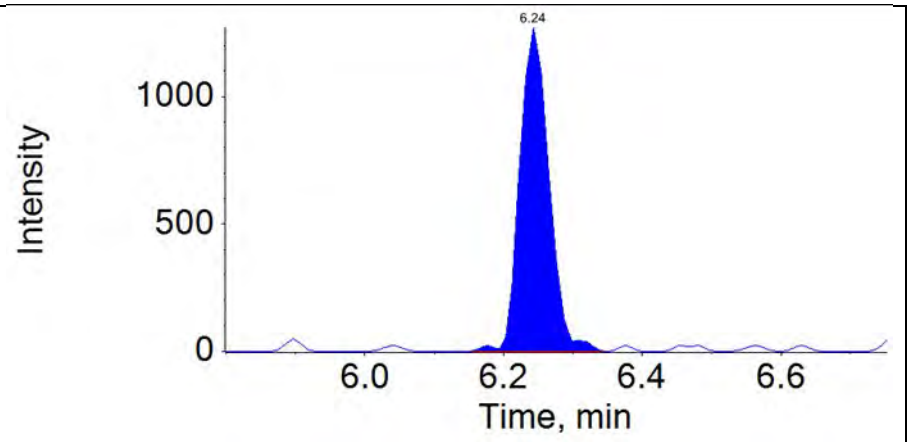


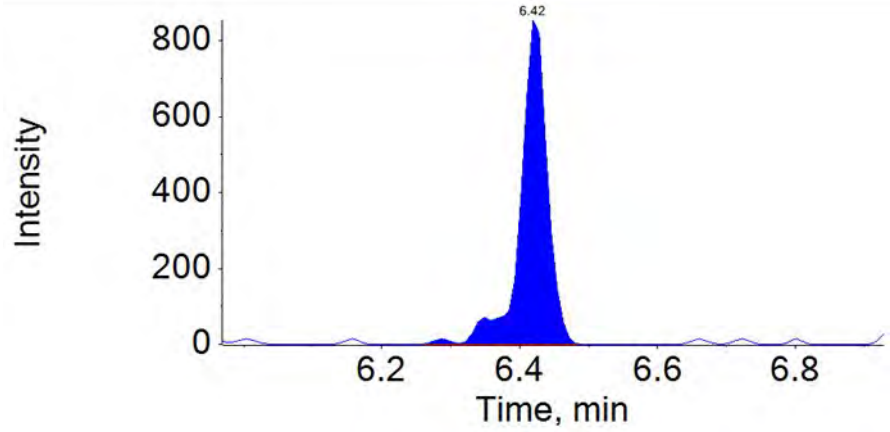
Integration Comment: incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name: PFTrDA_2 **RT (min.):** 6.24 **Peak Area:** 3743.51 **Mass Range:** 663.0 / 169.0 **File Name:** 18DEC26DCAL-16.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

Component Name: PFTeDA_2 **RT (min.):** 6.42 **Peak Area:** 2341.65 **Mass Range:** 713.0 / 169.0 **File Name:** 18DEC26DCAL-16.wiff **Sample Name:** CCV1_CAL3	 **Integration Comment:** incorrect integration

APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Results Table Name: 18DEC26DCAL
Results Table Date: 12/27/2018 1:08:01 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

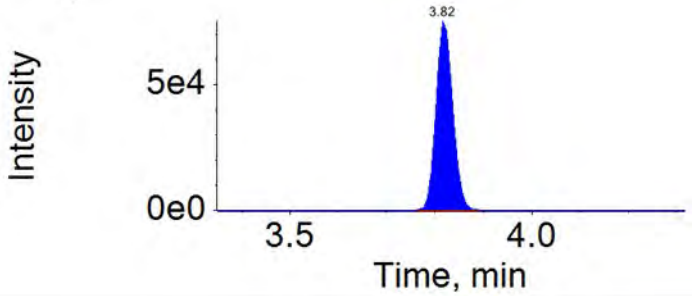
Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18DEC26DCAL-16.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	180361.51	A	1.0000	1.0000			
PFBS_2	3.82	1.00	67757.46	A	0.3621	0.3757	4	50	
4:2-FTS	4.13	1.00	53169.79	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	34366.92	A	0.6132	0.6464	5	50	
PFHxA	4.17	1.00	410299.52	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	4192.80	A	0.0123	0.0102	-17	50	
PFPeS	4.18	1.10	95346.94	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	50021.89	A	0.5068	0.5246	4	50	
PFHpA	4.55	1.00	432861.06	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	23639.01	A	0.0570	0.0546	-4	50	
PFHxS	4.55	1.00	137179.84	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	49510.78	M	0.3566	0.3609	1	50	
6:2-FTS	4.90	1.00	52433.22	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	32773.88	M	0.6328	0.6251	-1	50	
PFHpS	4.91	1.08	143706.59	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	57647.74	A	0.4049	0.4011	-1	50	
PFOA	4.92	1.00	453958.11	M	1.0000	1.0000			
PFOA_2	4.92	1.00	26959.91	A	0.0570	0.0594	4	50	
PFOS	5.24	1.00	149354.97	M	1.0000	1.0000			
PFOS_2	5.24	1.00	45251.36	M	0.3043	0.3030	0	50	
PFNA	5.26	1.00	386712.81	A	1.0000	1.0000			
PFNA_2	5.25	1.00	8941.39	A	0.0213	0.0231	8	50	
PFNS	5.53	1.06	105758.51	A	1.0000	1.0000			
PFNS_2	5.53	1.06	47555.58	A	0.4515	0.4497	0	50	
PFDA	5.56	1.00	346411.29	A	1.0000	1.0000			
PFDA_2	5.55	1.00	2541.20	M	0.0067	0.0073	9	50	
8:2-FTS	5.56	1.00	50376.54	A	1.0000	1.0000			
8:2-FTS_2	5.55	1.00	31663.00	A	0.6016	0.6285	4	50	
NMeFOSAA	5.70	1.00	67416.40	M	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	15480.82	M	0.2579	0.2296	-11	50	
PFDS	5.79	1.10	83451.92	A	1.0000	1.0000			
PFDS_2	5.79	1.11	40941.75	A	0.4884	0.4906	0	50	
PFUnDA	5.82	1.00	374117.30	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	1169.43	A	0.0042	0.0031	-26	50	
NEtFOSAA	5.83	1.00	66771.87	M	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	47485.14	M	0.6799	0.7112	5	50	
PFDoDA	6.05	1.00	513299.85	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	5520.27	A	0.0139	0.0108	-23	50	
10:2-FTS	6.06	1.09	47459.39	A	1.0000	1.0000			
10:2-FTS_2	6.06	1.09	32098.40	M	0.6715	0.6763	1	50	
PFTrDA	6.25	1.03	495383.40	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	3638.19	M	0.0088	0.0073	-17	50	
PFTeDA	6.42	1.00	340197.66	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	2215.15	M	0.0063	0.0065	4	50	
PFHxDA	6.73	1.05	178493.18	A	1.0000	1.0000			
PFHxDA_2	6.72	1.05	10495.45	A	0.0643	0.0588	-9	50	
PFODA	6.99	1.09	127567.27	A	1.0000	1.0000			
PFODA_2	6.98	1.09	3113.73	A	0.0266	0.0244	-8	50	

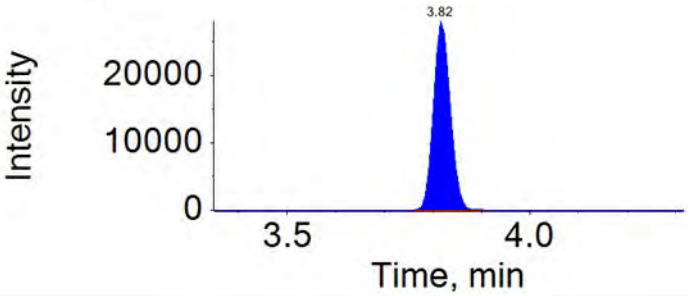
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

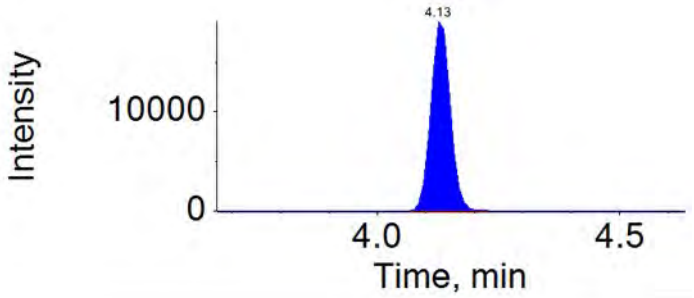
Component: PFBS
Primary Mass: 299.0 / 80.0



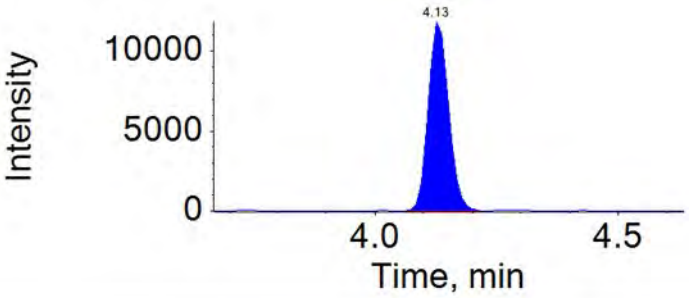
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



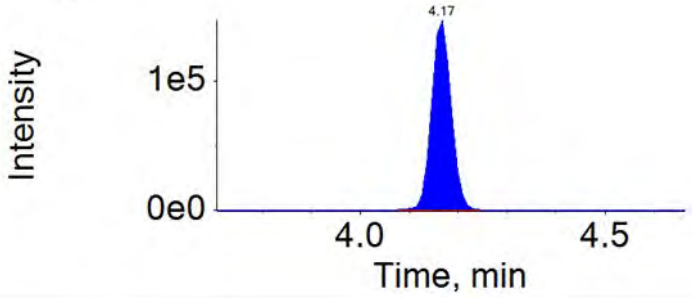
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



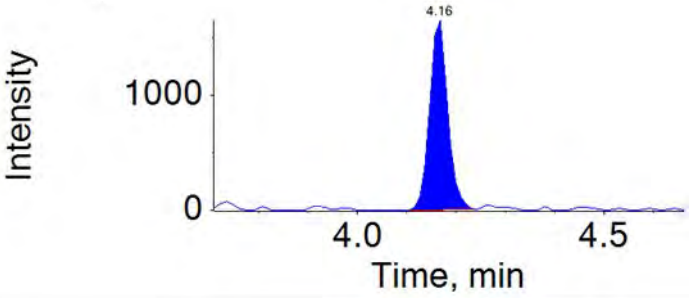
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



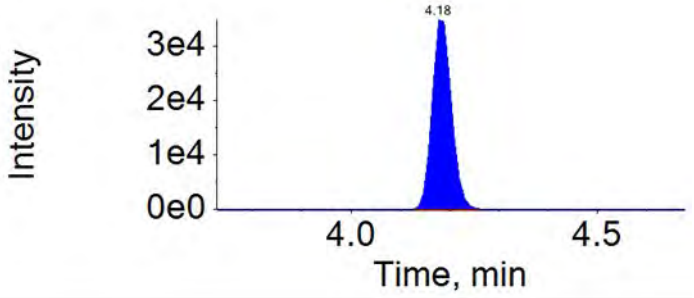
Component: PFHxA
Primary Mass: 313.0 / 269.0



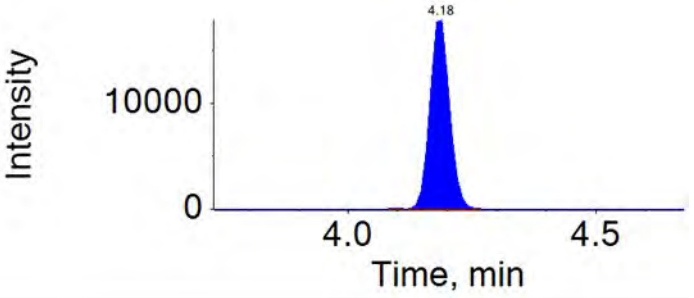
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



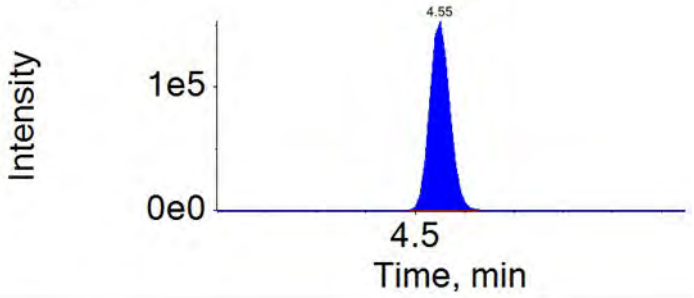
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



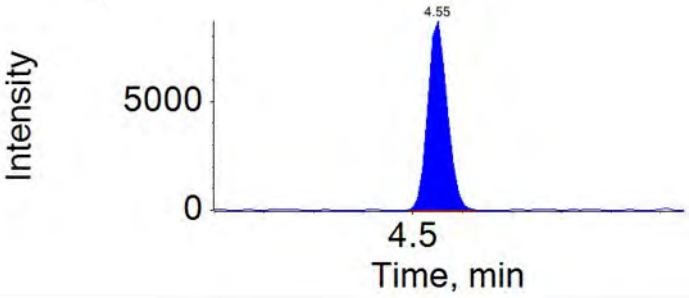
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

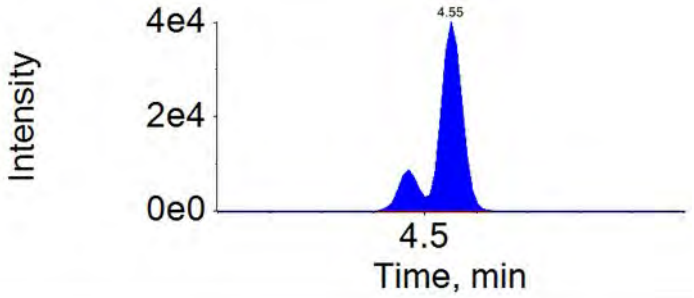
Component: PFHpA
Primary Mass: 363.0 / 319.0



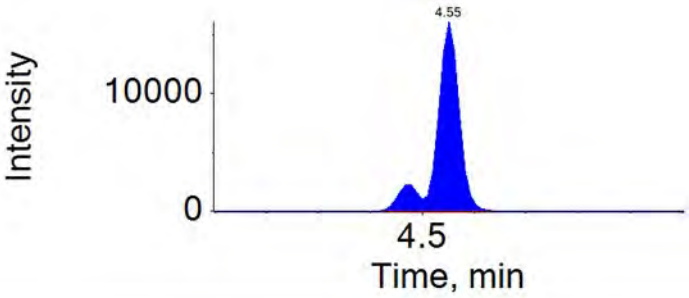
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



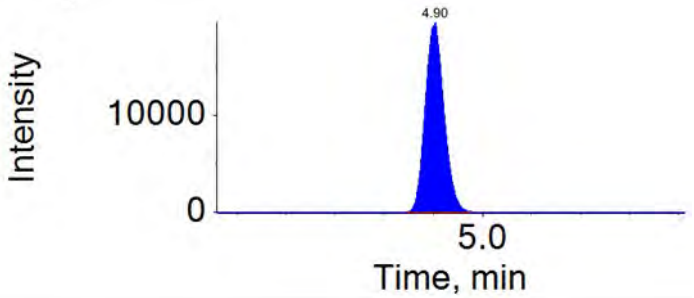
Component: PFHxS
Primary Mass: 399.0 / 80.0



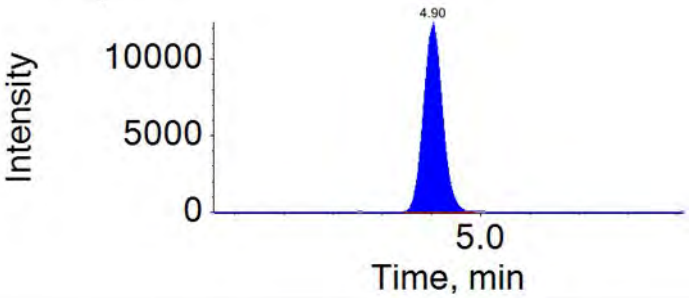
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



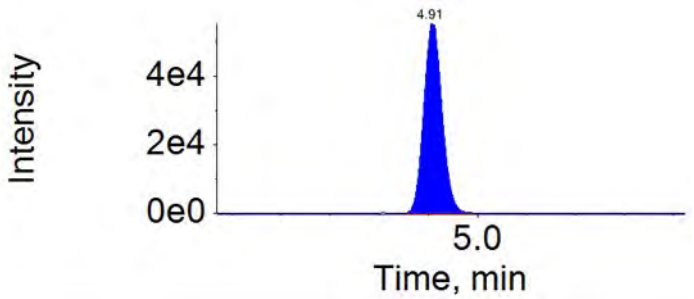
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



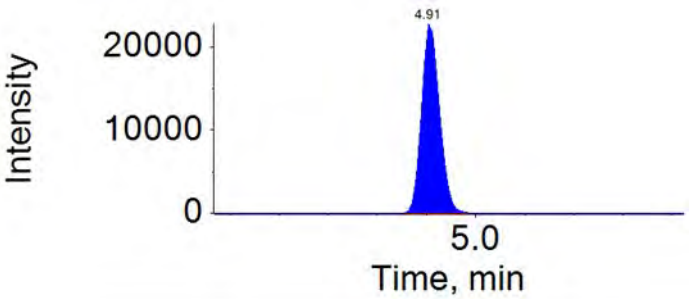
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



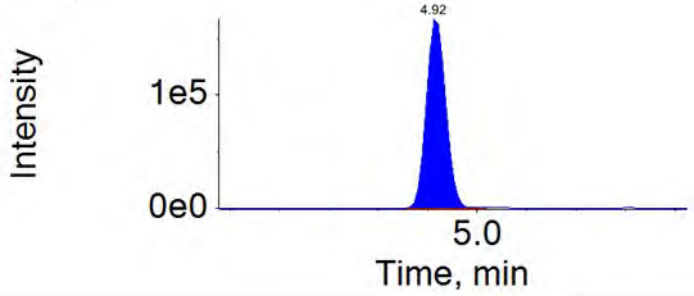
Component: PFHpS
Primary Mass: 449.0 / 80.0



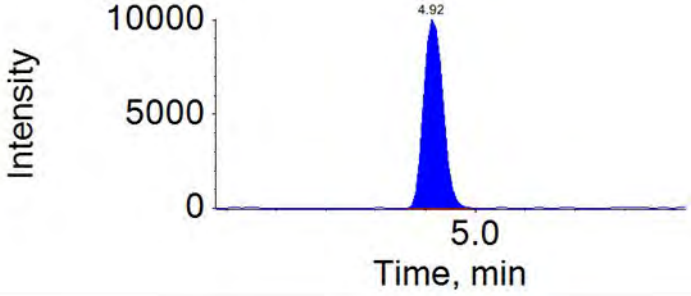
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



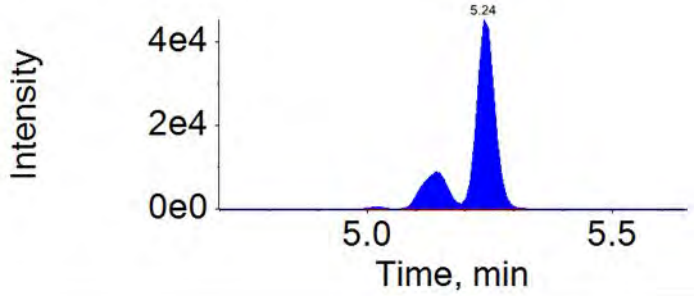
Component: PFOA
Primary Mass: 413.0 / 369.0



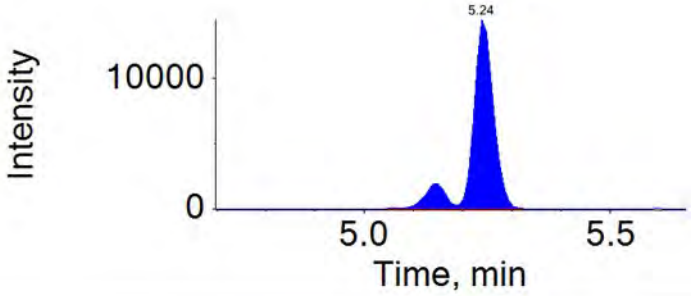
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



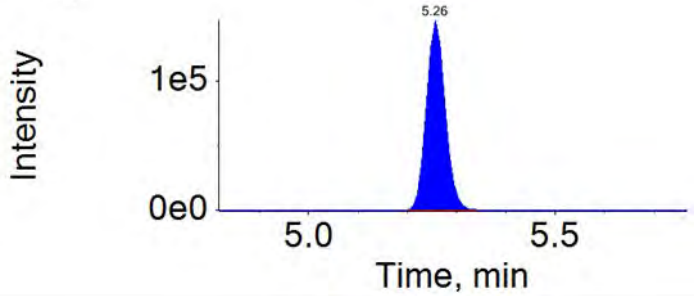
Component: PFOS
Primary Mass: 499.0 / 80.0



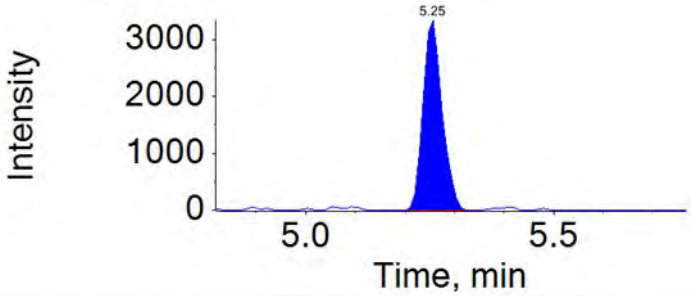
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



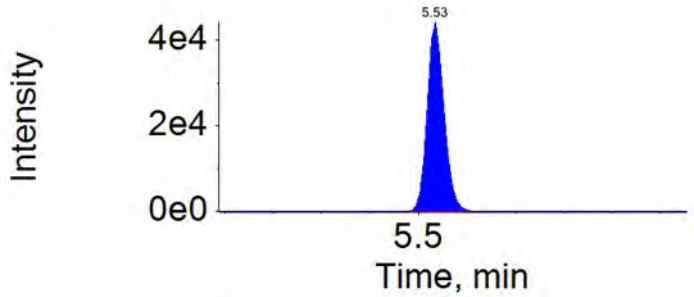
Component: PFNA
Primary Mass: 463.0 / 419.0



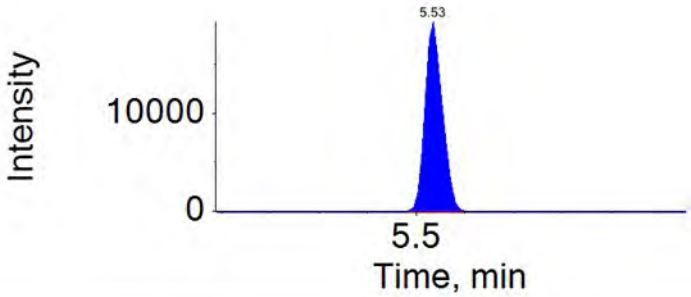
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



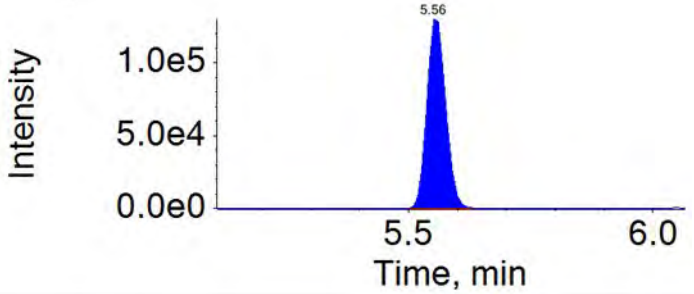
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



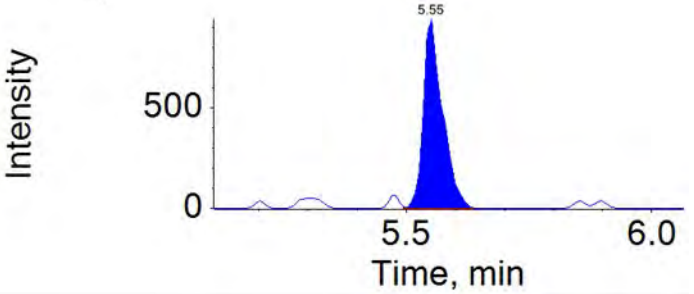
APPROVED
By MSM at 1:33 pm, 12/27/18

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By HMK at 10:43 am, 12/28/18

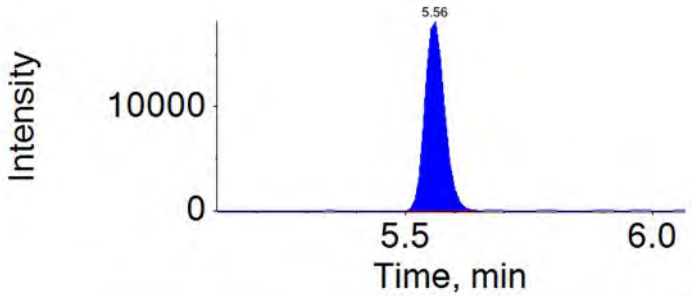
Component: PFDA
Primary Mass: 513.0 / 469.0



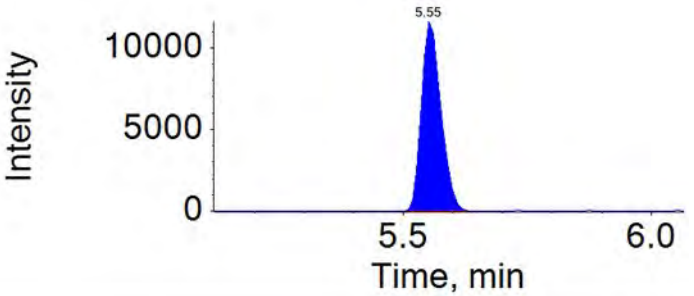
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



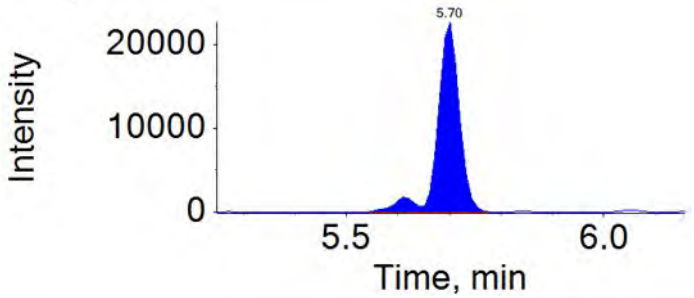
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



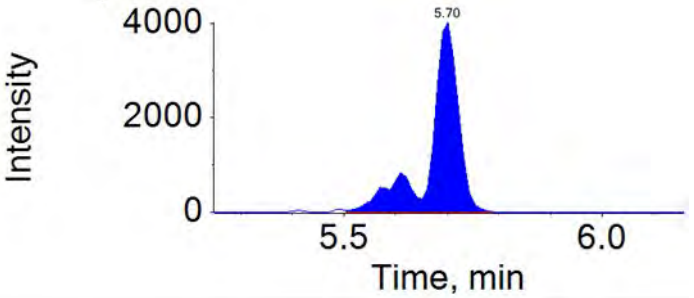
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



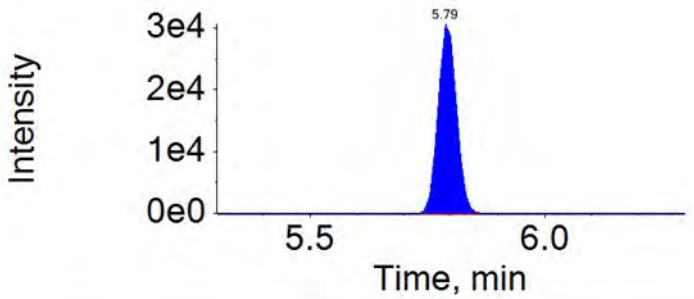
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



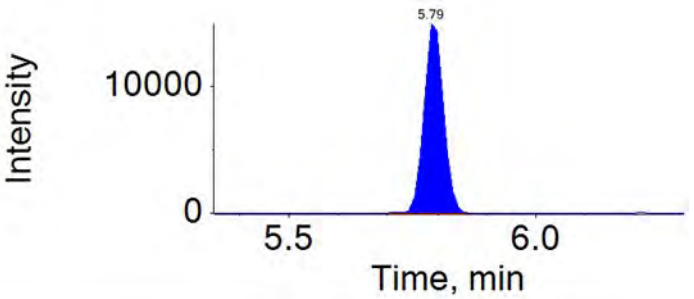
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



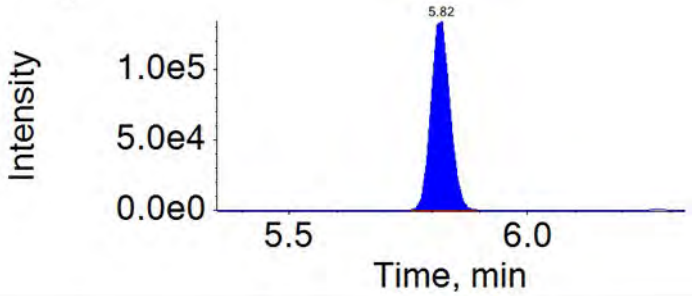
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



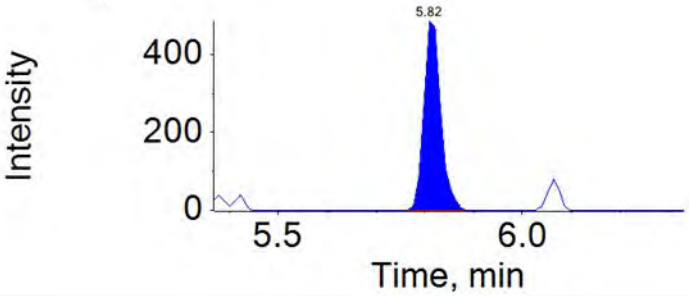
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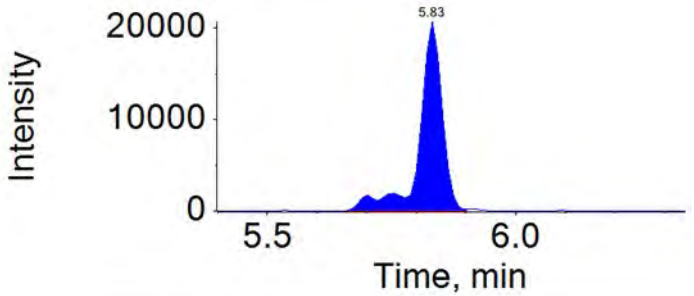
Component: PFUnDA
Primary Mass: 563.0 / 519.0



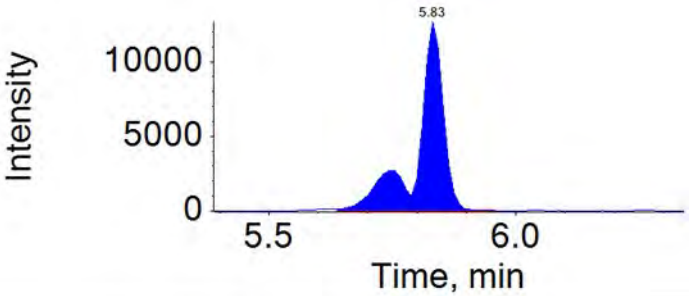
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



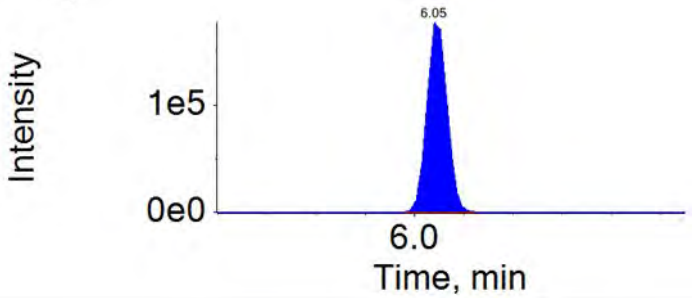
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



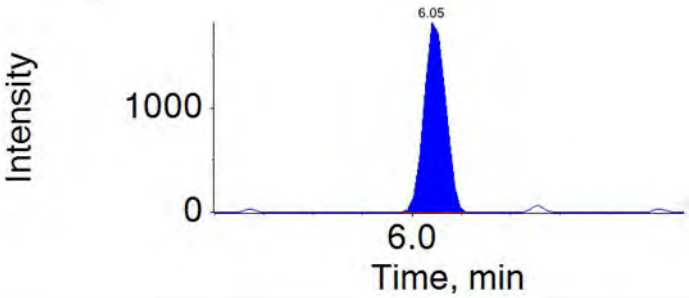
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



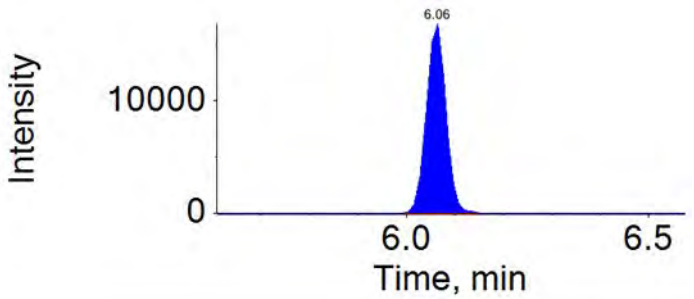
Component: PFDoDA
Primary Mass: 613.0 / 569.0



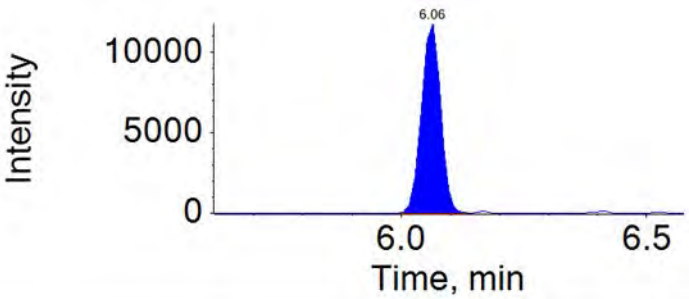
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



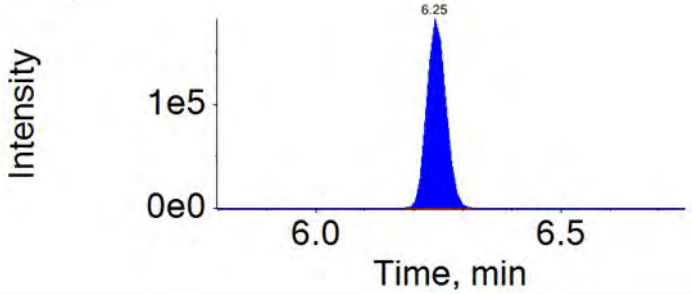
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



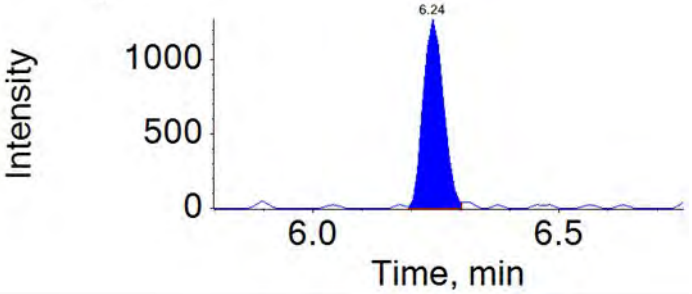
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



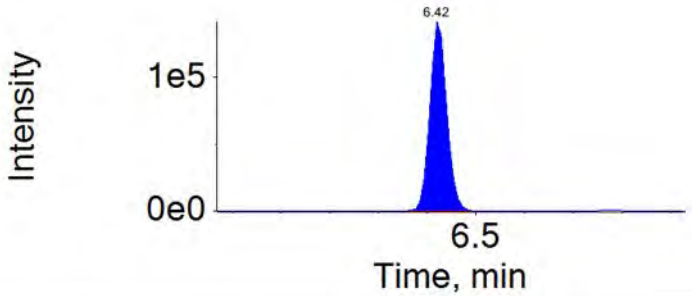
Component: PFTrDA
Primary Mass: 663.0 / 619.0



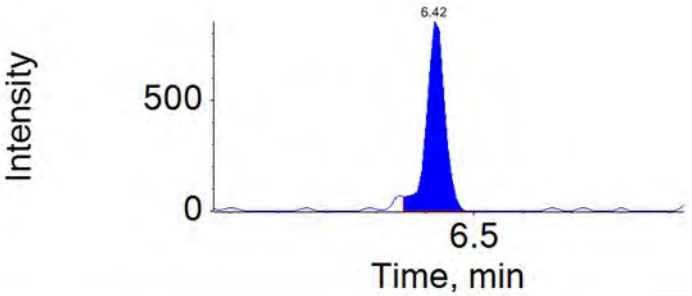
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



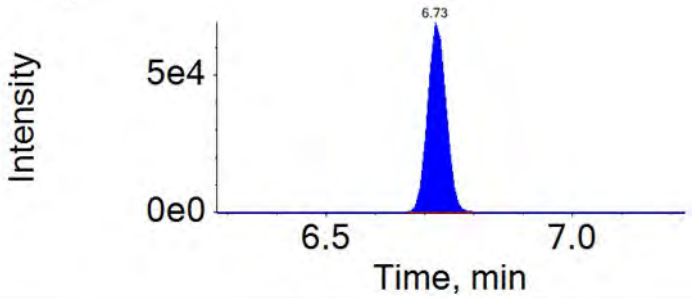
Component: PFTeDA
Primary Mass: 713.0 / 669.0



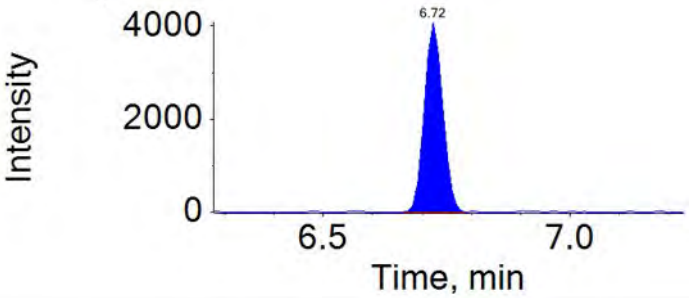
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



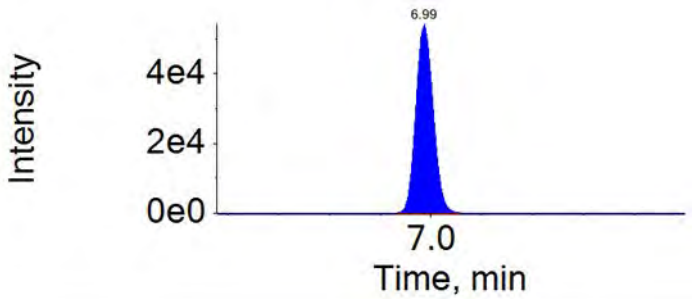
Component: PFHxDA
Primary Mass: 813.0 / 769.0



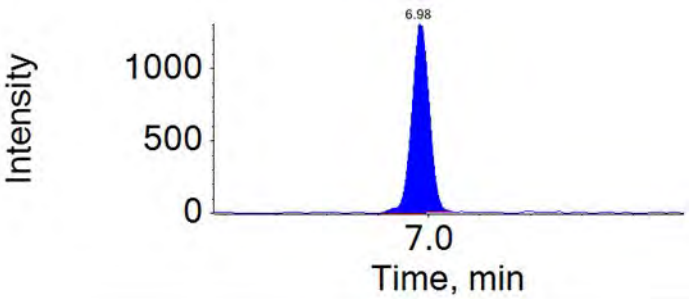
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



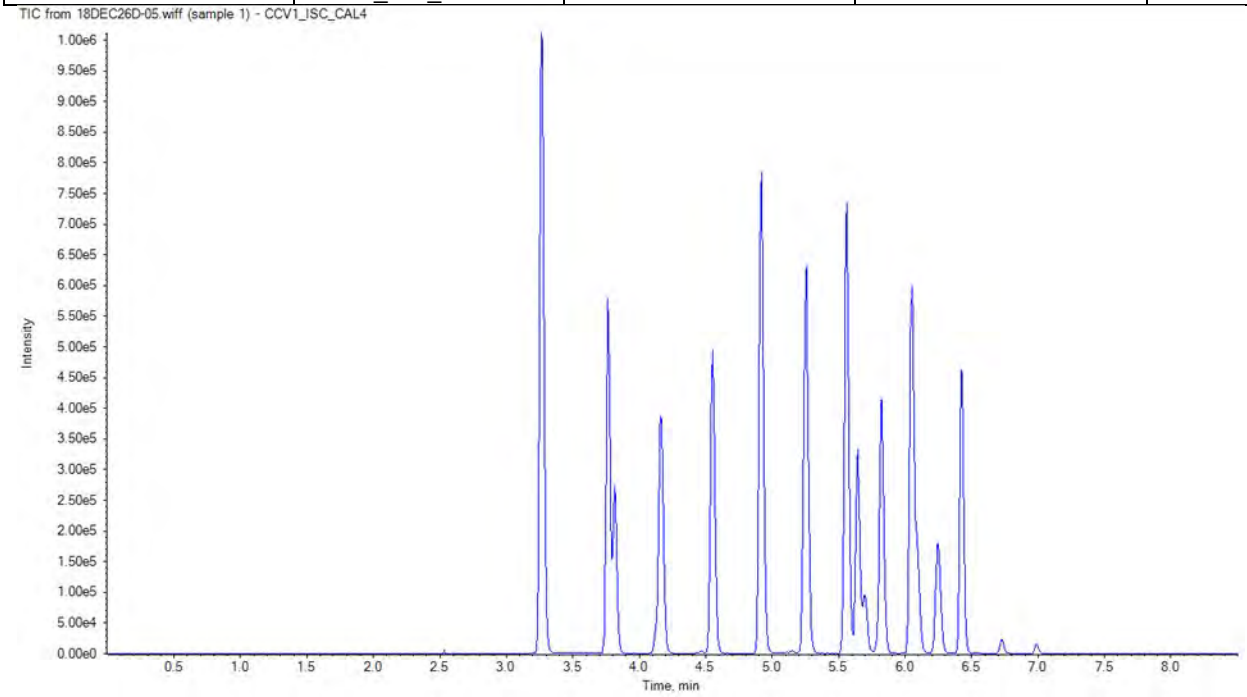
APPROVED
By MSM at 1:33 pm, 12/27/18

REVIEWED
By HMK at 10:43 am, 12/28/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC26D-05.wiff	2018-12-26T15:56:49



Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1000894.2	965438.2	4	50	
13C2-PFOA	5.0	507754.9	527066.0	-4	50	
13C4-PFOS	4.8	320090.1	307230.6	4	50	
13C2-PFDA	5.0	520860.6	493258.9	6	50	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALBRN21833C	18DEC26D-05.wiff	2018-12-26T15:56:49

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	118411.7	10	13C4-PFBA	1144778.0	5.0	0.103	3.26	1.000	0.500	0.546	9	30	
PFPeA	112385.0	11	13C5-PFPeA	1052423.7	5.0	0.107	3.77	1.000	0.500	0.530	6	30	
PFBS	47229.2	10	13C3-PFBS	480513.0	4.7	0.098	3.82	1.000	0.443	0.488	10	30	
4:2-FTS	13580.0	12	13C2-4:2-FTS	71273.0	4.7	0.191	4.13	1.000	0.467	0.467	0	30	
PFHxA	106308.1	11	13C5-PFHxA	773698.6	5.0	0.137	4.16	1.000	0.500	0.564	13	30	
PFPeS	23942.4	11	13C3-PFBS	480513.0	4.7	0.050	4.18	1.100	0.469	0.502	7	30	
PFHpA	115763.7	11	13C4-PFHpA	614002.1	5.0	0.189	4.55	1.000	0.500	0.596	19	30	
PFHxS	35058.2	19	13C3-PFHxS	367647.9	4.7	0.095	4.55	1.000	0.474	0.446	-6	30	
6:2-FTS	12743.7	11	13C2-6:2-FTS	58901.9	4.8	0.216	4.91	1.000	0.474	0.519	9	30	
PFHpS	37332.0	11	13C3-PFHxS	367647.9	4.7	0.102	4.91	1.080	0.476	0.532	12	30	
PFOA	114219.1	11	13C8-PFOA	1048015.0	5.0	0.109	4.92	1.000	0.500	0.577	15	30	
PFOS	39277.4	22	13C8-PFOS	351248.7	4.8	0.112	5.24	1.000	0.463	0.487	5	30	
PFNA	107189.5	11	13C9-PFNA	709144.9	5.0	0.151	5.26	1.000	0.500	0.607	21	30	
PFNS	28739.4	11	13C8-PFOS	351248.7	4.8	0.082	5.54	1.060	0.480	0.559	17	30	
PFDA	90256.2	11	13C6-PFDA	932654.6	5.0	0.097	5.56	1.000	0.500	0.558	12	30	
8:2-FTS	11608.3	11	13C2-8:2-FTS	47216.0	4.8	0.246	5.56	1.000	0.479	0.486	1	30	
PFOSA	66263.6	11	13C8-PFOSA	654902.2	5.0	0.101	5.64	1.000	0.500	0.532	6	30	
NMeFOSAA	19860.3	18	d3-NMeFOSAA	201733.6	5.0	0.098	5.70	1.000	0.500	0.574	15	30	
PFDS	24837.1	11	13C8-PFOS	351248.7	4.8	0.071	5.80	1.110	0.482	0.583	21	30	
PFUnDA	97038.9	11	13C7-PFUnDA	630975.8	5.0	0.154	5.82	1.000	0.500	0.588	18	30	
NEtFOSAA	17365.2	22	d5-NEtFOSAA	159802.6	5.0	0.109	5.84	1.000	0.500	0.559	12	30	
PFDoDA	127417.2	11	13C2-PFDoDA	1228511.0	5.0	0.104	6.05	1.000	0.500	0.529	6	30	
10:2-FTS	12761.7	11	13C2-8:2-FTS	47216.0	4.8	0.270	6.06	1.090	0.482	0.552	14	30	
NMePFOSAE	36717.6	11	d7-NMePFOSAE	256960.1	5.0	0.143	6.10	1.000	0.500	0.604	21	30	
NMePFOSA	10021.2	11	d3-NMePFOSA	89364.7	5.0	0.112	6.11	1.000	0.500	0.560	12	30	
PFDoS	10400.9	11	13C8-PFOS	351248.7	4.8	0.030	6.22	1.190	0.482	0.443	-8	30	
NEtPFOSAE	34017.7	12	d9-NEtPFOSAE	230264.2	5.0	0.148	6.25	1.000	0.500	0.489	-2	30	
NEtPFOSA	9115.0	12	d5-NEtPFOSA	72789.8	5.0	0.125	6.27	1.000	0.500	0.589	18	30	
PFTrDA	122637.6	11	13C2-PFDoDA	1228511.0	5.0	0.100	6.25	1.030	0.500	0.531	6	30	
PFTeDA	86773.9	10	13C2-PFTeDA	895502.0	5.0	0.097	6.43	1.000	0.500	0.551	10	30	
PFHxDA	46197.4	10	13C2-PFTeDA	895502.0	5.0	0.052	6.73	1.050	0.500	0.595	19	30	
PFODA	33144.3	10	13C2-PFTeDA	895502.0	5.0	0.037	6.99	1.090	0.500	0.547	9	30	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18DEC26D-05.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-26T15:56:49
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCCV1-10
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1000894.2	965438.2	4	50	
13C2-PFOA	5.0	507754.9	527066.0	-4	50	
13C4-PFOS	4.8	320090.1	307230.6	4	50	
13C2-PFDA	5.0	520860.6	493258.9	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1144778.0	13C3-PFBA	1000894.2	1.144	5.000	5.075	101	70-130	
E13C5-PFPeA	1052423.7	13C3-PFBA	1000894.2	1.051	5.000	5.008	100	70-130	
E13C3-PFBS	480513.0	13C3-PFBA	1000894.2	0.480	4.650	4.664	100	70-130	
E13C2-4:2-FTS	71273.0	13C2-PFOA	507754.9	0.140	4.670	5.348	115	70-130	
E13C5-PFHxA	773698.6	13C2-PFOA	507754.9	1.524	5.000	5.574	111	70-130	
E13C3-PFHxS	367647.9	13C2-PFOA	507754.9	0.724	4.730	5.564	118	70-130	
E13C4-PFHpA	614002.1	13C2-PFOA	507754.9	1.209	5.000	5.448	109	70-130	
E13C2-6:2-FTS	58901.9	13C2-PFOA	507754.9	0.116	4.750	5.676	119	70-130	
E13C8-PFOA	1048015.0	13C2-PFOA	507754.9	2.064	5.000	5.783	116	70-130	
E13C8-PFOS	351248.7	13C4-PFOS	320090.1	1.097	4.780	4.784	100	70-130	
E13C9-PFNA	709144.9	13C4-PFOS	320090.1	2.215	5.000	4.881	98	70-130	
E13C6-PFDA	932654.6	13C2-PFDA	520860.6	1.791	5.000	5.141	103	70-130	
E13C2-8:2-FTS	47216.0	13C2-PFDA	520860.6	0.091	4.790	4.690	98	70-130	
E13C8-PFOSA	654902.2	13C2-PFDA	520860.6	1.257	5.000	5.022	100	70-130	
Ed3-NMeFOSAA	201733.6	13C2-PFDA	520860.6	0.387	5.000	4.942	99	70-130	
E13C7-PFUnDA	630975.8	13C2-PFDA	520860.6	1.211	5.000	5.234	105	70-130	
Ed5-NEtFOSAA	159802.6	13C2-PFDA	520860.6	0.307	5.000	5.316	106	70-130	
E13C2-PFDoDA	1228511.0	13C2-PFDA	520860.6	2.359	5.000	5.116	102	70-130	
Ed7-NMePFOSAE	256960.1	13C2-PFDA	520860.6	0.493	5.000	4.664	93	70-130	
Ed3-NMePFOSA	89364.7	13C2-PFDA	520860.6	0.172	5.000	4.864	97	70-130	
Ed9-NEtPFOSAE	230264.2	13C2-PFDA	520860.6	0.442	5.000	4.810	96	70-130	
Ed5-NEtPFOSA	72789.8	13C2-PFDA	520860.6	0.140	5.000	4.933	99	70-130	
E13C2-PFTeDA	895502.0	13C2-PFDA	520860.6	1.719	5.000	5.071	101	70-130	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

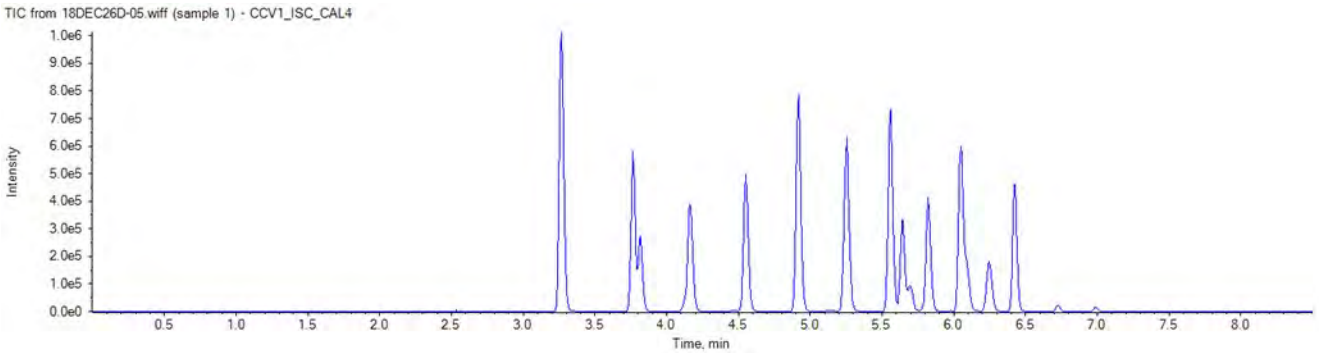
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26D-05.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	118411.7		A	13C4-PFBA	3.26	1144778.0	0.103	0.546
PFPeA	3.77	1.000	112385.0		A	13C5-PFPeA	3.77	1052423.7	0.107	0.530
PFBS	3.82	1.000	47229.2		A	13C3-PFBS	3.82	480513.0	0.098	0.488
4:2-FTS	4.13	1.000	13580.0		A	13C2-4:2-FTS	4.13	71273.0	0.191	0.467
PFHxA	4.16	1.000	106308.1		A	13C5-PFHxA	4.16	773698.6	0.137	0.564
PFPeS	4.18	1.100	23942.4		A	13C3-PFBS	3.82	480513.0	0.050	0.502
PFHpA	4.55	1.000	115763.7		A	13C4-PFHpA	4.55	614002.1	0.189	0.596
PFHxS	4.55	1.000	35058.2		M	13C3-PFHxS	4.55	367647.9	0.095	0.446
6:2-FTS	4.91	1.000	12743.7		A	13C2-6:2-FTS	4.91	58901.9	0.216	0.519
PFHpS	4.91	1.080	37332.0		A	13C3-PFHxS	4.55	367647.9	0.102	0.532
PFOA	4.92	1.000	114219.1		A	13C8-PFOA	4.92	1048015.0	0.109	0.577
PFOS	5.24	1.000	39277.4		M	13C8-PFOS	5.24	351248.7	0.112	0.487
PFNA	5.26	1.000	107189.5		A	13C9-PFNA	5.26	709144.9	0.151	0.607
PFNS	5.54	1.060	28739.4		A	13C8-PFOS	5.24	351248.7	0.082	0.559
PFDA	5.56	1.000	90256.2		A	13C6-PFDA	5.56	932654.6	0.097	0.558
8:2-FTS	5.56	1.000	11608.3		A	13C2-8:2-FTS	5.56	47216.0	0.246	0.486
PFOSA	5.64	1.000	66263.6		A	13C8-PFOSA	5.64	654902.2	0.101	0.532
NMeFOSAA	5.70	1.000	19860.3		A	d3-NMeFOSAA	5.70	201733.6	0.098	0.574
PFDS	5.80	1.110	24837.1		A	13C8-PFOS	5.24	351248.7	0.071	0.583
PFUnDA	5.82	1.000	97038.9		A	13C7-PFUnDA	5.82	630975.8	0.154	0.588
NEtFOSAA	5.84	1.000	17365.2		M	d5-NEtFOSAA	5.83	159802.6	0.109	0.559
PFDoDA	6.05	1.000	127417.2		A	13C2-PFDoDA	6.05	1228511.0	0.104	0.529
10:2-FTS	6.06	1.090	12761.7		A	13C2-8:2-FTS	5.56	47216.0	0.270	0.552
NMePFOSAE	6.10	1.000	36717.6		A	d7-NMePFOSAE	6.09	256960.1	0.143	0.604
NMePFOSA	6.11	1.000	10021.2		A	d3-NMePFOSA	6.11	89364.7	0.112	0.560
PFDoS	6.22	1.190	10400.9		A	13C8-PFOS	5.24	351248.7	0.030	0.443
NEtPFOSAE	6.25	1.000	34017.7		A	d9-NEtPFOSAE	6.24	230264.2	0.148	0.489
NEtPFOSA	6.27	1.000	9115.0		A	d5-NEtPFOSA	6.27	72789.8	0.125	0.589
PFTrDA	6.25	1.030	122637.6		A	13C2-PFDoDA	6.05	1228511.0	0.100	0.531
PFTeDA	6.43	1.000	86773.9		A	13C2-PFTeDA	6.43	895502.0	0.097	0.551
PFHxDA	6.73	1.050	46197.4		A	13C2-PFTeDA	6.43	895502.0	0.052	0.595
PFODA	6.99	1.090	33144.3		A	13C2-PFTeDA	6.43	895502.0	0.037	0.547

Total Ion Chromatogram

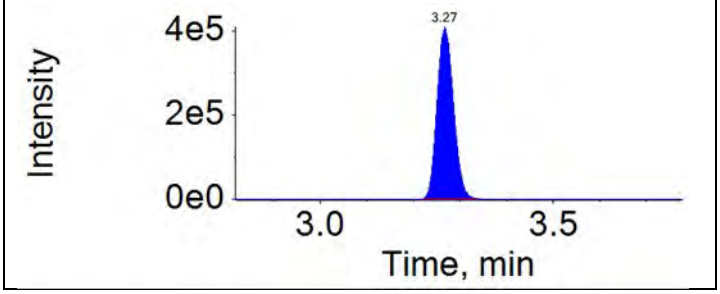


APPROVED
By MSM at 9:34 am, 12/27/18

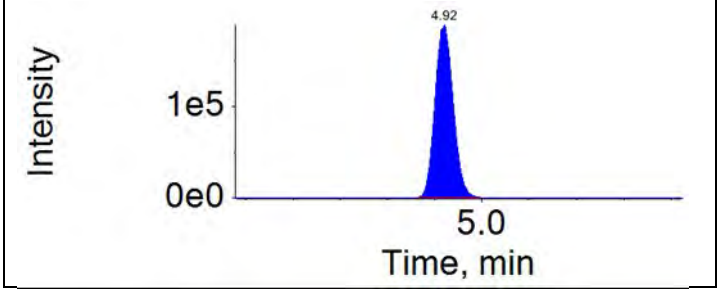
REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

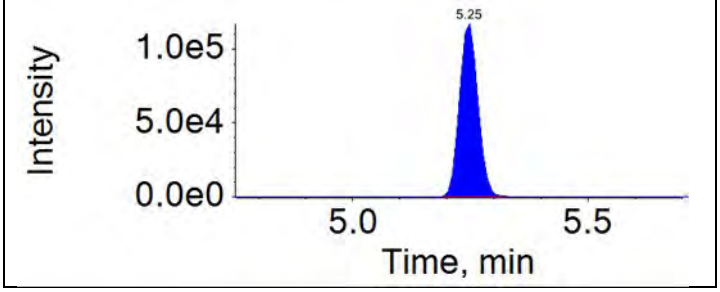
Injection Standard: 13C3-PFBA
216.0 / 172.0



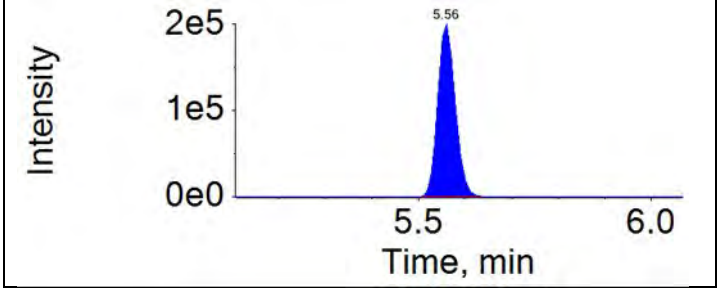
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

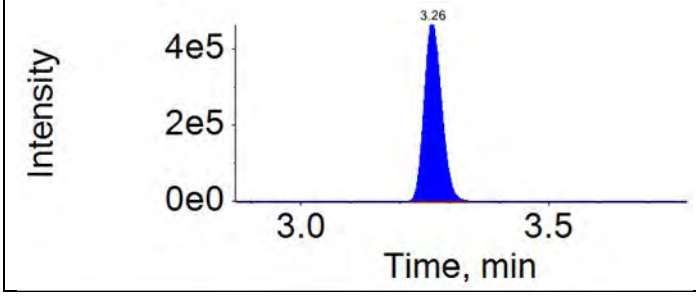


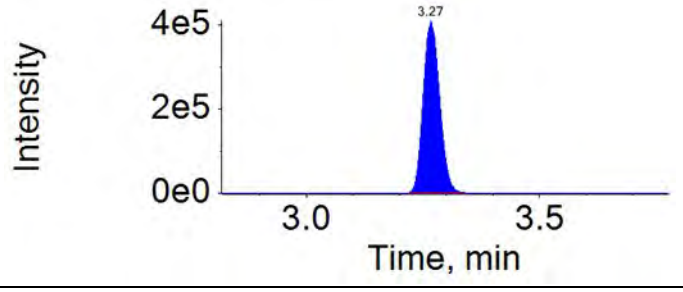
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

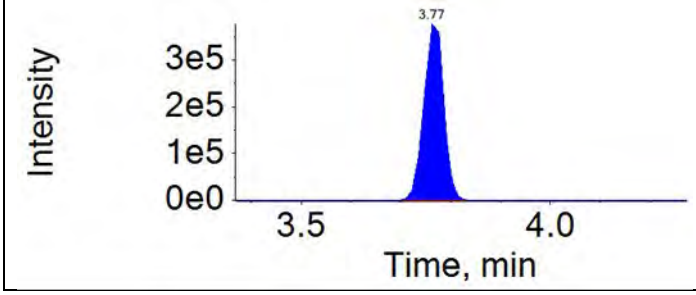
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

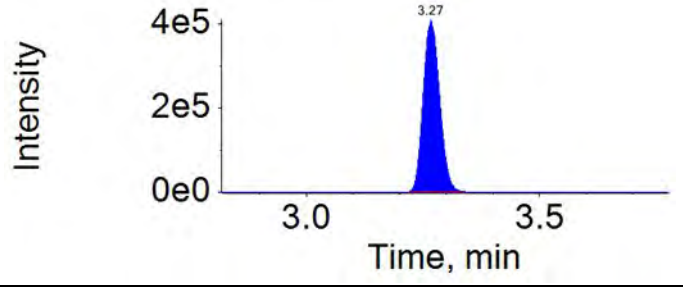
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



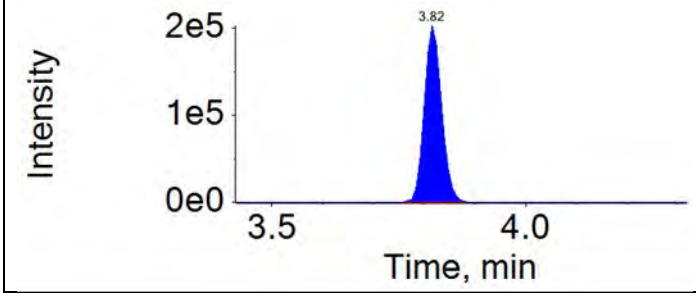


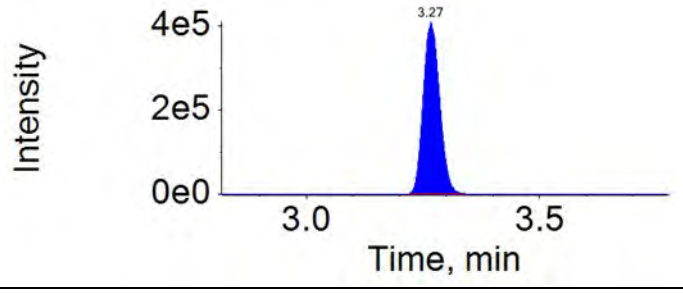
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



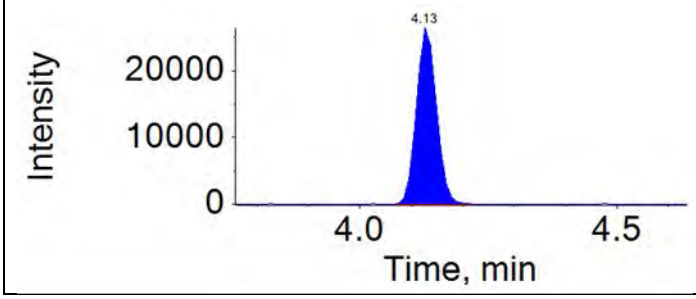


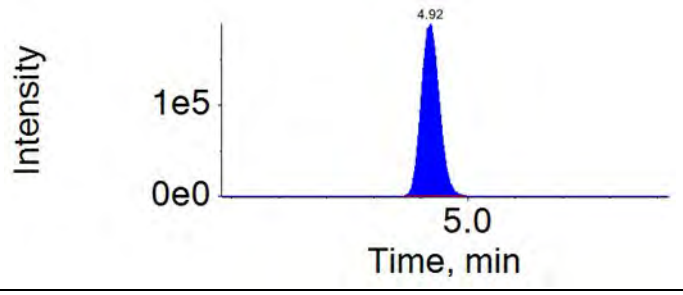
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



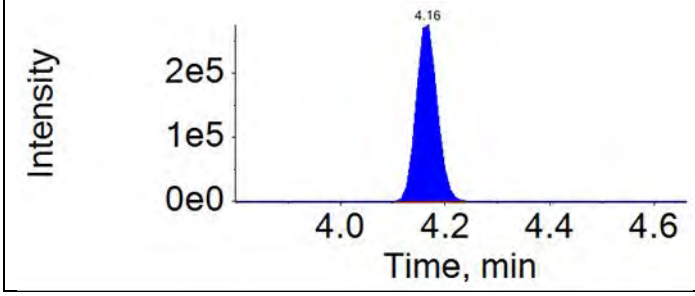


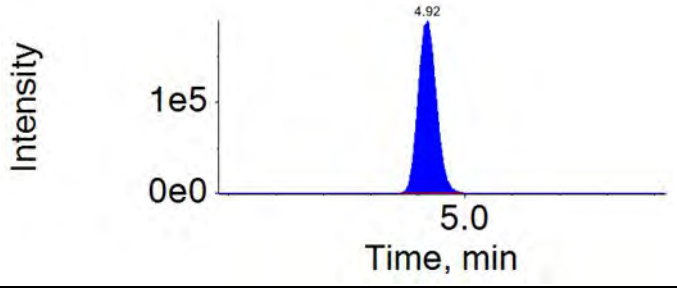
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

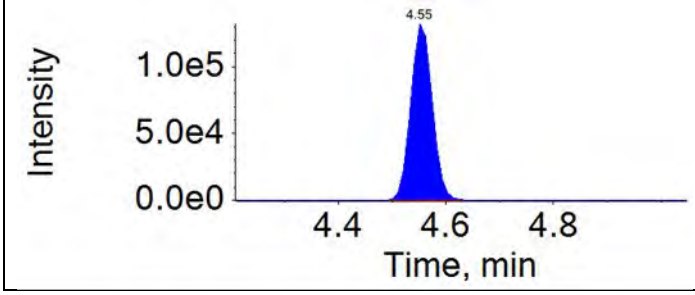
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

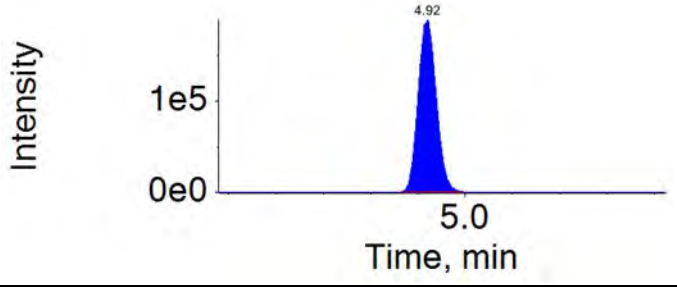
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



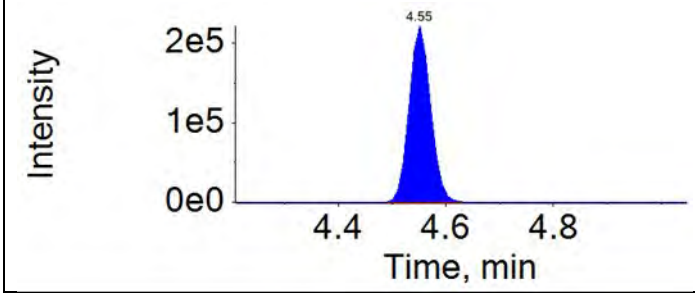


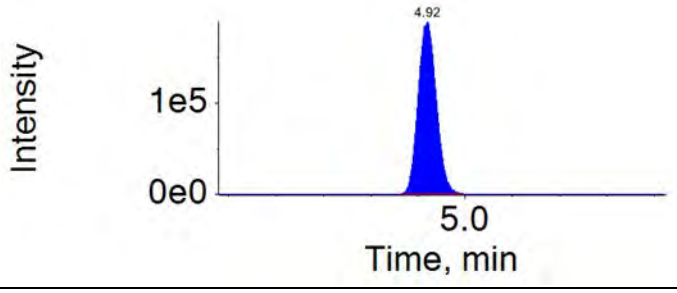
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



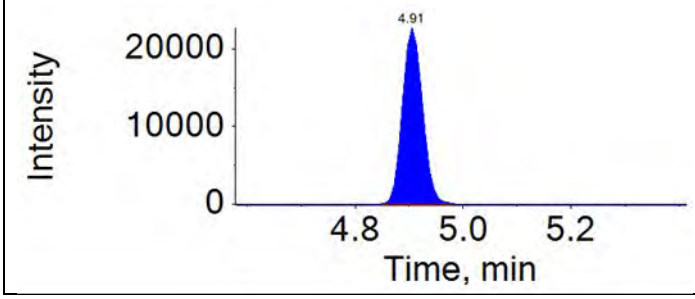


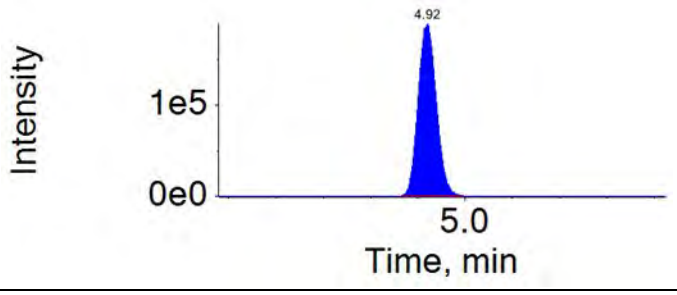
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



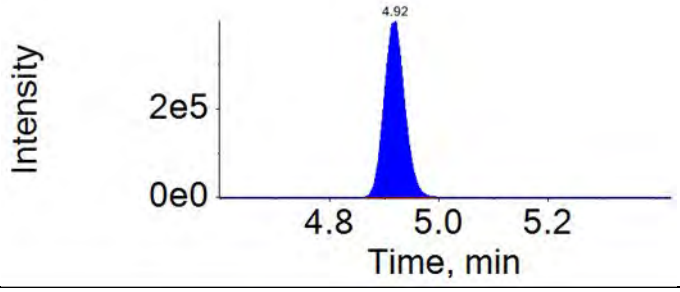


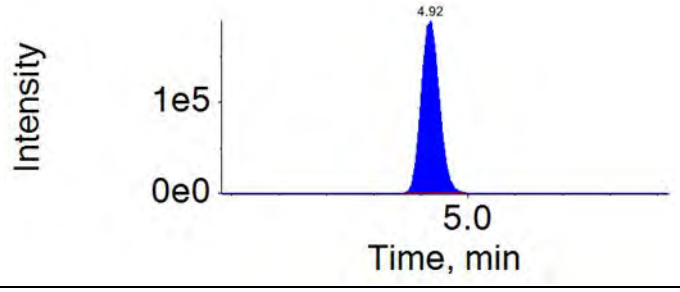
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

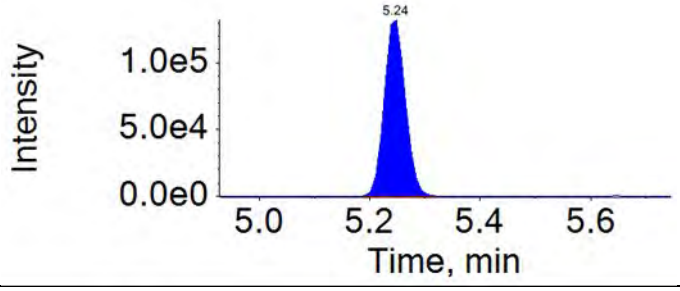
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

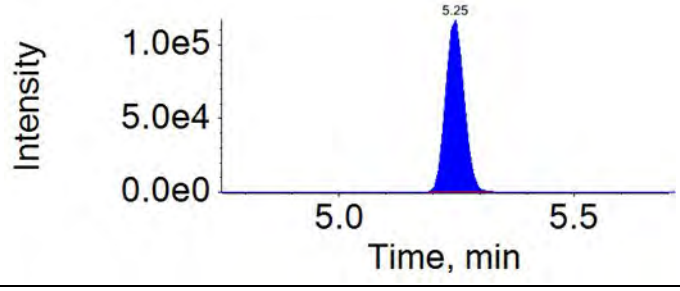
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



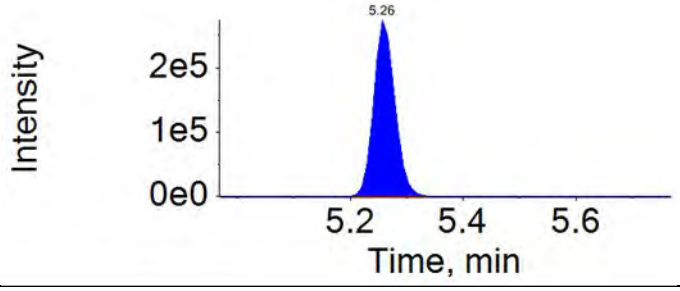


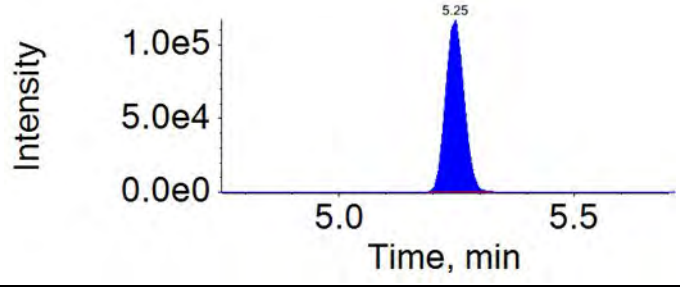
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



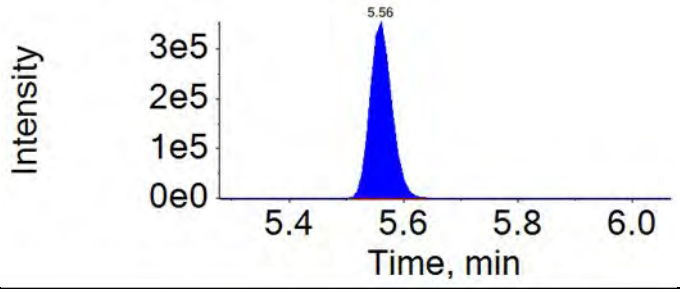


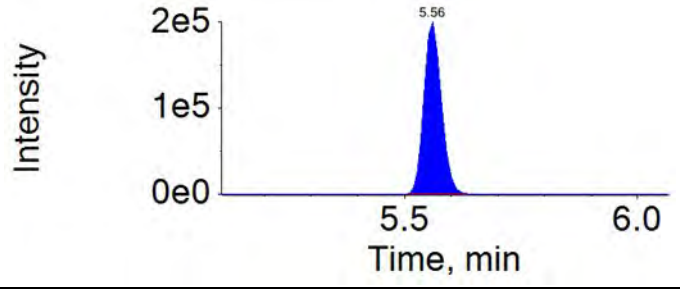
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





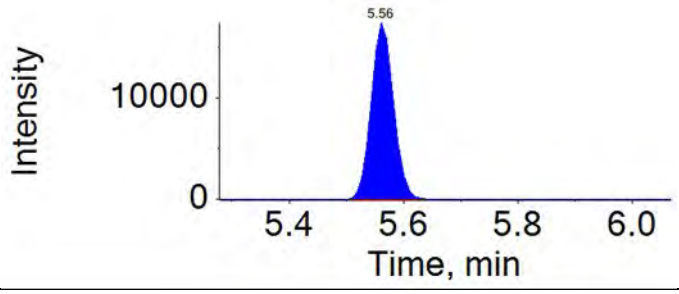
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

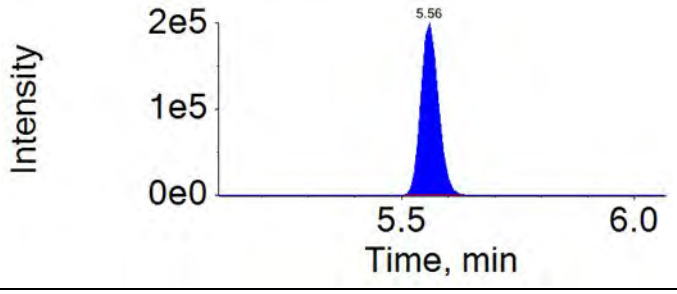




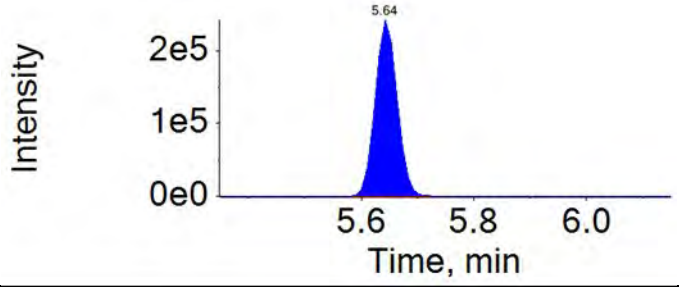
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

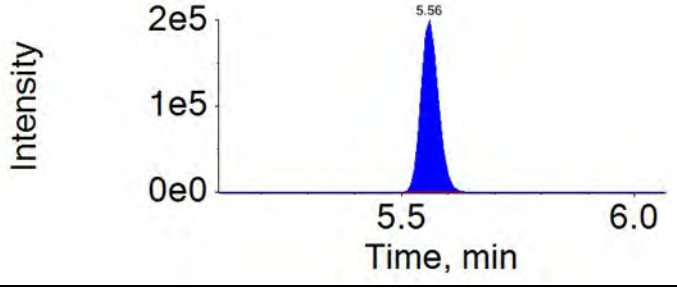
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



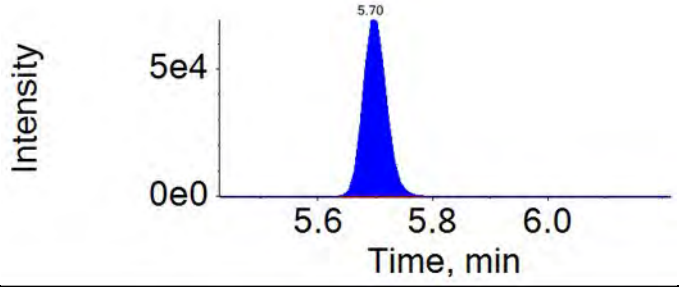


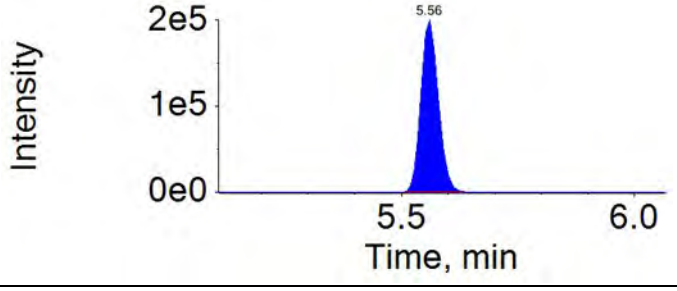
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



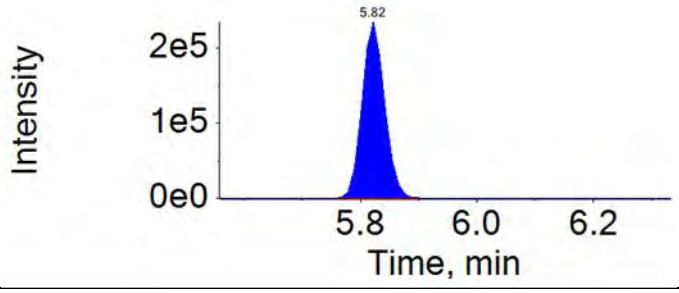


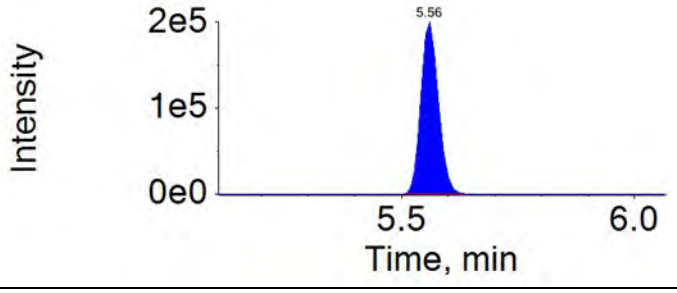
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

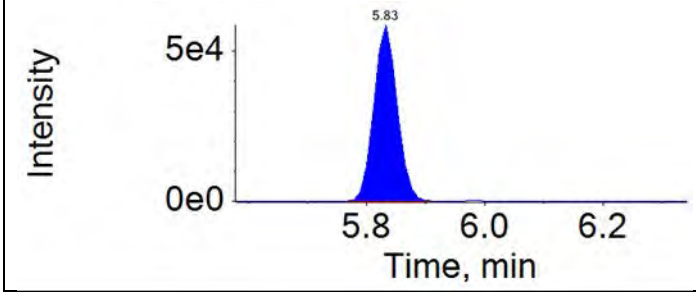
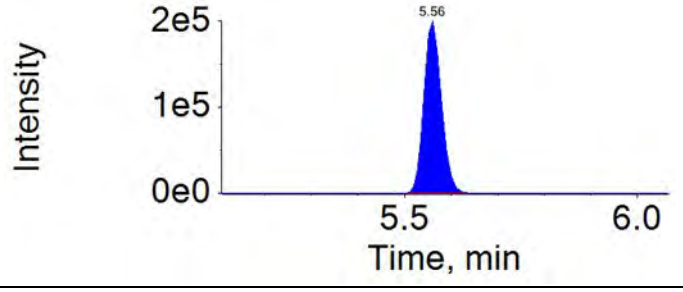


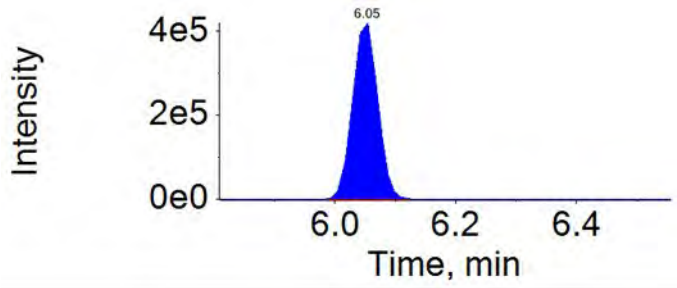
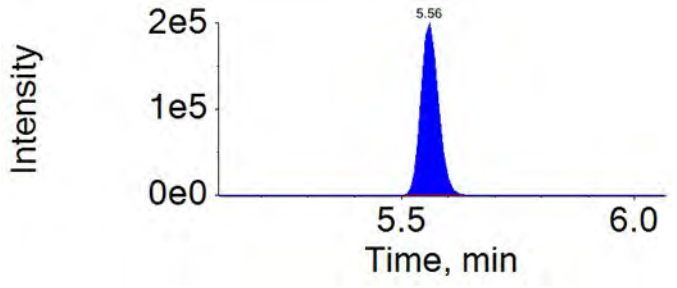


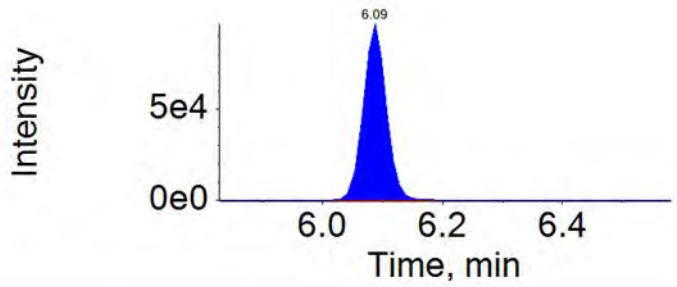
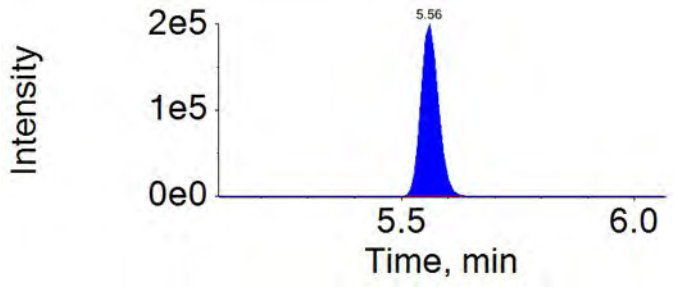
APPROVED
By MSM at 9:34 am, 12/27/18

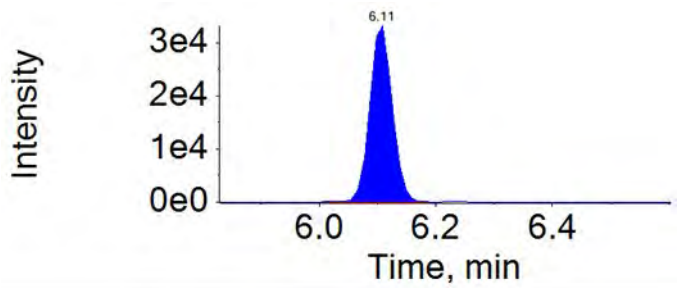
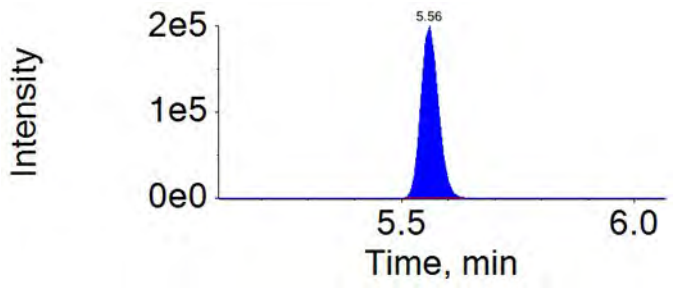
REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

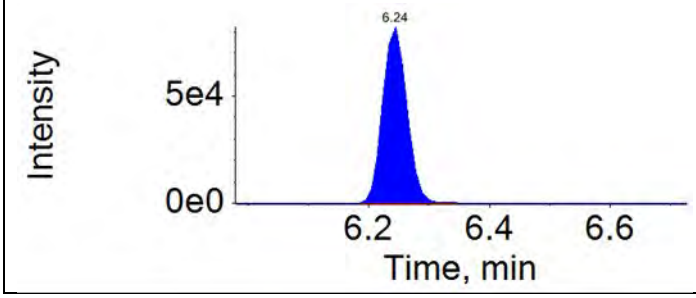
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

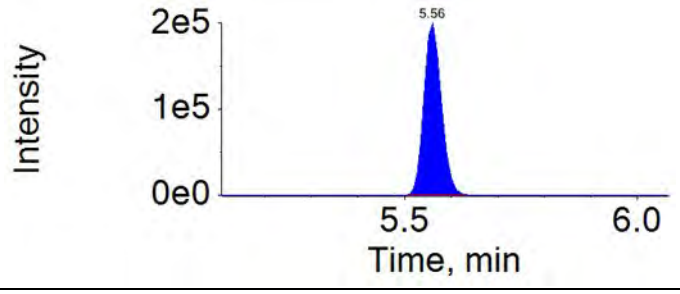
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

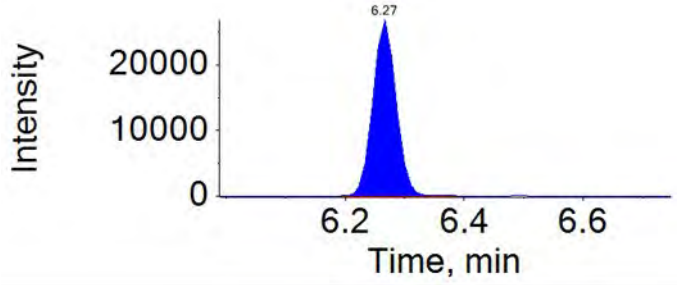
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

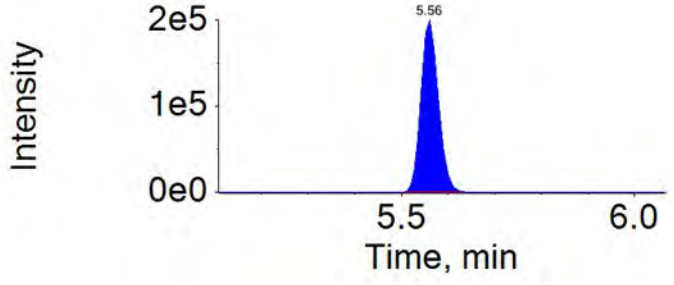
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



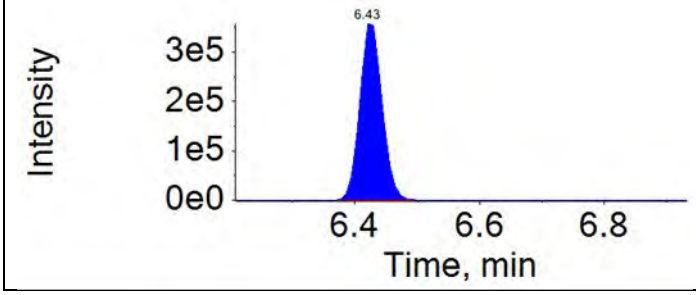


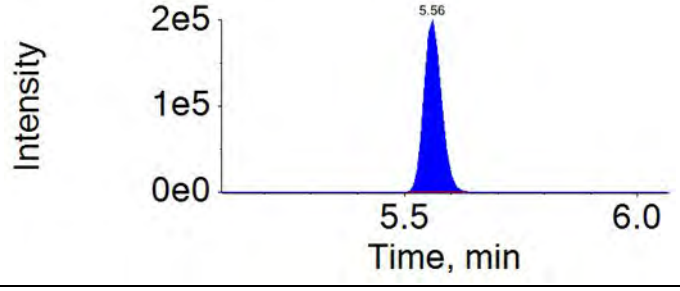
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0



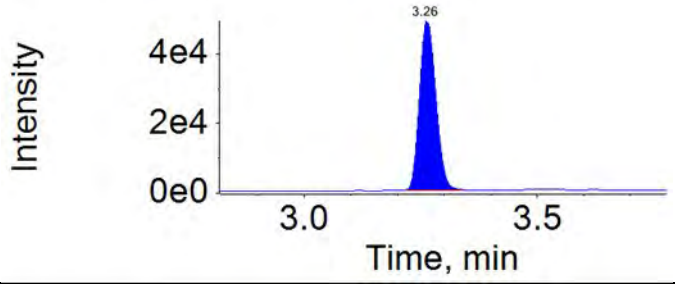


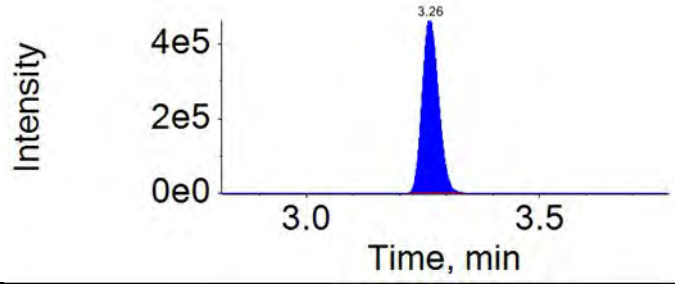
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

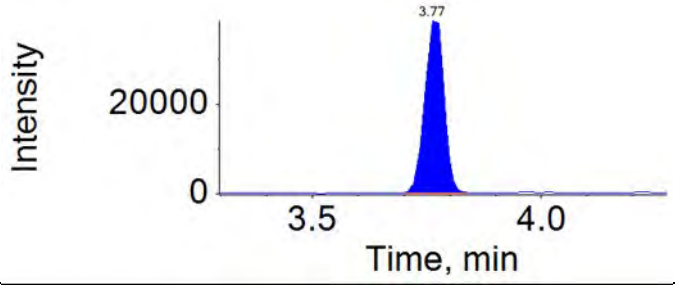
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

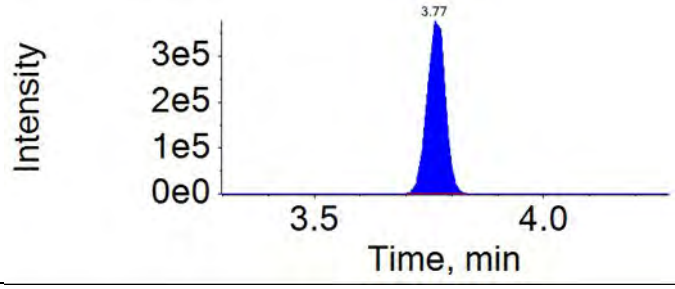
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



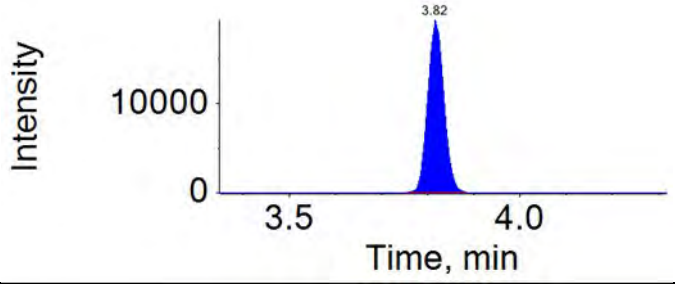


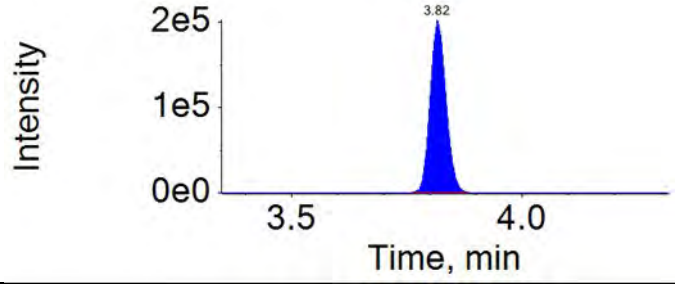
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



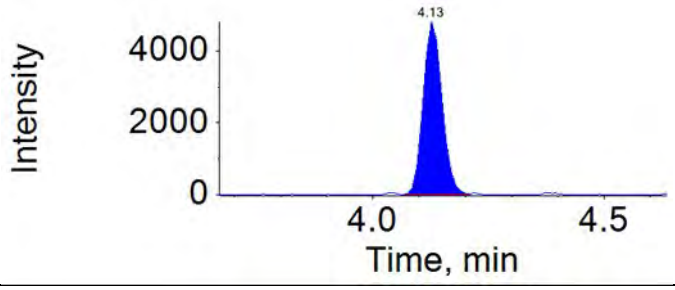


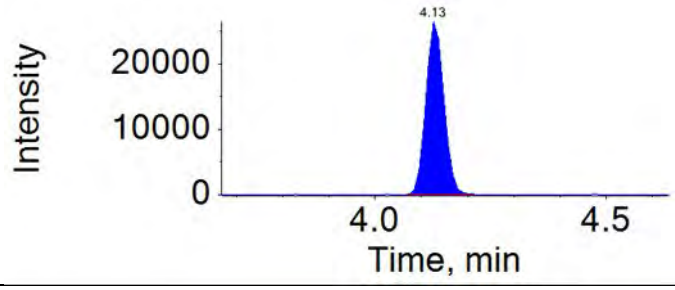
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

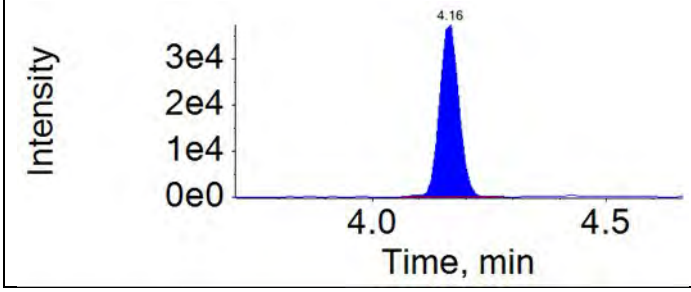
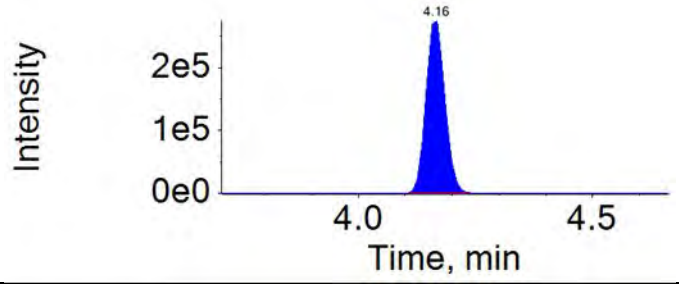


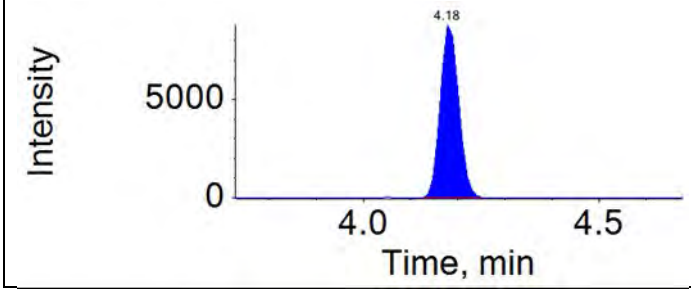
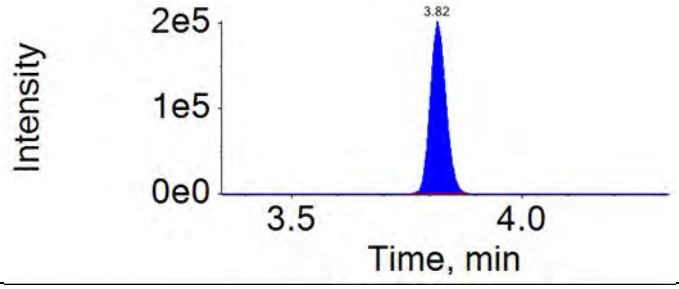


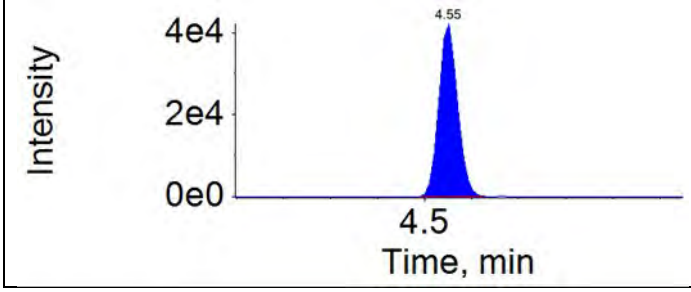
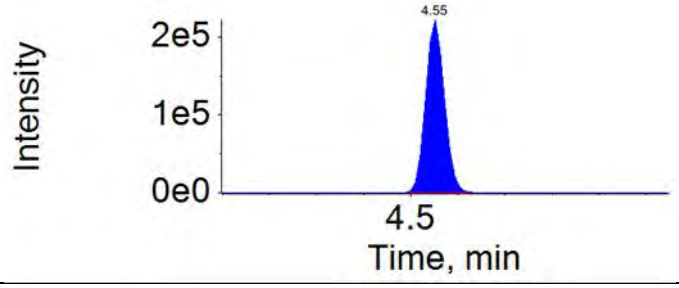
APPROVED
By MSM at 9:34 am, 12/27/18

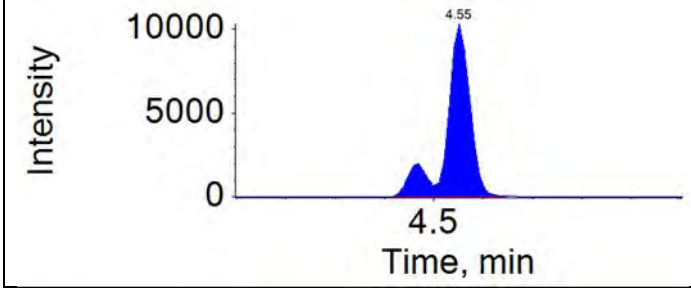
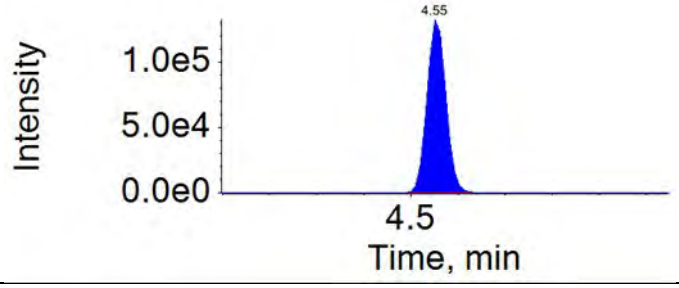
REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

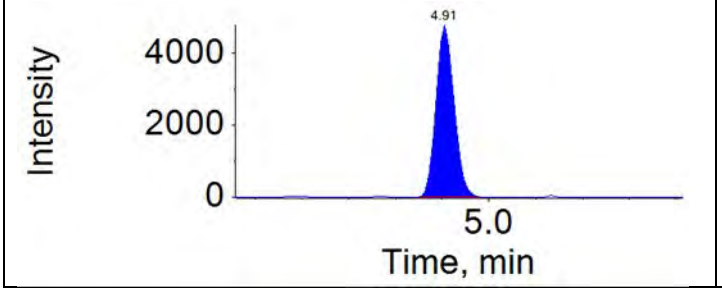
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

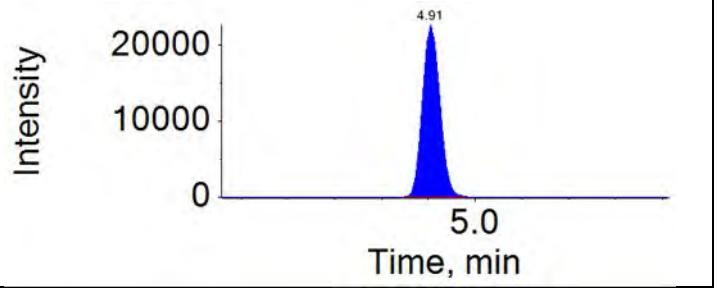
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

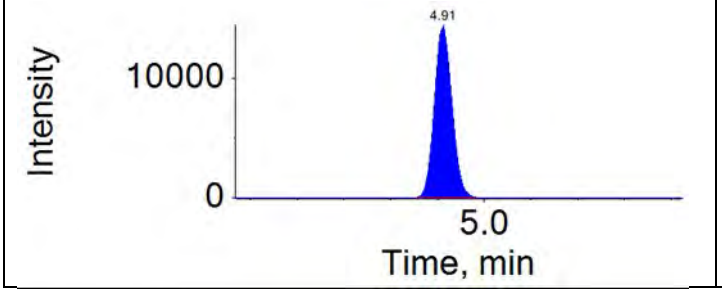
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

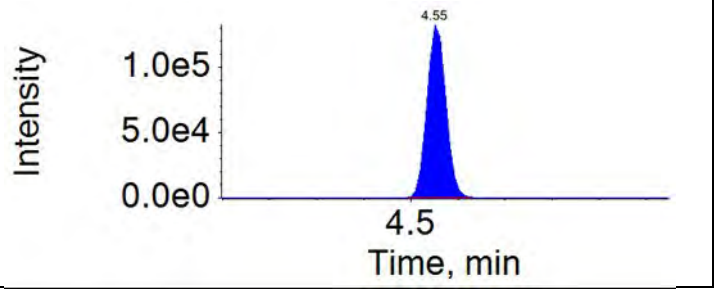
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



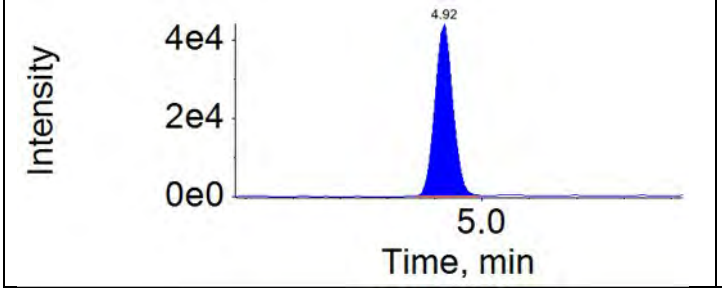


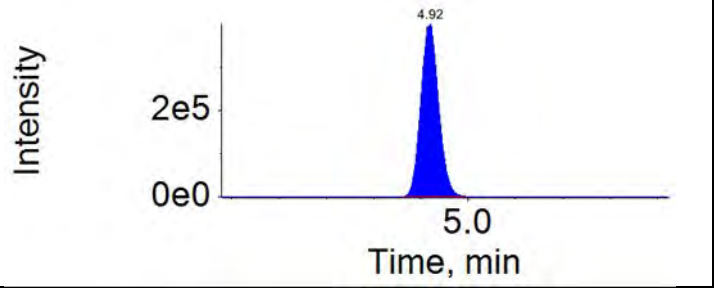
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



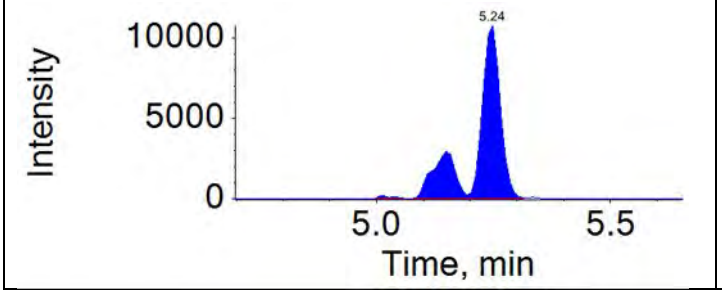


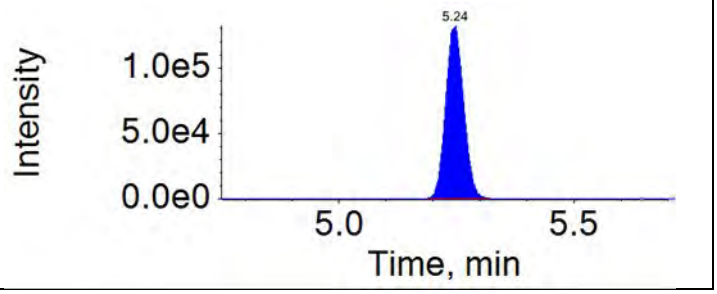
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



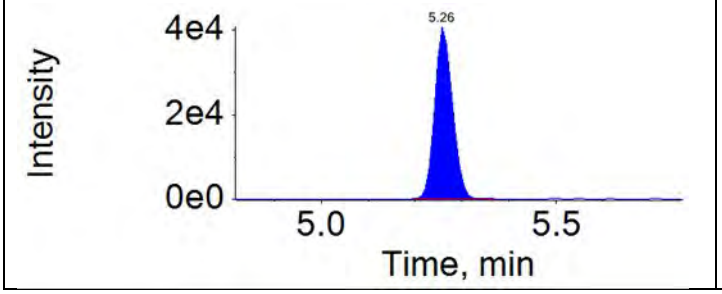


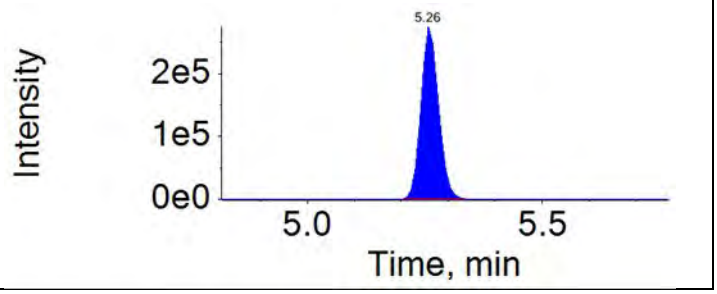
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

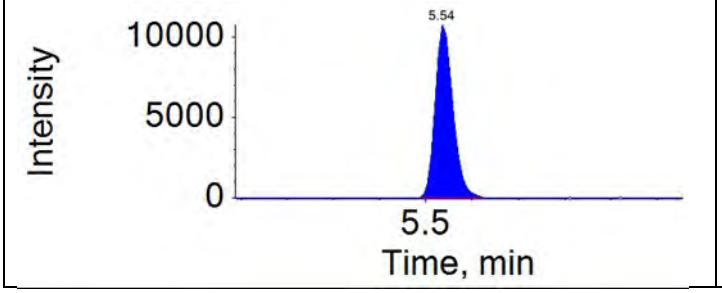
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

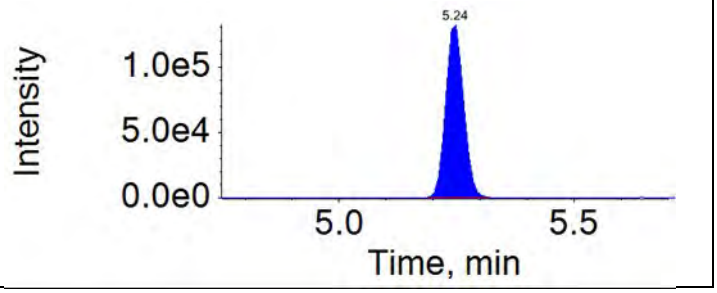
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



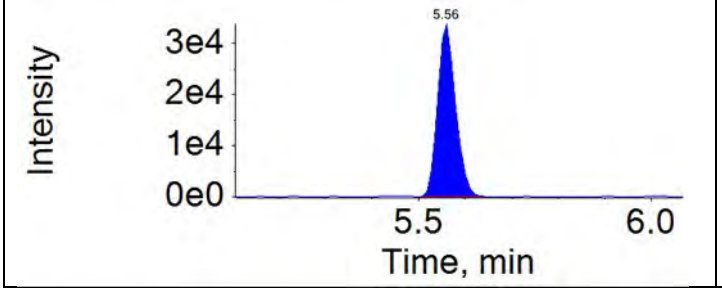


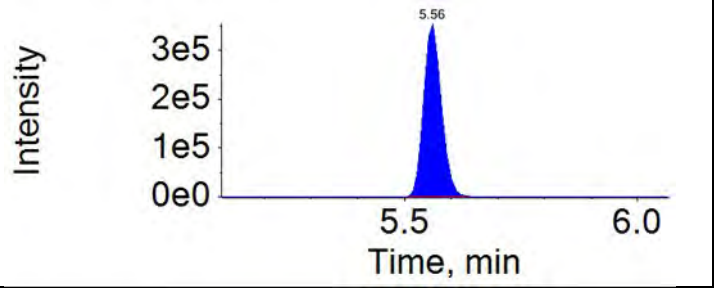
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



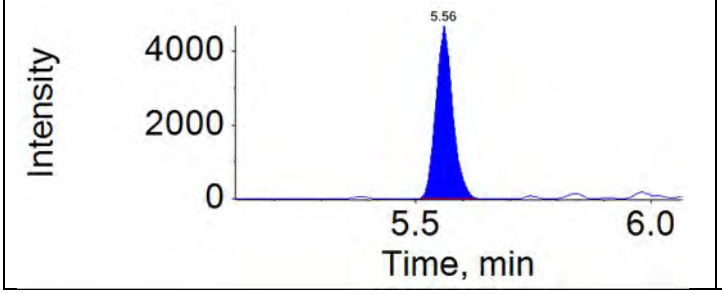


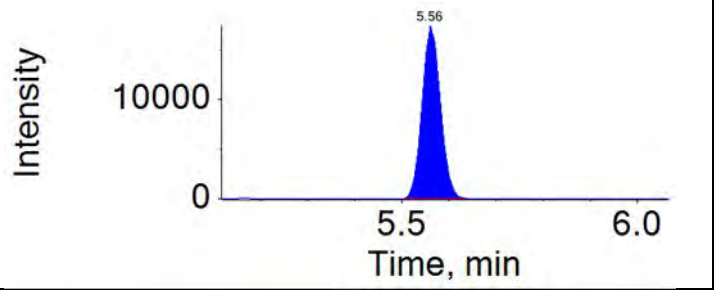
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



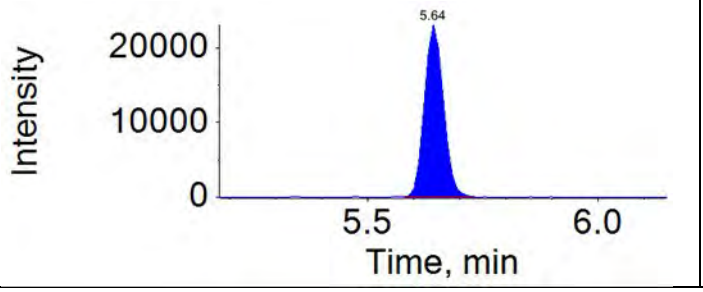


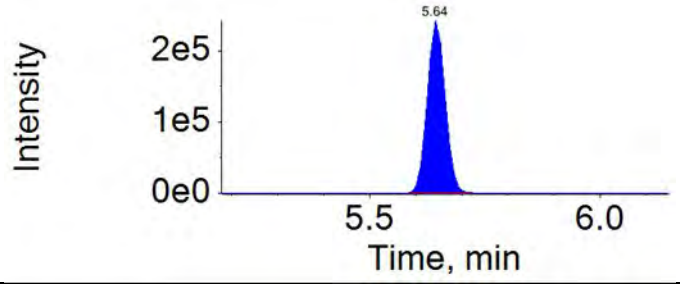
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By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

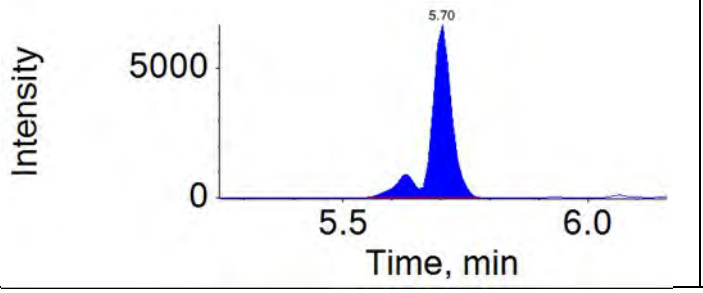
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

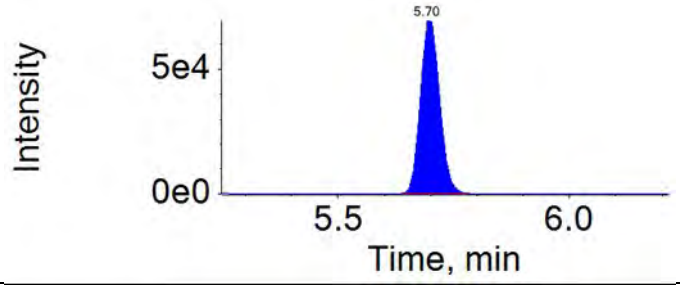
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



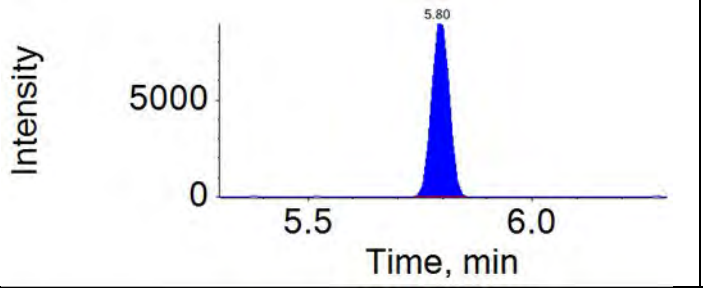


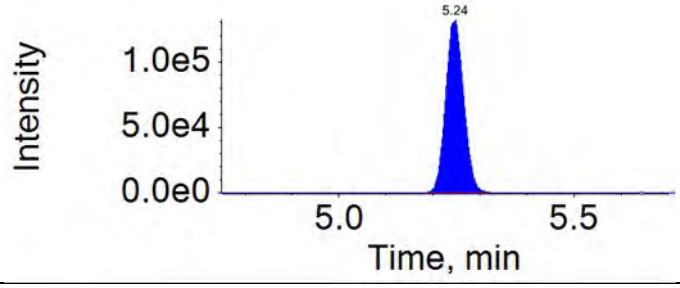
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



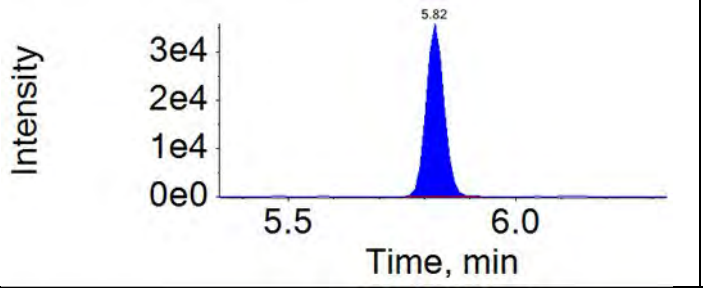


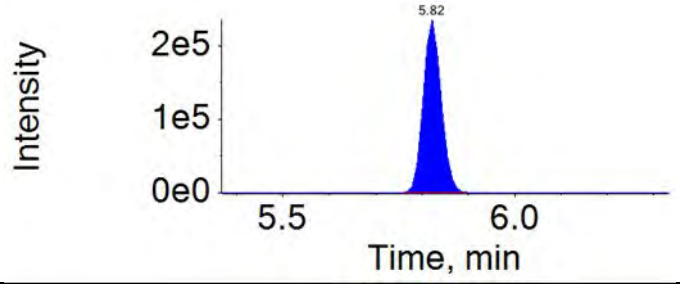
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



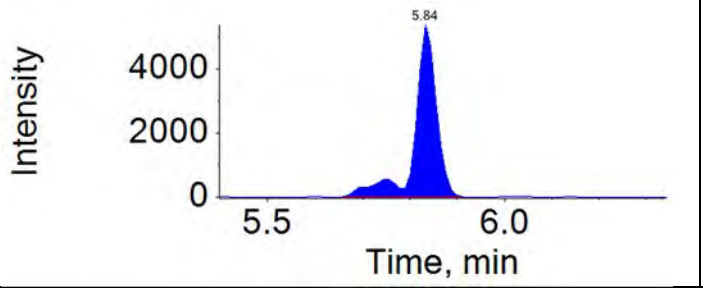


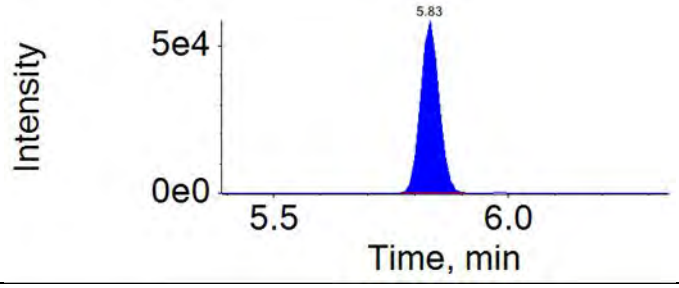
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

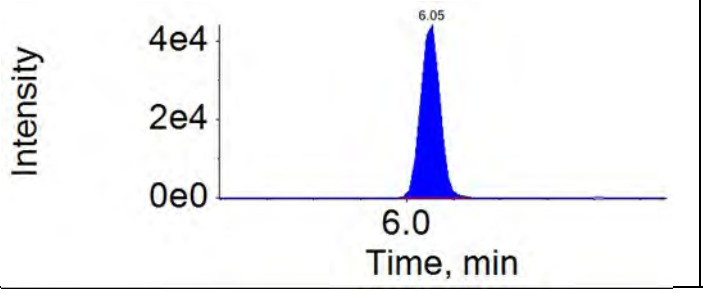
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

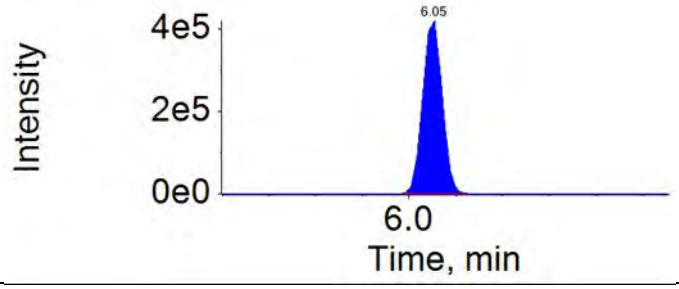
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



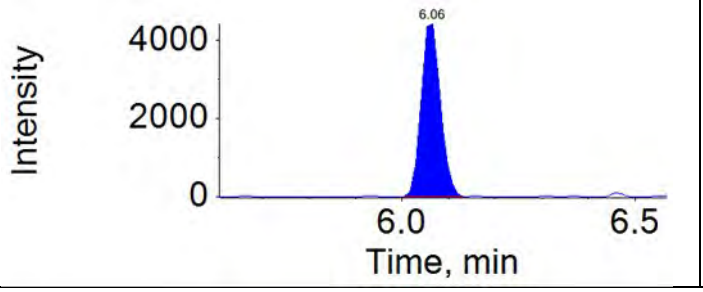


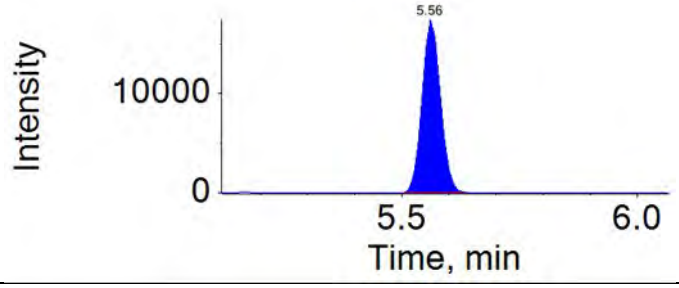
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



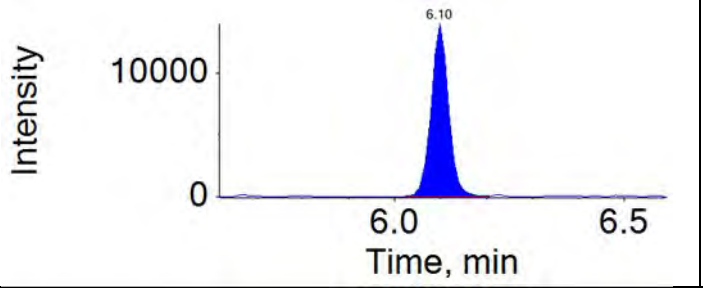


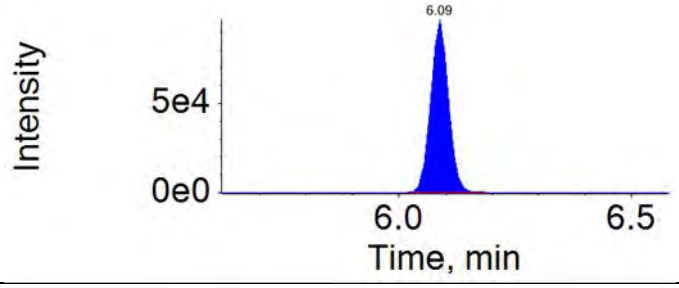
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



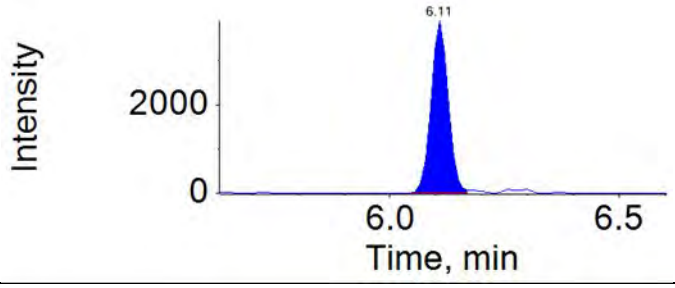


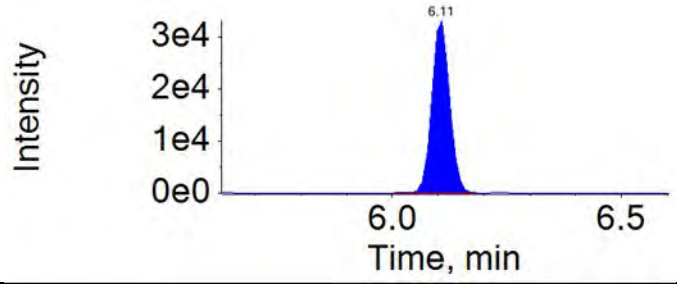
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

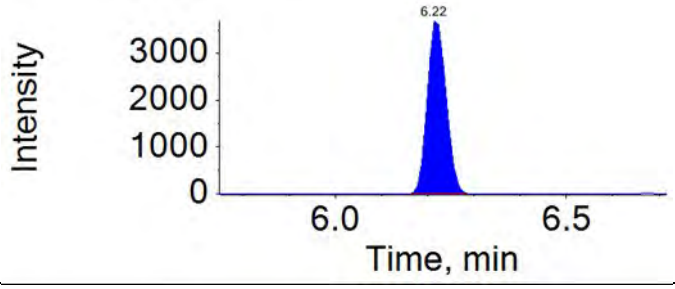
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

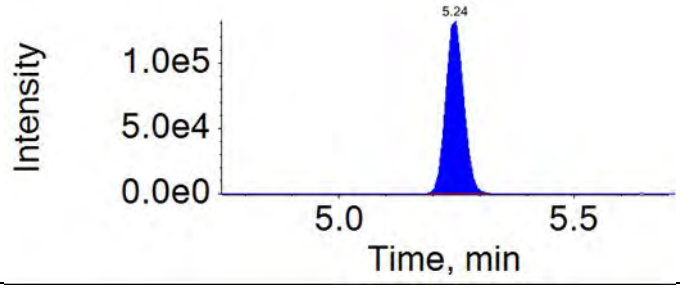
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



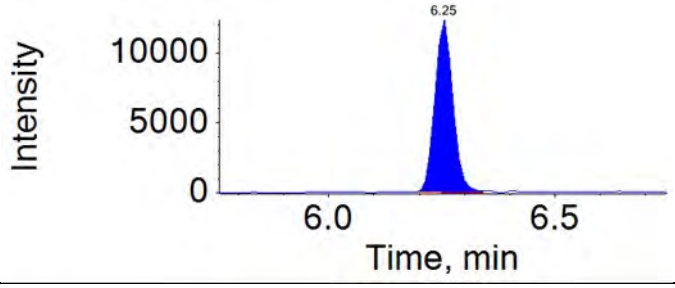


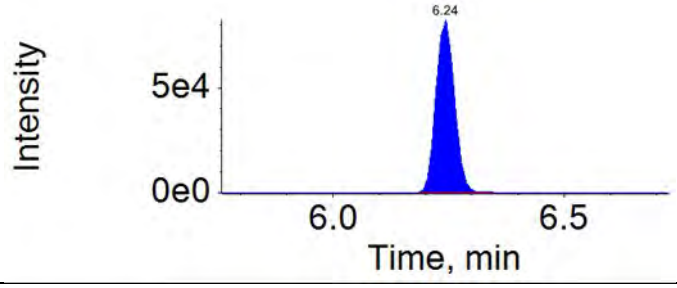
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



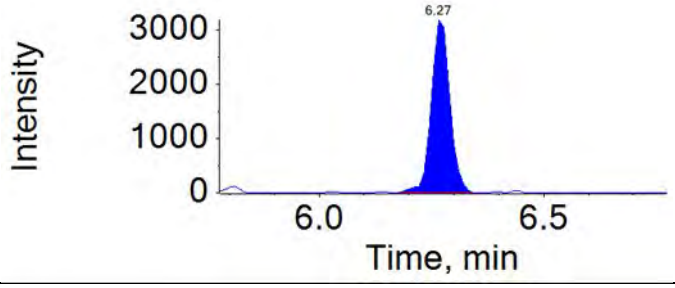


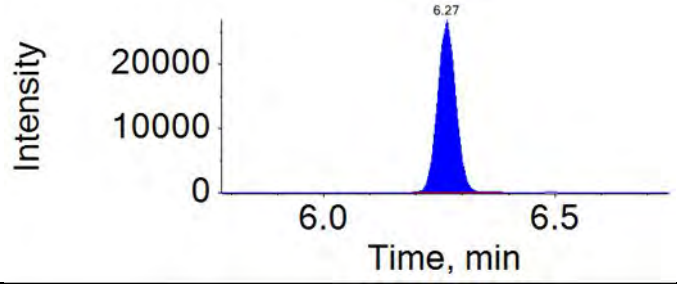
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

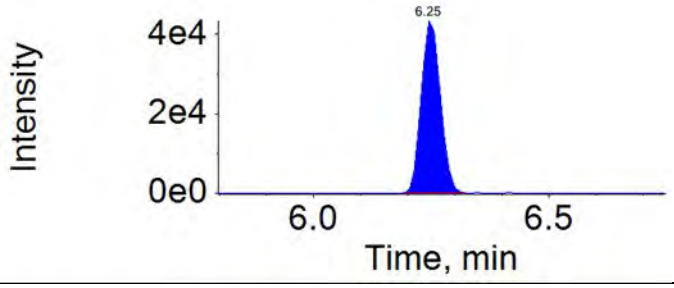
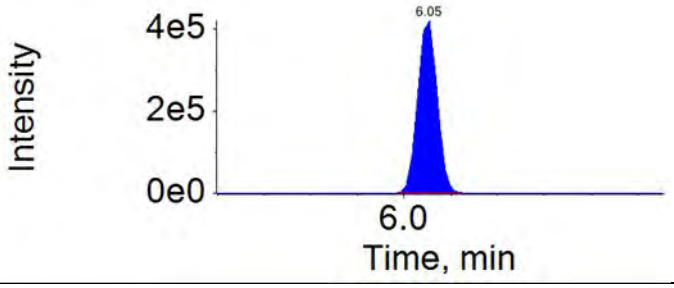


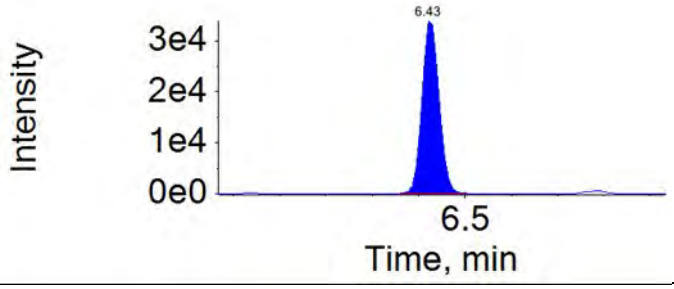
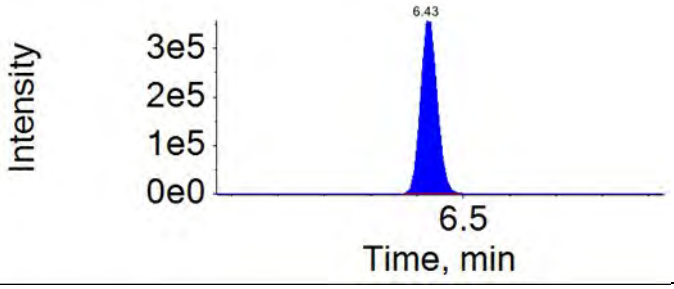


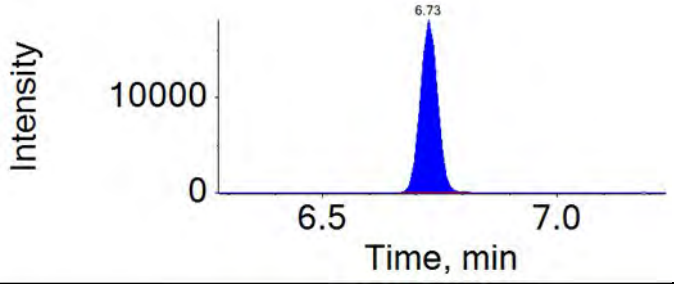
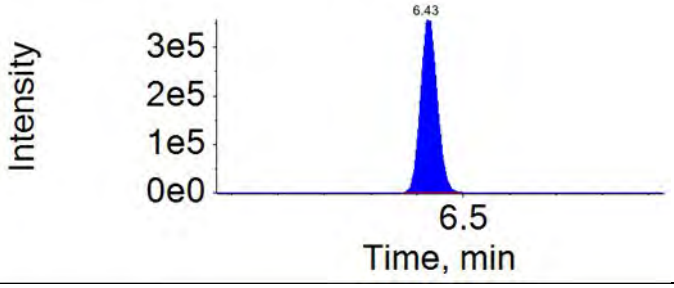
APPROVED
By MSM at 9:34 am, 12/27/18

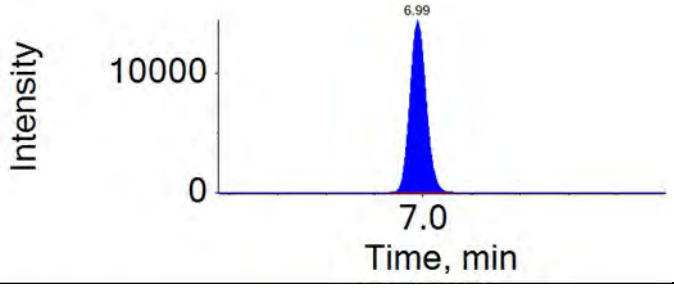
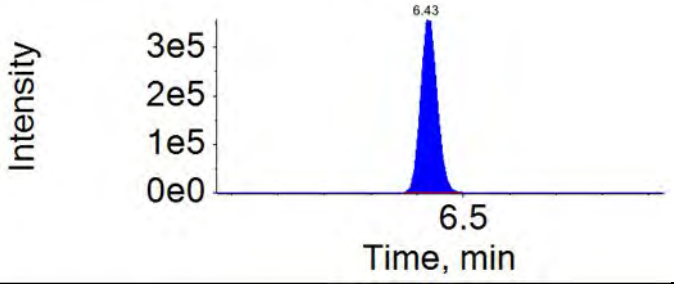
REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

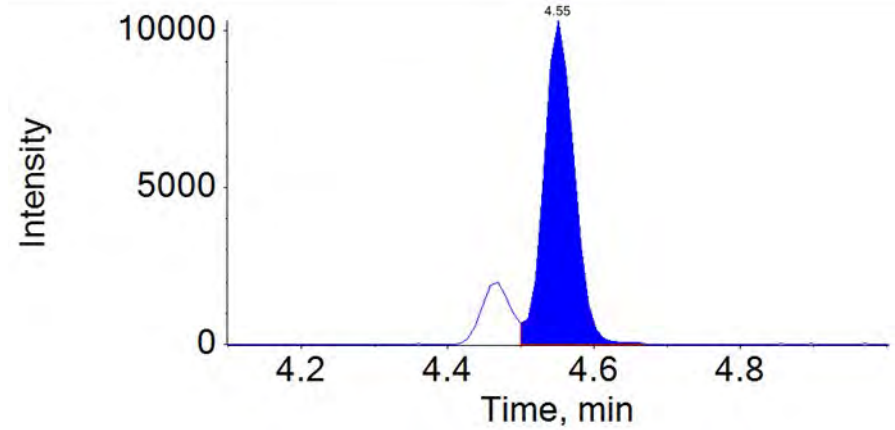
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

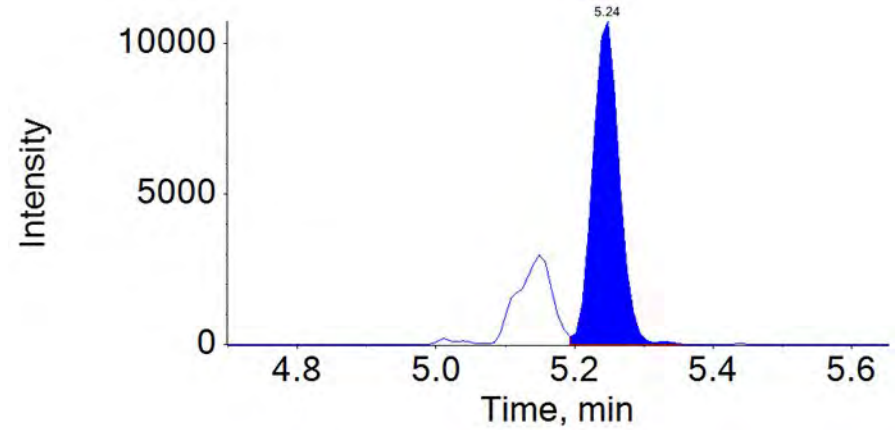
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
29698.9
Mass Range:
399.0 / 80.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



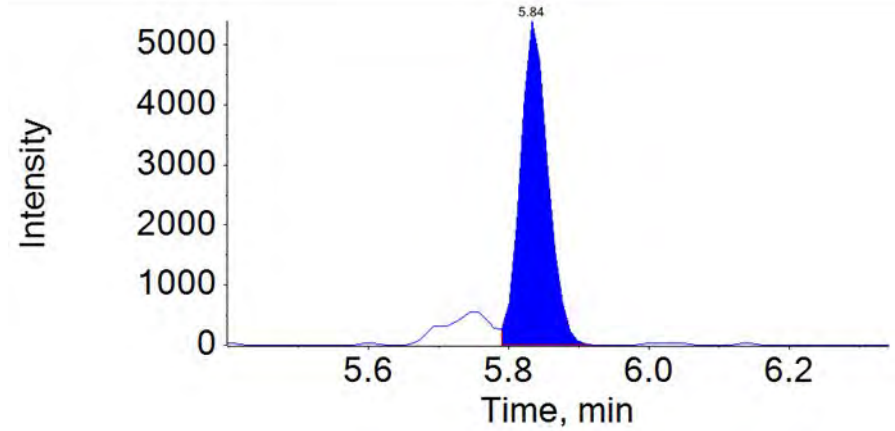
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
28630.6
Mass Range:
499.0 / 80.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.84
Peak Area:
14743.2
Mass Range:
584.0 / 419.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



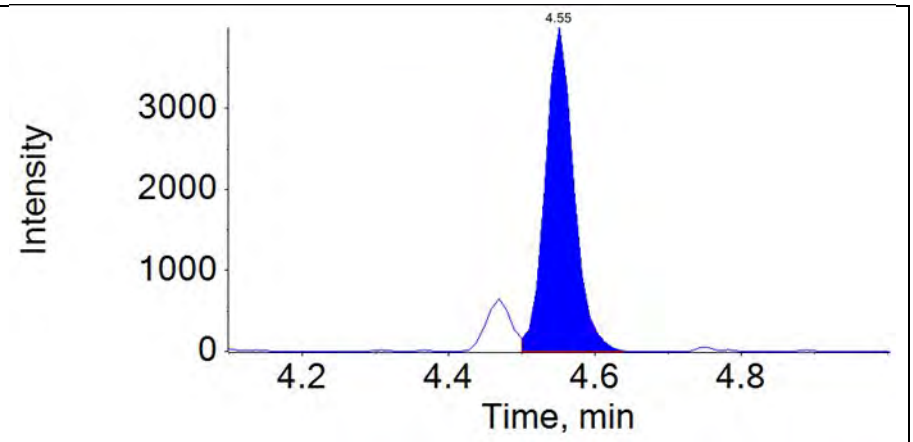
Integration Comment: incorrect integration

APPROVED
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REVIEWED
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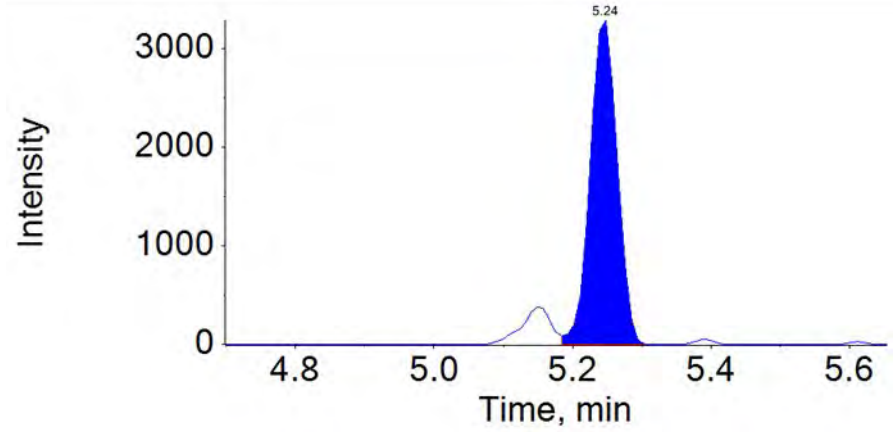
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.55
Peak Area:
10820.7
Mass Range:
399.0 / 99.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



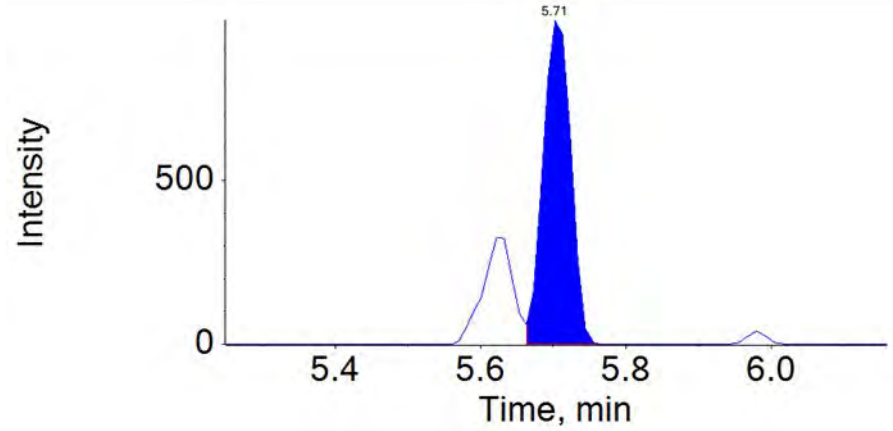
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
9006.6
Mass Range:
499.0 / 99.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.71
Peak Area:
2642.7
Mass Range:
570.0 / 483.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



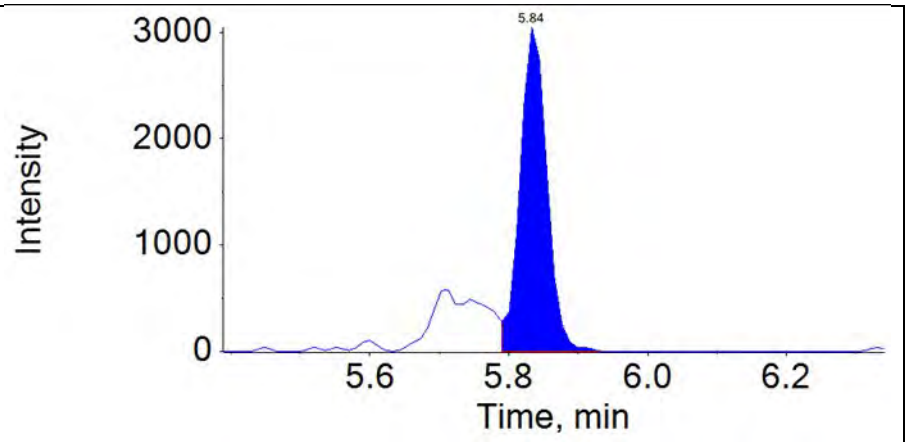
Integration Comment: incorrect integration

APPROVED
By MSM at 9:34 am, 12/27/18

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By HMK at 12:57 pm, 12/28/18

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.84
Peak Area:
8186.4
Mass Range:
584.0 / 526.0
File Name:
18DEC26D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Ion Ratio Report

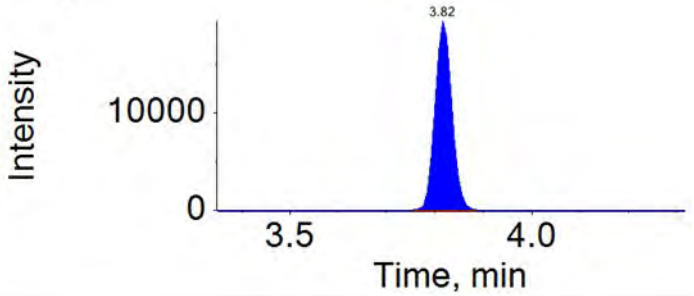
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26D-05.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	47229.2	A	N/A	1.0000			
PFBS_2	3.82	1.00	16918.5	A	N/A	0.3582	-1	50	
4:2-FTS	4.13	1.00	13580.0	A	N/A	1.0000			
4:2-FTS_2	4.13	1.00	9057.6	A	N/A	0.6670	9	50	
PFHxA	4.16	1.00	106308.1	A	N/A	1.0000			
PFHxA_2	4.16	1.00	1295.9	A	N/A	0.0122	-1	50	
PFPeS	4.18	1.10	23942.4	A	N/A	1.0000			
PFPeS_2	4.18	1.10	13197.6	A	N/A	0.5512	9	50	
PFHpA	4.55	1.00	115763.7	A	N/A	1.0000			
PFHpA_2	4.55	1.00	6711.7	A	N/A	0.0580	2	50	
PFHxS	4.55	1.00	35058.2	M	N/A	1.0000			
PFHxS_2	4.55	1.00	12351.3	M	N/A	0.3523	-1	50	
6:2-FTS	4.91	1.00	12743.7	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	8124.7	A	N/A	0.6375	1	50	
PFHpS	4.91	1.08	37332.0	A	N/A	1.0000			
PFHpS_2	4.91	1.08	13356.7	A	N/A	0.3578	-12	50	
PFOA	4.92	1.00	114219.1	A	N/A	1.0000			
PFOA_2	4.92	1.00	7521.7	A	N/A	0.0659	16	50	
PFOS	5.24	1.00	39277.4	M	N/A	1.0000			
PFOS_2	5.24	1.00	10129.6	M	N/A	0.2579	-15	50	
PFNA	5.26	1.00	107189.5	A	N/A	1.0000			
PFNA_2	5.27	1.00	1825.3	A	N/A	0.0170	-20	50	
PFNS	5.54	1.06	28739.4	A	N/A	1.0000			
PFNS_2	5.54	1.06	13497.1	A	N/A	0.4696	4	50	
PFDA	5.56	1.00	90256.2	A	N/A	1.0000			
PFDA_2	5.55	1.00	1106.2	A	N/A	0.0123	82	50	OOS
8:2-FTS	5.56	1.00	11608.3	A	N/A	1.0000			
8:2-FTS_2	5.56	1.00	7582.1	A	N/A	0.6532	9	50	
NMeFOSAA	5.70	1.00	19860.3	A	N/A	1.0000			
NMeFOSAA_2	5.71	1.00	3593.8	M	N/A	0.1810	-30	50	
PFDS	5.80	1.11	24837.1	A	N/A	1.0000			
PFDS_2	5.79	1.10	11521.4	A	N/A	0.4639	-5	50	
PFUnDA	5.82	1.00	97038.9	A	N/A	1.0000			
PFUnDA_2	5.82	1.00	588.0	A	N/A	0.0061	44	50	
NEtFOSAA	5.84	1.00	17365.2	M	N/A	1.0000			
NEtFOSAA_2	5.84	1.00	11255.9	M	N/A	0.6482	-5	50	
PFDoDA	6.05	1.00	127417.2	A	N/A	1.0000			
PFDoDA_2	6.05	1.00	1942.0	A	N/A	0.0152	9	50	
10:2-FTS	6.06	1.09	12761.7	A	N/A	1.0000			
10:2-FTS_2	6.06	1.09	9009.8	A	N/A	0.7060	5	50	
PFTrDA	6.25	1.03	122637.6	A	N/A	1.0000			
PFTrDA_2	6.25	1.03	1283.9	A	N/A	0.0105	18	50	
PFTeDA	6.43	1.00	86773.9	A	N/A	1.0000			
PFTeDA_2	6.42	1.00	682.9	A	N/A	0.0079	26	50	
PFHxDA	6.73	1.05	46197.4	A	N/A	1.0000			
PFHxDA_2	6.73	1.05	2572.5	A	N/A	0.0557	-13	50	
PFODA	6.99	1.09	33144.3	A	N/A	1.0000			
PFODA_2	6.99	1.09	818.1	A	N/A	0.0247	-7	50	

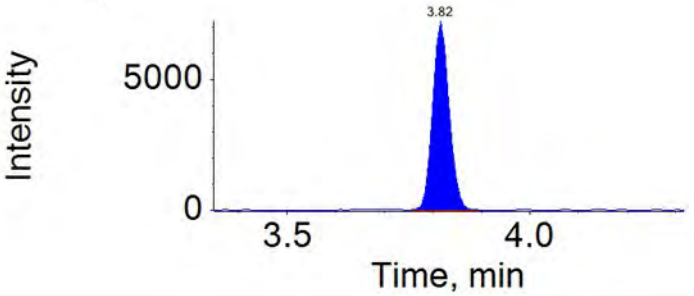
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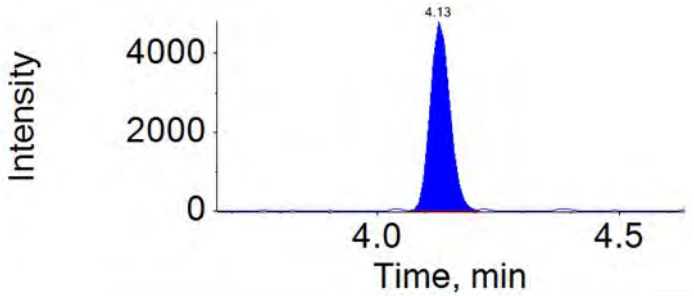
Component: PFBS
Primary Mass: 299.0 / 80.0



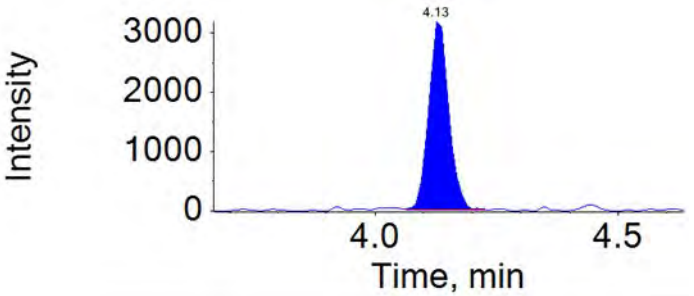
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



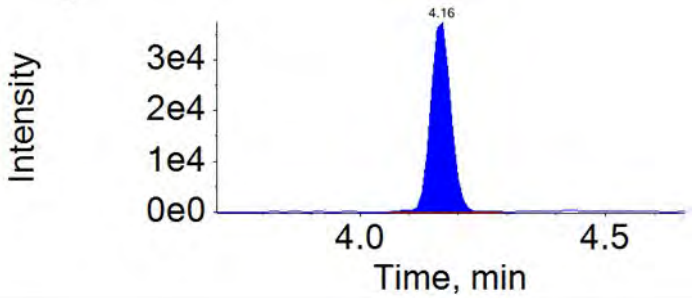
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



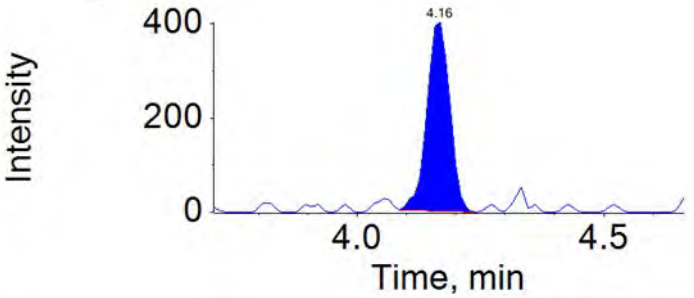
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



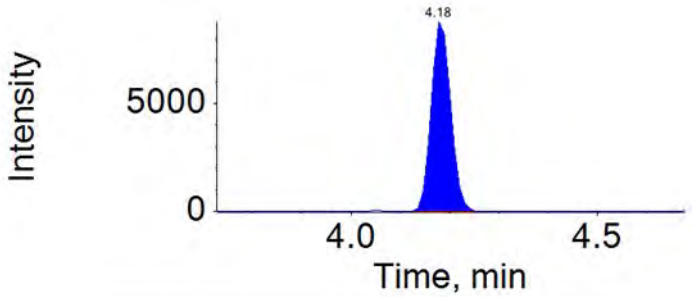
Component: PFHxA
Primary Mass: 313.0 / 269.0



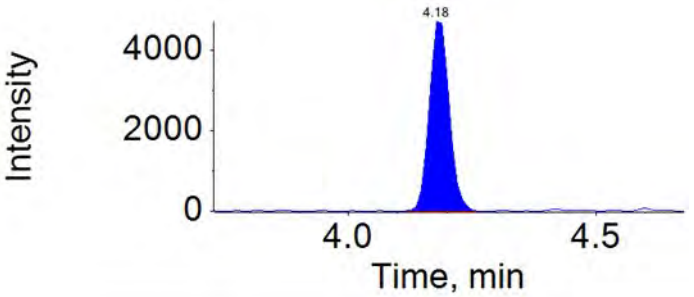
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



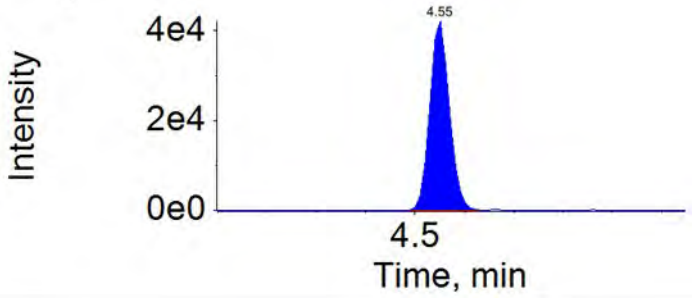
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



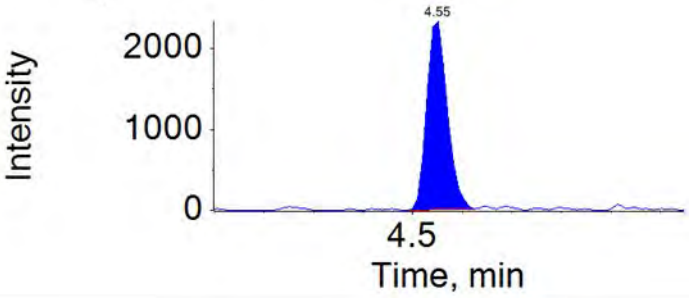
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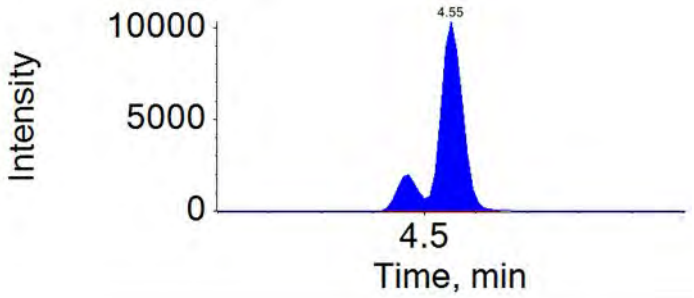
Component: PFHpA
Primary Mass: 363.0 / 319.0



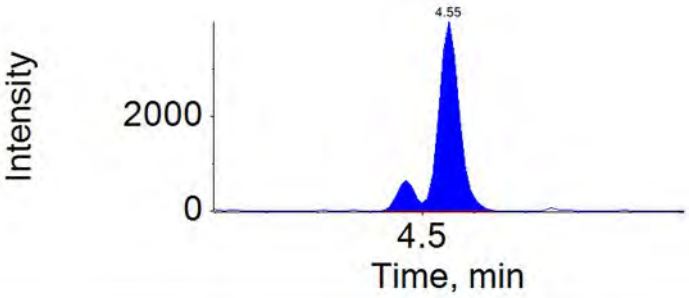
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



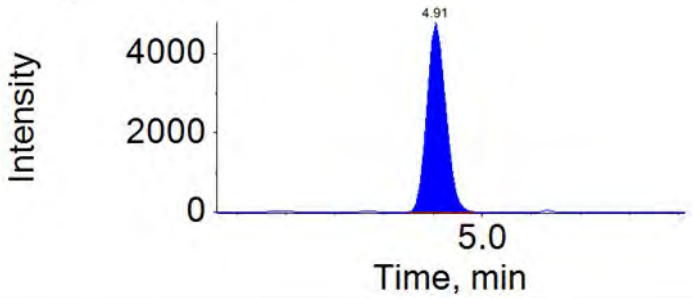
Component: PFHxS
Primary Mass: 399.0 / 80.0



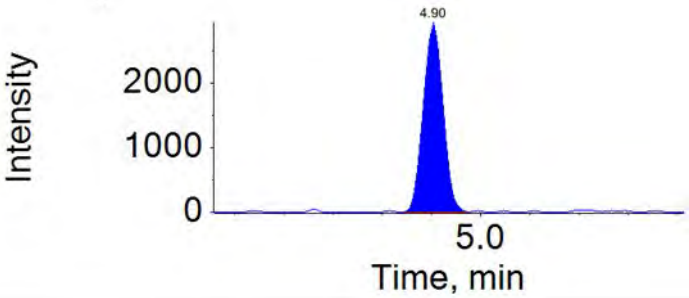
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



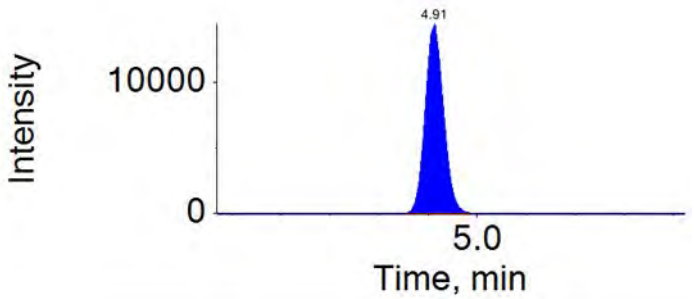
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



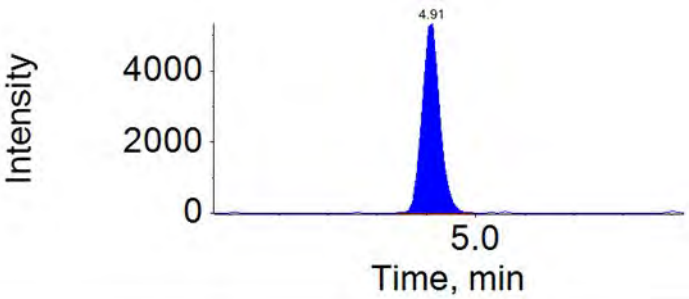
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



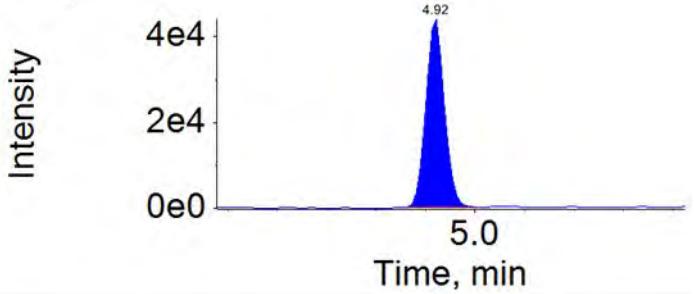
Component: PFHpS
Primary Mass: 449.0 / 80.0



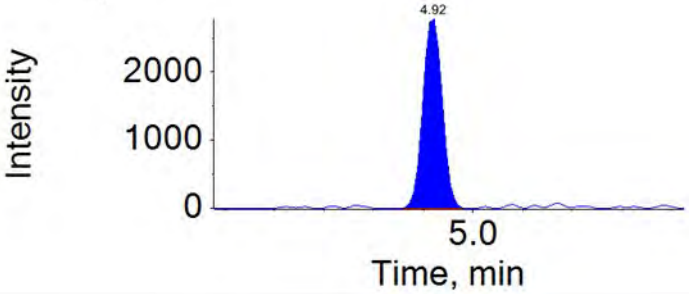
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



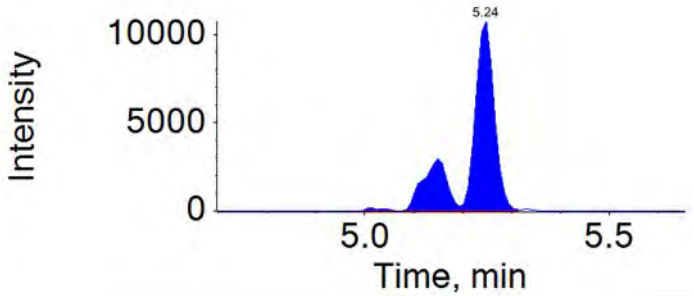
Component: PFOA
Primary Mass: 413.0 / 369.0



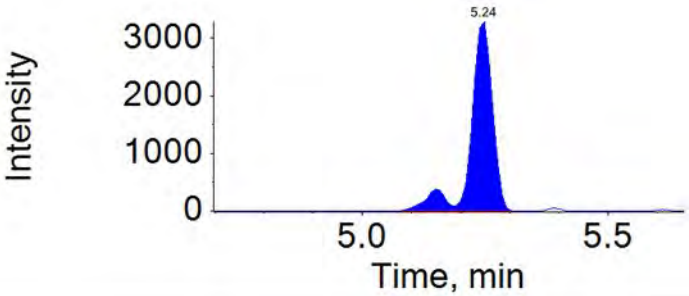
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



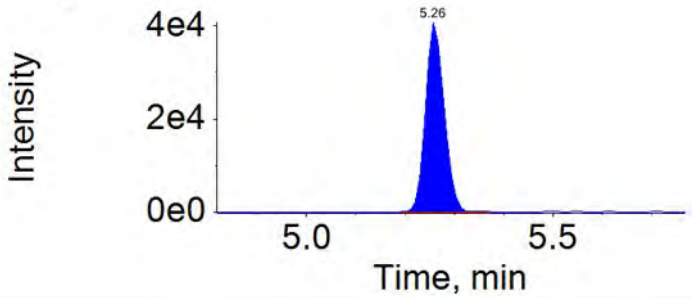
Component: PFOS
Primary Mass: 499.0 / 80.0



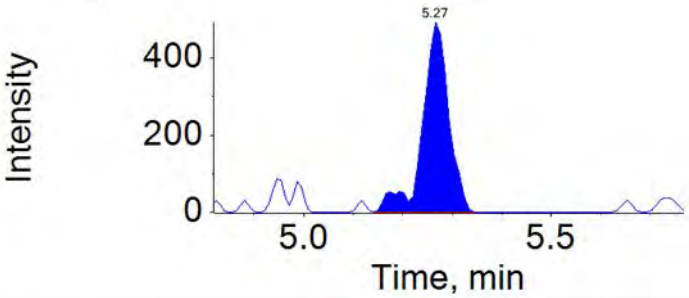
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



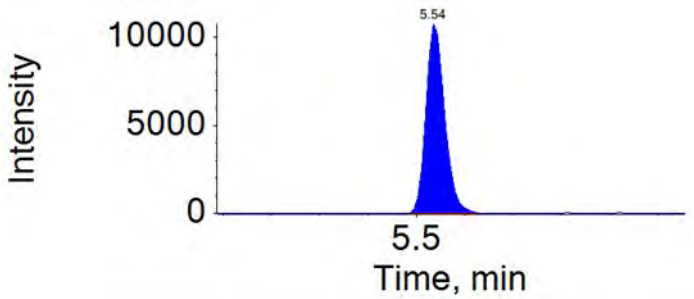
Component: PFNA
Primary Mass: 463.0 / 419.0



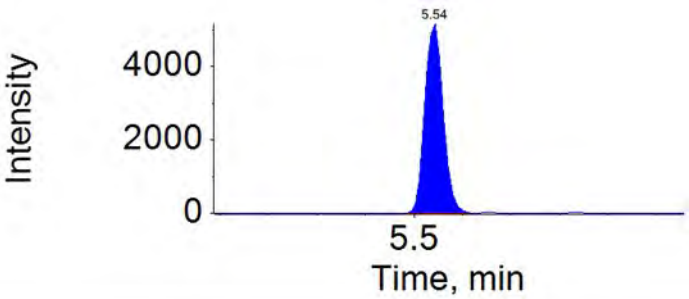
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



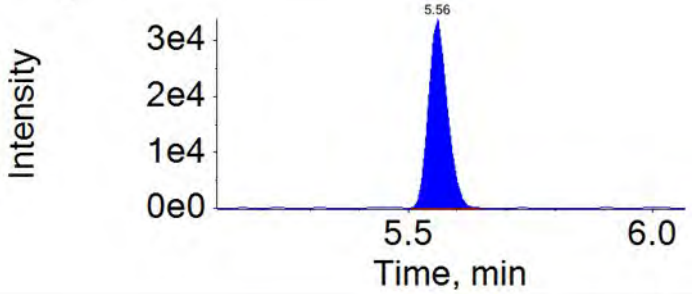
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



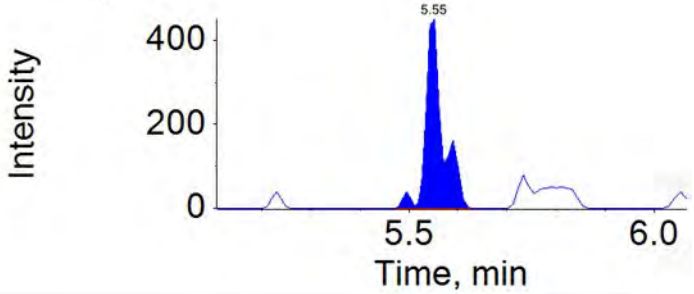
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

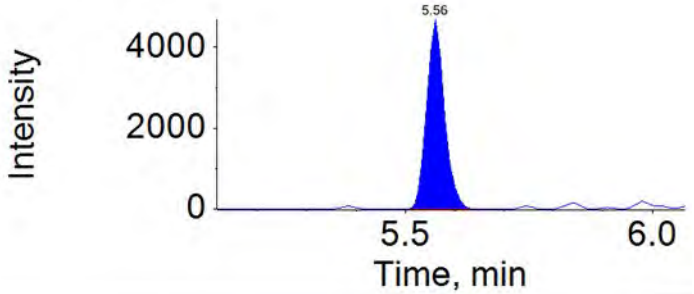
Component: PFDA
Primary Mass: 513.0 / 469.0



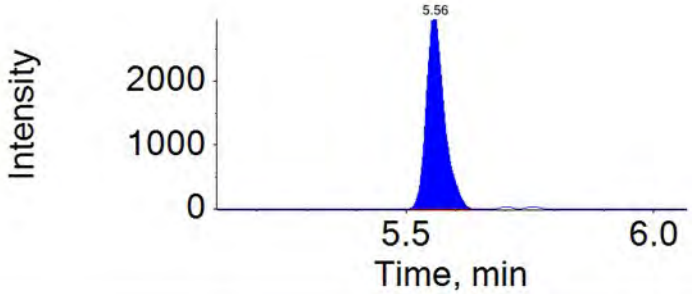
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



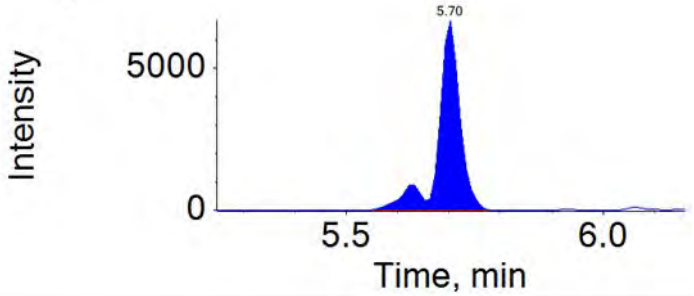
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



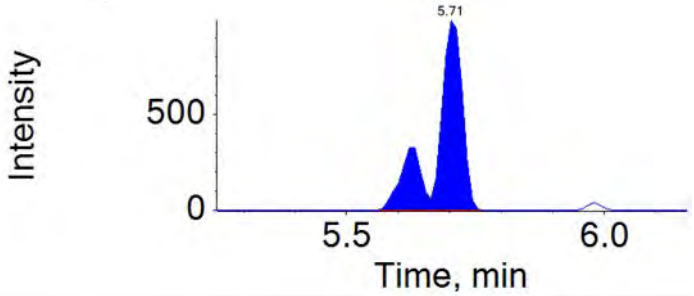
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



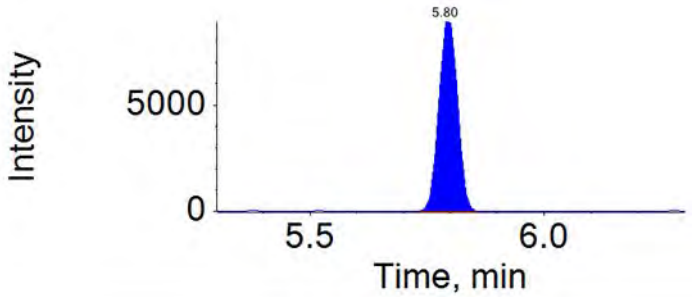
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



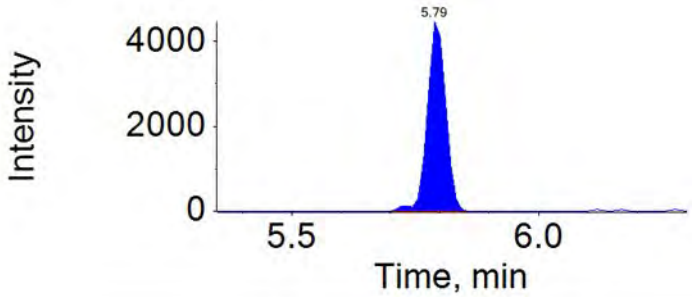
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



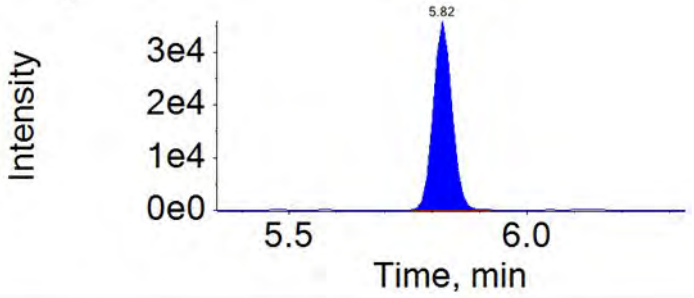
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



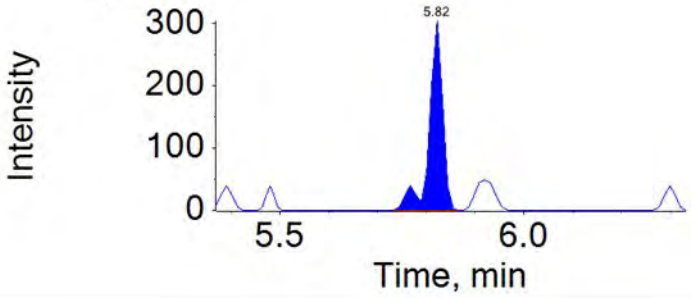
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

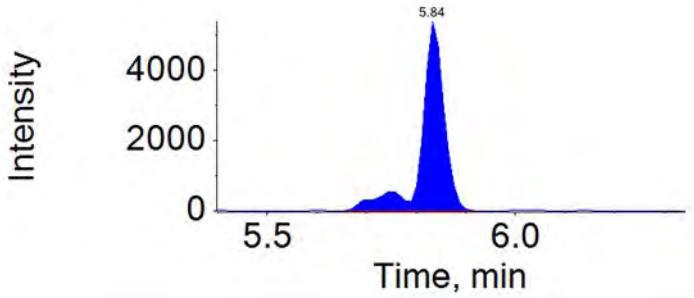
Component: PFUnDA
Primary Mass: 563.0 / 519.0



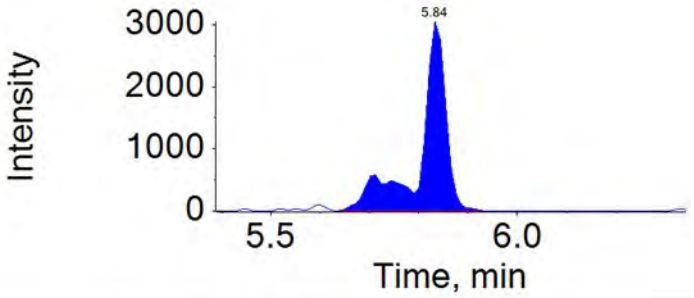
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



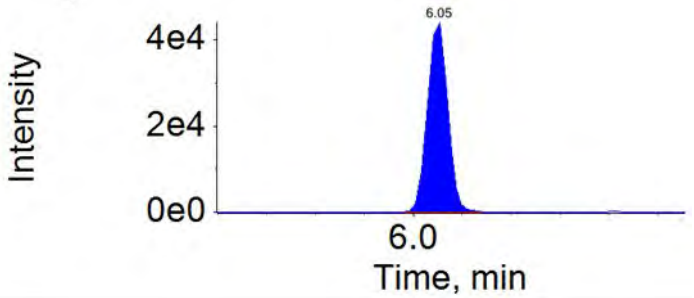
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



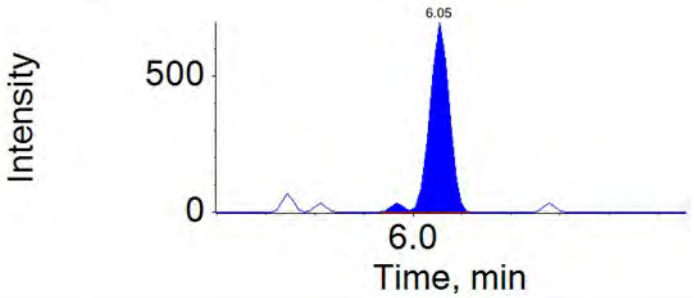
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



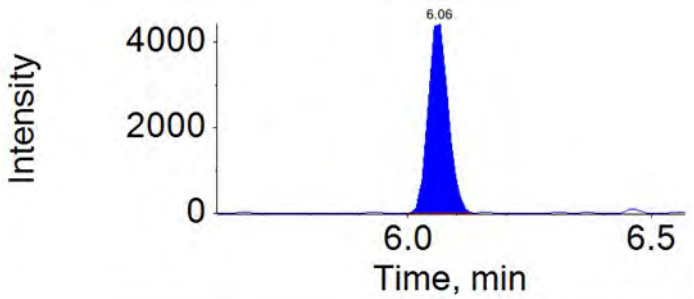
Component: PFDoDA
Primary Mass: 613.0 / 569.0



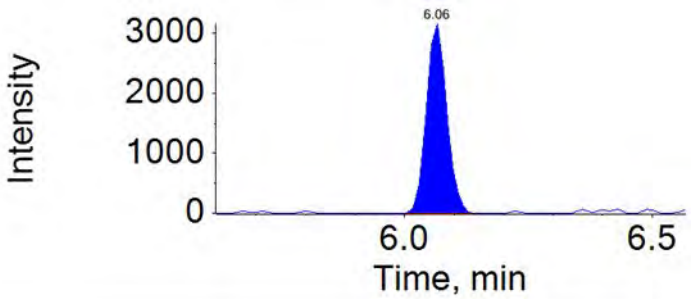
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



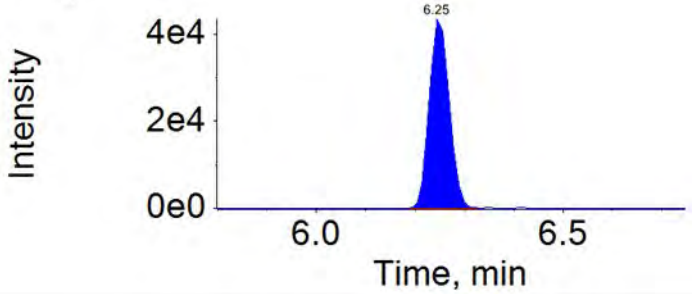
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



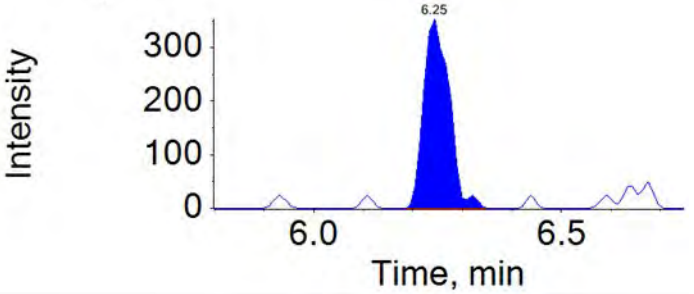
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

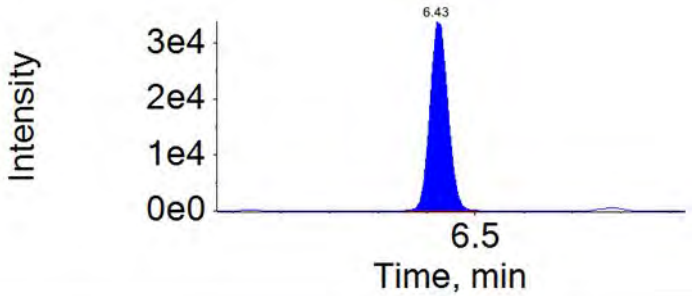
Component: PFTrDA
Primary Mass: 663.0 / 619.0



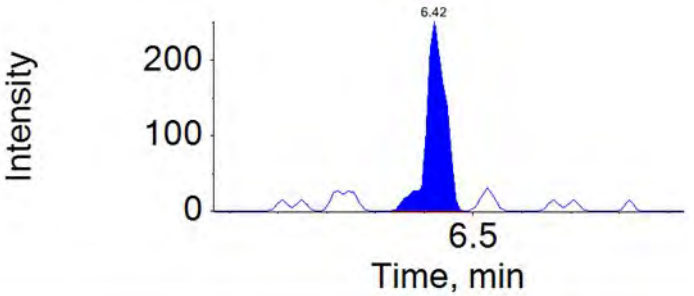
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



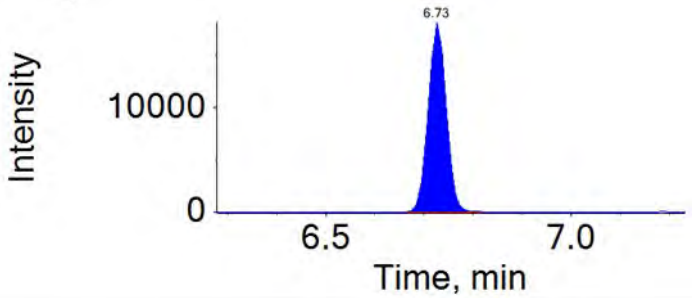
Component: PFTeDA
Primary Mass: 713.0 / 669.0



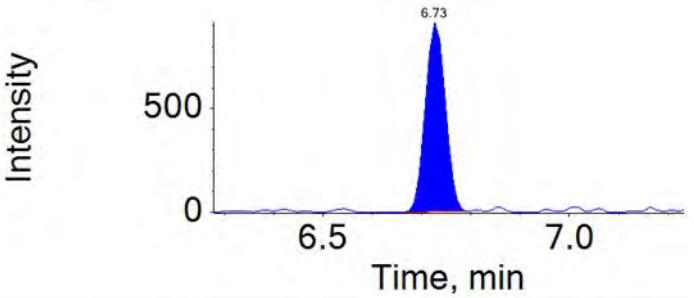
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Secondary Mass: 713.0 / 169.0



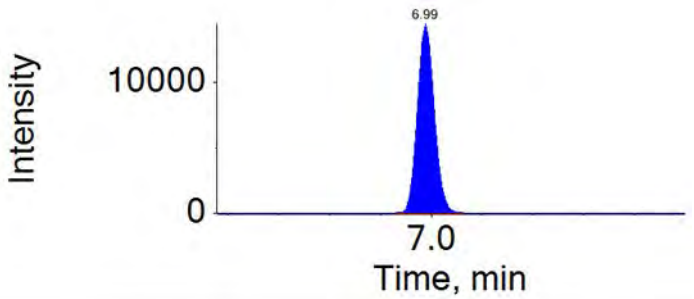
Component: PFHxDA
Primary Mass: 813.0 / 769.0



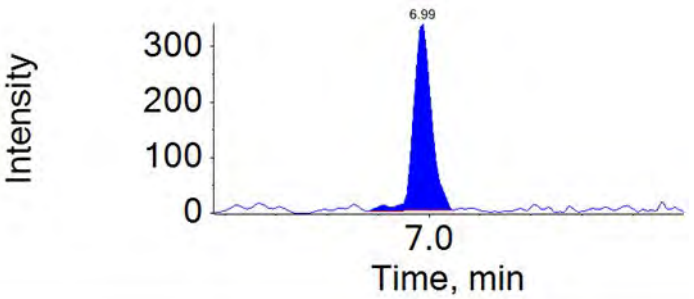
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By HMK at 12:57 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18DEC26D-06.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-12-26T16:05:52
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCCV1-10
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	1062990.5	965438.2	10	50	
13C2-PFOA	5.0	573847.9	527066.0	9	50	
13C4-PFOS	4.8	335699.2	307230.6	9	50	
13C2-PFDA	5.0	513310.7	493258.9	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1369425.5	13C3-PFBA	1062990.5	1.288	5.000	5.716	114	70-130	
E13C5-PFPeA	1307129.4	13C3-PFBA	1062990.5	1.230	5.000	5.857	117	70-130	
E13C3-PFBS	538163.4	13C3-PFBA	1062990.5	0.506	4.650	4.919	106	70-130	
E13C2-4:2-FTS	86162.4	13C2-PFOA	573847.9	0.150	4.670	5.720	122	70-130	
E13C5-PFHxA	900298.8	13C2-PFOA	573847.9	1.569	5.000	5.739	115	70-130	
E13C3-PFHxS	428281.7	13C2-PFOA	573847.9	0.746	4.730	5.735	121	70-130	
E13C4-PFHpA	758402.2	13C2-PFOA	573847.9	1.322	5.000	5.954	119	70-130	
E13C2-6:2-FTS	67090.3	13C2-PFOA	573847.9	0.117	4.750	5.720	120	70-130	
E13C8-PFOA	1253531.6	13C2-PFOA	573847.9	2.184	5.000	6.120	122	70-130	
E13C8-PFOS	413929.7	13C4-PFOS	335699.2	1.233	4.780	5.375	112	70-130	
E13C9-PFNA	809298.1	13C4-PFOS	335699.2	2.411	5.000	5.311	106	70-130	
E13C6-PFDA	1017824.3	13C2-PFDA	513310.7	1.983	5.000	5.693	114	70-130	
E13C2-8:2-FTS	62644.7	13C2-PFDA	513310.7	0.122	4.790	6.314	132	70-130	OOS
E13C8-PFOSA	852271.4	13C2-PFDA	513310.7	1.660	5.000	6.632	133	70-130	OOS
Ed3-NMeFOSAA	260454.5	13C2-PFDA	513310.7	0.507	5.000	6.475	129	70-130	
E13C7-PFUnDA	731935.1	13C2-PFDA	513310.7	1.426	5.000	6.161	123	70-130	
Ed5-NEtFOSAA	174366.9	13C2-PFDA	513310.7	0.340	5.000	5.886	118	70-130	
E13C2-PFDoDA	1420046.1	13C2-PFDA	513310.7	2.766	5.000	6.000	120	70-130	
Ed7-NMePFOSAE	326944.1	13C2-PFDA	513310.7	0.637	5.000	6.022	120	70-130	
Ed3-NMePFOSA	110284.0	13C2-PFDA	513310.7	0.215	5.000	6.090	122	70-130	
Ed9-NEtPFOSAE	287920.0	13C2-PFDA	513310.7	0.561	5.000	6.103	122	70-130	
Ed5-NEtPFOSA	85051.9	13C2-PFDA	513310.7	0.166	5.000	5.848	117	70-130	
E13C2-PFTeDA	1050389.0	13C2-PFDA	513310.7	2.046	5.000	6.035	121	70-130	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

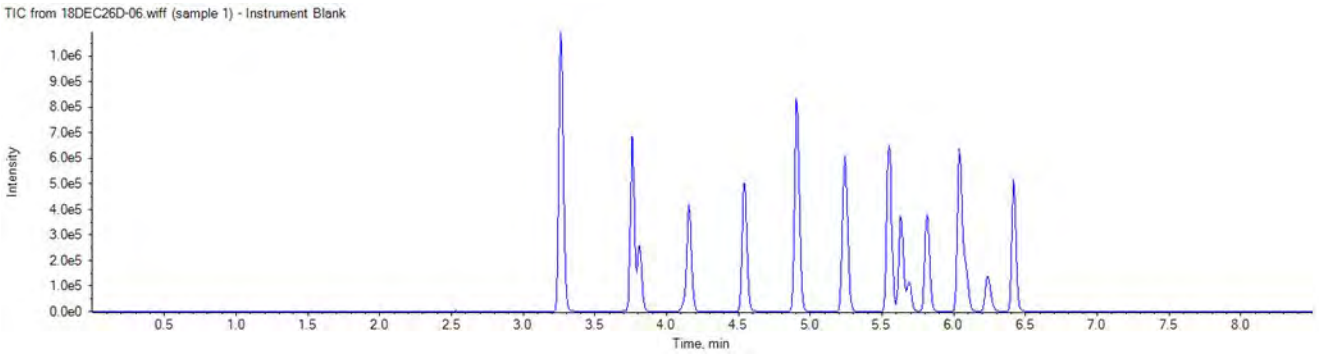
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC26D-06.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	N/A	N/A	N/A		A	13C4-PFBA	3.26	1369425.5	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	1307129.4	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	538163.4	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.12	86162.4	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	900298.8	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	538163.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	758402.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	428281.7	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.89	67090.3	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	428281.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	1253531.6	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	413929.7	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	809298.1	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.23	413929.7	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	1017824.3	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	62644.7	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.63	852271.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	260454.5	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.23	413929.7	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	731935.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	174366.9	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1420046.1	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	62644.7	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	326944.1	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.10	110284.0	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.23	413929.7	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.23	287920.0	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	85051.9	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	1420046.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	1050389.0	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	1050389.0	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	1050389.0	N/A	

Total Ion Chromatogram

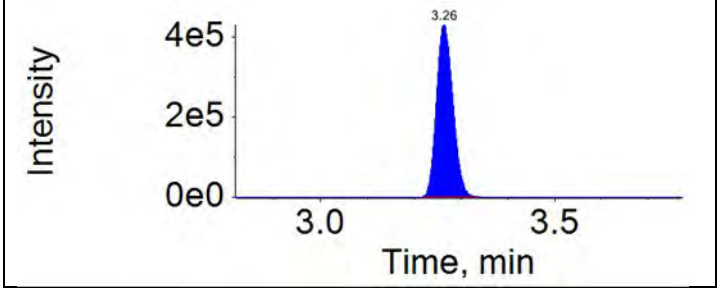


APPROVED
By MSM at 9:34 am, 12/27/18

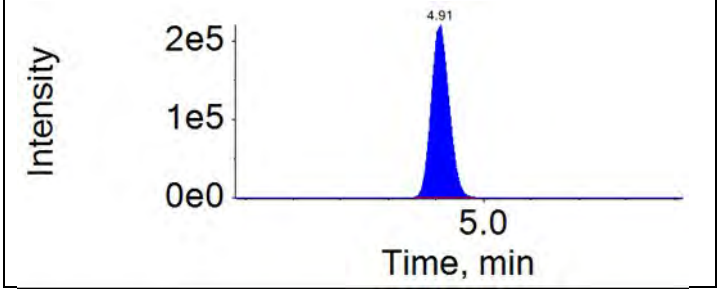
REVIEWED
By UMJS at 1:51 pm, 12/28/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

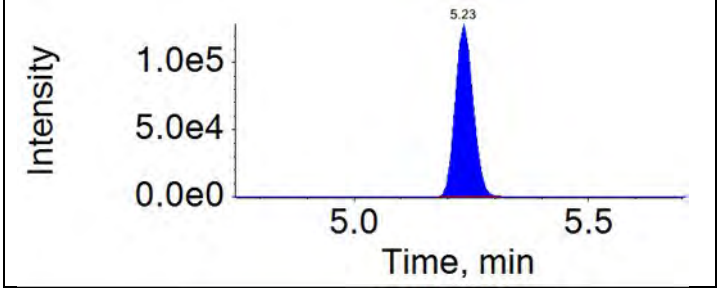
Injection Standard: 13C3-PFBA
216.0 / 172.0



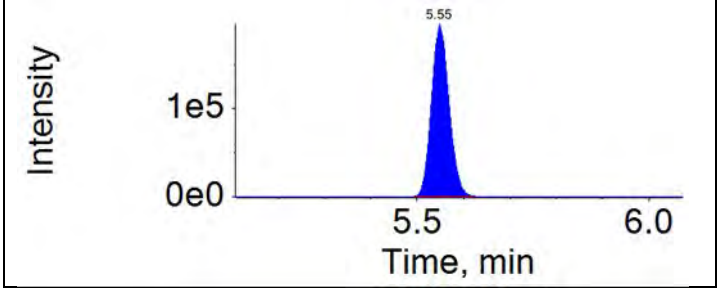
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

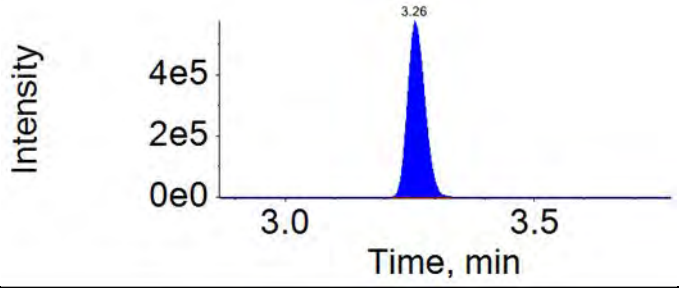


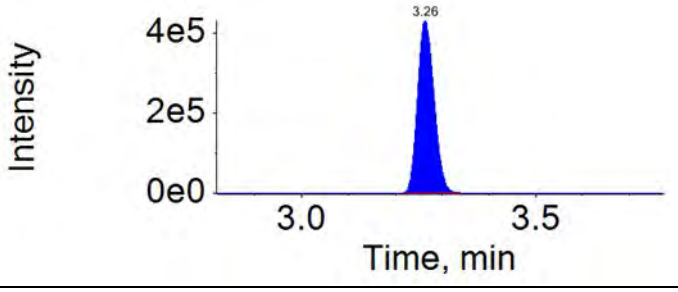
Injection Standard: 13C2-PFDA
515.0 / 470.0



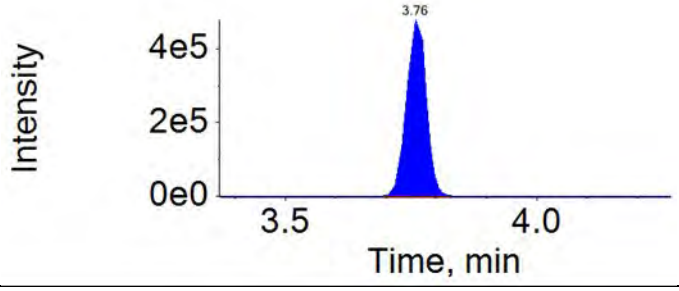
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

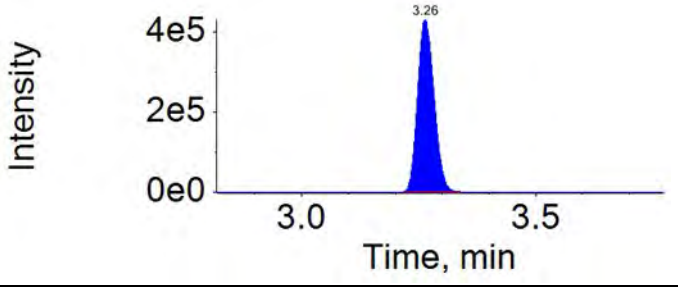
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



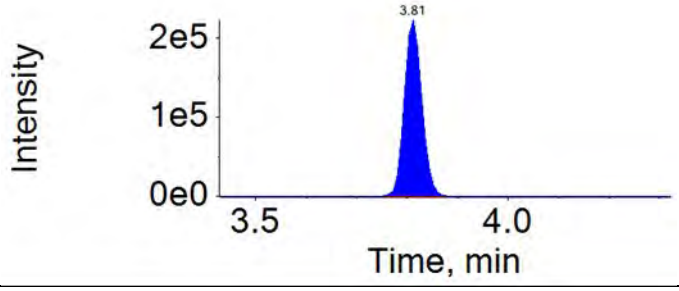


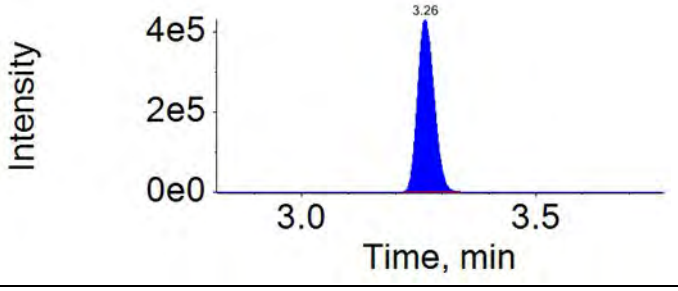
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



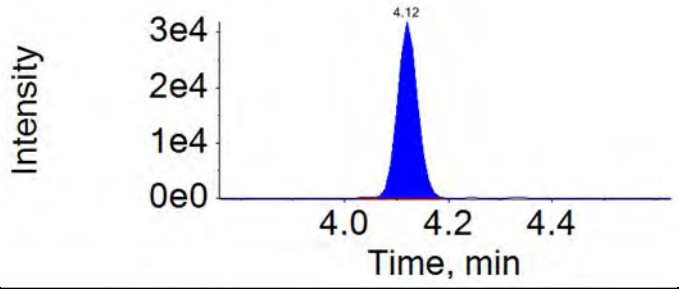


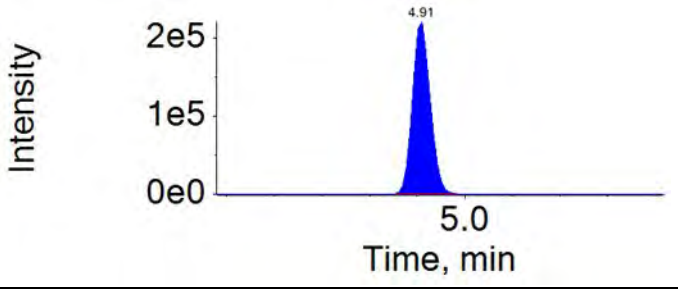
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





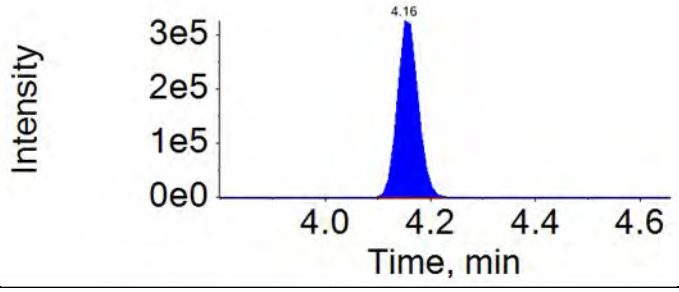
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

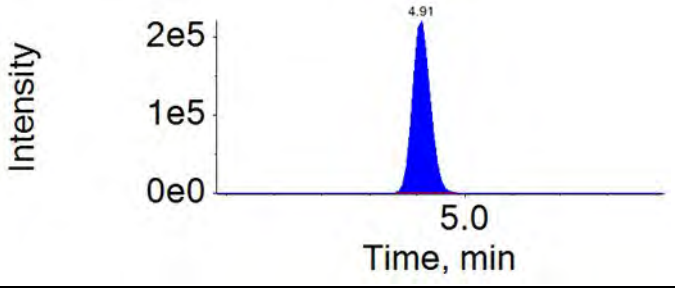




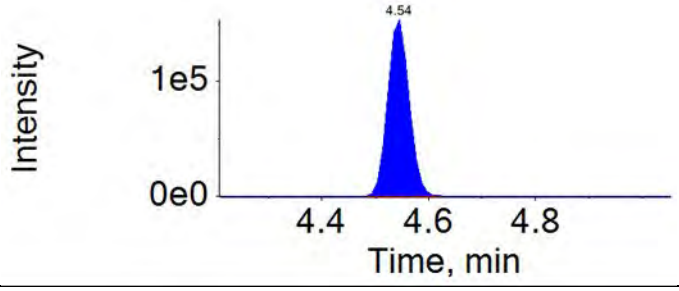
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

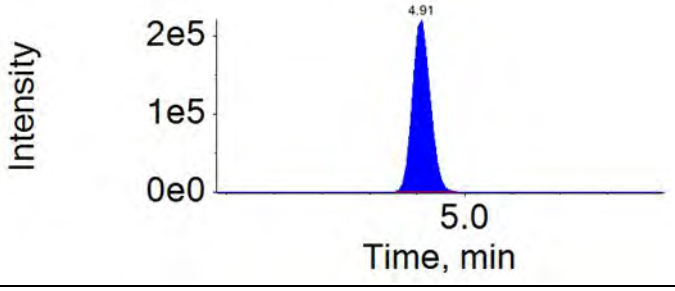
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



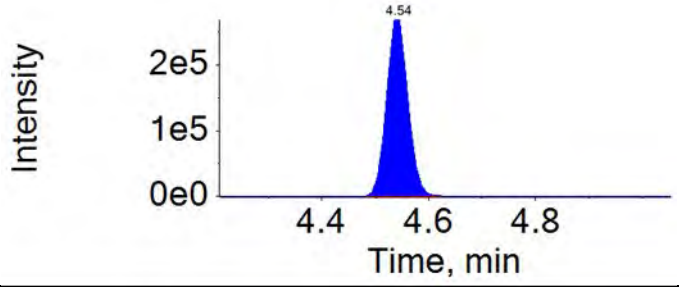


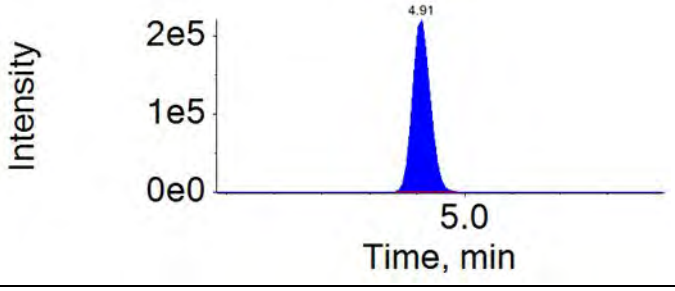
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



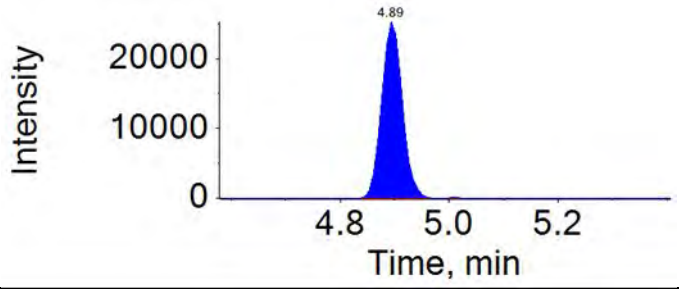


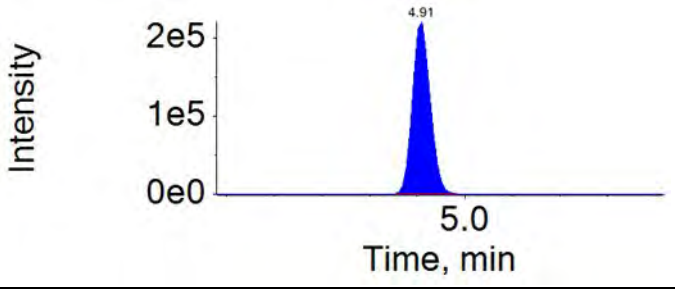
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



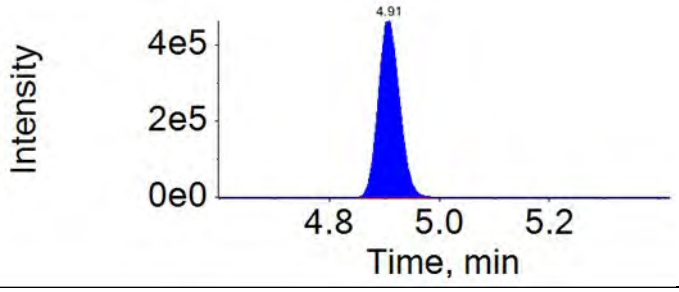
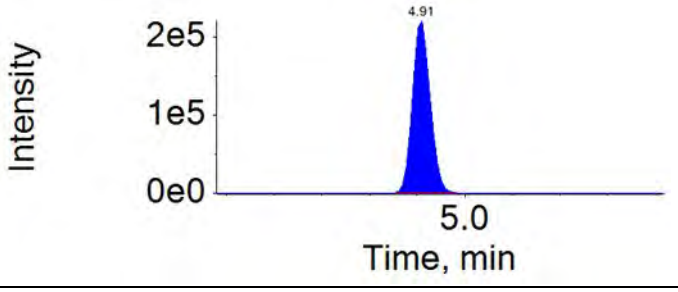


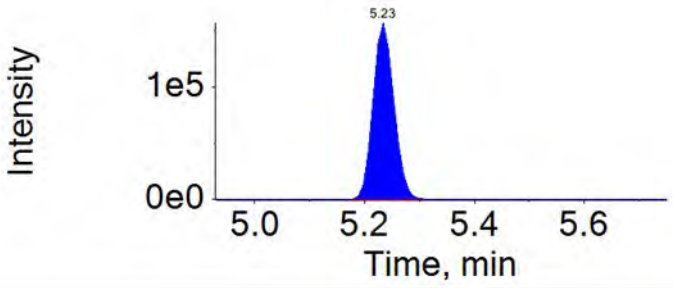
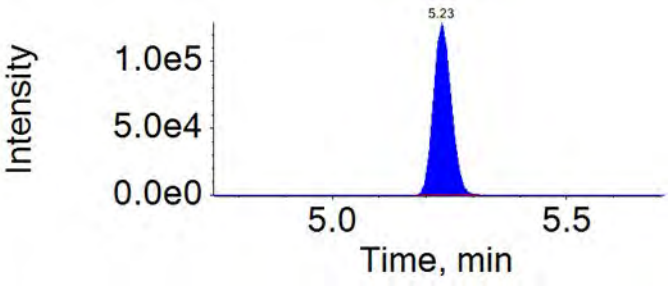
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

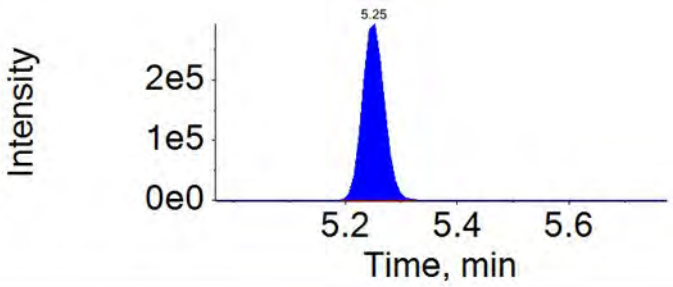
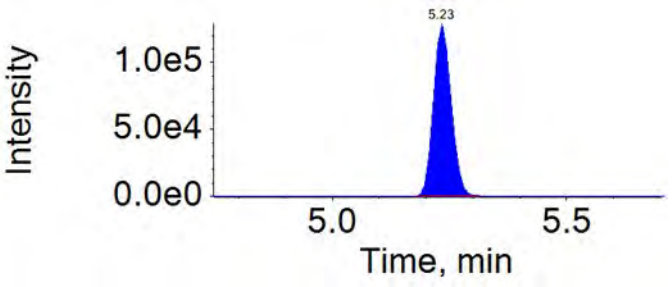


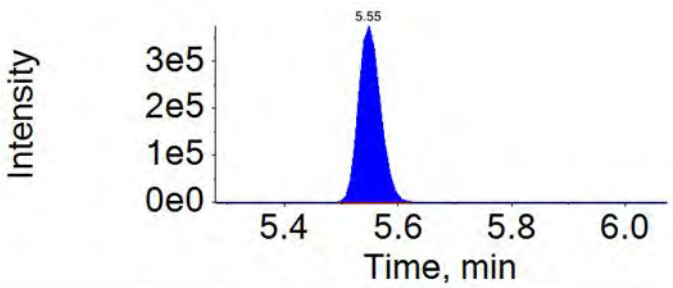
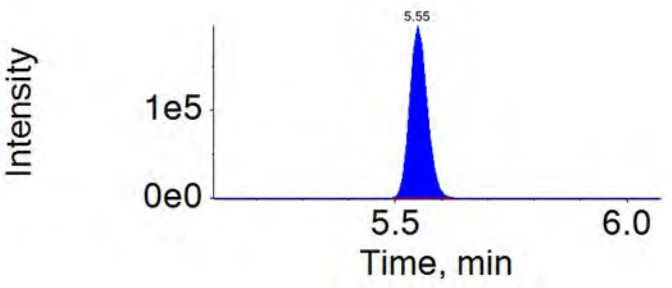


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

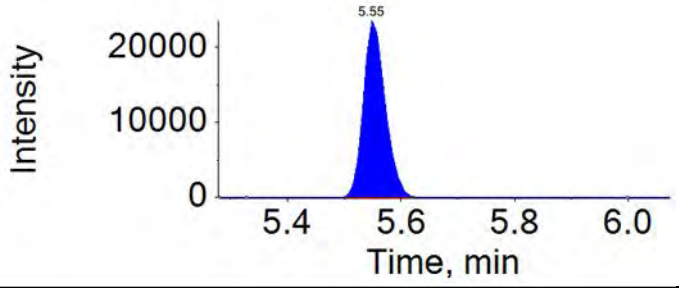
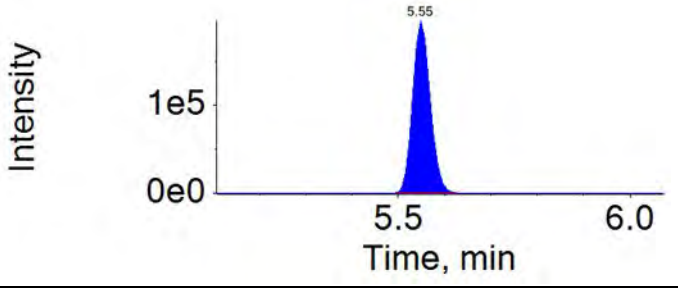
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

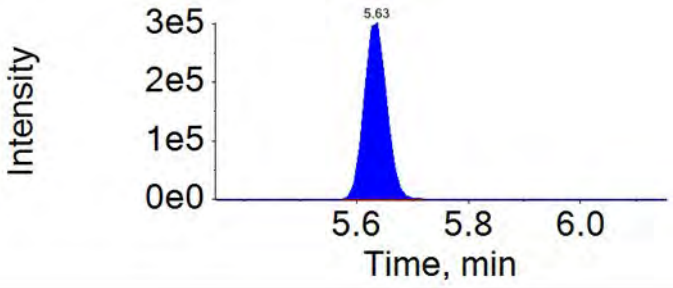
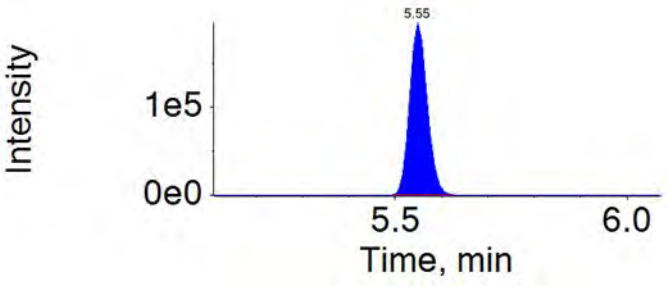
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

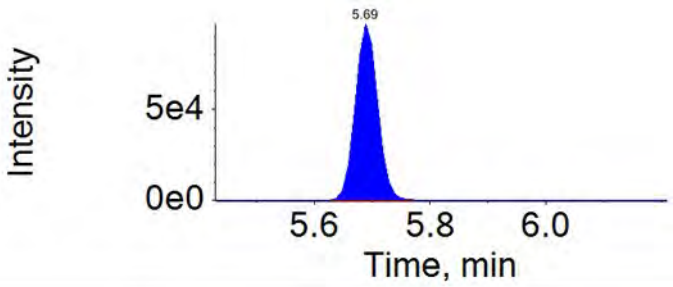
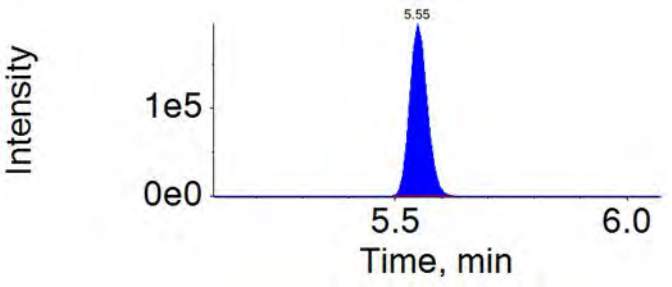
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472.0 / 427.0	503.0 / 80.0
	

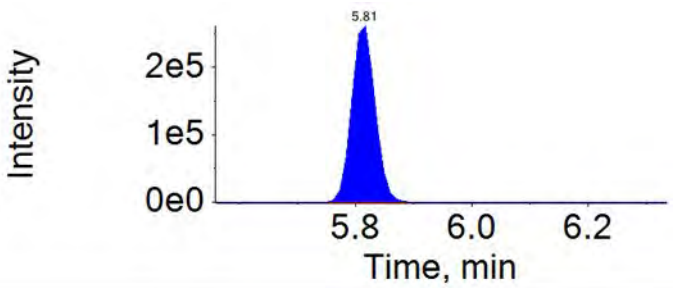
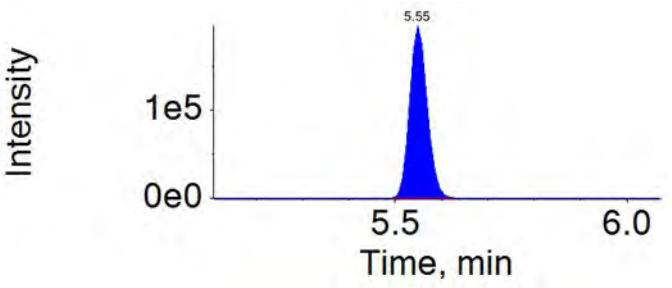
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

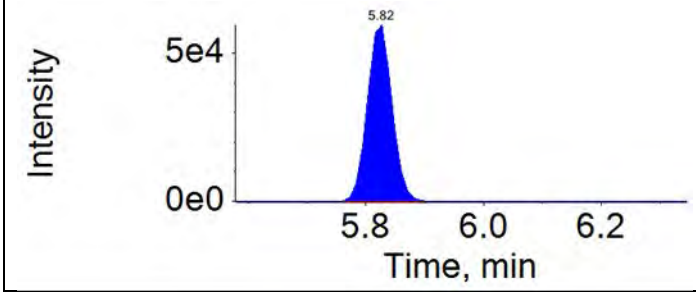
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

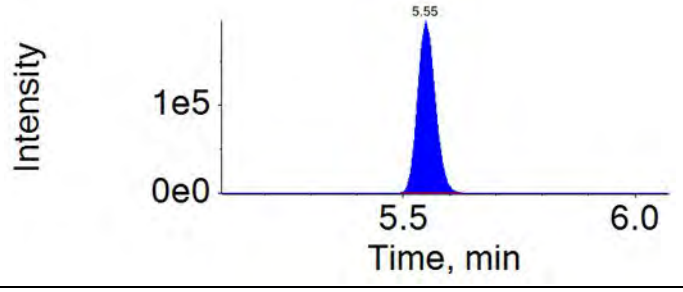
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

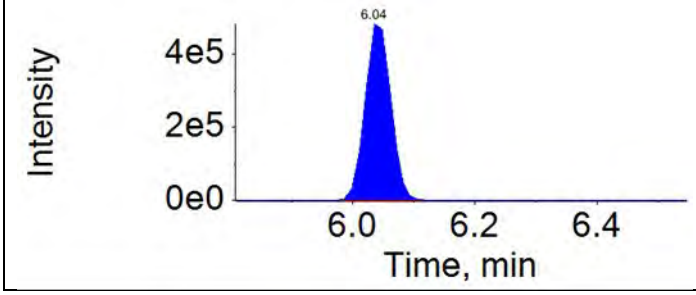
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

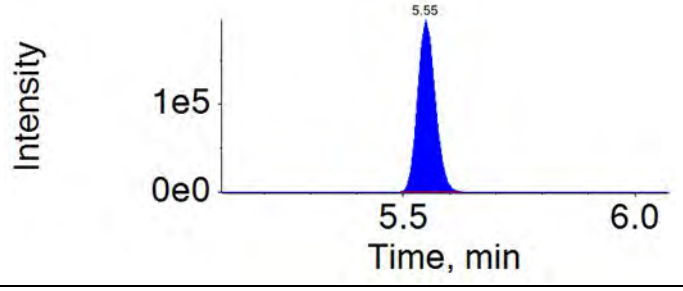
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



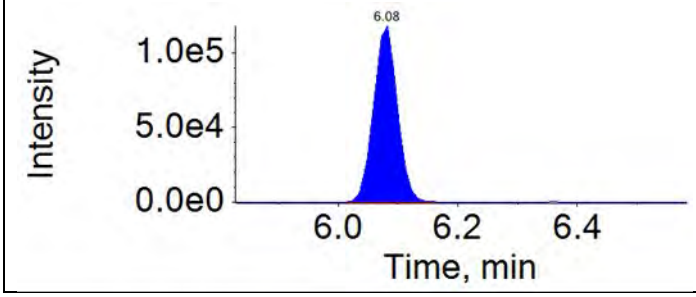


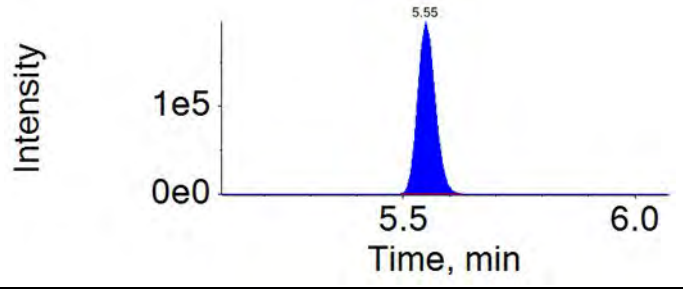
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



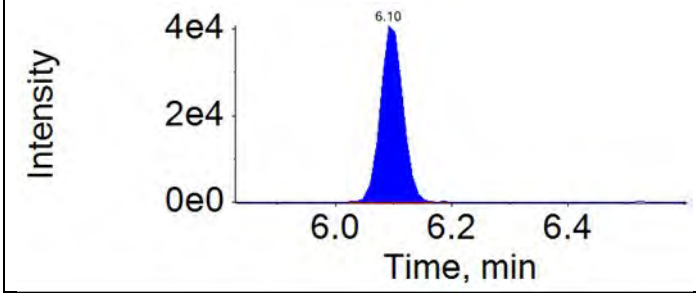


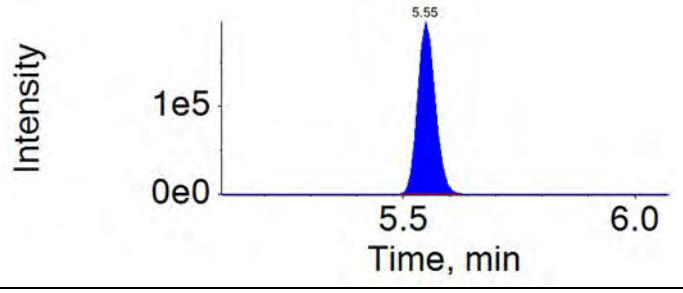
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





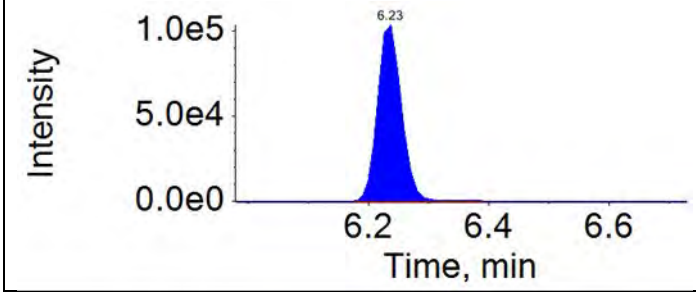
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

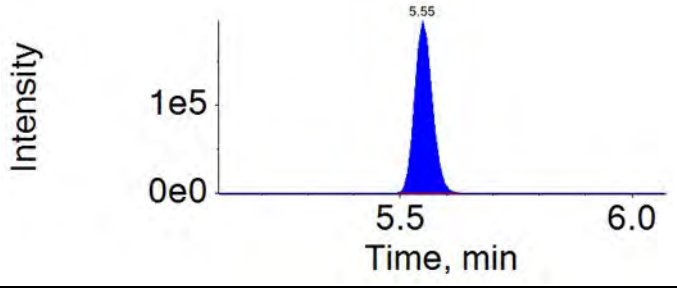




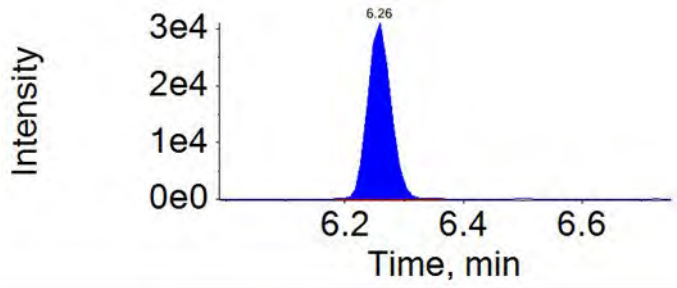
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

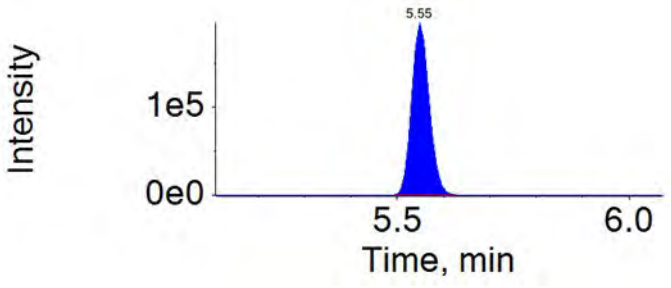
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



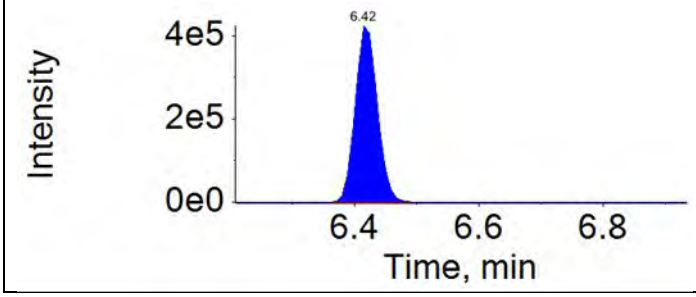


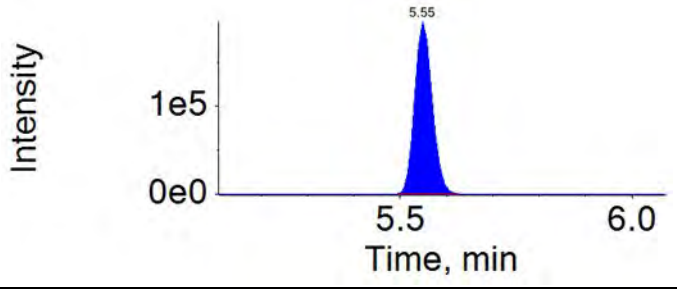
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





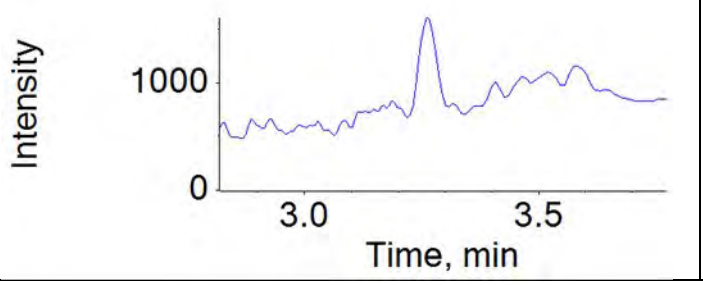
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

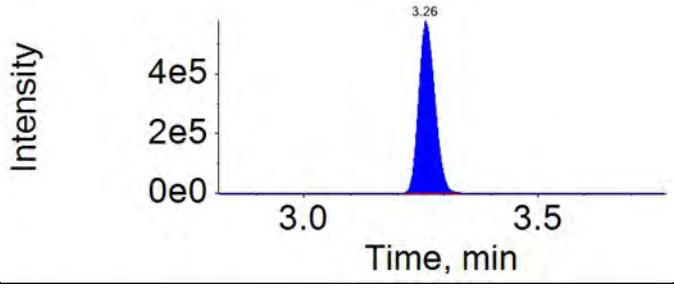




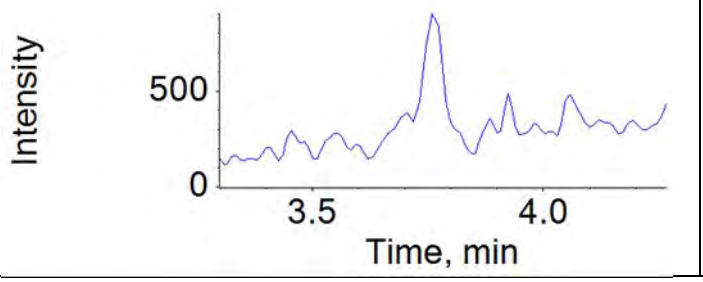
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

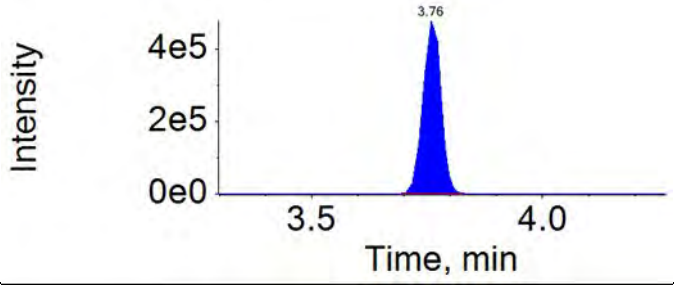
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



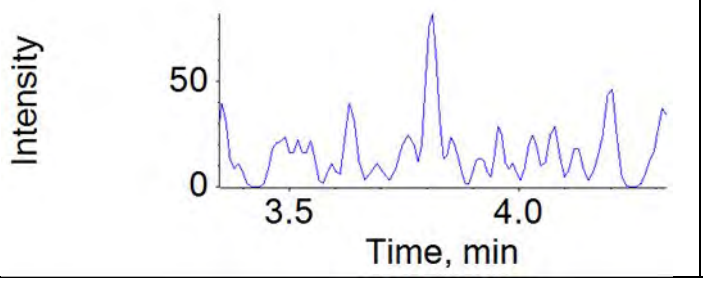


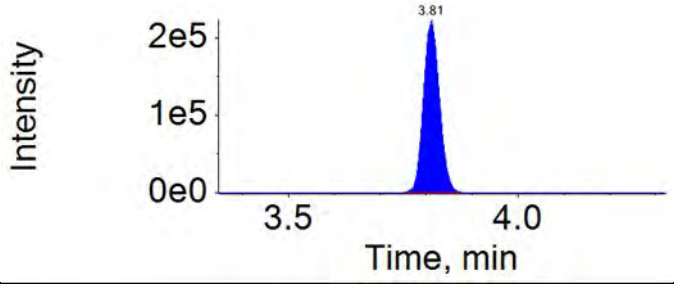
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



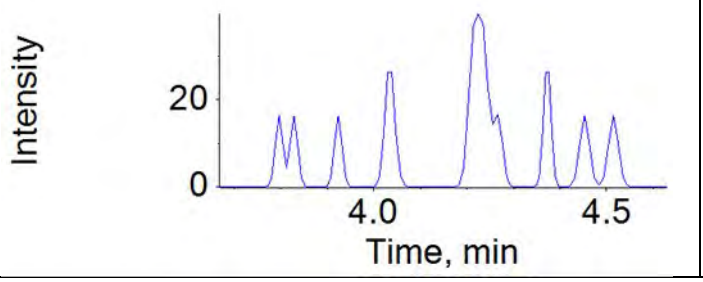


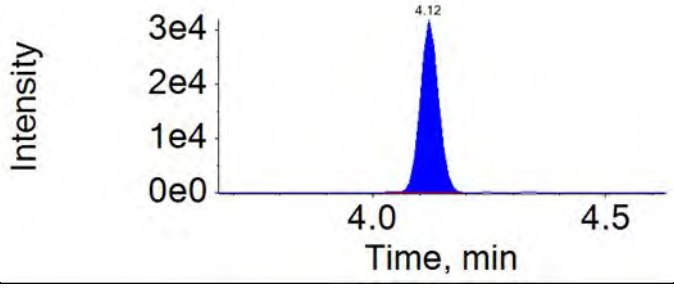
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





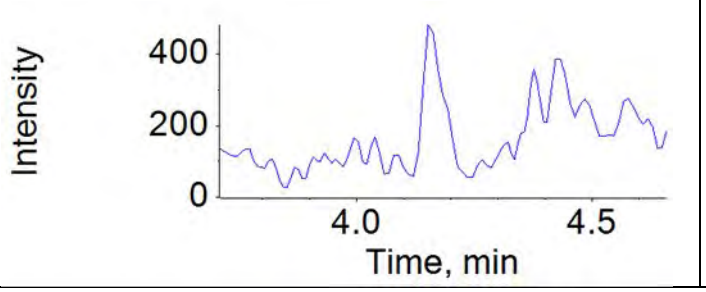
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

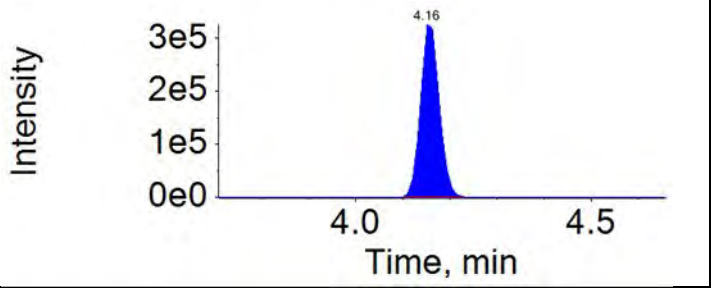




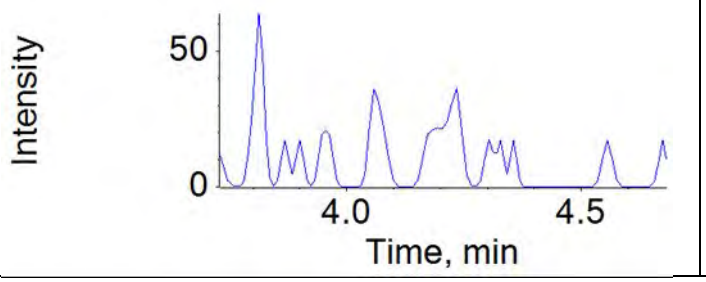
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

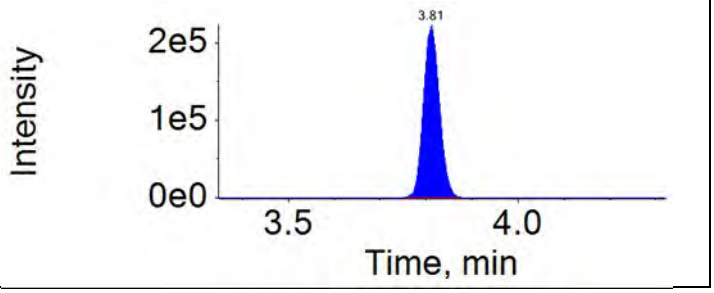
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



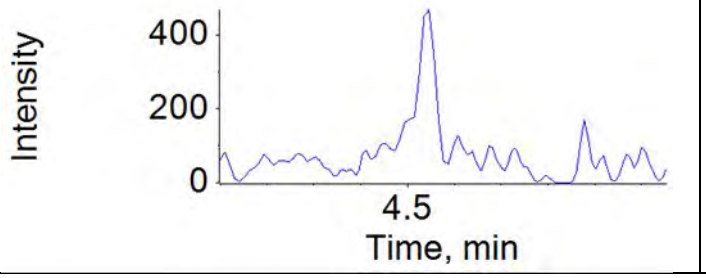


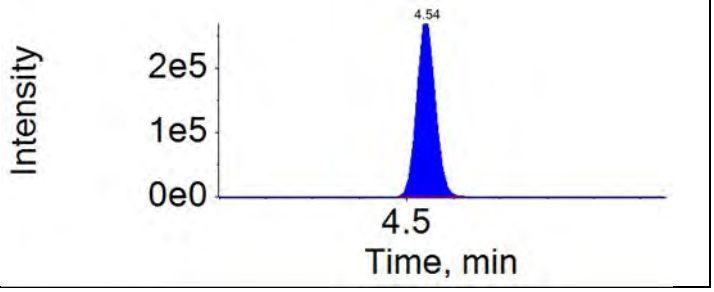
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



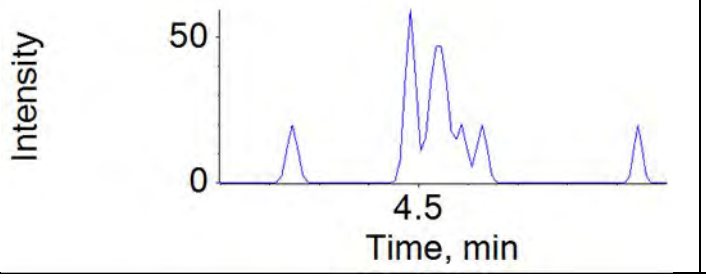


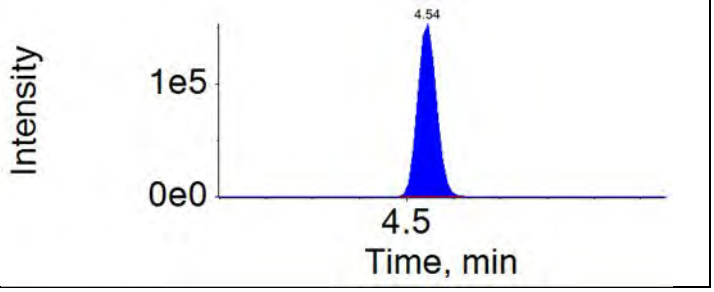
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0



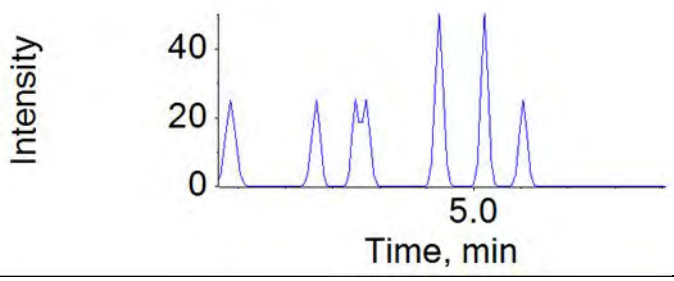
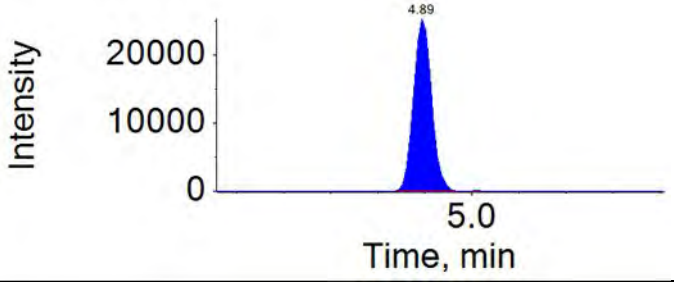


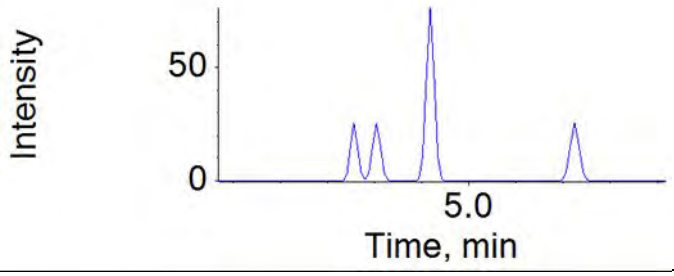
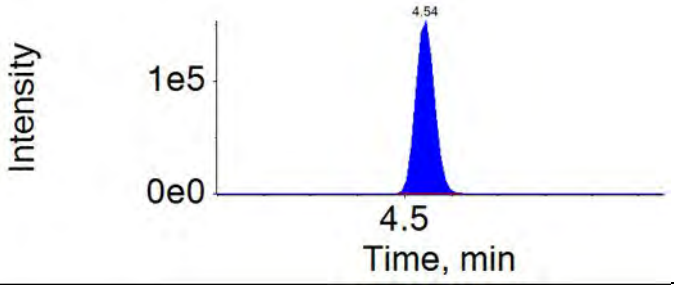
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

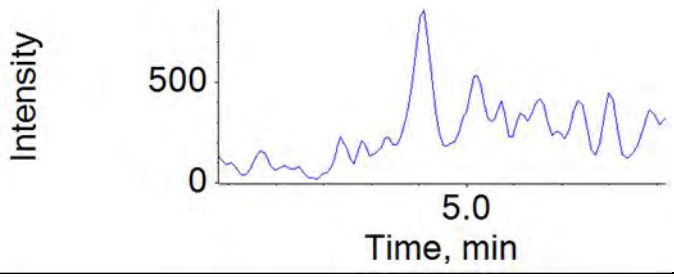
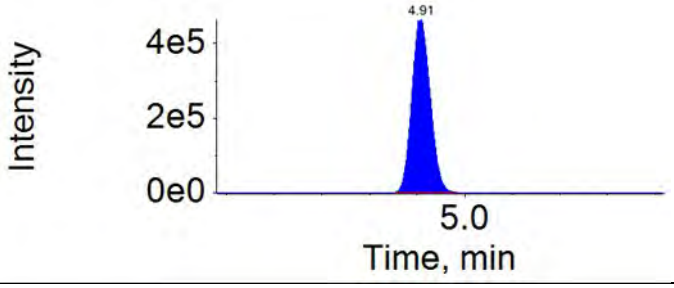


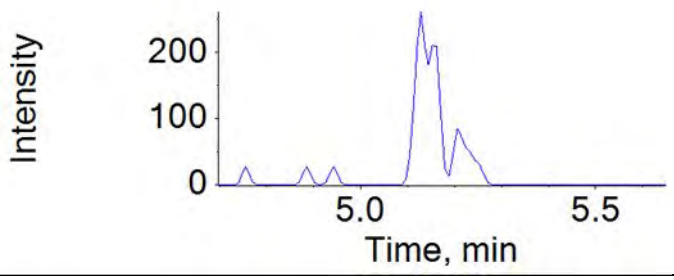
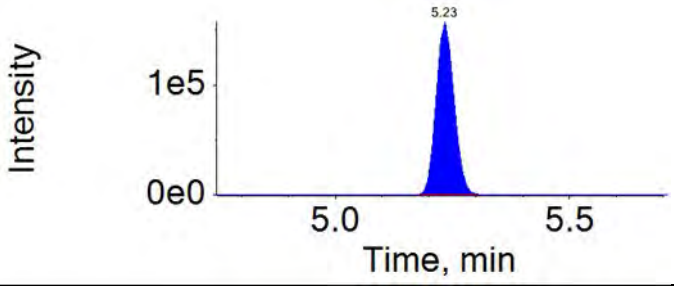


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

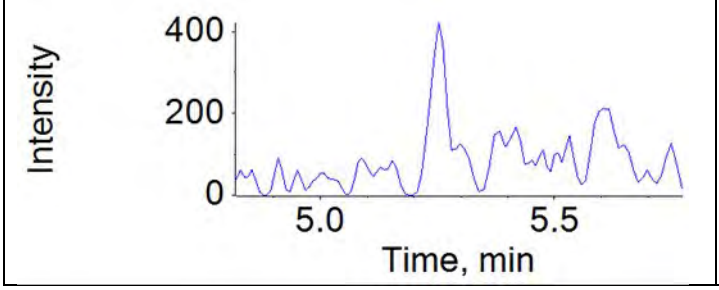
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

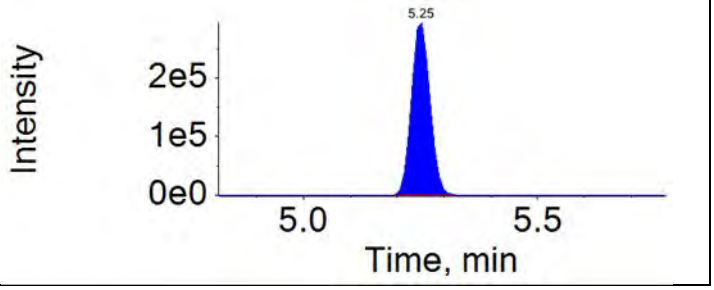
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

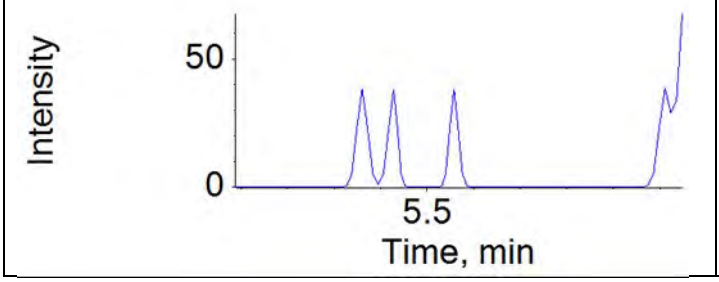
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

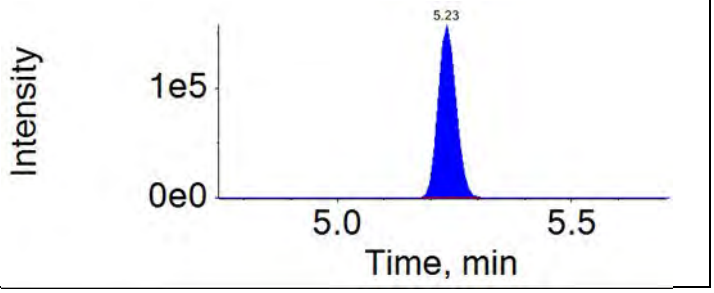
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



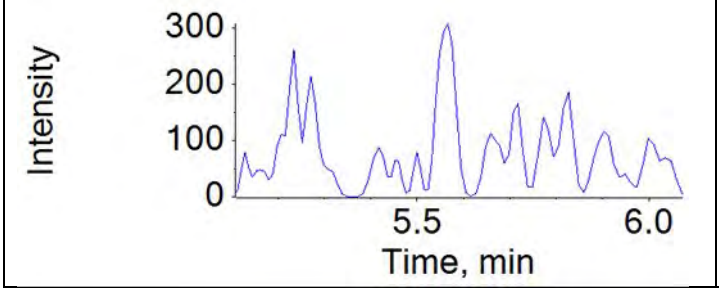


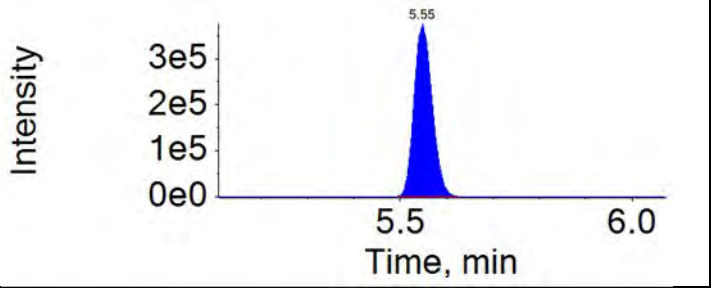
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



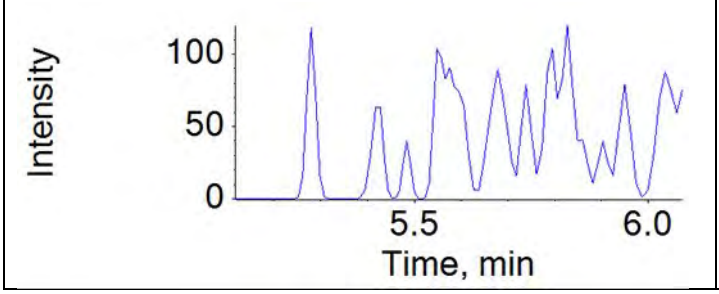


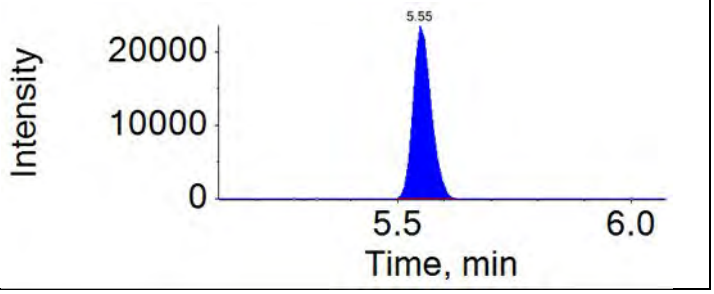
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





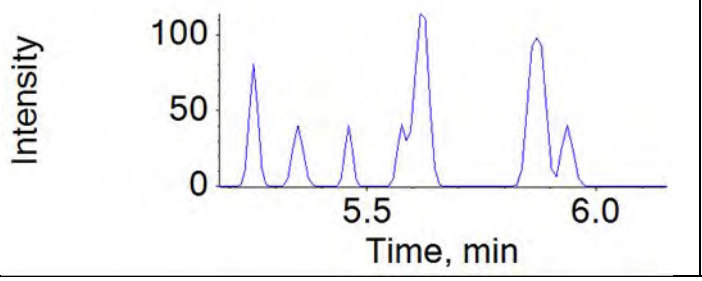
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

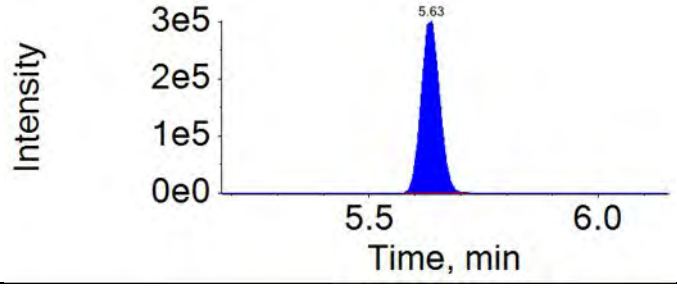




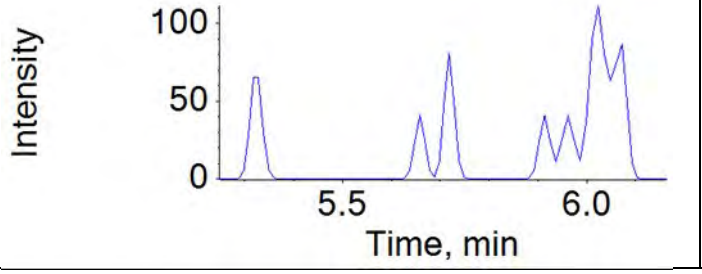
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

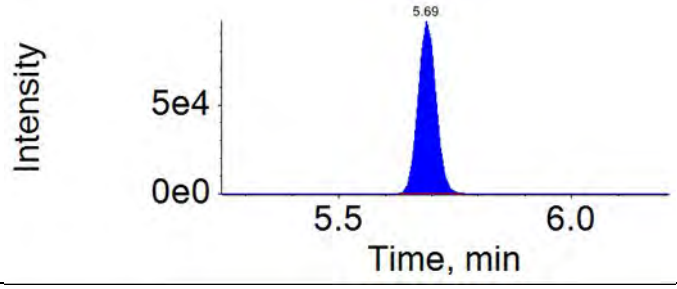
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



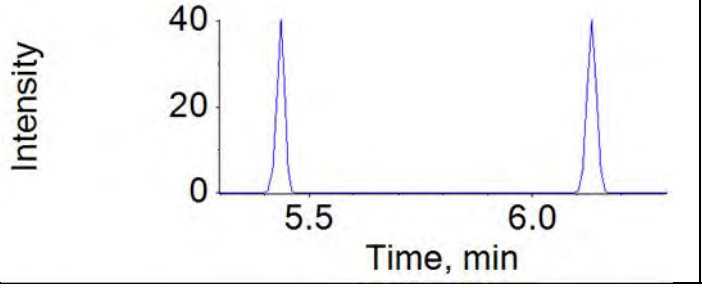


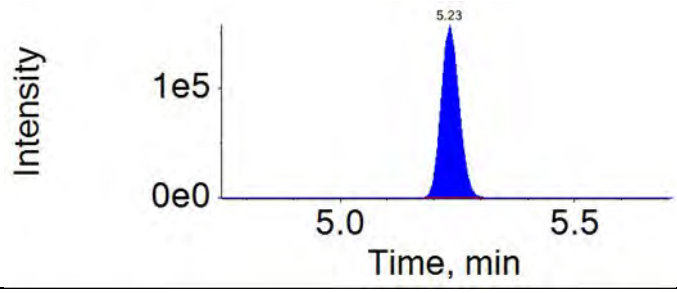
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



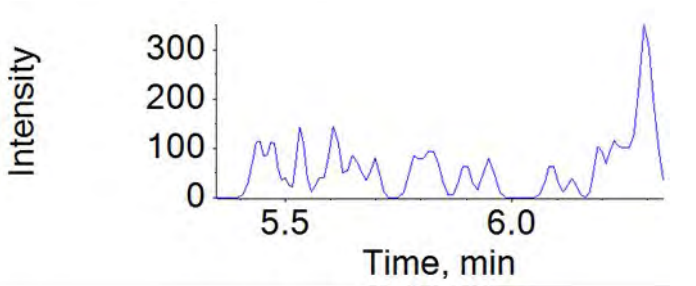


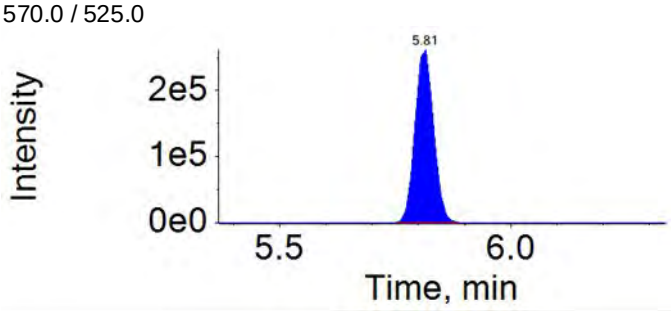
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





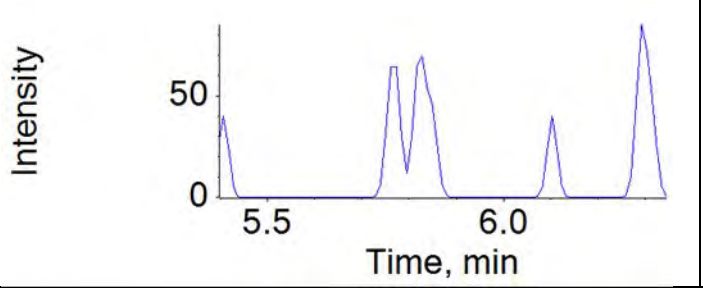
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

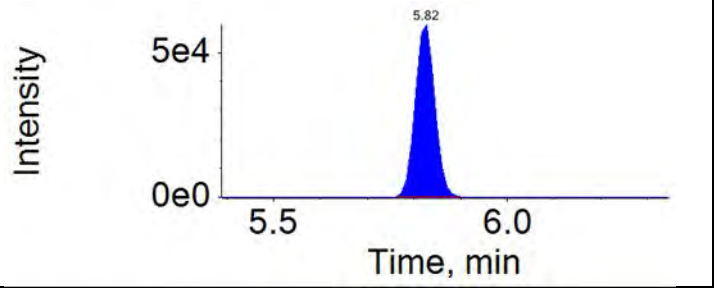




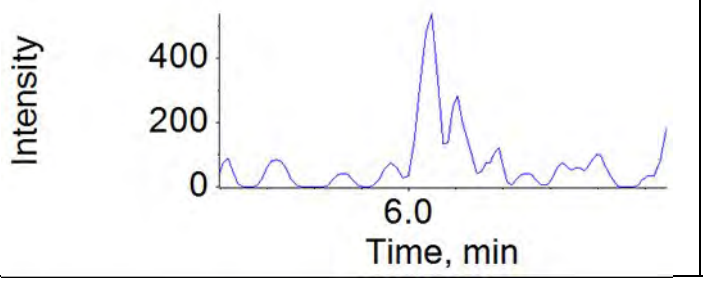
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

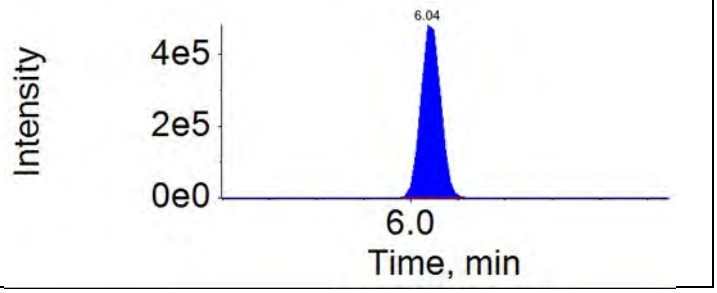
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



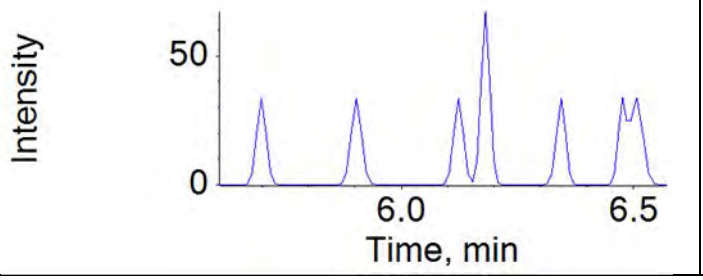


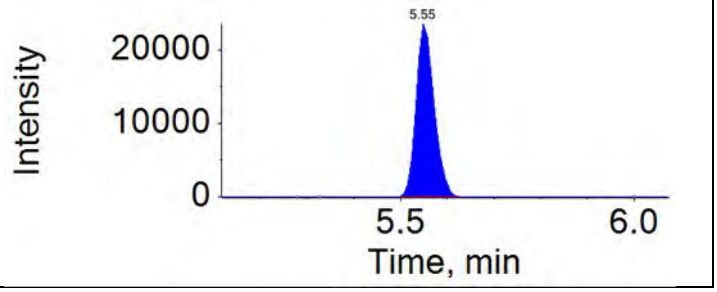
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



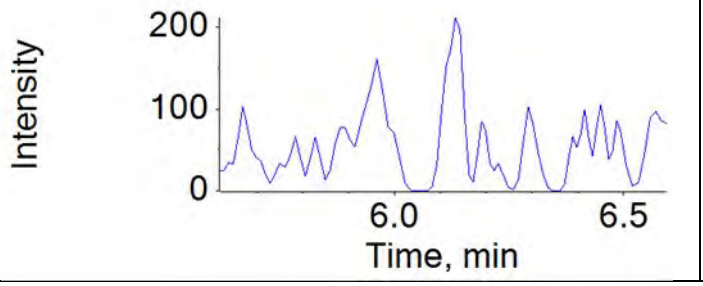


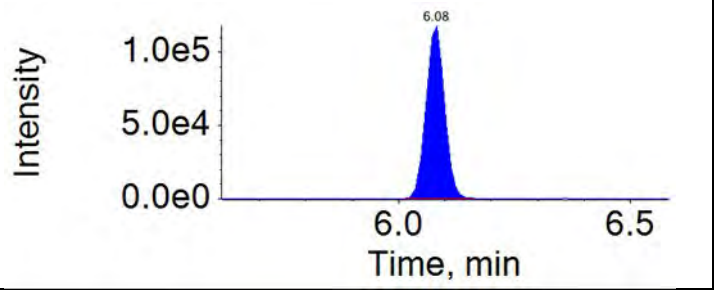
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





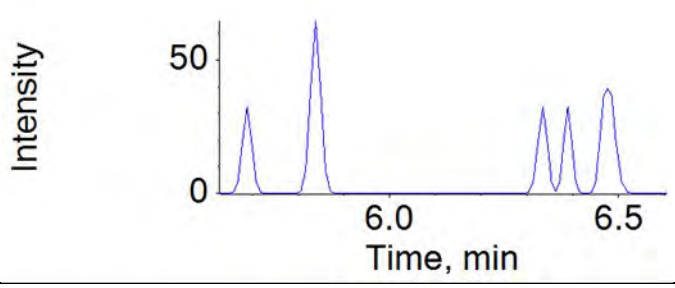
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

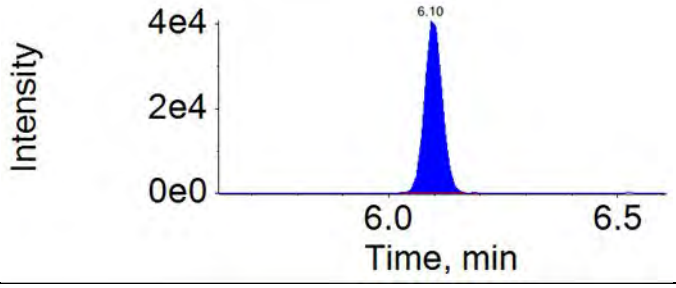




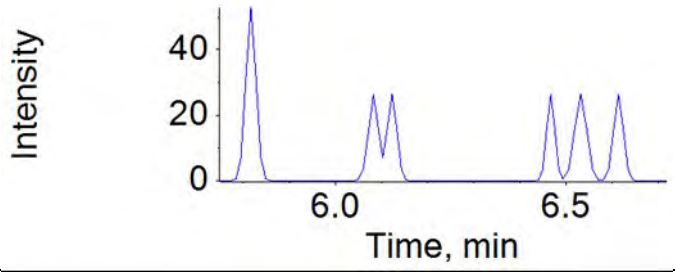
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

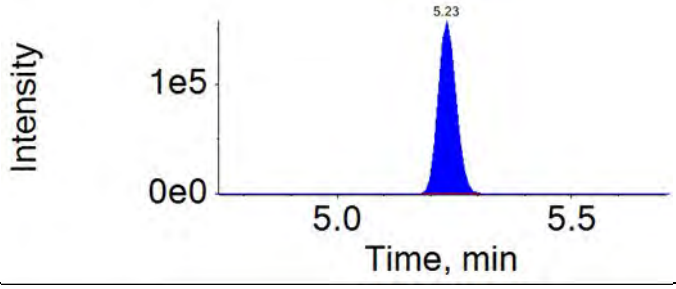
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



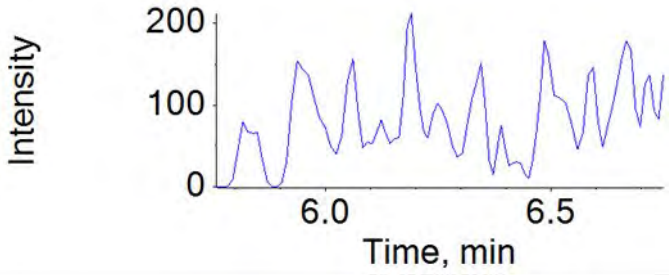


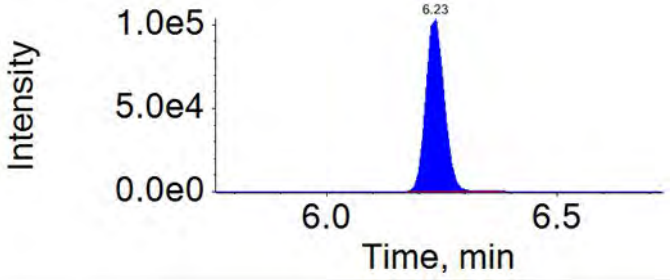
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



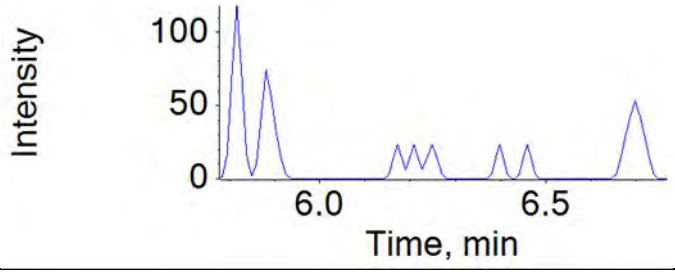


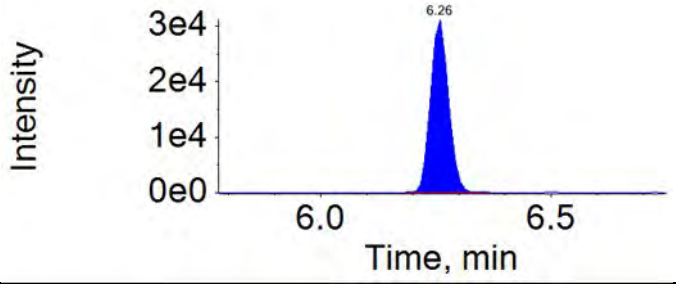
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



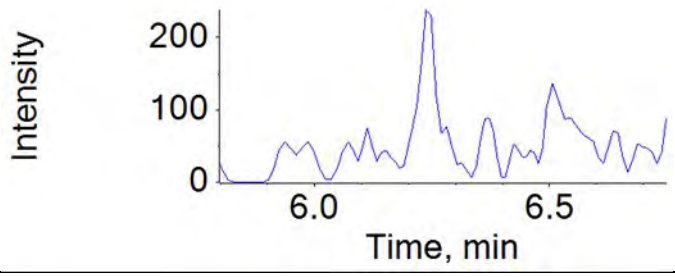


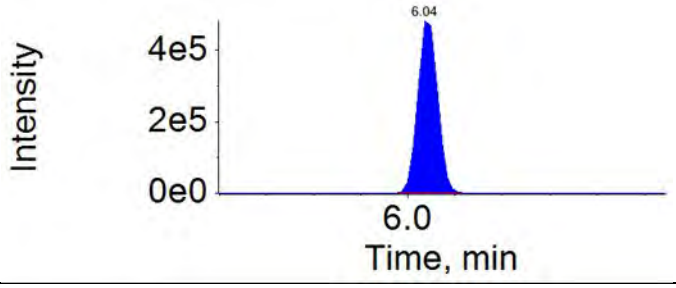
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

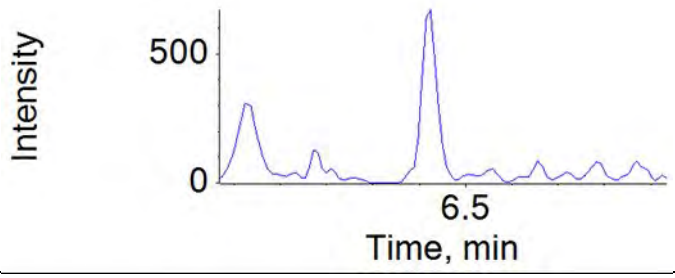
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

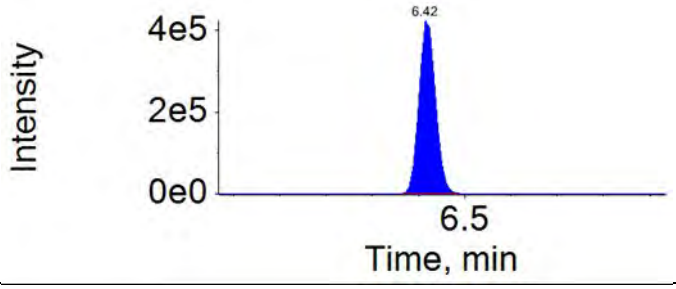
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



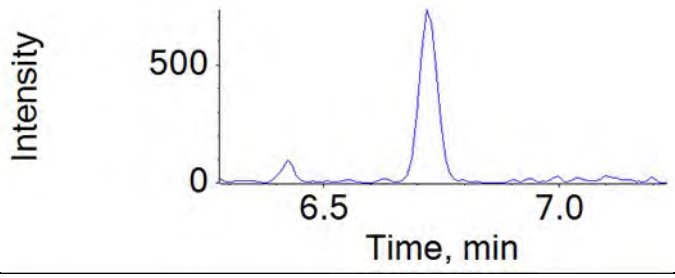


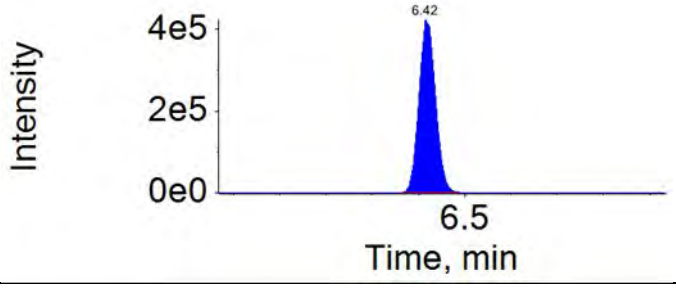
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



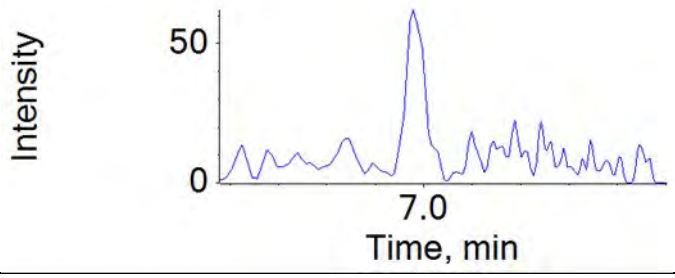


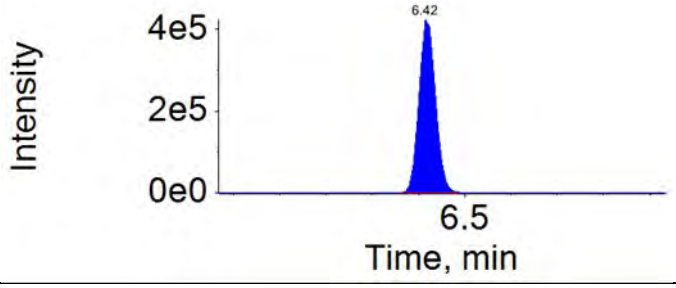
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





Ion Ratio Report

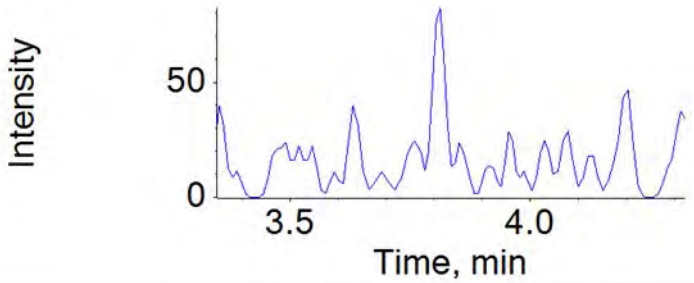
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18DEC26D-06.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

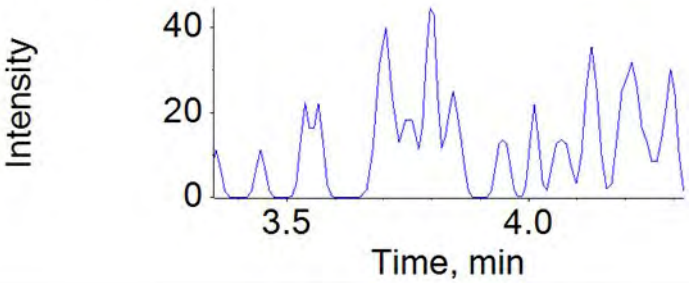
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

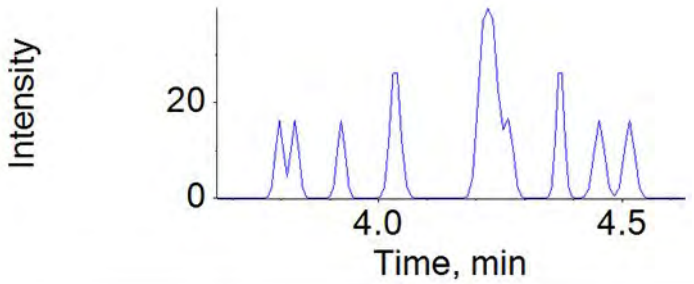
Component: PFBS
Primary Mass: 299.0 / 80.0



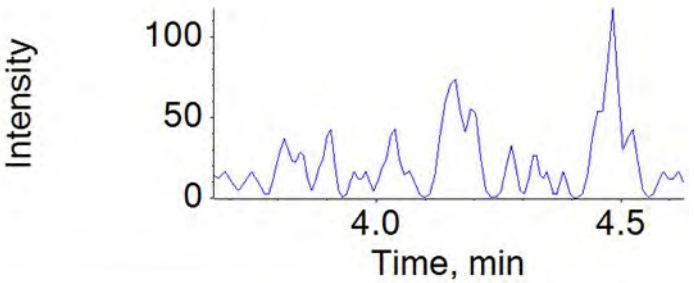
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



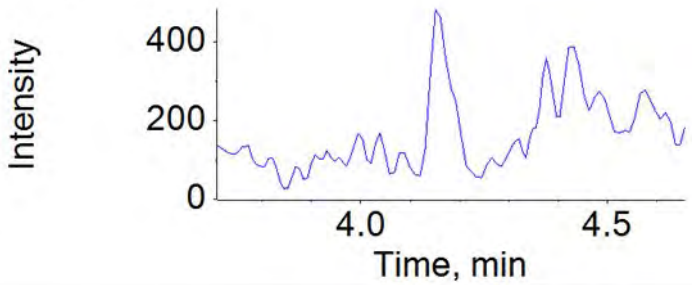
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



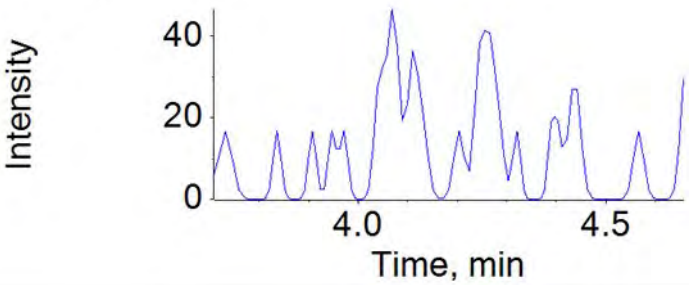
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



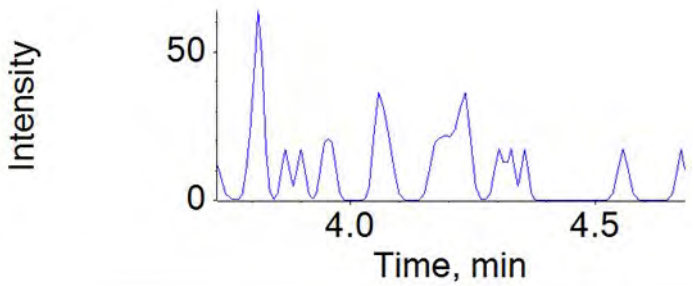
Component: PFHxA
Primary Mass: 313.0 / 269.0



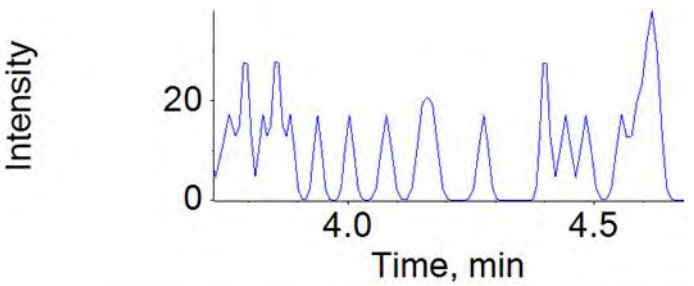
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



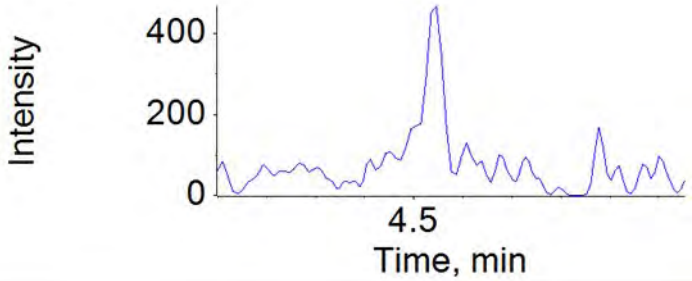
Component: PFPeS
Primary Mass: 349.0 / 80.0



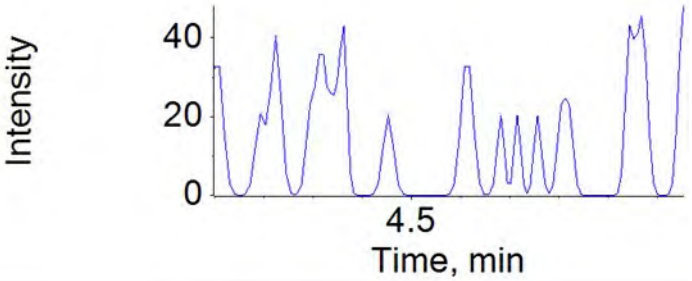
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



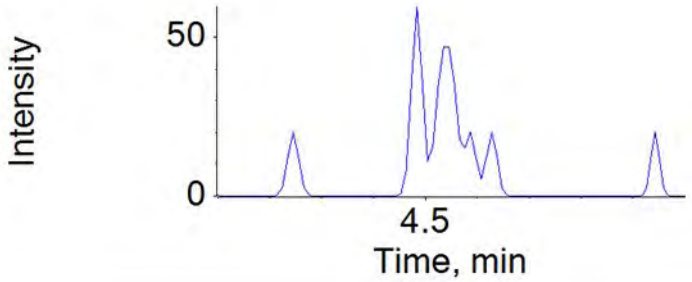
Component: PFHpA
Primary Mass: 363.0 / 319.0



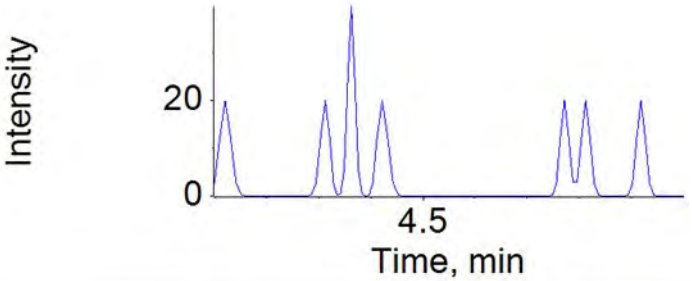
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



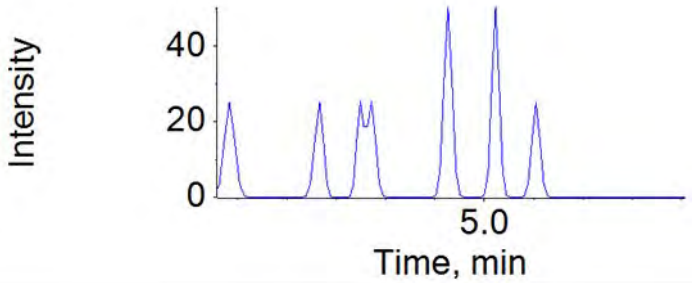
Component: PFHxS
Primary Mass: 399.0 / 80.0



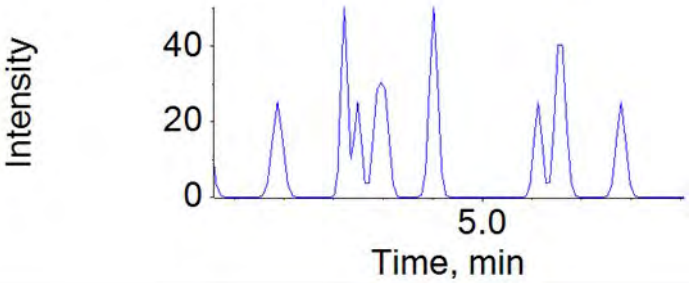
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



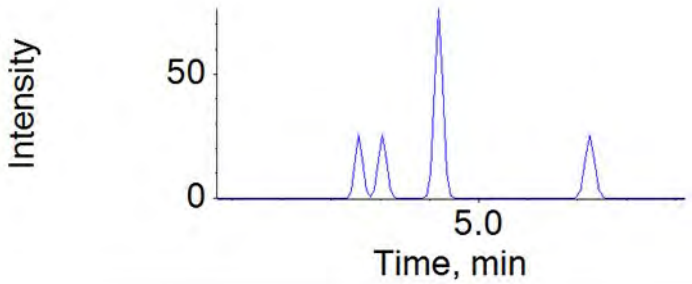
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



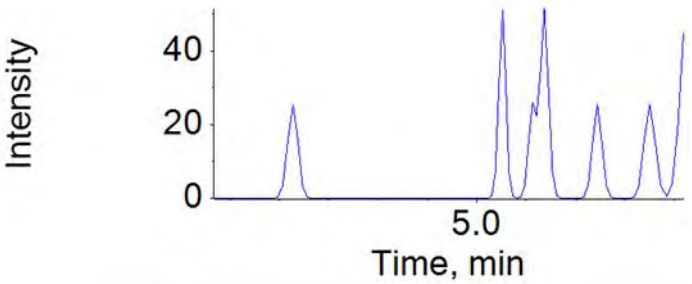
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



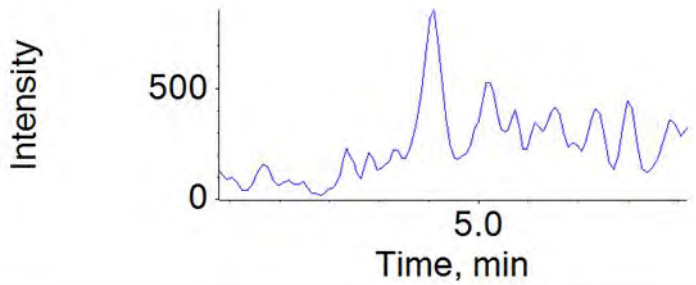
Component: PFHpS
Primary Mass: 449.0 / 80.0



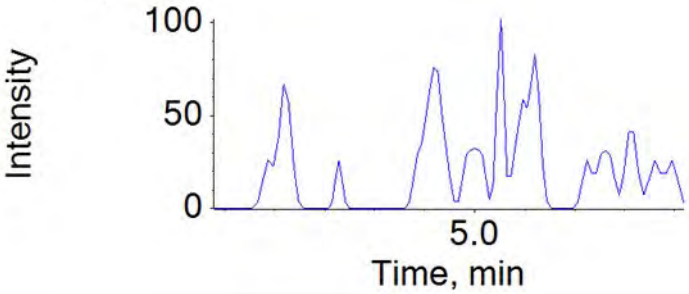
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



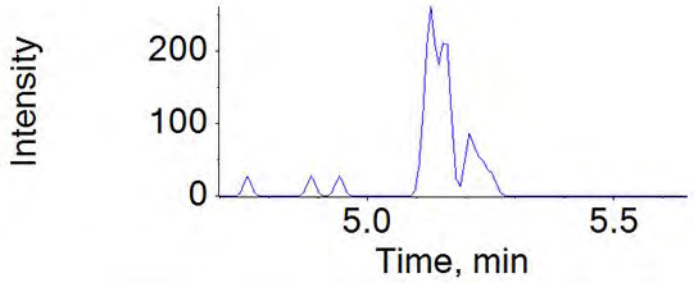
Component: PFOA
Primary Mass: 413.0 / 369.0



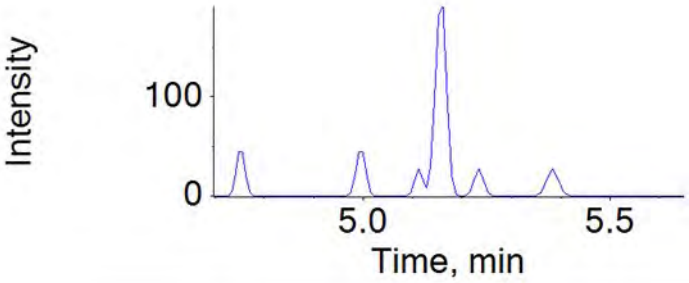
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



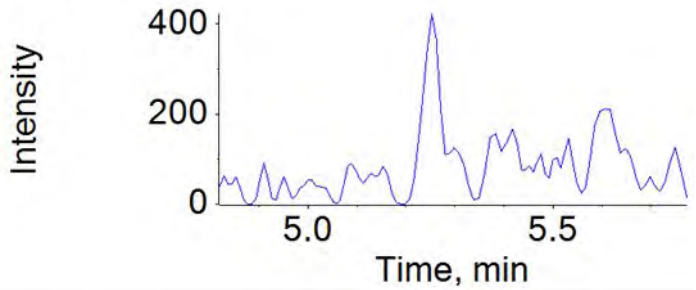
Component: PFOS
Primary Mass: 499.0 / 80.0



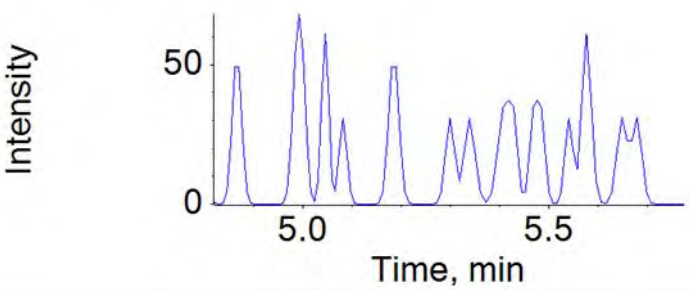
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



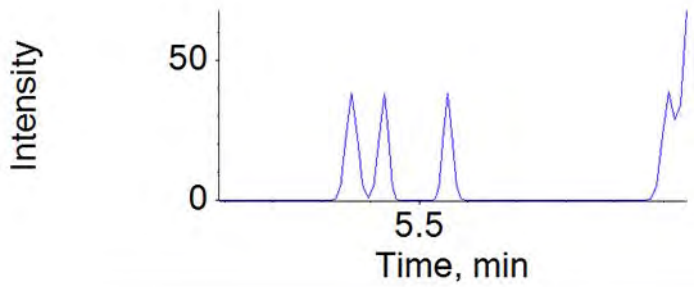
Component: PFNA
Primary Mass: 463.0 / 419.0



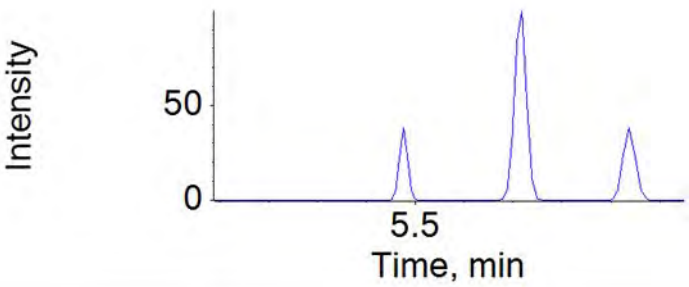
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



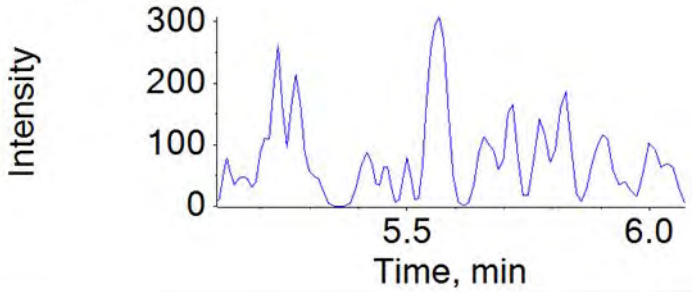
Component: PFNS
Primary Mass: 549.0 / 80.0



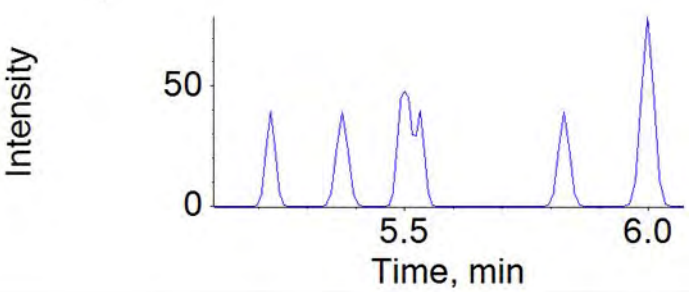
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



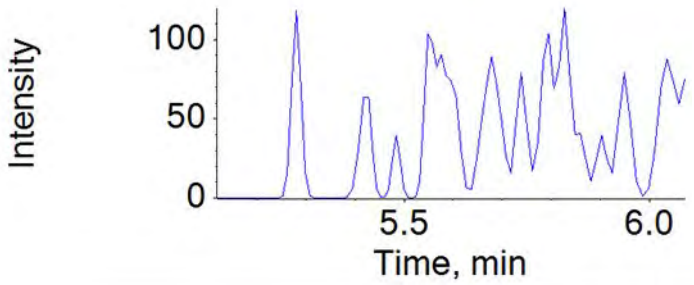
Component: PFDA
Primary Mass: 513.0 / 469.0



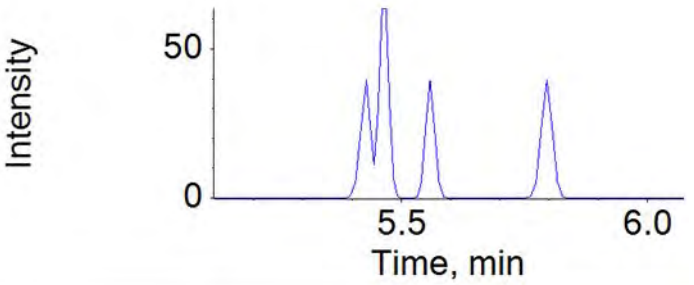
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



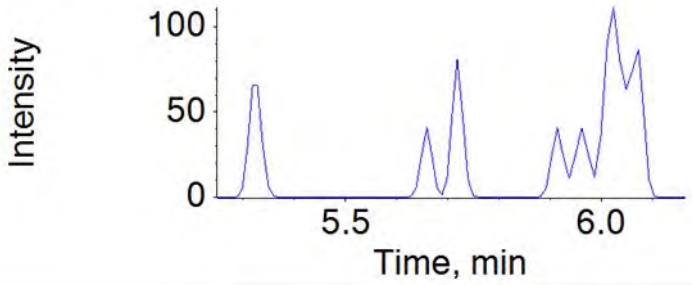
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



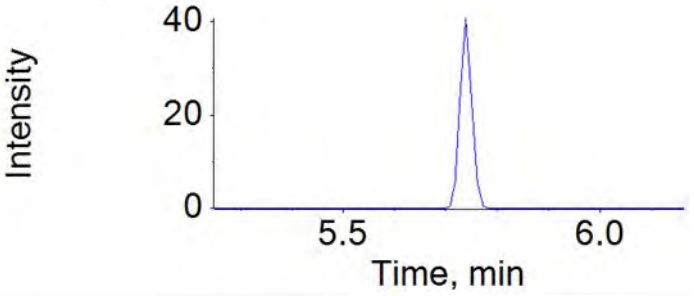
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



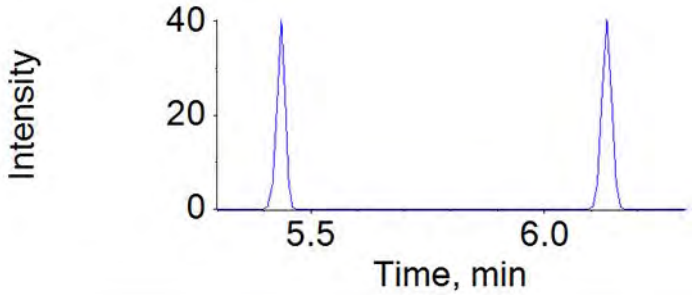
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



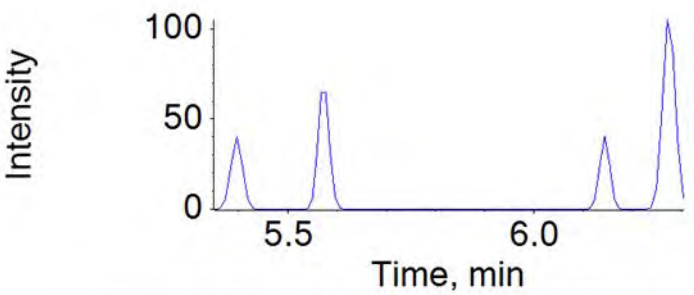
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



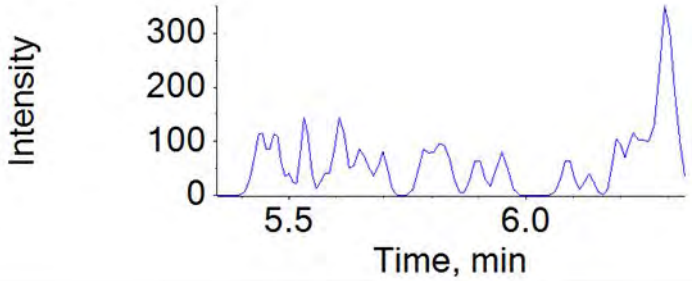
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



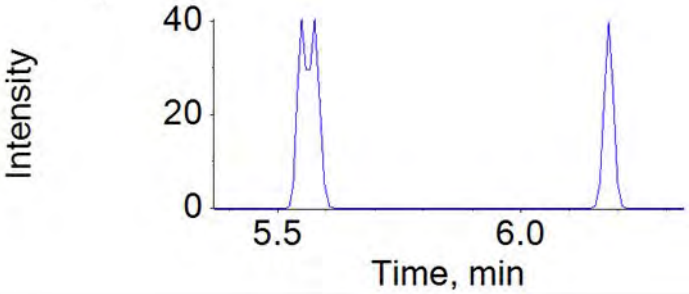
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

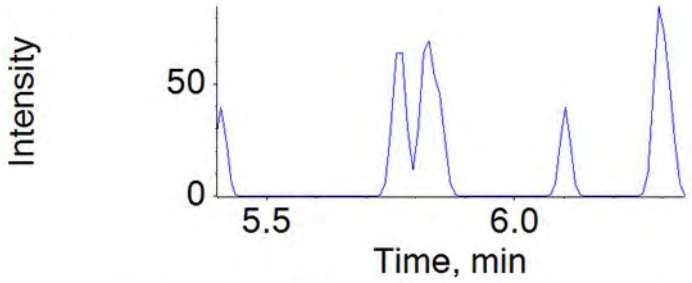
Component: PFUnDA
Primary Mass: 563.0 / 519.0



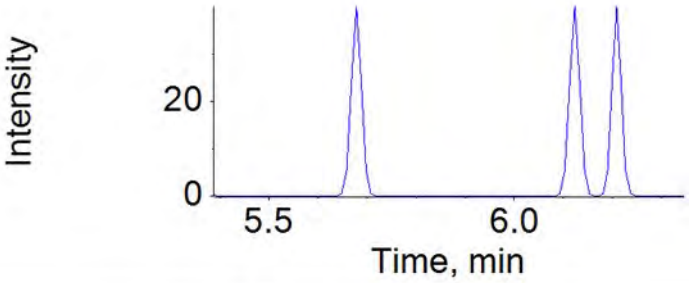
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



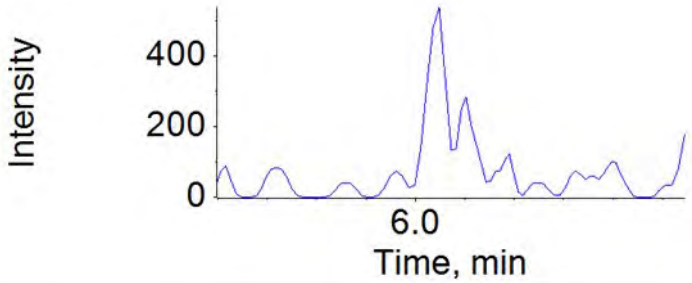
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



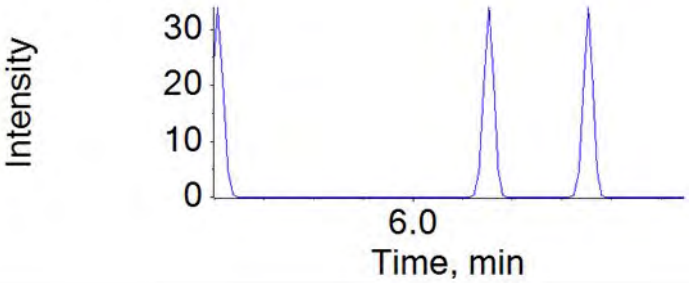
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



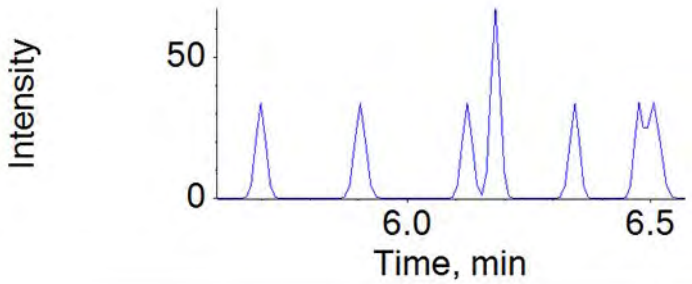
Component: PFDoDA
Primary Mass: 613.0 / 569.0



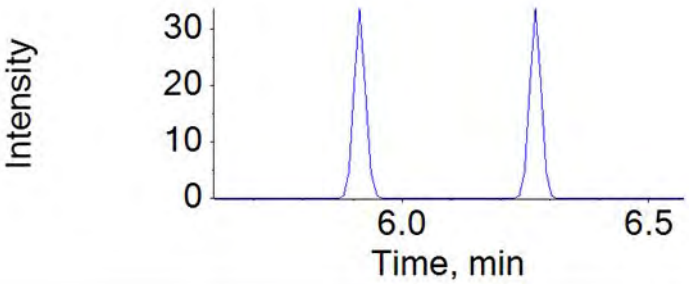
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



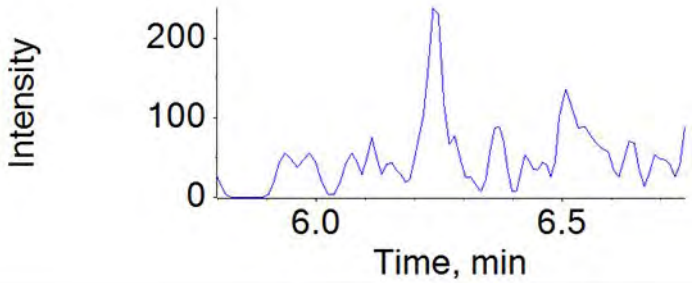
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



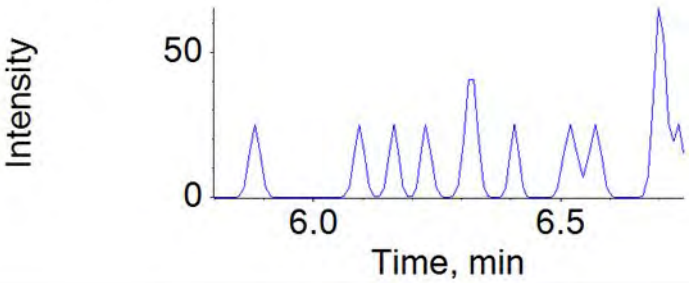
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



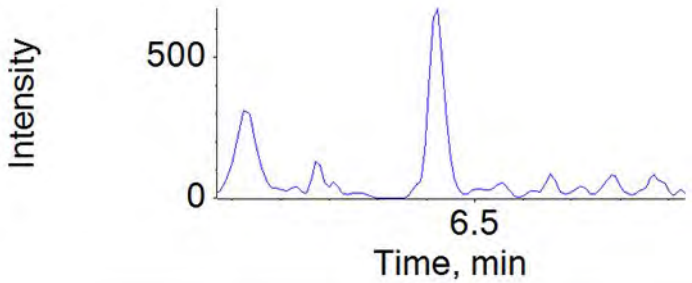
Component: PFTrDA
Primary Mass: 663.0 / 619.0



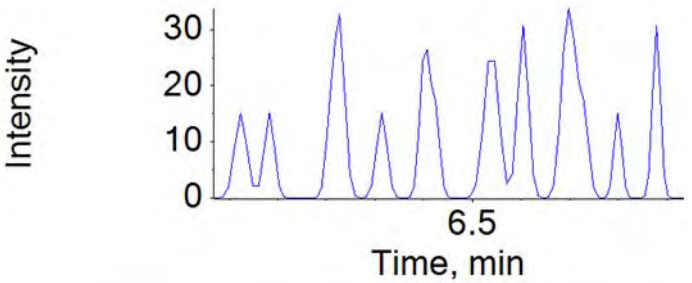
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



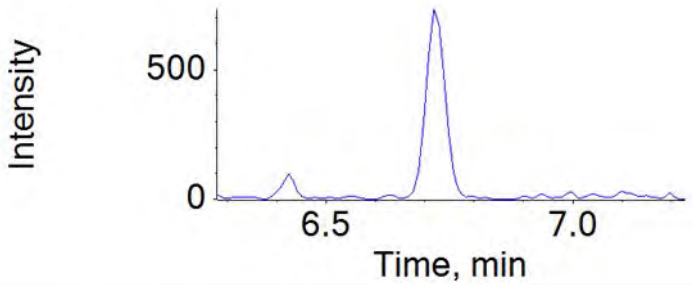
Component: PFTeDA
Primary Mass: 713.0 / 669.0



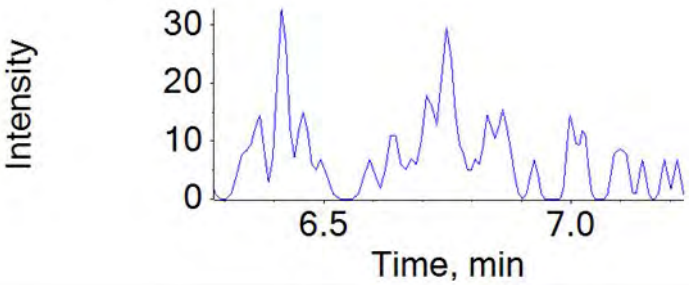
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



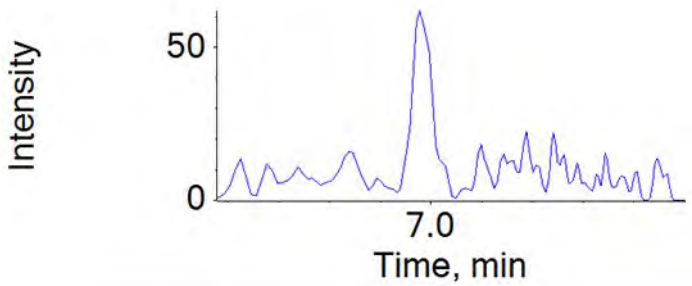
Component: PFHxDA
Primary Mass: 813.0 / 769.0



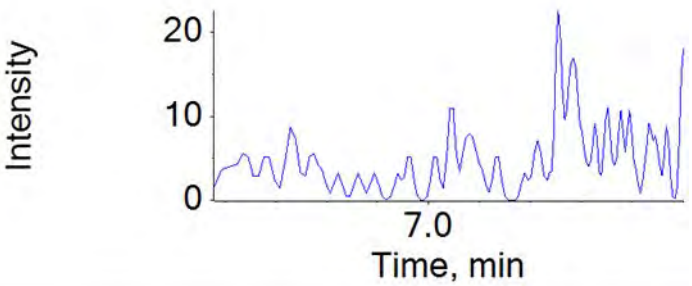
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



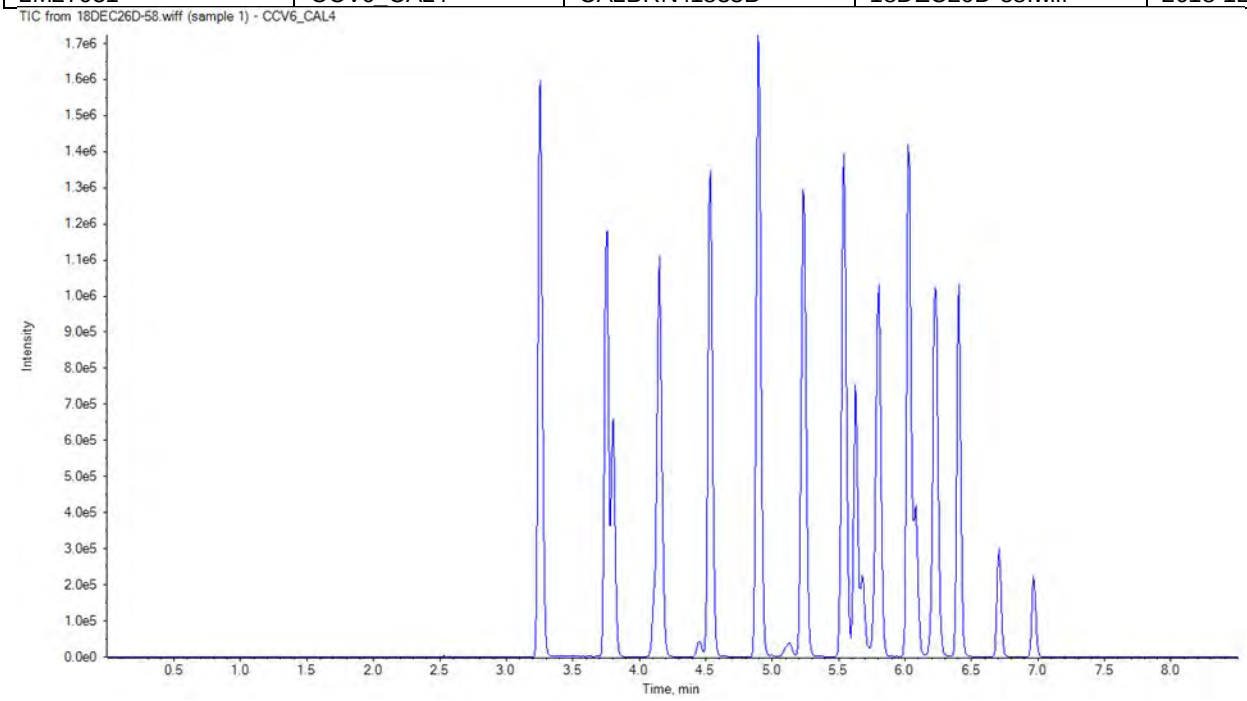
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By UMJS at 1:51 pm, 12/28/18

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV6_CAL4	CALBRN41833B	18DEC26D-58.wiff	2018-12-26T23:55:26



Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	978925.0	965438.2	1	50	
13C2-PFOA	5.0	539694.3	527066.0	2	50	
13C4-PFOS	4.8	323223.9	307230.6	5	50	
13C2-PFDA	5.0	515178.0	493258.9	4	50	

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV6_CAL4	CALBRN41833B	18DEC26D-58.wiff	2018-12-26T23:55:26

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	1557844.4	10	13C4-PFBA	1064748.6	5.0	1.463	3.25	1.000	8.000	7.729	-3	30	
PFPeA	1573091.5	11	13C5-PFPeA	1021889.1	5.0	1.539	3.76	1.000	8.000	7.641	-4	30	
PFBS	655229.8	10	13C3-PFBS	456990.3	4.7	1.434	3.80	1.000	7.080	7.115	0	30	
4:2-FTS	180530.3	11	13C2-4:2-FTS	65401.0	4.7	2.760	4.11	1.000	7.470	6.768	-9	30	
PFHxA	1406781.9	11	13C5-PFHxA	742235.2	5.0	1.895	4.15	1.000	8.000	7.779	-3	30	
PFPeS	333368.7	11	13C3-PFBS	456990.3	4.7	0.729	4.17	1.100	7.500	7.343	-2	30	
PFHpA	1556697.5	11	13C4-PFHpA	604596.4	5.0	2.575	4.53	1.000	8.000	8.136	2	30	
PFHxS	506179.3	19	13C3-PFHxS	362298.6	4.7	1.397	4.54	1.000	7.300	6.534	-10	30	
6:2-FTS	164859.5	11	13C2-6:2-FTS	55482.7	4.8	2.971	4.88	1.000	7.580	7.124	-6	30	
PFHpS	487897.9	11	13C3-PFHxS	362298.6	4.7	1.347	4.89	1.080	7.610	7.049	-7	30	
PFOA	1536703.2	11	13C8-PFOA	993307.6	5.0	1.547	4.90	1.000	8.000	8.185	2	30	
PFOS	550102.4	22	13C8-PFOS	338534.1	4.8	1.625	5.23	1.000	7.400	7.074	-4	30	
PFNA	1390183.0	11	13C9-PFNA	661822.2	5.0	2.101	5.24	1.000	8.000	8.441	6	30	
PFNS	367740.2	10	13C8-PFOS	338534.1	4.8	1.086	5.52	1.060	7.680	7.425	-3	30	
PFDA	1254238.8	11	13C6-PFDA	887079.8	5.0	1.414	5.54	1.000	8.000	8.152	2	30	
8:2-FTS	173987.3	11	13C2-8:2-FTS	51622.9	4.8	3.370	5.54	1.000	7.660	6.659	-13	30	
PFOSA	998470.9	11	13C8-PFOSA	606348.2	5.0	1.647	5.63	1.000	8.000	8.663	8	30	
NMeFOSAA	252734.8	17	d3-NMeFOSAA	195473.4	5.0	1.293	5.68	1.000	8.000	7.539	-6	30	
PFDS	304658.1	11	13C8-PFOS	338534.1	4.8	0.900	5.78	1.100	7.700	7.419	-4	30	
PFUnDA	1320479.5	11	13C7-PFUnDA	576292.5	5.0	2.291	5.80	1.000	8.000	8.763	10	30	
NEtFOSAA	226479.1	21	d5-NEtFOSAA	146917.2	5.0	1.542	5.81	1.000	8.000	7.926	-1	30	
PFDoDA	1800799.3	11	13C2-PFDoDA	1162551.4	5.0	1.549	6.03	1.000	8.000	7.903	-1	30	
10:2-FTS	161764.5	11	13C2-8:2-FTS	51622.9	4.8	3.134	6.04	1.090	7.710	6.397	-17	30	
NMePFOSAE	488483.1	11	d7-NMePFOSAE	250743.5	5.0	1.948	6.08	1.000	8.000	8.236	3	30	
NMePFOSA	137553.4	11	d3-NMePFOSA	85894.0	5.0	1.601	6.09	1.000	8.000	7.991	0	30	
PFDoS	151129.0	11	13C8-PFOS	338534.1	4.8	0.446	6.20	1.190	7.740	6.672	-14	30	
NEtPFOSAE	536978.2	11	d9-NEtPFOSAE	224600.9	5.0	2.391	6.24	1.000	8.000	7.911	-1	30	
NEtPFOSA	114813.4	11	d5-NEtPFOSA	68607.3	5.0	1.673	6.25	1.000	8.000	7.868	-2	30	
PFTrDA	1750045.5	11	13C2-PFDoDA	1162551.4	5.0	1.505	6.22	1.030	8.000	8.014	0	30	
PFTeDA	1260622.7	10	13C2-PFTeDA	857027.5	5.0	1.471	6.40	1.000	8.000	8.366	5	30	
PFHxDA	619362.4	11	13C2-PFTeDA	857027.5	5.0	0.723	6.71	1.050	8.000	8.332	4	30	
PFODA	458354.3	10	13C2-PFTeDA	857027.5	5.0	0.535	6.97	1.090	8.000	7.908	-1	30	

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV6_CAL4			**Data File:**		18DEC26D-58.wiff
Sample ID:	CALBRN41833B			**Acquis Date:**		2018-12-26T23:55:26
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCCV1-10
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	978925.0	965438.2	1	50	
13C2-PFOA	5.0	539694.3	527066.0	2	50	
13C4-PFOS	4.8	323223.9	307230.6	5	50	
13C2-PFDA	5.0	515178.0	493258.9	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1064748.6	13C3-PFBA	978925.0	1.088	5.000	4.826	97	70-130	
E13C5-PFPeA	1021889.1	13C3-PFBA	978925.0	1.044	5.000	4.972	99	70-130	
E13C3-PFBS	456990.3	13C3-PFBA	978925.0	0.467	4.650	4.536	98	70-130	
E13C2-4:2-FTS	65401.0	13C2-PFOA	539694.3	0.121	4.670	4.617	99	70-130	
E13C5-PFHxA	742235.2	13C2-PFOA	539694.3	1.375	5.000	5.031	101	70-130	
E13C3-PFHxS	362298.6	13C2-PFOA	539694.3	0.671	4.730	5.158	109	70-130	
E13C4-PFHpA	604596.4	13C2-PFOA	539694.3	1.120	5.000	5.047	101	70-130	
E13C2-6:2-FTS	55482.7	13C2-PFOA	539694.3	0.103	4.750	5.030	106	70-130	
E13C8-PFOA	993307.6	13C2-PFOA	539694.3	1.841	5.000	5.157	103	70-130	
E13C8-PFOS	338534.1	13C4-PFOS	323223.9	1.047	4.780	4.566	96	70-130	
E13C9-PFNA	661822.2	13C4-PFOS	323223.9	2.048	5.000	4.511	90	70-130	
E13C6-PFDA	887079.8	13C2-PFDA	515178.0	1.722	5.000	4.944	99	70-130	
E13C2-8:2-FTS	51622.9	13C2-PFDA	515178.0	0.100	4.790	5.184	108	70-130	
E13C8-PFOSA	606348.2	13C2-PFDA	515178.0	1.177	5.000	4.701	94	70-130	
Ed3-NMeFOSAA	195473.4	13C2-PFDA	515178.0	0.379	5.000	4.842	97	70-130	
E13C7-PFUnDA	576292.5	13C2-PFDA	515178.0	1.119	5.000	4.833	97	70-130	
Ed5-NEtFOSAA	146917.2	13C2-PFDA	515178.0	0.285	5.000	4.941	99	70-130	
E13C2-PFDoDA	1162551.4	13C2-PFDA	515178.0	2.257	5.000	4.895	98	70-130	
Ed7-NMePFOSAE	250743.5	13C2-PFDA	515178.0	0.487	5.000	4.602	92	70-130	
Ed3-NMePFOSA	85894.0	13C2-PFDA	515178.0	0.167	5.000	4.726	95	70-130	
Ed9-NEtPFOSAE	224600.9	13C2-PFDA	515178.0	0.436	5.000	4.744	95	70-130	
Ed5-NEtPFOSA	68607.3	13C2-PFDA	515178.0	0.133	5.000	4.700	94	70-130	
E13C2-PFTeDA	857027.5	13C2-PFDA	515178.0	1.664	5.000	4.906	98	70-130	

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

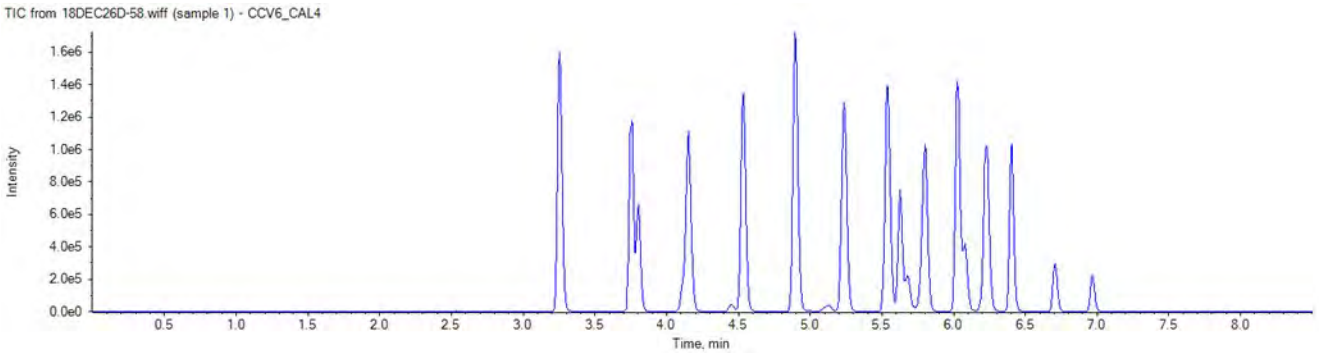
Analyte Quantitation Peak Table

Sample Name: CCV6_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC26D-58.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
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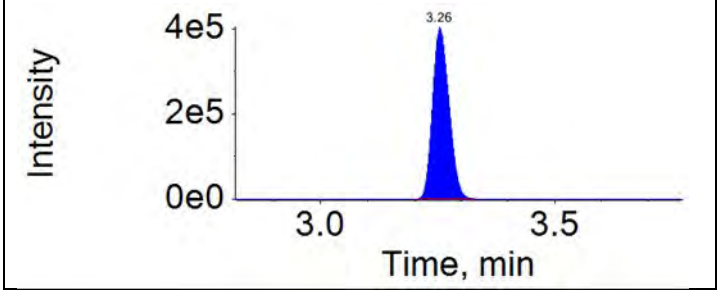
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.25	1.000	1557844.4		A	13C4-PFBA	3.25	1064748.6	1.463	7.729
PFPeA	3.76	1.000	1573091.5		A	13C5-PFPeA	3.76	1021889.1	1.539	7.641
PFBS	3.80	1.000	655229.8		A	13C3-PFBS	3.80	456990.3	1.434	7.115
4:2-FTS	4.11	1.000	180530.3		A	13C2-4:2-FTS	4.11	65401.0	2.760	6.768
PFHxA	4.15	1.000	1406781.9		A	13C5-PFHxA	4.15	742235.2	1.895	7.779
PFPeS	4.17	1.100	333368.7		A	13C3-PFBS	3.80	456990.3	0.729	7.343
PFHpA	4.53	1.000	1556697.5		A	13C4-PFHpA	4.53	604596.4	2.575	8.136
PFHxS	4.54	1.000	506179.3		M	13C3-PFHxS	4.54	362298.6	1.397	6.534
6:2-FTS	4.88	1.000	164859.5		A	13C2-6:2-FTS	4.89	55482.7	2.971	7.124
PFHpS	4.89	1.080	487897.9		A	13C3-PFHxS	4.54	362298.6	1.347	7.049
PFOA	4.90	1.000	1536703.2		A	13C8-PFOA	4.90	993307.6	1.547	8.185
PFOS	5.23	1.000	550102.4		M	13C8-PFOS	5.23	338534.1	1.625	7.074
PFNA	5.24	1.000	1390183.0		A	13C9-PFNA	5.24	661822.2	2.101	8.441
PFNS	5.52	1.060	367740.2		A	13C8-PFOS	5.23	338534.1	1.086	7.425
PFDA	5.54	1.000	1254238.8		A	13C6-PFDA	5.54	887079.8	1.414	8.152
8:2-FTS	5.54	1.000	173987.3		A	13C2-8:2-FTS	5.54	51622.9	3.370	6.659
PFOSA	5.63	1.000	998470.9		A	13C8-PFOSA	5.63	606348.2	1.647	8.663
NMeFOSAA	5.68	1.000	252734.8		M	d3-NMeFOSAA	5.68	195473.4	1.293	7.539
PFDS	5.78	1.100	304658.1		A	13C8-PFOS	5.23	338534.1	0.900	7.419
PFUnDA	5.80	1.000	1320479.5		A	13C7-PFUnDA	5.80	576292.5	2.291	8.763
NEtFOSAA	5.81	1.000	226479.1		A	d5-NEtFOSAA	5.81	146917.2	1.542	7.926
PFDoDA	6.03	1.000	1800799.3		A	13C2-PFDoDA	6.03	1162551.4	1.549	7.903
10:2-FTS	6.04	1.090	161764.5		A	13C2-8:2-FTS	5.54	51622.9	3.134	6.397
NMePFOSAE	6.08	1.000	488483.1		A	d7-NMePFOSAE	6.07	250743.5	1.948	8.236
NMePFOSA	6.09	1.000	137553.4		A	d3-NMePFOSA	6.09	85894.0	1.601	7.991
PFDoS	6.20	1.190	151129.0		A	13C8-PFOS	5.23	338534.1	0.446	6.672
NEtPFOSAE	6.24	1.000	536978.2		A	d9-NEtPFOSAE	6.22	224600.9	2.391	7.911
NEtPFOSA	6.25	1.000	114813.4		A	d5-NEtPFOSA	6.25	68607.3	1.673	7.868
PFTrDA	6.22	1.030	1750045.5		A	13C2-PFDoDA	6.03	1162551.4	1.505	8.014
PFTeDA	6.40	1.000	1260622.7		A	13C2-PFTeDA	6.40	857027.5	1.471	8.366
PFHxDA	6.71	1.050	619362.4		A	13C2-PFTeDA	6.40	857027.5	0.723	8.332
PFODA	6.97	1.090	458354.3		A	13C2-PFTeDA	6.40	857027.5	0.535	7.908

Total Ion Chromatogram

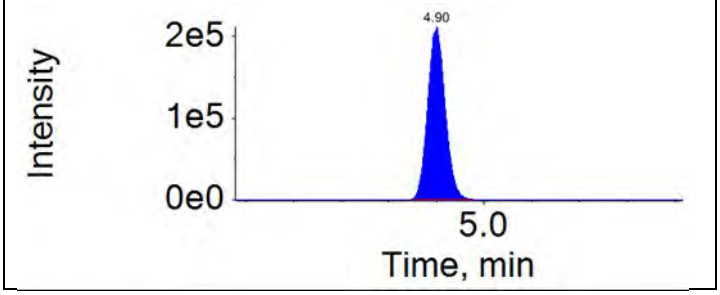


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

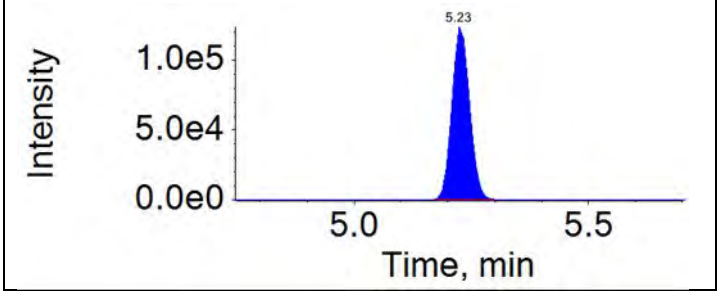
Injection Standard: 13C3-PFBA
216.0 / 172.0



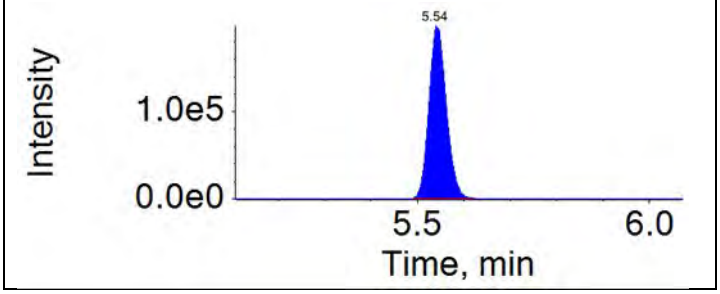
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

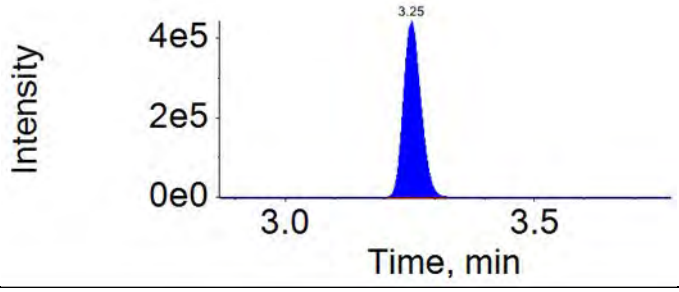


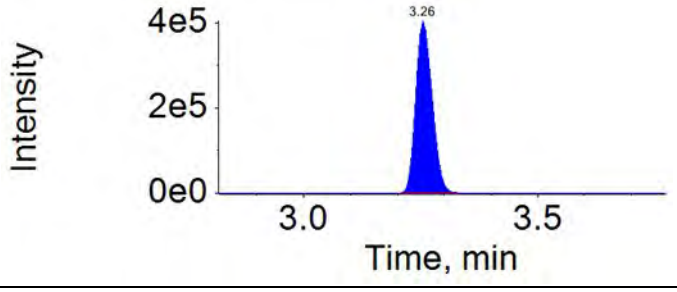
Injection Standard: 13C2-PFDA
515.0 / 470.0



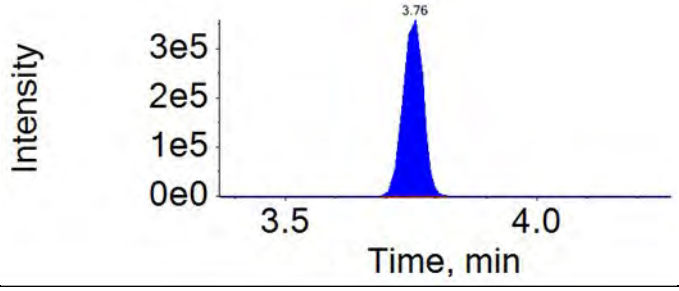
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

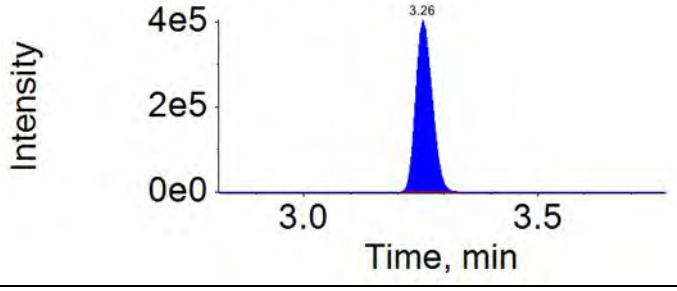
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



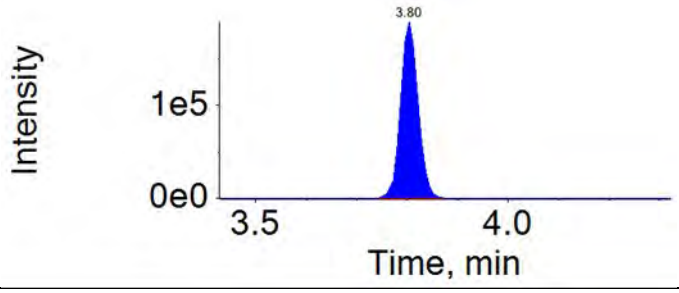


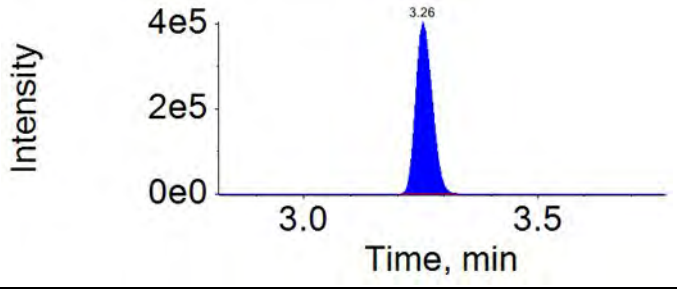
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



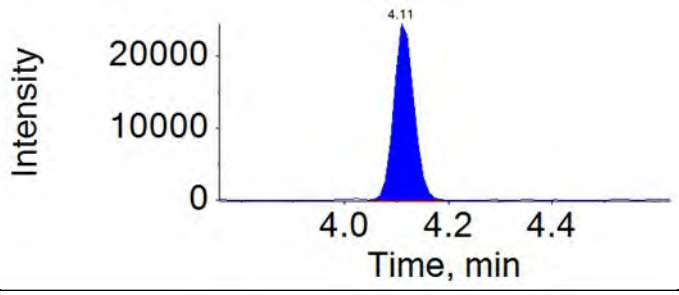


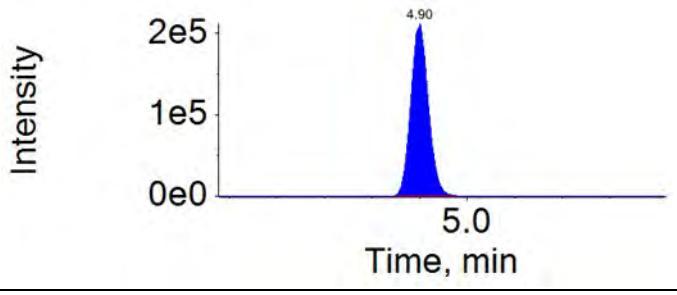
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





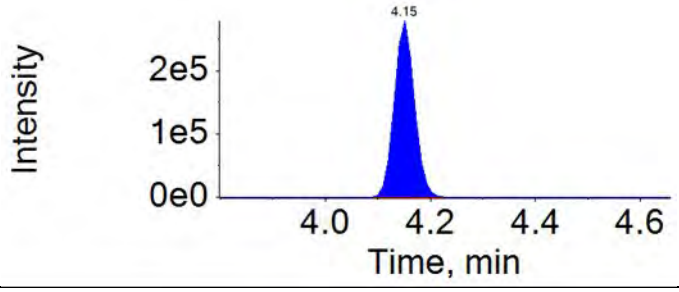
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

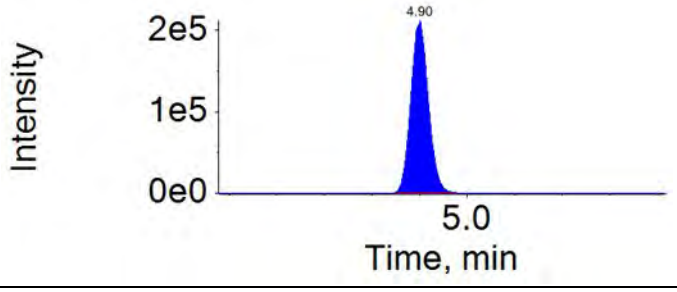




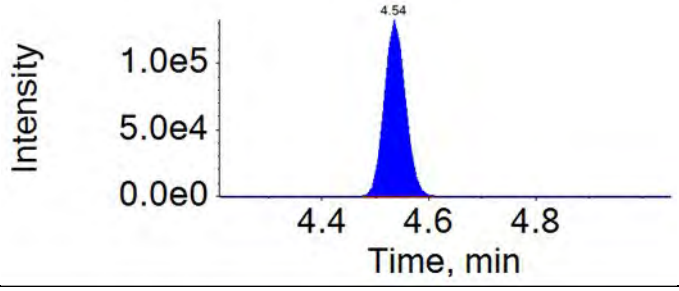
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

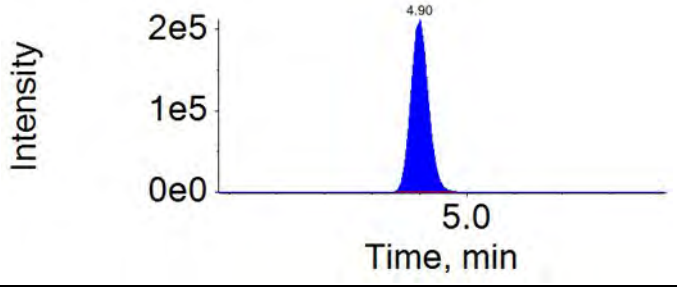
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



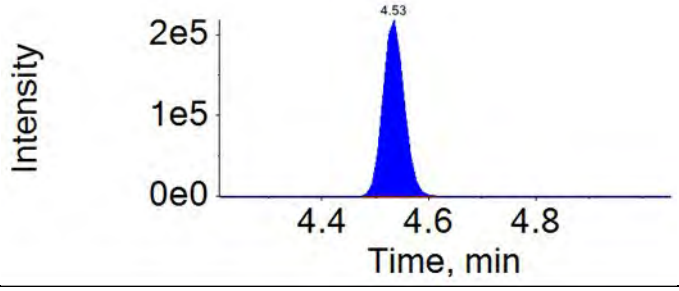


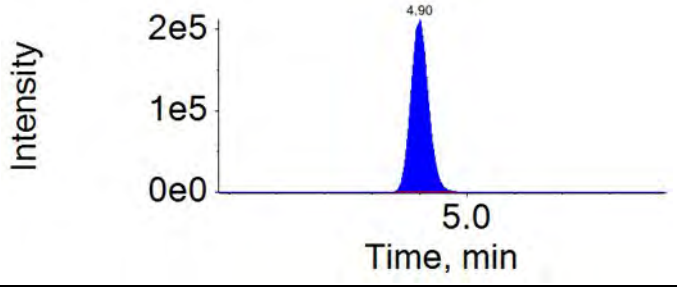
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



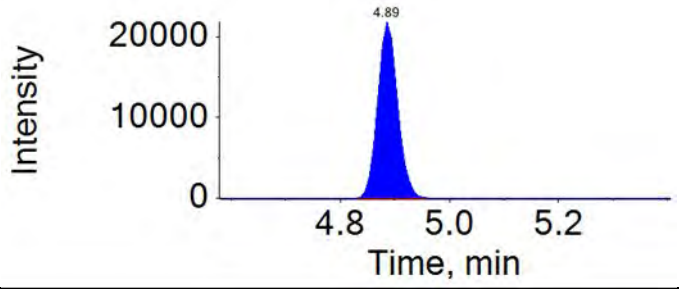


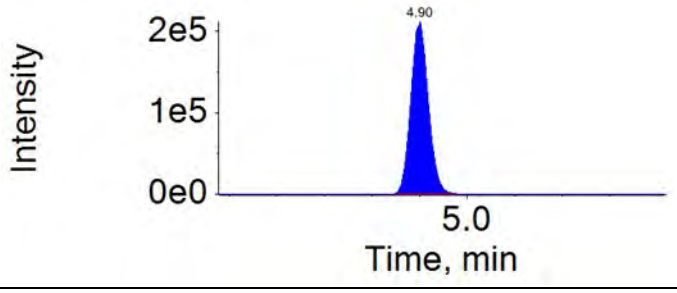
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

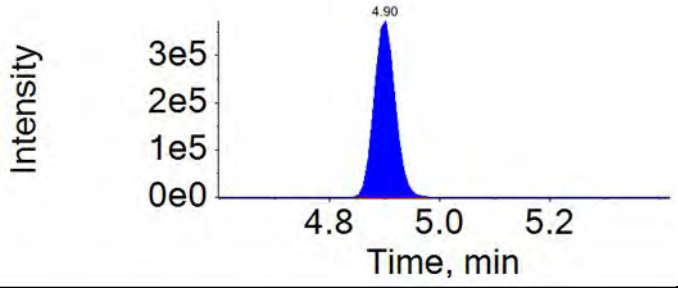
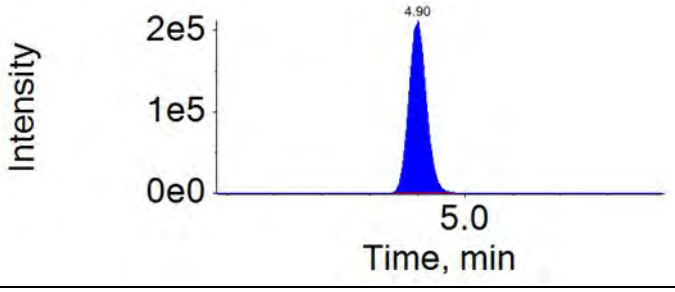


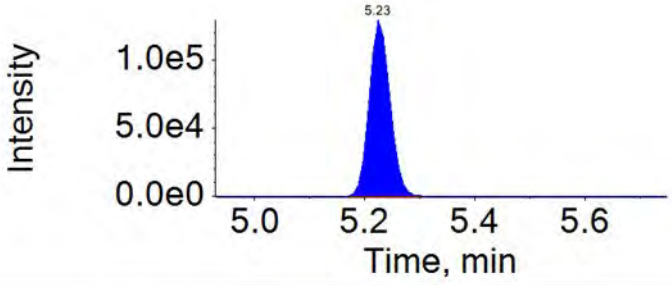
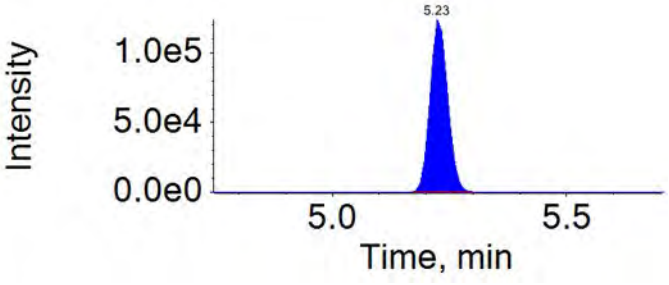


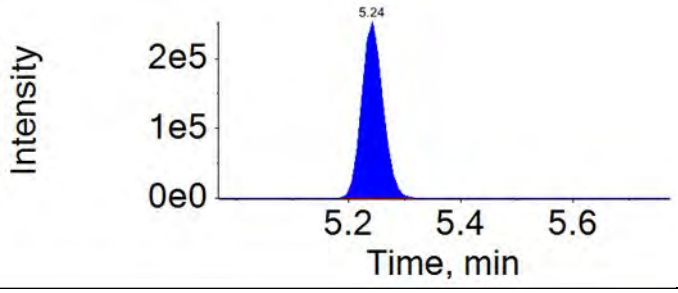
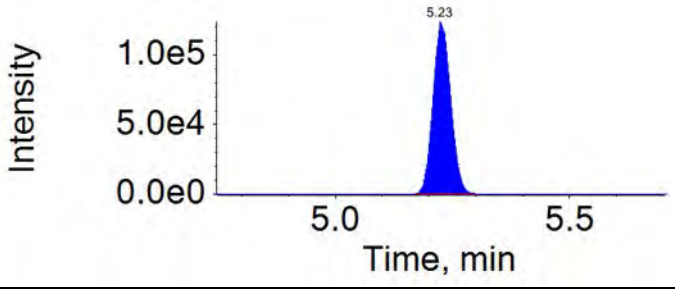
APPROVED
By MSM at 9:34 am, 12/27/18

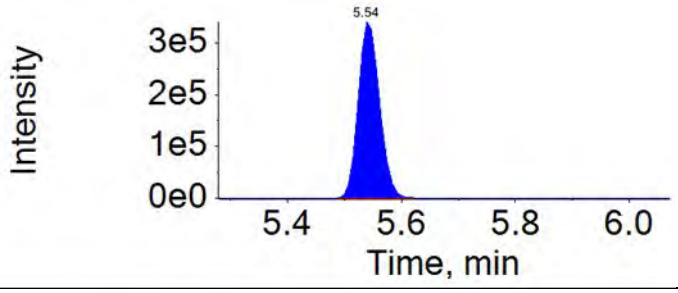
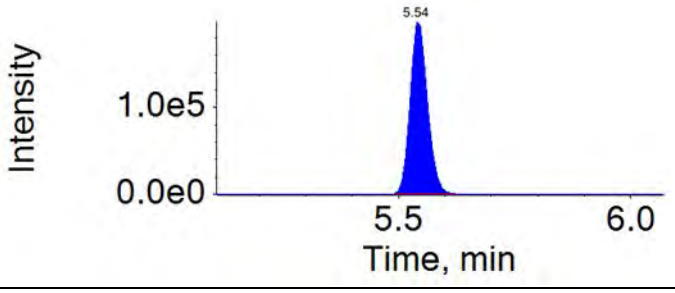
REVIEWED
By umar at 2:33 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

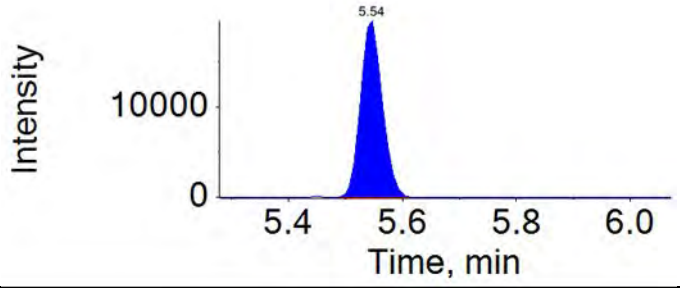
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

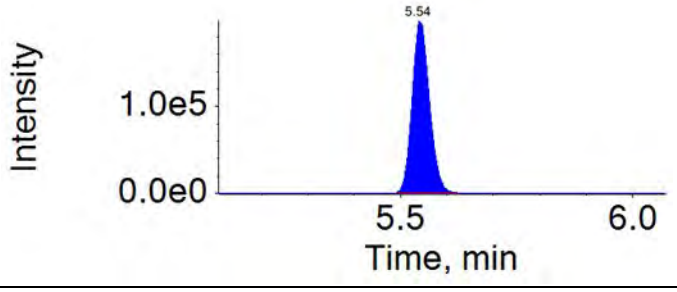
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

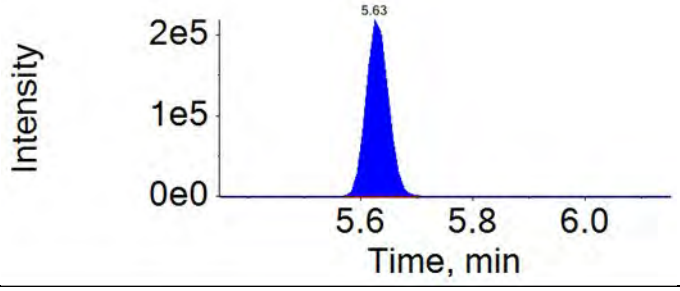
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

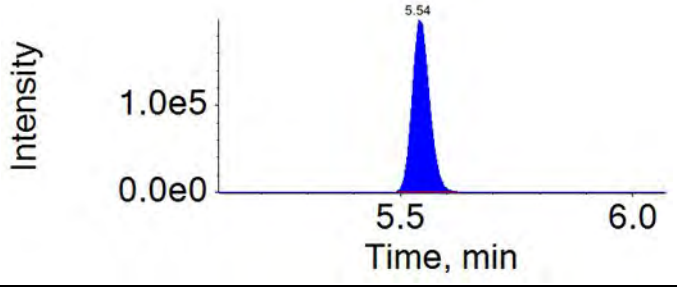
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



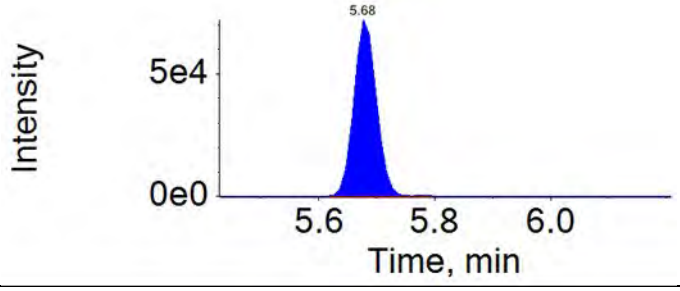


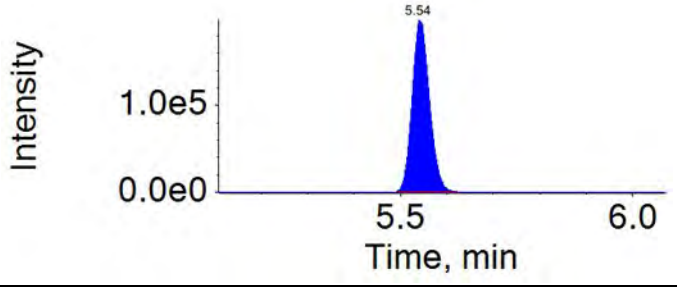
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



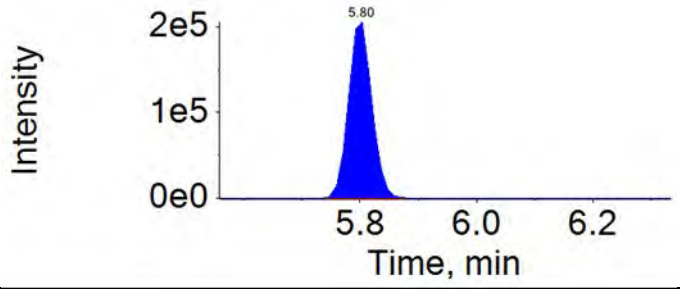


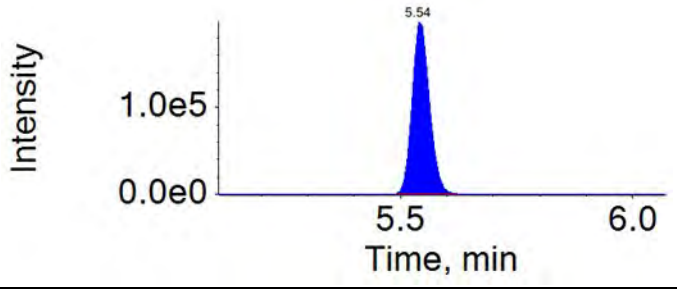
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





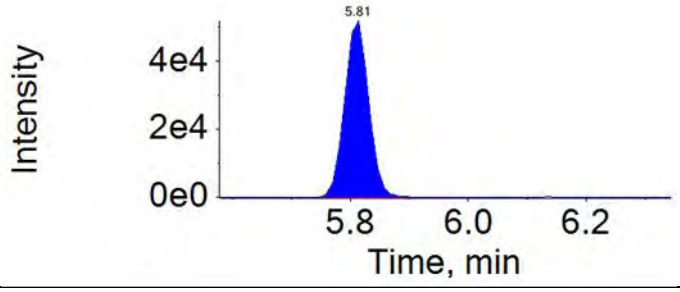
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

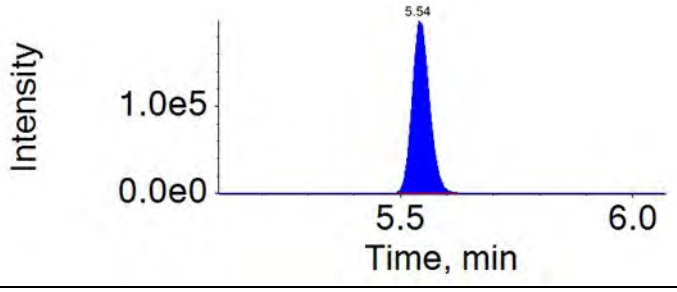




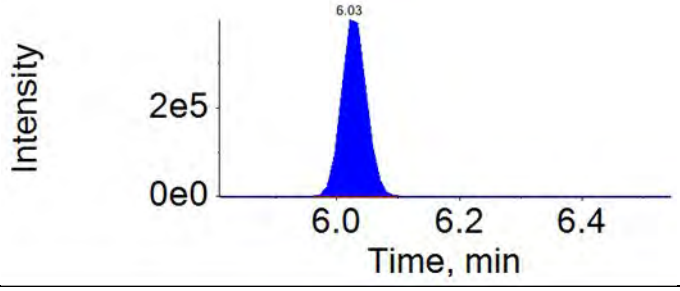
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

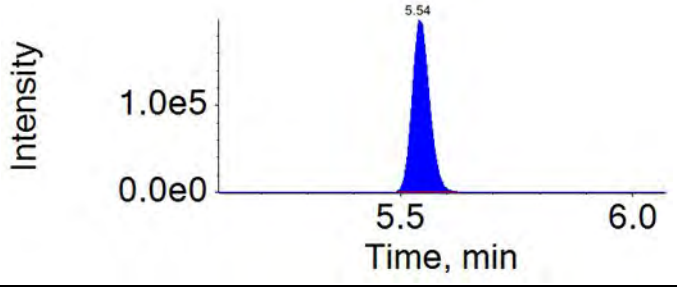
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



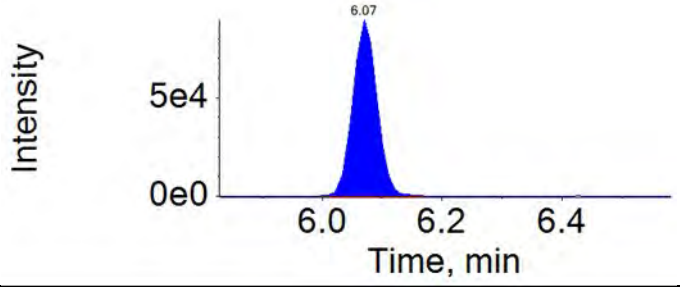


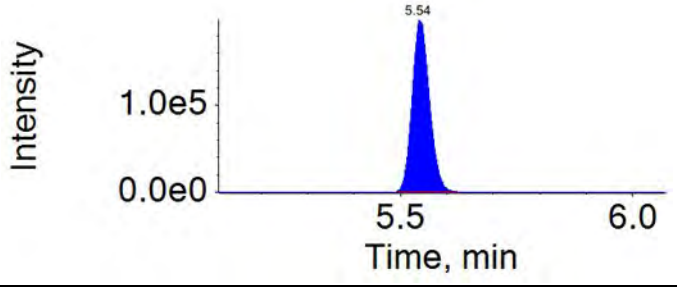
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



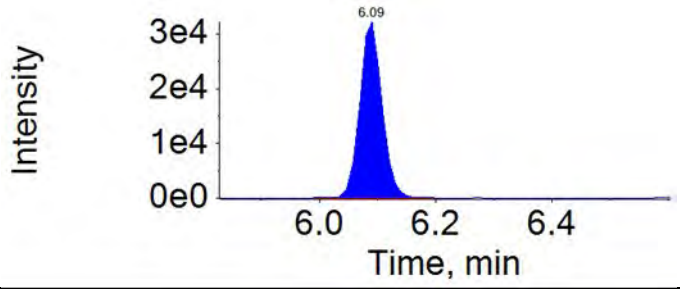


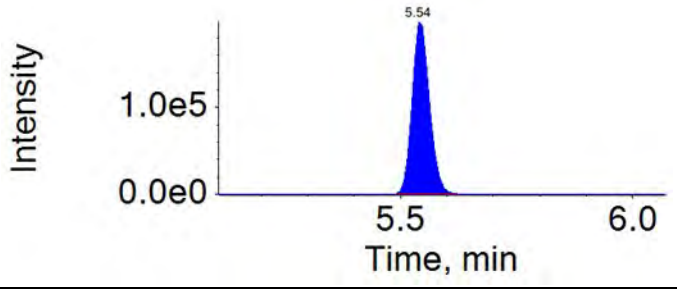
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





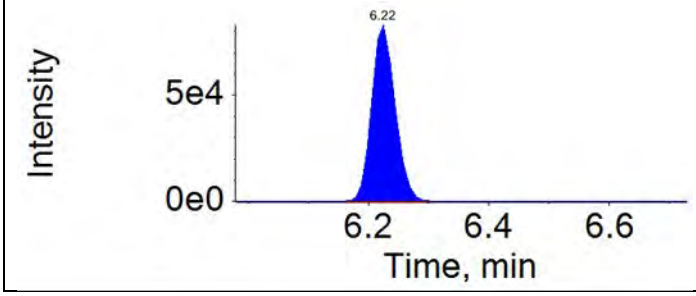
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

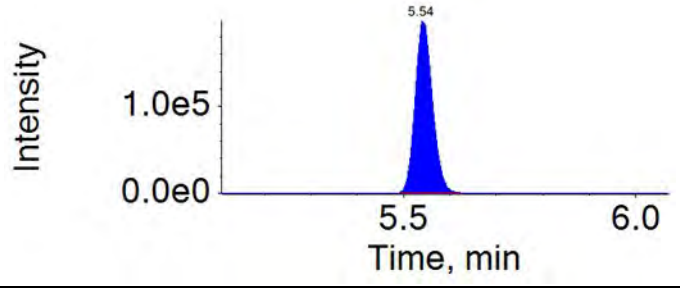




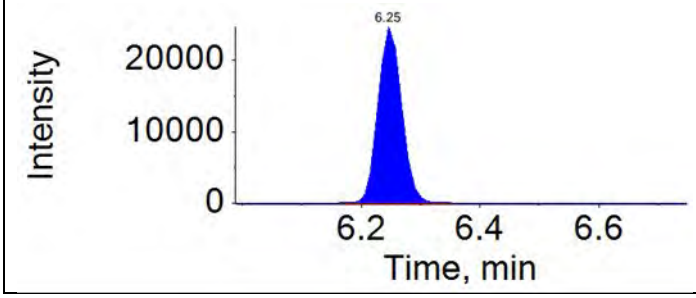
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

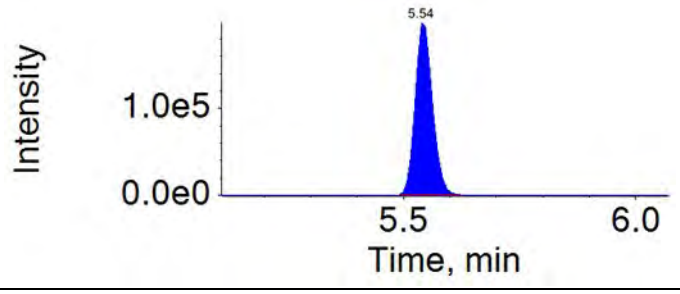
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



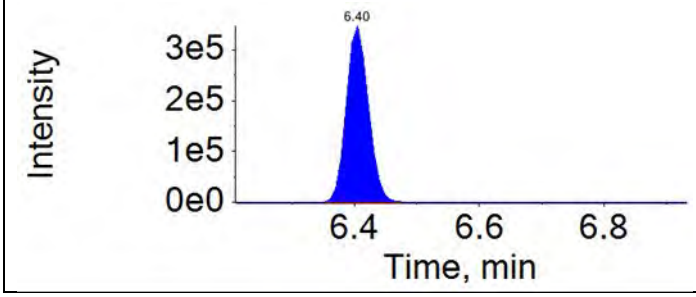


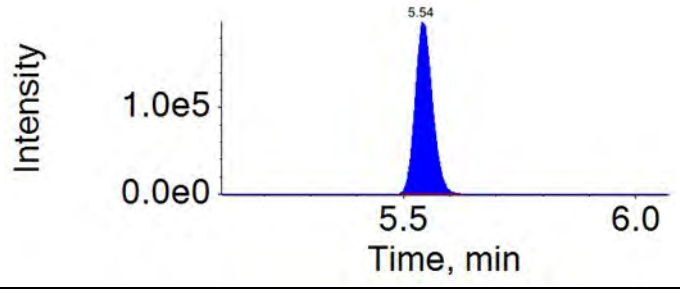
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





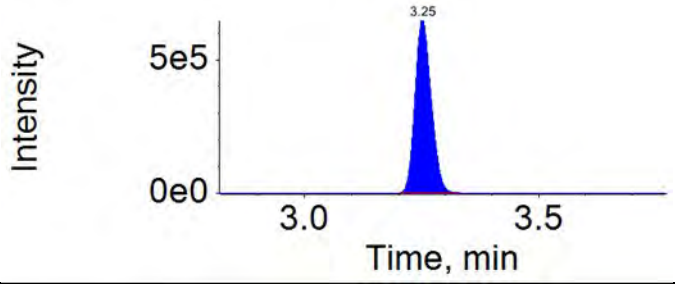
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

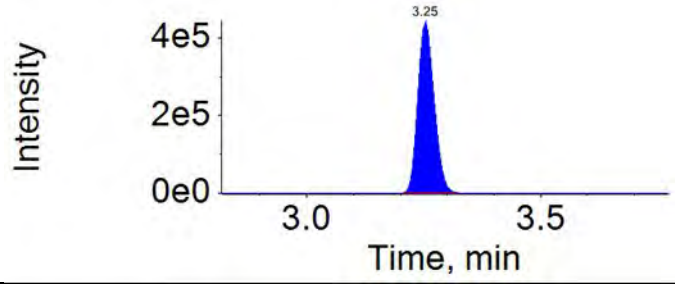




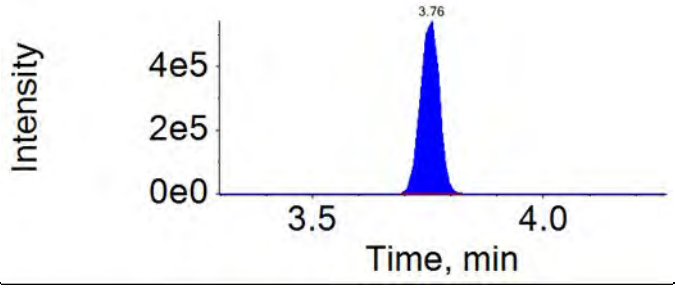
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

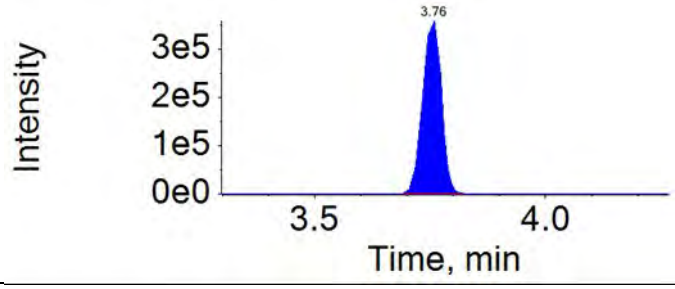
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



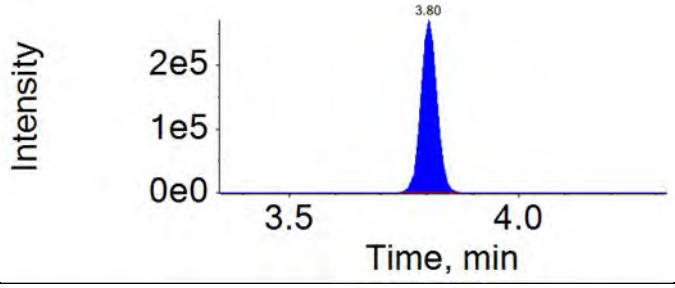


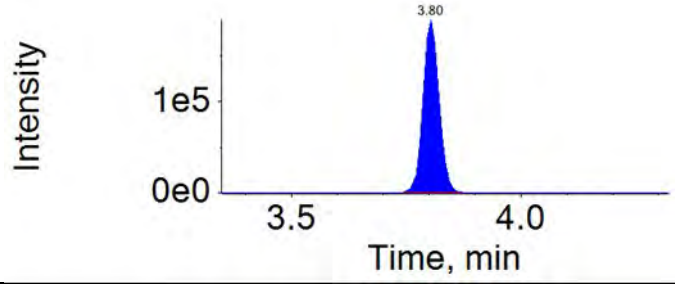
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



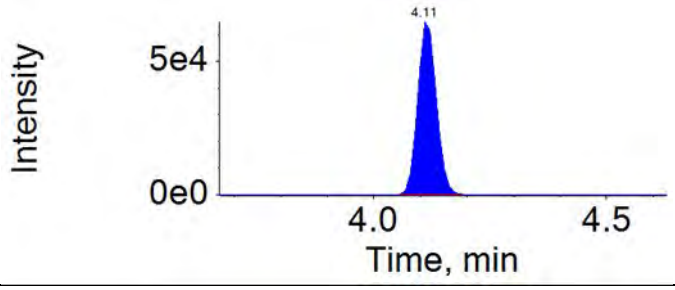


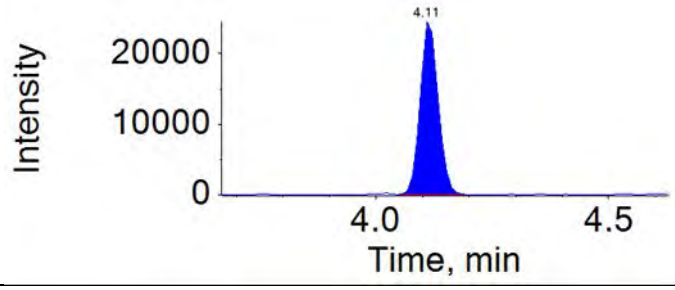
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





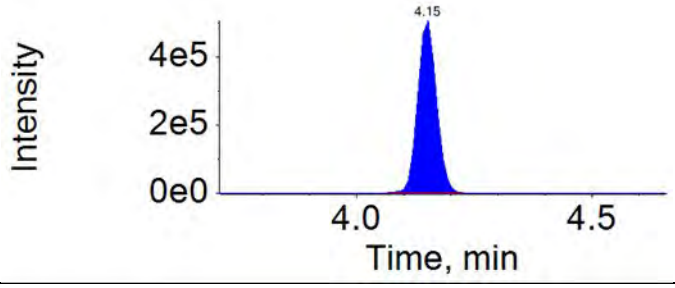
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

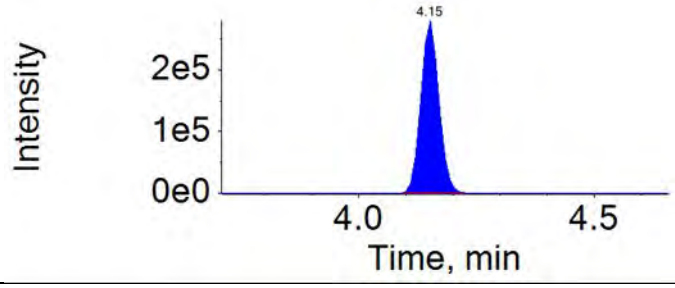




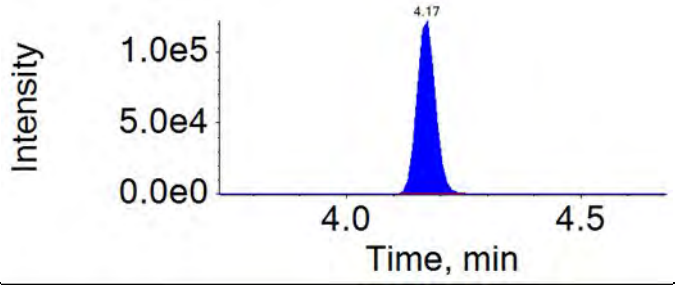
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

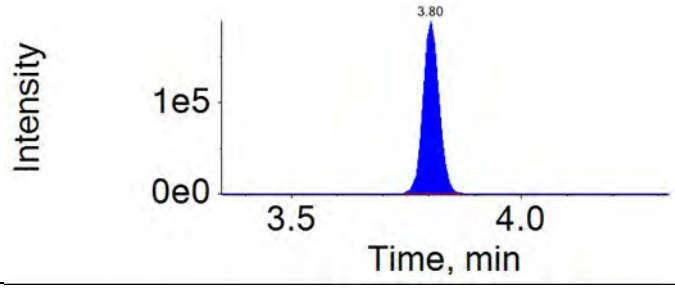
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



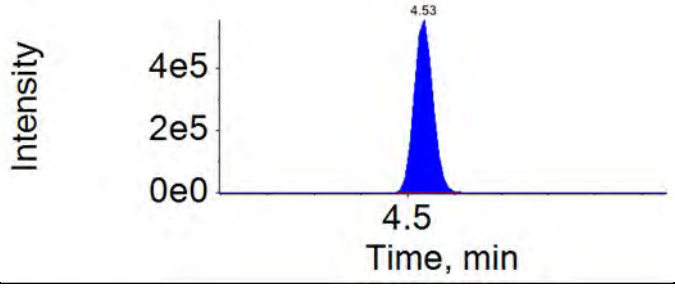


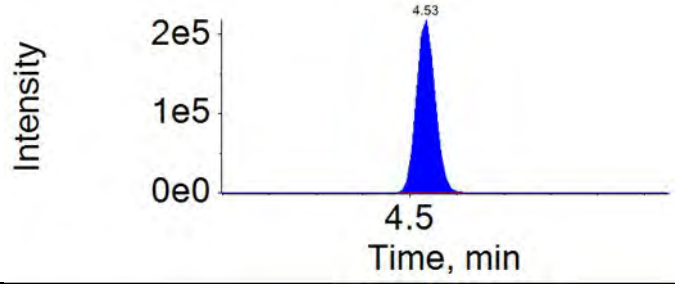
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



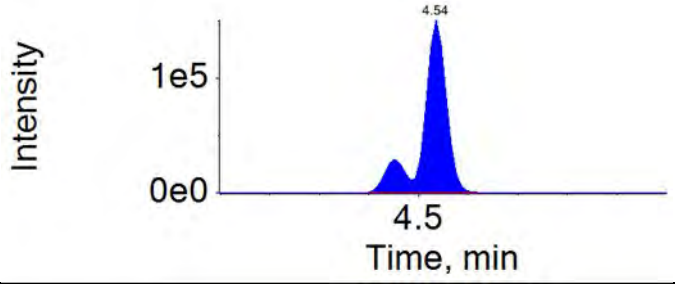


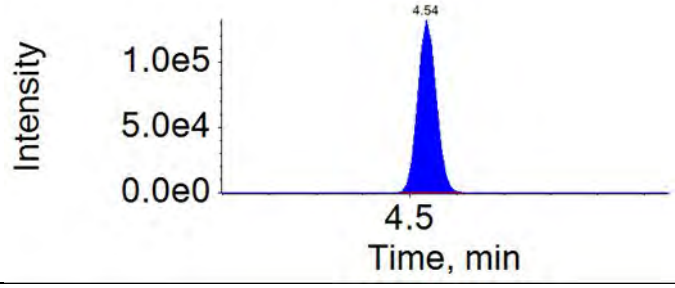
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





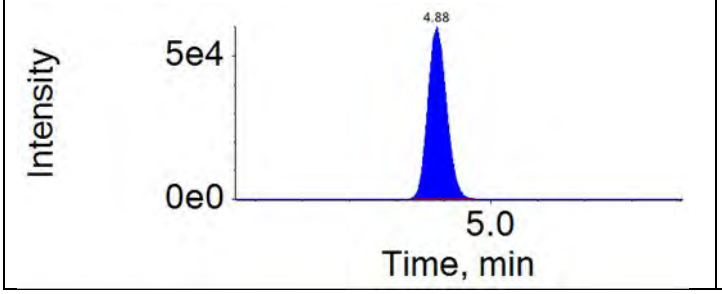
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

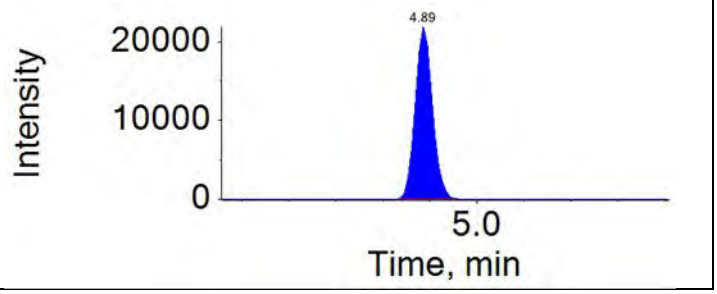




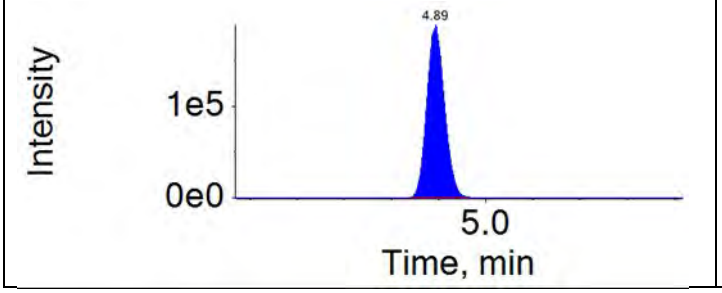
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

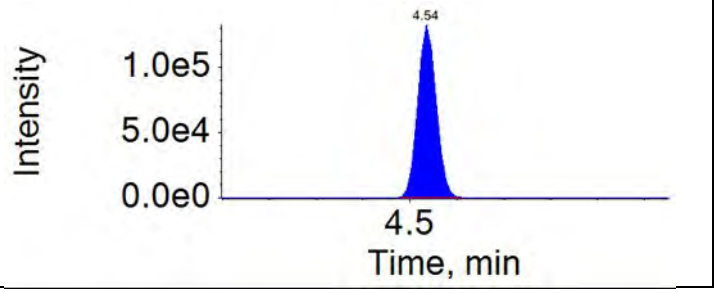
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



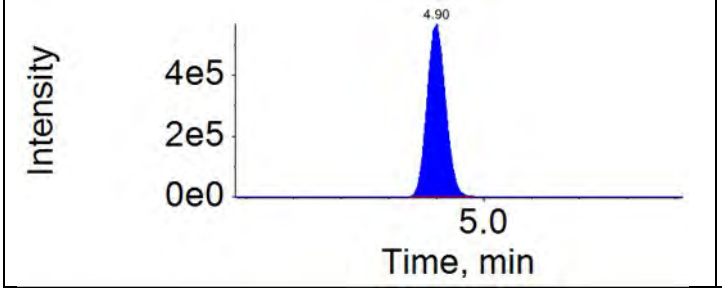


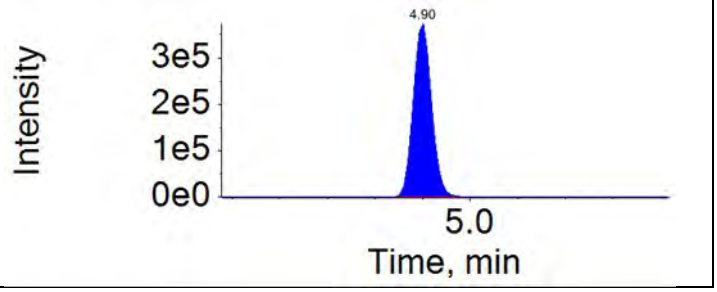
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



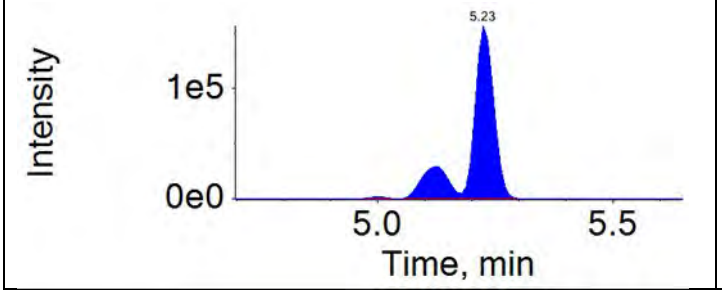


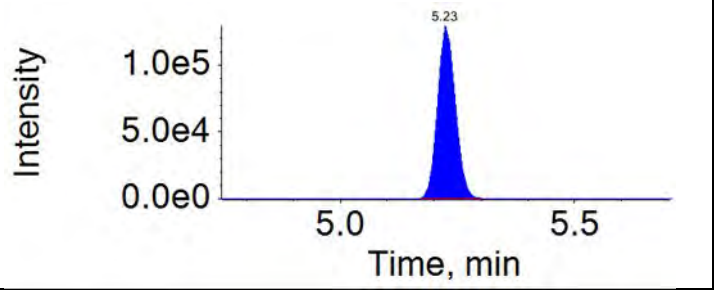
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





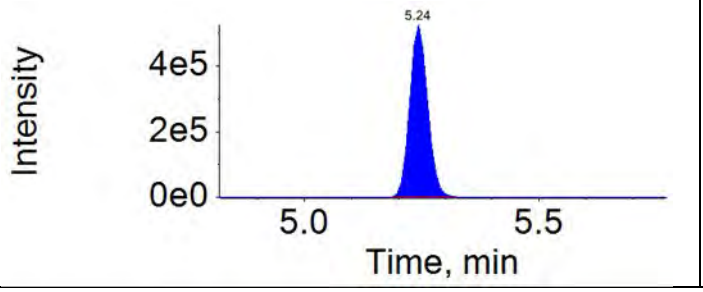
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

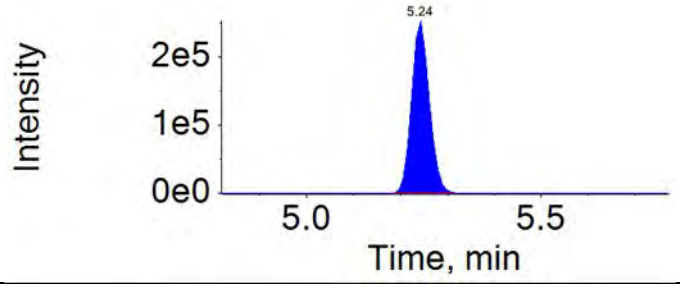




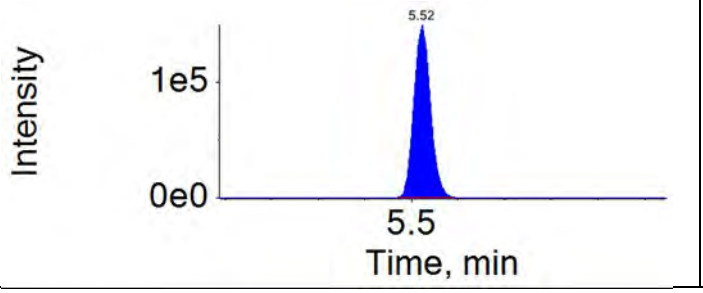
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

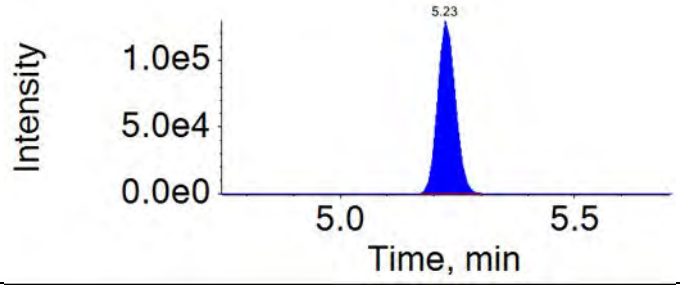
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



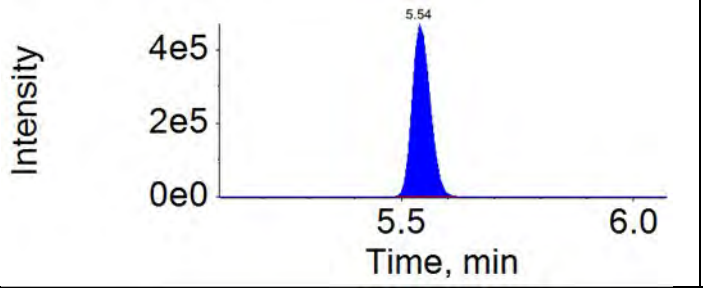


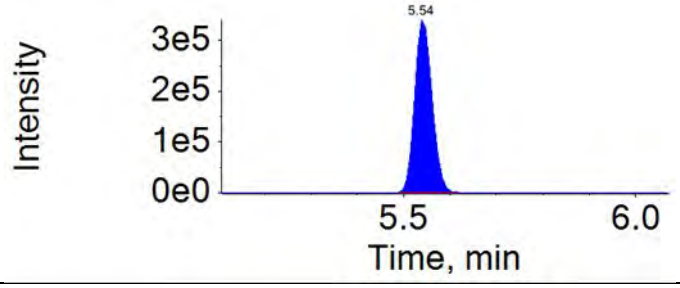
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



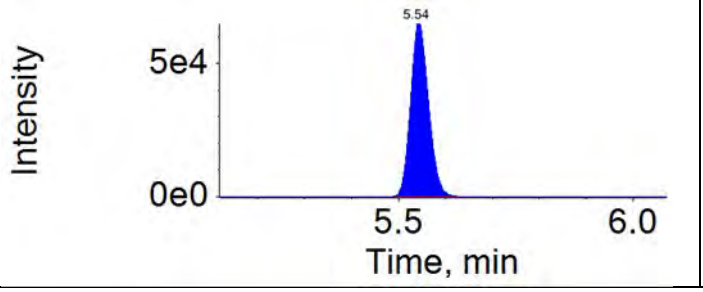


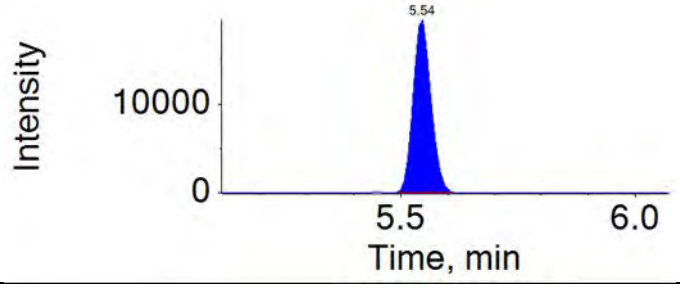
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





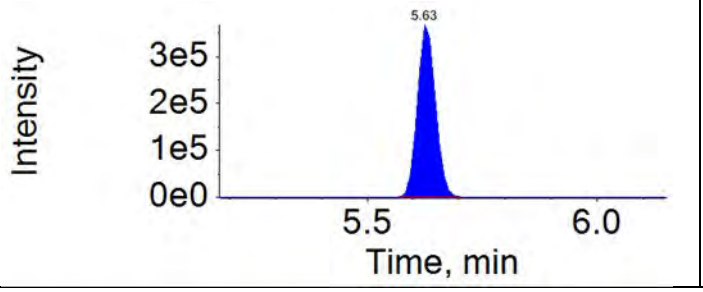
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

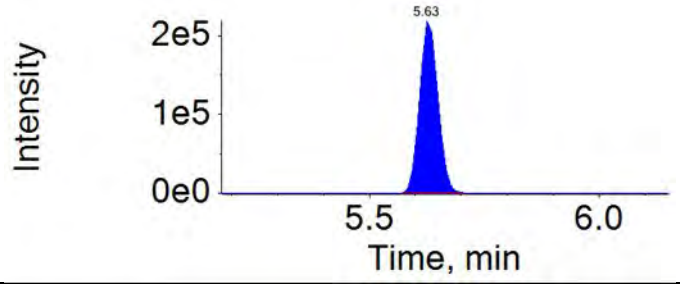




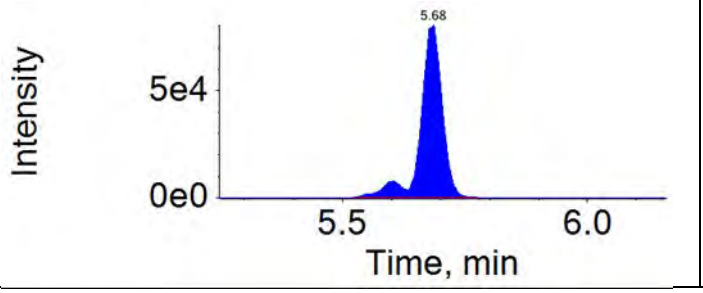
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

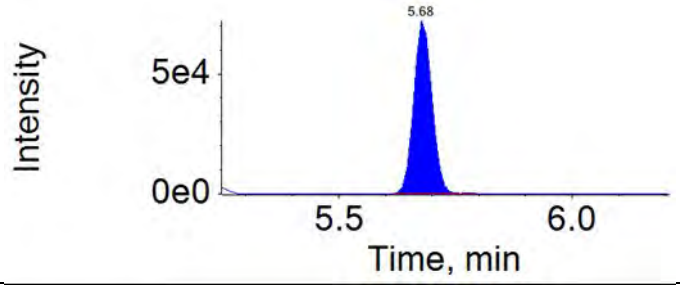
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



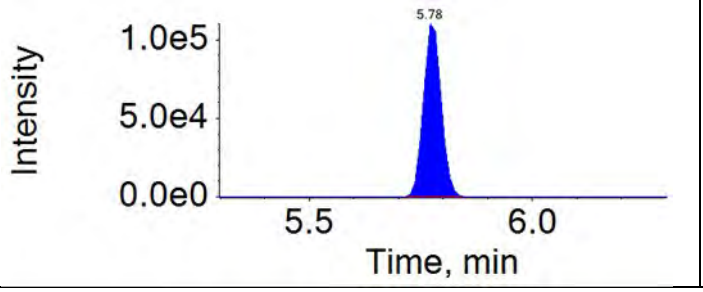


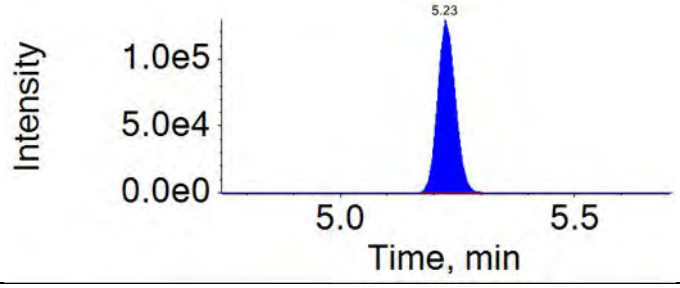
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



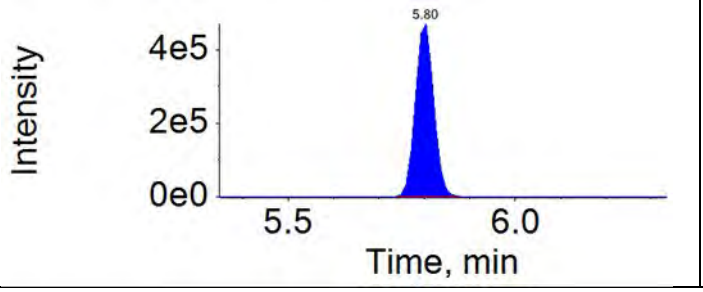


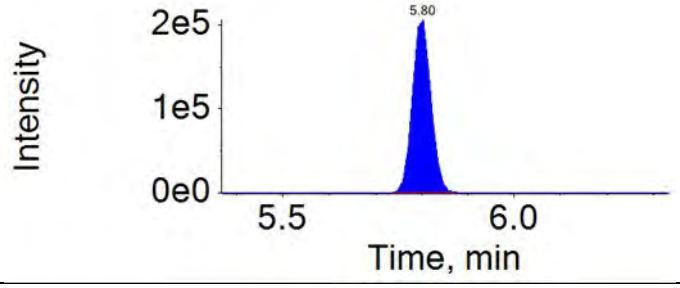
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





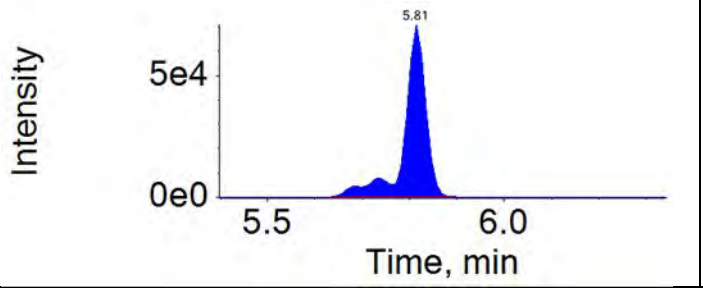
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

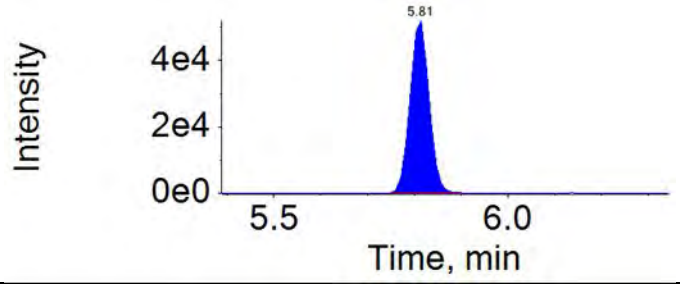




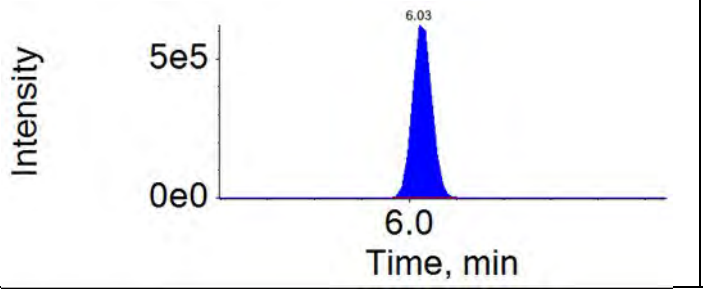
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

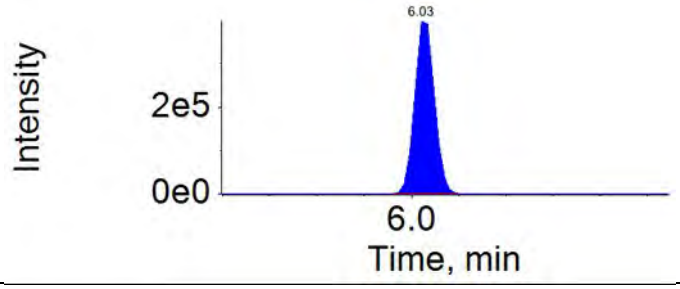
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



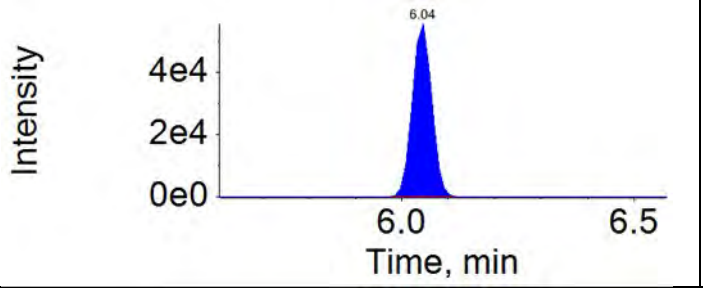


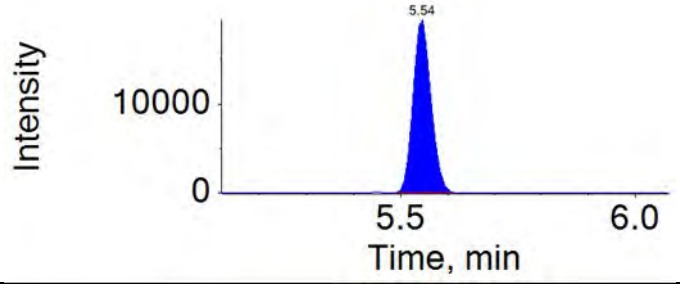
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



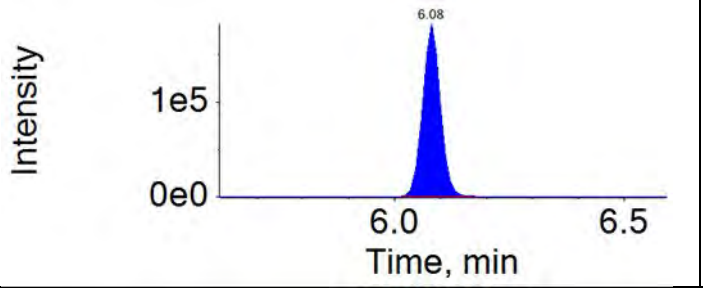


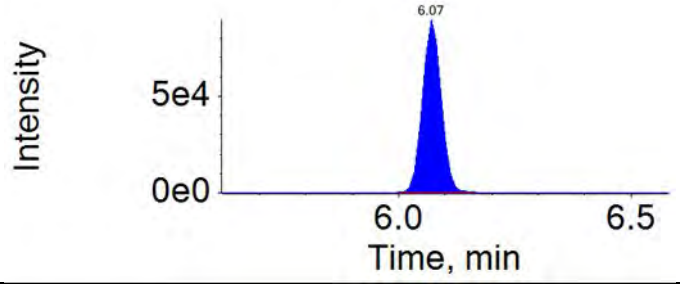
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





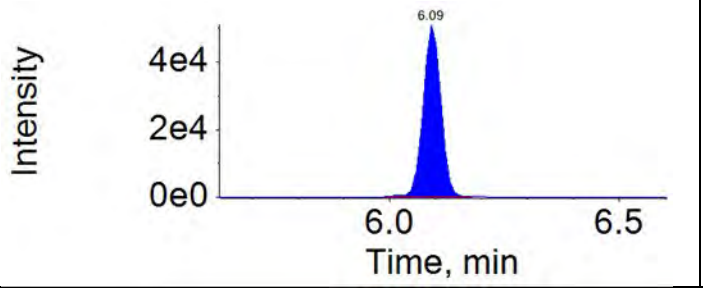
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

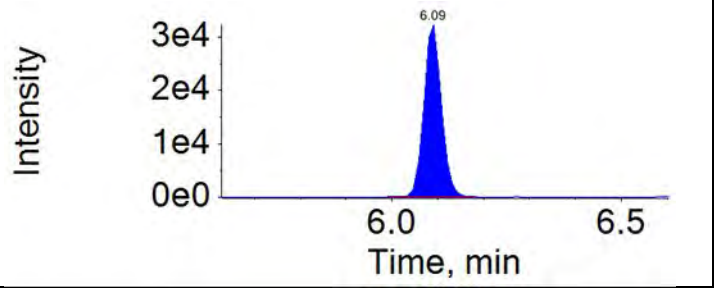




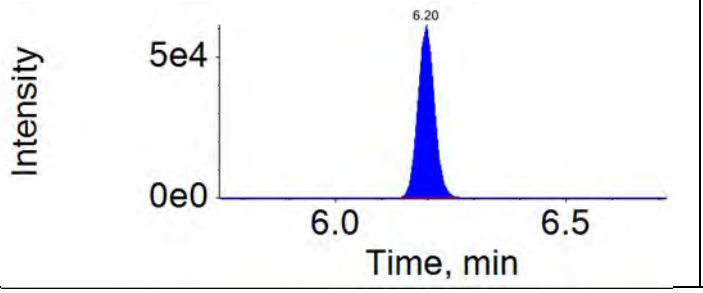
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

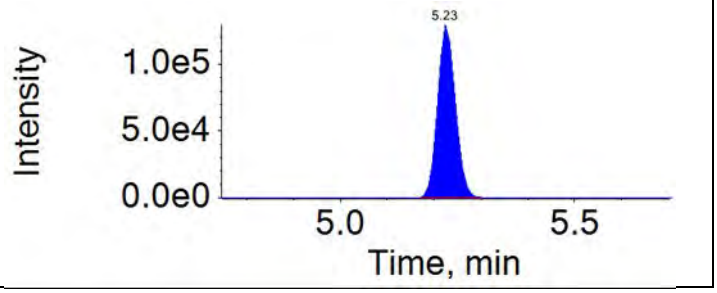
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



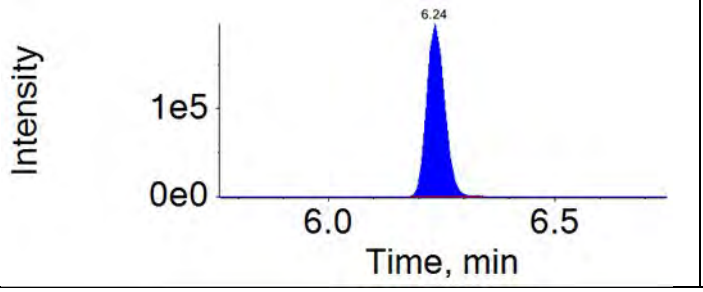


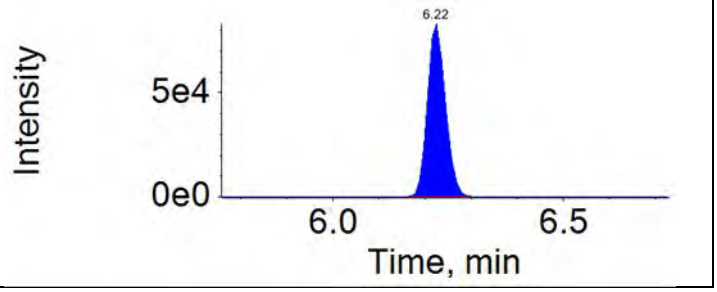
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



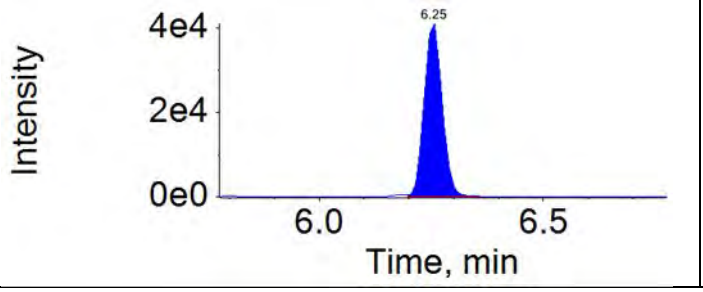


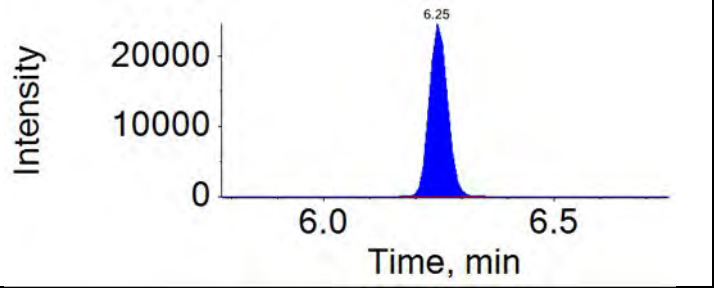
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



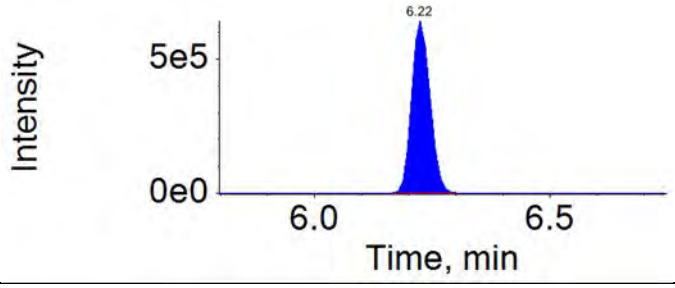


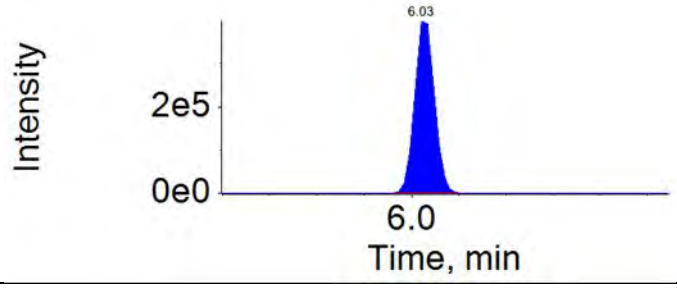
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

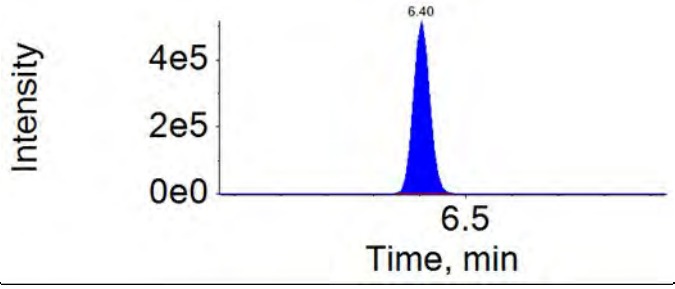
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

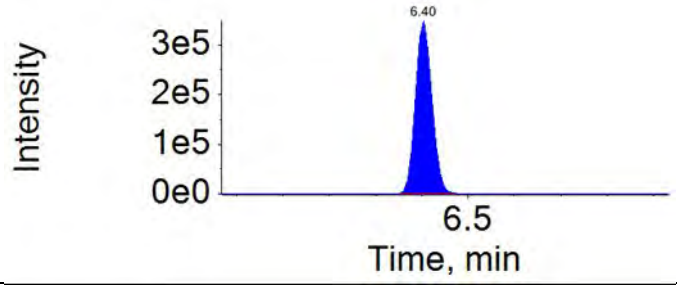
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



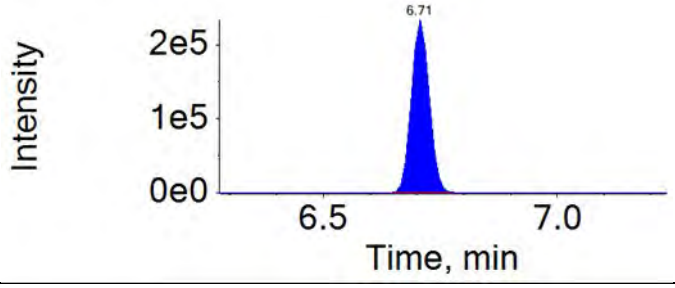


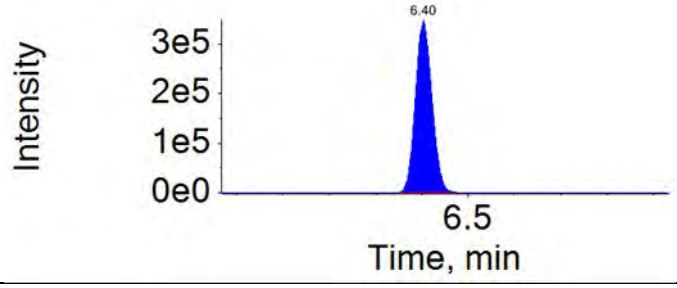
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



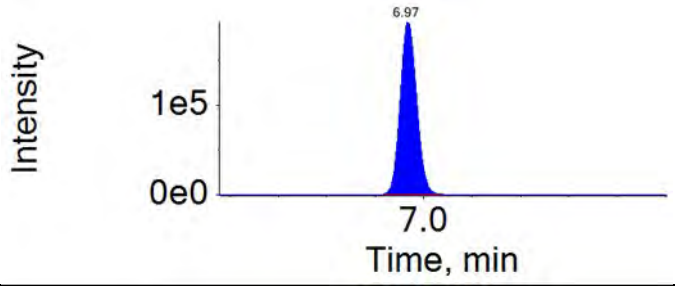


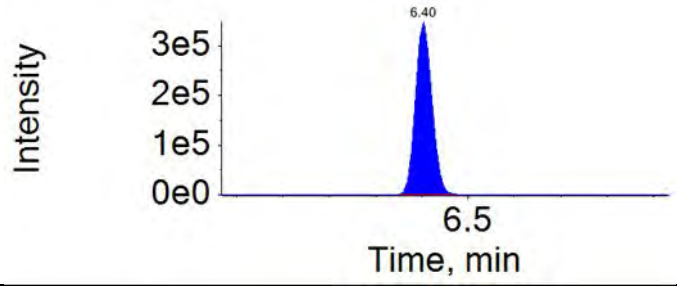
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





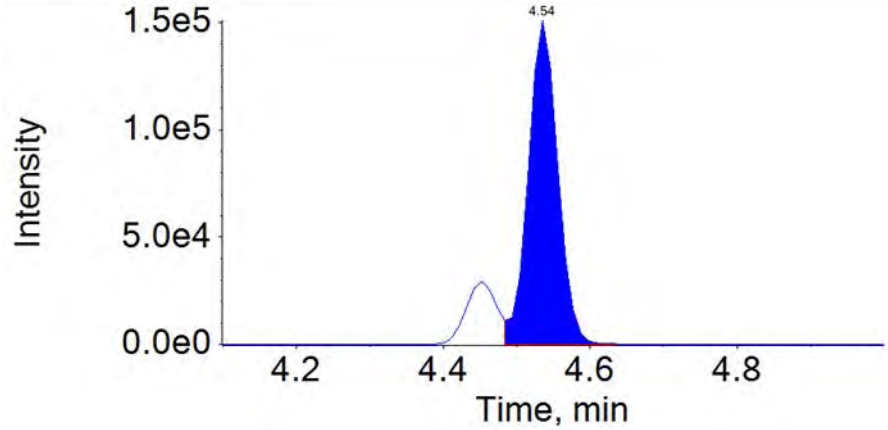
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





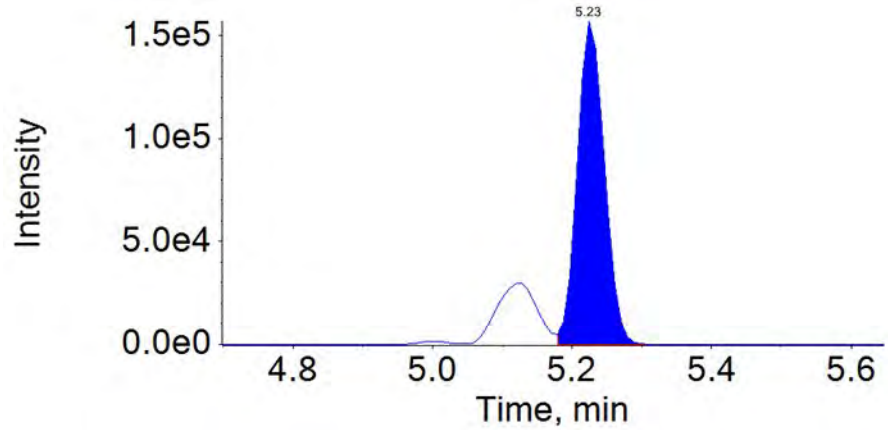
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
422657.8
Mass Range:
399.0 / 80.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



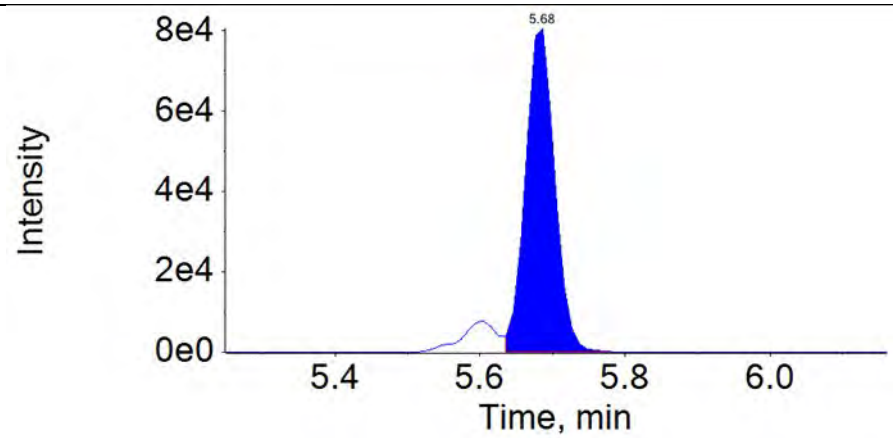
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.23
Peak Area:
425350.4
Mass Range:
499.0 / 80.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

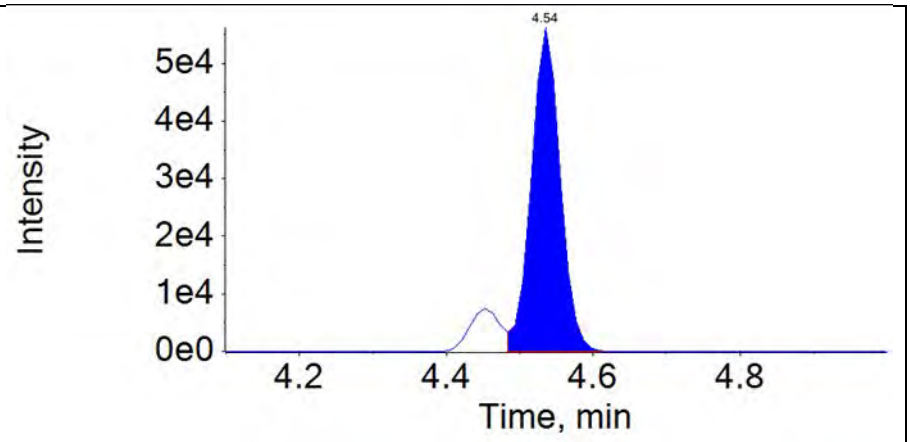
Component Name:
NMeFOSAA
RT (min.):
5.68
Peak Area:
226344.9
Mass Range:
570.0 / 419.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

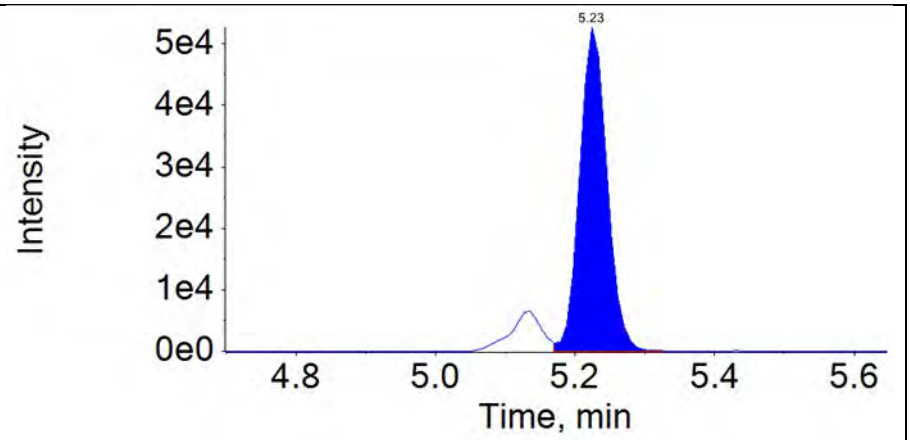
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS_2
RT (min.):
4.54
Peak Area:
153769.2
Mass Range:
399.0 / 99.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



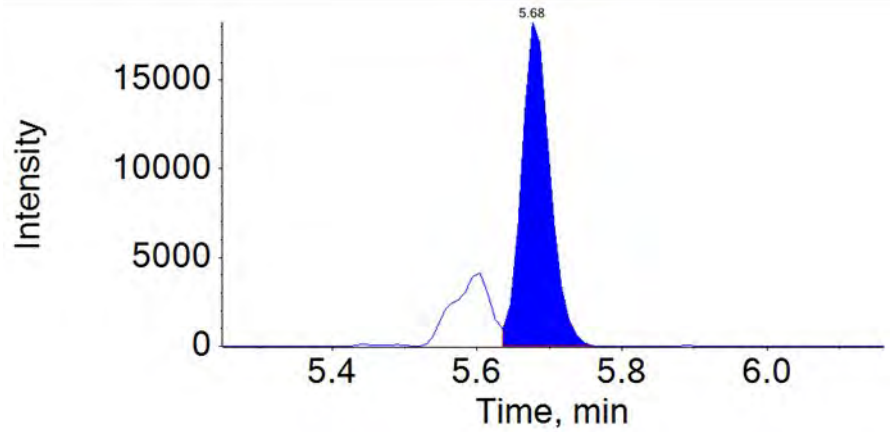
Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
143396.3
Mass Range:
499.0 / 99.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.68
Peak Area:
49759.3
Mass Range:
570.0 / 483.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



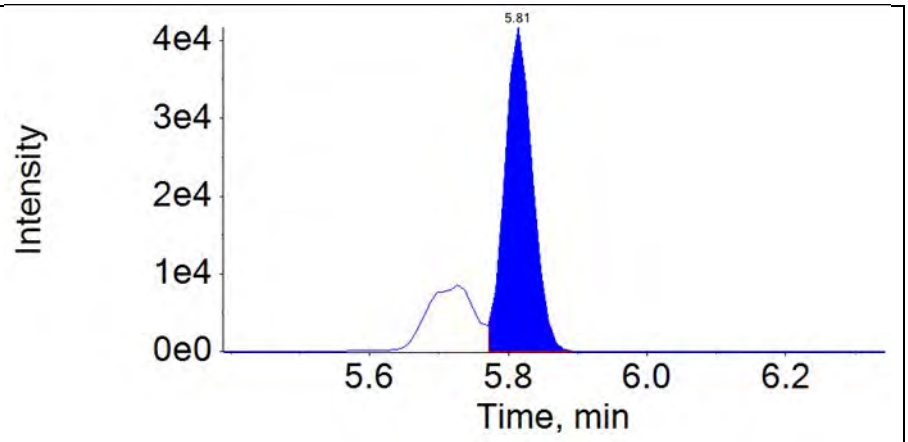
Integration Comment: incorrect integration

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NEtFOSAA_2
RT (min.):
5.81
Peak Area:
116290.6
Mass Range:
584.0 / 526.0
File Name:
18DEC26D-58.wiff
Sample Name:
CCV6_CAL4



Integration Comment: incorrect integration

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

Ion Ratio Report

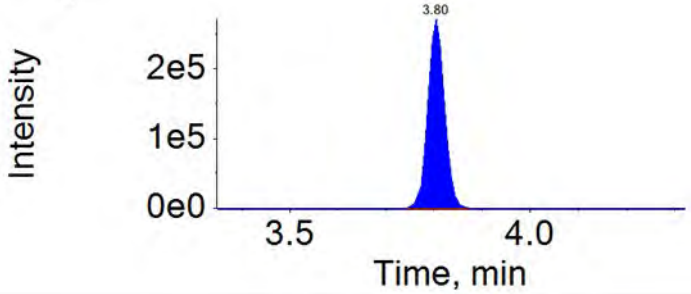
Sample Name: CCV6_CAL4 **Instrument Name:** LM27631 **File Name:** 18DEC26D-58.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	655229.8	A	N/A	1.0000			
PFBS_2	3.80	1.00	239066.1	A	N/A	0.3649	1	50	
4:2-FTS	4.11	1.00	180530.3	A	N/A	1.0000			
4:2-FTS_2	4.11	1.00	116302.1	A	N/A	0.6442	5	50	
PFHxA	4.15	1.00	1406781.9	A	N/A	1.0000			
PFHxA_2	4.15	1.00	16627.9	A	N/A	0.0118	-4	50	
PFPeS	4.17	1.10	333368.7	A	N/A	1.0000			
PFPeS_2	4.17	1.10	177218.8	A	N/A	0.5316	5	50	
PFHpA	4.53	1.00	1556697.5	A	N/A	1.0000			
PFHpA_2	4.53	1.00	82190.2	A	N/A	0.0528	-7	50	
PFHxS	4.54	1.00	506179.3	M	N/A	1.0000			
PFHxS_2	4.54	1.00	174966.4	M	N/A	0.3457	-3	50	
6:2-FTS	4.88	1.00	164859.5	A	N/A	1.0000			
6:2-FTS_2	4.89	1.00	108329.8	A	N/A	0.6571	4	50	
PFHpS	4.89	1.08	487897.9	A	N/A	1.0000			
PFHpS_2	4.89	1.08	193274.4	A	N/A	0.3961	-2	50	
PFOA	4.90	1.00	1536703.2	A	N/A	1.0000			
PFOA_2	4.90	1.00	85420.4	A	N/A	0.0556	-2	50	
PFOS	5.23	1.00	550102.4	M	N/A	1.0000			
PFOS_2	5.23	1.00	163782.5	M	N/A	0.2977	-2	50	
PFNA	5.24	1.00	1390183.0	A	N/A	1.0000			
PFNA_2	5.24	1.00	29657.6	A	N/A	0.0213	0	50	
PFNS	5.52	1.06	367740.2	A	N/A	1.0000			
PFNS_2	5.52	1.06	169644.6	A	N/A	0.4613	2	50	
PFDA	5.54	1.00	1254238.8	A	N/A	1.0000			
PFDA_2	5.54	1.00	8624.3	A	N/A	0.0069	2	50	
8:2-FTS	5.54	1.00	173987.3	A	N/A	1.0000			
8:2-FTS_2	5.54	1.00	104096.8	A	N/A	0.5983	-1	50	
NMeFOSAA	5.68	1.00	252734.8	M	N/A	1.0000			
NMeFOSAA_2	5.68	1.00	64557.0	M	N/A	0.2554	-1	50	
PFDS	5.78	1.10	304658.1	A	N/A	1.0000			
PFDS_2	5.78	1.11	149500.8	A	N/A	0.4907	0	50	
PFUnDA	5.80	1.00	1320479.5	A	N/A	1.0000			
PFUnDA_2	5.80	1.00	6056.7	A	N/A	0.0046	9	50	
NEtFOSAA	5.81	1.00	226479.1	A	N/A	1.0000			
NEtFOSAA_2	5.81	1.00	157019.5	M	N/A	0.6933	2	50	
PFDoDA	6.03	1.00	1800799.3	A	N/A	1.0000			
PFDoDA_2	6.02	1.00	19685.0	A	N/A	0.0109	-22	50	
10:2-FTS	6.04	1.09	161764.5	A	N/A	1.0000			
10:2-FTS_2	6.04	1.09	118731.7	A	N/A	0.7340	9	50	
PFTrDA	6.22	1.03	1750045.5	A	N/A	1.0000			
PFTrDA_2	6.22	1.03	15885.0	A	N/A	0.0091	3	50	
PFTeDA	6.40	1.00	1260622.7	A	N/A	1.0000			
PFTeDA_2	6.40	1.00	7515.0	A	N/A	0.0060	-5	50	
PFHxDA	6.71	1.05	619362.4	A	N/A	1.0000			
PFHxDA_2	6.71	1.05	37636.7	A	N/A	0.0608	-5	50	
PFODA	6.97	1.09	458354.3	A	N/A	1.0000			
PFODA_2	6.96	1.09	12300.6	A	N/A	0.0268	1	50	

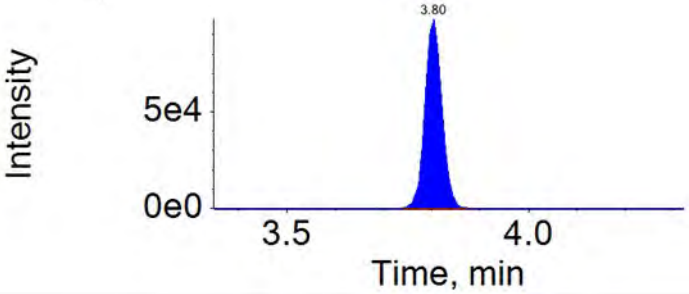
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

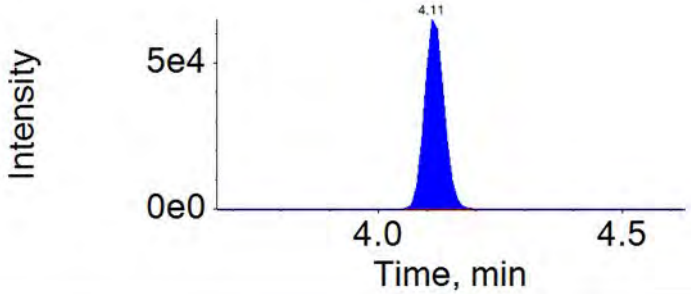
Component: PFBS
Primary Mass: 299.0 / 80.0



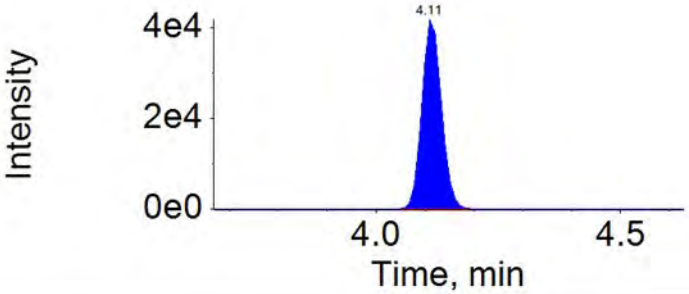
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



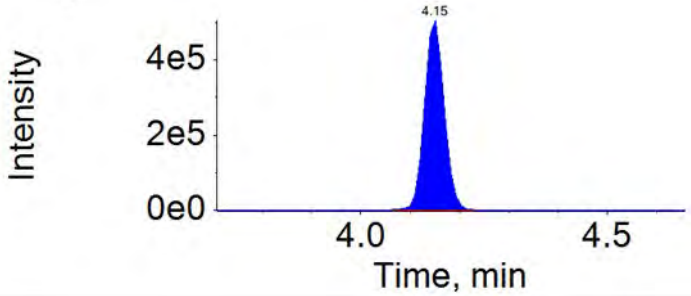
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



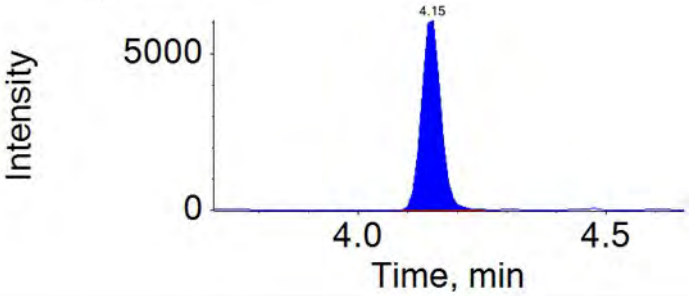
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



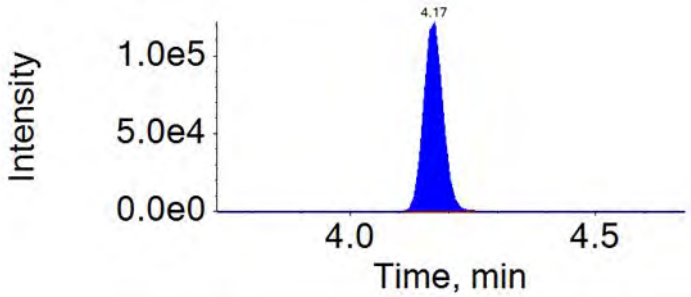
Component: PFHxA
Primary Mass: 313.0 / 269.0



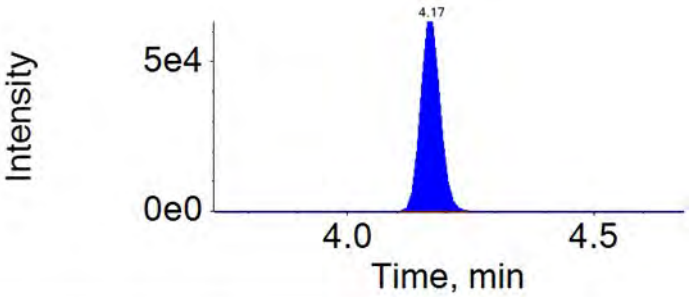
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



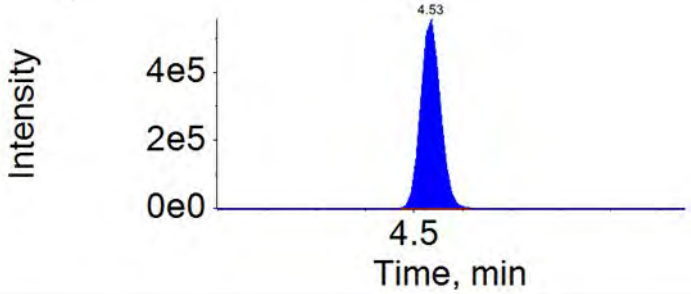
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



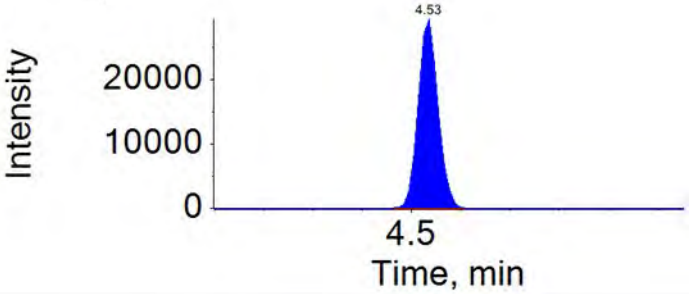
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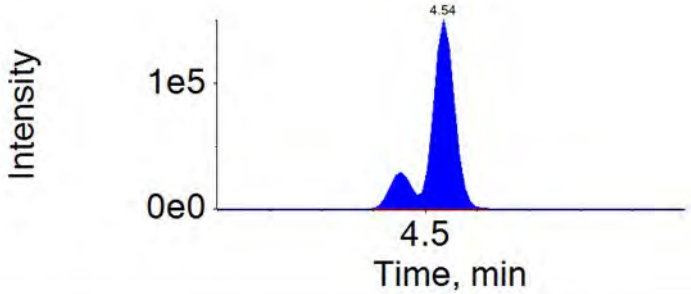
Component: PFHpA
Primary Mass: 363.0 / 319.0



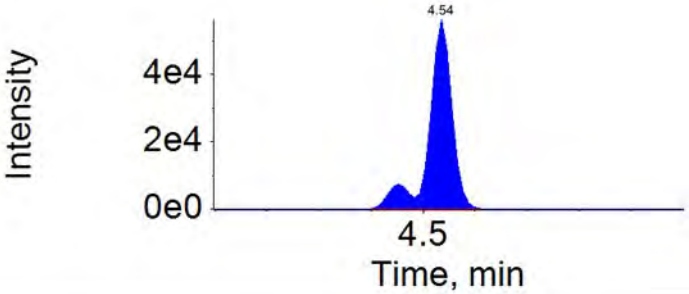
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



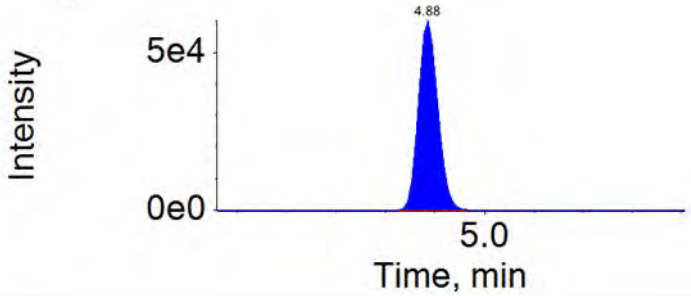
Component: PFHxS
Primary Mass: 399.0 / 80.0



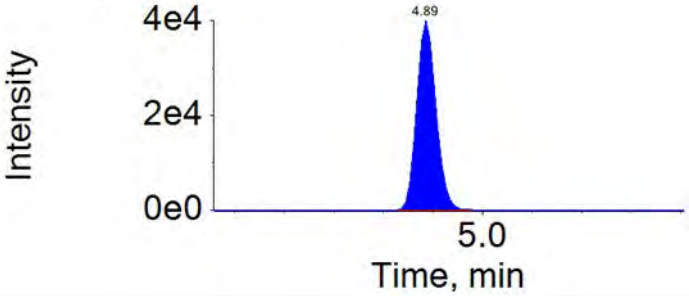
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



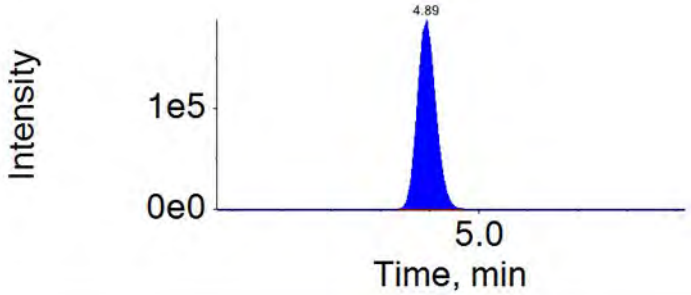
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



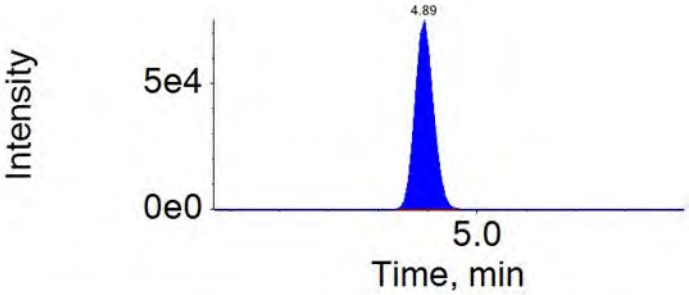
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



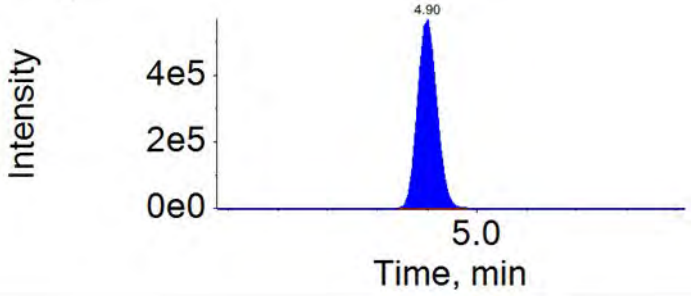
Component: PFHpS
Primary Mass: 449.0 / 80.0



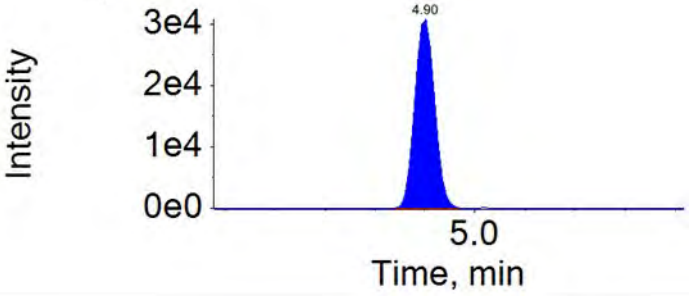
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



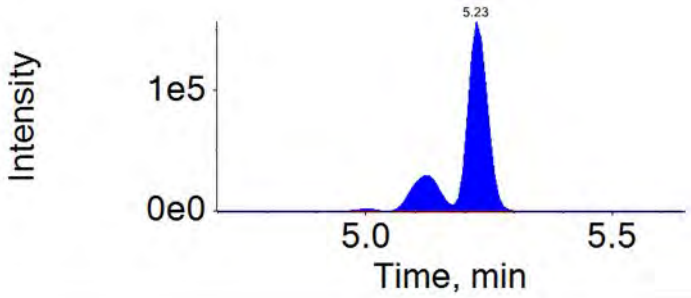
Component: PFOA
Primary Mass: 413.0 / 369.0



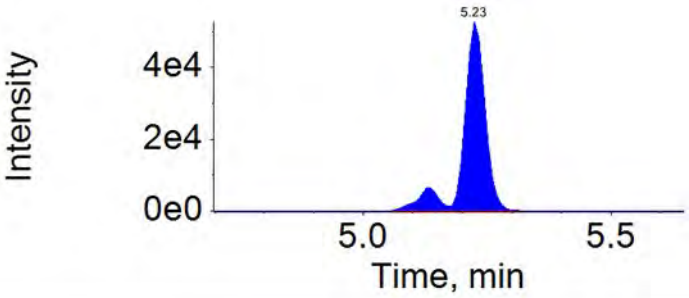
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



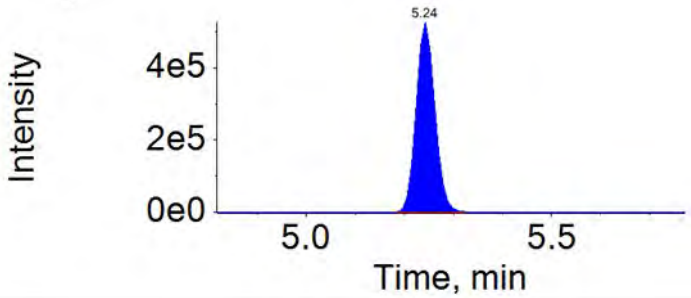
Component: PFOS
Primary Mass: 499.0 / 80.0



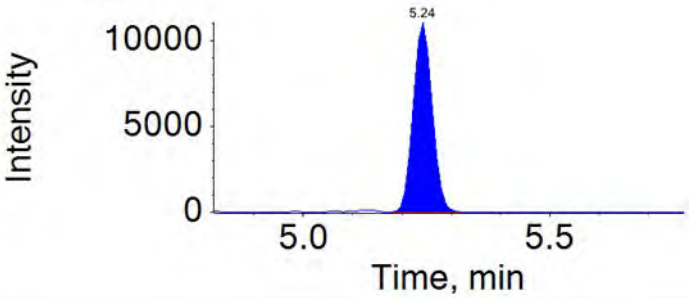
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Secondary Mass: 499.0 / 99.0



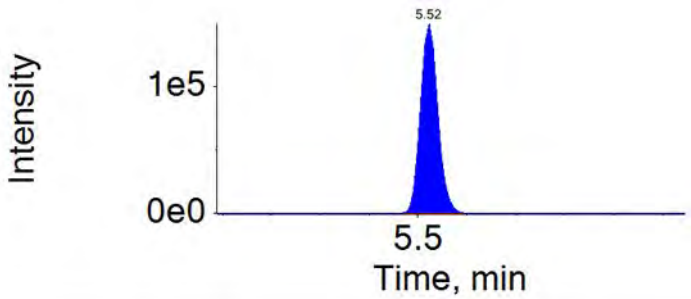
Component: PFNA
Primary Mass: 463.0 / 419.0



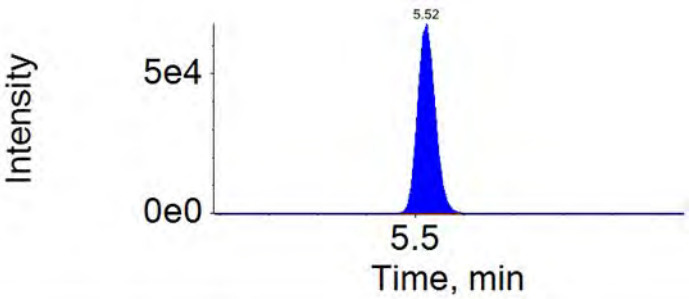
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



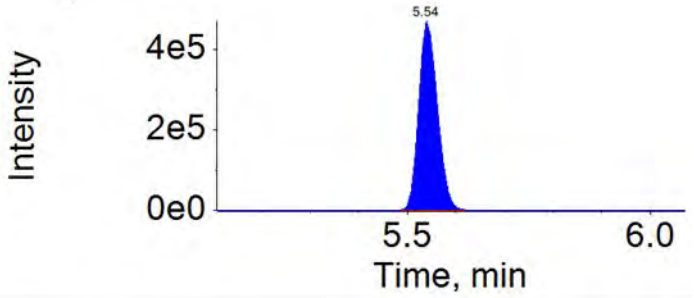
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



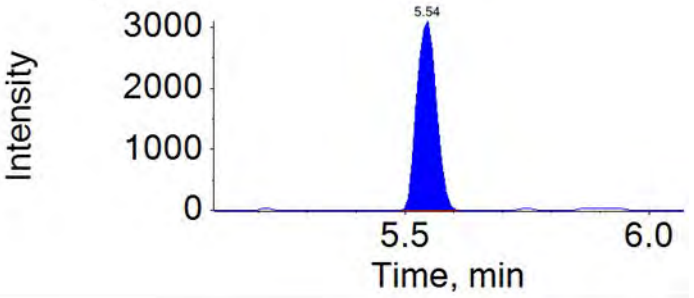
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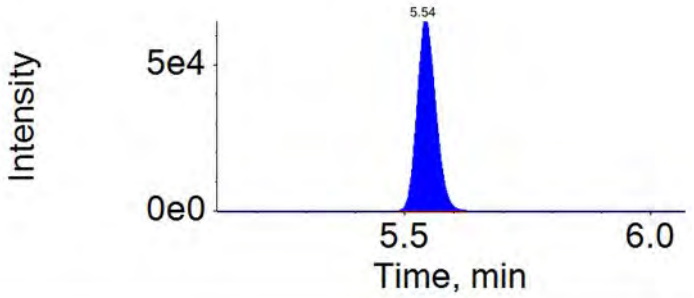
Component: PFDA
Primary Mass: 513.0 / 469.0



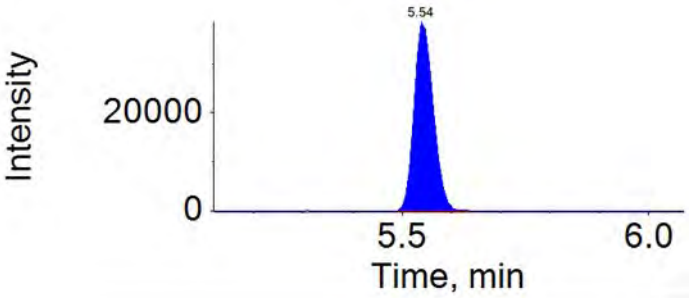
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



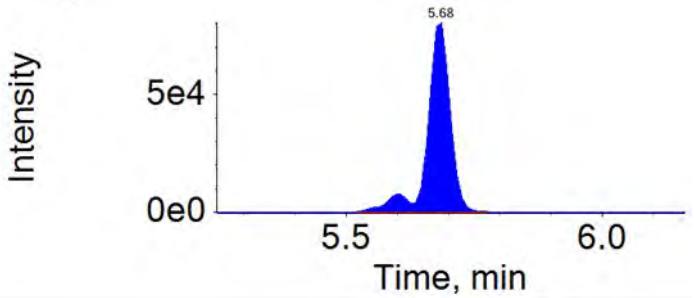
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



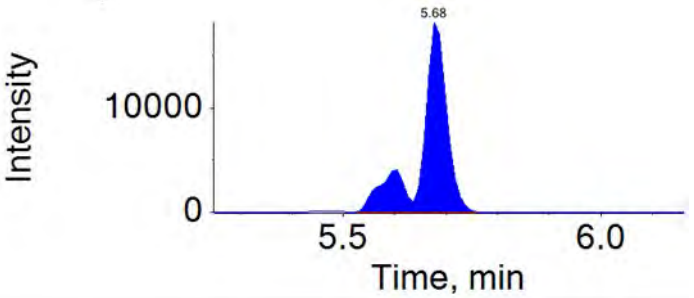
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



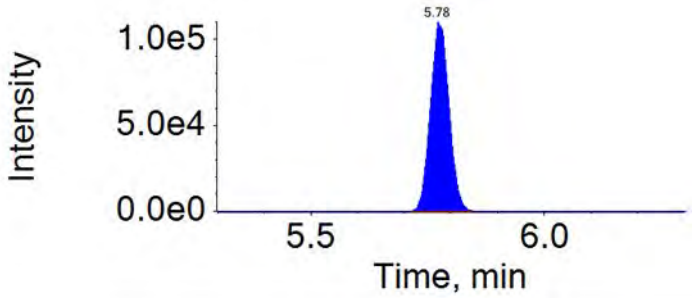
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



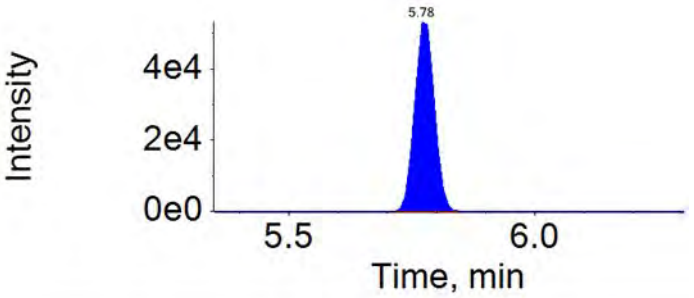
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



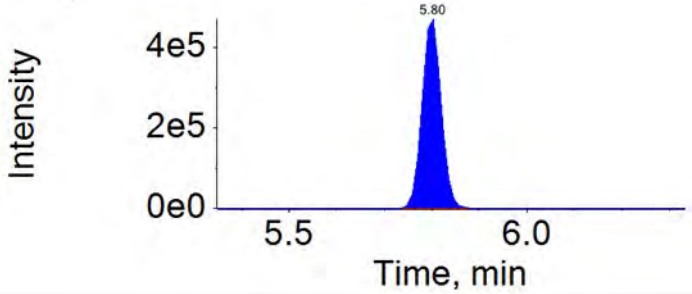
Component: PFDS
Primary Mass: 599.0 / 80.0



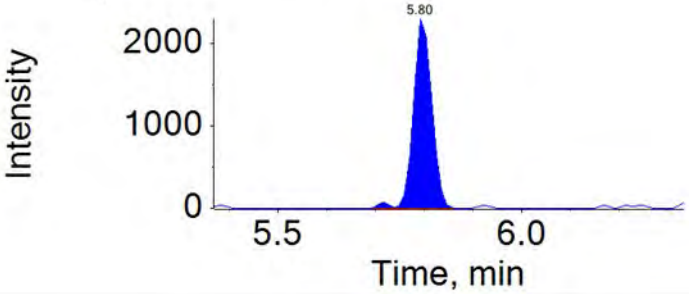
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



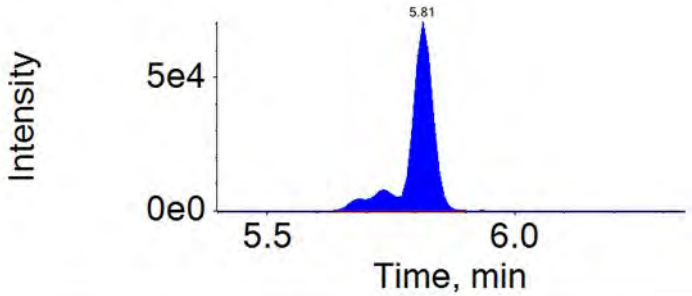
Component: PFUnDA
Primary Mass: 563.0 / 519.0



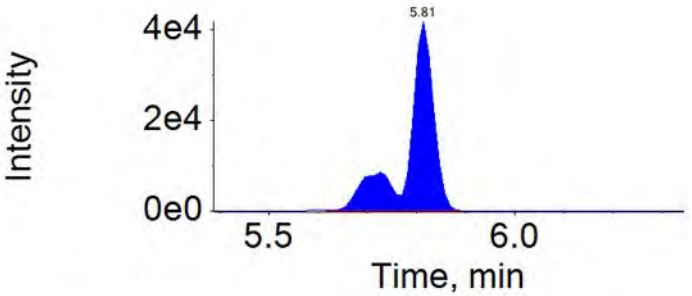
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



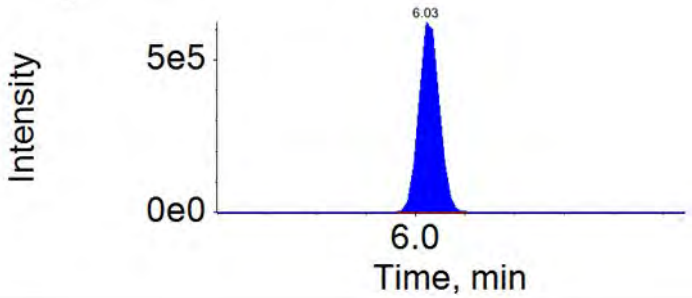
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



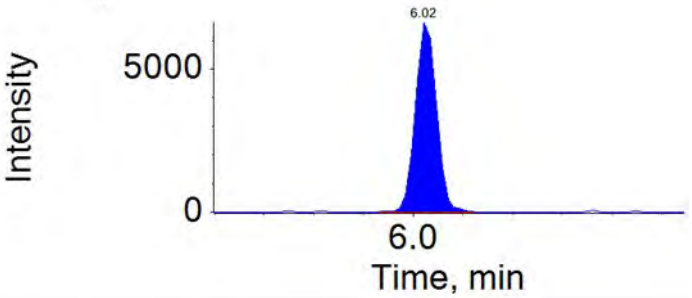
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Secondary Mass: 584.0 / 526.0



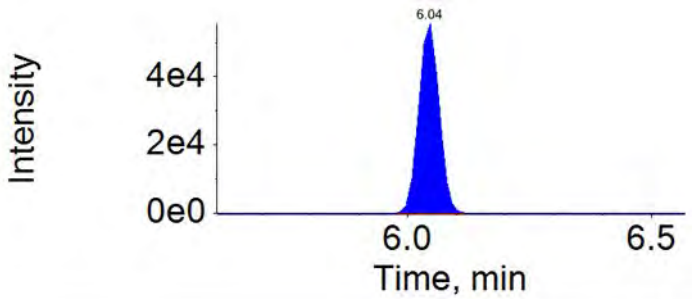
Component: PFDoDA
Primary Mass: 613.0 / 569.0



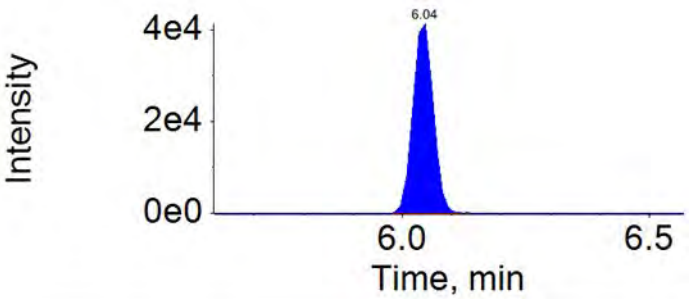
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



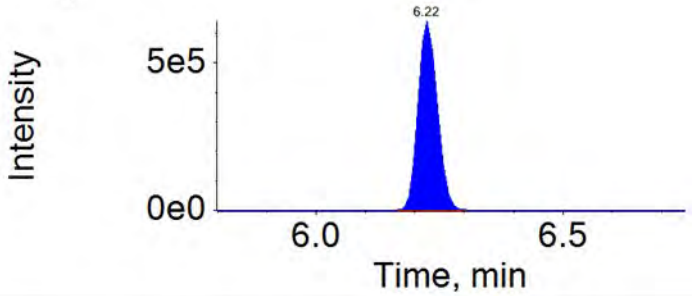
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



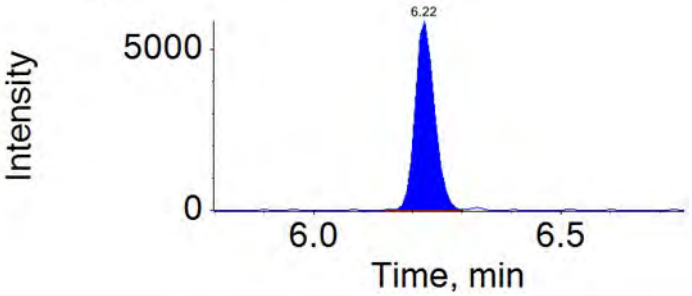
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



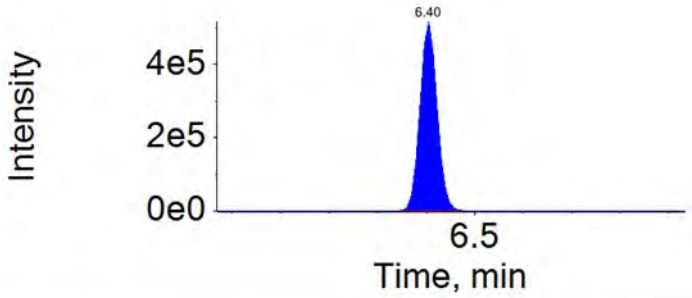
Component: PFTrDA
Primary Mass: 663.0 / 619.0



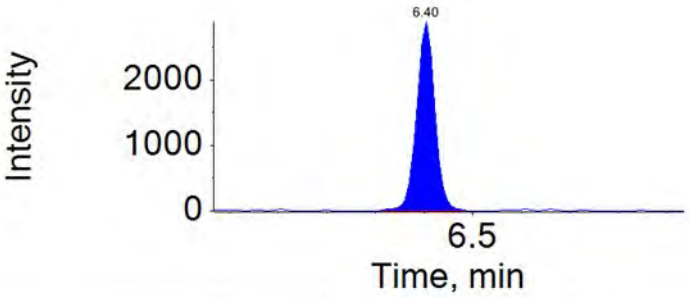
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



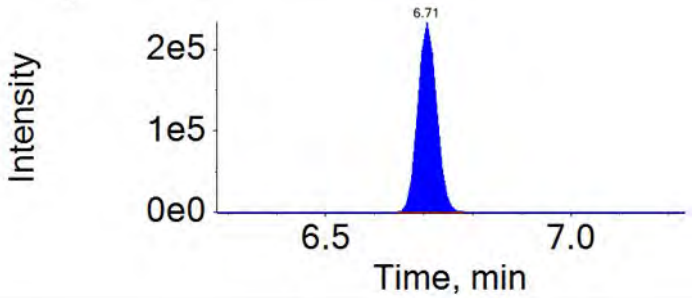
Component: PFTeDA
Primary Mass: 713.0 / 669.0



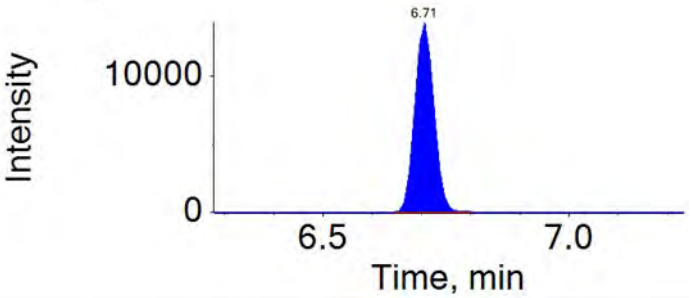
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



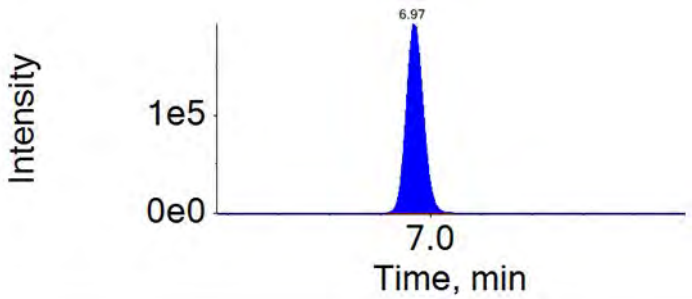
Component: PFHxDA
Primary Mass: 813.0 / 769.0



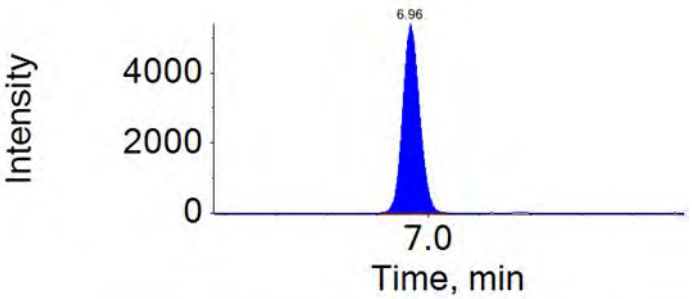
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



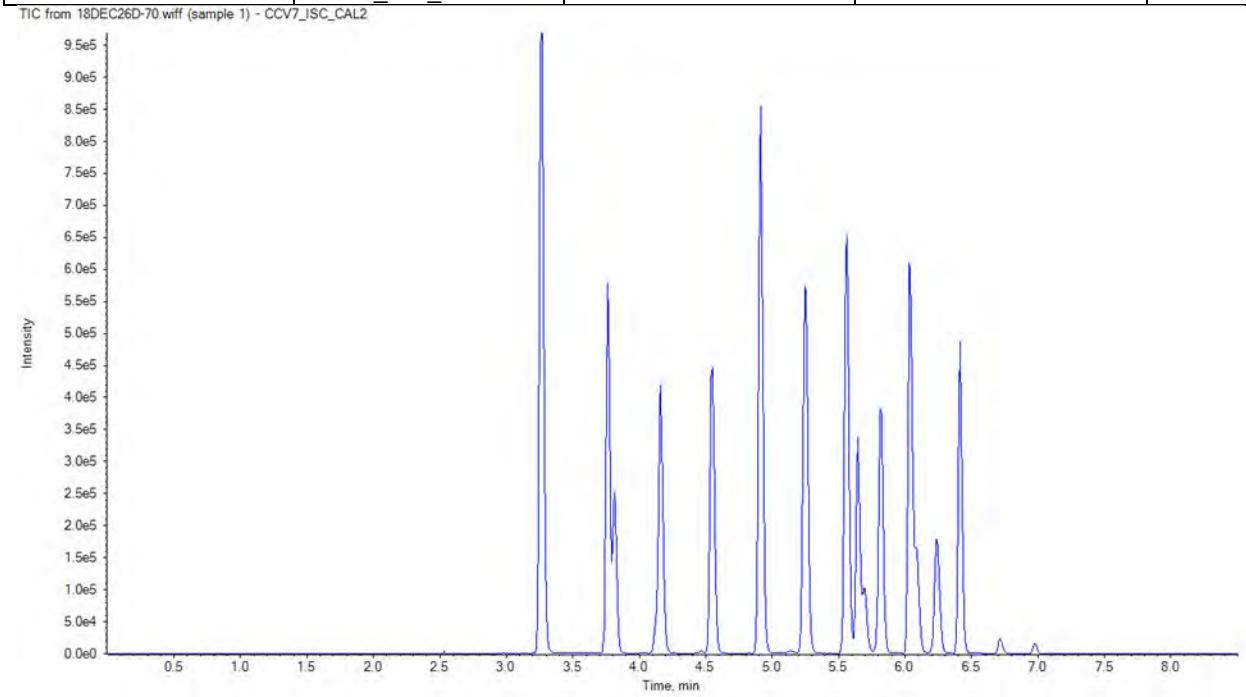
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALBRN21833C	18DEC26D-70.wiff	2018-12-27T01:43:44



Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	994378.6	965438.2	3	50	
13C2-PFOA	5.0	540473.9	527066.0	3	50	
13C4-PFOS	4.8	314384.7	307230.6	2	50	
13C2-PFDA	5.0	484599.8	493258.9	-2	50	

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALBRN21833C	18DEC26D-70.wiff	2018-12-27T01:43:44

Analyte Name	Analyte Area	Sc /pk	Ext Std Name	Ext Std Area	Ext Std con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	118130.8	10	13C4-PFBA	1119008.7	5.0	0.106	3.26	1.000	0.500	0.558	12	30	
PFPeA	110538.1	11	13C5-PFPeA	1051362.3	5.0	0.105	3.77	1.000	0.500	0.522	4	30	
PFBS	48245.0	10	13C3-PFBS	459256.8	4.7	0.105	3.81	1.000	0.443	0.521	18	30	
4:2-FTS	14363.9	11	13C2-4:2-FTS	69563.1	4.7	0.206	4.13	1.000	0.467	0.506	8	30	
PFHxA	106987.3	11	13C5-PFHxA	773533.8	5.0	0.138	4.16	1.000	0.500	0.568	14	30	
PFPeS	24376.6	11	13C3-PFBS	459256.8	4.7	0.053	4.18	1.100	0.469	0.534	14	30	
PFHpA	106162.7	11	13C4-PFHpA	574471.8	5.0	0.185	4.55	1.000	0.500	0.584	17	30	
PFHxS	37367.7	18	13C3-PFHxS	351990.5	4.7	0.106	4.55	1.000	0.474	0.496	5	30	
6:2-FTS	13575.7	11	13C2-6:2-FTS	53257.9	4.8	0.255	4.90	1.000	0.474	0.611	29	30	
PFHpS	35426.4	11	13C3-PFHxS	351990.5	4.7	0.101	4.91	1.080	0.476	0.527	11	30	
PFOA	112955.4	11	13C8-PFOA	1078223.5	5.0	0.105	4.91	1.000	0.500	0.554	11	30	
PFOS	39888.1	22	13C8-PFOS	352516.9	4.8	0.113	5.24	1.000	0.463	0.493	6	30	
PFNA	97247.4	11	13C9-PFNA	678451.7	5.0	0.143	5.26	1.000	0.500	0.576	15	30	
PFNS	24077.1	11	13C8-PFOS	352516.9	4.8	0.068	5.54	1.060	0.480	0.467	-3	30	
PFDA	92613.6	11	13C6-PFDA	874642.4	5.0	0.106	5.56	1.000	0.500	0.610	22	30	
8:2-FTS	13443.3	11	13C2-8:2-FTS	47324.2	4.8	0.284	5.56	1.000	0.479	0.561	17	30	
PFOSA	72990.2	11	13C8-PFOSA	640786.1	5.0	0.114	5.65	1.000	0.500	0.599	20	30	
NMeFOSAA	18457.7	17	d3-NMeFOSAA	198602.9	5.0	0.093	5.70	1.000	0.500	0.542	8	30	
PFDS	21241.1	11	13C8-PFOS	352516.9	4.8	0.060	5.79	1.100	0.482	0.497	3	30	
PFUnDA	101444.4	11	13C7-PFUnDA	618881.5	5.0	0.164	5.82	1.000	0.500	0.627	25	30	
NEtFOSAA	15767.0	21	d5-NEtFOSAA	164485.4	5.0	0.096	5.83	1.000	0.500	0.493	-1	30	
PFDoDA	126884.9	12	13C2-PFDoDA	1189730.3	5.0	0.107	6.04	1.000	0.500	0.544	9	30	
10:2-FTS	13103.9	12	13C2-8:2-FTS	47324.2	4.8	0.277	6.06	1.090	0.482	0.565	17	30	
NMePFOSAE	35758.5	11	d7-NMePFOSAE	255524.5	5.0	0.140	6.09	1.000	0.500	0.592	18	30	
NMePFOSA	9004.7	13	d3-NMePFOSA	86587.0	5.0	0.104	6.11	1.000	0.500	0.519	4	30	
PFDoS	10396.4	11	13C8-PFOS	352516.9	4.8	0.029	6.21	1.180	0.482	0.441	-9	30	
NEtPFOSAE	37039.5	11	d9-NEtPFOSAE	232220.3	5.0	0.160	6.25	1.000	0.500	0.528	6	30	
NEtPFOSA	6715.9	11	d5-NEtPFOSA	73536.9	5.0	0.091	6.26	1.000	0.500	0.429	-14	30	
PFTrDA	122932.7	11	13C2-PFDoDA	1189730.3	5.0	0.103	6.24	1.030	0.500	0.550	10	30	
PFTeDA	88639.9	10	13C2-PFTeDA	860058.6	5.0	0.103	6.41	1.000	0.500	0.586	17	30	
PFHxDA	48749.8	11	13C2-PFTeDA	860058.6	5.0	0.057	6.72	1.050	0.500	0.654	31	30	OOS
PFODA	33388.6	10	13C2-PFTeDA	860058.6	5.0	0.039	6.98	1.090	0.500	0.574	15	30	

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV7_ISC_CAL2			**Data File:**		18DEC26D-70.wiff
Sample ID:	CALBRN21833C			**Acquis Date:**		2018-12-27T01:43:44
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18DEC26DCCV1-10
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	N/A			**Operator:**		MM26157
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	994378.6	965438.2	3	50	
13C2-PFOA	5.0	540473.9	527066.0	3	50	
13C4-PFOS	4.8	314384.7	307230.6	2	50	
13C2-PFDA	5.0	484599.8	493258.9	-2	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1119008.7	13C3-PFBA	994378.6	1.125	5.000	4.993	100	70-130	
E13C5-PFPeA	1051362.3	13C3-PFBA	994378.6	1.057	5.000	5.036	101	70-130	
E13C3-PFBS	459256.8	13C3-PFBA	994378.6	0.462	4.650	4.487	96	70-130	
E13C2-4:2-FTS	69563.1	13C2-PFOA	540473.9	0.129	4.670	4.903	105	70-130	
E13C5-PFHxA	773533.8	13C2-PFOA	540473.9	1.431	5.000	5.236	105	70-130	
E13C3-PFHxS	351990.5	13C2-PFOA	540473.9	0.651	4.730	5.004	106	70-130	
E13C4-PFHpA	574471.8	13C2-PFOA	540473.9	1.063	5.000	4.789	96	70-130	
E13C2-6:2-FTS	53257.9	13C2-PFOA	540473.9	0.099	4.750	4.821	102	70-130	
E13C8-PFOA	1078223.5	13C2-PFOA	540473.9	1.995	5.000	5.590	112	70-130	
E13C8-PFOS	352516.9	13C4-PFOS	314384.7	1.121	4.780	4.888	102	70-130	
E13C9-PFNA	678451.7	13C4-PFOS	314384.7	2.158	5.000	4.754	95	70-130	
E13C6-PFDA	874642.4	13C2-PFDA	484599.8	1.805	5.000	5.182	104	70-130	
E13C2-8:2-FTS	47324.2	13C2-PFDA	484599.8	0.098	4.790	5.052	105	70-130	
E13C8-PFOSA	640786.1	13C2-PFDA	484599.8	1.322	5.000	5.282	106	70-130	
Ed3-NMeFOSAA	198602.9	13C2-PFDA	484599.8	0.410	5.000	5.230	105	70-130	
E13C7-PFUnDA	618881.5	13C2-PFDA	484599.8	1.277	5.000	5.518	110	70-130	
Ed5-NEtFOSAA	164485.4	13C2-PFDA	484599.8	0.339	5.000	5.881	118	70-130	
E13C2-PFDoDA	1189730.3	13C2-PFDA	484599.8	2.455	5.000	5.325	107	70-130	
Ed7-NMePFOSAE	255524.5	13C2-PFDA	484599.8	0.527	5.000	4.985	100	70-130	
Ed3-NMePFOSA	86587.0	13C2-PFDA	484599.8	0.179	5.000	5.065	101	70-130	
Ed9-NEtPFOSAE	232220.3	13C2-PFDA	484599.8	0.479	5.000	5.214	104	70-130	
Ed5-NEtPFOSA	73536.9	13C2-PFDA	484599.8	0.152	5.000	5.356	107	70-130	
E13C2-PFTeDA	860058.6	13C2-PFDA	484599.8	1.775	5.000	5.234	105	70-130	

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

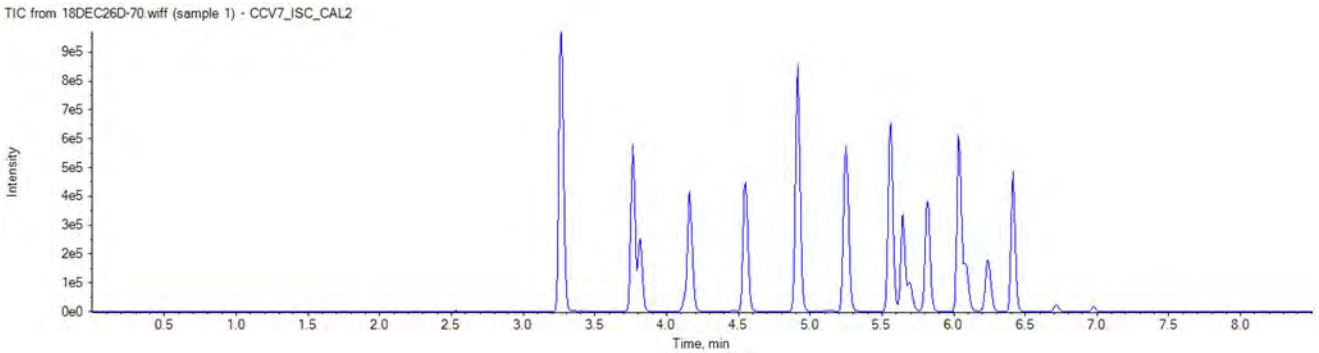
Analyte Quantitation Peak Table

Sample Name: CCV7_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26D-70.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

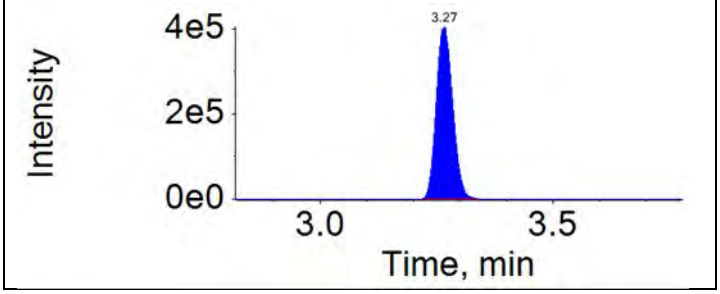
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	118130.8		A	13C4-PFBA	3.26	1119008.7	0.106	0.558
PFPeA	3.77	1.000	110538.1		A	13C5-PFPeA	3.77	1051362.3	0.105	0.522
PFBS	3.81	1.000	48245.0		A	13C3-PFBS	3.82	459256.8	0.105	0.521
4:2-FTS	4.13	1.000	14363.9		A	13C2-4:2-FTS	4.13	69563.1	0.206	0.506
PFHxA	4.16	1.000	106987.3		A	13C5-PFHxA	4.16	773533.8	0.138	0.568
PFPeS	4.18	1.100	24376.6		A	13C3-PFBS	3.82	459256.8	0.053	0.534
PFHpA	4.55	1.000	106162.7		A	13C4-PFHpA	4.55	574471.8	0.185	0.584
PFHxS	4.55	1.000	37367.7		M	13C3-PFHxS	4.55	351990.5	0.106	0.496
6:2-FTS	4.90	1.000	13575.7		A	13C2-6:2-FTS	4.90	53257.9	0.255	0.611
PFHpS	4.91	1.080	35426.4		A	13C3-PFHxS	4.55	351990.5	0.101	0.527
PFOA	4.91	1.000	112955.4		A	13C8-PFOA	4.91	1078223.5	0.105	0.554
PFOS	5.24	1.000	39888.1		M	13C8-PFOS	5.24	352516.9	0.113	0.493
PFNA	5.26	1.000	97247.4		A	13C9-PFNA	5.26	678451.7	0.143	0.576
PFNS	5.54	1.060	24077.1		A	13C8-PFOS	5.24	352516.9	0.068	0.467
PFDA	5.56	1.000	92613.6		A	13C6-PFDA	5.56	874642.4	0.106	0.610
8:2-FTS	5.56	1.000	13443.3		A	13C2-8:2-FTS	5.56	47324.2	0.284	0.561
PFOSA	5.65	1.000	72990.2		A	13C8-PFOSA	5.65	640786.1	0.114	0.599
NMeFOSAA	5.70	1.000	18457.7		M	d3-NMeFOSAA	5.70	198602.9	0.093	0.542
PFDS	5.79	1.100	21241.1		A	13C8-PFOS	5.24	352516.9	0.060	0.497
PFUnDA	5.82	1.000	101444.4		A	13C7-PFUnDA	5.82	618881.5	0.164	0.627
NEtFOSAA	5.83	1.000	15767.0		M	d5-NEtFOSAA	5.83	164485.4	0.096	0.493
PFDoDA	6.04	1.000	126884.9		A	13C2-PFDoDA	6.04	1189730.3	0.107	0.544
10:2-FTS	6.06	1.090	13103.9		A	13C2-8:2-FTS	5.56	47324.2	0.277	0.565
NMePFOSAE	6.09	1.000	35758.5		A	d7-NMePFOSAE	6.08	255524.5	0.140	0.592
NMePFOSA	6.11	1.000	9004.7		A	d3-NMePFOSA	6.10	86587.0	0.104	0.519
PFDoS	6.21	1.180	10396.4		A	13C8-PFOS	5.24	352516.9	0.029	0.441
NEtPFOSAE	6.25	1.000	37039.5		A	d9-NEtPFOSAE	6.24	232220.3	0.160	0.528
NEtPFOSA	6.26	1.000	6715.9		A	d5-NEtPFOSA	6.26	73536.9	0.091	0.429
PFTrDA	6.24	1.030	122932.7		A	13C2-PFDoDA	6.04	1189730.3	0.103	0.550
PFTeDA	6.41	1.000	88639.9		A	13C2-PFTeDA	6.41	860058.6	0.103	0.586
PFHxDA	6.72	1.050	48749.8		A	13C2-PFTeDA	6.41	860058.6	0.057	0.654
PFODA	6.98	1.090	33388.6		A	13C2-PFTeDA	6.41	860058.6	0.039	0.574

Total Ion Chromatogram

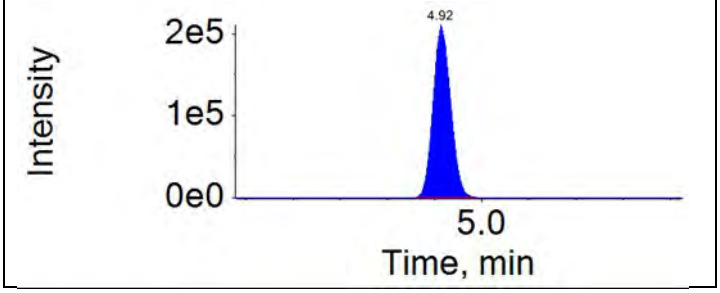


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

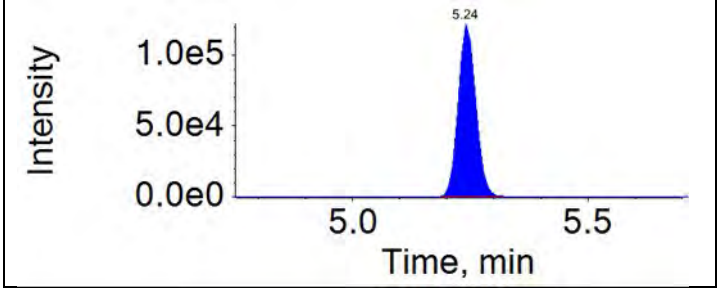
Injection Standard: 13C3-PFBA
216.0 / 172.0



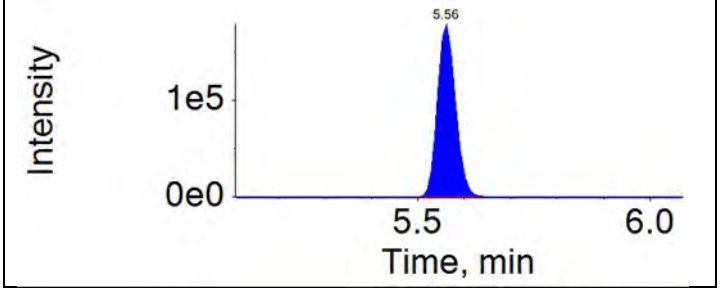
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

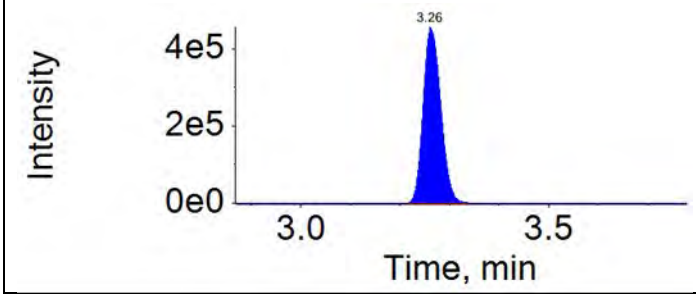


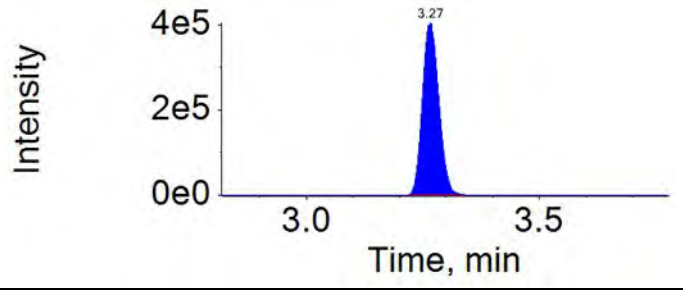
Injection Standard: 13C2-PFDA
515.0 / 470.0



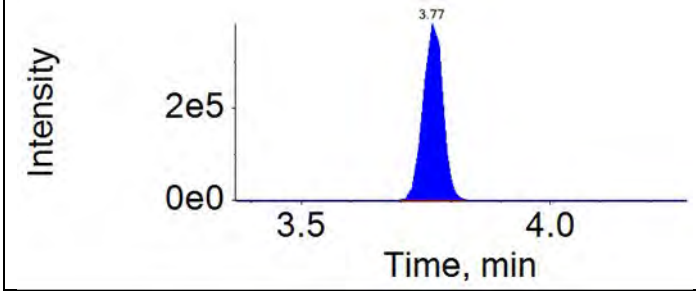
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

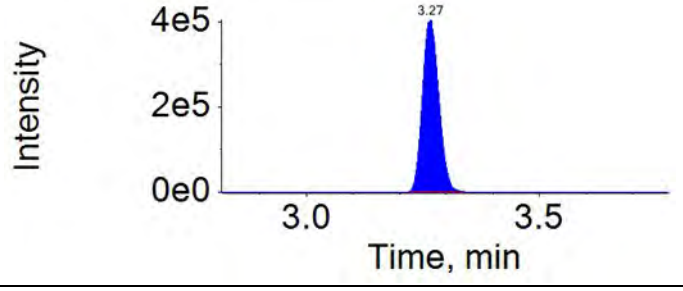
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



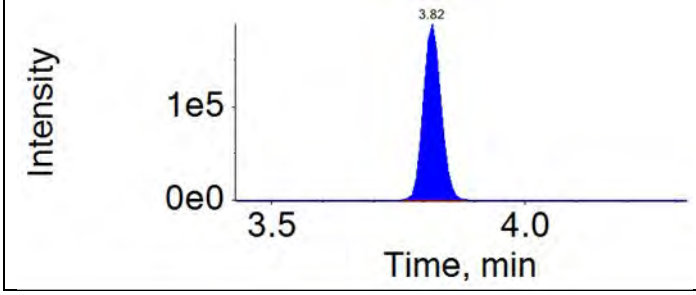


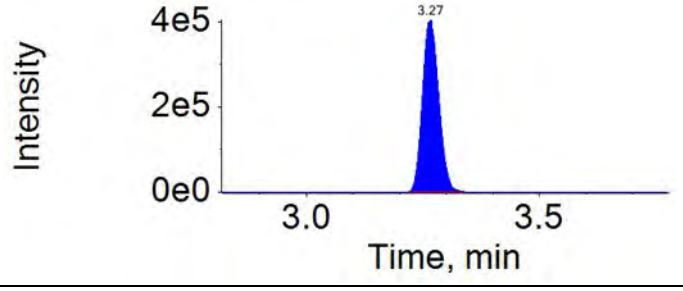
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



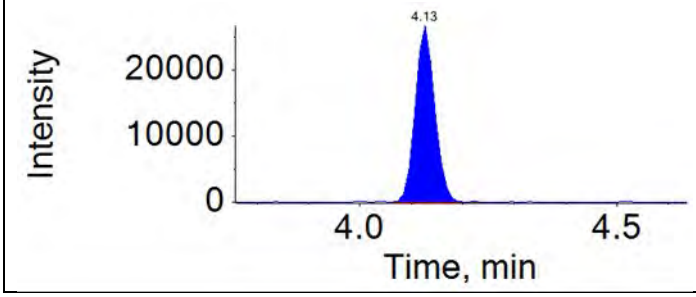


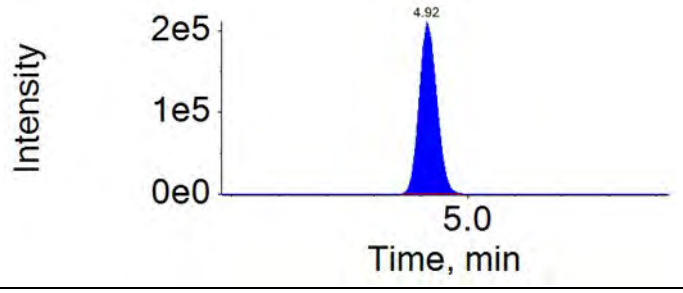
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





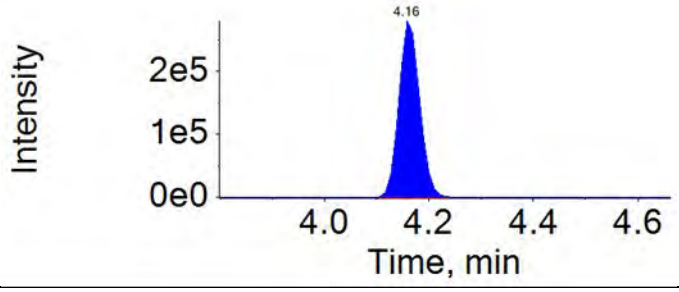
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

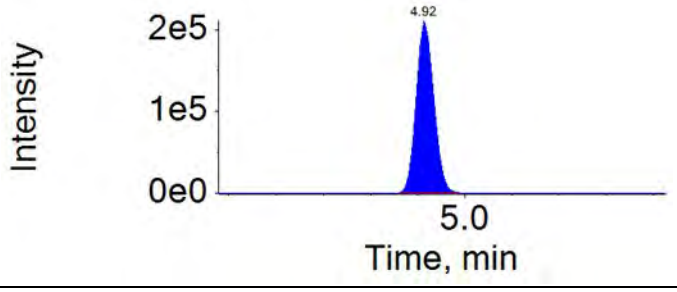




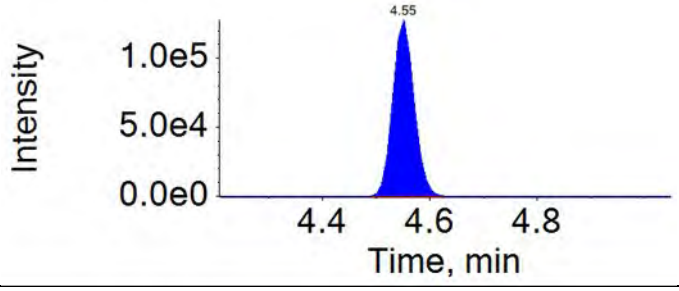
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

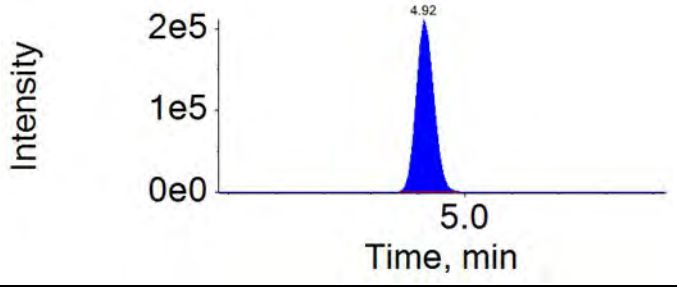
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



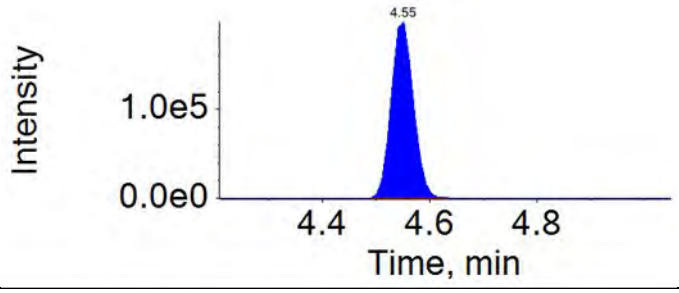


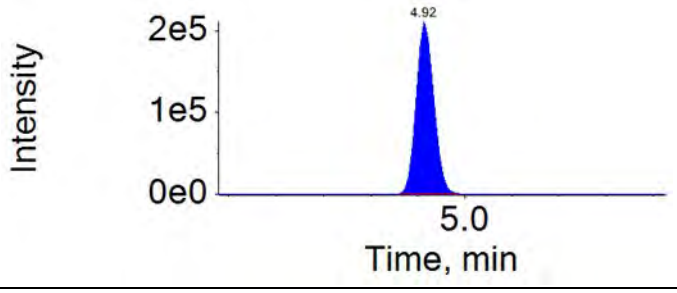
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



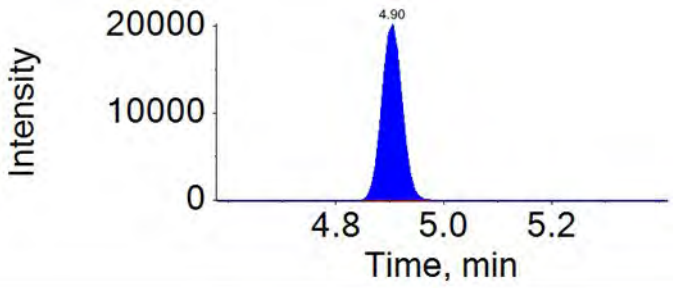


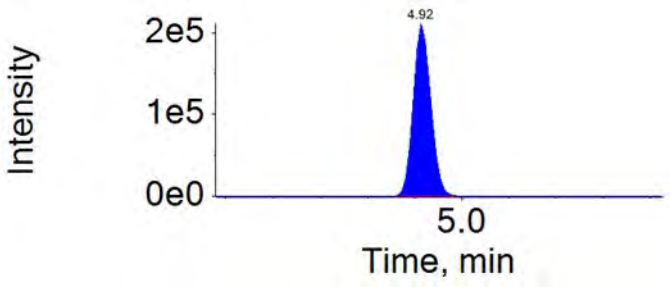
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



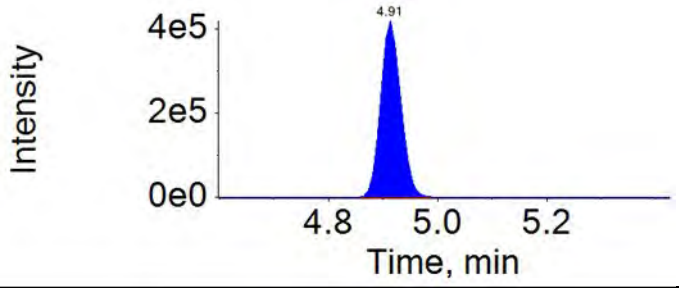
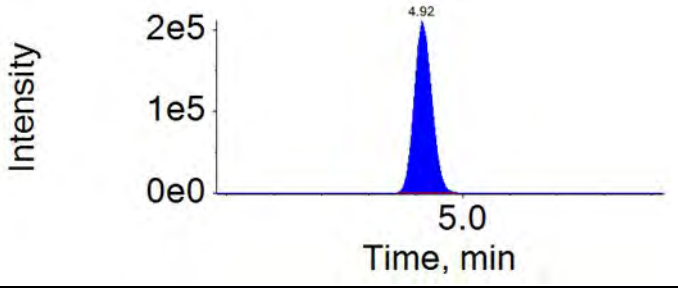


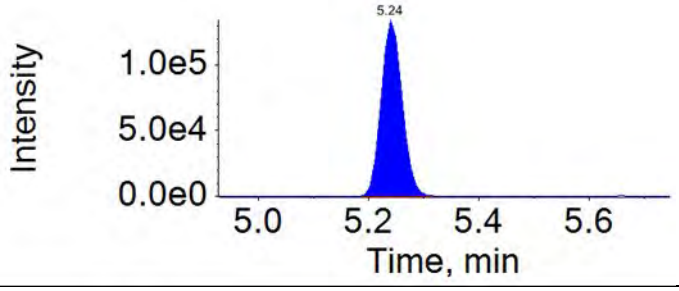
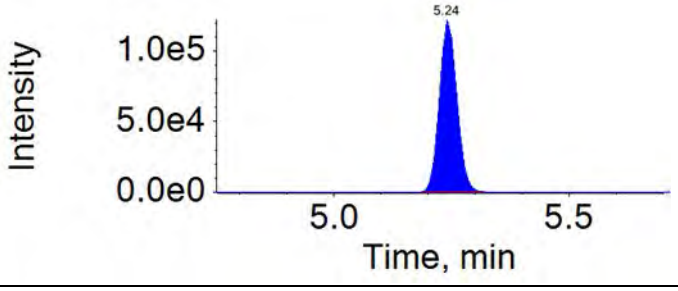
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

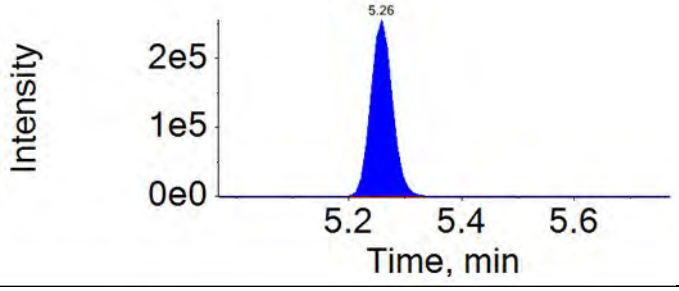
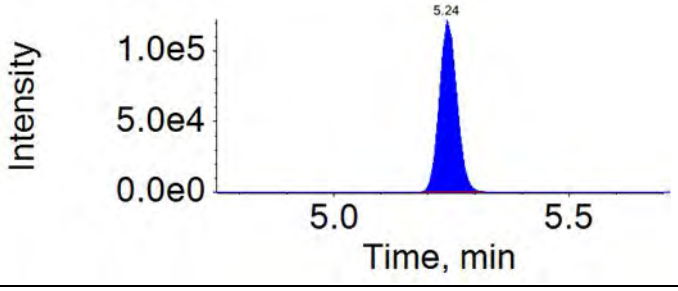


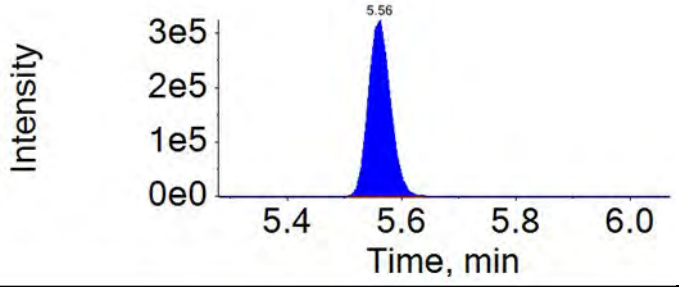
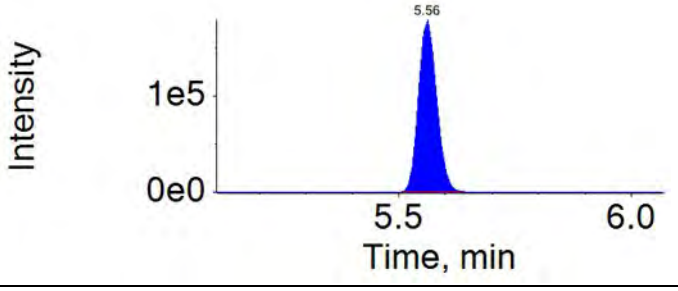


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

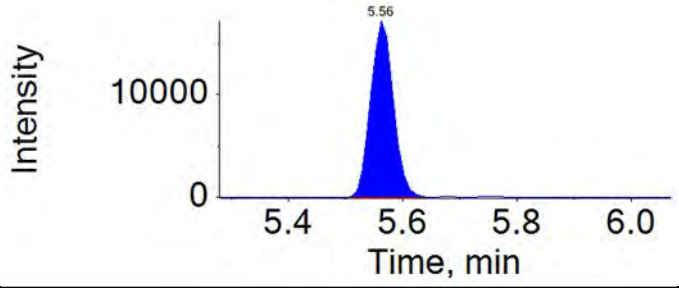
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

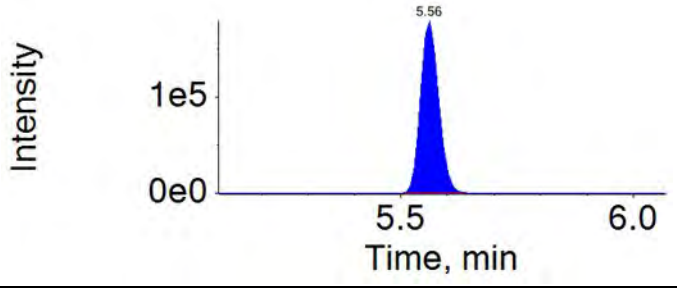
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

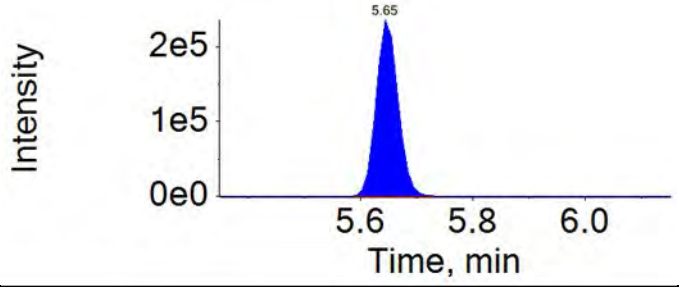
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

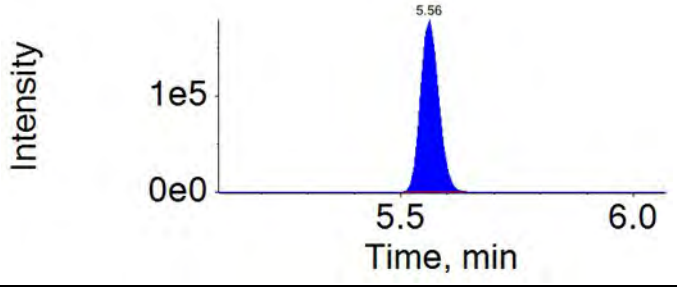
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



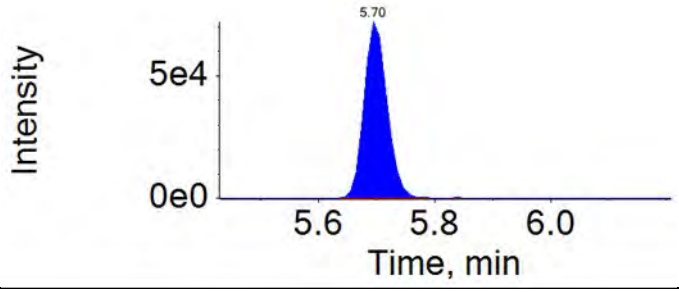


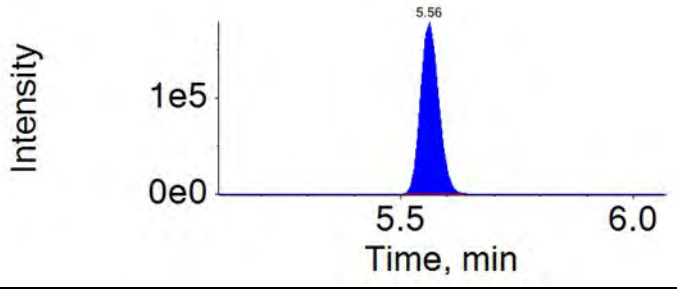
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



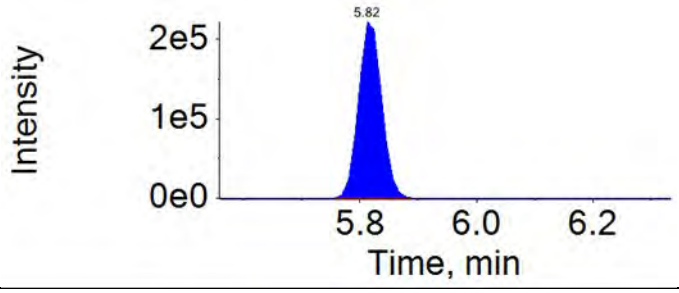


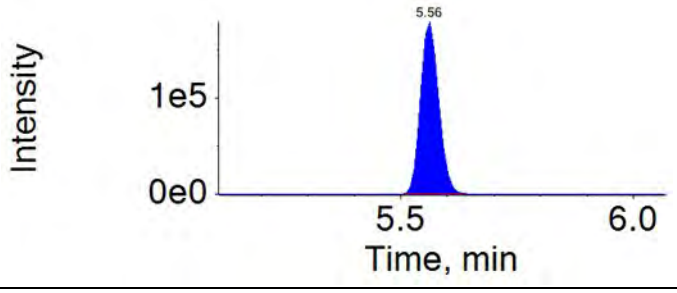
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





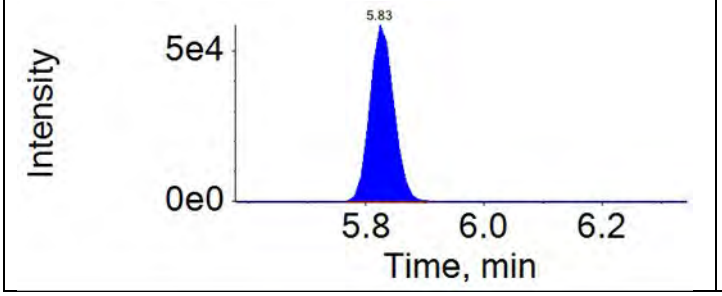
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

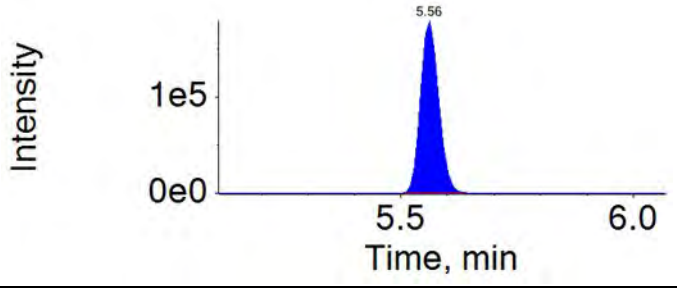




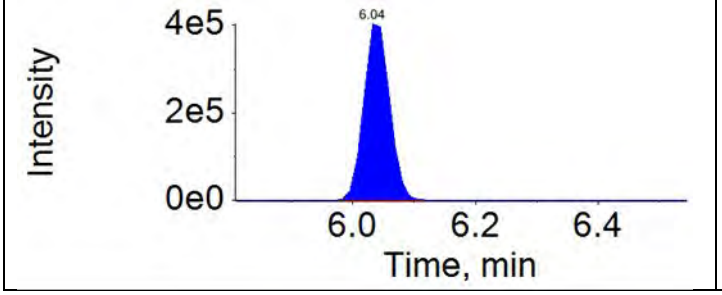
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

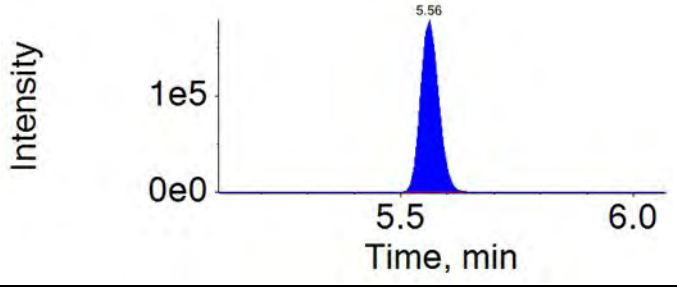
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



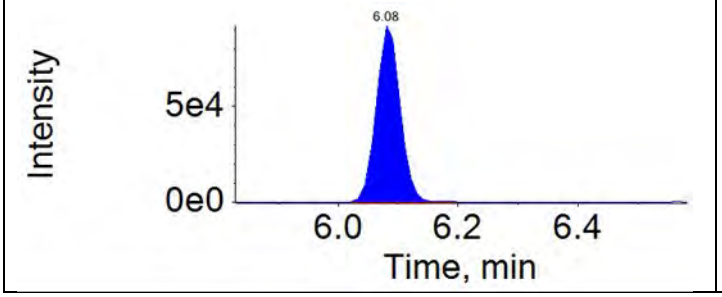


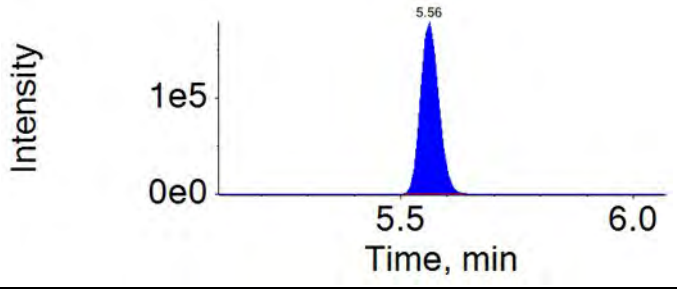
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



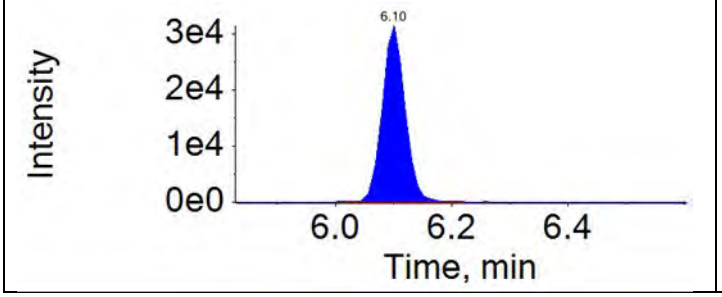


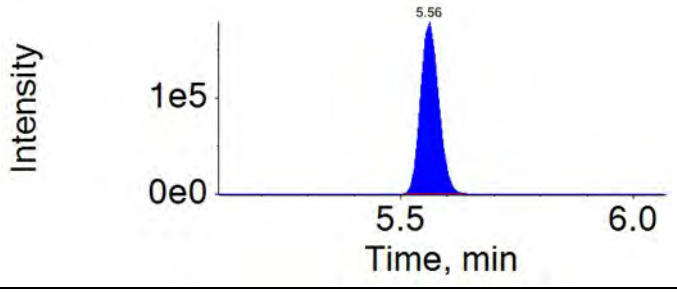
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





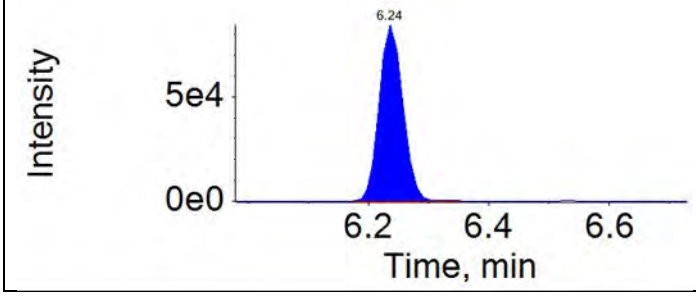
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

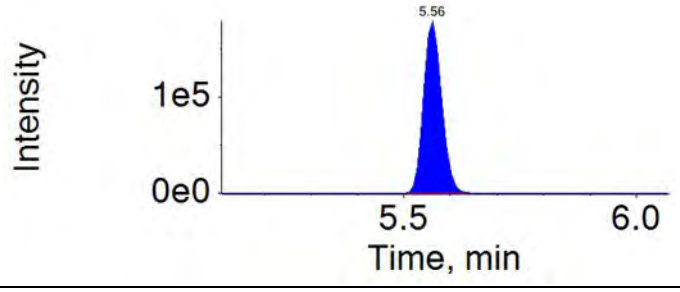




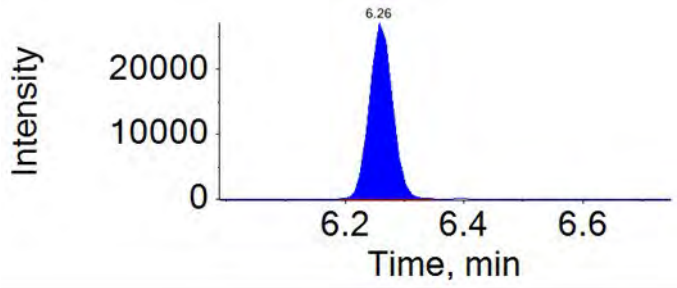
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

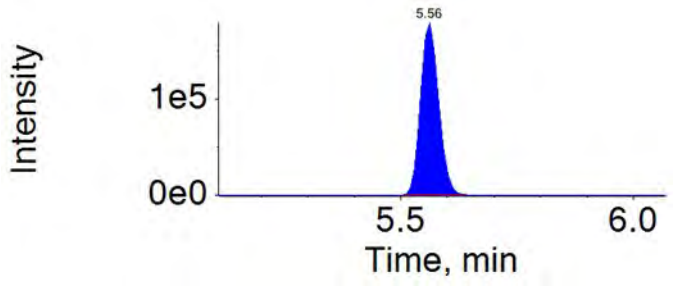
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



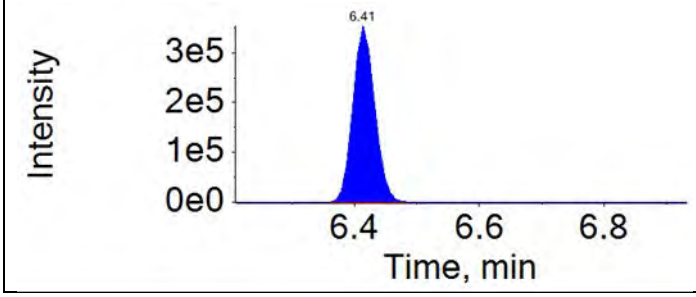


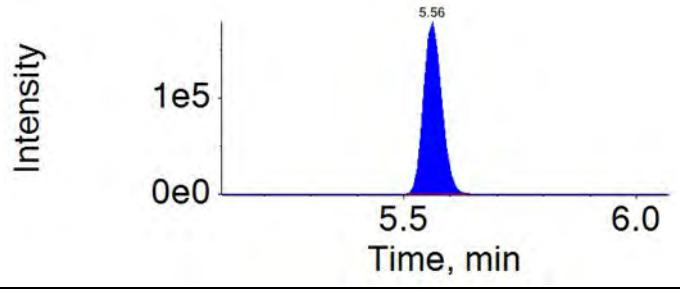
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0



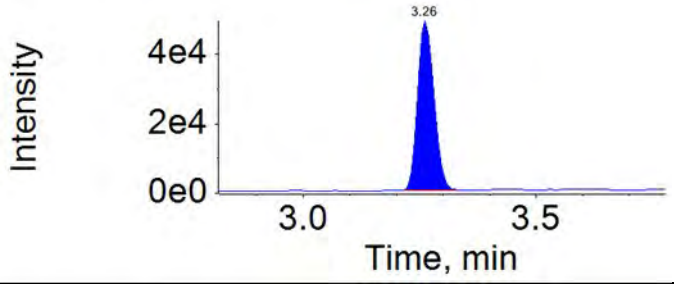
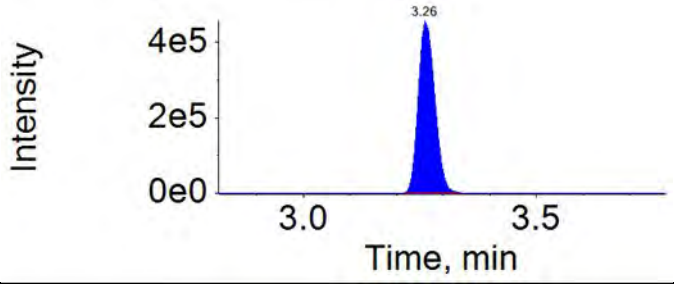


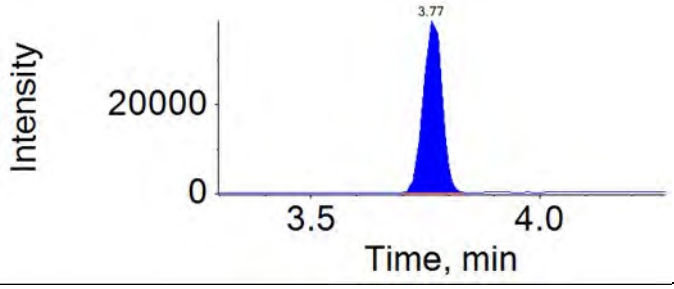
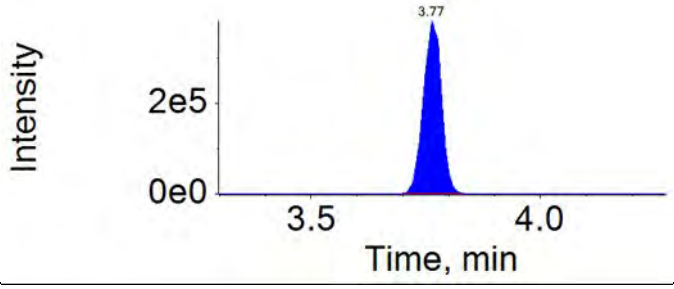
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

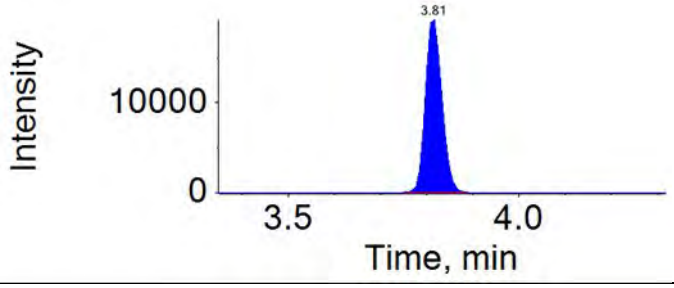
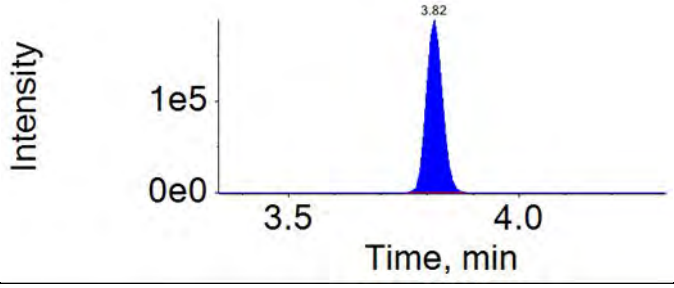


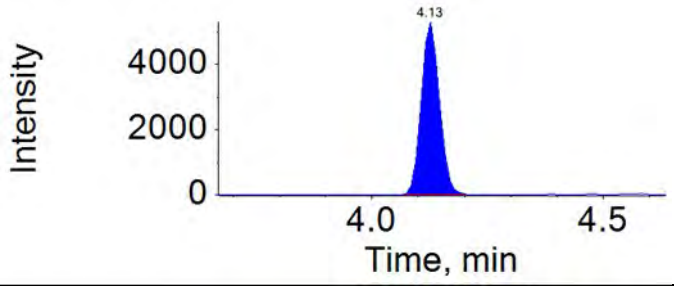
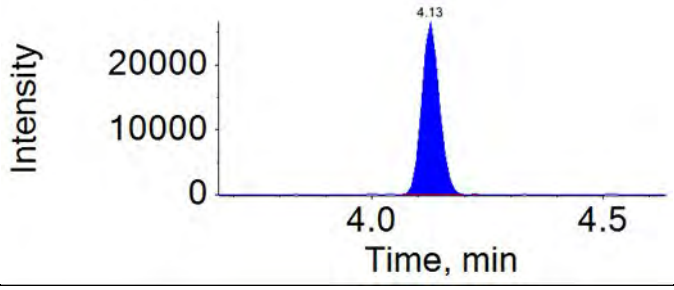


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

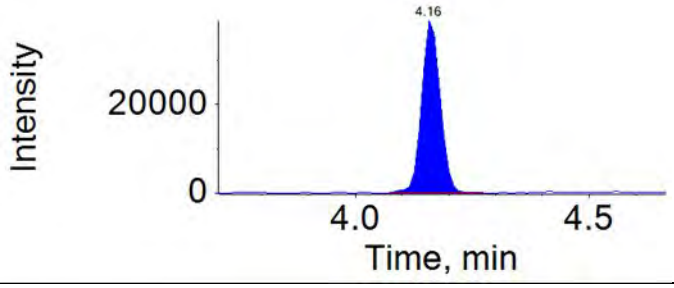
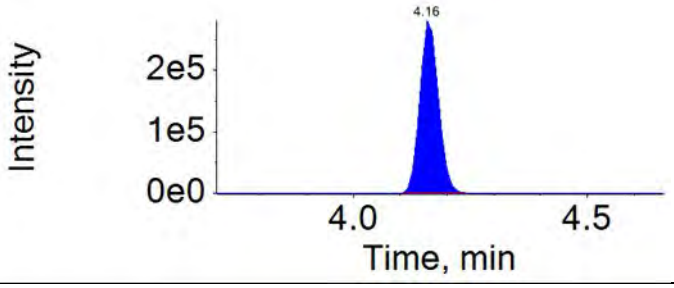
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

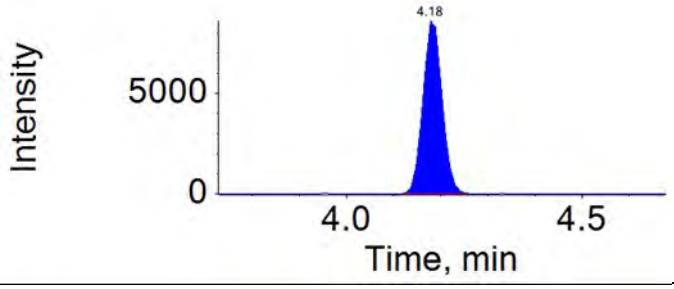
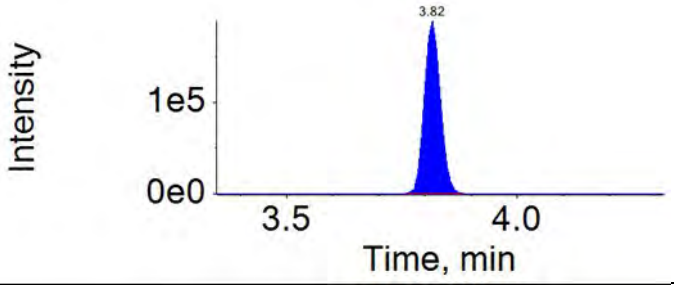
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

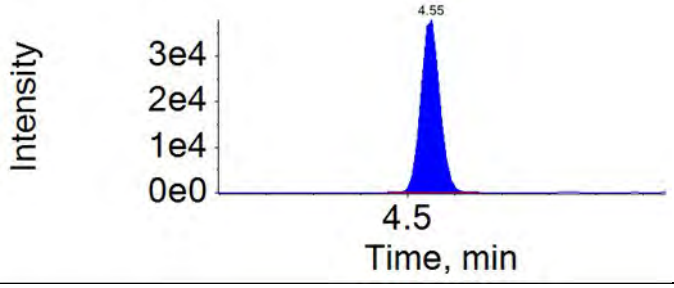
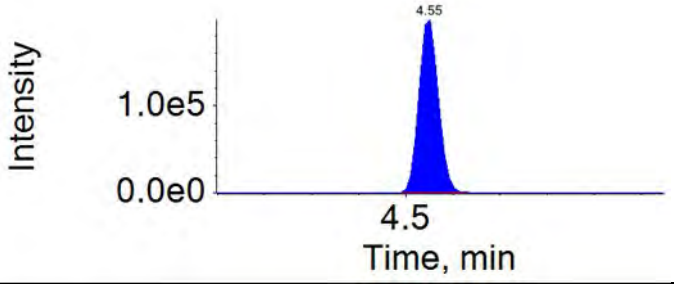
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

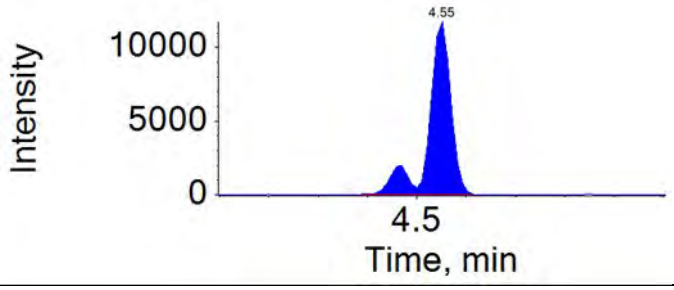
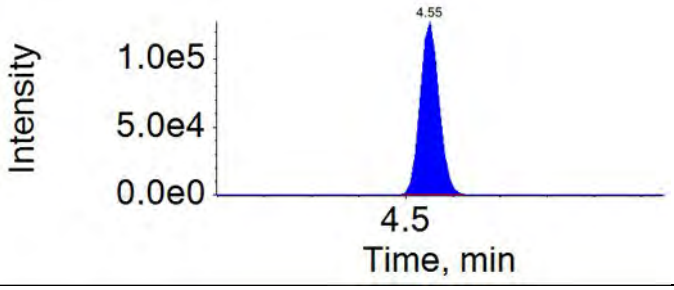
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

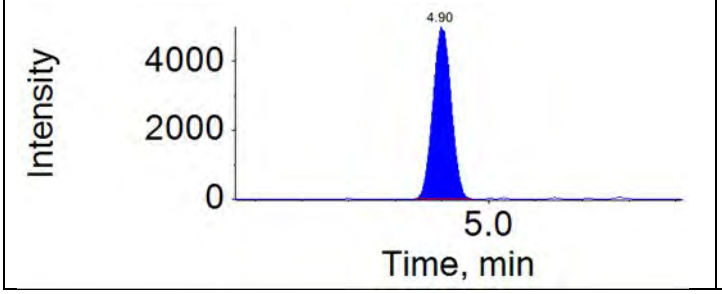
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

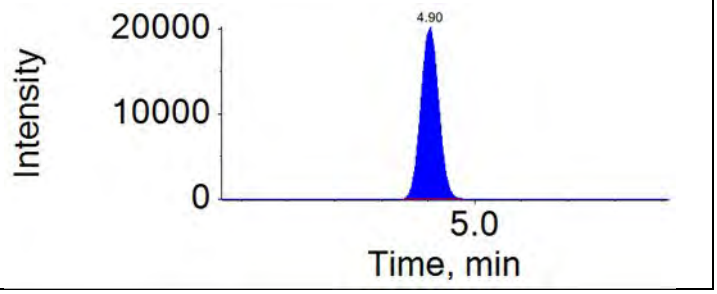
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

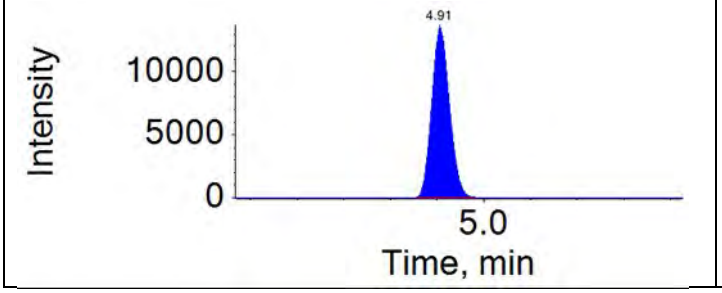
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

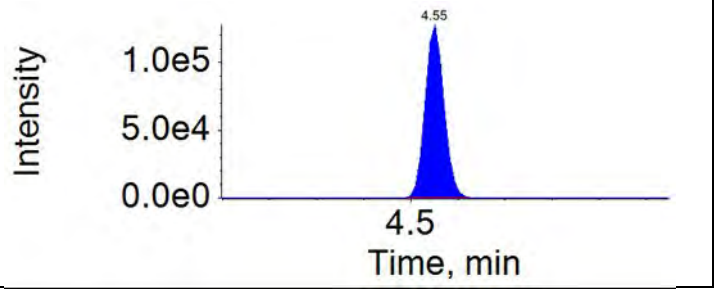
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



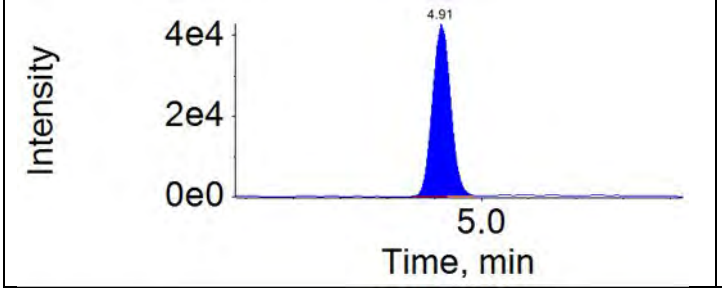


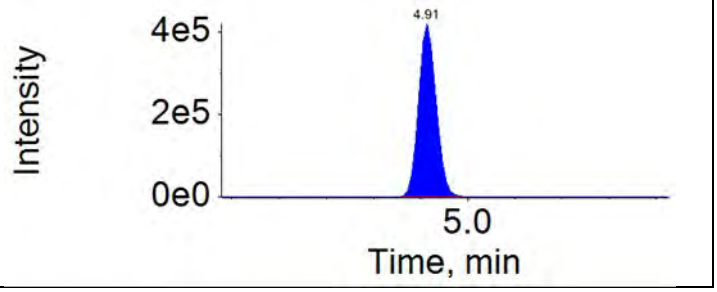
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



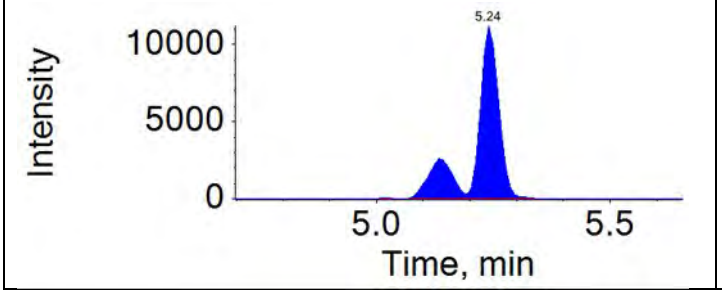


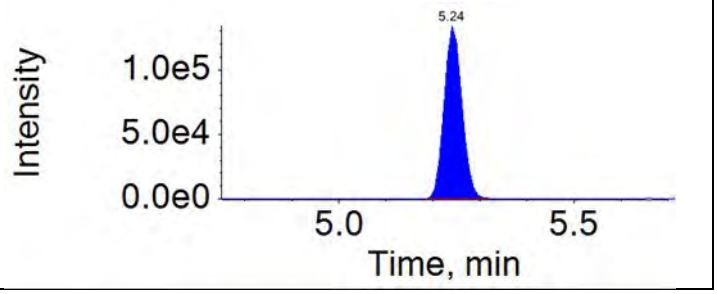
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





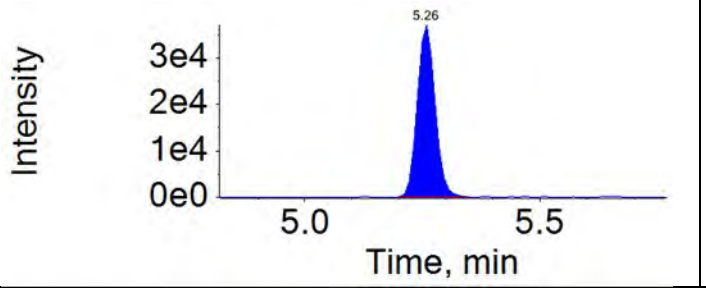
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

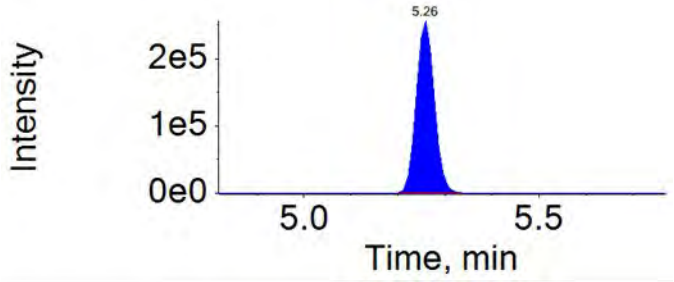




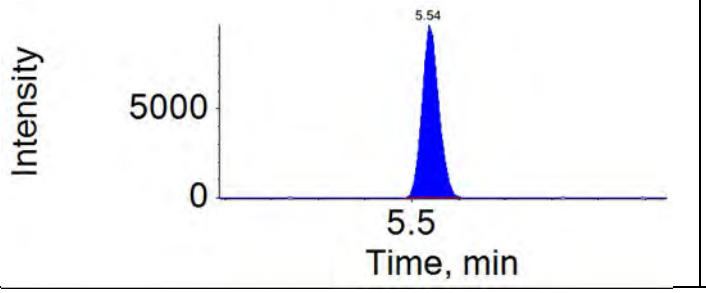
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

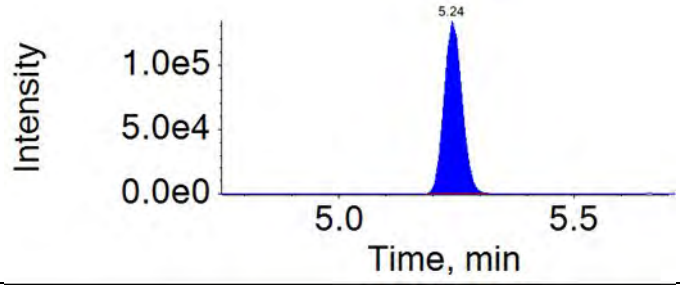
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



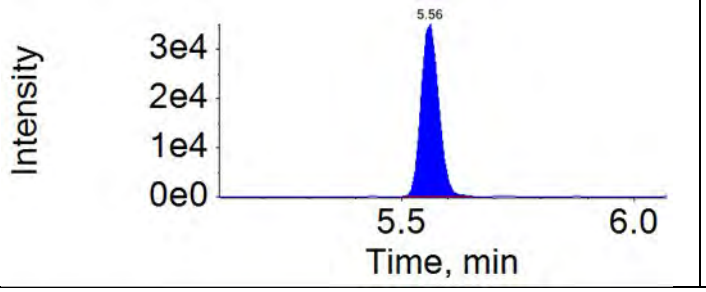


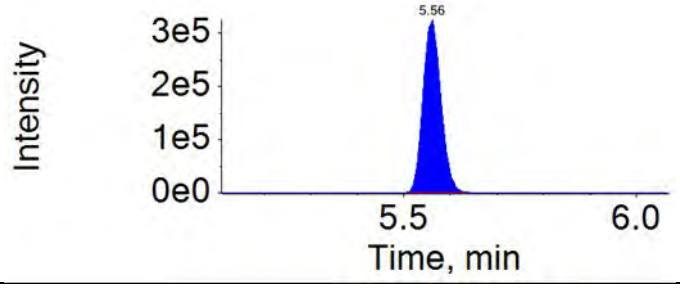
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



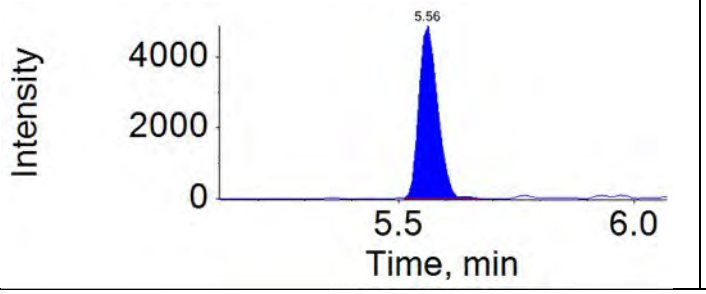


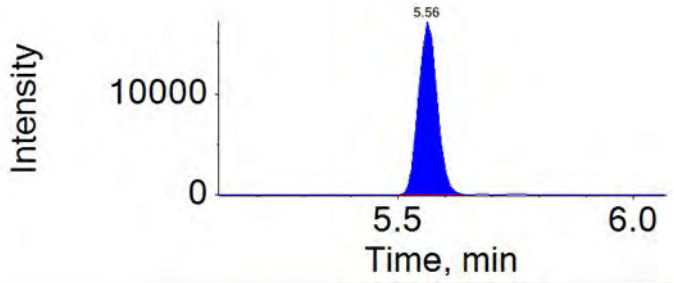
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





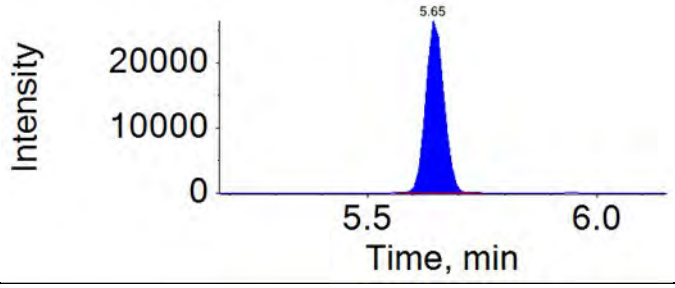
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

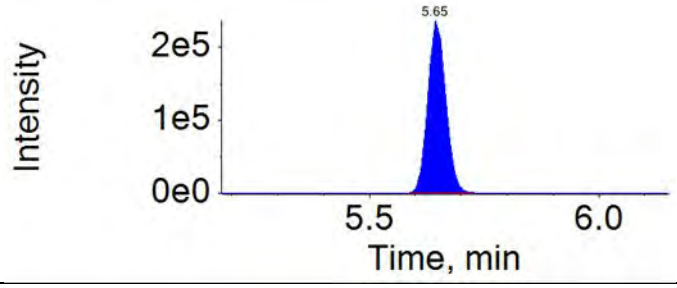




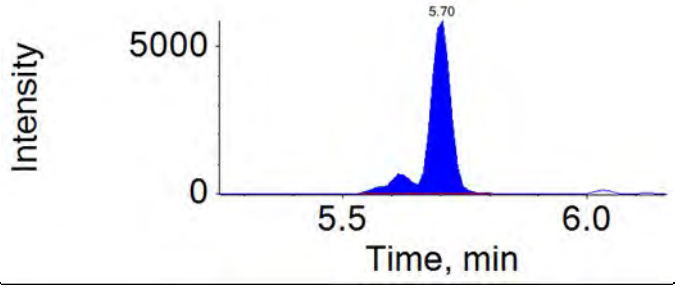
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

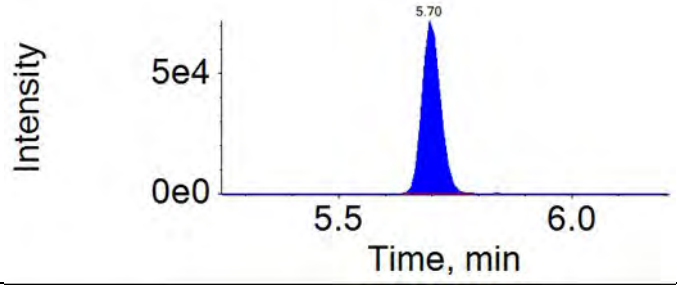
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



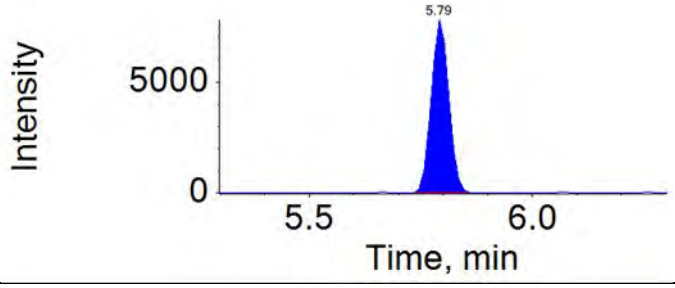


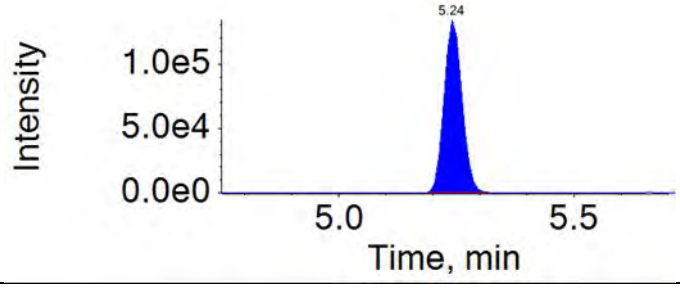
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



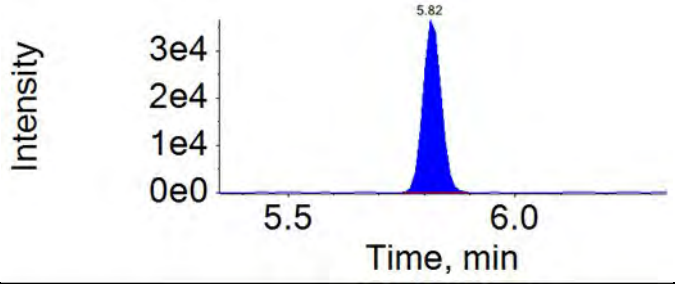


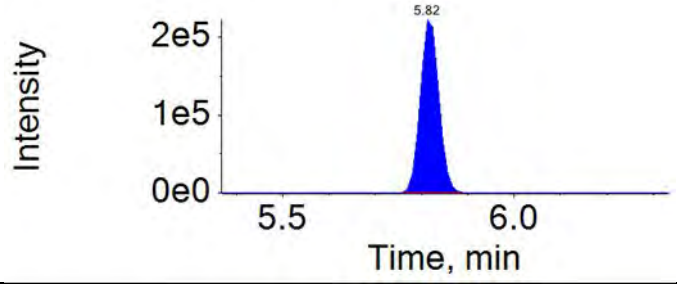
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0



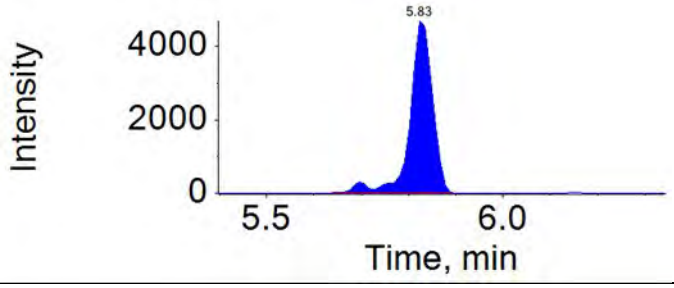
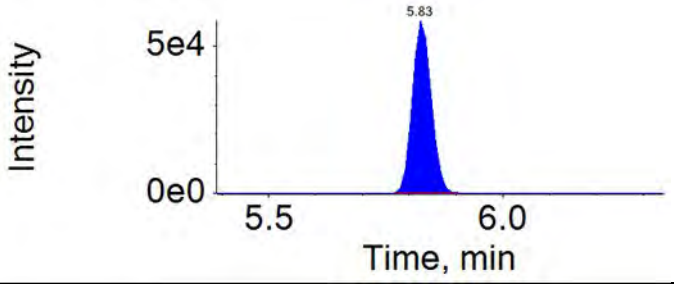


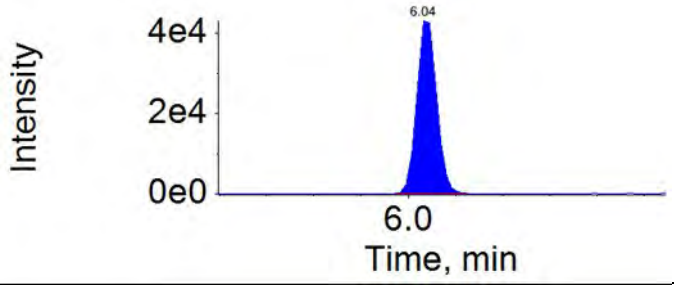
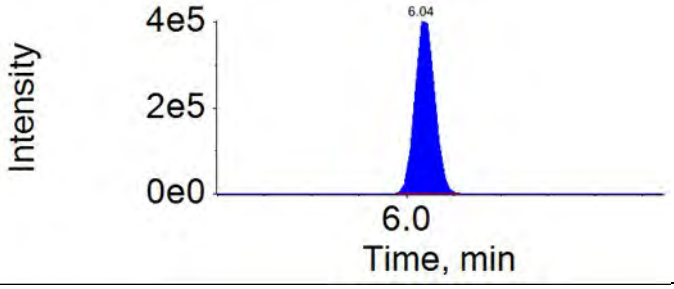
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

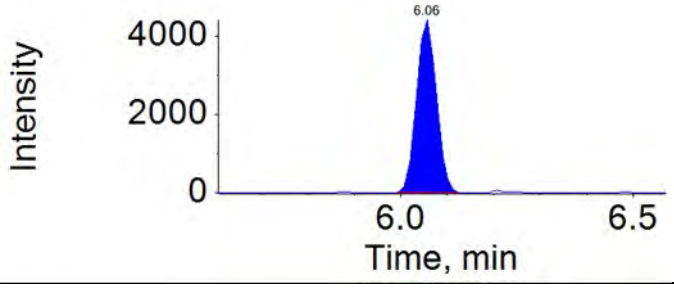
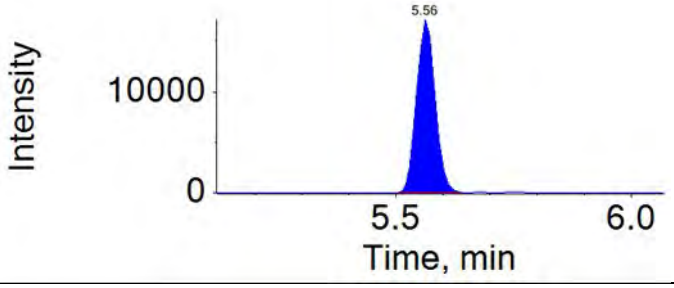


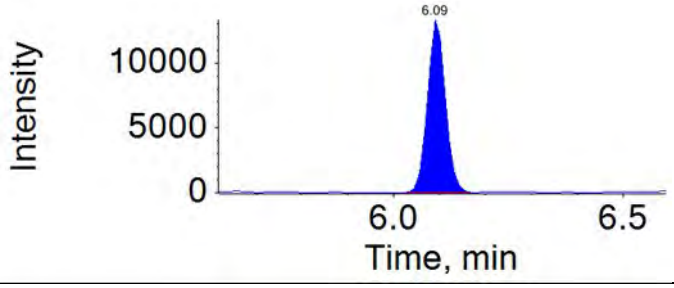
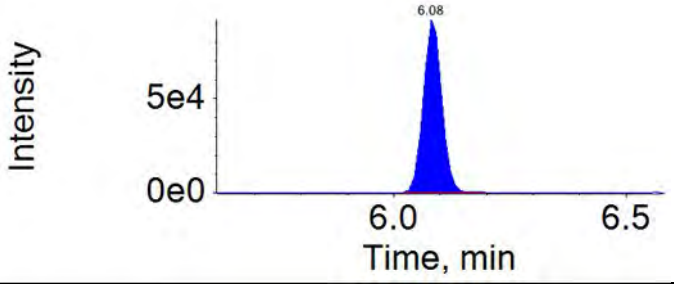


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

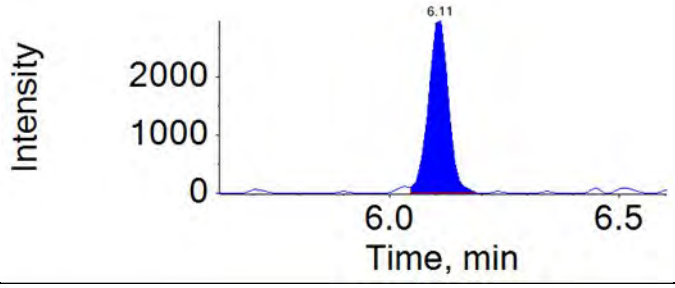
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

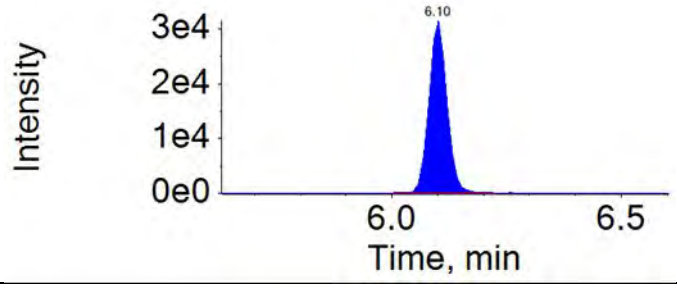
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

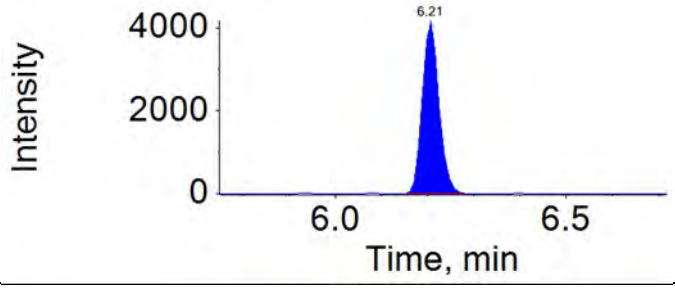
ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

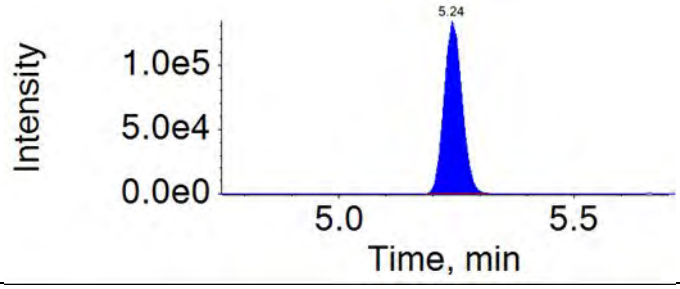
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



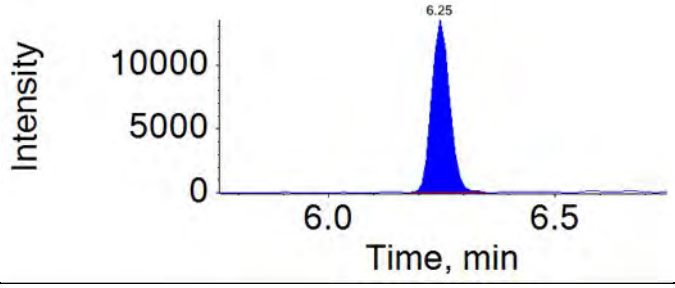


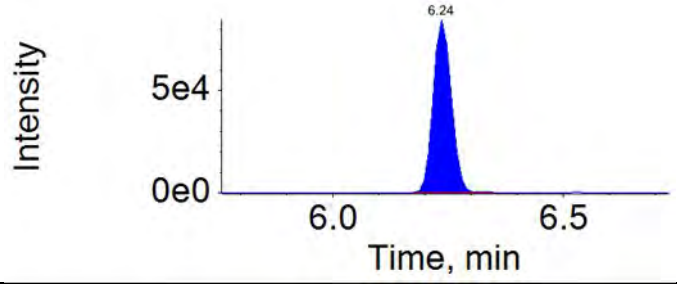
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



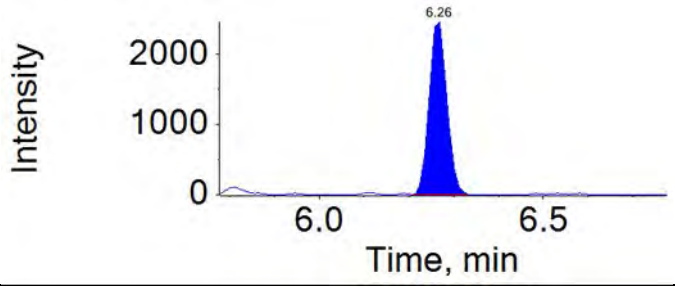


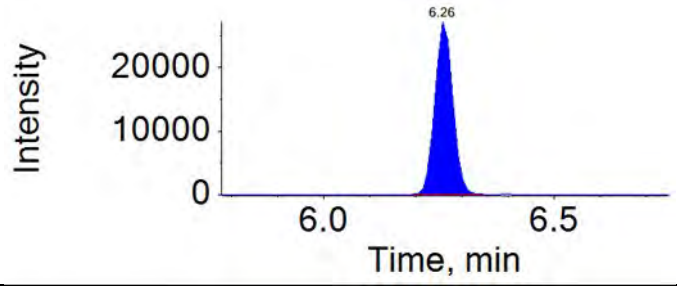
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



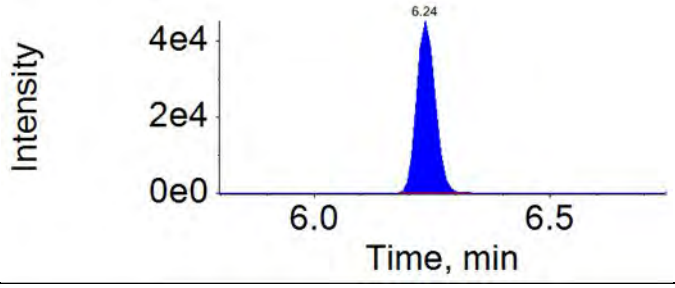
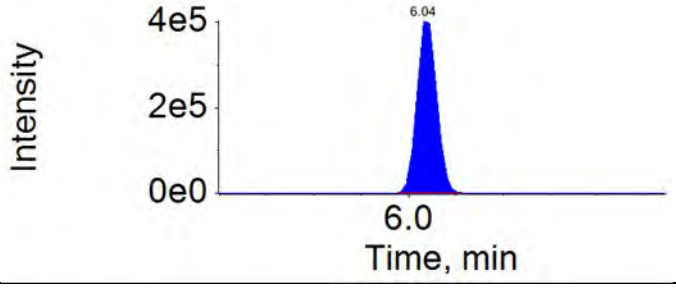


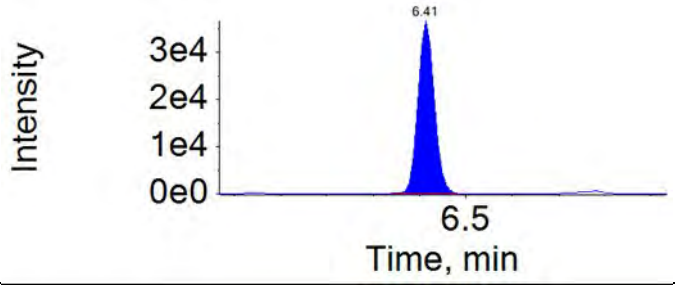
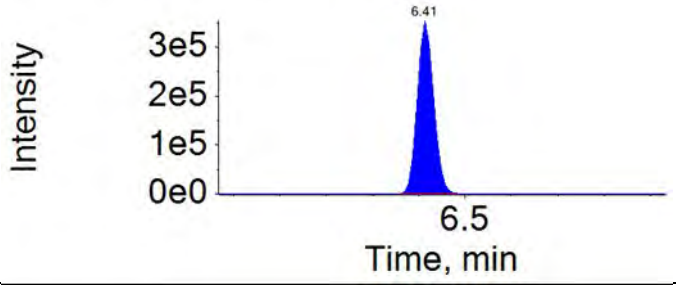
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

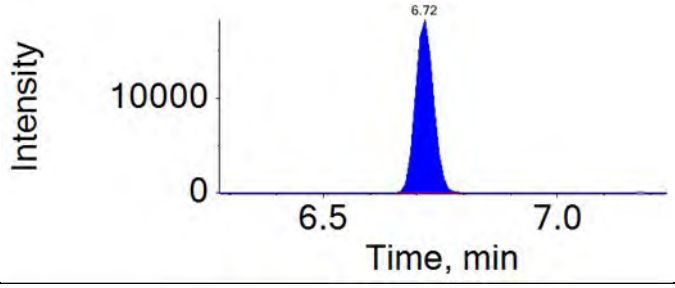
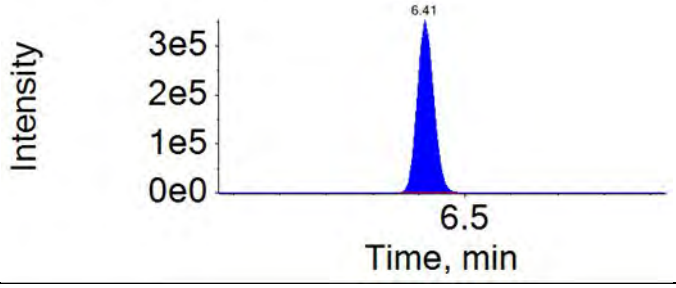


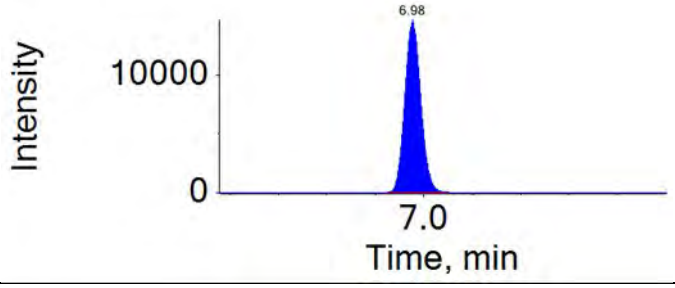
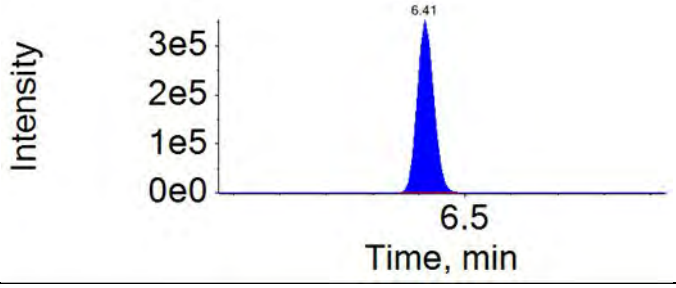


ICAL Name: 18DEC26DCAL **Result Table:** 18DEC26DCCV1-10 12/27/2018 9:08:11 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

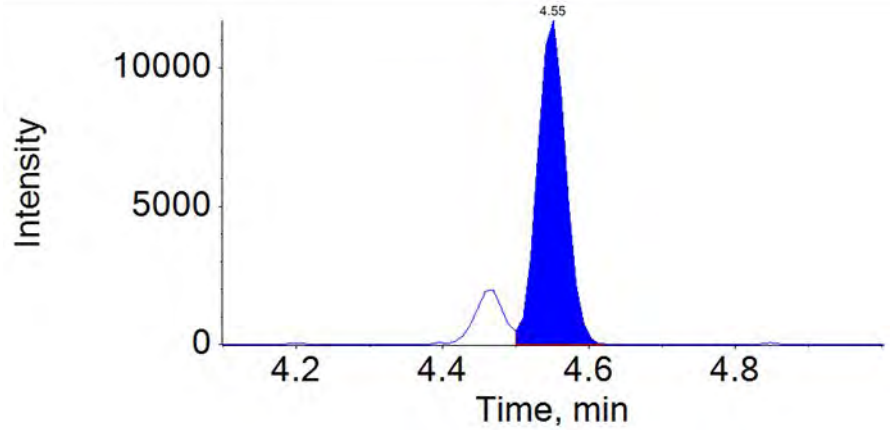
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

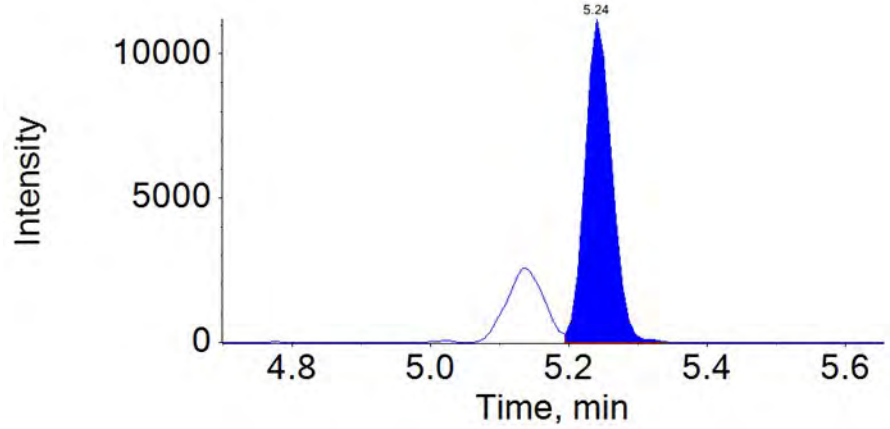
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFHxS
RT (min.):
4.55
Peak Area:
31888.0
Mass Range:
399.0 / 80.0
File Name:
18DEC26D-70.wiff
Sample Name:
CCV7_ISC_CAL2



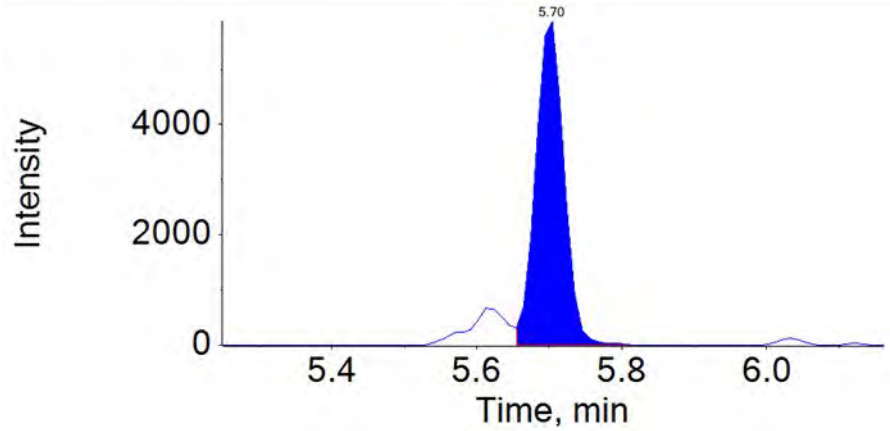
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
30025.1
Mass Range:
499.0 / 80.0
File Name:
18DEC26D-70.wiff
Sample Name:
CCV7_ISC_CAL2



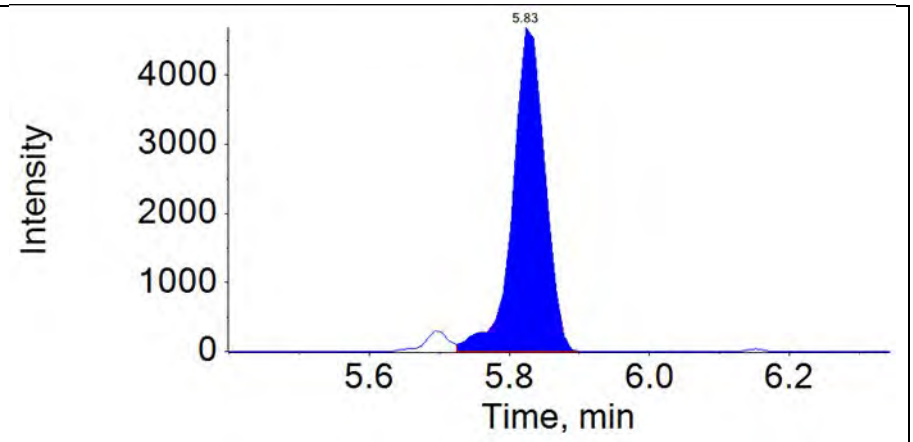
Integration Comment: incorrect integration

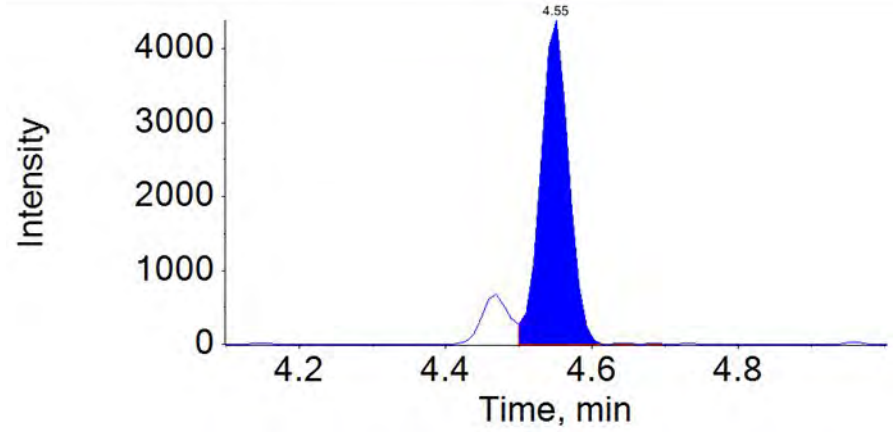
Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
16022.3
Mass Range:
570.0 / 419.0
File Name:
18DEC26D-70.wiff
Sample Name:
CCV7_ISC_CAL2

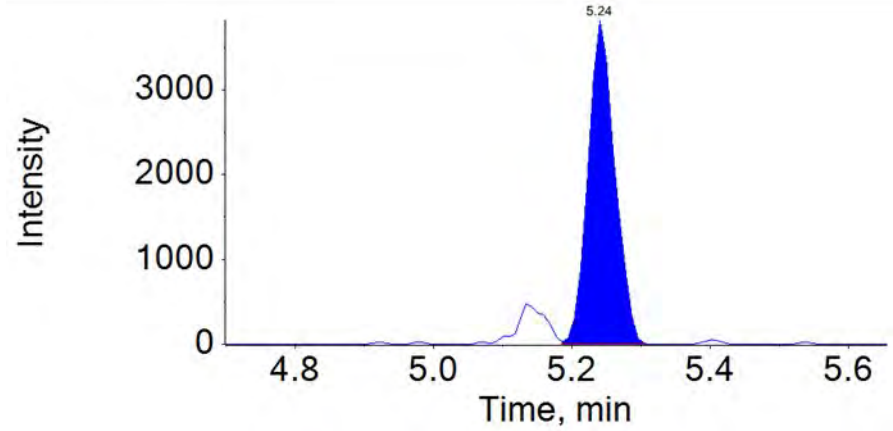


Integration Comment: incorrect integration

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

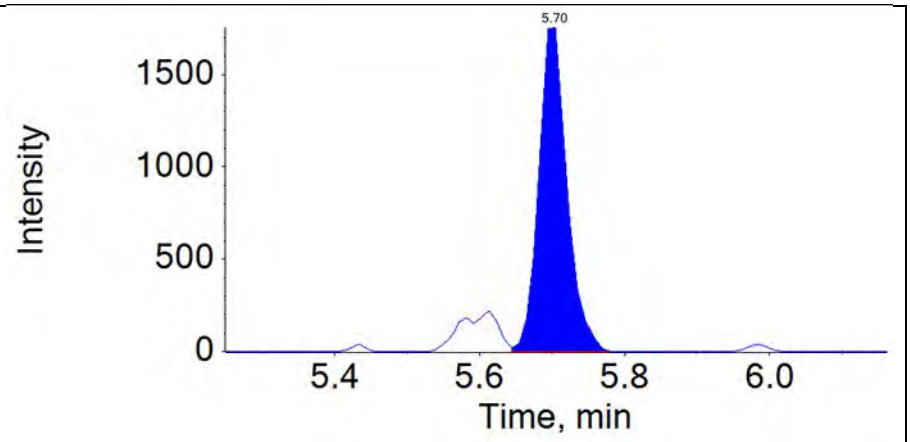
Component Name: NEtFOSAA **RT (min.):** 5.83 **Peak Area:** 15073.5 **Mass Range:** 584.0 / 419.0 **File Name:** 18DEC26D-70.wiff **Sample Name:** CCV7_ISC_CAL2	 **Integration Comment:** incorrect integration

Component Name: PFHxS_2 **RT (min.):** 4.55 **Peak Area:** 11728.8 **Mass Range:** 399.0 / 99.0 **File Name:** 18DEC26D-70.wiff **Sample Name:** CCV7_ISC_CAL2	 **Integration Comment:** incorrect integration

Component Name: PFOS_2 **RT (min.):** 5.24 **Peak Area:** 10278.1 **Mass Range:** 499.0 / 99.0 **File Name:** 18DEC26D-70.wiff **Sample Name:** CCV7_ISC_CAL2	 **Integration Comment:** incorrect integration

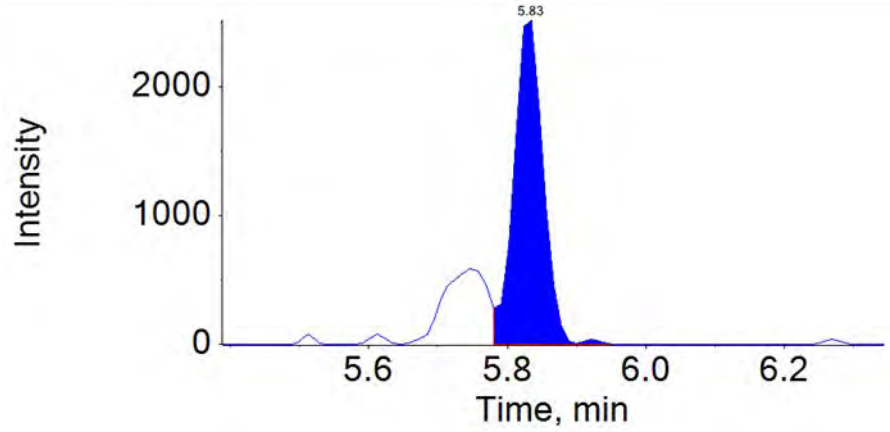
Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
NMeFOSAA_2
RT (min.):
5.70
Peak Area:
4787.2
Mass Range:
570.0 / 483.0
File Name:
18DEC26D-70.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA_2
RT (min.):
5.83
Peak Area:
7451.2
Mass Range:
584.0 / 526.0
File Name:
18DEC26D-70.wiff
Sample Name:
CCV7_ISC_CAL2



Integration Comment: incorrect integration

Results Table Name: 18DEC26DCCV1-10
Results Table Date: 12/27/2018 9:08:11 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

Ion Ratio Report

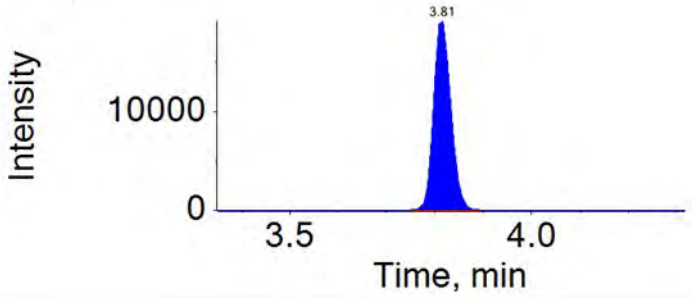
Sample Name: CCV7_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18DEC26D-70.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	48245.0	A	N/A	1.0000			
PFBS_2	3.81	1.00	16787.6	A	N/A	0.3480	-4	50	
4:2-FTS	4.13	1.00	14363.9	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	9033.4	A	N/A	0.6289	3	50	
PFHxA	4.16	1.00	106987.3	A	N/A	1.0000			
PFHxA_2	4.16	1.00	1522.3	A	N/A	0.0142	16	50	
PFPeS	4.18	1.10	24376.6	A	N/A	1.0000			
PFPeS_2	4.18	1.10	12321.4	A	N/A	0.5055	0	50	
PFHpA	4.55	1.00	106162.7	A	N/A	1.0000			
PFHpA_2	4.55	1.00	4809.2	A	N/A	0.0453	-21	50	
PFHxS	4.55	1.00	37367.7	M	N/A	1.0000			
PFHxS_2	4.55	1.00	13441.5	M	N/A	0.3597	1	50	
6:2-FTS	4.90	1.00	13575.7	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	8115.0	A	N/A	0.5978	-6	50	
PFHpS	4.91	1.08	35426.4	A	N/A	1.0000			
PFHpS_2	4.91	1.08	16075.0	A	N/A	0.4538	12	50	
PFOA	4.91	1.00	112955.4	A	N/A	1.0000			
PFOA_2	4.91	1.00	6330.6	A	N/A	0.0560	-2	50	
PFOS	5.24	1.00	39888.1	M	N/A	1.0000			
PFOS_2	5.24	1.00	11644.9	M	N/A	0.2919	-4	50	
PFNA	5.26	1.00	97247.4	A	N/A	1.0000			
PFNA_2	5.26	1.00	1935.1	A	N/A	0.0199	-7	50	
PFNS	5.54	1.06	24077.1	A	N/A	1.0000			
PFNS_2	5.54	1.06	8710.2	A	N/A	0.3618	-20	50	
PFDA	5.56	1.00	92613.6	A	N/A	1.0000			
PFDA_2	5.56	1.00	825.0	A	N/A	0.0089	32	50	
8:2-FTS	5.56	1.00	13443.3	A	N/A	1.0000			
8:2-FTS_2	5.56	1.00	5753.3	A	N/A	0.4280	-29	50	
NMeFOSAA	5.70	1.00	18457.7	M	N/A	1.0000			
NMeFOSAA_2	5.70	1.00	5577.6	M	N/A	0.3022	17	50	
PFDS	5.79	1.10	21241.1	A	N/A	1.0000			
PFDS_2	5.79	1.10	9178.7	A	N/A	0.4321	-12	50	
PFUnDA	5.82	1.00	101444.4	A	N/A	1.0000			
PFUnDA_2	5.82	1.00	325.1	A	N/A	0.0032	-24	50	
NEtFOSAA	5.83	1.00	15767.0	M	N/A	1.0000			
NEtFOSAA_2	5.83	1.00	9949.6	M	N/A	0.6310	-7	50	
PFDoDA	6.04	1.00	126884.9	A	N/A	1.0000			
PFDoDA_2	6.04	1.00	1315.1	A	N/A	0.0104	-26	50	
10:2-FTS	6.06	1.09	13103.9	A	N/A	1.0000			
10:2-FTS_2	6.05	1.09	11824.8	A	N/A	0.9024	34	50	
PFTrDA	6.24	1.03	122932.7	A	N/A	1.0000			
PFTrDA_2	6.23	1.03	1035.5	A	N/A	0.0084	-5	50	
PFTeDA	6.41	1.00	88639.9	A	N/A	1.0000			
PFTeDA_2	6.41	1.00	784.6	A	N/A	0.0089	41	50	
PFHxDA	6.72	1.05	48749.8	A	N/A	1.0000			
PFHxDA_2	6.71	1.05	3117.1	A	N/A	0.0639	-1	50	
PFODA	6.98	1.09	33388.6	A	N/A	1.0000			
PFODA_2	6.97	1.09	954.0	A	N/A	0.0286	8	50	

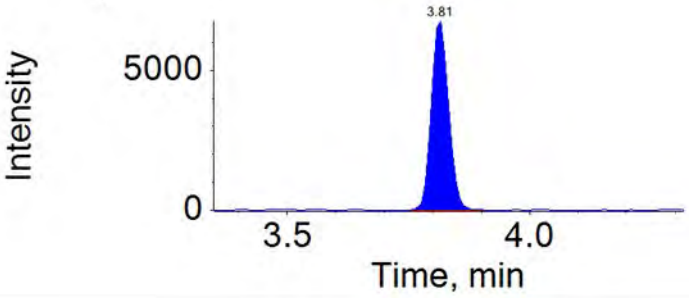
APPROVED
By MSM at 9:34 am, 12/27/18

REVIEWED
By umar at 2:33 pm, 12/31/18

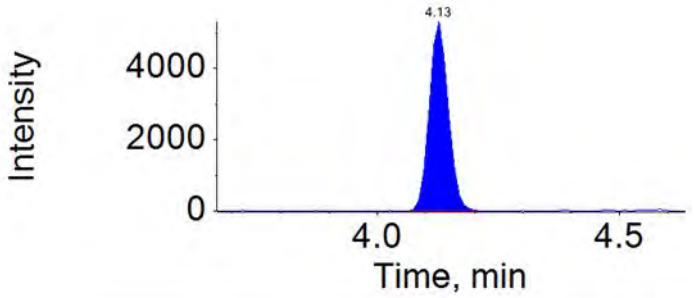
Component: PFBS
Primary Mass: 299.0 / 80.0



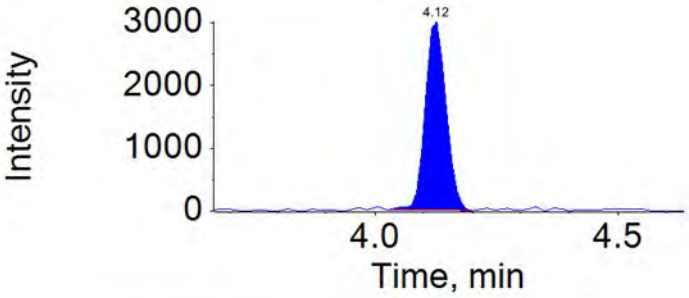
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



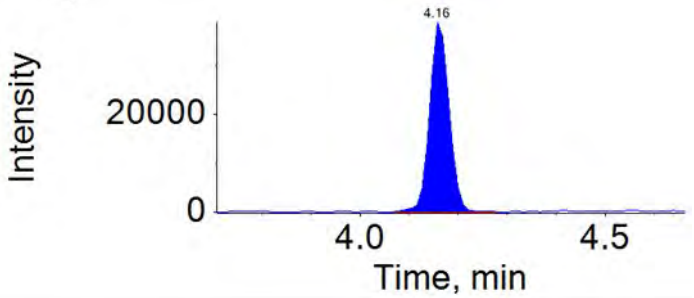
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



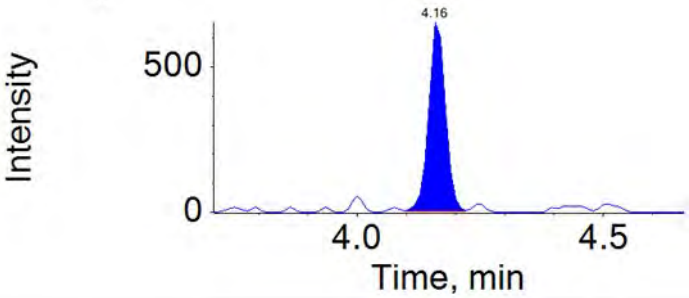
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



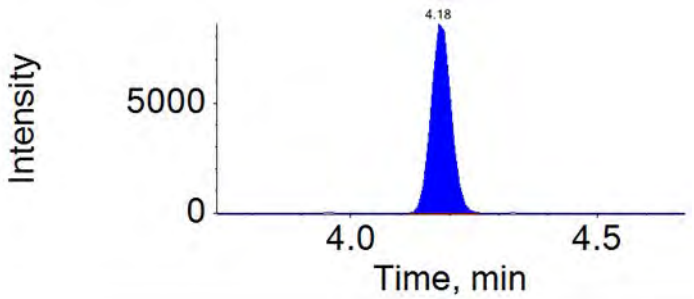
Component: PFHxA
Primary Mass: 313.0 / 269.0



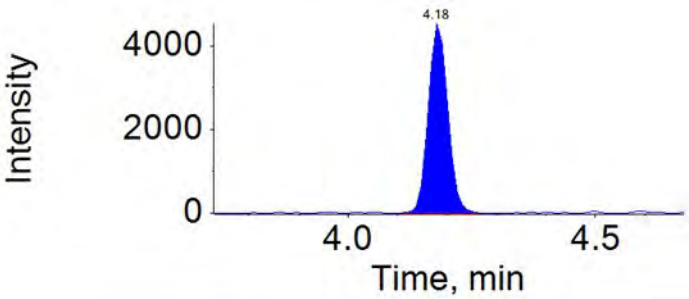
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



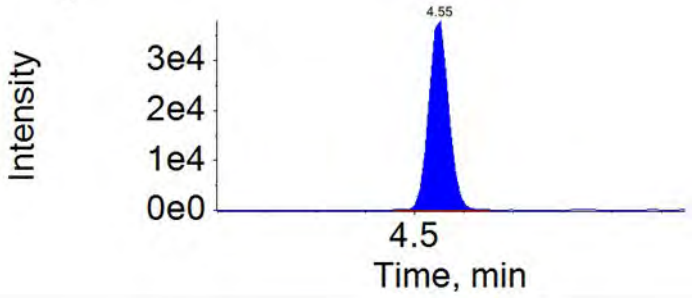
Component: PFPeS
Primary Mass: 349.0 / 80.0



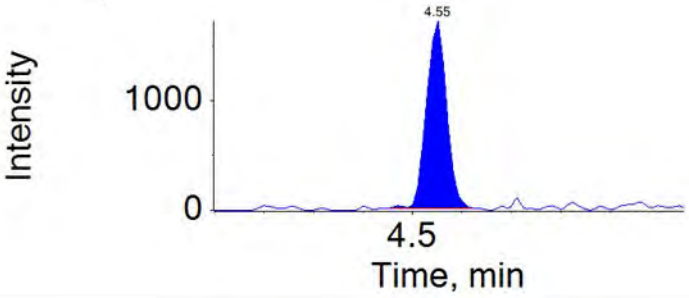
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



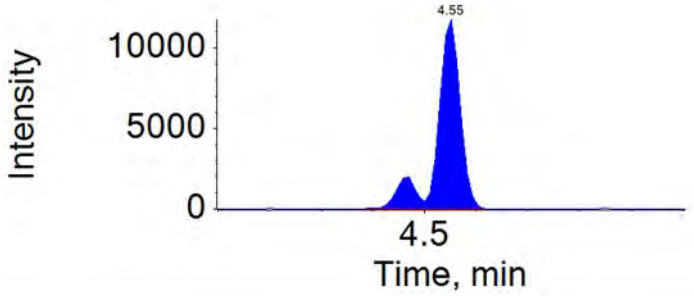
Component: PFHpA
Primary Mass: 363.0 / 319.0



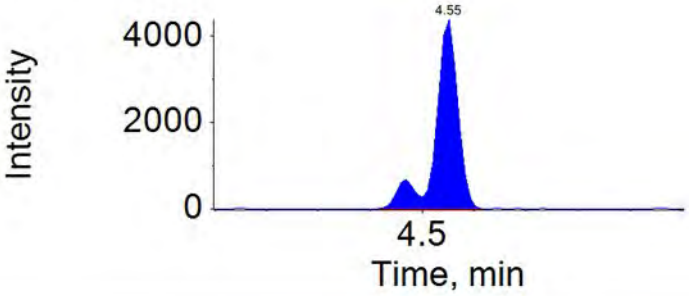
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



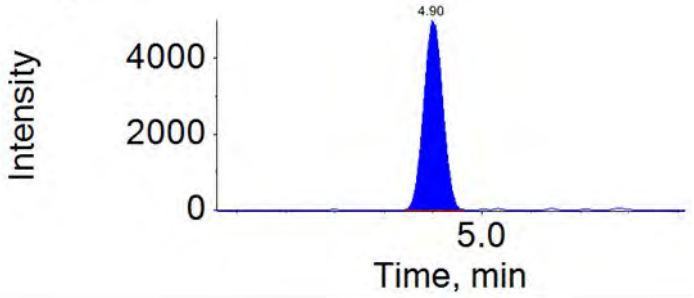
Component: PFHxS
Primary Mass: 399.0 / 80.0



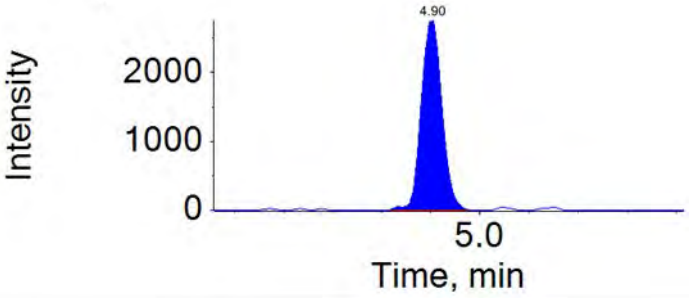
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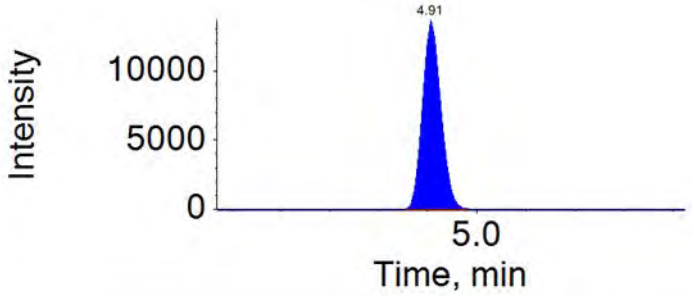
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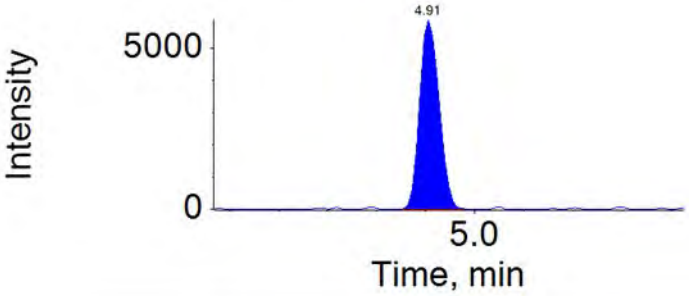
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Component: PFHpS
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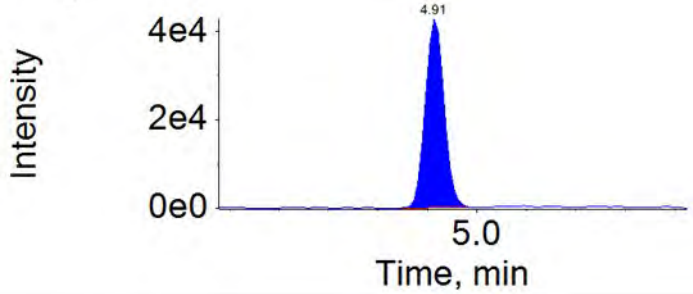
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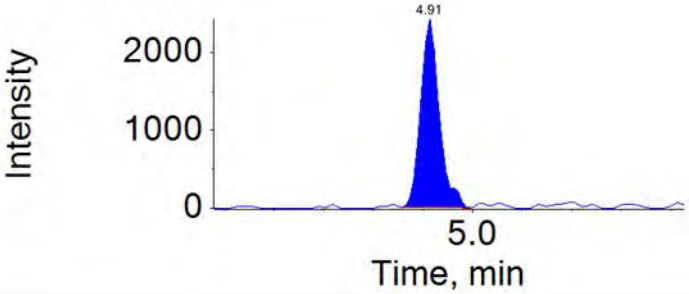
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REVIEWED
By umar at 2:33 pm, 12/31/18

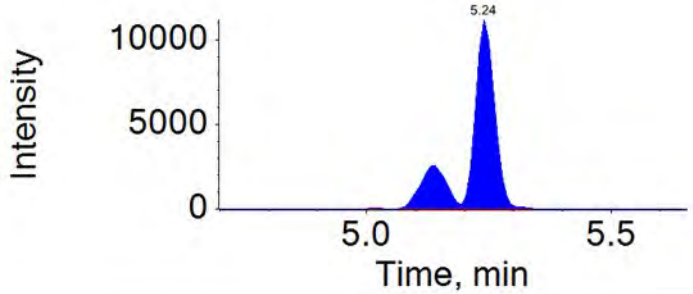
Component: PFOA
Primary Mass: 413.0 / 369.0



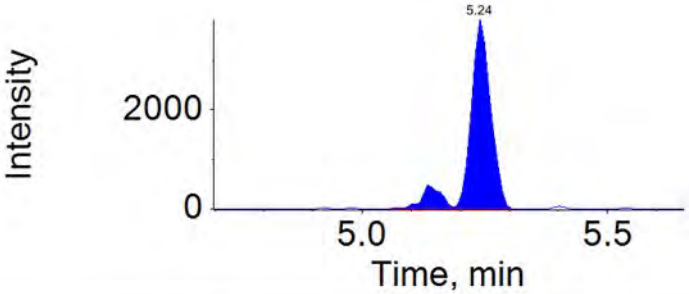
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Secondary Mass: 413.0 / 169.0



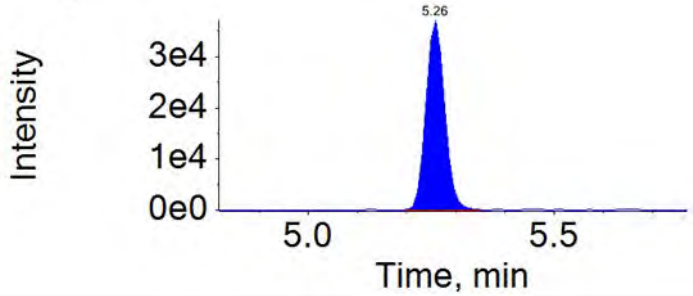
Component: PFOS
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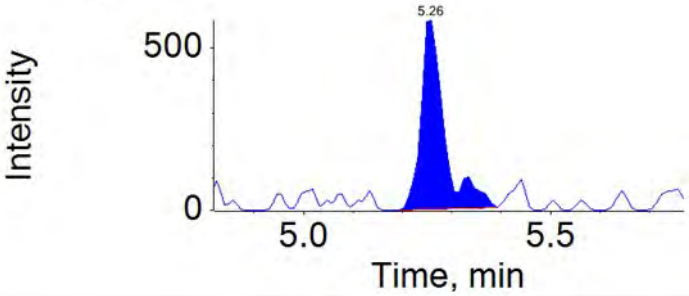
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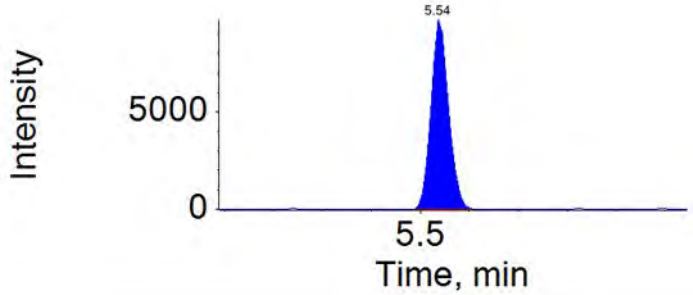
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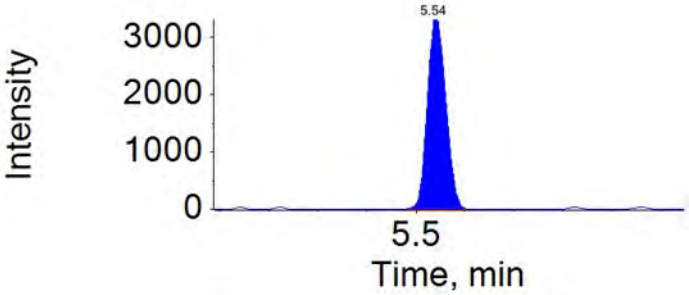
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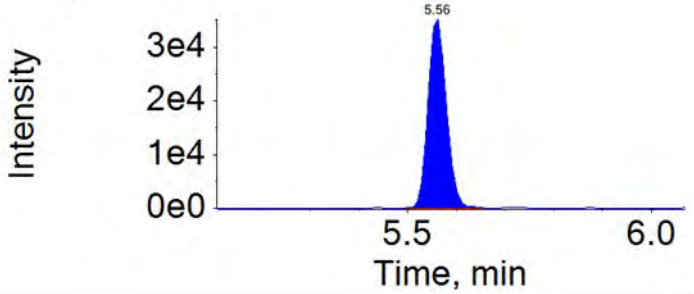
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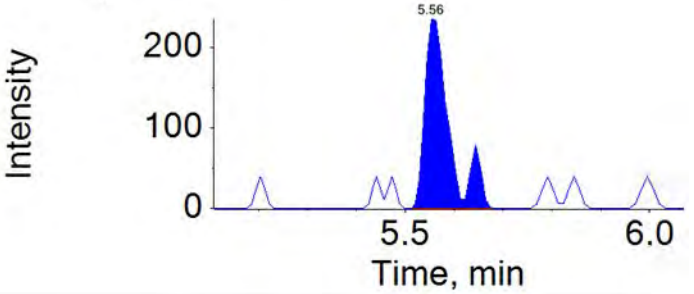
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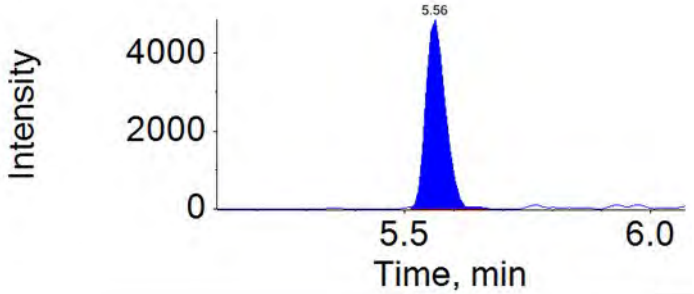
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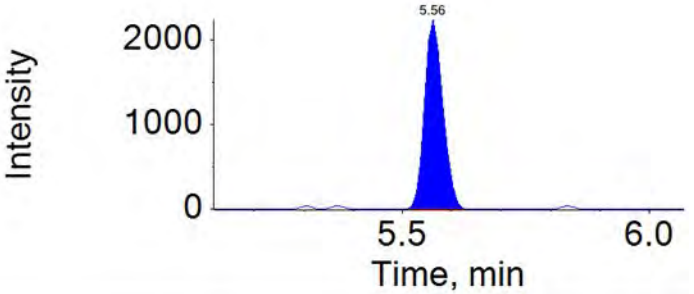
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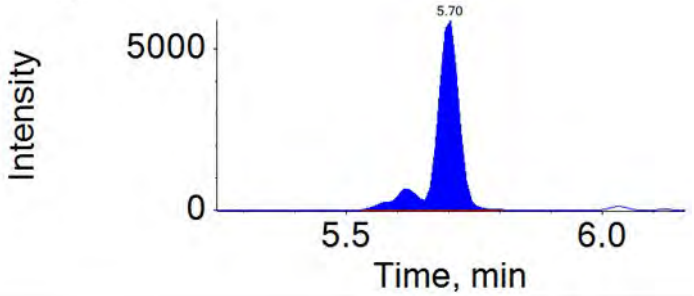
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Primary Mass: 527.0 / 507.0



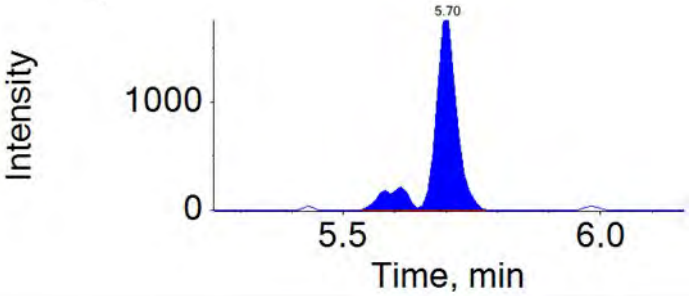
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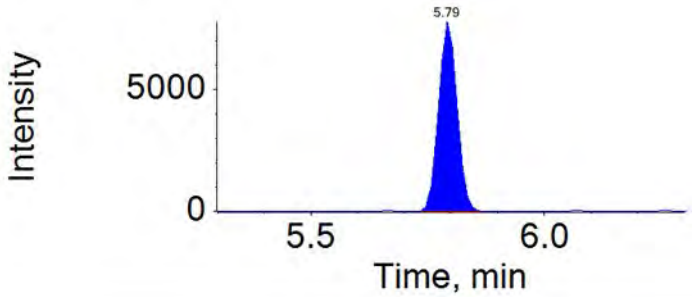
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



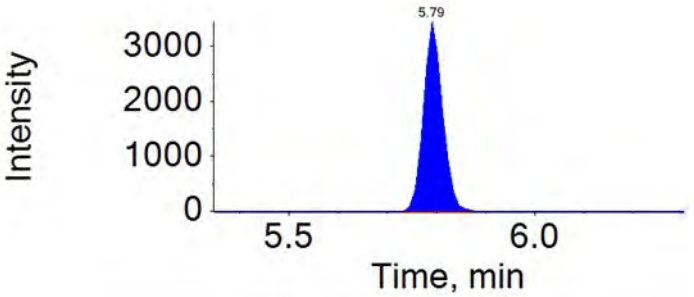
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Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



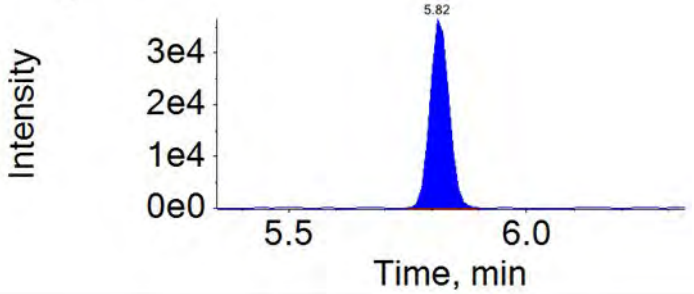
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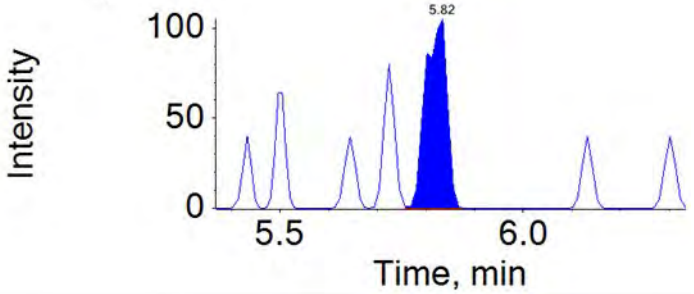
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REVIEWED
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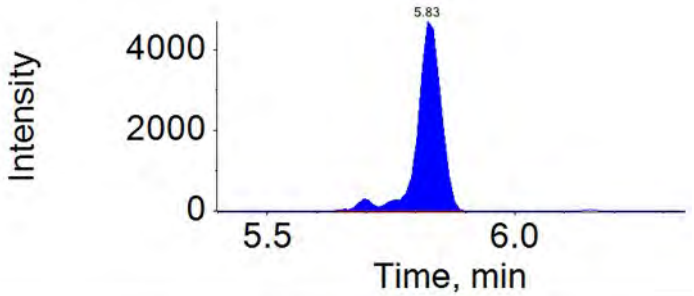
Component: PFUnDA
Primary Mass: 563.0 / 519.0



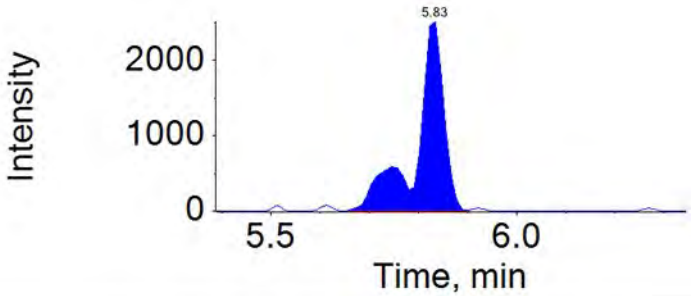
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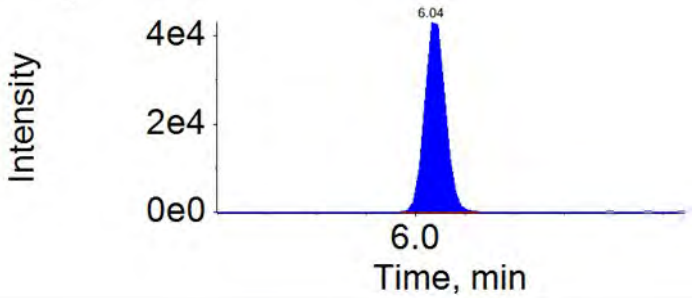
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



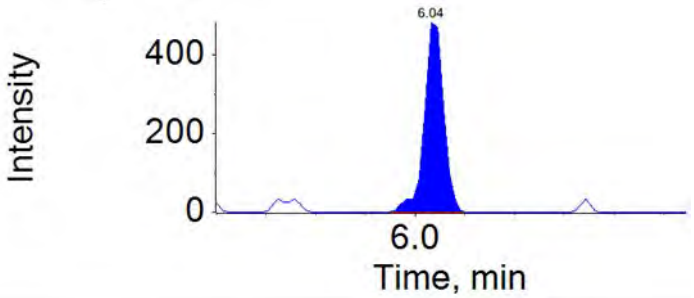
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



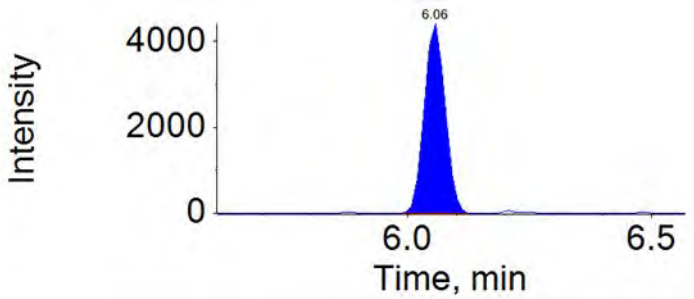
Component: PFDoDA
Primary Mass: 613.0 / 569.0



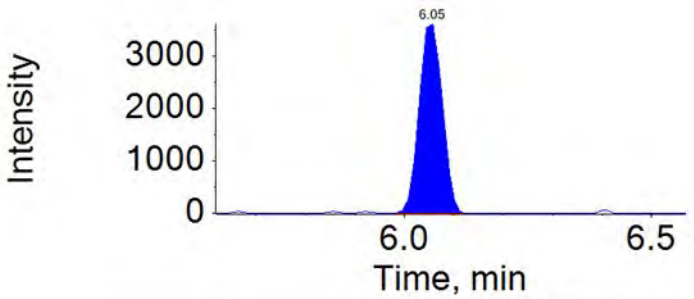
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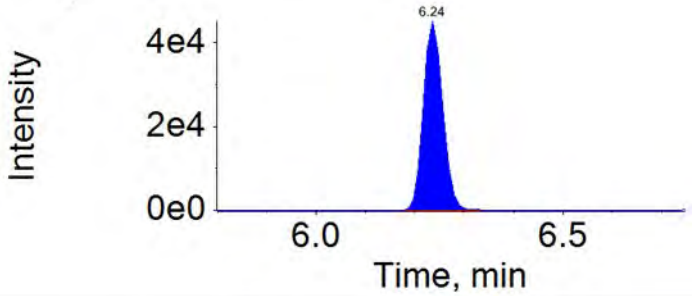
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



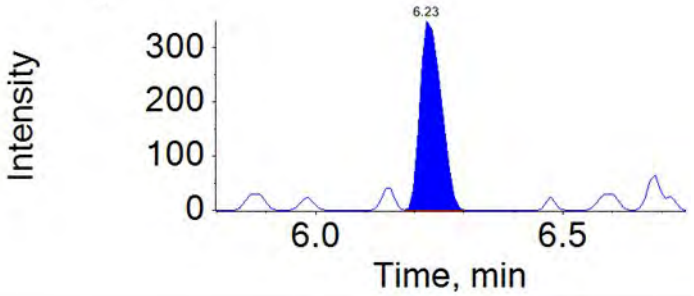
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Secondary Mass: 627.0 / 81.0



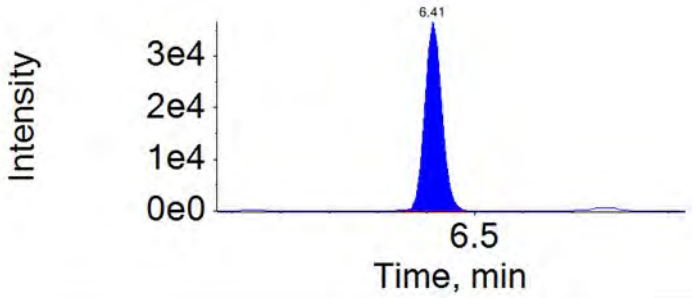
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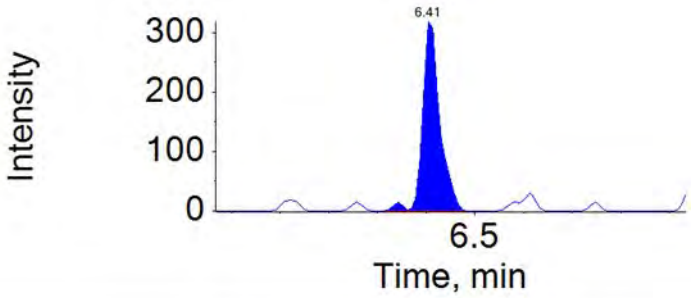
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Secondary Mass: 663.0 / 169.0



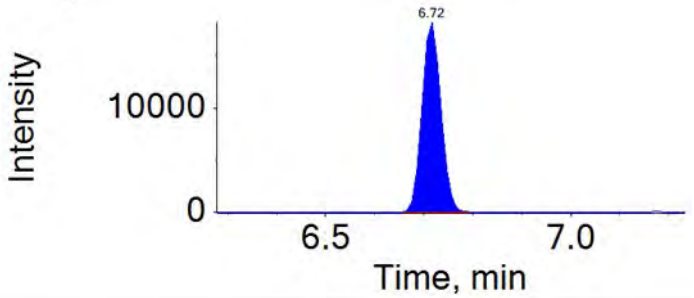
Component: PFTeDA
Primary Mass: 713.0 / 669.0



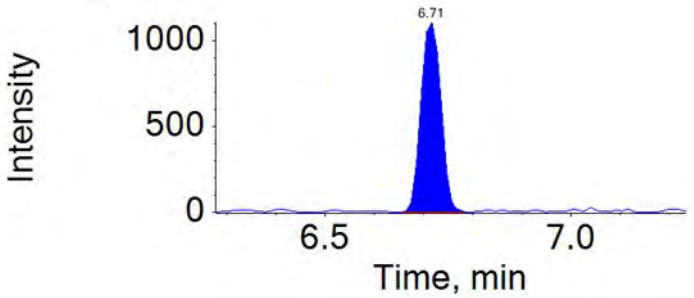
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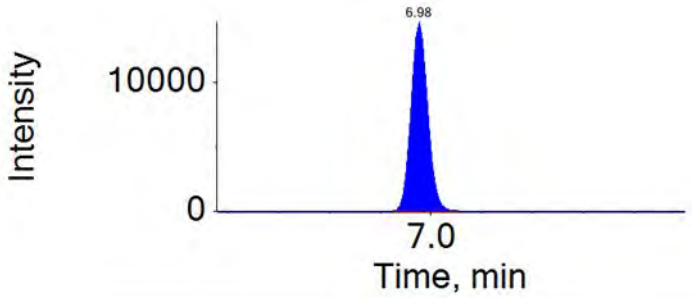
Component: PFHxDA
Primary Mass: 813.0 / 769.0



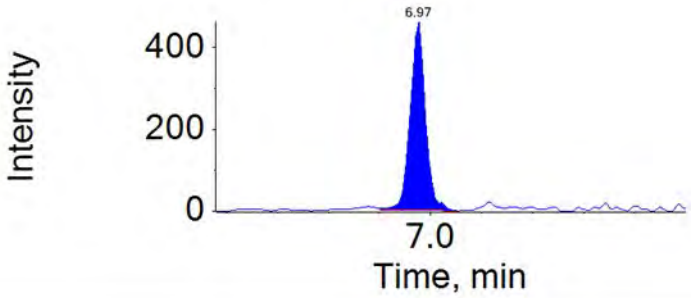
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MSM at 9:34 am, 12/27/18

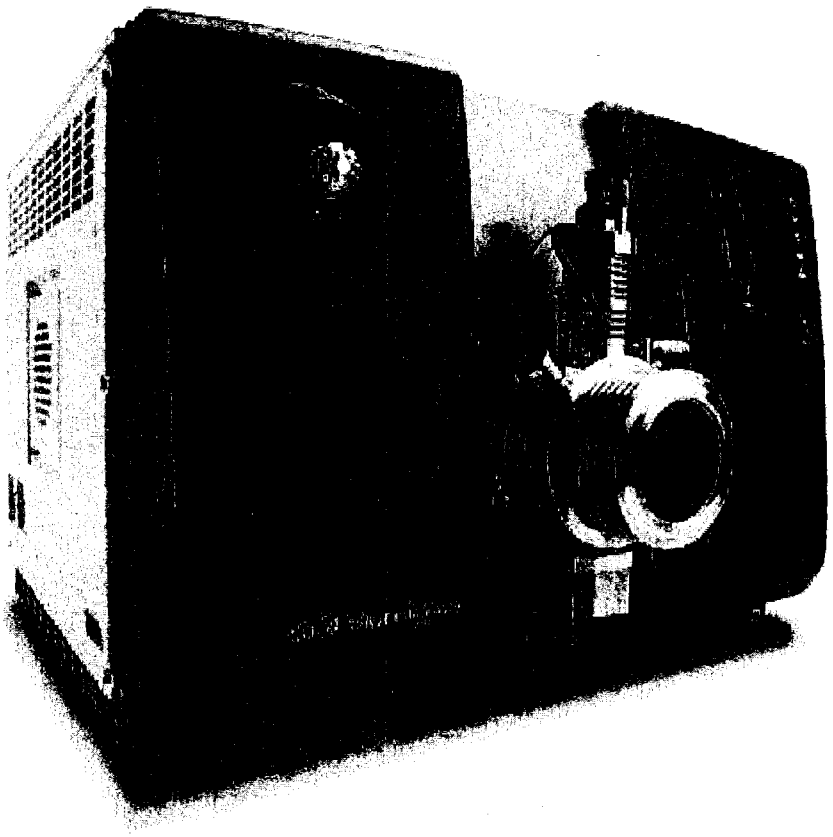
REVIEWED
By umar at 2:33 pm, 12/31/18

LM27631

SCIEX

Triple Quad™ 4500 and Triple Quad™ 4500MD Systems

Installation Checklist and Data Log



GEN-IDV-06-1212-C | D5082309 C

October 2016

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Installation Preparation 1

Note: For regulatory and safety information for the mass spectrometer, refer to the *System User Guide*.

Note: Before starting the installation, verify that the customer has completed the checklist in the *Site Planning Guide*.

Customer Information

Organization	Eurofins		
Address	2425 New Holland Pike Lancaster, PA 17601		
Telephone	717-556-7231	Fax	N/A
Contact name	Charles Neslund		
E-mail address	CharlesNeslund@eurofinsUS.com		

System Information

Table 1-1 Mass Spectrometer Information

Mass spectrometer location	A-223
Mass Spectrometer model name	4500QQQ
Mass spectrometer serial number	EB220251804
Firmware version	PIL1801
Roughing pump serial number	31001702300

Table 1-2 Acquisition Computer Information

Model	XE2	Service tag	5L3QLN2
OS version	Win7 64bit	OS service pack	SP1
Analyst® or Analyst® MD software version	1.7.0	Analyst® or Analyst® MD software hotfix	HF2
Cliquid® MD software version (4500MD systems only)	N/A		
MultiQuant™ or MultiQuant™ MD software version	3.0.3		

Table 1-3 Ion Source Information

Component	Serial Number
Turbo V™ ion source • TurboIonSpray® probe • APCI probe (if applicable)	2001171218 20380180321 20252180221
NanoSpray® ion source (if applicable, non-MD systems only)	N/A
DuoSpray™ ion source (if applicable, non-MD systems only) • TurboIonSpray® probe • APCI probe (if applicable)	N/A N/A N/A
Other/Third-party ion source (if applicable, non-MD systems only)	N/A

Table 1-4 System Components and Peripherals

Component	Serial Number
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

Installation Checklist 2

The Field Service Employee (FSE) must complete this checklist to make sure that every step in the installation procedure is completed. The checklist also contains an installation acceptance form for the customer representative and the FSE to sign when the work is complete. Refer to Signoff on page 21.

Unpacking and Inspection

Task	Complete	N/A
Inspect the packaging: • Inspect all tip and shock indicators for signs of excessive shock or tilting. • Inspect the boxes for exterior damage.	☑	
Unpack and inspect all of the components.	☑	
(Optional) Unpack, inspect, and install the bench. 1. Inspect the packaging for exterior damage. 2. Unpack the bench and then inspect for damage. 3. Install the bench.	◉	◉

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Hardware Installation

Task	Complete	N/A
Install the mass spectrometer on the bench.	☑	
Affix the name plate on the front cover of the mass spectrometer (only applies to mass spectrometer with the prefix 'CJ' in the serial number).	☑	
Verify that the mains supply outlets for the roughing pump and the mass spectrometer deliver stable output voltages that meet the specified electrical requirements.	☑	
(Optional) Install the SCIEX-supplied UPS.	○	○
Install the roughing pump, connecting it to the mass spectrometer and the vent. Make sure that the roughing pump contains sufficient oil.	☑	
(Optional) Install the SCIEX-supplied gas generator.	○	○
Connect the gas lines.	☑	
Install and connect the drain bottle.	☑	
Install the Turbo V™ ion source. Refer to the *Turbo V™ Ion Source Operator Guide*. For 4500MD systems, refer to the *System User Guide*. For other systems, refer to the *Turbo V™ Ion Source Operator Guide*.	☑	
Adjust the stopper on the integrated syringe pump.	☑	
WARNING! Electrical Shock Hazard. Make sure that the system can be disconnected from the mains supply outlet in an emergency. Do not block the mains supply outlet. Plug in and turn on the roughing pump, and then plug in and turn on the mass spectrometer.	☑	

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Acquisition Computer Installation

Task	Complete	N/A
Install the computer and monitor on the computer table.	☑	
Connect the Ethernet cable from the computer to the mass spectrometer.	☑	
Turn on the computer.	☑	
Configure IP addresses for communication with the mass spectrometer.	☑	
(Optional) Connect the computer to the customer network.	◉	◉
Install the Analyst® or Analyst® MD software.	☑	
Install any applicable Analyst® or Analyst® MD software hotfixes.	◉	◉
(4500MD systems) Install the Cliquid® MD software.	◉	◉
Install the MultiQuant™ or MultiQuant™ MD software.	☑	
(If applicable, not for use with 4500MD systems) Install the StatusScope® agent on the acquisition computer, and then perform these tasks: • Discuss warranty coverage for the StatusScope® software. • If the customer wants the StatusScope® software installed, then complete the StatusScope® user access form. • If the customer does not want theStatusScope® software installed, then remove the StatusScope® software.	◉	◉
(Optional) Install and license any add-on software purchased and shipped with the system. • (Non-MD systems) If applicable, Cliquid® software has been installed. • Other Analyst® or Analyst® MD compatible add-on software shipped with the system has been installed.	◉	◉

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Task	Complete	N/A
Verify and update the firmware and configuration files.	☑	
Install the factory files.	☑	

Initialization and Verification

Note: Perform these tasks after the mass spectrometer reaches operating vacuum.

Task	Complete	N/A
Perform the high pressure source and blocked exhaust flow tests.		
Measure and tune the Q1, Q3, and QJet® coil boxes.	◉	◉
Perform all installation tests, print out the test results, and complete the Data Log.	☑	

Wrap-up

Task	Complete	N/A
Delete unnecessary files from the computers.	☑	
Back up the computer file systems, including the Analyst Data folder.	☑	
Create a computer image using the image utility.	☑	
Apply the biohazard labels included in the install kit. Apply one label to the ion source, and the other to the waste bottle. Find a vacant space that is clearly visible to affix the labels.	☑	

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Task	Complete	N/A
Complete all of the sections in the *Customer Familiarization Checklist*. Make a copy of the completed checklist and then give the original to the customer.	☑	
Inform the customer about the continuous improvement telephone surveys, and then advise the customer that a third party will call to obtain feedback.	☑	
Complete the *Installation Checklist and Data Log*: • Obtain customer acceptance. • Make a copy of the form and the test results. • Provide the customer with the originals. • (For MD systems only) E-mail this completed document and the test result files to servicedata@sciex.com.	☑	

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Data Log 3

Use this log to record the test data obtained during performance of the system verification tests during installation.

Note: Perform all procedures with the Turbo V™ ion source, unless otherwise specified.

Pre-test Pressure Verification is Complete	☑

Perform this test with the Analyst® or Analyst® MD software.

Test	Specification	Result
Vacuum chamber pressure with CAD gas off	0.4×10^{-5} torr ≤ $P_{CAD\ 0}$ ≤ 1.1×10^{-5} torr	0.7 x 10e-5 torr
Vacuum chamber pressure with CAD gas set to Full	1.8×10^{-5} torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ 2.8×10^{-5} torr	2.1 x 10e-5 torr

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Q1 Positive PPGs Test is Complete: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) ☑

- **Test solution:** POS PPG, 2e-6 M
- **Flow rate:** 5 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427, with peak intensities, peak width, and mass shift results, complete with method file information.

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
175.133	$\geq 8.0 \times 10^6$	1.6298e7	0.6 to 0.8	0.7105
500.380	$\geq 8.0 \times 10^6$	2.4240e7	0.6 to 0.8	0.6995
906.673	$\geq 2.0 \times 10^7$	3.2349e7	0.6 to 0.8	0.7151
1952.427	$\geq 8.8 \times 10^5$	1.8122e6	0.6 to 0.8	0.7423

Q1 Positive PPGs Test is Complete: Peak Width for Identified Masses ☑

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Q3 Positive PPGs Test is Complete: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) ☑

- **Test solution:** POS PPG, 2e-6 M
- **Flow rate:** 5 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427, with peak intensities, peak width, and mass shift results, complete with method file information.

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
175.133	$\geq 8.0 \times 10^6$	1.950[illegible]	0.6 to 0.8	0.6916
500.380	$\geq 8.0 \times 10^6$	1.925[illegible]	0.6 to 0.8	0.7278
906.673	$\geq 2.0 \times 10^7$	3.1634[illegible]	0.6 to 0.8	0.7403
1952.427	$\geq 8.8 \times 10^5$	2.4968e6	0.6 to 0.8	0.7828

Q3 Positive PPGs Test is Complete: Peak Width for Identified Masses ☑

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Q1 Negative PPGs Test is Complete ☑

- **Test solution:** NEG PPG, 3e-4 M
- **Flow rate:** 10 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-1 Verification: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) for the Q1 Negative PPGs Tests

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
933.636	≥ 1.8×10^7	2.23786e7	0.6 to 0.8	0.6638
1863.306	≥ 1.4×10^6	2.11046e6	0.6 to 0.8	0.7369

Table 3-2 Verification: Peak Width for Identified Masses for the Q1 Negative PPGs Tests

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
44.998, 411.259, 585.385, 933.636 1223.845, 1572.097, 1863.306, 1979.389	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Q3 Negative PPGs Test is Complete ☑

- **Test solution:** NEG PPG, 3e-4 M
- **Flow rate:** 10 µL/min
- **MCA:** On
- **Printouts required:** Spectra for masses 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-3 Verification: Intensity and Peak Width (Scan Rate=10 Da/s, Cycles=10) for the Q3 Negative PPGs Tests

Mass (Da)	Intensity (cps)		Peak width (Da)	
	Specification	Result	Specification	Result
933.636	≥ 1.8×10^7	2.6621e7	0.6 to 0.8	0.7288
1863.306	≥ 2.0×10^6	3.5734e6	0.6 to 0.8	0.7033

Table 3-4 Verification: Peak Width for Identified Masses for the Q3 Negative PPGs Tests

Mass (Da)	Scan Rate (Da/s)	Cycles	Specification (Da)	Result (Passed)
44.998, 411.259, 585.385, 933.636 1223.845, 1572.097, 1863.306 1979.389	10	10	0.6 to 0.8	☑
	200	50	0.6 to 0.8	
	1000	50	0.6 to 0.8	
	2000	100	0.6 to 0.8	

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Reserpine MS/MS Test is Complete	☑

- **Test solution:** Reserpine solution 0.167 pmol/µL
- **Flow rate:** 5 µL/min
- **Scan rate:** 10 Da/s (both MS and MS/MS)
- **Scan mode:** Product Ion (MS2)
- **Product Of:** 609.3 (or as calibrated)
- **Product Ion:** 195.1
- **Cycles:** 10
- **MCA:** On
- **Printouts required:** Spectra for masses 609.3 and 195.1, with peak intensities, peak width, and mass shift results, complete with method file information.

Table 3-5 Verification for the Reserpine MS/MS Test

Specification	Result
Transmission efficiency $\frac{Intensity\ for\ ion\ at\ m/z\ 195.1}{Intensity\ for\ ion\ at\ m/z\ 609.2\ (or\ as\ calibrated)} \times 100 \geq 10\%$	10%

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Turbo V™ Ion Source Acceptance Test is Complete	☑

Table 3-6 Verification for the Turbo V™ Ion Source Acceptance Test

Probe	Test	Specification	Result (Passed)
TurboIonSpray®	Set the temperature parameter to 500 °C.	The Analyst® or Analyst® MD software reports that the temperature is reached.	☑
APCI	Set the temperature parameter to 400 °C.	The Analyst® or Analyst® MD software reports that the temperature is reached.	☑

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Post-test Pressure Verification is Complete	☑

Perform this test with the Analyst® or Analyst® MD software.

Test	Specification	Result
Vacuum chamber pressure with CAD gas off	0.4×10^{-5} torr ≤ $P_{CAD\ 0}$ ≤ 1.1×10^{-5} torr	0.4x10e-5 torr
Vacuum chamber pressure with CAD gas set to Full	1.8×10^{-5} torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ 2.8×10^{-5} torr	2.1x10e-5 torr

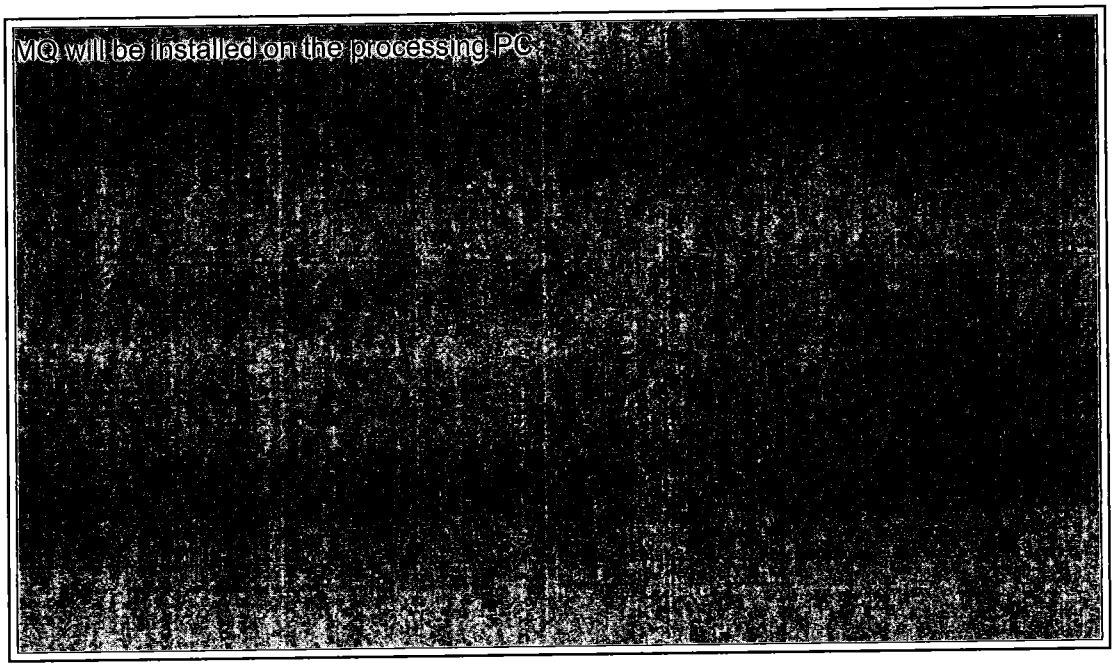
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Signoff 4

Organization	Eurofins		
Customer contact name	[redacted]	Date (yyyy-mm-dd)	[redacted]
Customer contact signature*			
FSE name	Michael F Pennell	Date (yyyy-mm-dd)	2018-05-29
FSE signature			

* Signature required on hard copy only.

Comments and Exceptions



Revision History

Revision	Reason for Change	Date
A	First release of the combined *SCIEX Triple Quad™ 4500 and 4500MD System Installation Checklist and Data Log.* Replaces D5028556 E.	May 2014
B	Updated the installation test data.	December 2014
C	• Applied new template. • Updated the System Information, Acquisition Computer Installation, and Data Log sections.	October 2016

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

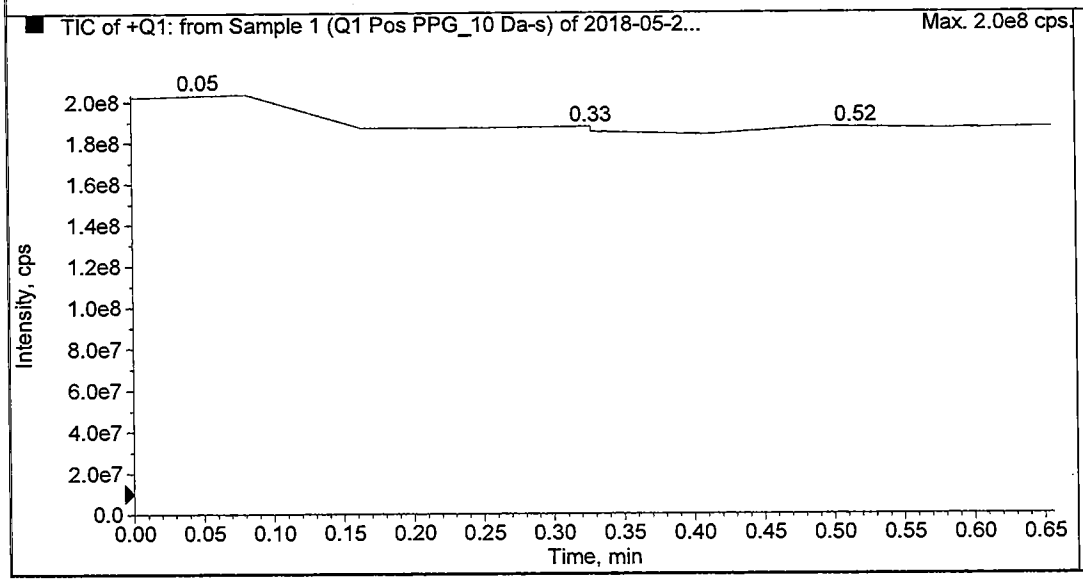
Mass Spectrometer Method Properties

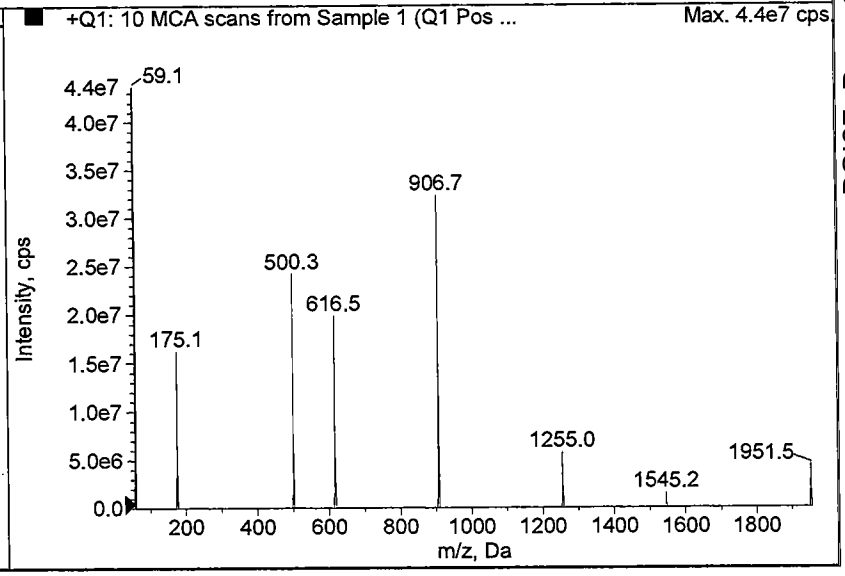
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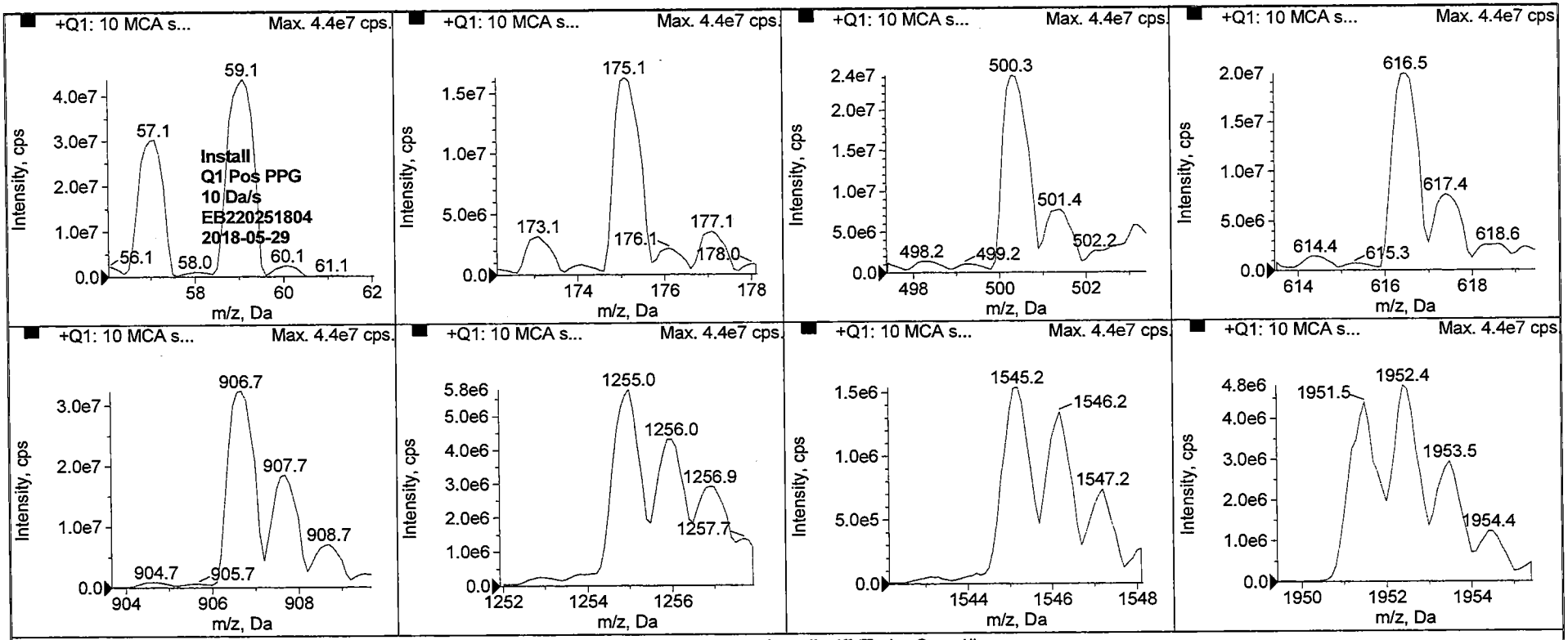
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 10 MCA scans from Sample 1 (Q1 Pos PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0559	4.3682e7	0.6931	-5.8810e-3
2	175.1330	175.1423	1.6298e7	0.7105	-9.3008e-3
3	500.3800	500.3732	2.4240e7	0.6995	6.8010e-3
4	616.4640	616.4825	1.9901e7	0.6890	-0.0185
5	906.6730	906.6804	3.2349e7	0.7151	-7.3891e-3
6	1254.9250	1254.9327	5.7895e6	0.7632	-7.6510e-3
7	1545.1340	1545.1665	1.5381e6	0.7694	-0.0325
8	1952.4270	1952.4521	4.8122e6	0.7423	-0.0251

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

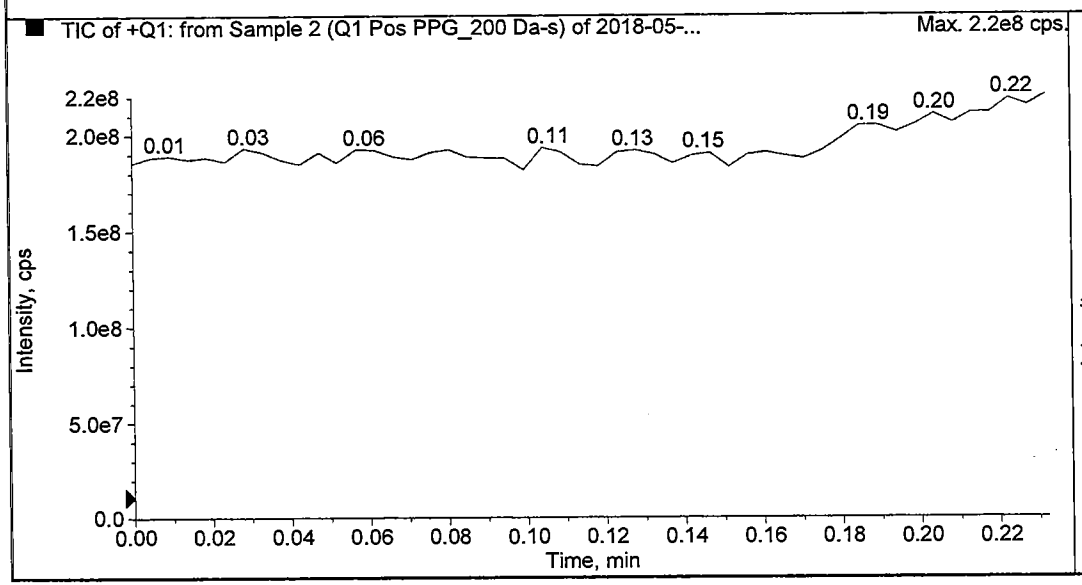
Mass Spectrometer Method Properties

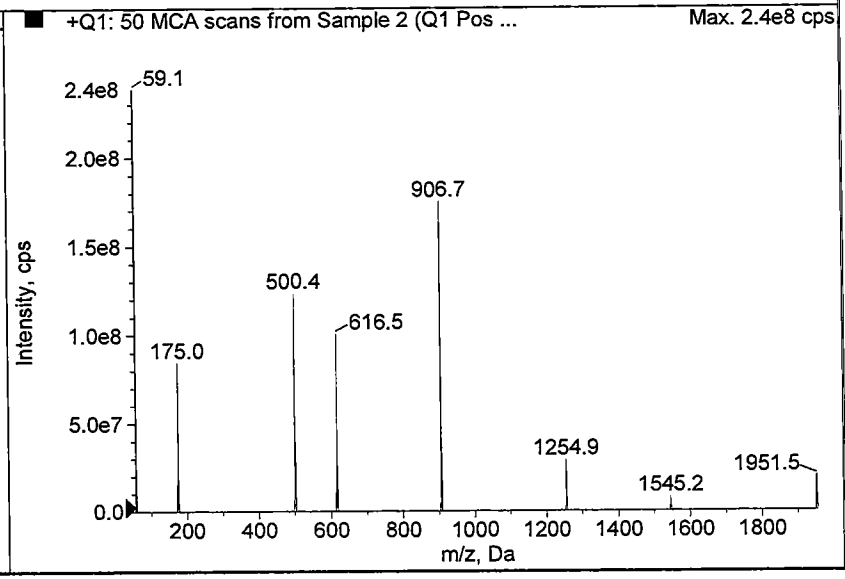
Period 1:

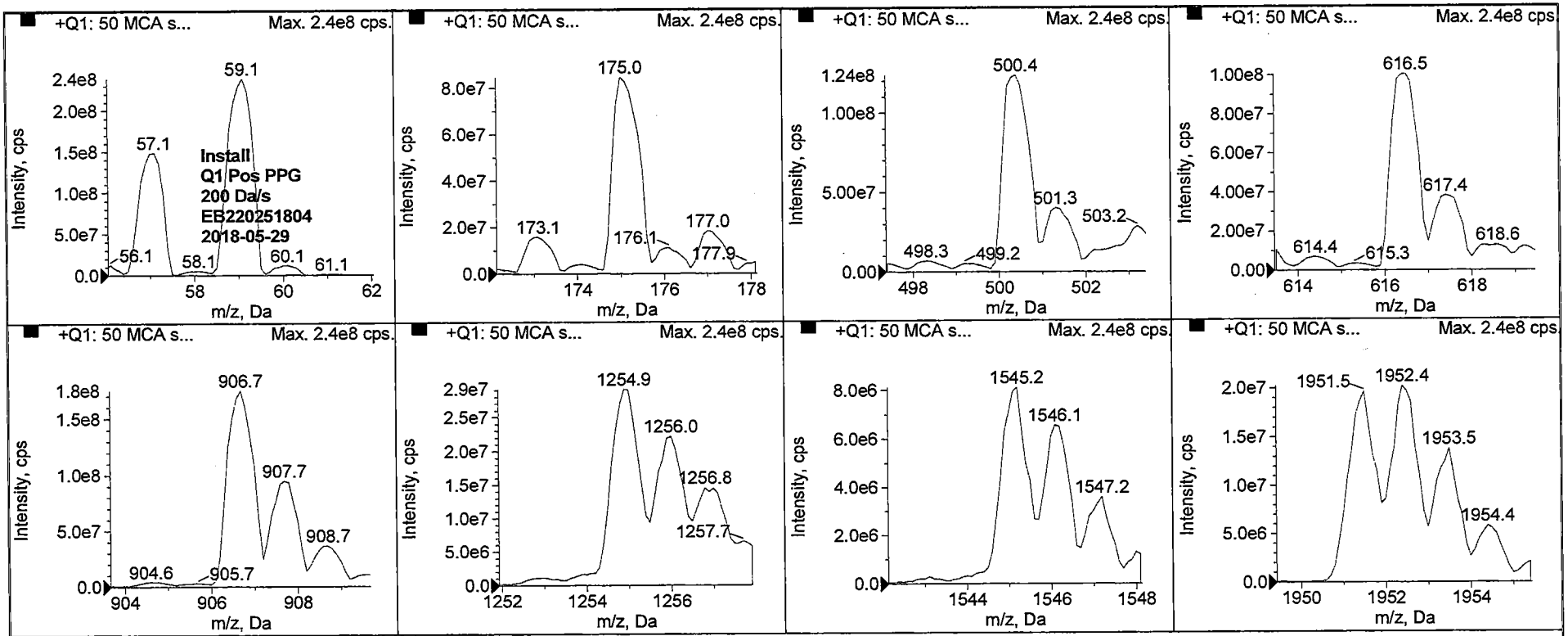
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 50 MCA scans from Sample 2 (Q1 Pos PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0570	2.3875e8	0.6632	-6.9868e-3
2	175.1330	175.1204	8.4656e7	0.7253	0.0126
3	500.3800	500.3915	1.2366e8	0.7160	-0.0115
4	616.4640	616.4631	1.0058e8	0.7191	9.0862e-4
5	906.6730	906.6801	1.7505e8	0.7187	-7.0740e-3
6	1254.9250	1254.9211	2.9174e7	0.7662	3.8790e-3
7	1545.1340	1545.1254	8.1140e6	0.7324	8.6264e-3
8	1952.4270	1952.4458	2.0214e7	0.7760	-0.0188

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): 1.2

CEM (CEM): 1800.0

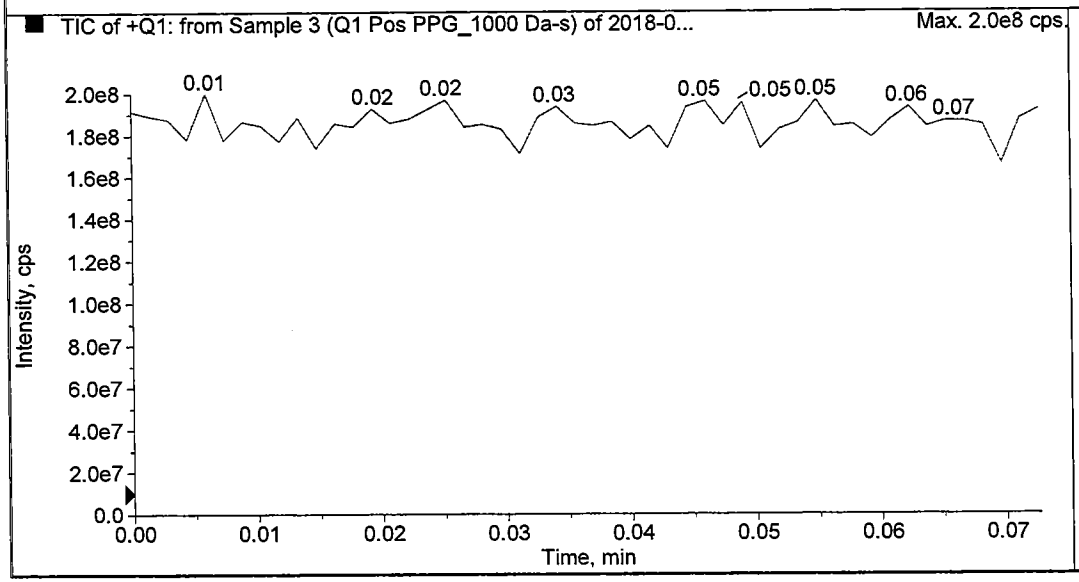
Mass Spectrometer Method Properties

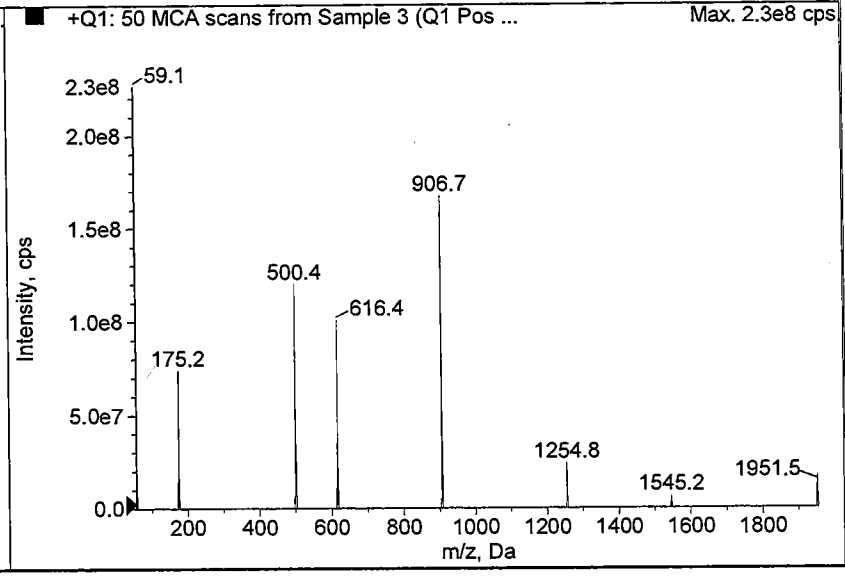
Period 1:

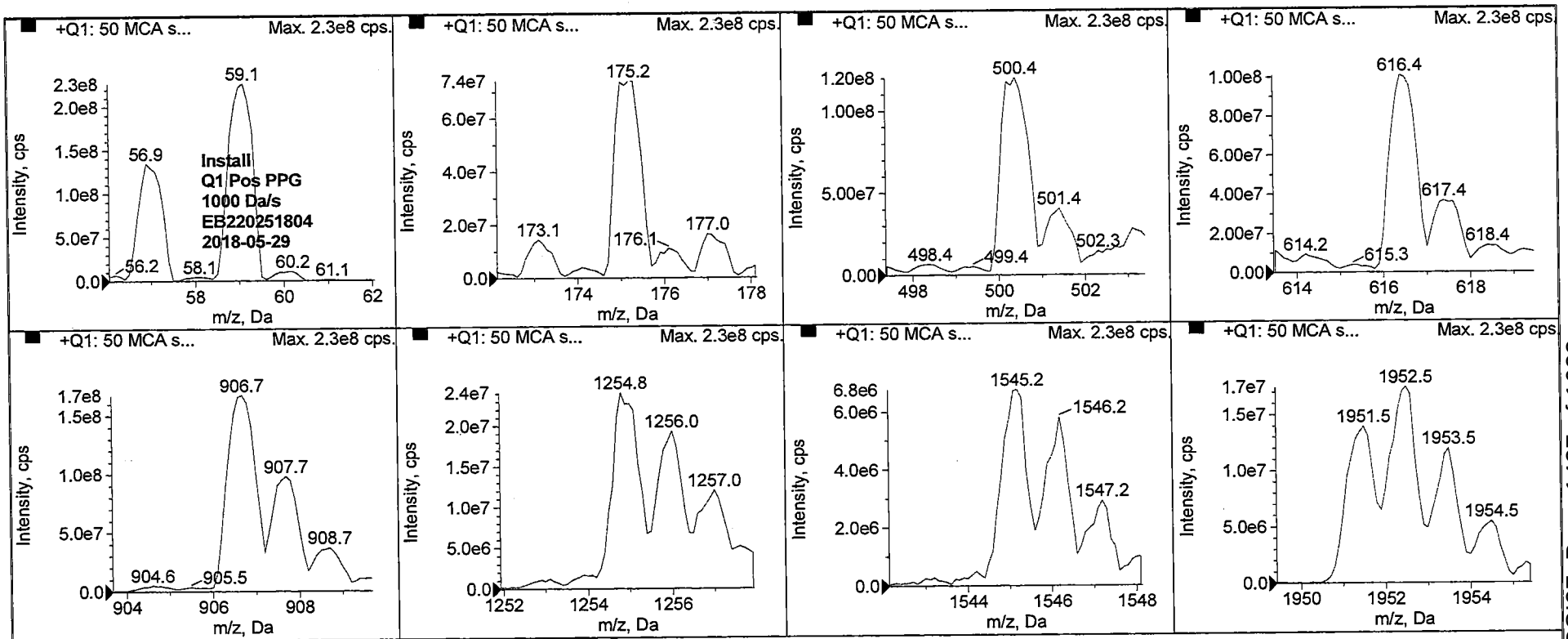
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for " +Q1: 50 MCA scans from Sample 3 (Q1 Pos PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0540	2.2668e8	0.6411	-4.0020e-3
2	175.1330	175.1630	7.4160e7	0.7037	-0.0300
3	500.3800	500.3767	1.2013e8	0.7536	3.3425e-3
4	616.4640	616.4720	1.0080e8	0.7224	-8.0022e-3
5	906.6730	906.6738	1.6743e8	0.7638	-8.2831e-4
6	1254.9250	1254.9160	2.4100e7	0.7104	9.0009e-3
7	1545.1340	1545.1314	6.7600e6	0.6758	2.5866e-3
8	1952.4270	1952.4259	1.7440e7	0.7572	1.0770e-3

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	5500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	10.0
Q1 Resolution:	Unit
Ion Energy 1 (IE1):	1.2
CEM (CEM):	1800.0

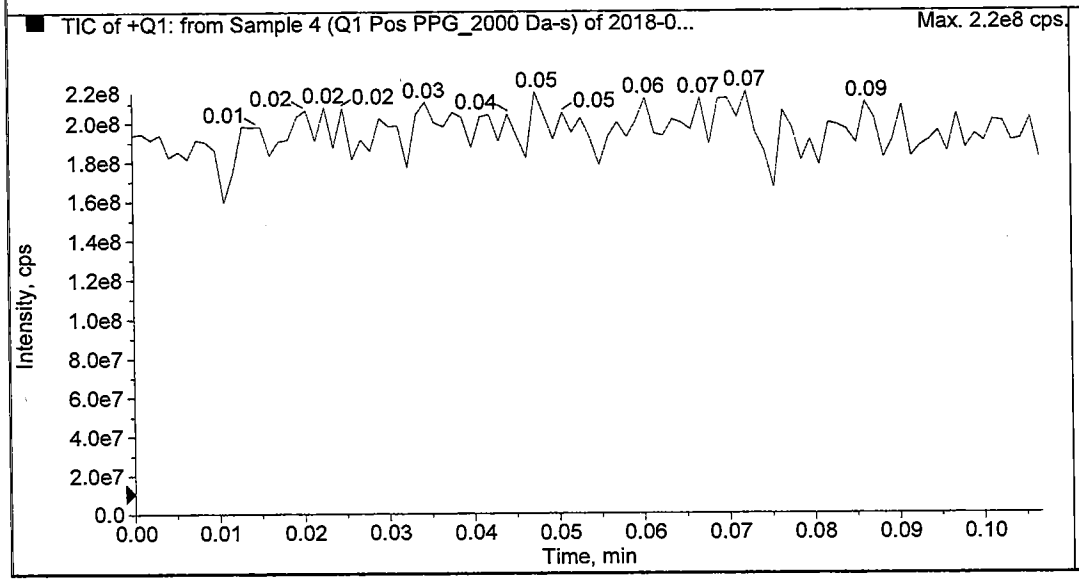
Mass Spectrometer Method Properties

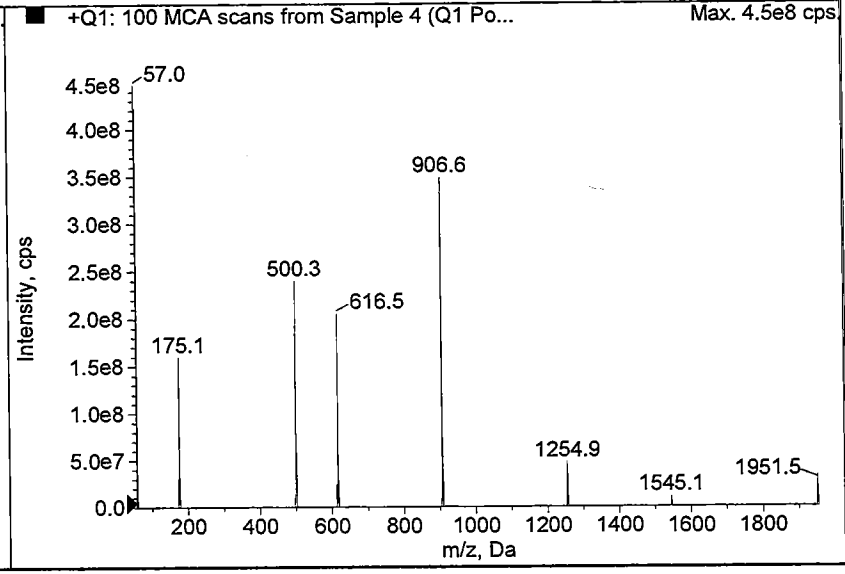
Period 1:

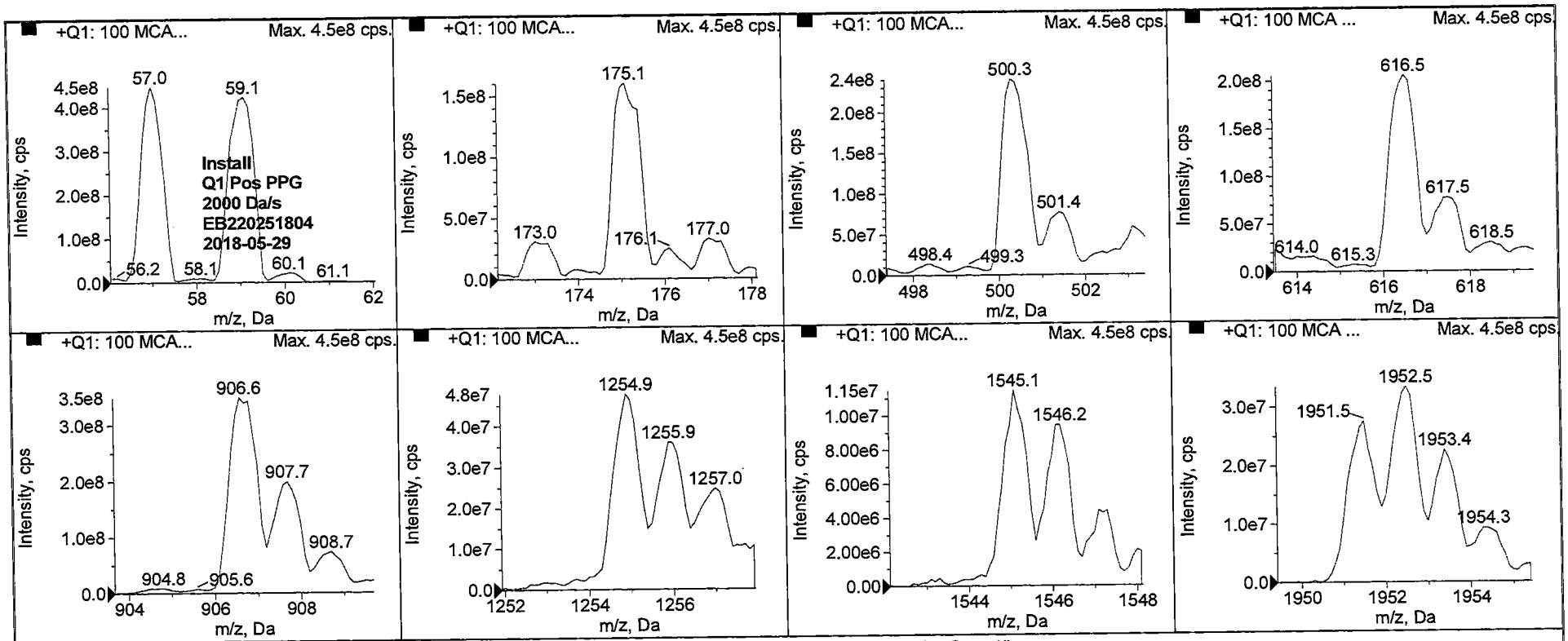
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q1 MS (Q1)
Polarity:	Positive
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q1:	Unit







Peak List for " +Q1: 100 MCA scans from Sample 4 (Q1 Pos PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0541	4.2264e8	0.6747	-4.1197e-3
2	175.1330	175.1367	1.6034e8	0.7378	-3.7421e-3
3	500.3800	500.3744	2.4052e8	0.6995	5.5649e-3
4	616.4640	616.4767	2.0538e8	0.7070	-0.0127
5	906.6730	906.6844	3.4888e8	0.7414	-0.0114
6	1254.9250	1254.9130	4.7800e7	0.7332	0.0120
7	1545.1340	1545.1396	1.1460e7	0.6649	-5.5517e-3
8	1952.4270	1952.4475	3.3400e7	0.7743	-0.0205

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.1

CEM (CEM): 1800.0

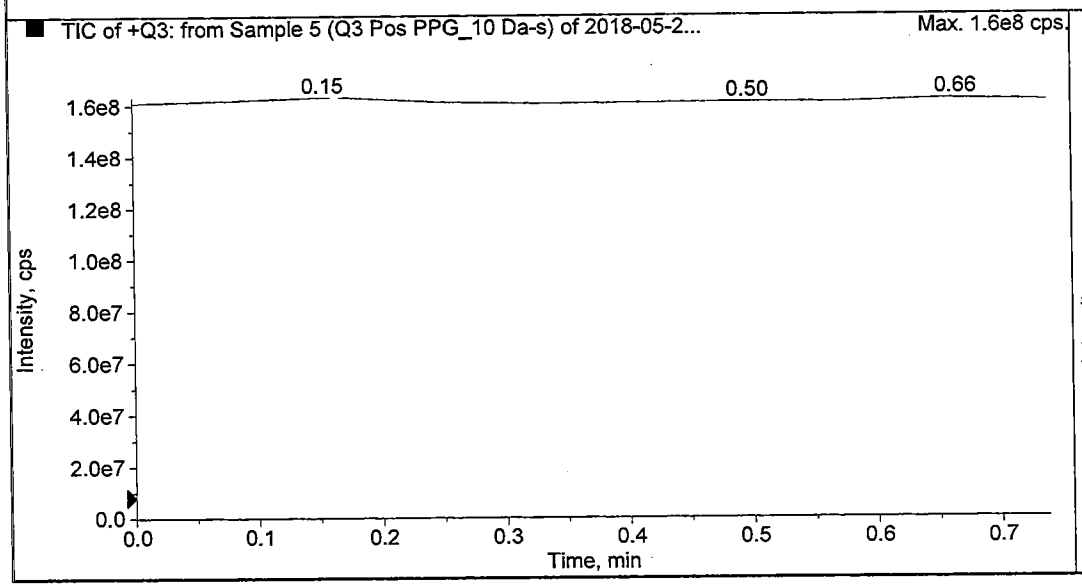
Mass Spectrometer Method Properties

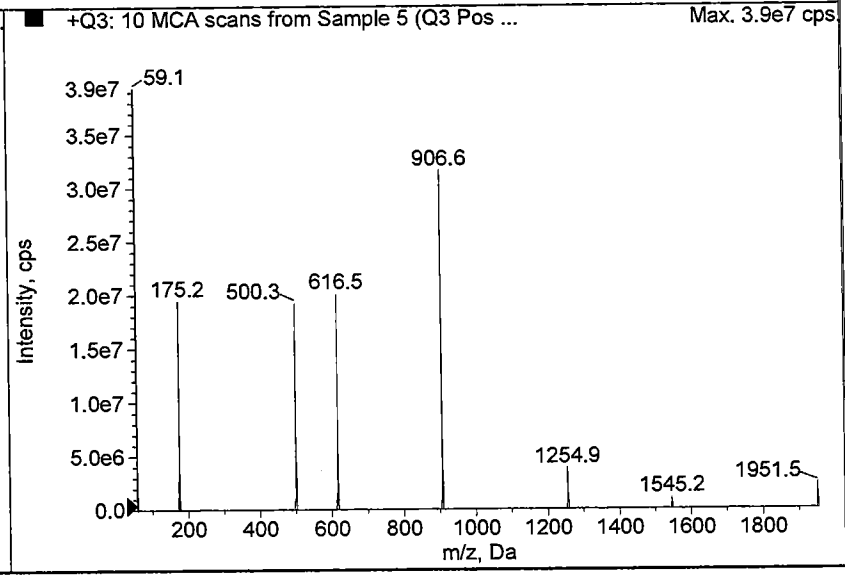
Period 1:

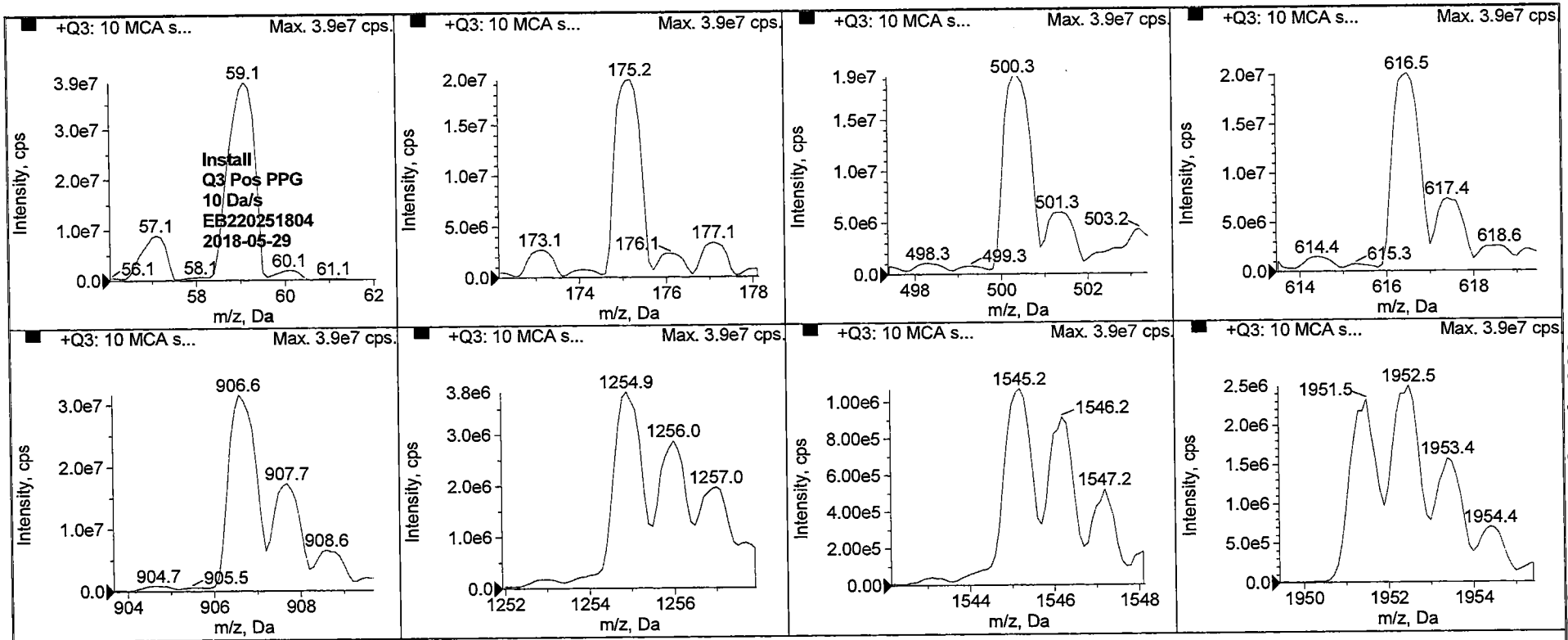
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "+Q3: 10 MCA scans from Sample 5 (Q3 Pos PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0600	3.9407e7	0.7175	-9.9728e-3
2	175.1330	175.1331	1.9501e7	0.6916	-1.2286e-4
3	500.3800	500.3823	1.9253e7	0.7278	-2.2612e-3
4	616.4640	616.4685	2.0128e7	0.7214	-4.5095e-3
5	906.6730	906.6736	3.1634e7	0.7403	-6.1273e-4
6	1254.9250	1254.9230	3.8338e6	0.7464	2.0449e-3
7	1545.1340	1545.1599	1.0717e6	0.7475	-0.0259
8	1952.4270	1952.4105	2.4968e6	0.7828	0.0165

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.0

CEM (CEM): 1800.0

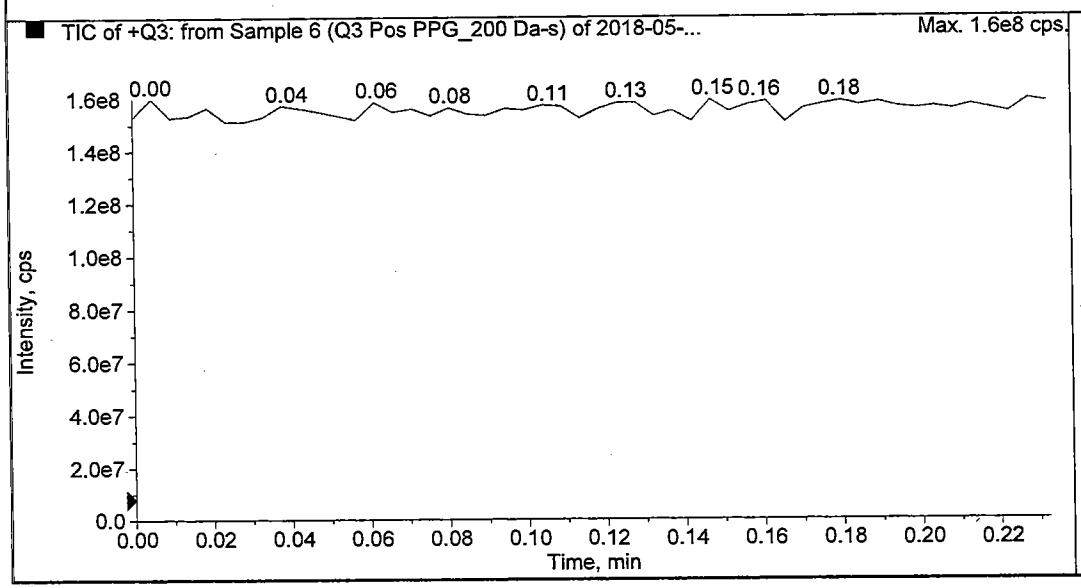
Mass Spectrometer Method Properties

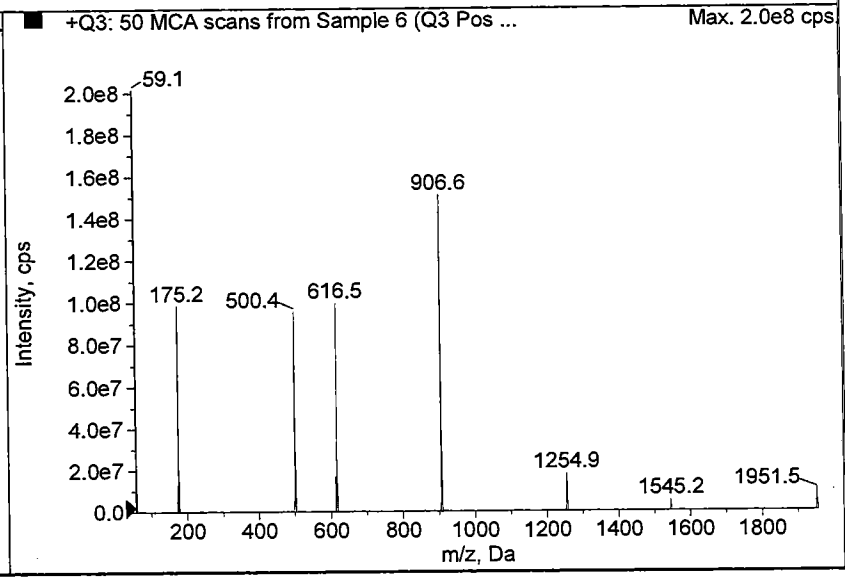
Period 1:

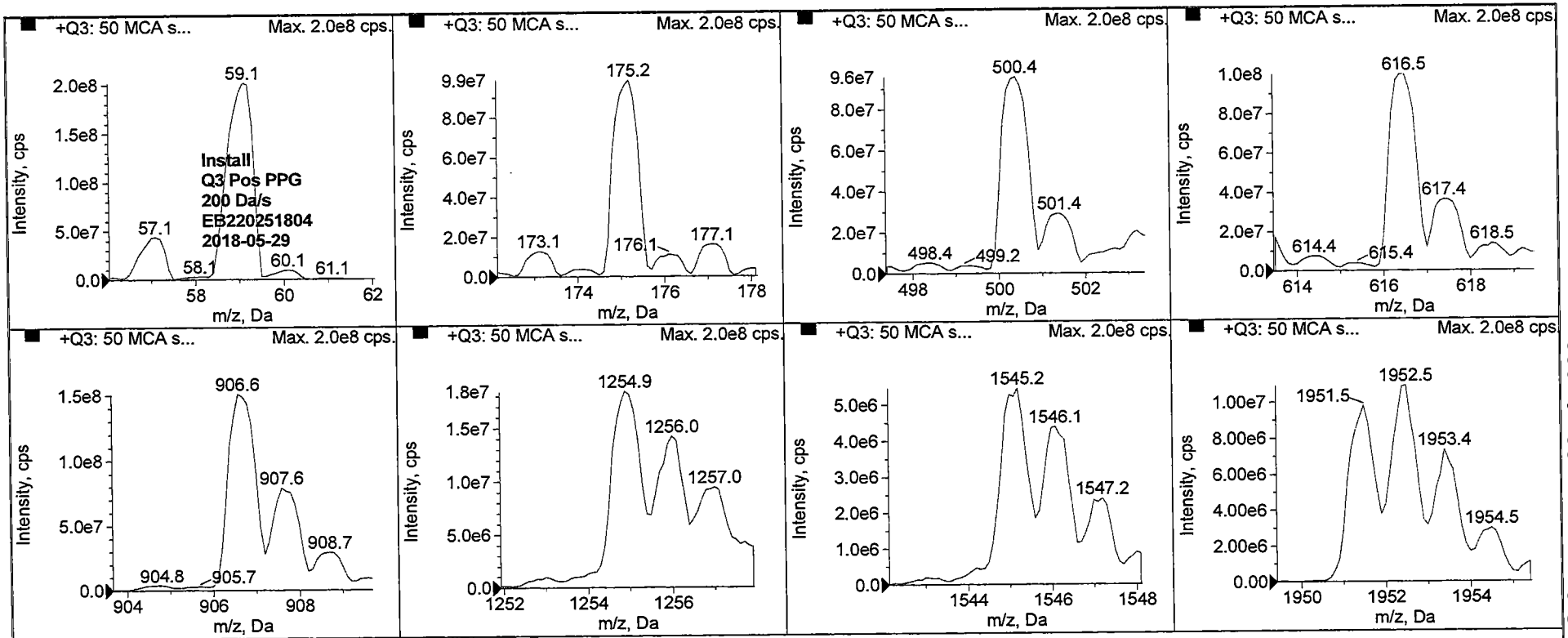
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for " +Q3: 50 MCA scans from Sample 6 (Q3 Pos PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0535	2.0159e8	0.6898	-3.5186e-3
2	175.1330	175.1234	9.8734e7	0.6779	9.5931e-3
3	500.3800	500.3781	9.5670e7	0.7134	1.9254e-3
4	616.4640	616.4537	9.9852e7	0.7073	0.0103
5	906.6730	906.6796	1.5094e8	0.7211	-6.5779e-3
6	1254.9250	1254.9165	1.8432e7	0.7818	8.4504e-3
7	1545.1340	1545.1060	5.4540e6	0.7324	0.0280
8	1952.4270	1952.4363	1.0900e7	0.7220	-9.3366e-3

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.0

CEM (CEM): 1800.0

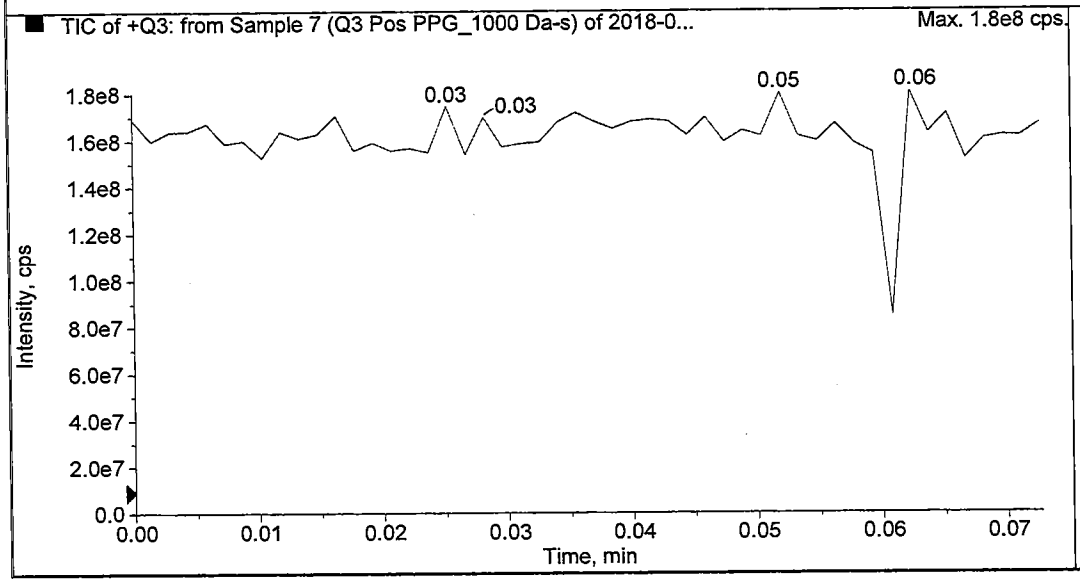
Mass Spectrometer Method Properties

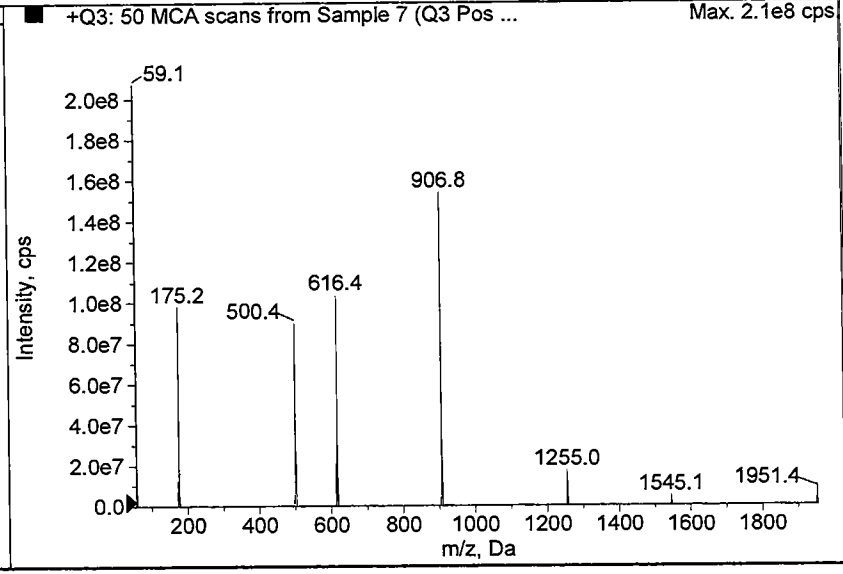
Period 1:

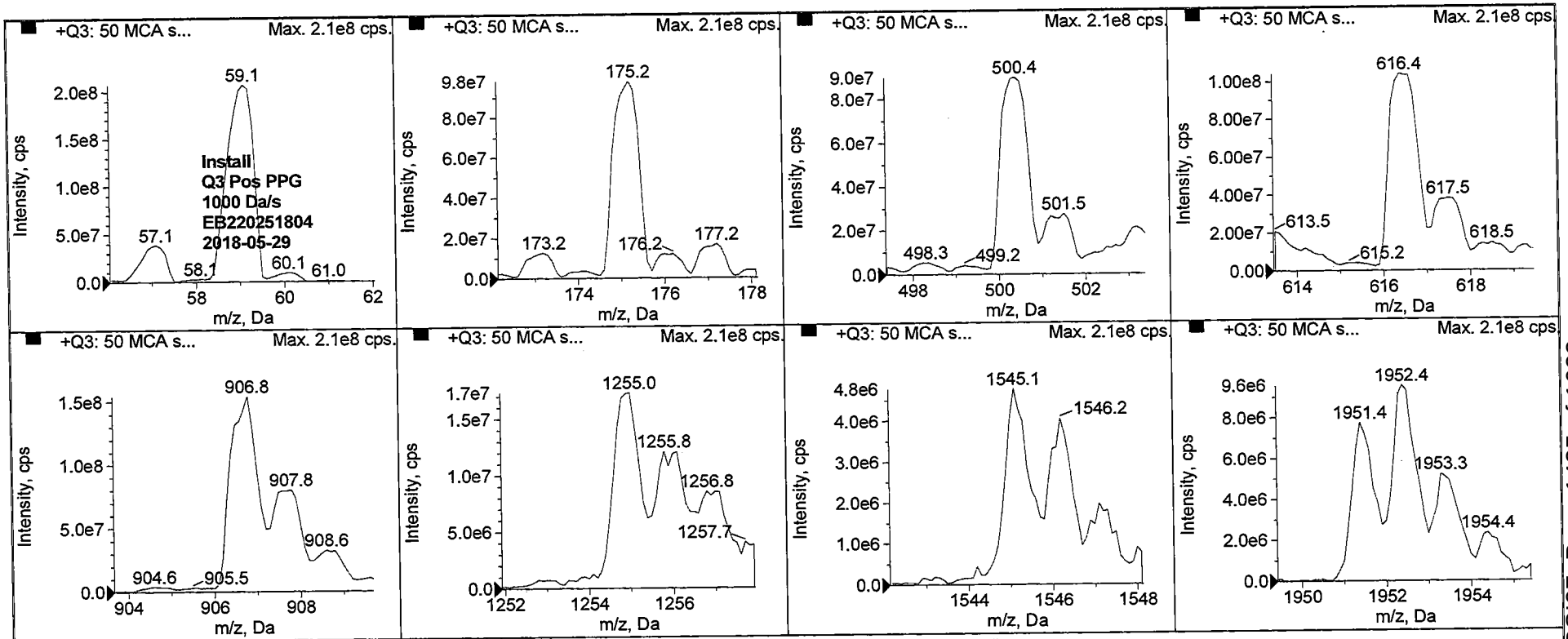
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for " +Q3: 50 MCA scans from Sample 7 (Q3 Pos PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0525	2.0725e8	0.7070	-2.4950e-3
2	175.1330	175.1317	9.8190e7	0.6991	1.2969e-3
3	500.3800	500.3731	8.9990e7	0.7222	6.9400e-3
4	616.4640	616.4761	1.0393e8	0.7599	-0.0121
5	906.6730	906.6936	1.5407e8	0.7541	-0.0206
6	1254.9250	1254.9120	1.7310e7	0.7068	0.0130
7	1545.1340	1545.1453	4.7800e6	0.6227	-0.0113
8	1952.4270	1952.4249	9.5700e6	0.6631	2.0854e-3

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): 10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): 1.2

CEM (CEM): 1800.0

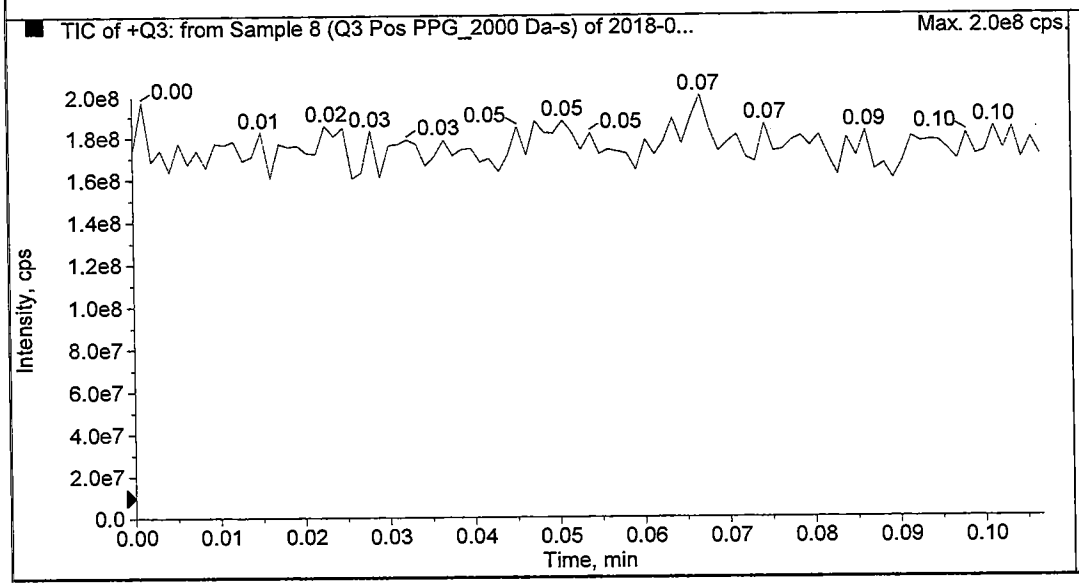
Mass Spectrometer Method Properties

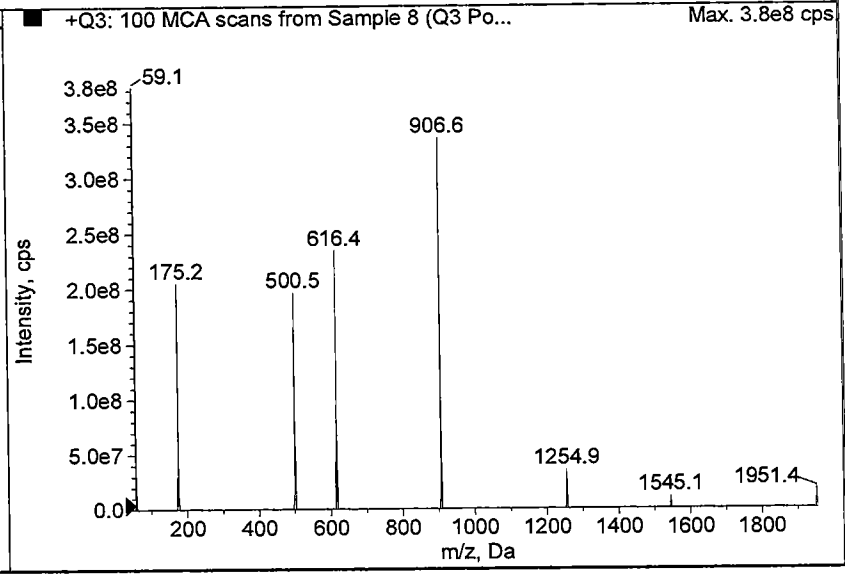
Period 1:

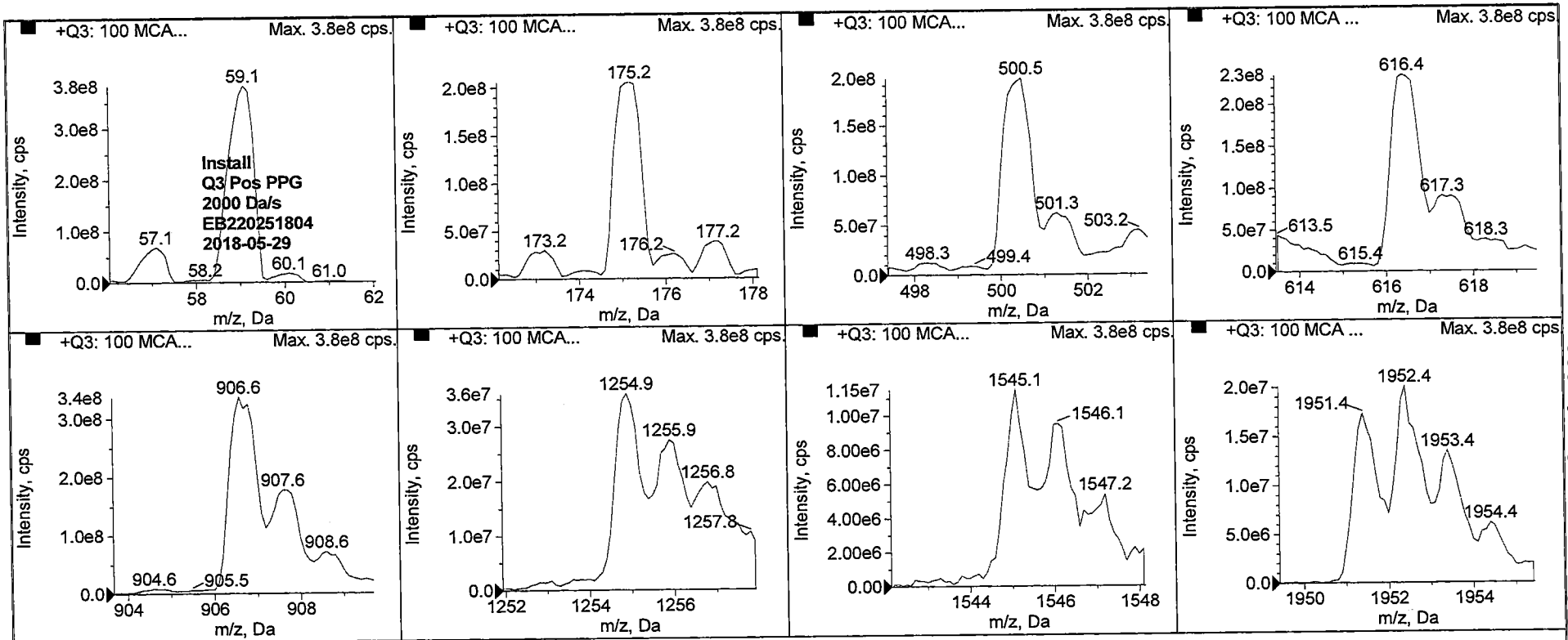
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for " +Q3: 100 MCA scans from Sample 8 (Q3 Pos PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	59.0500	59.0613	3.8304e8	0.6857	-0.0113
2	175.1330	175.1384	2.0544e8	0.7196	-5.4303e-3
3	500.3800	500.3896	1.9692e8	0.7603	-9.6113e-3
4	616.4640	616.4545	2.3484e8	0.7563	9.5275e-3
5	906.6730	906.6804	3.3638e8	0.7428	-7.4202e-3
6	1254.9250	1254.9055	3.5980e7	0.7182	0.0195
7	1545.1340	1545.0988	1.1500e7	0.6834	0.0352
8	1952.4270	1952.4546	2.0100e7	0.7640	-0.0276

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

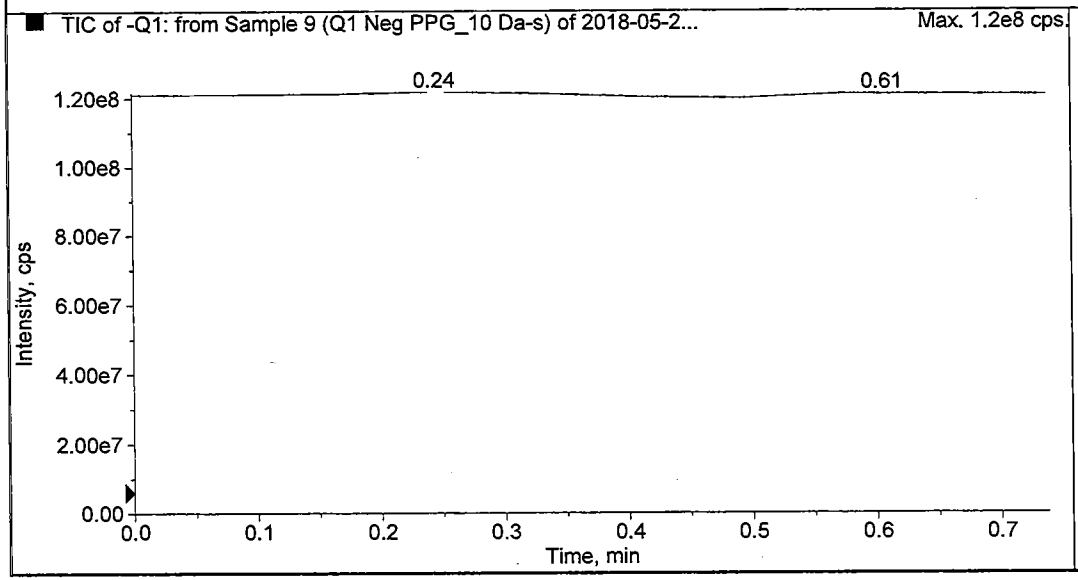
Mass Spectrometer Method Properties

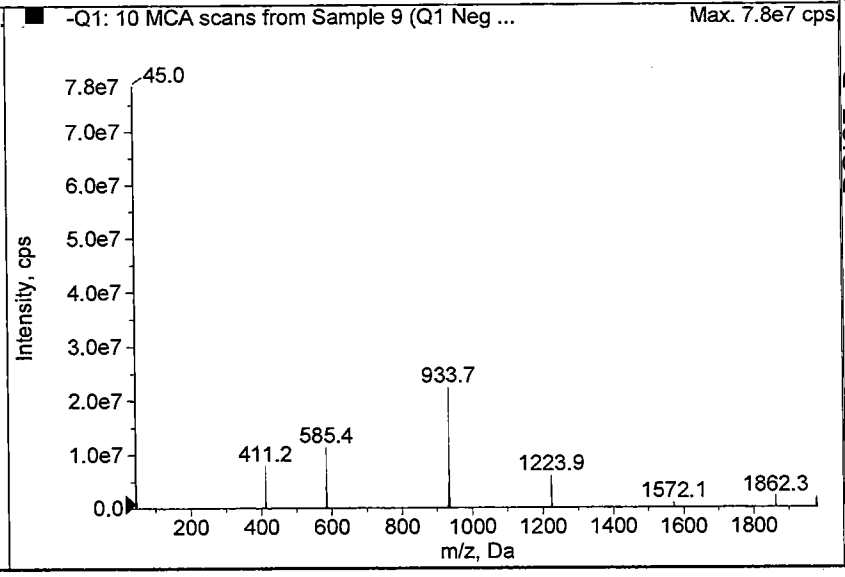
Period 1:

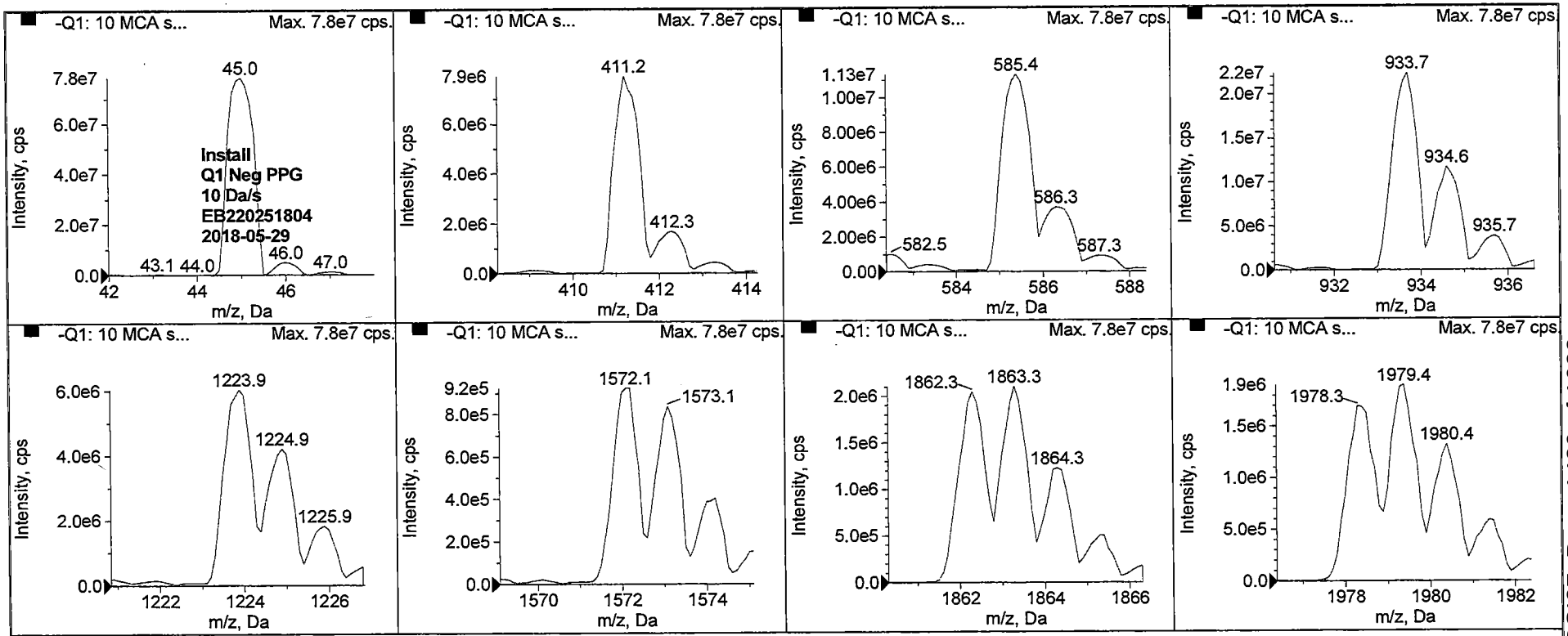
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 10 MCA scans from Sample 9 (Q1 Neg PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9947	7.8484e7	0.6977	3.3302e-3
2	411.2590	411.2640	7.9184e6	0.7009	-4.9843e-3
3	585.3850	585.3944	1.1318e7	0.7674	-9.3834e-3
4	933.6360	933.6513	2.2378e7	0.6638	-0.0153
5	1223.8450	1223.8605	6.0413e6	0.7621	-0.0155
6	1572.0970	1572.0967	9.2320e5	0.6727	2.8078e-4
7	1863.3060	1863.2949	2.1046e6	0.7369	0.0111
8	1979.3890	1979.3655	1.8985e6	0.7323	0.0235

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

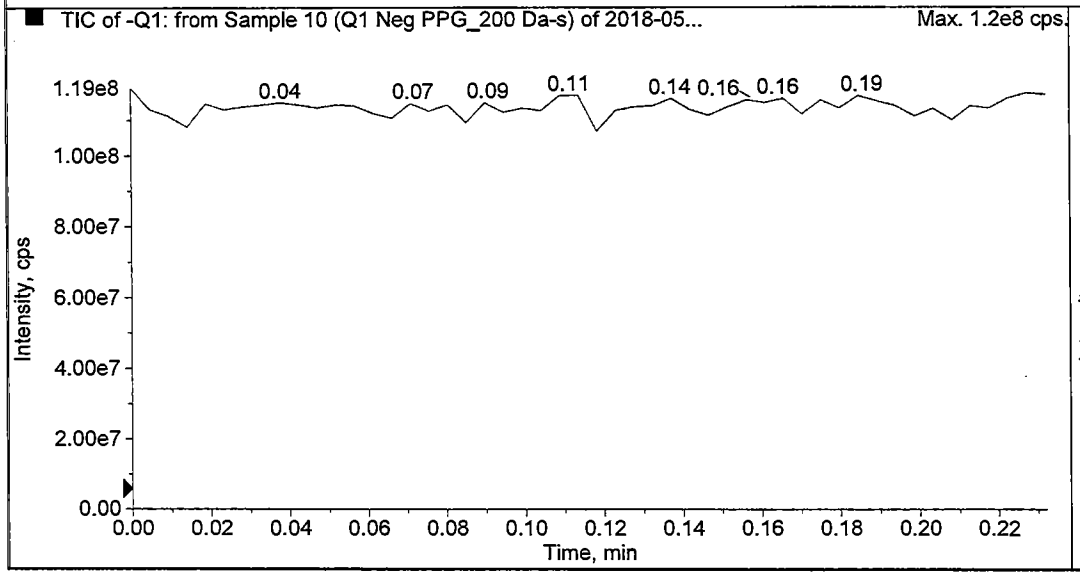
Mass Spectrometer Method Properties

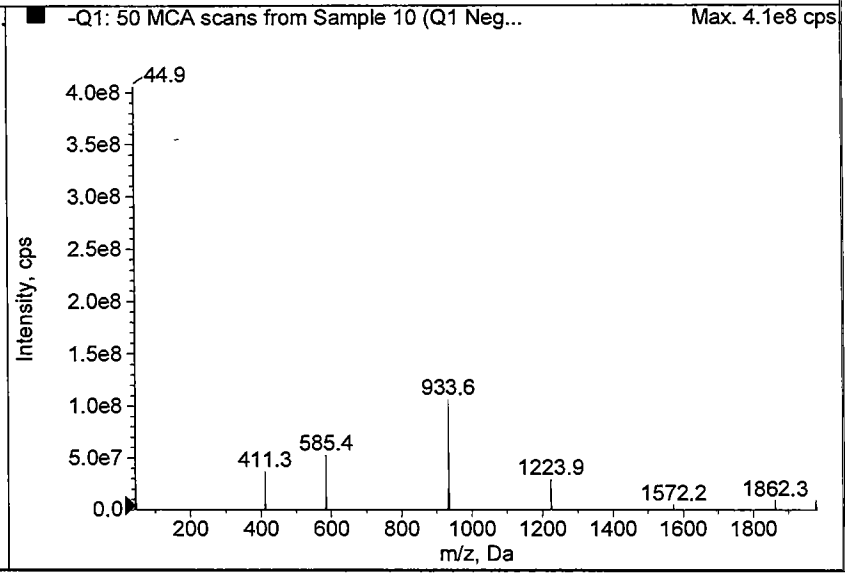
Period 1:

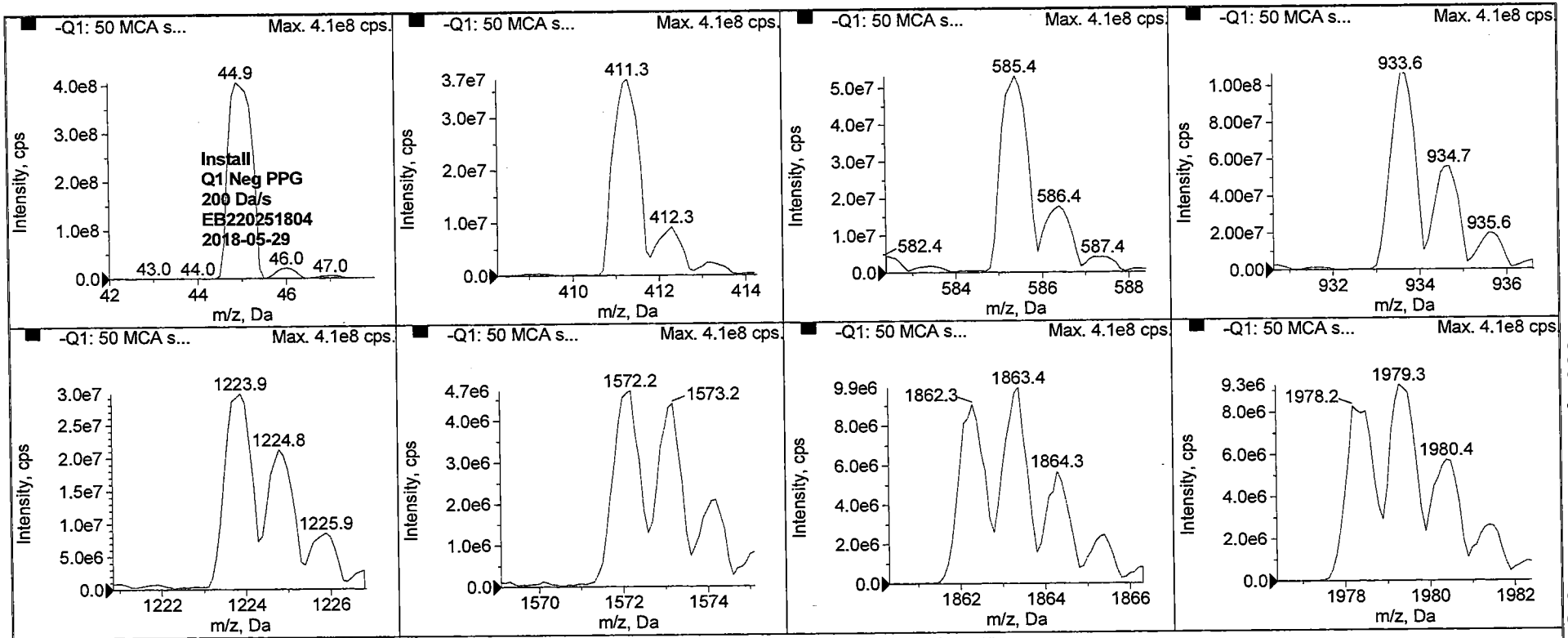
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 50 MCA scans from Sample 10 (Q1 Neg PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9900	4.0582e8	0.6493	8.0001e-3
2	411.2590	411.2621	3.7274e7	0.7276	-3.1008e-3
3	585.3850	585.3787	5.3084e7	0.7168	6.3372e-3
4	933.6360	933.6551	1.0649e8	0.6450	-0.0191
5	1223.8450	1223.8398	2.9712e7	0.7456	5.1659e-3
6	1572.0970	1572.1026	4.7160e6	0.7330	-5.5764e-3
7	1863.3060	1863.3085	9.9060e6	0.6832	-2.5396e-3
8	1979.3890	1979.3715	9.2680e6	0.7385	0.0175

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q1 Resolution: Unit
Ion Energy 1 (IE1): -1.0

CEM (CEM): 1900.0

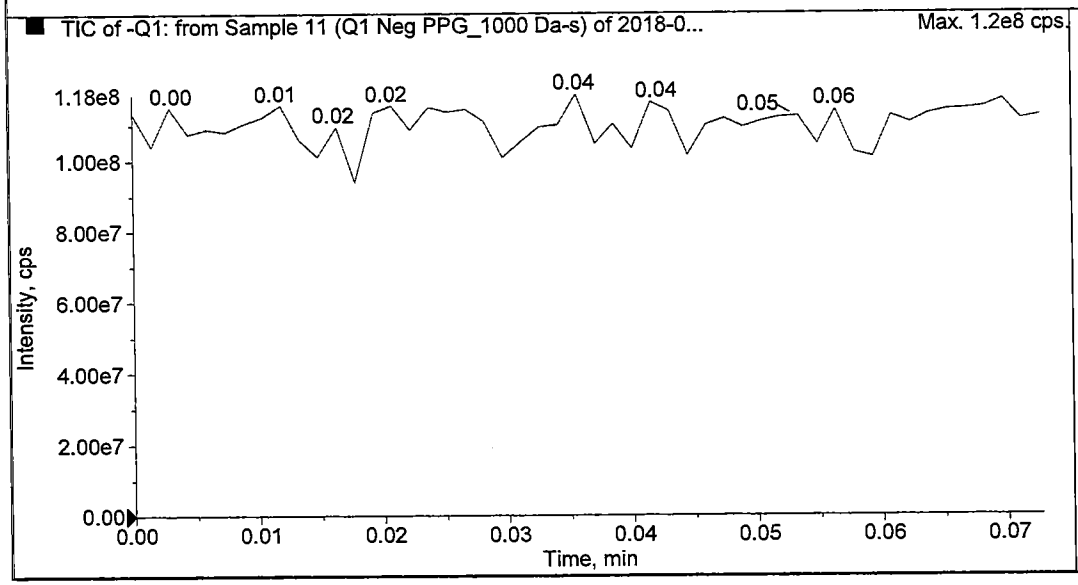
Mass Spectrometer Method Properties

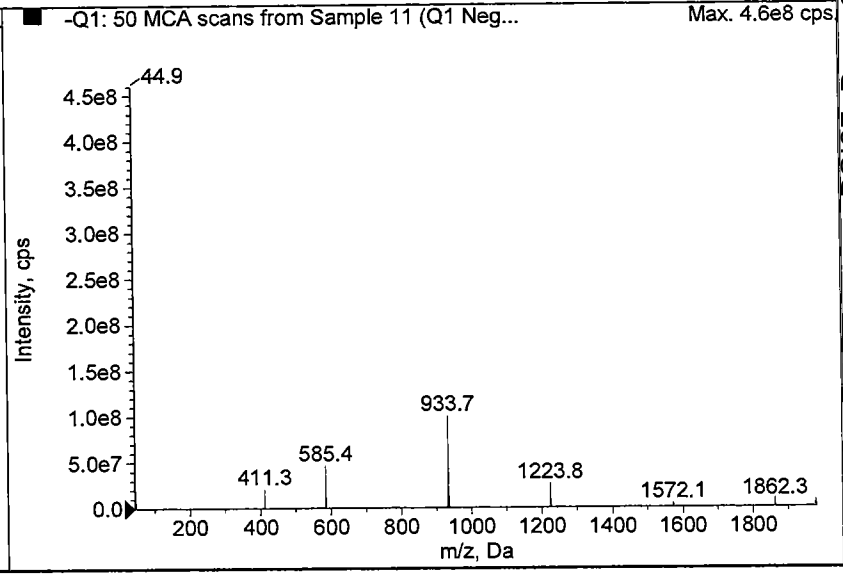
Period 1:

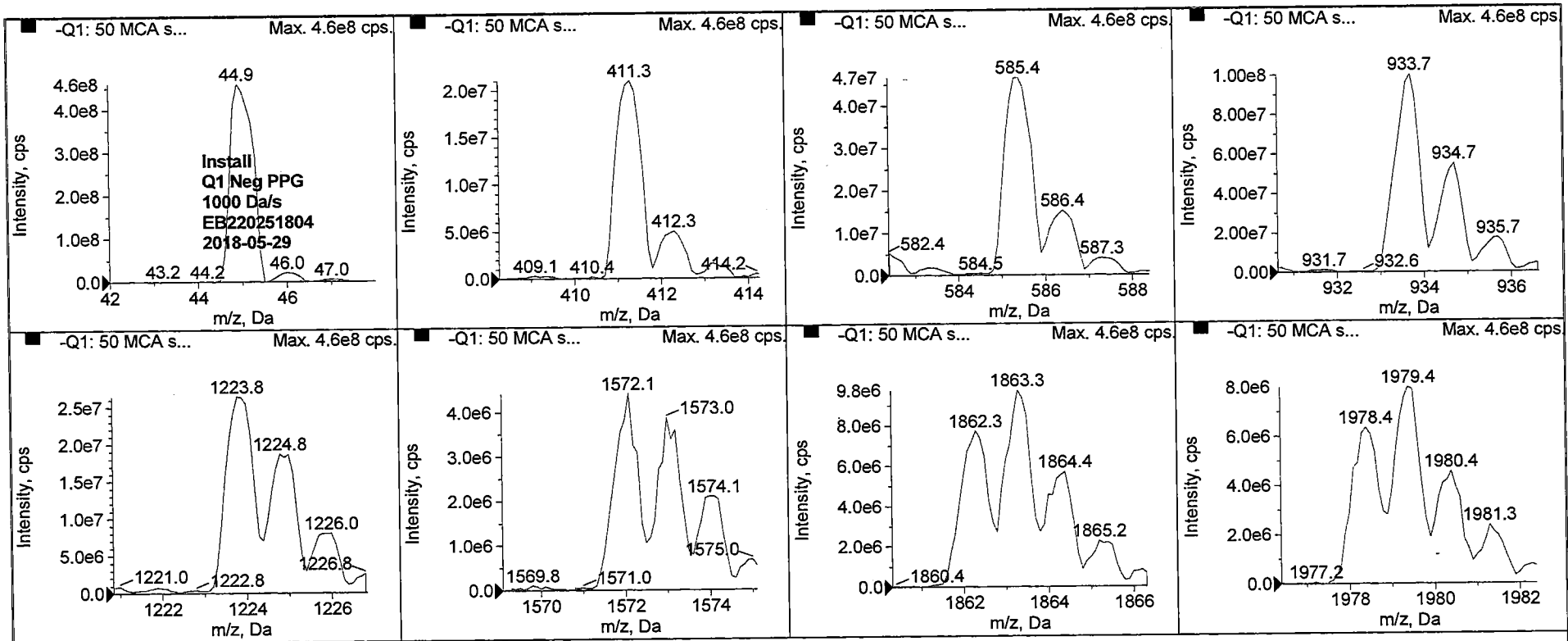
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q1 MS (Q1)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q1: Unit







Peak List for "-Q1: 50 MCA scans from Sample 11 (Q1 Neg PPG_1000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	45.0048	4.6001e8	0.6178	-6.8036e-3
2	411.2590	411.2622	2.1000e7	0.6966	-3.2270e-3
3	585.3850	585.3835	4.6680e7	0.7152	1.4984e-3
4	933.6360	933.6542	1.0040e8	0.6380	-0.0182
5	1223.8450	1223.8506	2.6440e7	0.7474	-5.6084e-3
6	1572.0970	1572.0547	4.4200e6	0.6569	0.0423
7	1863.3060	1863.3097	9.7600e6	0.7294	-3.6879e-3
8	1979.3890	1979.3736	7.9900e6	0.7077	0.0154

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	-4500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	-10.0
Q1 Resolution:	Unit
Ion Energy 1 (IE1):	-1.0
CEM (CEM):	1900.0

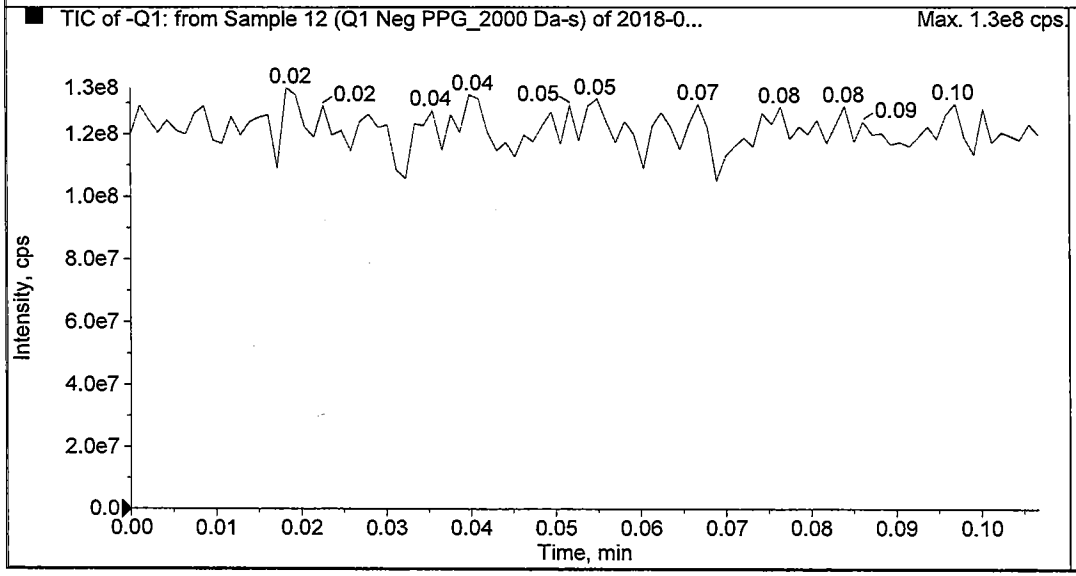
Mass Spectrometer Method Properties

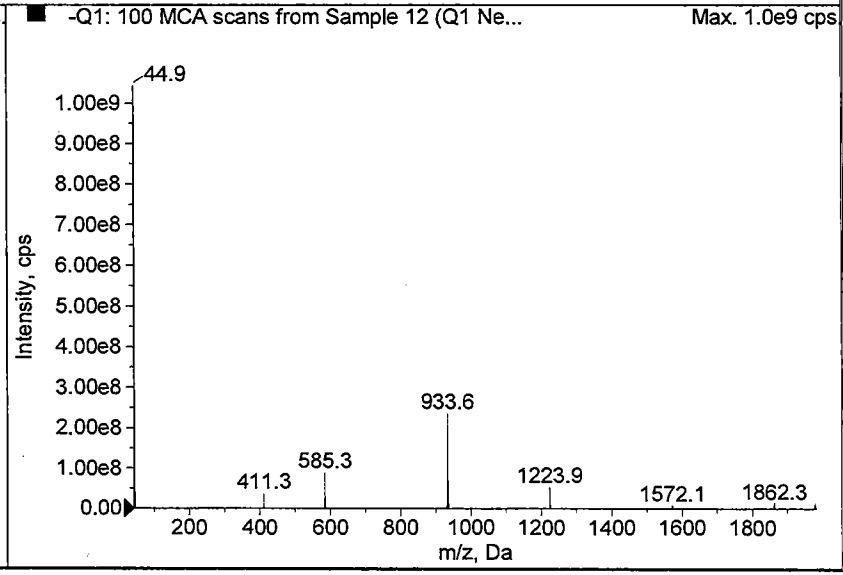
Period 1:

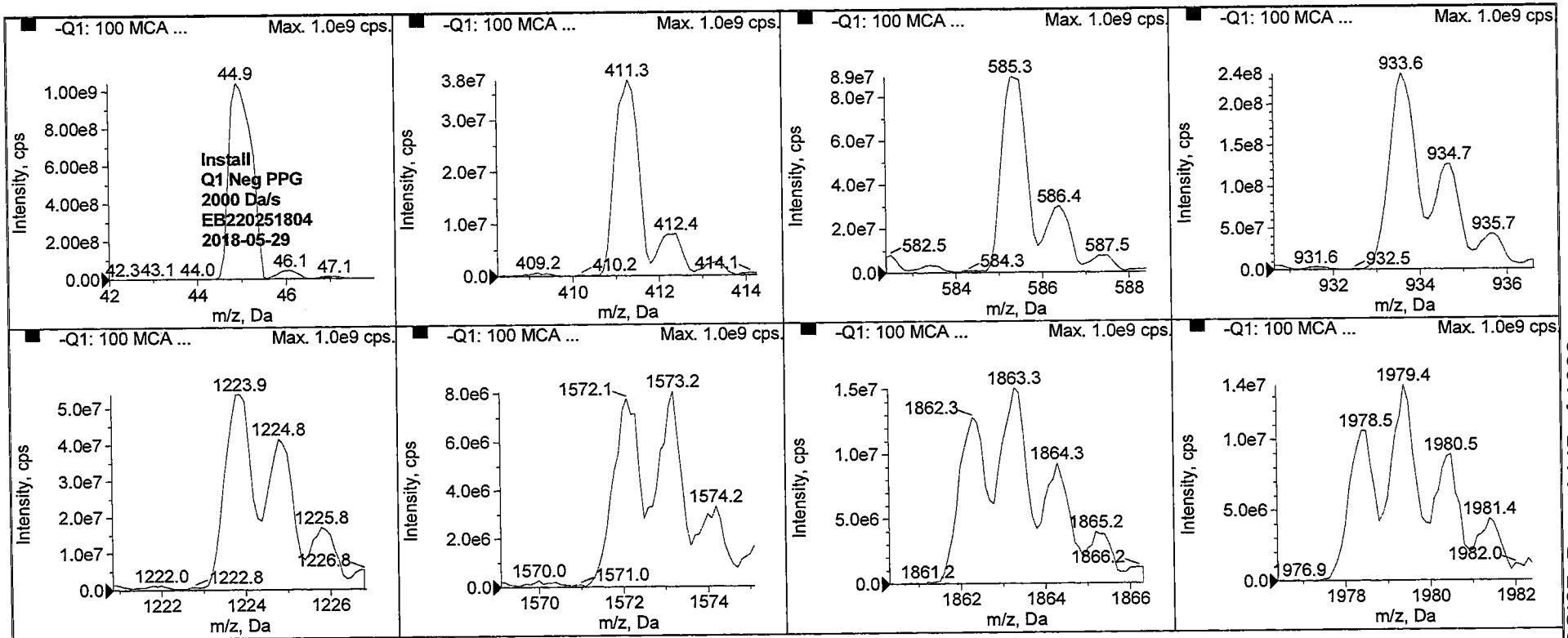
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q1 MS (Q1)
Polarity:	Negative
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q1:	Unit







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Peak List for "-Q1: 100 MCA scans from Sample 12 (Q1 Neg PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9988	1.0432e9	0.6290	-7.8776e-4
2	411.2590	411.2681	3.7700e7	0.6335	-9.0706e-3
3	585.3850	585.3670	8.9260e7	0.6465	0.0180
4	933.6360	933.6310	2.3632e8	0.6639	4.9633e-3
5	1223.8450	1223.8469	5.3740e7	0.7138	-1.8551e-3
6	1572.0970	1572.1139	7.7800e6	0.7223	-0.0169
7	1863.3060	1863.2638	1.5060e7	0.7553	0.0422
8	1979.3890	1979.3750	1.3800e7	0.6556	0.0140

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

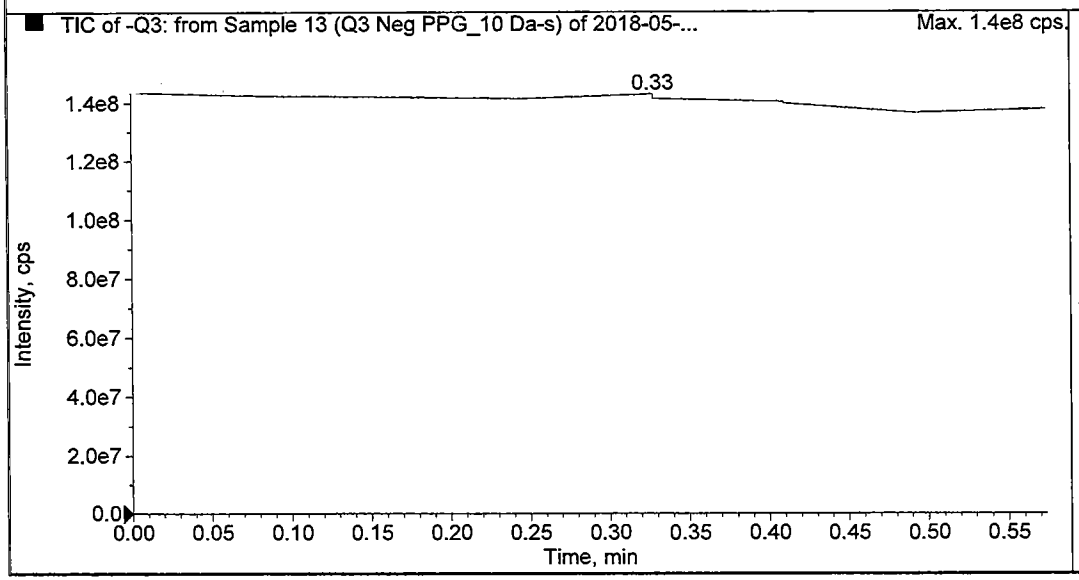
Mass Spectrometer Method Properties

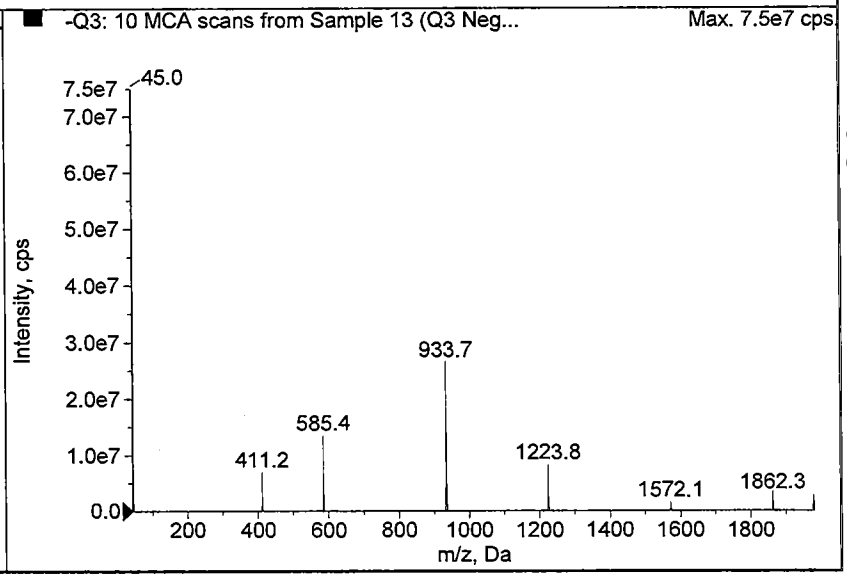
Period 1:

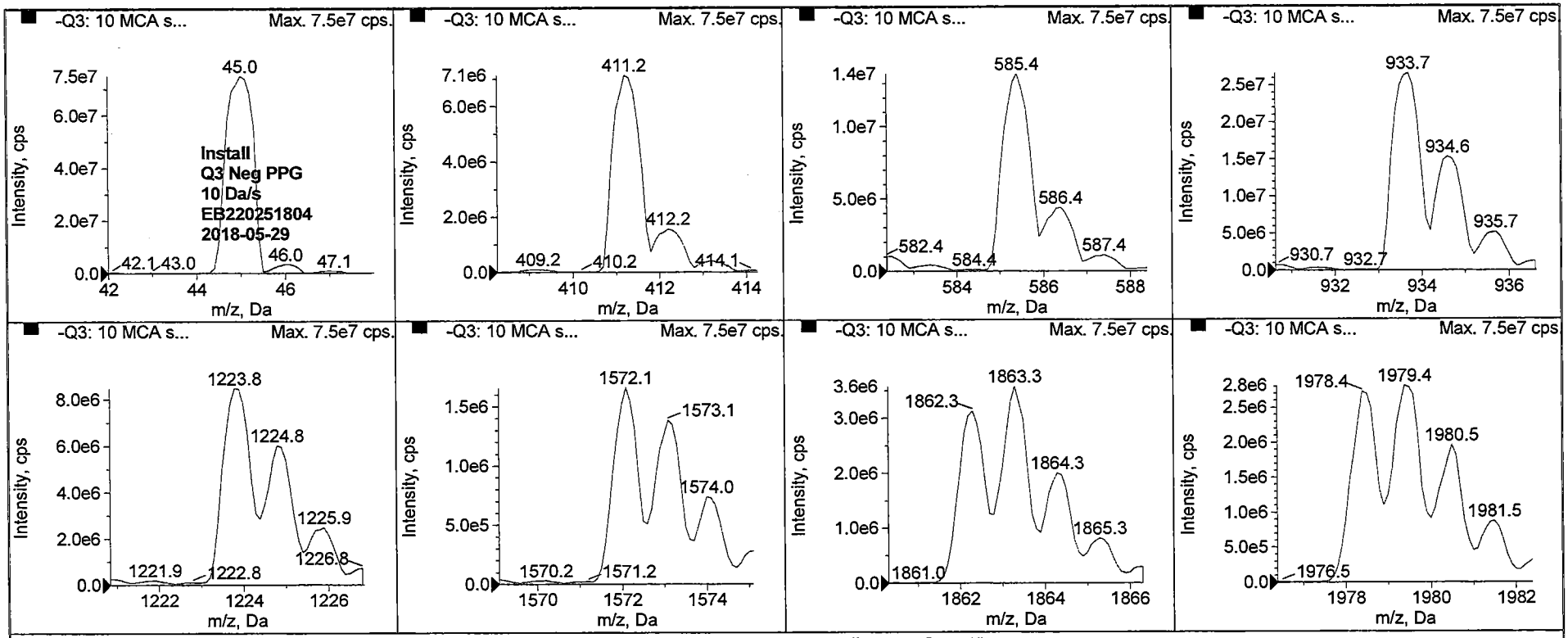
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "-Q3: 10 MCA scans from Sample 13 (Q3 Neg PPG_10 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9972	7.5007e7	0.7320	7.7711e-4
2	411.2590	411.2344	7.1361e6	0.7370	0.0246
3	585.3850	585.3868	1.3657e7	0.7362	-1.8161e-3
4	933.6360	933.6384	2.6621e7	0.7288	-2.4244e-3
5	1223.8450	1223.8430	8.4746e6	0.7528	1.9856e-3
6	1572.0970	1572.0927	1.6606e6	0.6651	4.2840e-3
7	1863.3060	1863.3066	3.5734e6	0.7033	-6.4400e-4
8	1979.3890	1979.4384	2.8091e6	0.7513	-0.0494

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	-4500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	-10.0
Q3 Resolution:	Unit
Ion Energy 3 (IE3):	-1.5
CEM (CEM):	1900.0

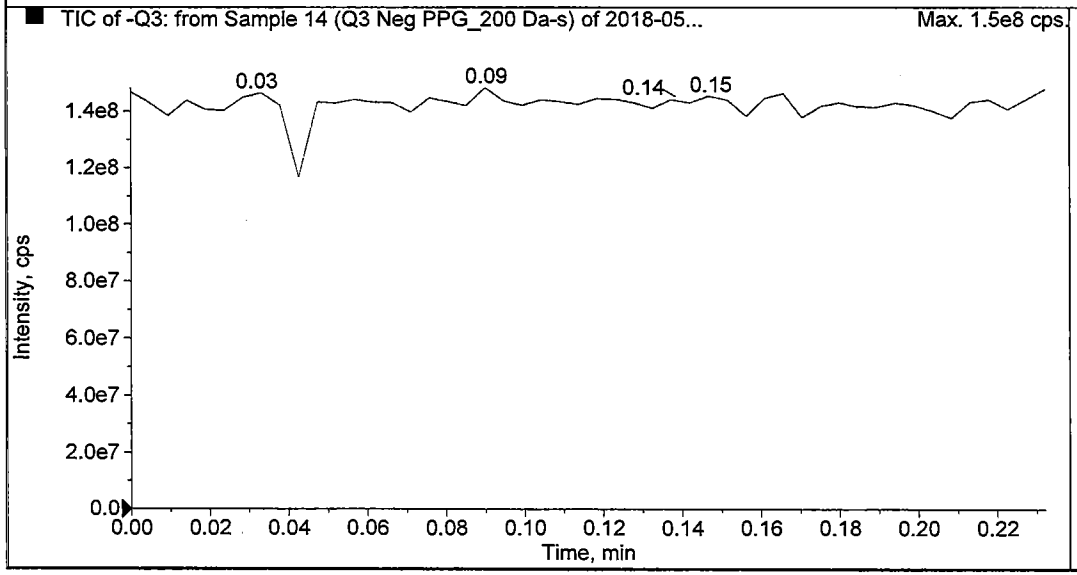
Mass Spectrometer Method Properties

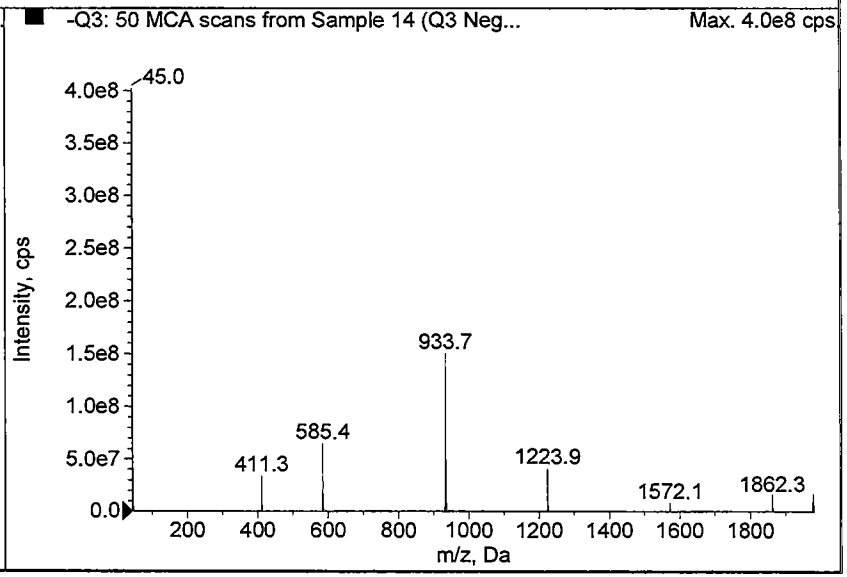
Period 1:

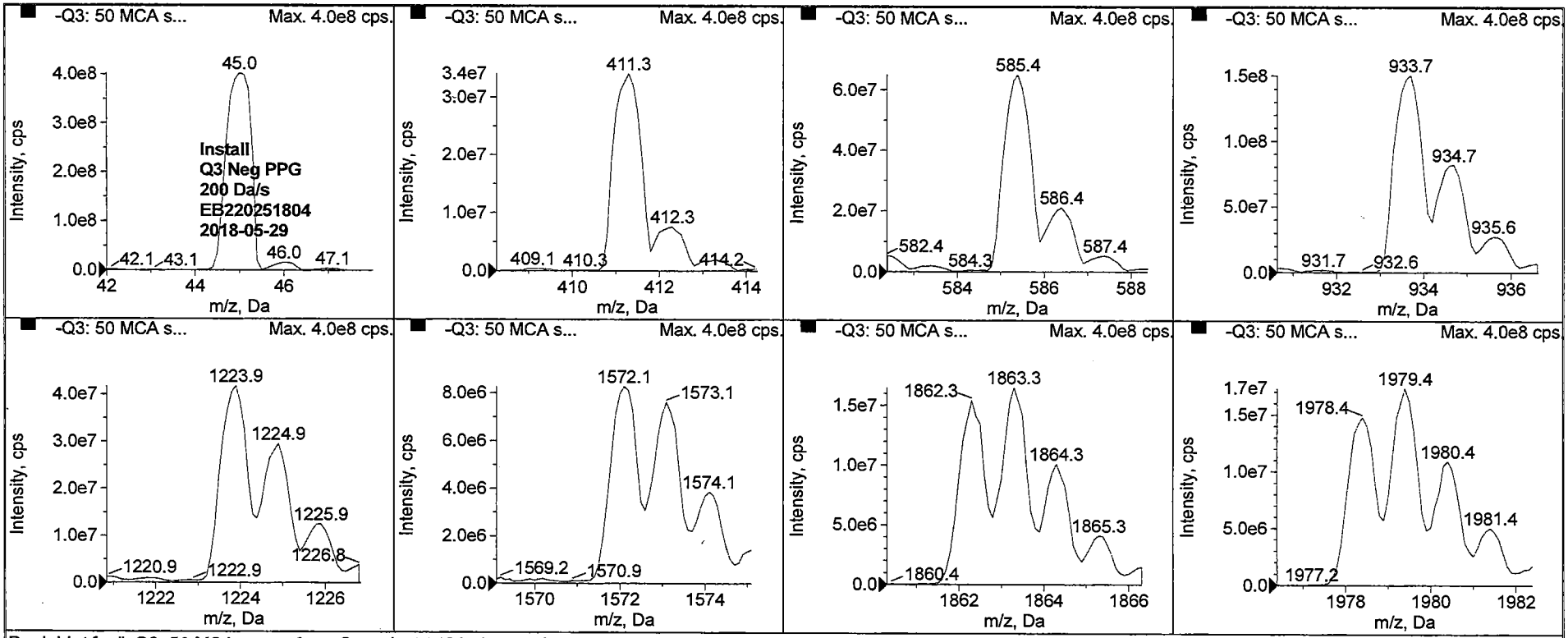
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q3 MS (Q3)
Polarity:	Negative
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q3:	Unit







Peak List for "-Q3: 50 MCA scans from Sample 14 (Q3 Neg PPG_200 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9962	4.0241e8	0.6638	1.8369e-3
2	411.2590	411.2556	3.4052e7	0.7417	3.4492e-3
3	585.3850	585.3842	6.5036e7	0.7136	7.7195e-4
4	933.6360	933.6363	1.5056e8	0.7374	-3.0811e-4
5	1223.8450	1223.8530	4.1810e7	0.7279	-7.9656e-3
6	1572.0970	1572.1021	8.2680e6	0.7241	-5.0694e-3
7	1863.3060	1863.3199	1.6482e7	0.6755	-0.0139
8	1979.3890	1979.3879	1.7328e7	0.7116	1.1118e-3

Mass Spectrometer Method Properties

State Parameter Editor

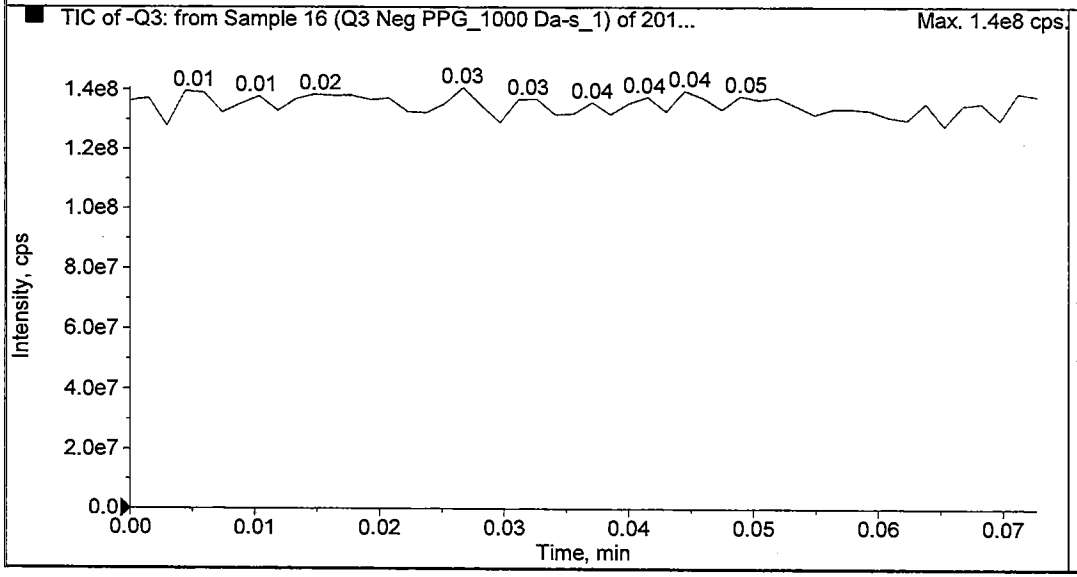
Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	10.0
IonSpray Voltage (IS):	-4500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Entrance Potential (EP):	-10.0
Q3 Resolution:	Unit
Ion Energy 3 (IE3):	-1.5
CEM (CEM):	1900.0

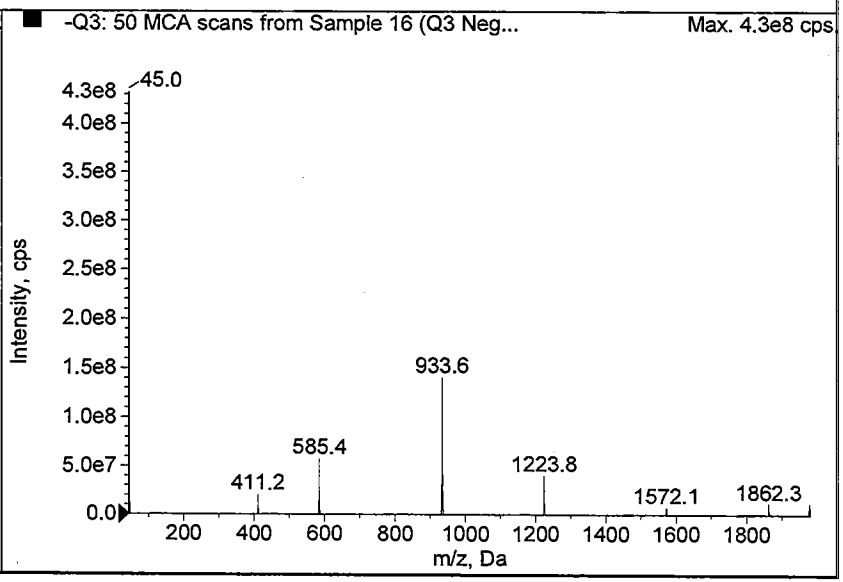
Period 1:

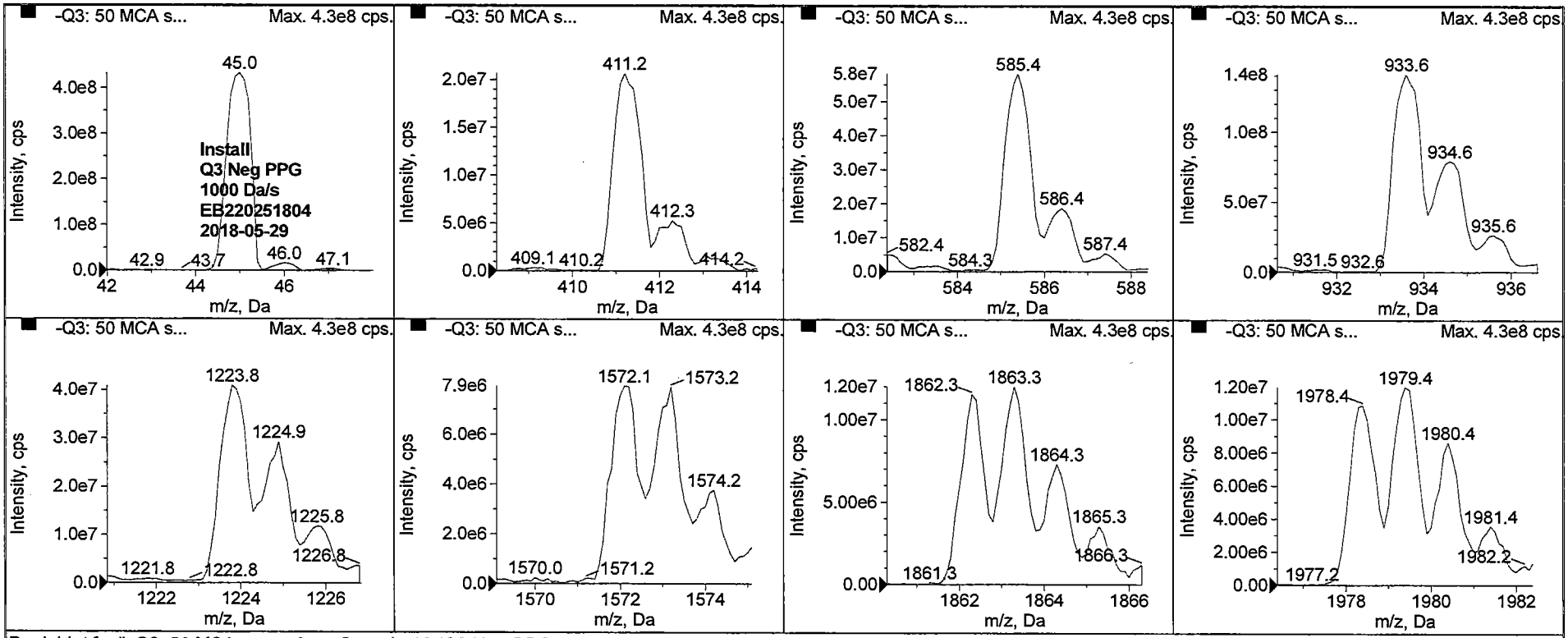
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q3 MS (Q3)
Polarity:	Negative
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q3:	Unit







Peak List for "-Q3: 50 MCA scans from Sample 16 (Q3 Neg PPG_1000 Da-s_1) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9825	4.3310e8	0.6384	0.0155
2	411.2590	411.2576	2.0660e7	0.7352	1.4357e-3
3	585.3850	585.3827	5.8190e7	0.6719	2.2702e-3
4	933.6360	933.6150	1.4107e8	0.7226	0.0210
5	1223.8450	1223.8394	4.0960e7	0.7336	5.6019e-3
6	1572.0970	1572.1001	7.9400e6	0.7950	-3.0523e-3
7	1863.3060	1863.2902	1.2010e7	0.6806	0.0158
8	1979.3890	1979.4012	1.1960e7	0.7138	-0.0122

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 10.0
IonSpray Voltage (IS): -4500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Entrance Potential (EP): -10.0

Q3 Resolution: Unit
Ion Energy 3 (IE3): -1.5

CEM (CEM): 1900.0

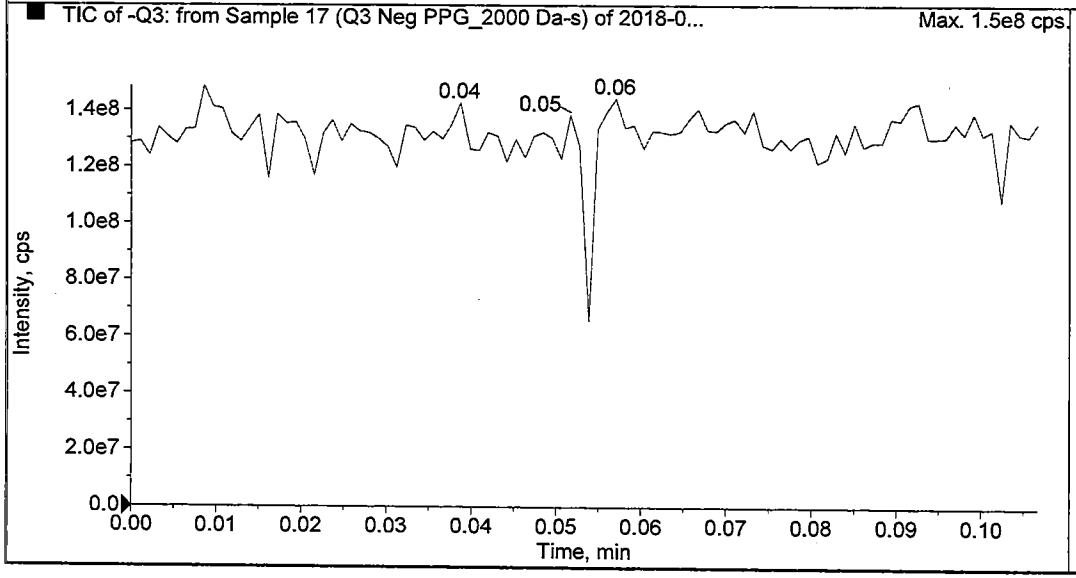
Mass Spectrometer Method Properties

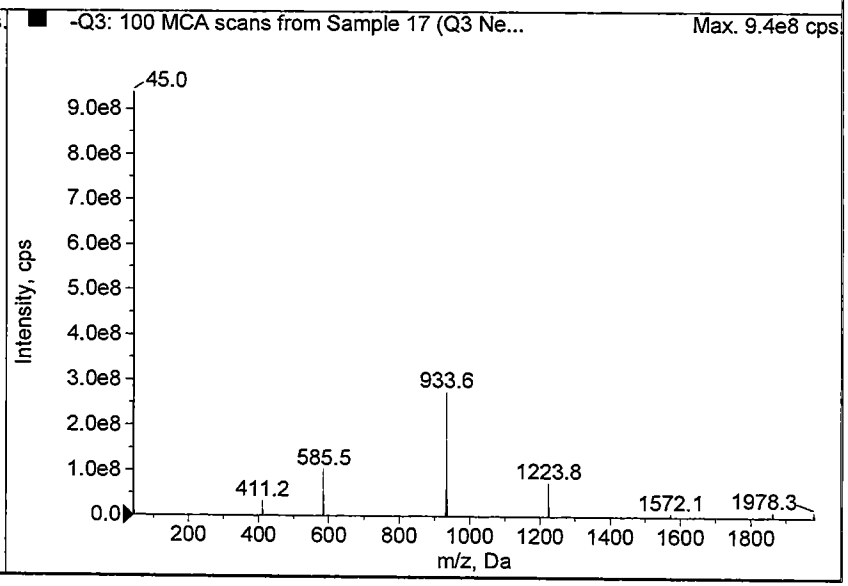
Period 1:

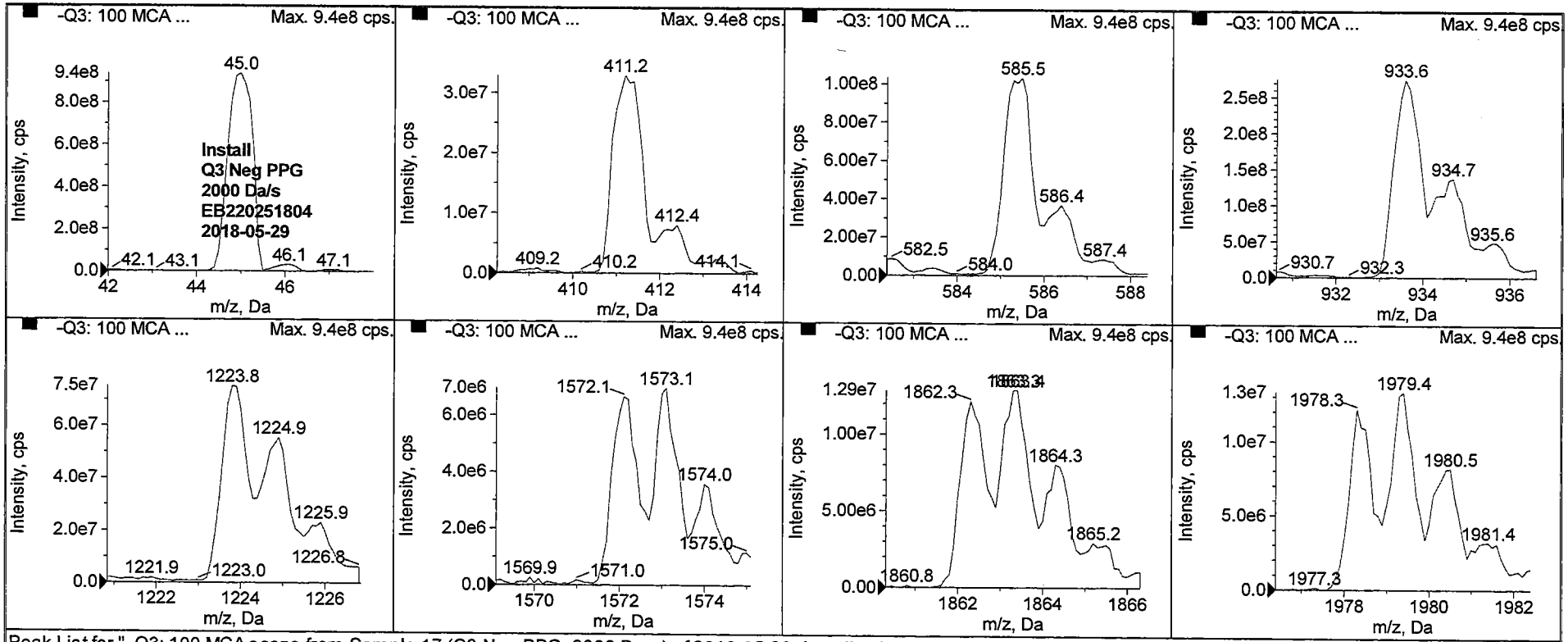
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Q3 MS (Q3)
Polarity: Negative
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Resolution Q3: Unit







Peak List for "-Q3: 100 MCA scans from Sample 17 (Q3 Neg PPG_2000 Da-s) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	44.9980	44.9950	9.3786e8	0.6643	2.9882e-3
2	411.2590	411.2370	3.2920e7	0.7732	0.0220
3	585.3850	585.3850	1.0332e8	0.6994	-4.8105e-6
4	933.6360	933.6288	2.7486e8	0.7105	7.2155e-3
5	1223.8450	1223.8546	7.5140e7	0.6946	-9.5568e-3
6	1572.0970	1572.1115	6.6600e6	0.6890	-0.0145
7	1863.3060	1863.3250	1.2880e7	0.7704	-0.0190
8	1979.3890	1979.3741	1.3320e7	0.6259	0.0149

State Parameter Editor

Ion Source:	Turbo Spray
Ion Source Temperature Reached	
Curtain Gas (CUR):	28.0
IonSpray Voltage (IS):	5500.0
Temperature (TEM):	0.0
Ion Source Gas 1 (GS1):	17.0
Ion Source Gas 2 (GS2):	0.0
Declustering Potential (DP):	135.0
Entrance Potential (EP):	10.0
Q1 Resolution:	Unit
Ion Energy 1 (IE1):	1.2
CEM (CEM):	1800.0

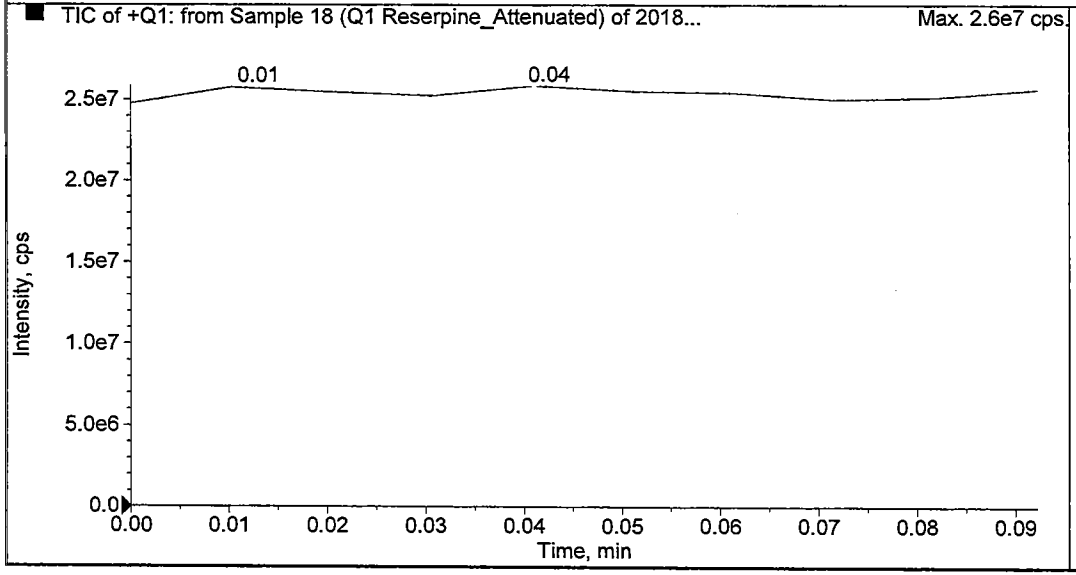
Mass Spectrometer Method Properties

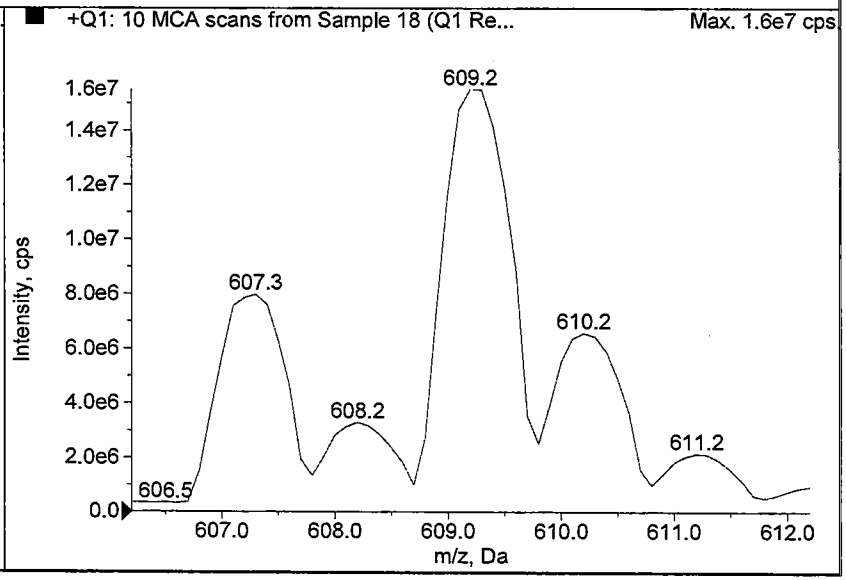
Period 1:

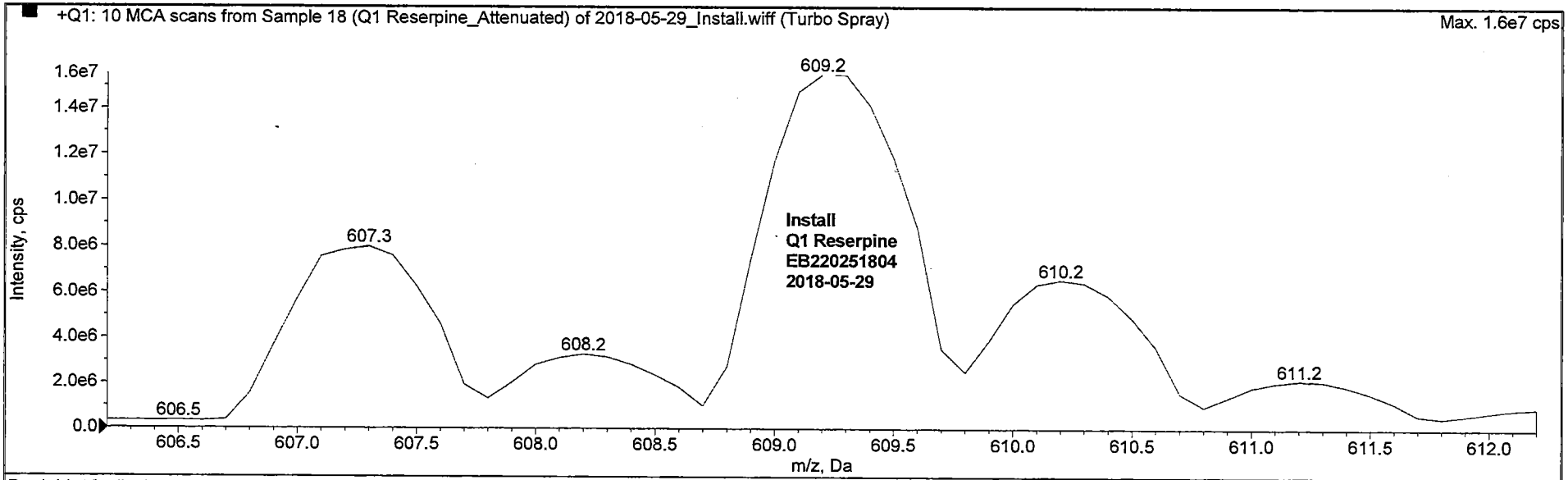
Scans in Period:	10
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

Period 1 Experiment 1:

Scan Type:	Q1 MS (Q1)
Polarity:	Positive
Scan Mode:	Profile
Ion Source:	Turbo Spray
# Scans to Sum:	1
Resolution Q1:	Unit







Peak List for " +Q1: 10 MCA scans from Sample 18 (Q1 Reserpine_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	195.1000	n/a	n/a	n/a	n/a
2	609.2810	609.2580	1.5520e7	0.7138	0.0230

State Parameter Editor

Ion Source: Turbo Spray
Ion Source Temperature Reached
Curtain Gas (CUR): 28.0
Collision Gas (CAD): 9
IonSpray Voltage (IS): 5500.0
Temperature (TEM): 0.0
Ion Source Gas 1 (GS1): 17.0
Ion Source Gas 2 (GS2): 0.0

Declustering Potential (DP): 135.0
Entrance Potential (EP): 10.0
Collision Energy (CE): 44.5
Collision Cell Exit Potential (CXP): 6.2

Q1 Resolution: Unit Q3 Resolution: Unit
Ion Energy 1 (IE1): 1.2

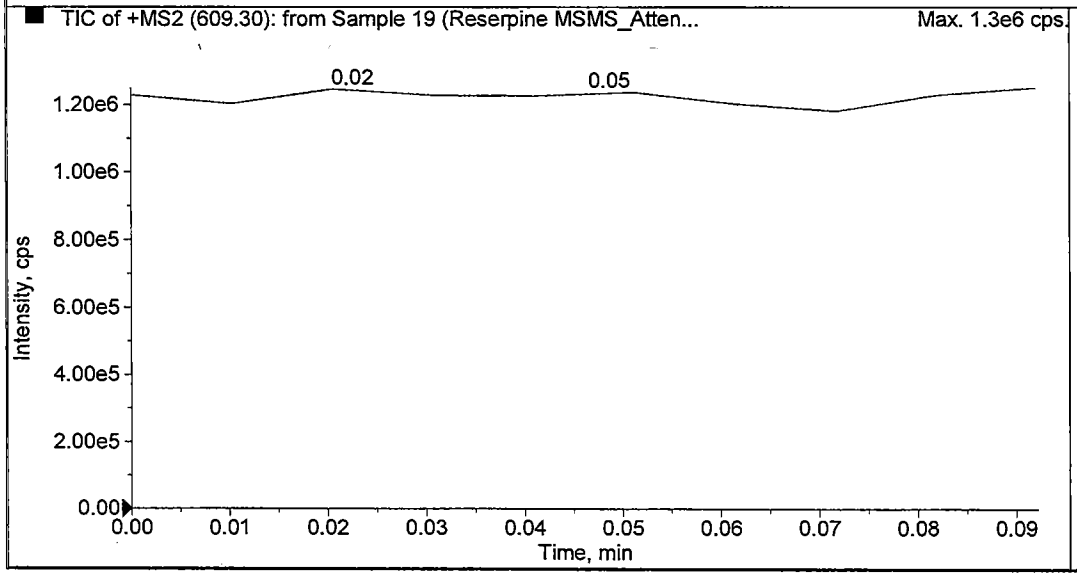
Mass Spectrometer Method Properties

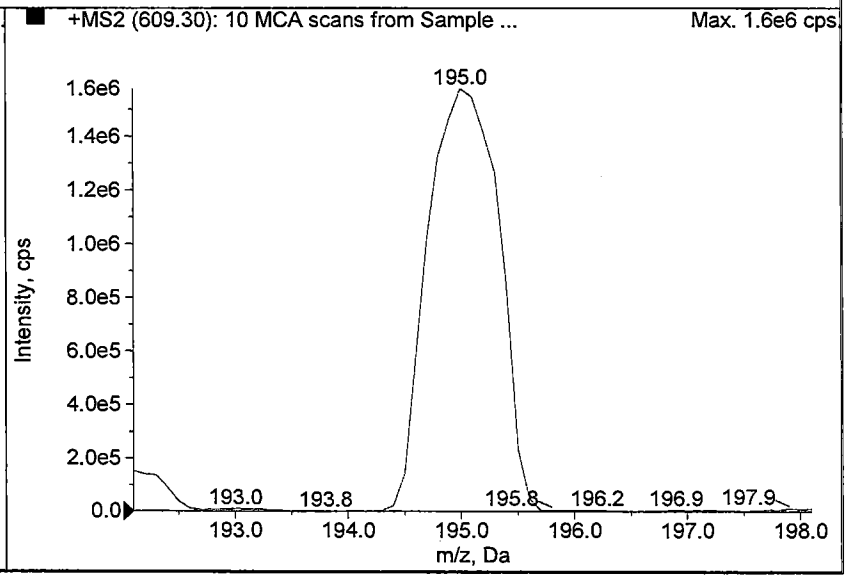
Period 1:

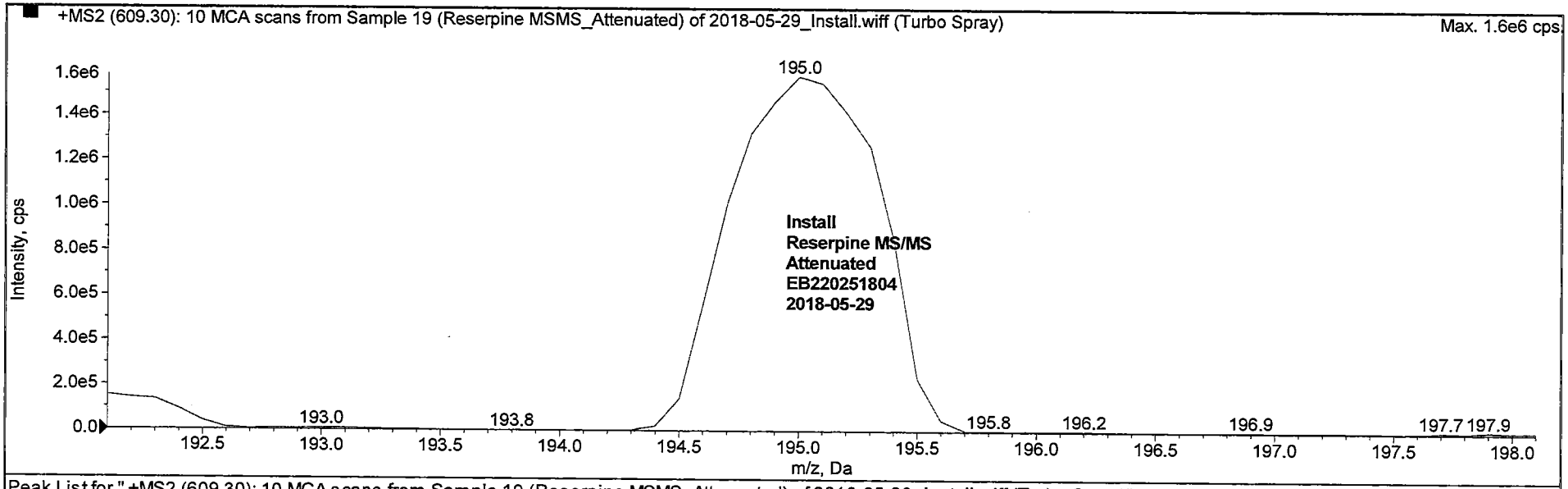
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

Period 1 Experiment 1:

Scan Type: Product Ion (MS2)
Polarity: Positive
Scan Mode: Profile
Ion Source: Turbo Spray
Scans to Sum: 1
Product Of: 609.30 Da







Peak List for "+MS2 (609.30): 10 MCA scans from Sample 19 (Reserpine MSMS_Attenuated) of 2018-05-29_Install.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	195.1000	195.0306	1.5772e6	0.7615	0.0694
2	609.2810	n/a	n/a	n/a	n/a

Raw QC Data

PFAS by LC/MS/MS

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	BLK348012			**Data File:**		18DEC19D-23.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012			**Acquis Date:**		2018-12-19T13:26:08
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	74			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	941733.1	942675.8	0	50	
13C2-PFOA	5.0	493649.9	520268.5	-5	50	
13C4-PFOS	4.8	300947.0	307968.9	-2	50	
13C2-PFDA	5.0	485985.4	487375.3	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1002831.0	13C3-PFBA	941733.1	1.065	20.000	18.862	94	50-150	
E13C5-PFPeA	943622.0	13C3-PFBA	941733.1	1.002	20.000	18.690	93	50-150	
E13C3-PFBS	398483.0	13C3-PFBA	941733.1	0.423	18.600	16.481	89	50-150	
E13C2-4:2-FTS	57207.7	13C2-PFOA	493649.9	0.116	18.680	17.605	94	50-150	
E13C5-PFHxA	662276.8	13C2-PFOA	493649.9	1.342	20.000	19.195	96	50-150	
E13C3-PFHxS	315483.7	13C2-PFOA	493649.9	0.639	18.920	19.344	102	50-150	
E13C4-PFHpA	524520.2	13C2-PFOA	493649.9	1.063	20.000	18.358	92	50-150	
E13C2-6:2-FTS	45338.3	13C2-PFOA	493649.9	0.092	19.000	18.484	97	50-150	
E13C8-PFOA	939645.9	13C2-PFOA	493649.9	1.903	20.000	20.936	105	50-150	
E13C8-PFOS	293964.4	13C4-PFOS	300947.0	0.977	19.120	17.473	91	50-150	
E13C9-PFNA	614647.9	13C4-PFOS	300947.0	2.042	20.000	18.585	93	50-150	
E13C6-PFDA	837156.6	13C2-PFDA	485985.4	1.723	20.000	19.627	98	50-150	
E13C2-8:2-FTS	44629.7	13C2-PFDA	485985.4	0.092	19.160	18.932	99	50-150	
E13C8-PFOSA	537413.9	13C2-PFDA	485985.4	1.106	20.000	17.225	86	50-150	
Ed3-NMeFOSAA	197160.8	13C2-PFDA	485985.4	0.406	20.000	17.853	89	50-150	
E13C7-PFUnDA	572218.2	13C2-PFDA	485985.4	1.177	20.000	19.714	99	50-150	
Ed5-NEtFOSAA	152244.4	13C2-PFDA	485985.4	0.313	20.000	18.461	92	50-150	
E13C2-PFDoDA	1103766.2	13C2-PFDA	485985.4	2.271	20.000	19.113	96	50-150	
Ed7-NMePFOSAE	182615.5	13C2-PFDA	485985.4	0.376	20.000	13.430	67	50-150	
Ed3-NMePFOSA	29439.4	13C2-PFDA	485985.4	0.061	20.000	6.658	33	50-150	OOS
Ed9-NEtPFOSAE	148527.8	13C2-PFDA	485985.4	0.306	20.000	12.498	62	50-150	
Ed5-NEtPFOSA	22458.6	13C2-PFDA	485985.4	0.046	20.000	6.411	32	50-150	OOS
E13C2-PFTeDA	744838.0	13C2-PFDA	485985.4	1.533	20.000	17.276	86	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

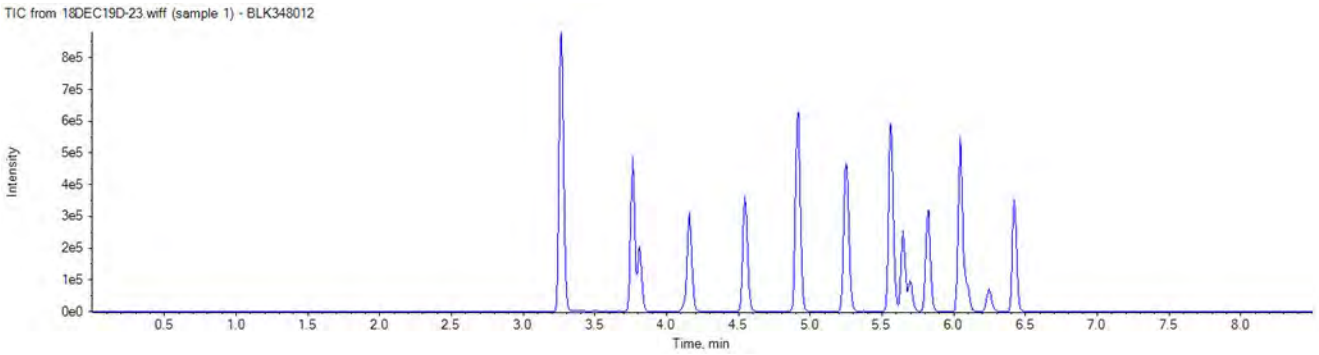
Analyte Quantitation Peak Table

Sample Name: BLK348012 **Instrument Name:** LM27631 **File Name:** 18DEC19D-23.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

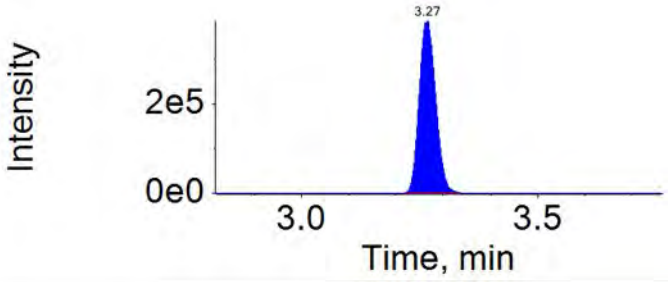
Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.27	1.000	23006.9		A	13C4-PFBA	3.26	1002831.0	0.023	0.487
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	943622.0	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	398483.0	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.12	57207.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	662276.8	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	398483.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	524520.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	315483.7	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	45338.3	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	315483.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	939645.9	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	293964.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	614647.9	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.24	293964.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	837156.6	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	44629.7	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	537413.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	197160.8	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.24	293964.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	572218.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	152244.4	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1103766.2	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	44629.7	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	182615.5	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	29439.4	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.24	293964.4	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	148527.8	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.27	22458.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	1103766.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	744838.0	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	744838.0	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	744838.0	N/A	

Total Ion Chromatogram

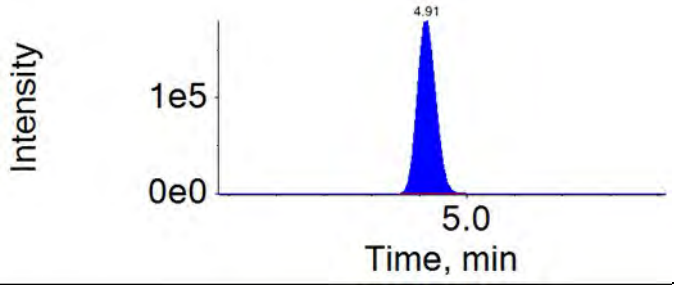


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

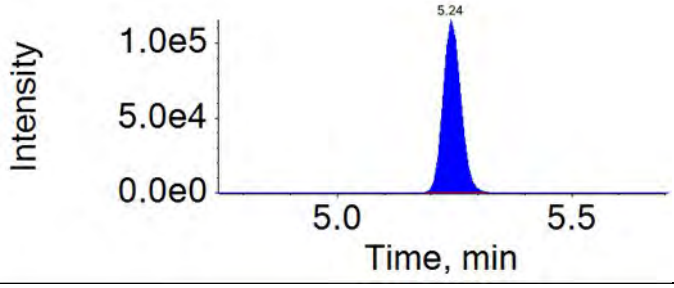
Injection Standard: 13C3-PFBA
216.0 / 172.0



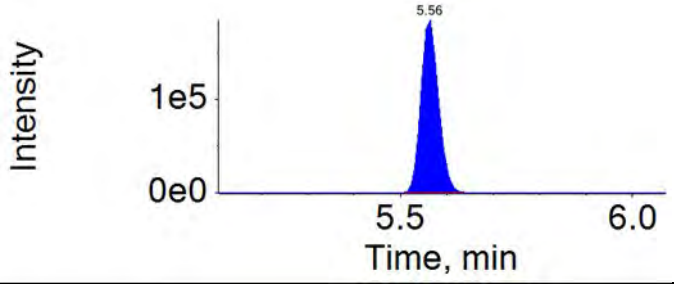
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

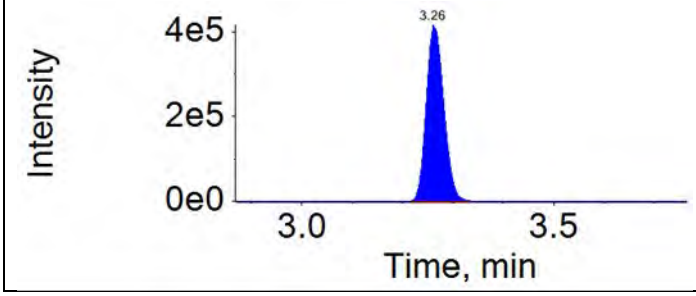


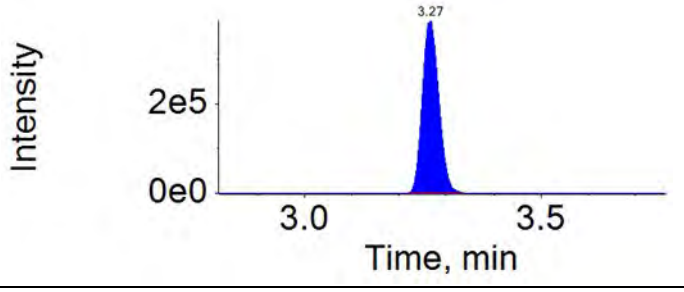
Injection Standard: 13C2-PFDA
515.0 / 470.0



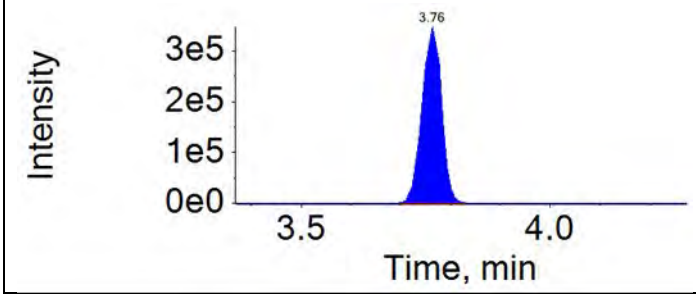
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

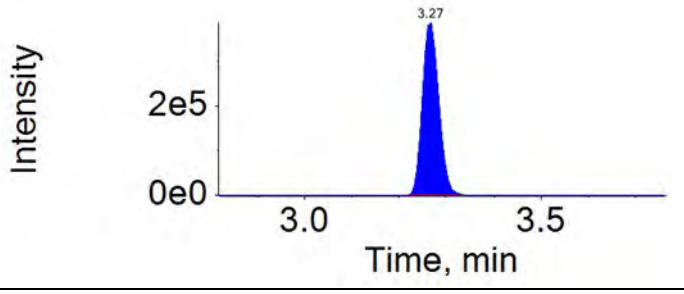
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



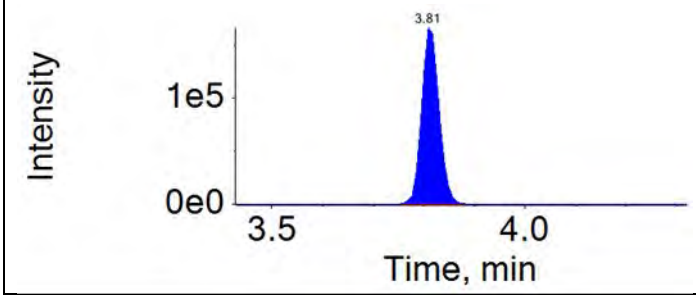


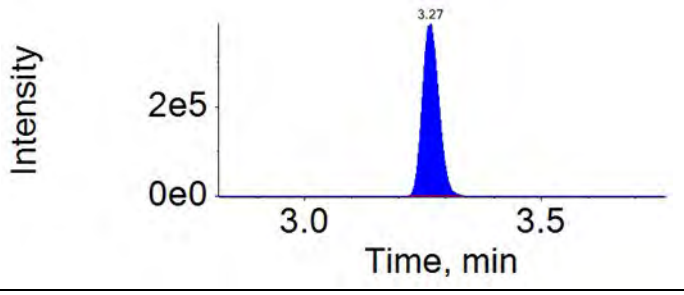
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



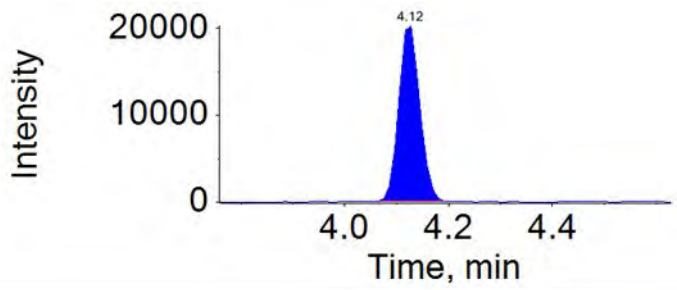


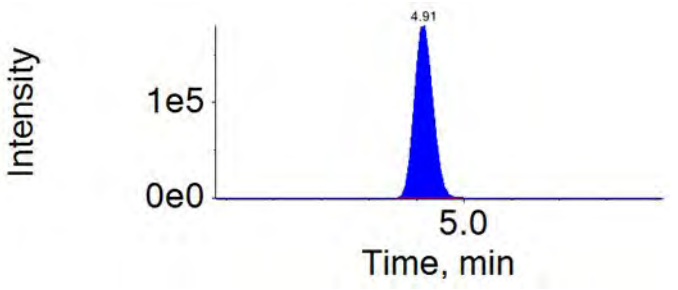
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





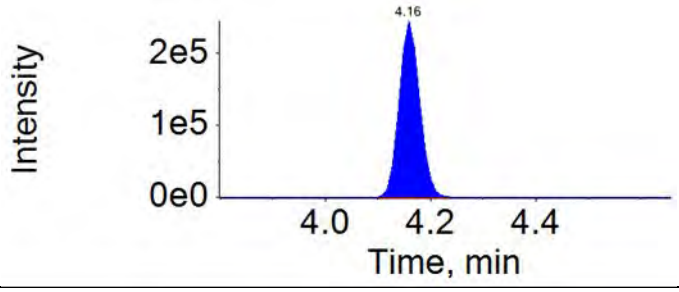
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

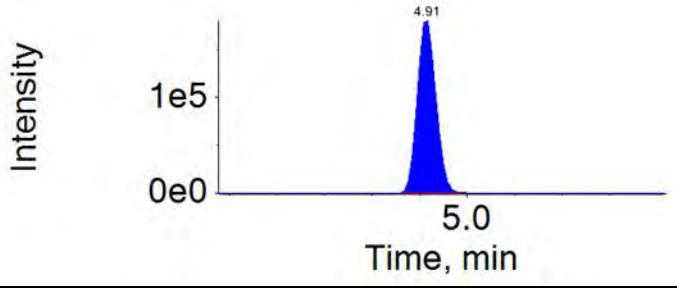




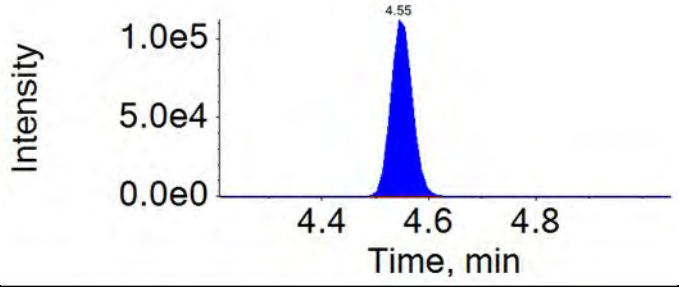
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

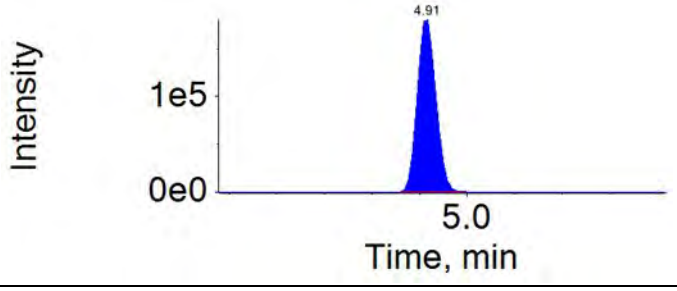
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



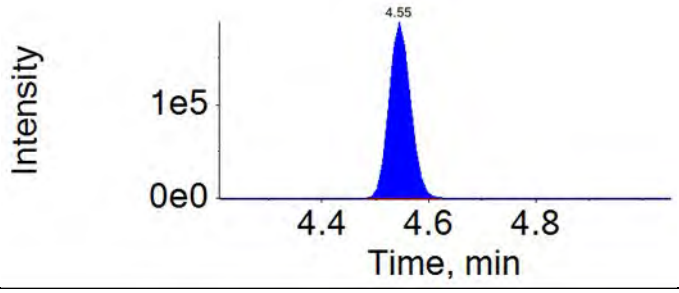


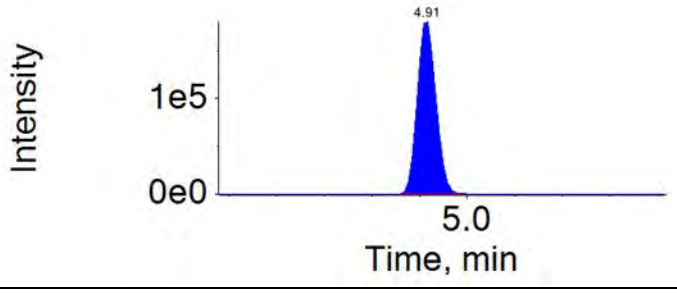
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



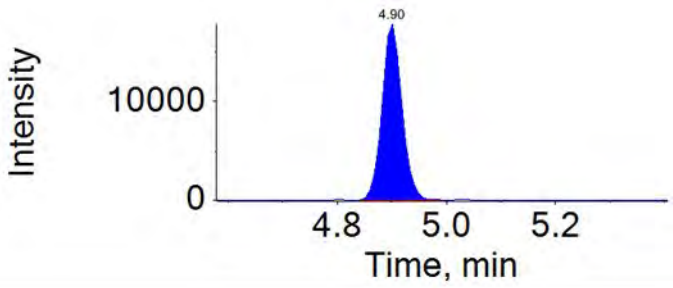


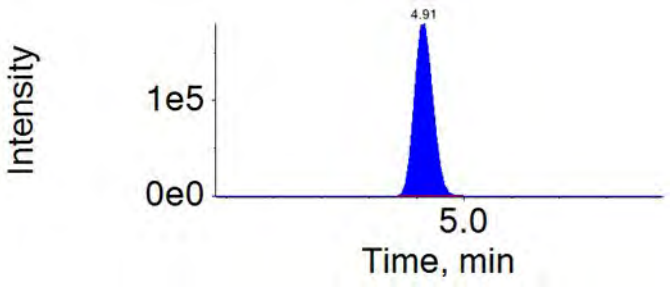
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



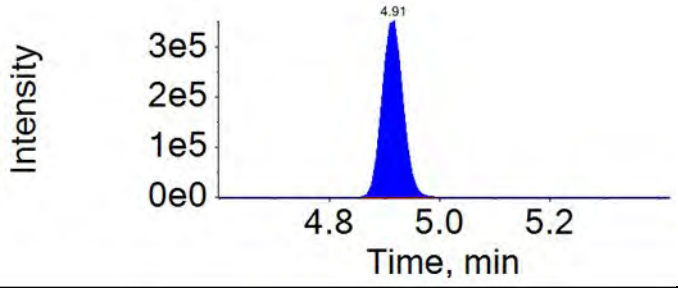
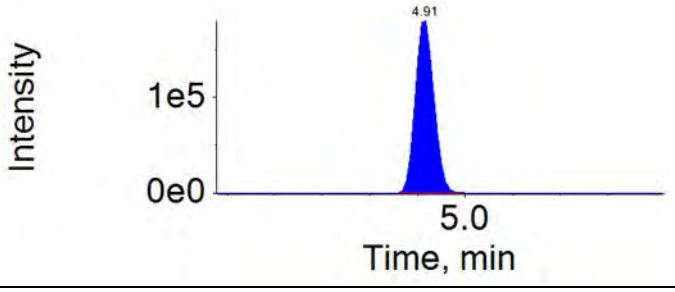


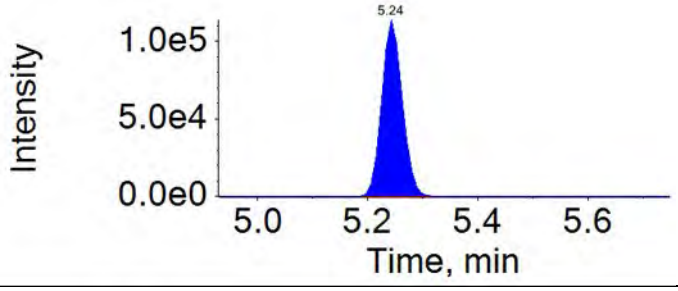
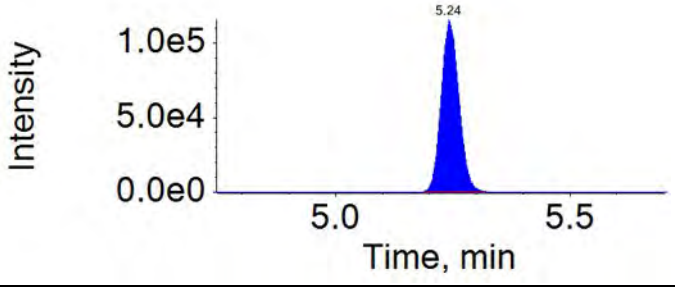
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

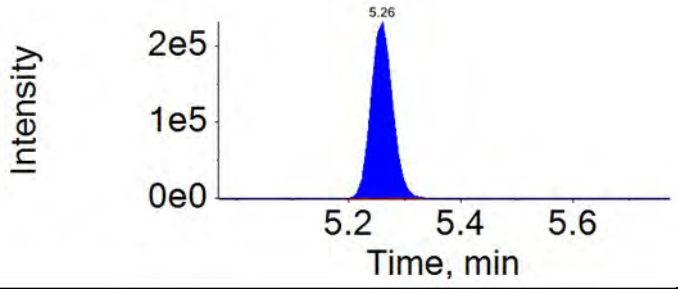
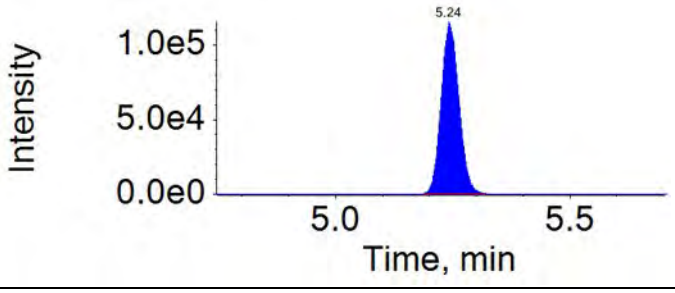


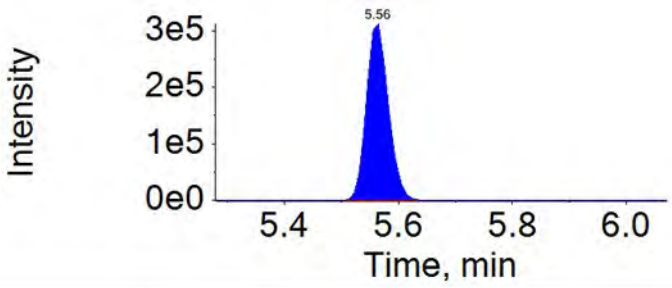
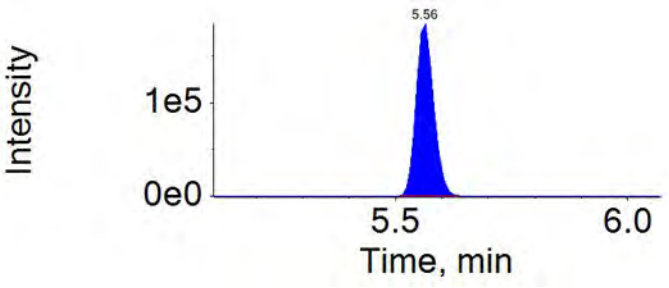


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

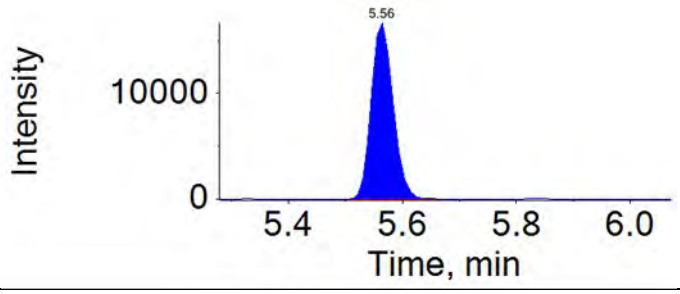
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

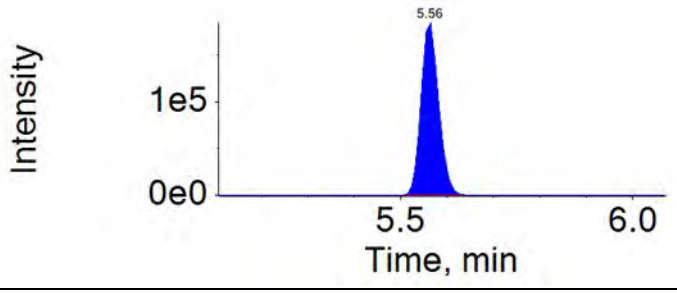
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

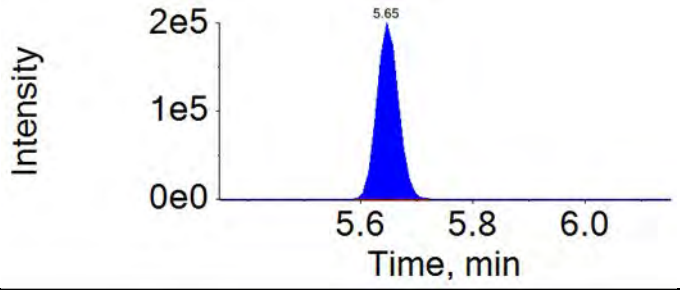
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

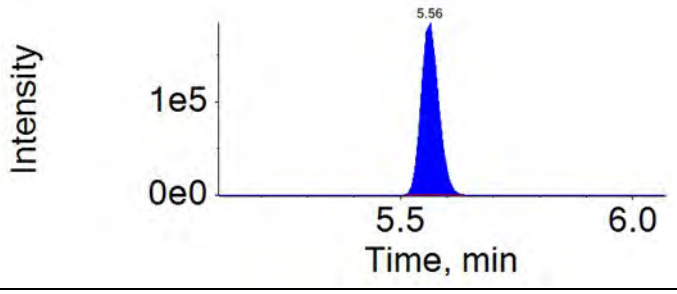
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



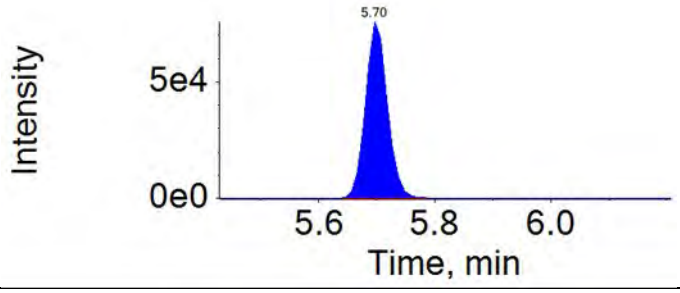


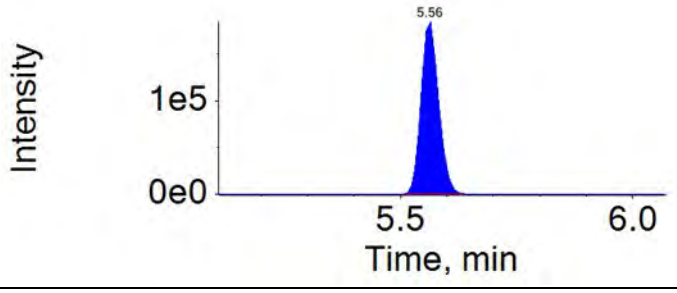
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



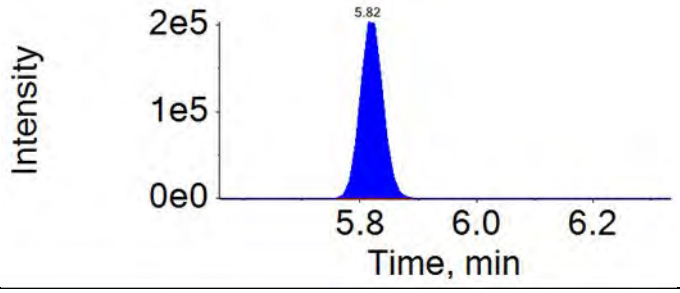


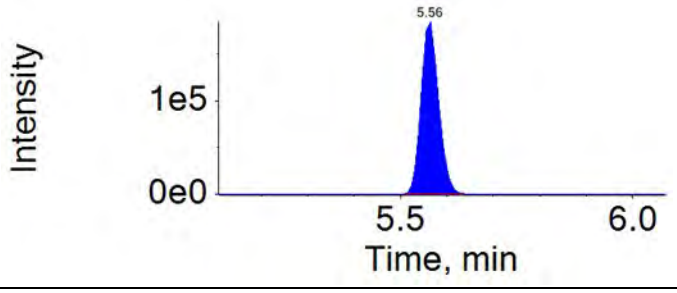
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





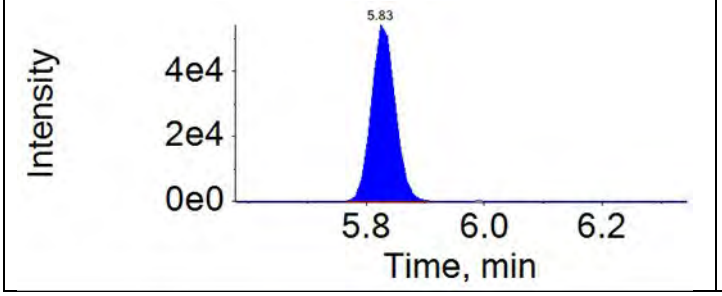
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

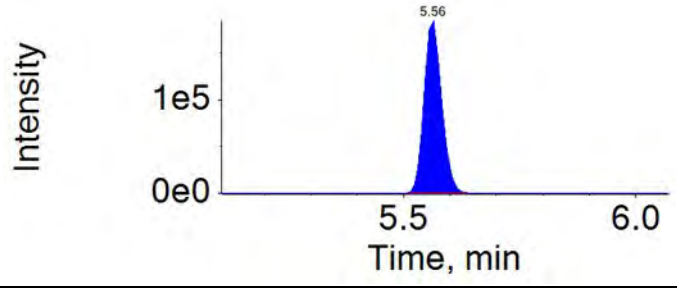




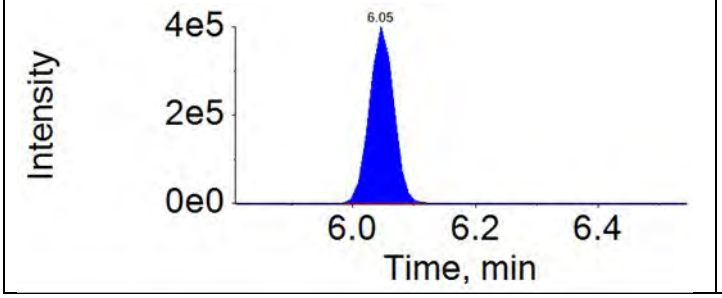
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

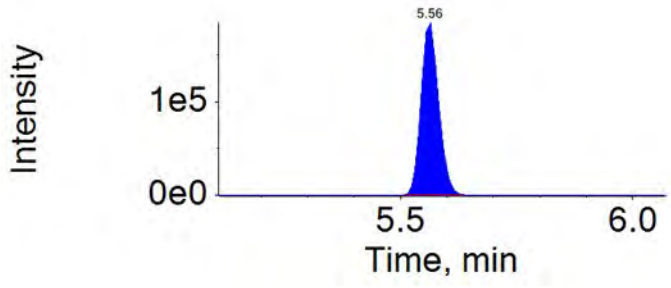
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



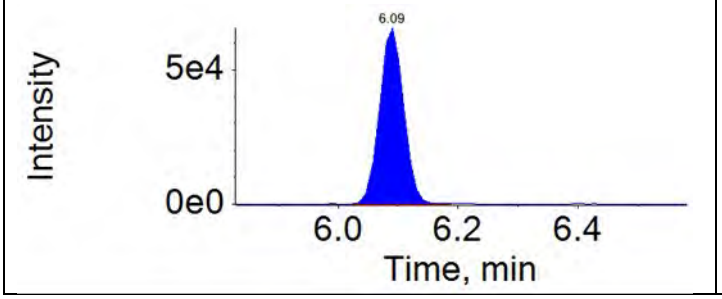


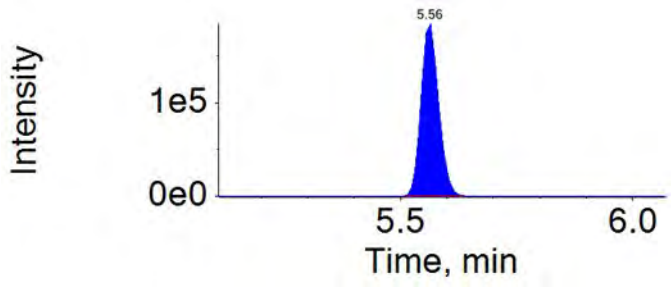
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



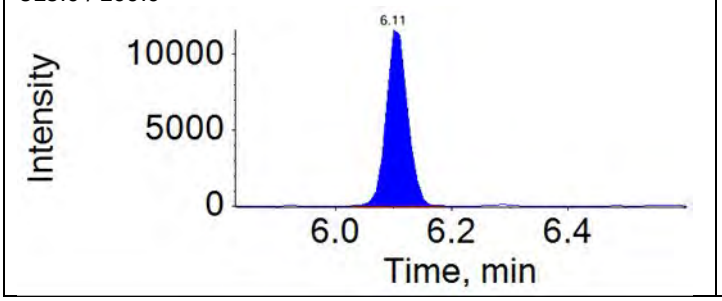


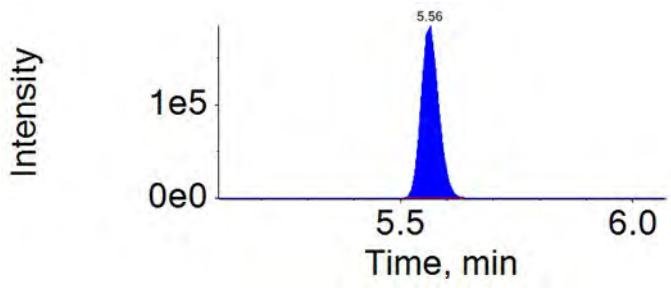
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





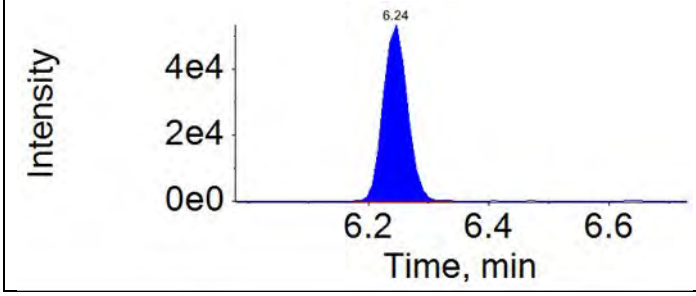
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

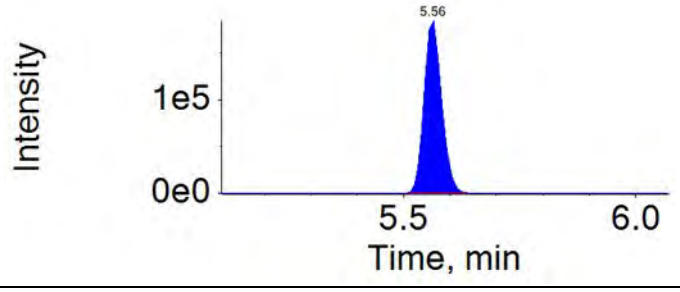




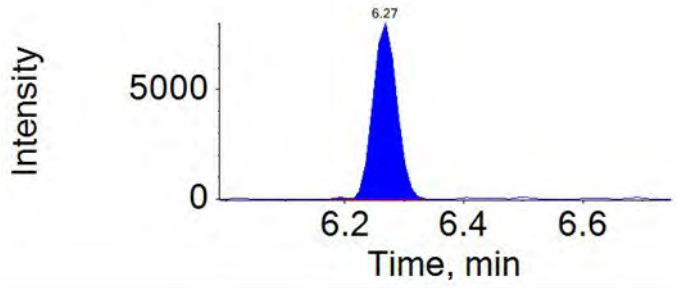
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

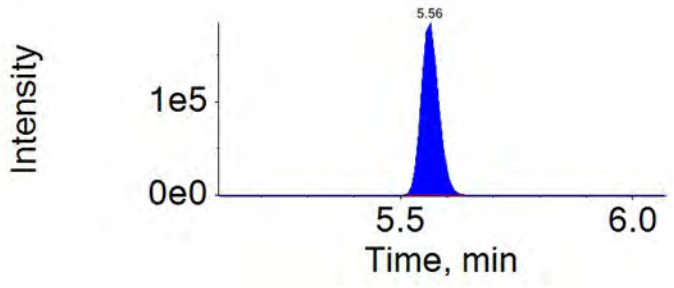
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



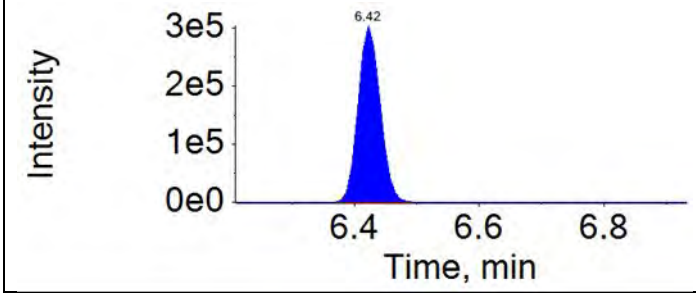


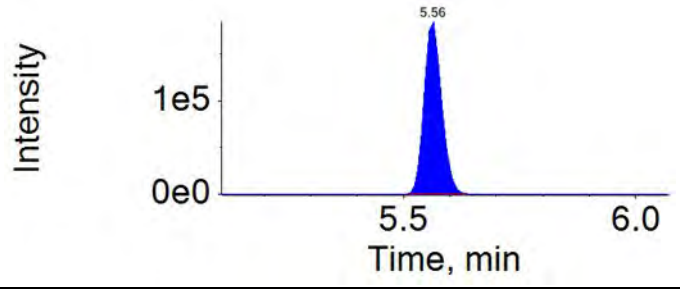
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

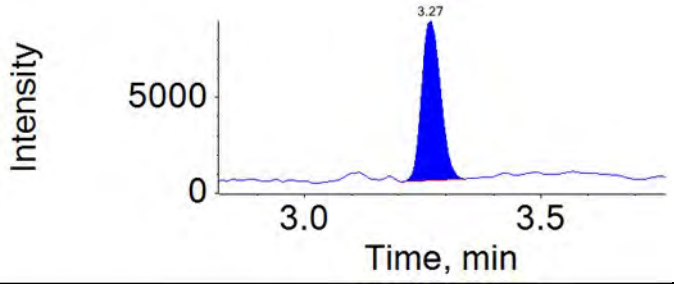
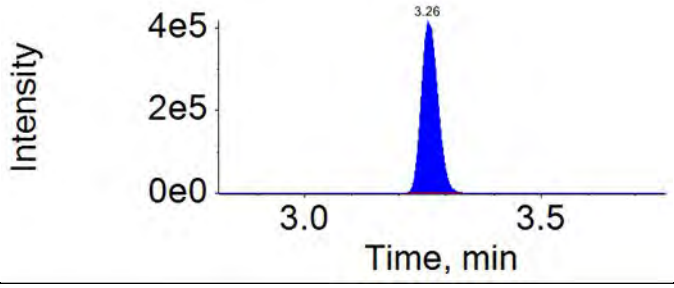


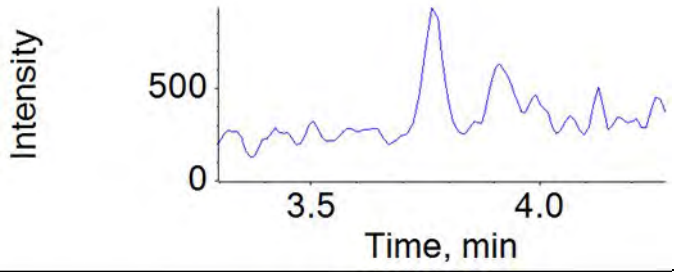
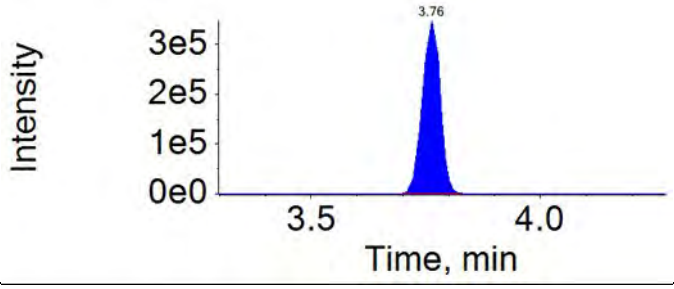


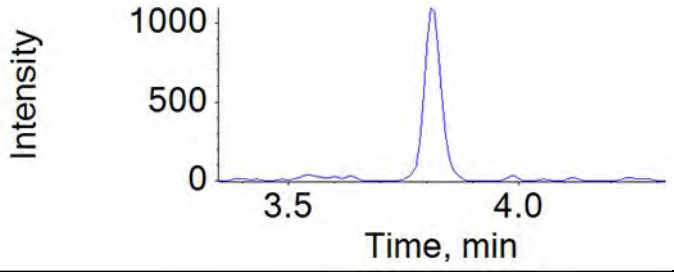
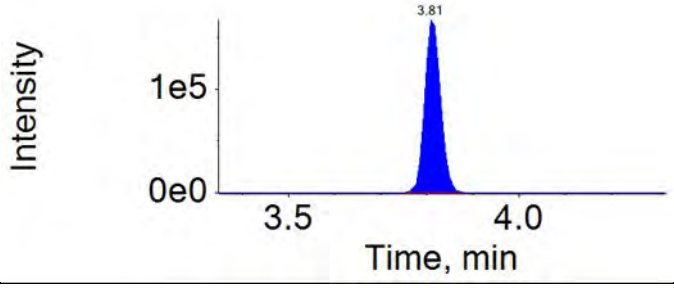
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By MSM at 10:14 am, 12/20/18

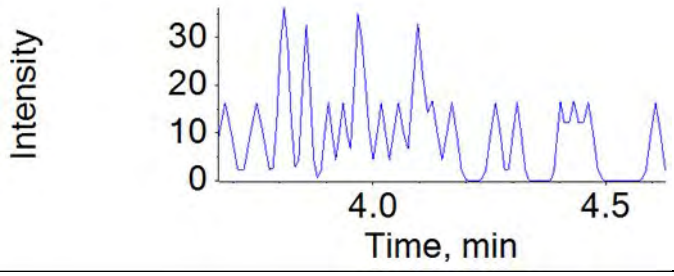
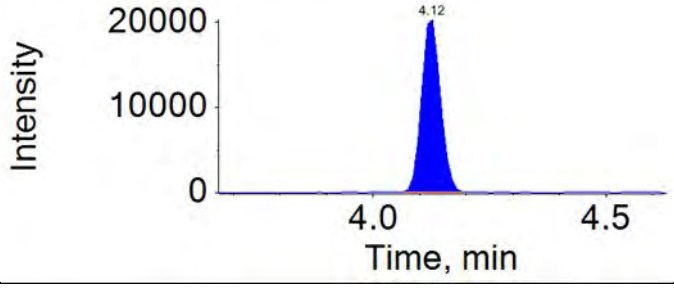
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

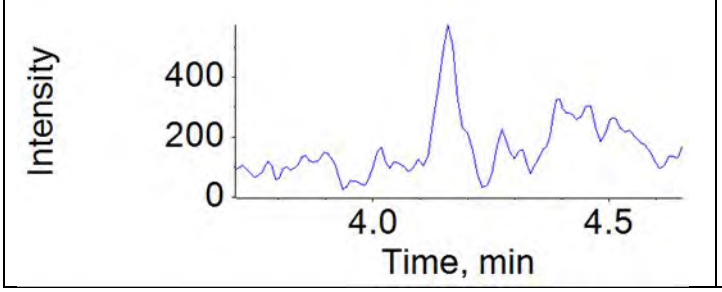
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

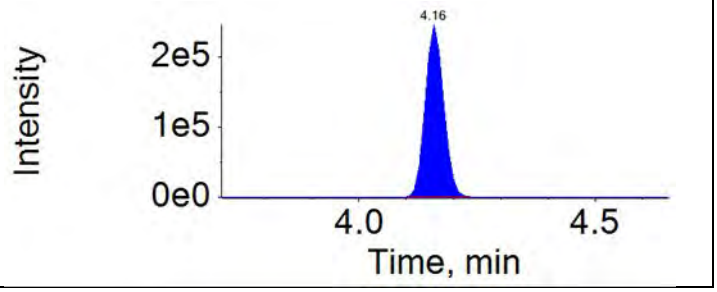
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

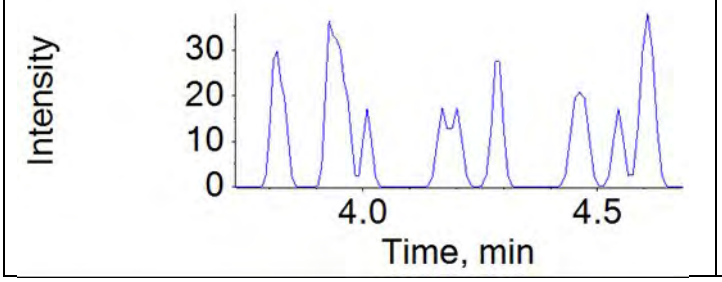
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

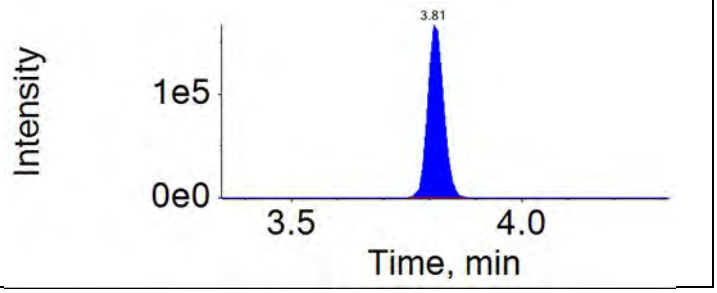
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



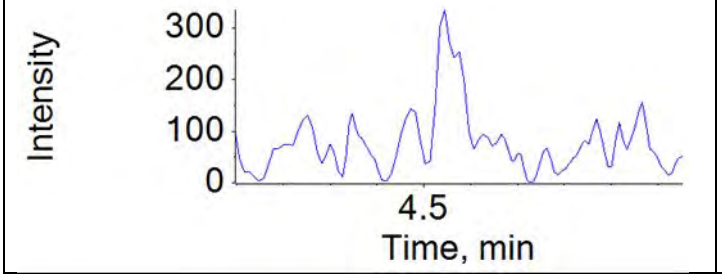


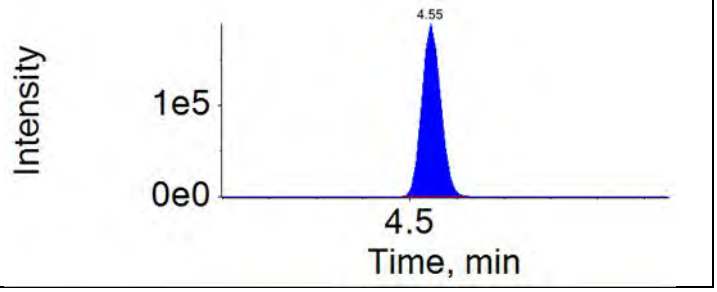
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



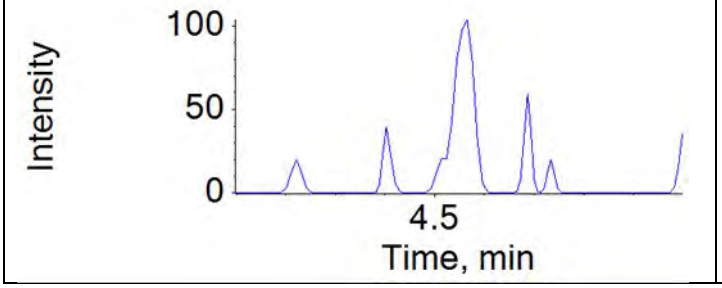


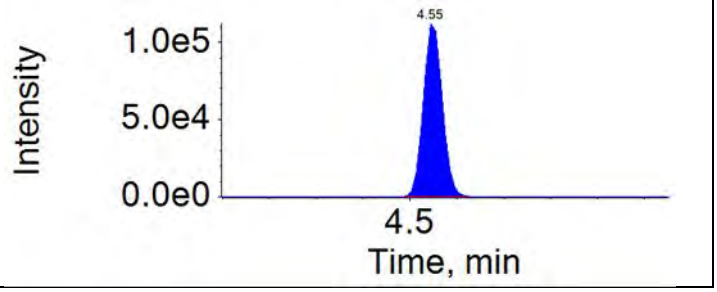
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





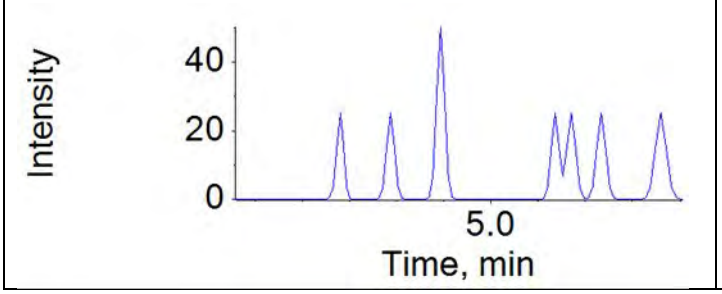
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

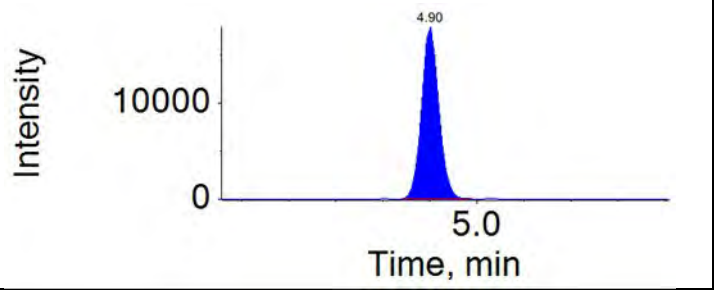




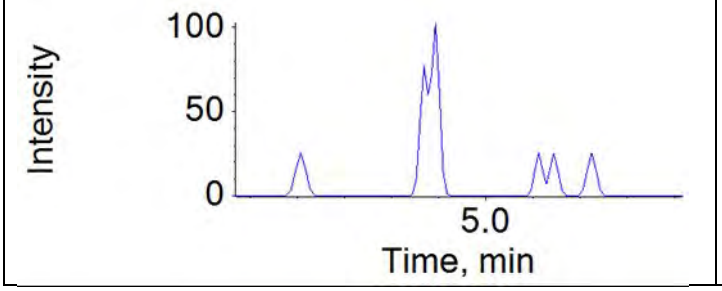
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

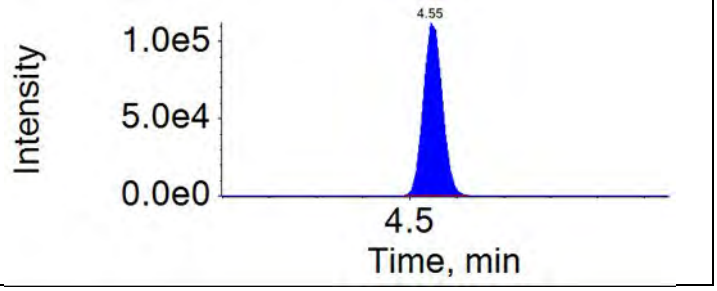
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



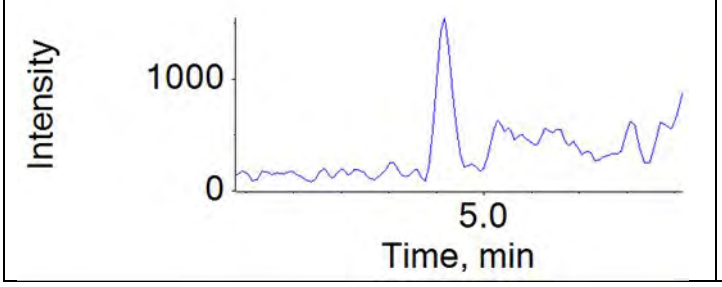


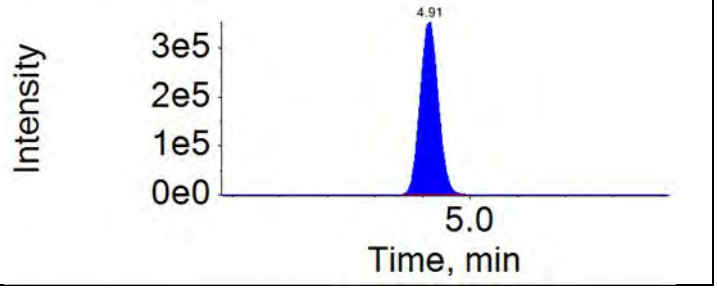
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



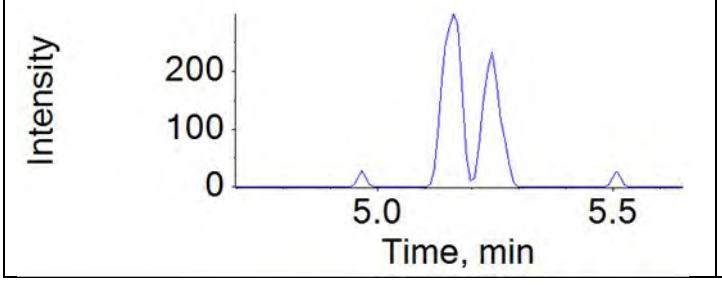


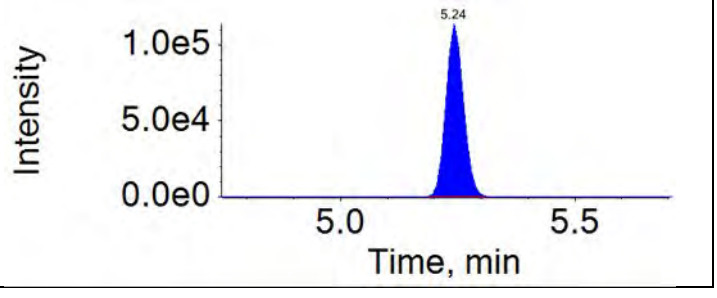
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





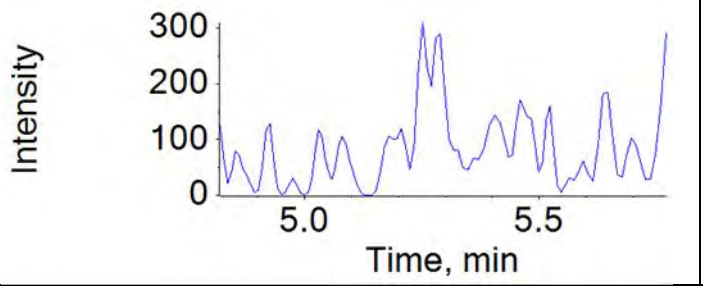
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

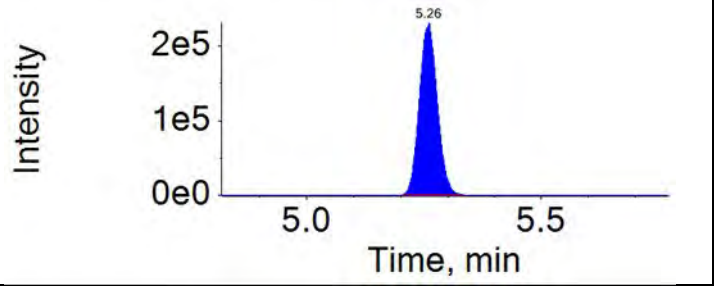




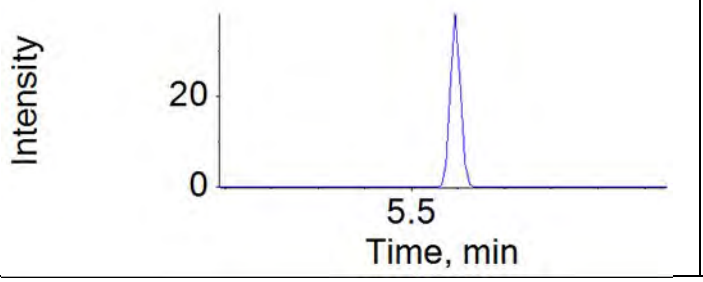
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

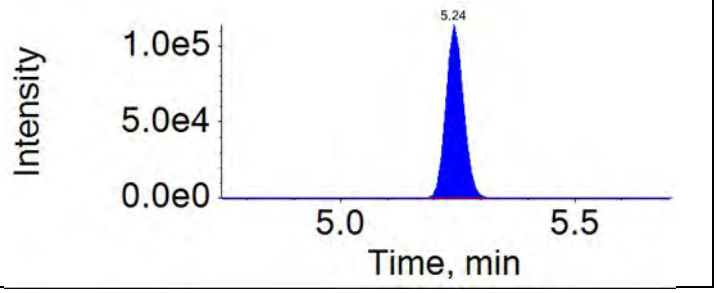
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



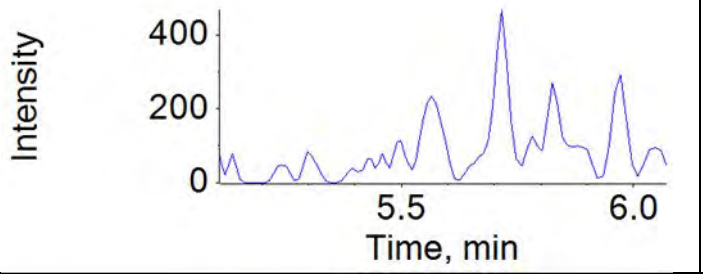


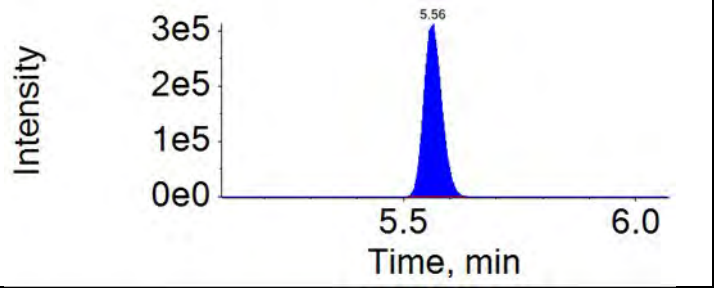
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



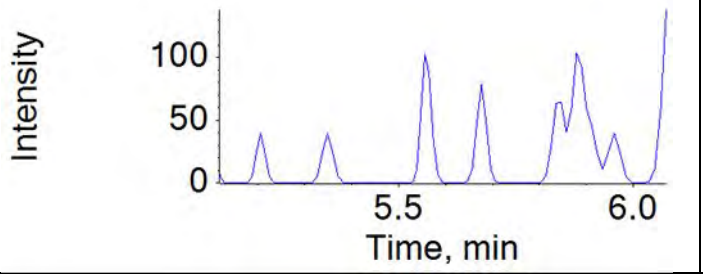


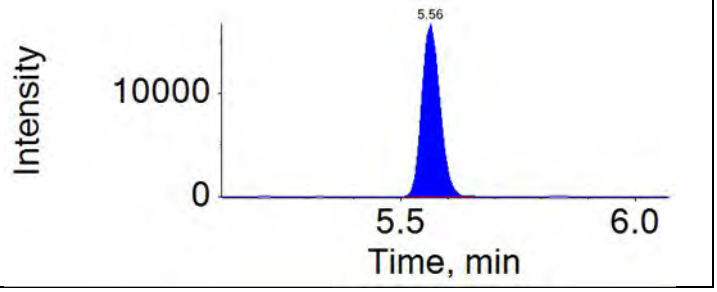
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





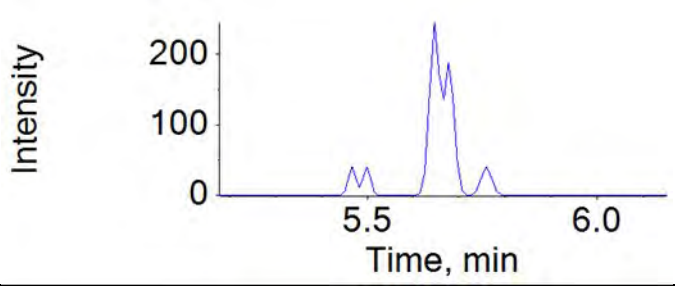
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

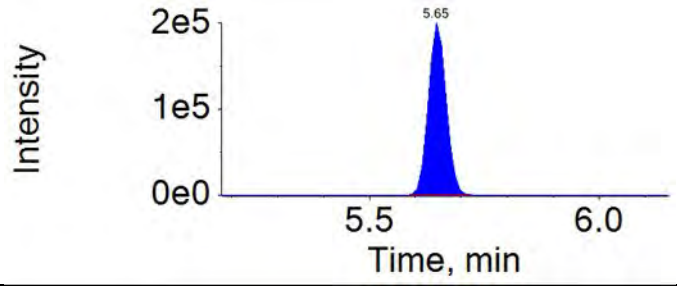




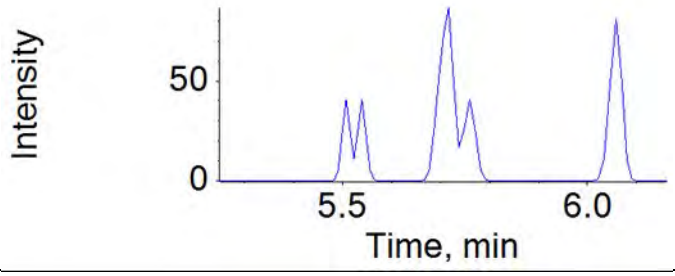
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

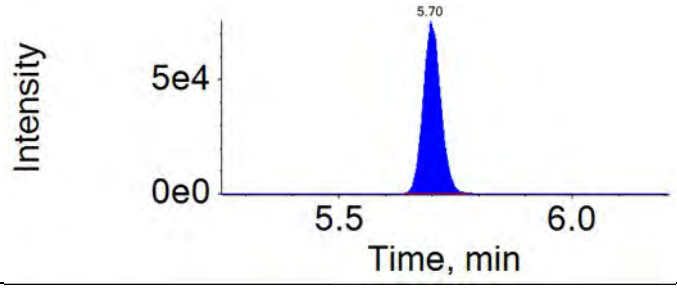
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



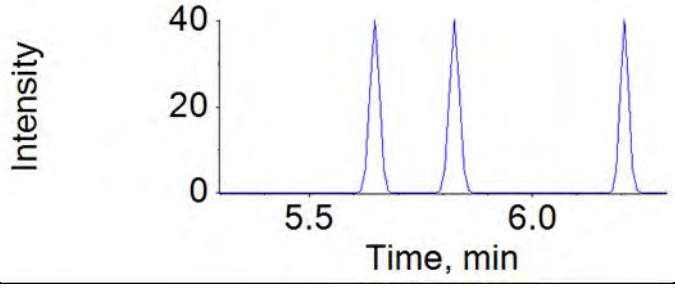


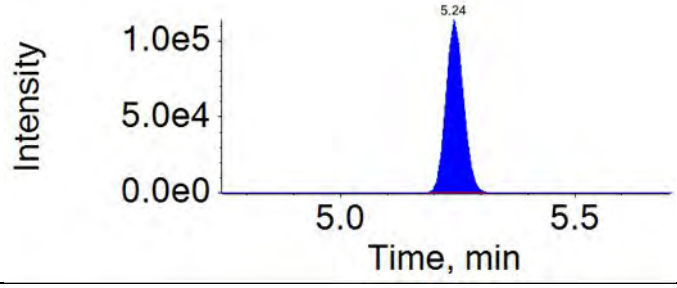
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



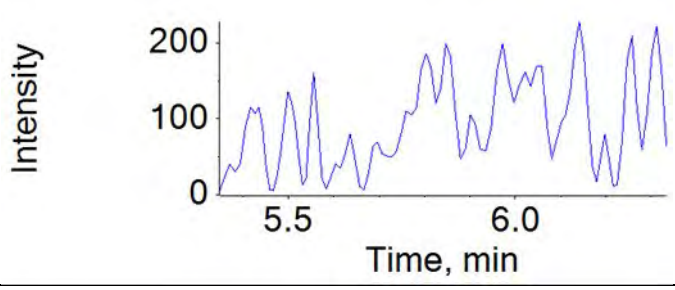


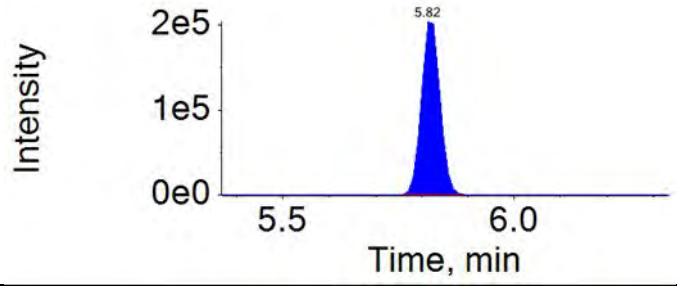
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





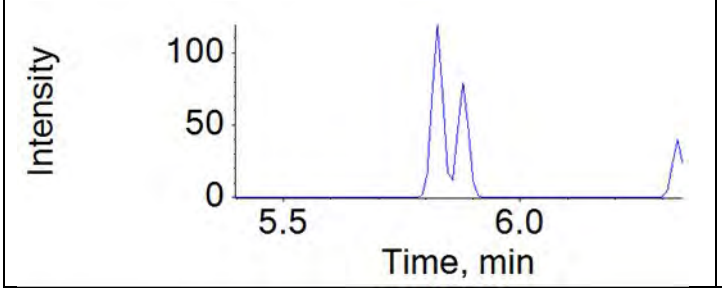
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

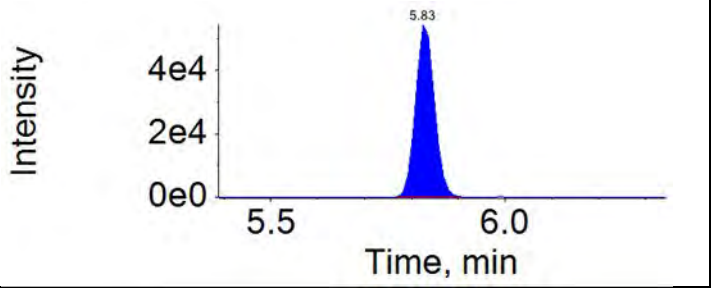




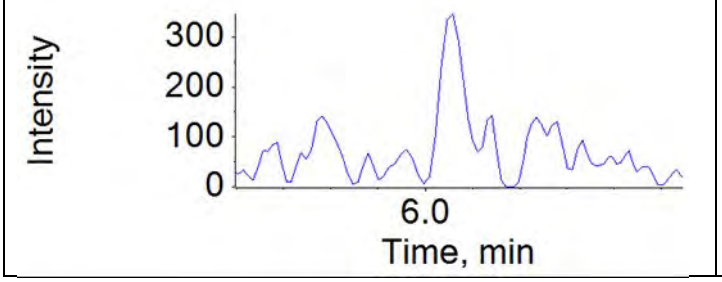
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

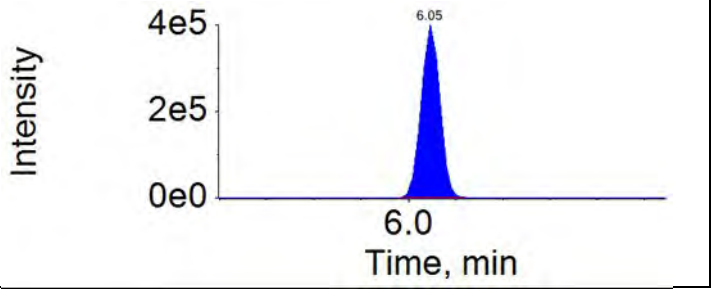
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



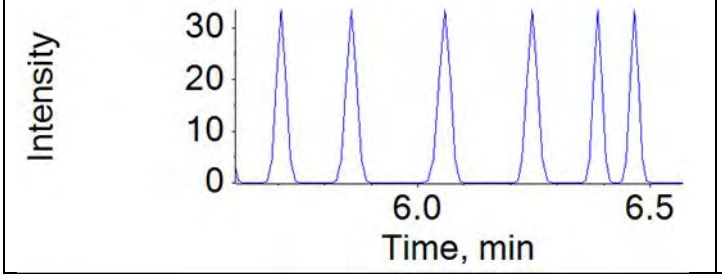


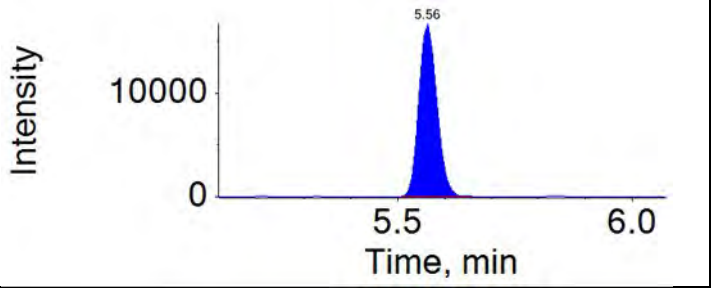
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



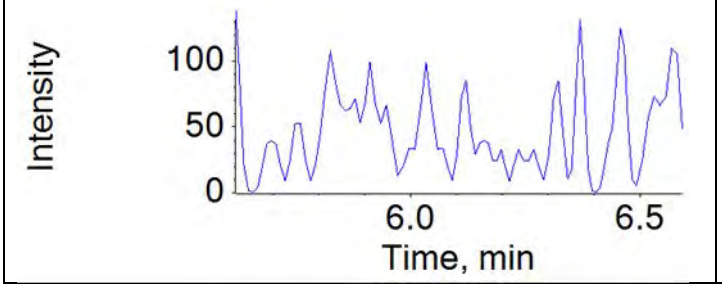


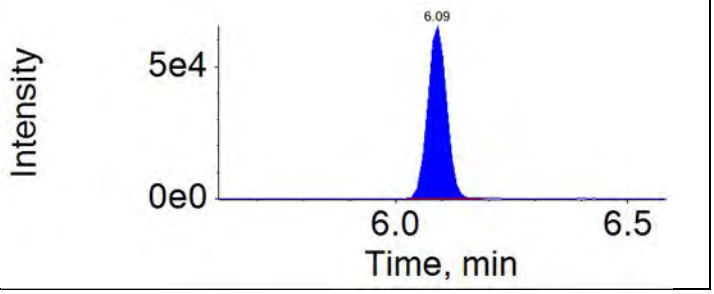
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





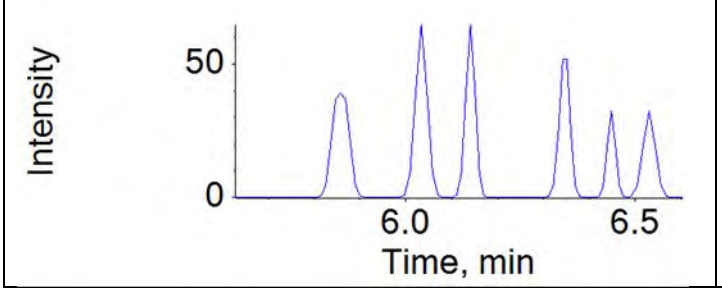
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

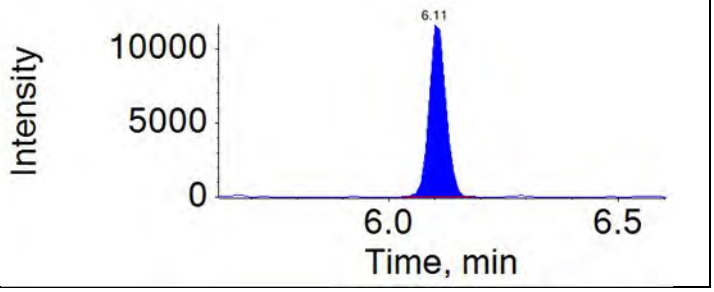




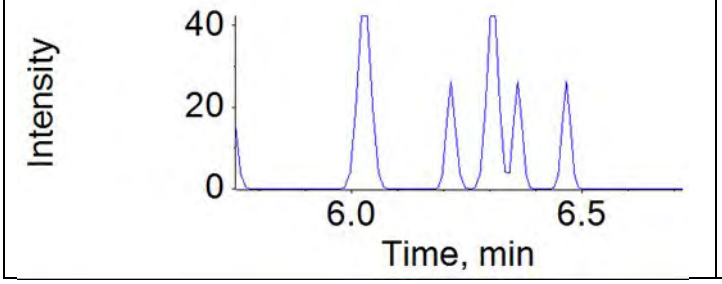
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

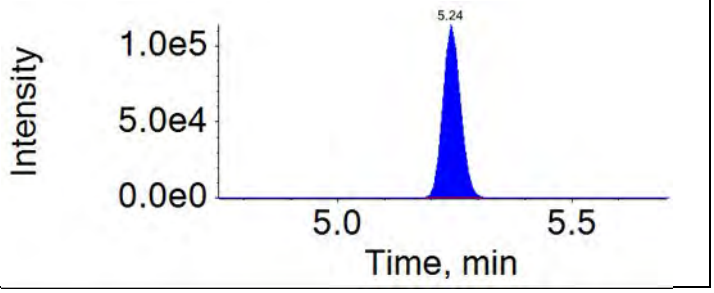
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



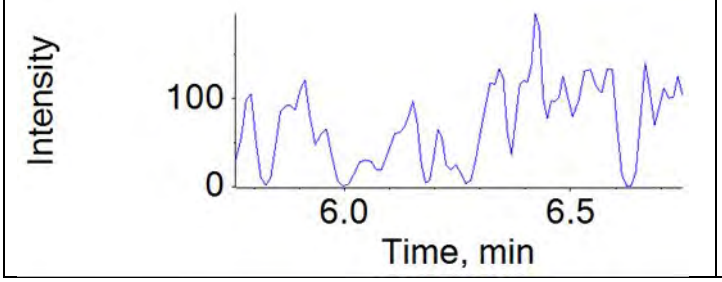


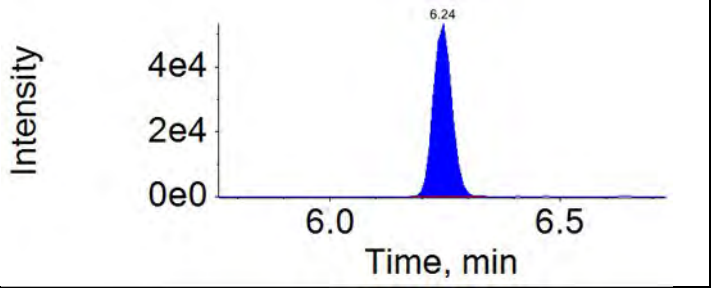
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



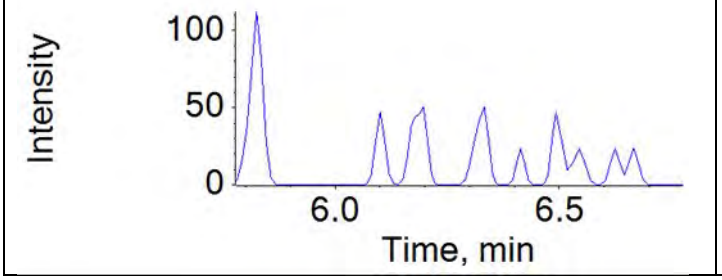


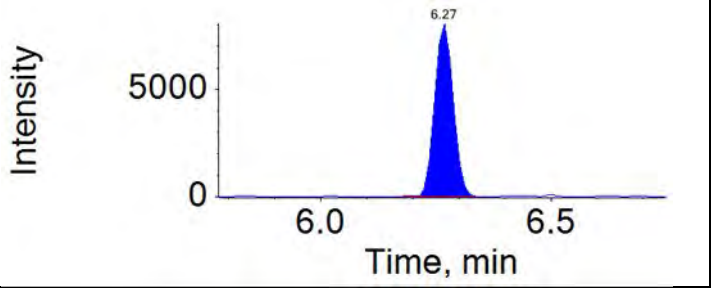
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





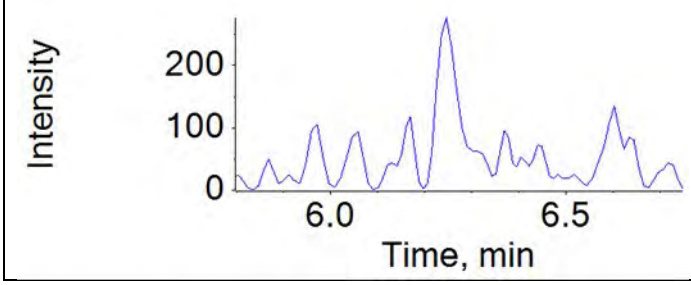
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

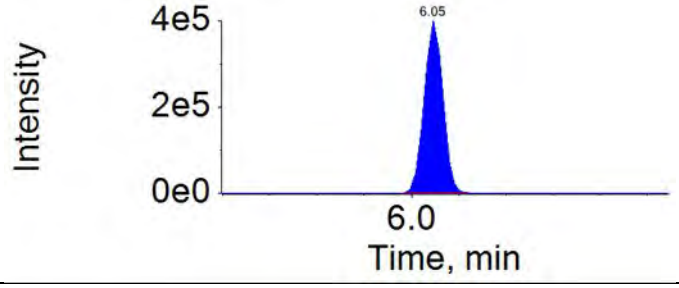




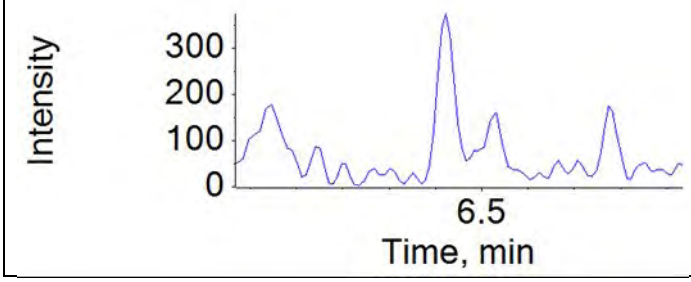
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

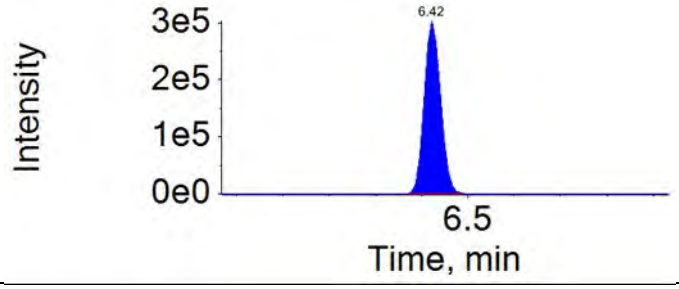
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



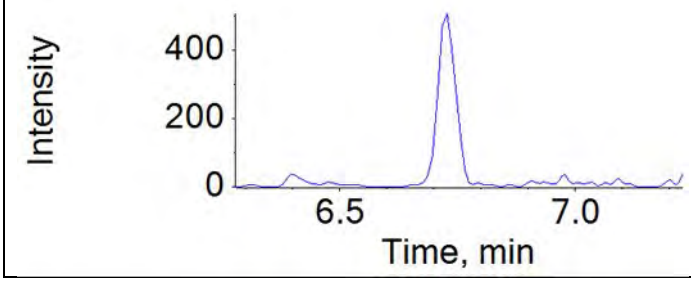


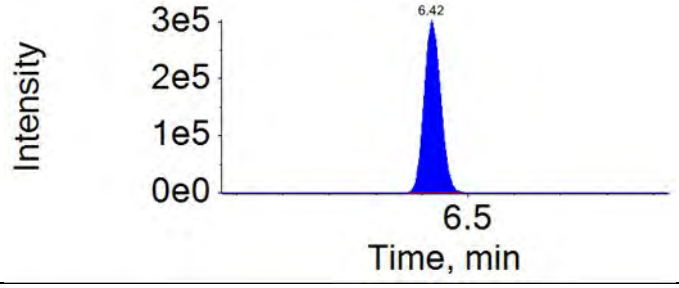
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



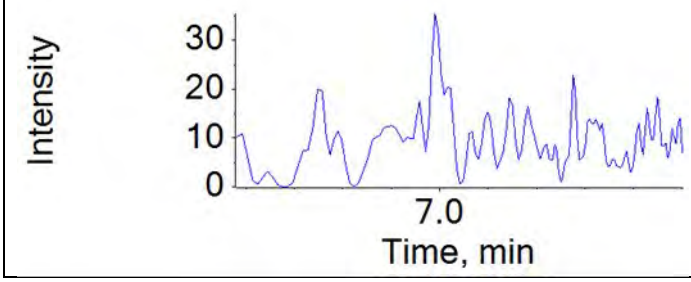


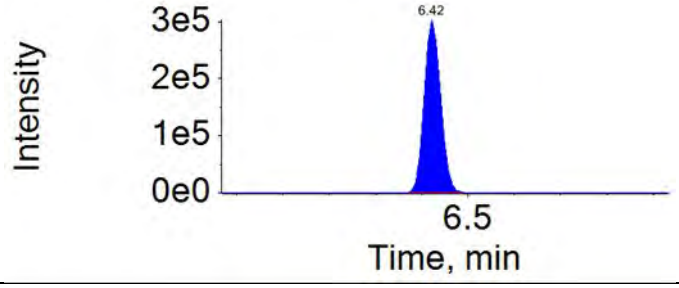
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





Ion Ratio Report

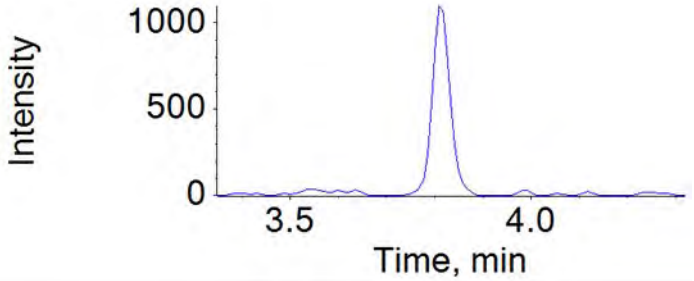
Sample Name: BLK348012 **Instrument Name:** LM27631 **File Name:** 18DEC19D-23.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

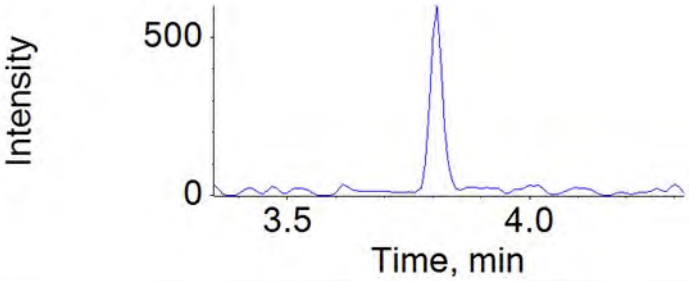
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

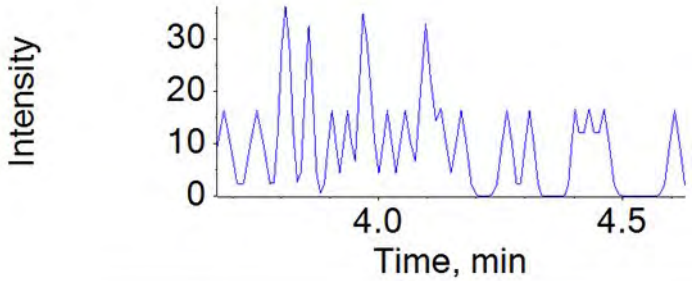
Component: PFBS
Primary Mass: 299.0 / 80.0



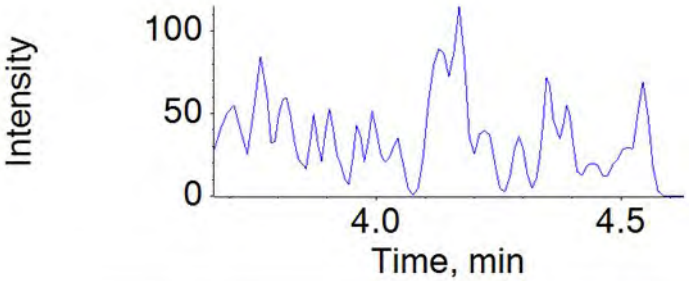
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



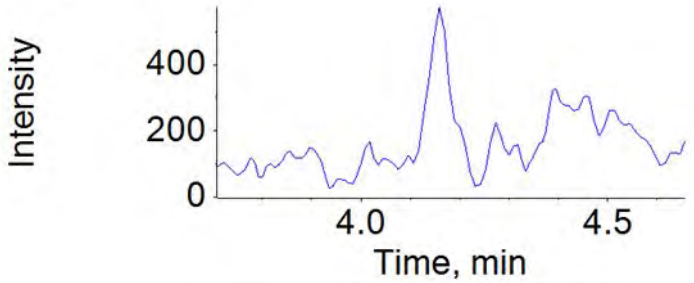
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



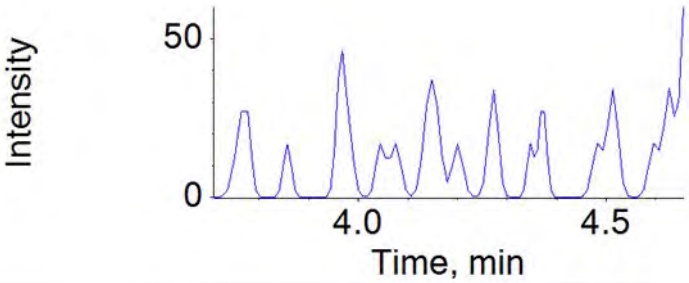
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



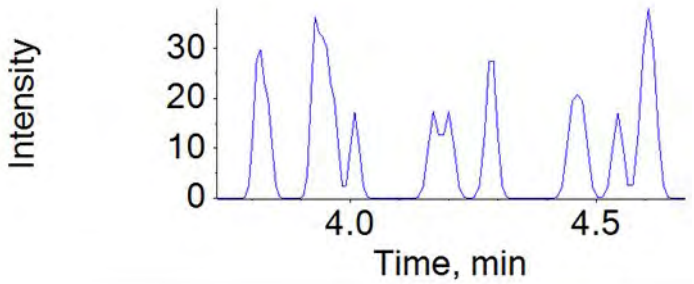
Component: PFHxA
Primary Mass: 313.0 / 269.0



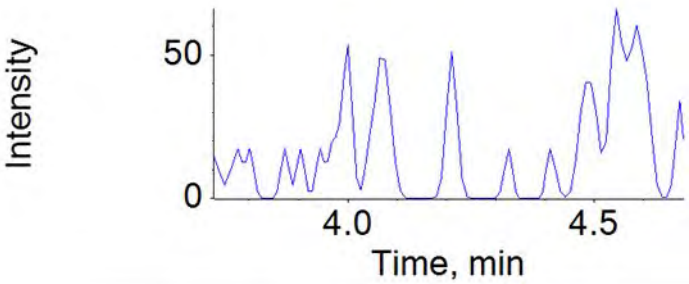
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



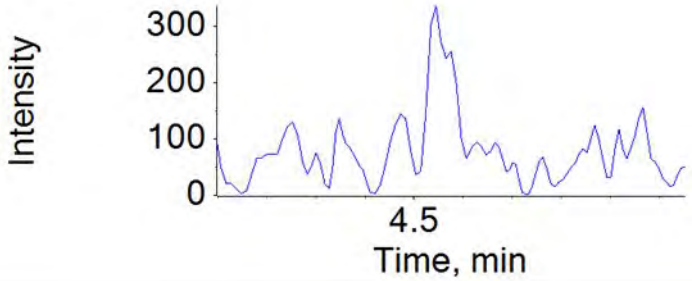
Component: PFPeS
Primary Mass: 349.0 / 80.0



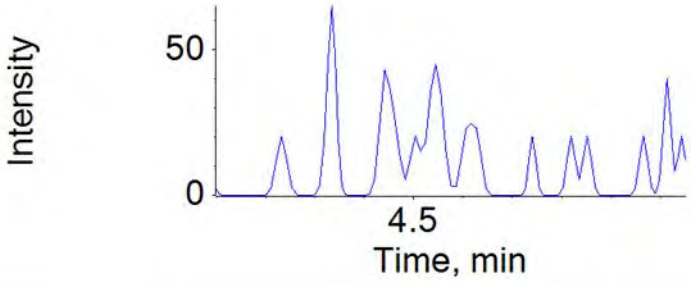
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



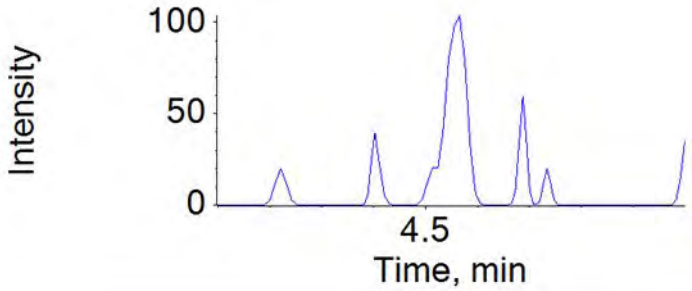
Component: PFHpA
Primary Mass: 363.0 / 319.0



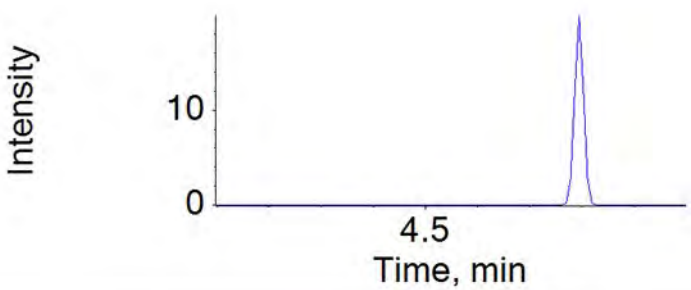
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



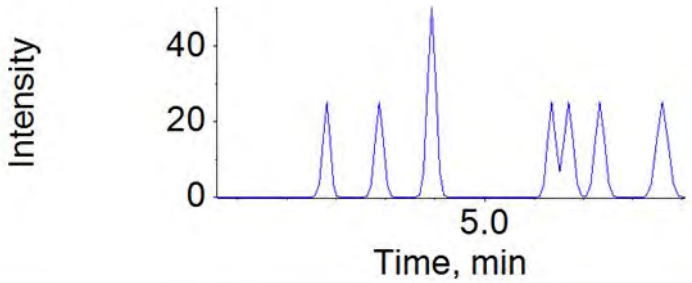
Component: PFHxS
Primary Mass: 399.0 / 80.0



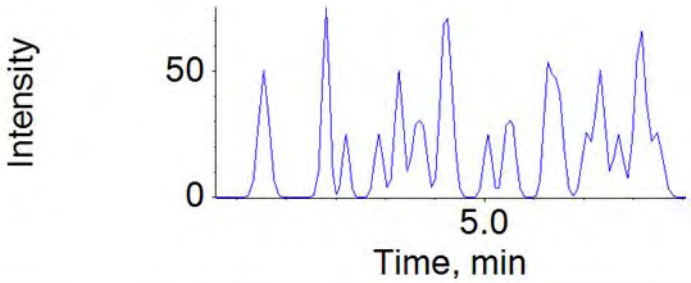
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



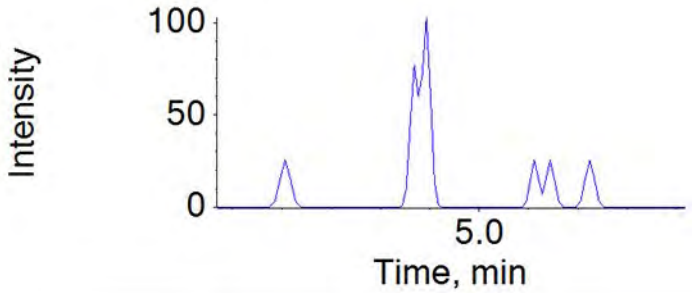
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



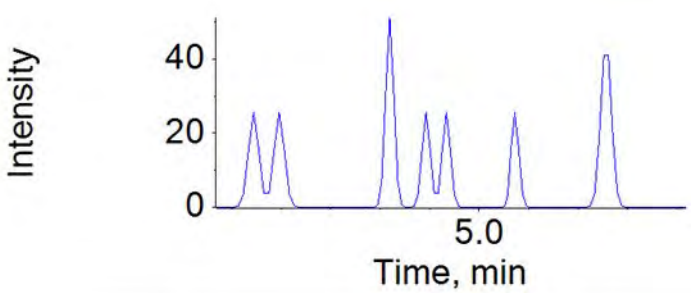
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



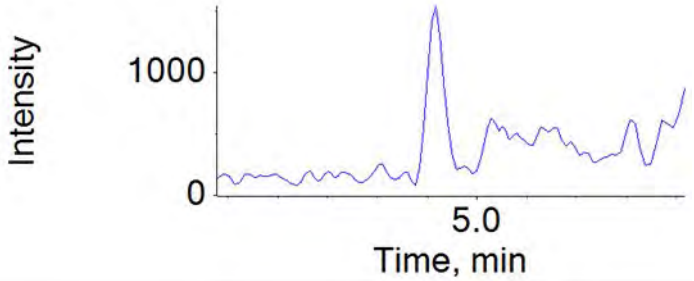
Component: PFHpS
Primary Mass: 449.0 / 80.0



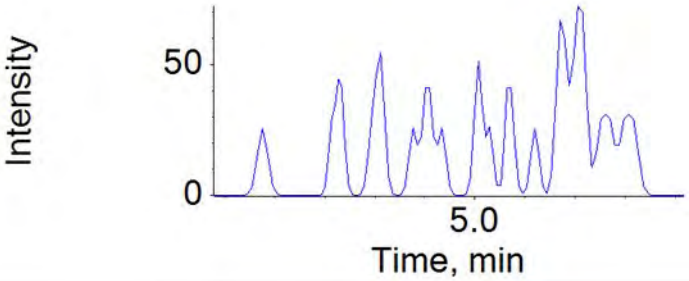
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



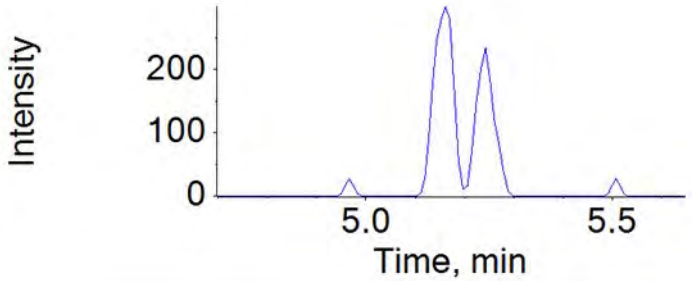
Component: PFOA
Primary Mass: 413.0 / 369.0



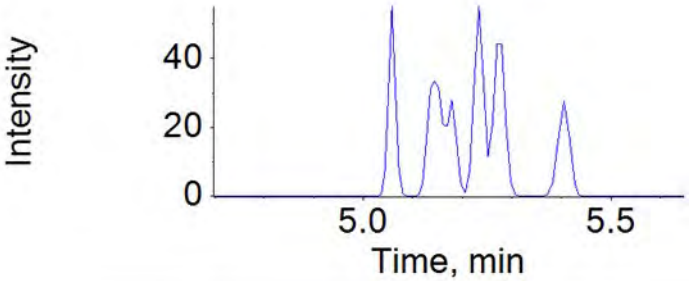
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



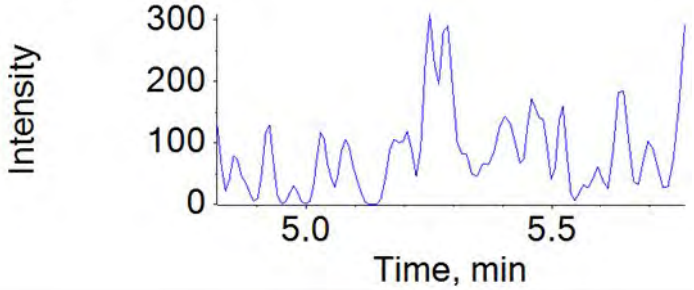
Component: PFOS
Primary Mass: 499.0 / 80.0



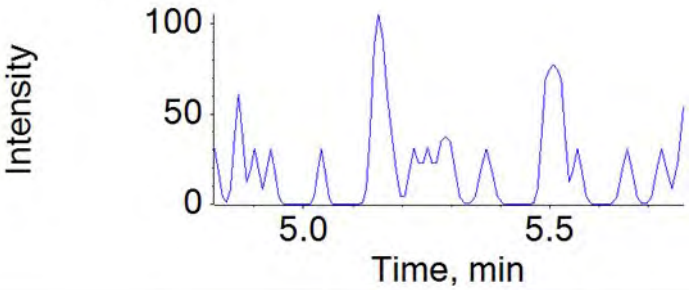
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



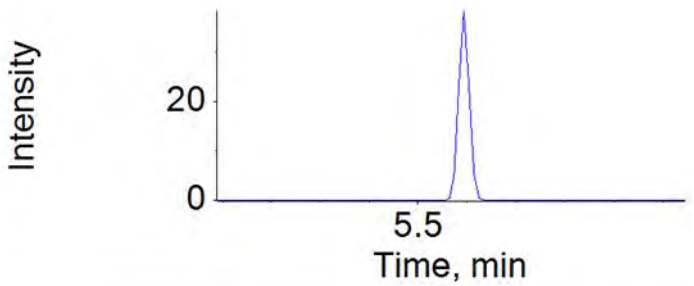
Component: PFNA
Primary Mass: 463.0 / 419.0



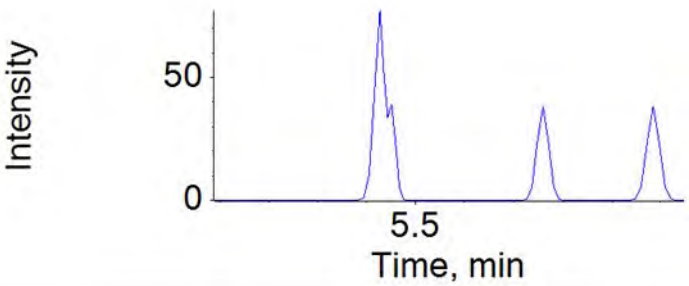
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



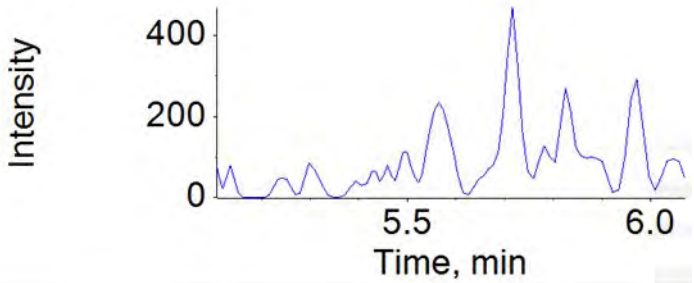
Component: PFNS
Primary Mass: 549.0 / 80.0



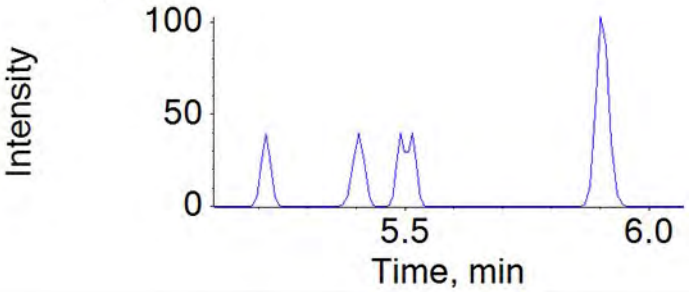
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



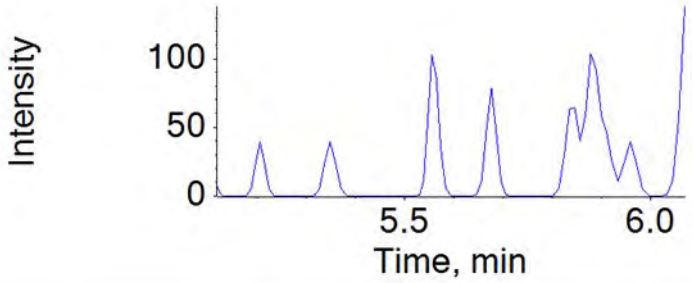
Component: PFDA
Primary Mass: 513.0 / 469.0



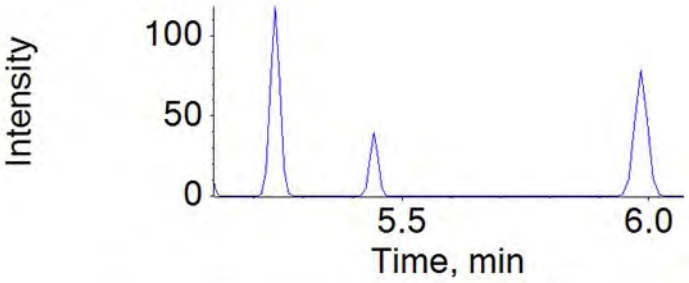
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



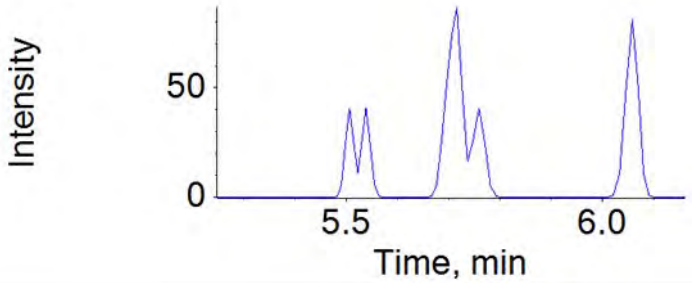
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



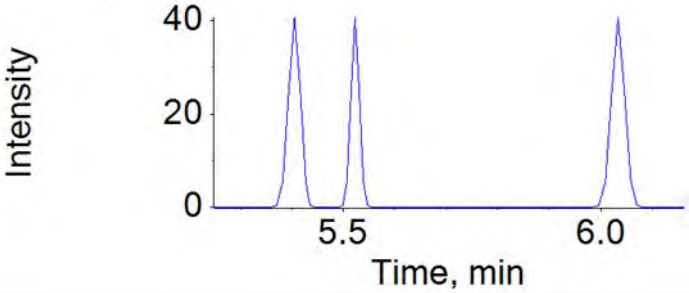
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



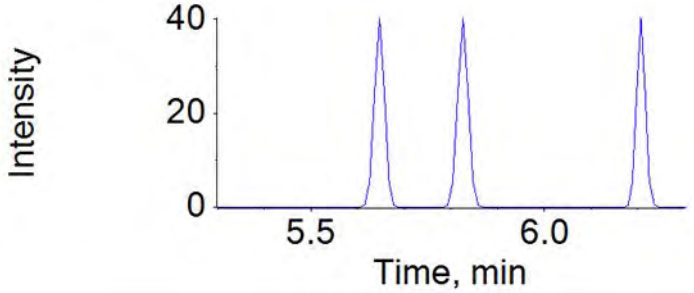
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



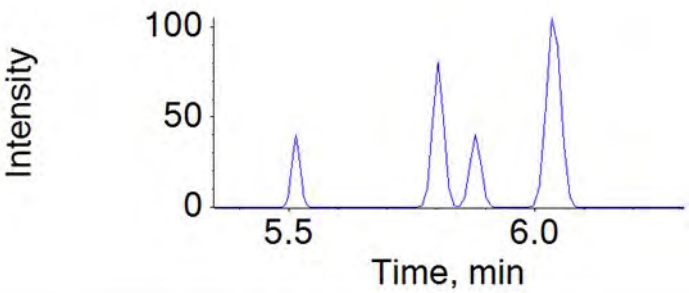
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



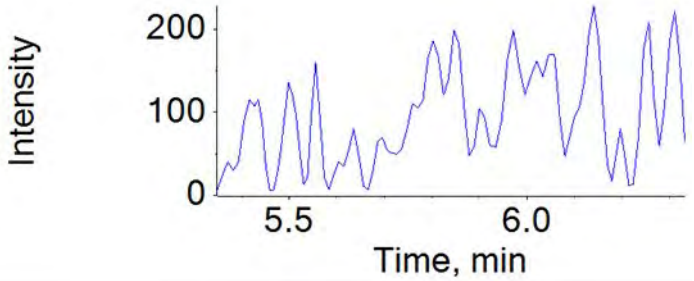
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



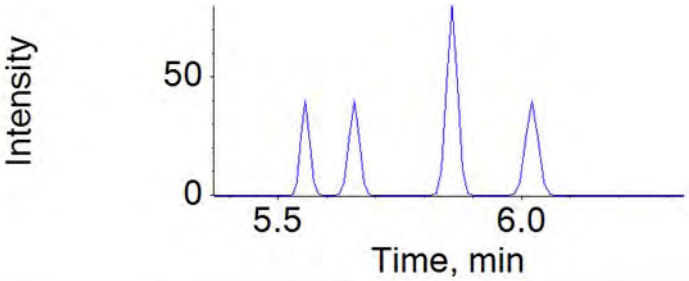
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

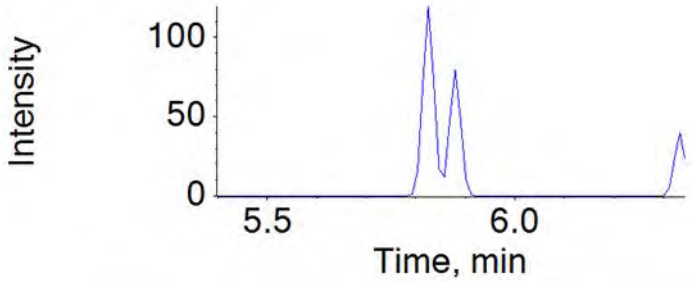
Component: PFUnDA
Primary Mass: 563.0 / 519.0



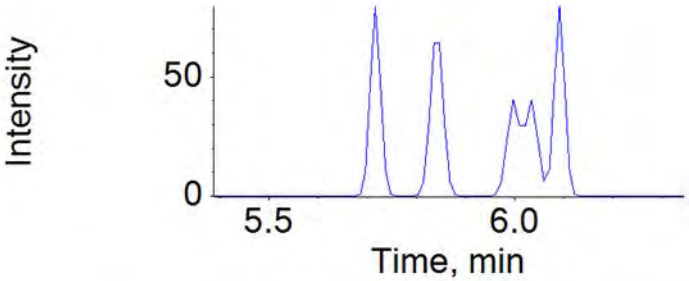
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



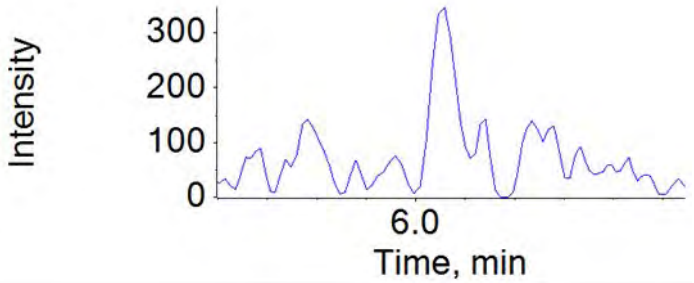
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



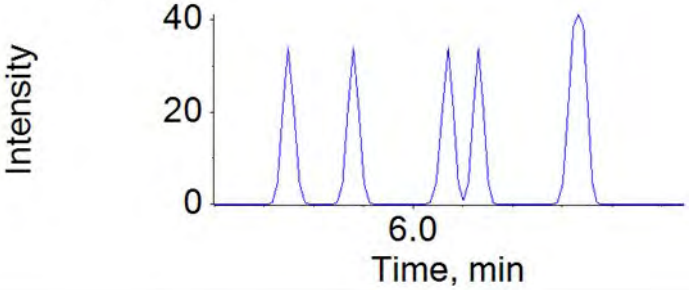
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



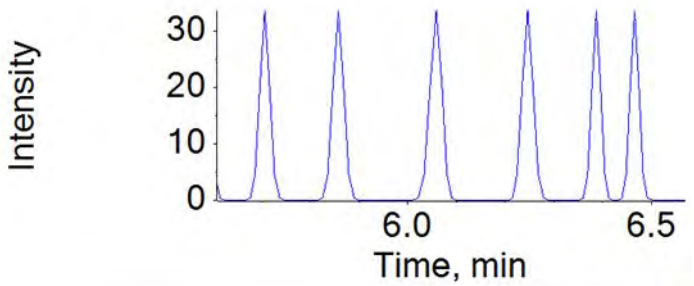
Component: PFDoDA
Primary Mass: 613.0 / 569.0



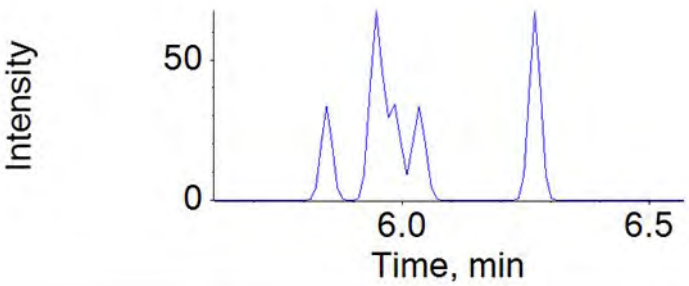
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



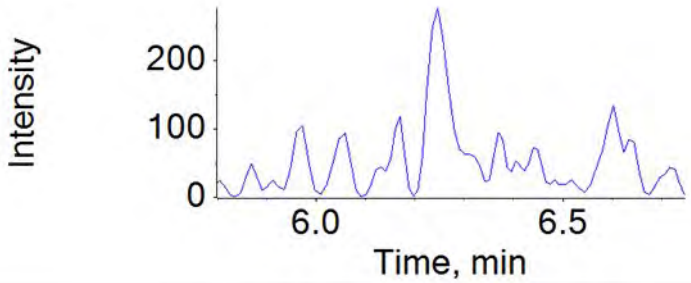
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



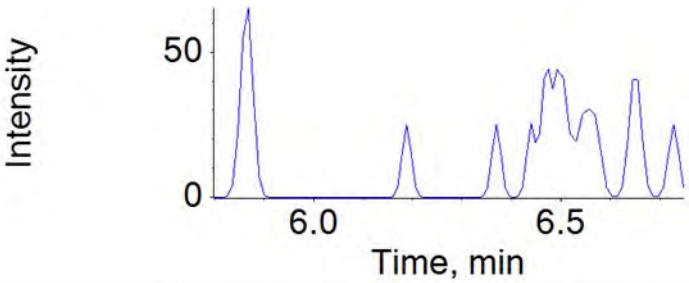
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



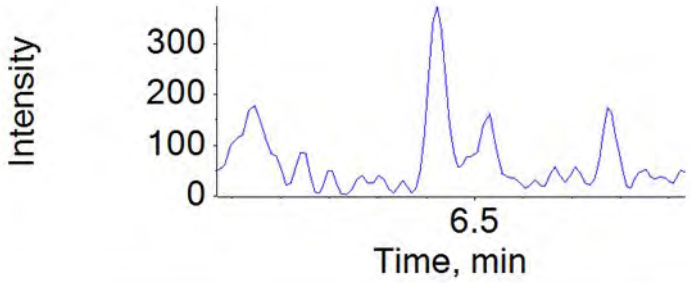
Component: PFTrDA
Primary Mass: 663.0 / 619.0



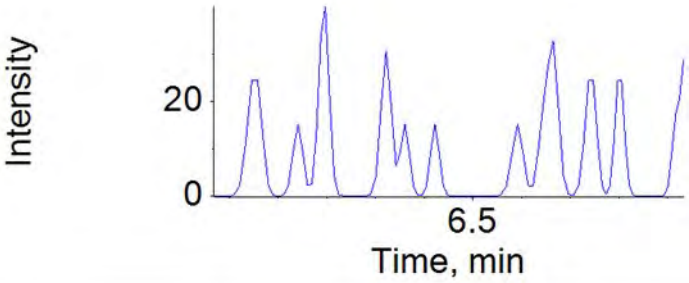
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



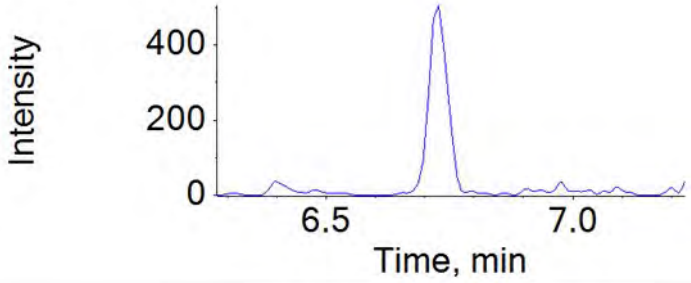
Component: PFTeDA
Primary Mass: 713.0 / 669.0



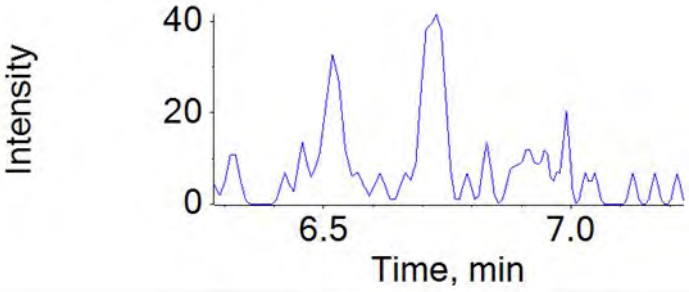
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



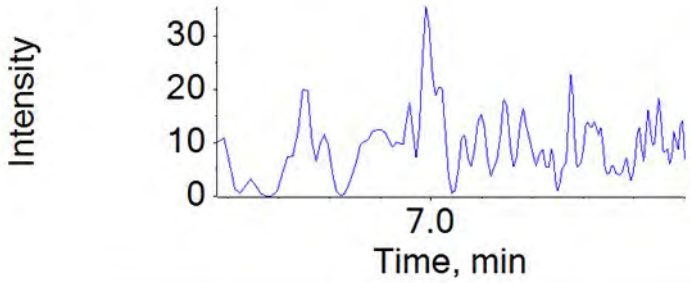
Component: PFHxDA
Primary Mass: 813.0 / 769.0



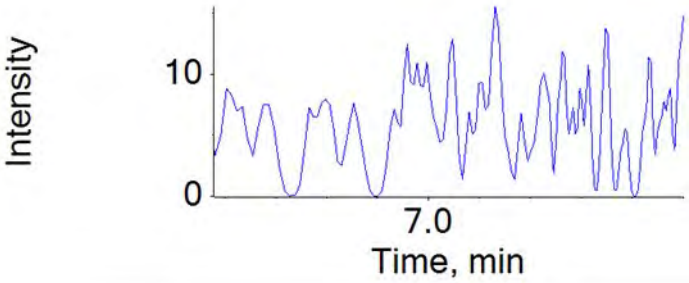
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	BLK360005			**Data File:**		18DEC26D-59.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18360005			**Acquis Date:**		2018-12-27T00:04:26
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	12			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18360005
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	18360005			**Operator:**		MCD7824
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	934022.0	965438.2	-3	50	
13C2-PFOA	5.0	514070.1	527066.0	-2	50	
13C4-PFOS	4.8	307847.7	307230.6	0	50	
13C2-PFDA	5.0	461809.3	493258.9	-6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1131144.9	13C3-PFBA	934022.0	1.211	20.000	21.492	107	50-150	
E13C5-PFPeA	1084188.9	13C3-PFBA	934022.0	1.161	20.000	22.115	111	50-150	
E13C3-PFBS	458002.8	13C3-PFBA	934022.0	0.490	18.600	19.056	102	50-150	
E13C2-4:2-FTS	79157.4	13C2-PFOA	514070.1	0.154	18.680	23.465	126	50-150	
E13C5-PFHxA	747865.3	13C2-PFOA	514070.1	1.455	20.000	21.288	106	50-150	
E13C3-PFHxS	363391.0	13C2-PFOA	514070.1	0.707	18.920	21.728	115	50-150	
E13C4-PFHpA	583710.1	13C2-PFOA	514070.1	1.135	20.000	20.462	102	50-150	
E13C2-6:2-FTS	57634.1	13C2-PFOA	514070.1	0.112	19.000	21.942	115	50-150	
E13C8-PFOA	1061596.0	13C2-PFOA	514070.1	2.065	20.000	23.144	116	50-150	
E13C8-PFOS	337947.5	13C4-PFOS	307847.7	1.098	19.120	19.142	100	50-150	
E13C9-PFNA	705594.1	13C4-PFOS	307847.7	2.292	20.000	20.197	101	50-150	
E13C6-PFDA	859963.4	13C2-PFDA	461809.3	1.862	20.000	21.386	107	50-150	
E13C2-8:2-FTS	55074.6	13C2-PFDA	461809.3	0.119	19.160	24.679	129	50-150	
E13C8-PFOSA	633617.0	13C2-PFDA	461809.3	1.372	20.000	21.921	110	50-150	
Ed3-NMeFOSAA	180425.2	13C2-PFDA	461809.3	0.391	20.000	19.941	100	50-150	
E13C7-PFUnDA	560365.5	13C2-PFDA	461809.3	1.213	20.000	20.972	105	50-150	
Ed5-NEtFOSAA	116603.2	13C2-PFDA	461809.3	0.252	20.000	17.500	87	50-150	
E13C2-PFDoDA	992154.5	13C2-PFDA	461809.3	2.148	20.000	18.639	93	50-150	
Ed7-NMePFOSAE	190738.7	13C2-PFDA	461809.3	0.413	20.000	15.620	78	50-150	
Ed3-NMePFOSA	47949.3	13C2-PFDA	461809.3	0.104	20.000	11.773	59	50-150	
Ed9-NEtPFOSAE	170642.9	13C2-PFDA	461809.3	0.370	20.000	16.082	80	50-150	
Ed5-NEtPFOSA	33536.6	13C2-PFDA	461809.3	0.073	20.000	10.253	51	50-150	
E13C2-PFTeDA	596519.2	13C2-PFDA	461809.3	1.292	20.000	15.238	76	50-150	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

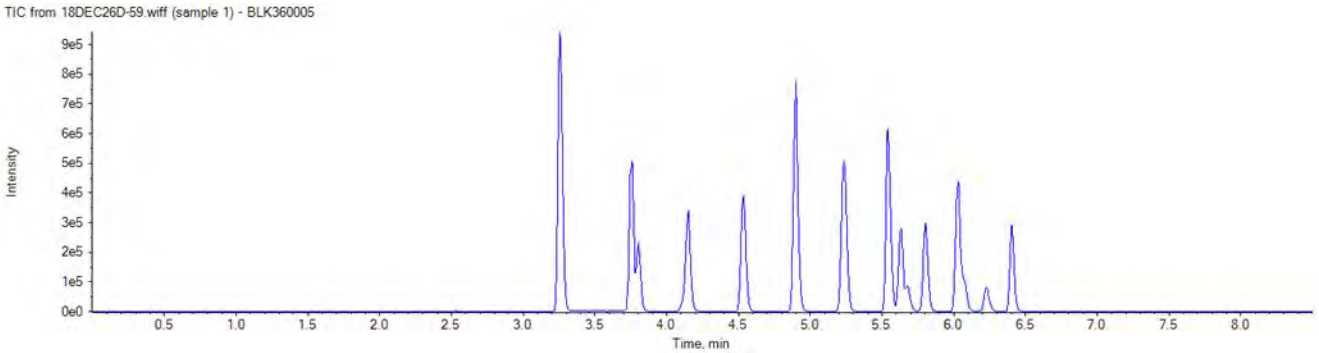
Analyte Quantitation Peak Table

Sample Name: BLK360005 **Instrument Name:** LM27631 **File Name:** 18DEC26D-59.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.26	1.000	16505.0		A	13C4-PFBA	3.26	1131144.9	0.015	0.308
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	1084188.9	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	458002.8	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.11	79157.4	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	747865.3	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.80	458002.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	583710.1	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	363391.0	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.89	57634.1	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	363391.0	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	1061596.0	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	337947.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.24	705594.1	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.23	337947.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.54	859963.4	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	55074.6	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.63	633617.1	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.68	180425.2	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.23	337947.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.80	560365.5	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.81	116603.2	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.03	992154.5	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	55074.6	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.07	190738.7	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.09	47949.3	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.23	337947.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.23	170642.9	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.25	33536.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.03	992154.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	596519.2	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	596519.2	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	596519.2	N/A	

Total Ion Chromatogram

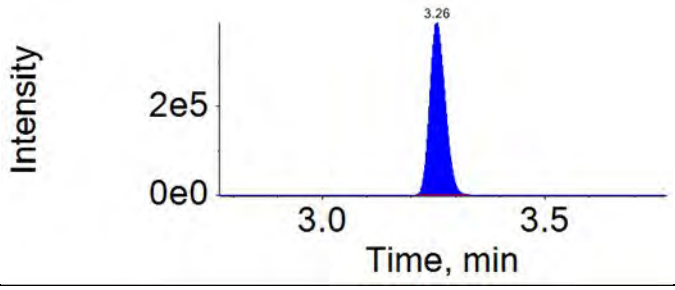


APPROVED
By MCD at 0:13 am, 12/29/18

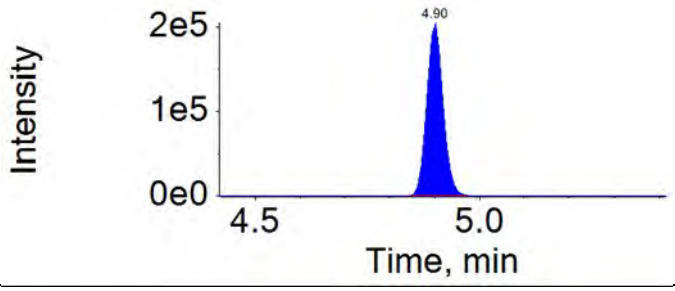
REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

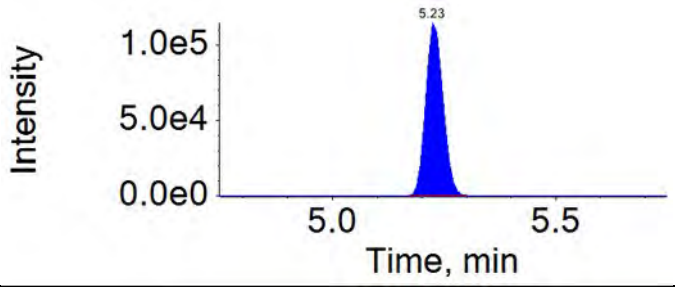
Injection Standard: 13C3-PFBA
216.0 / 172.0



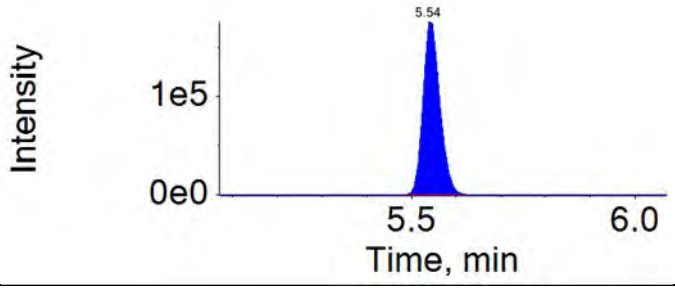
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

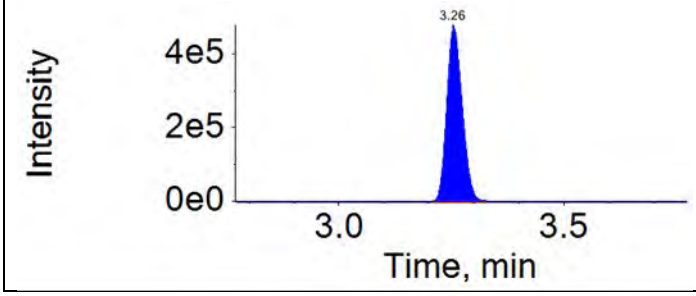


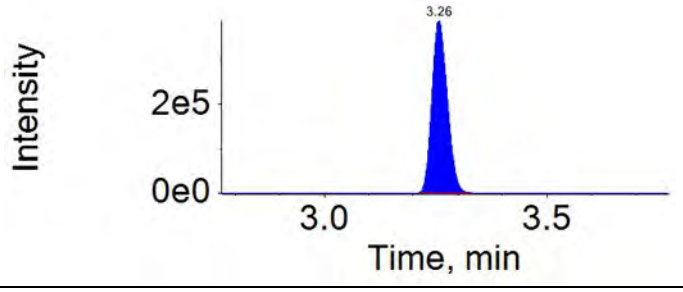
Injection Standard: 13C2-PFDA
515.0 / 470.0



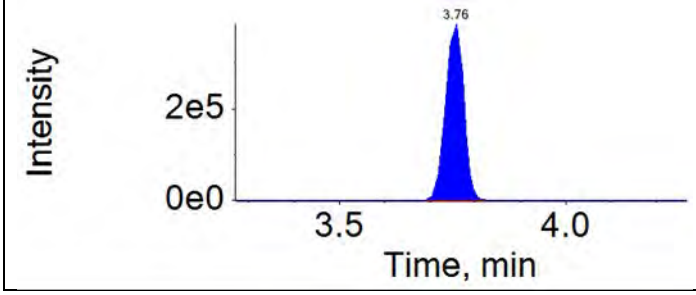
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

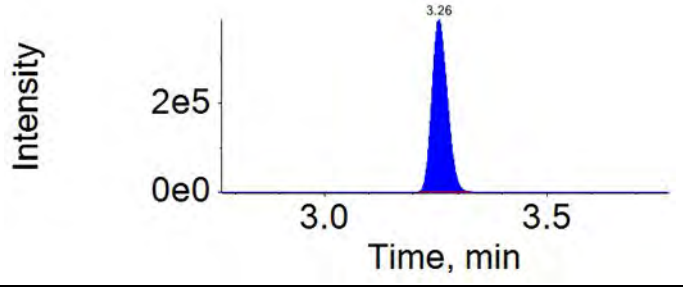
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



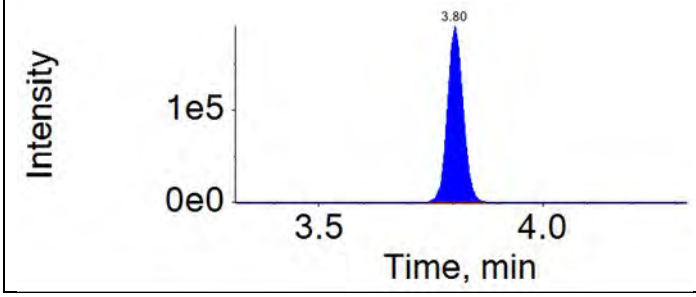


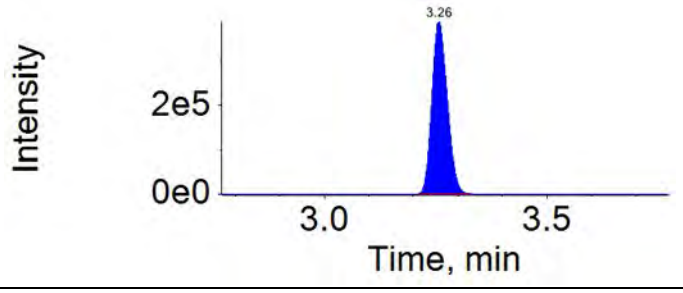
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



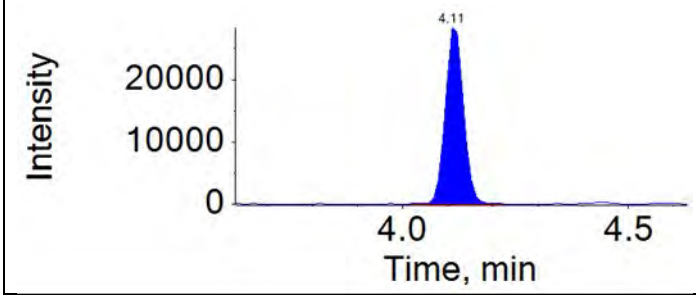


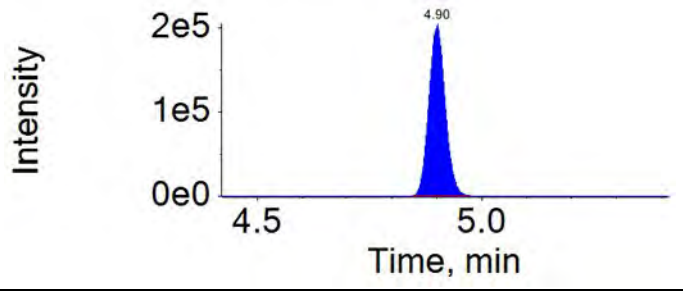
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





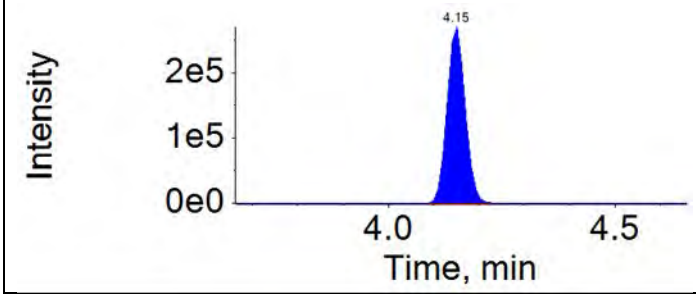
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

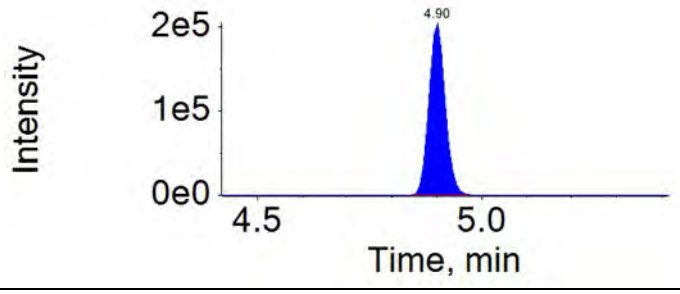




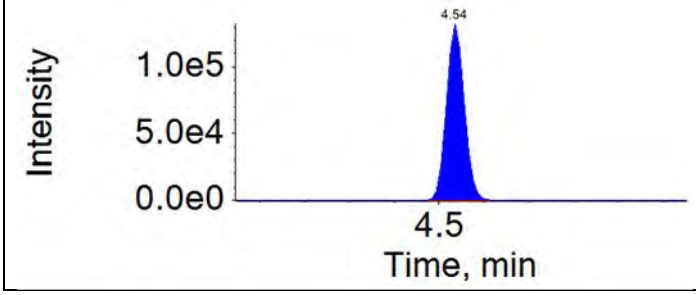
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

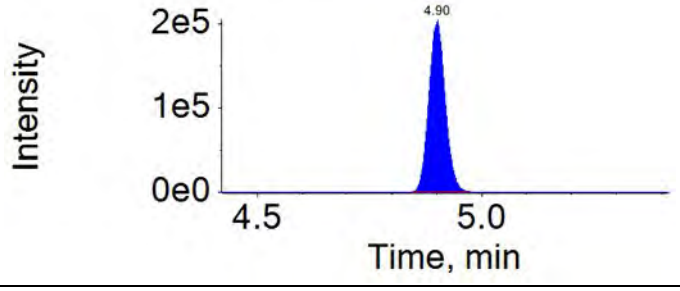
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



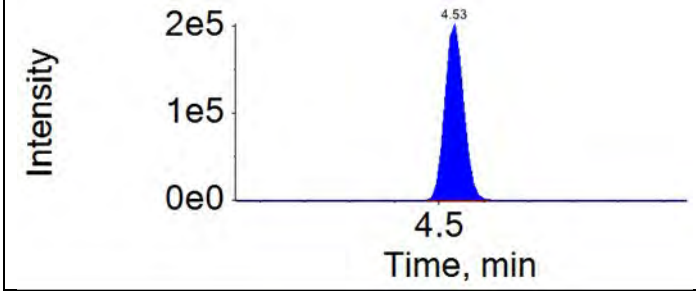


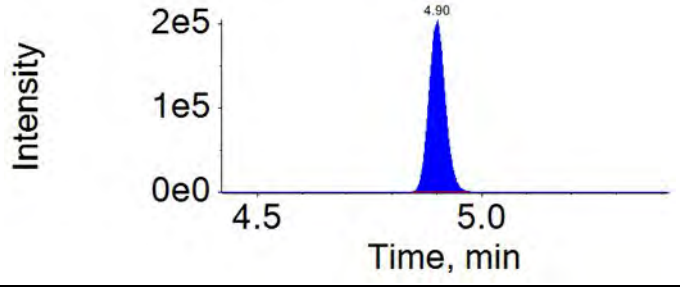
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



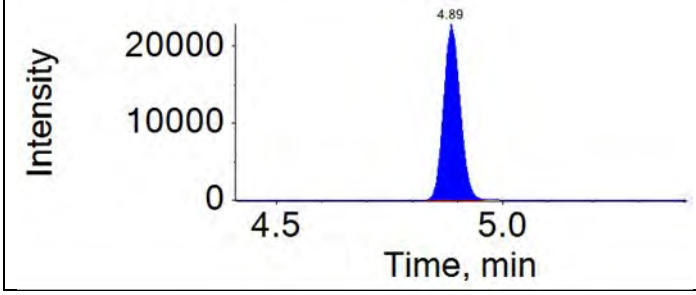


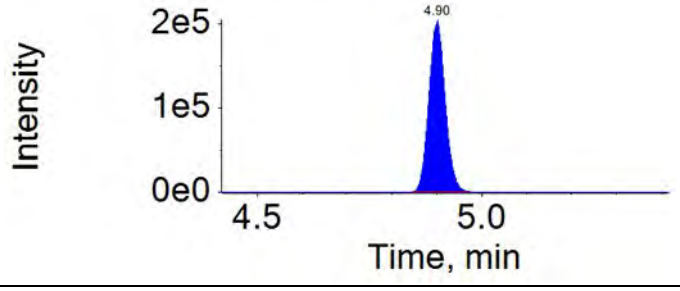
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



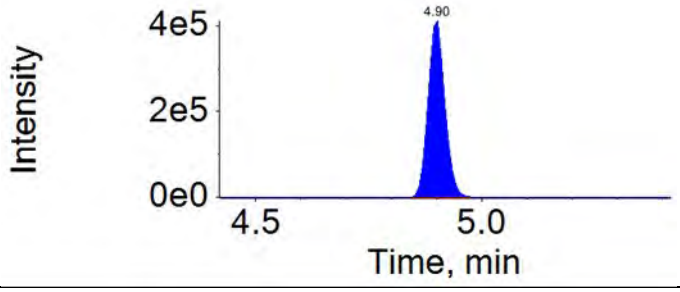
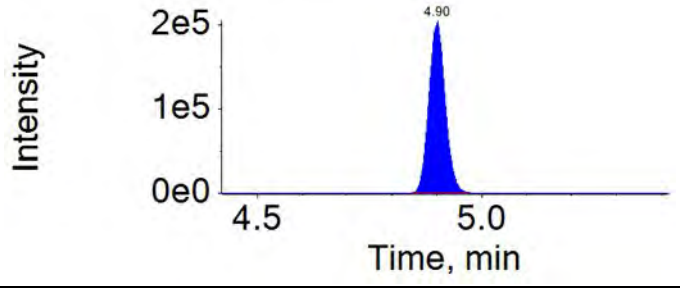


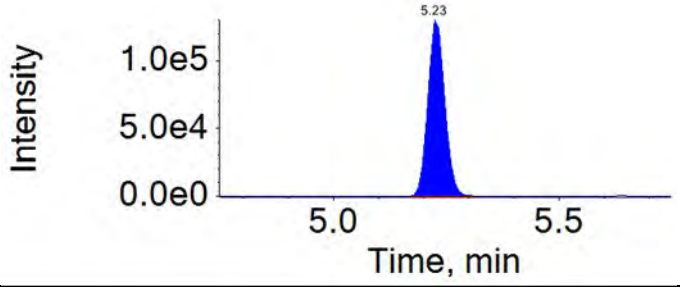
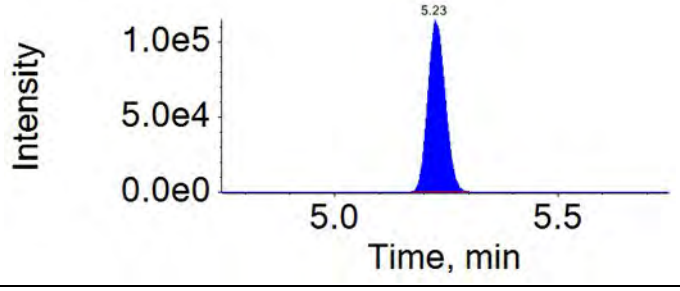
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

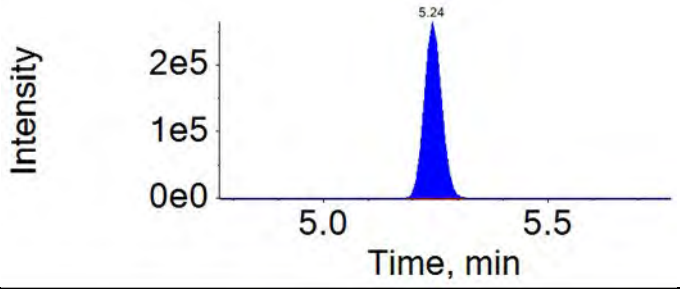
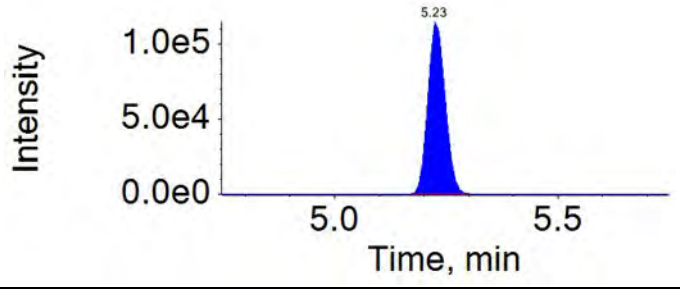


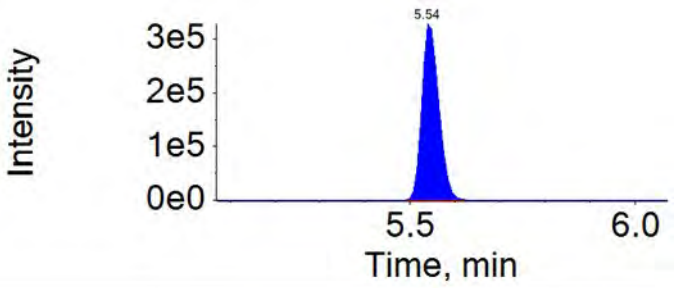
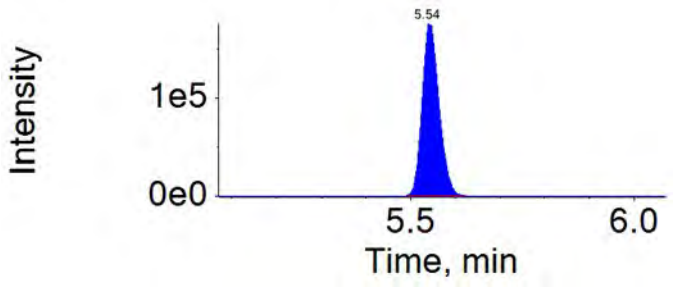


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

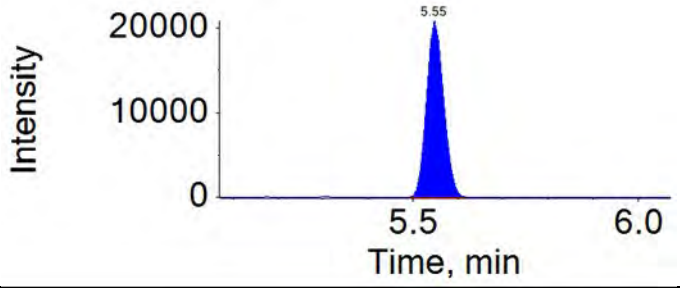
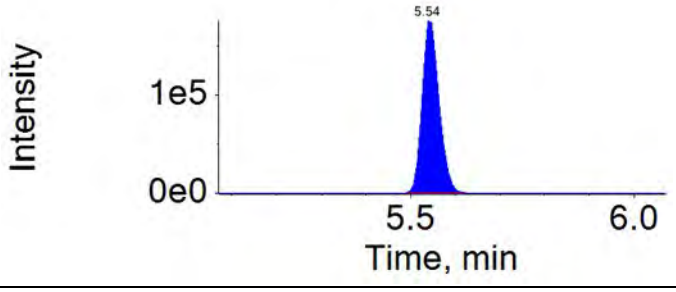
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

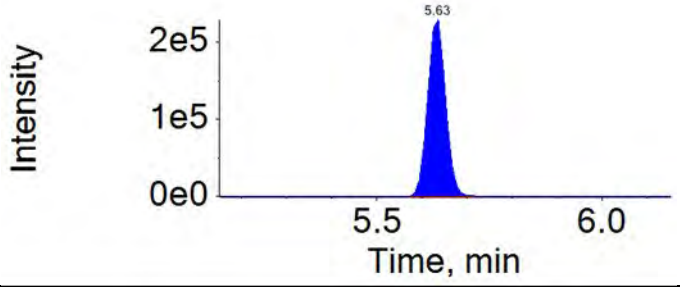
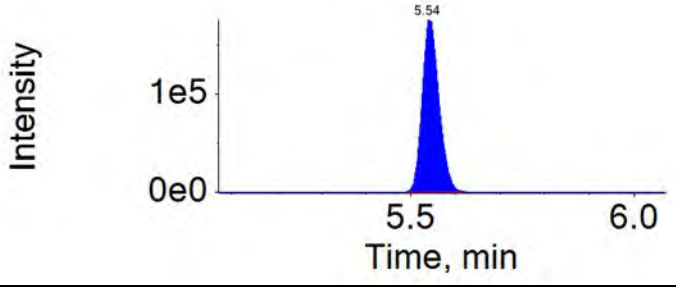
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

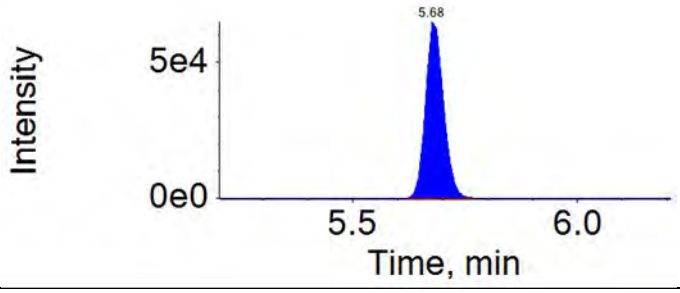
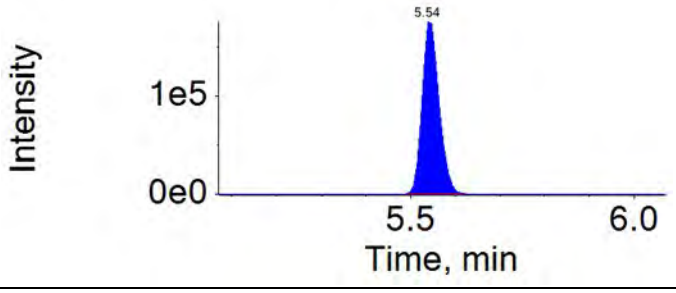
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

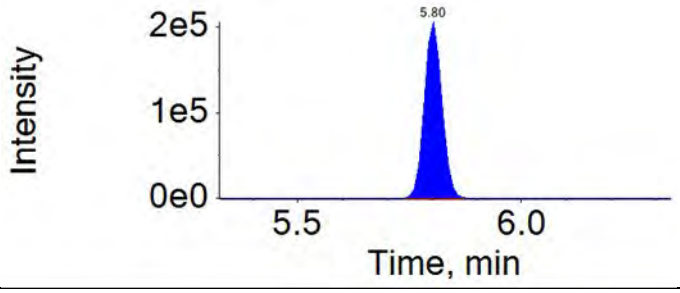
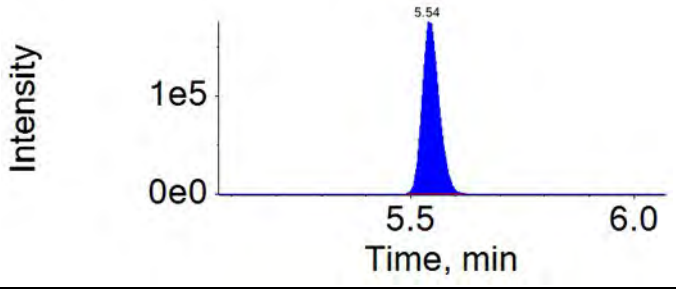
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

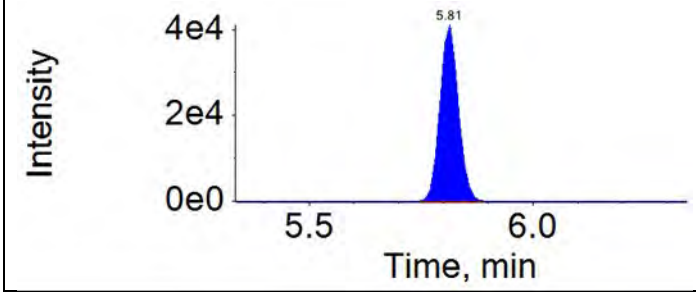
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

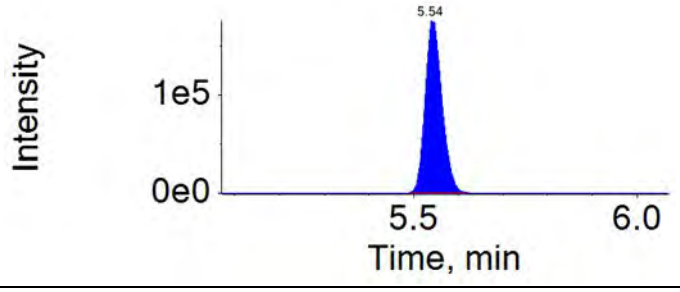
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

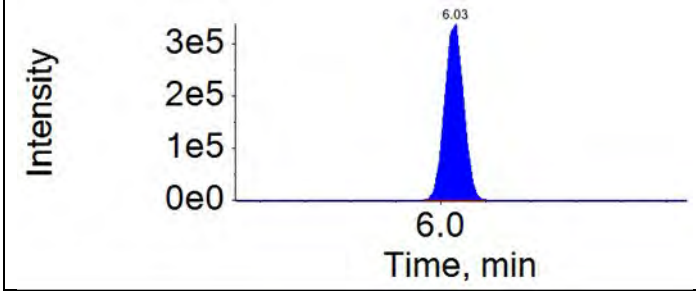
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

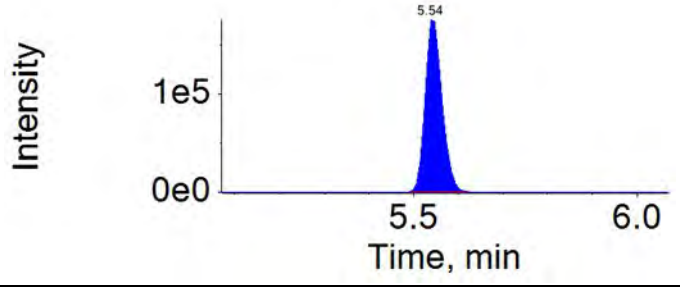
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



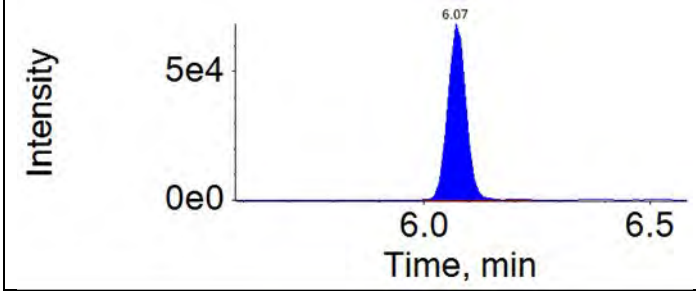


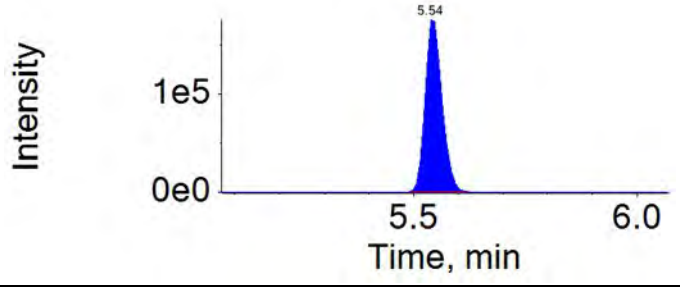
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



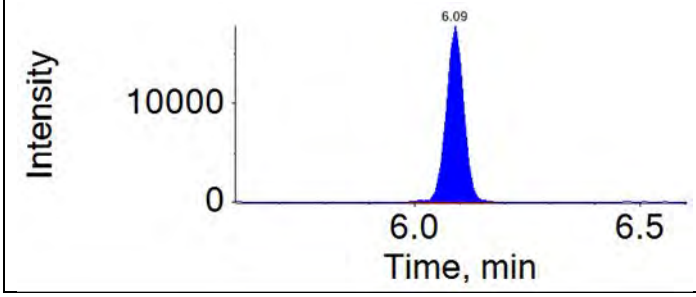


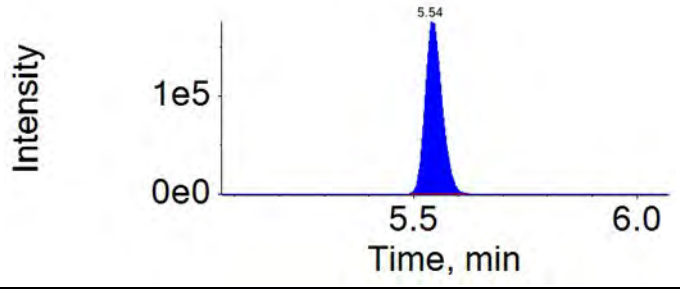
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



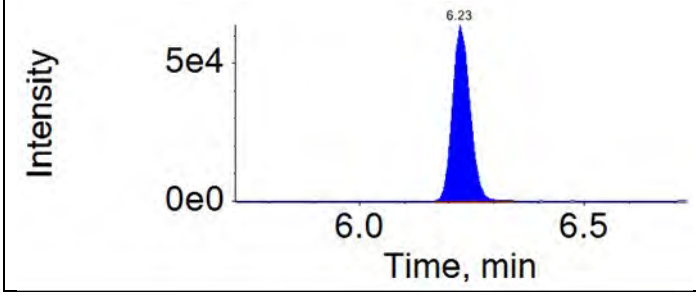


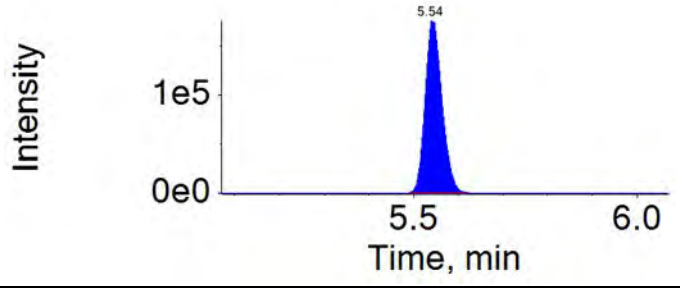
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

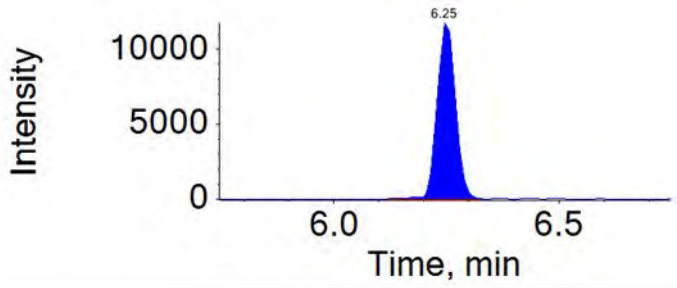
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

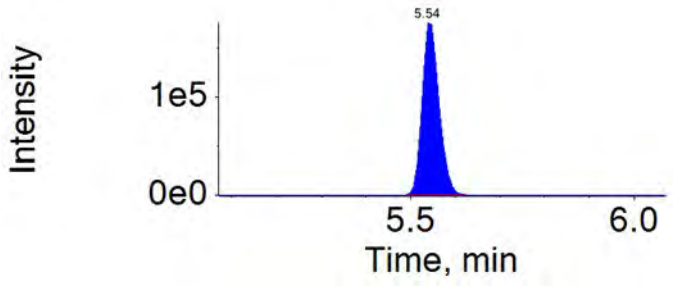
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



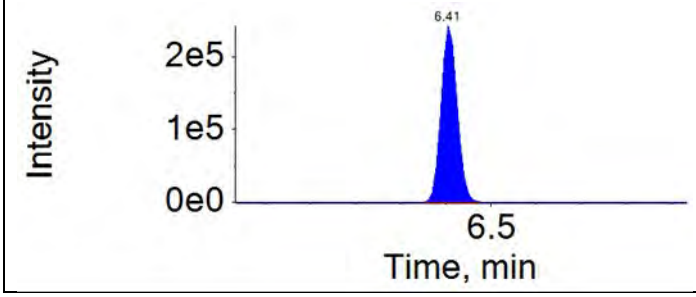


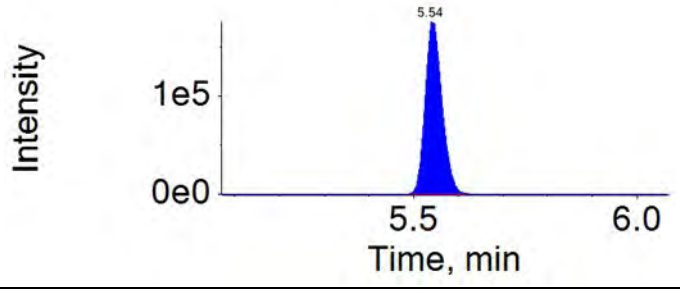
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0



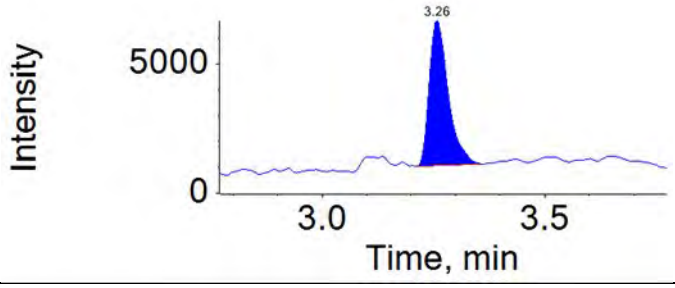
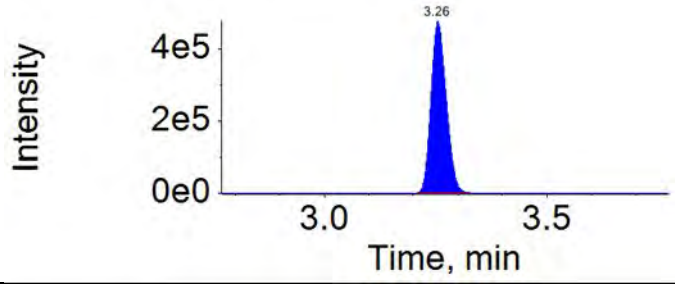


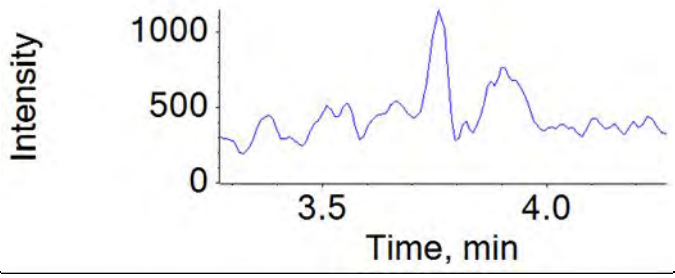
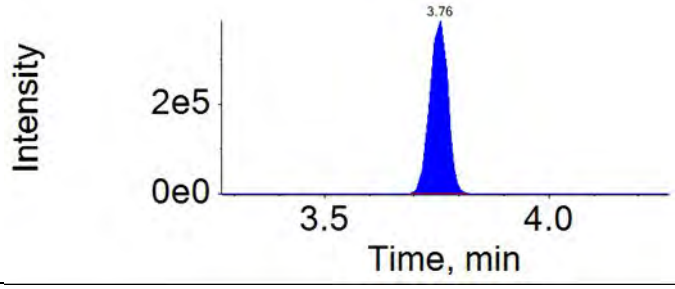
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

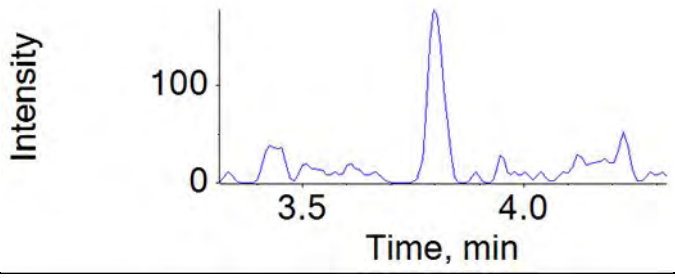
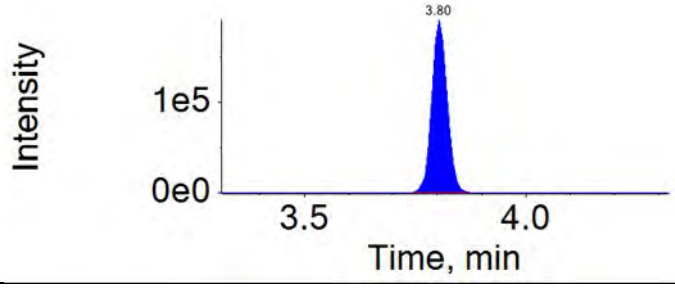


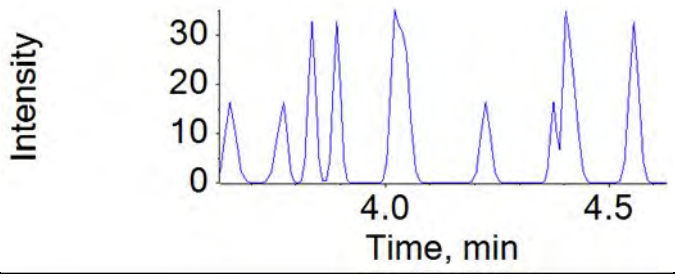
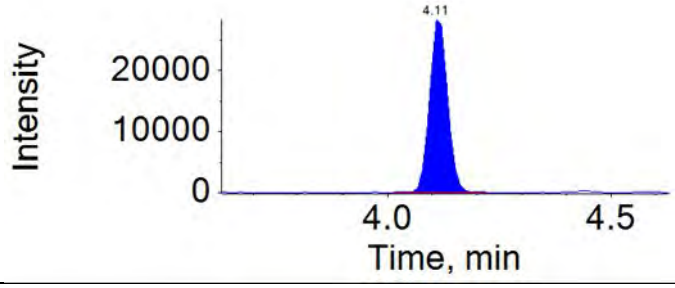


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

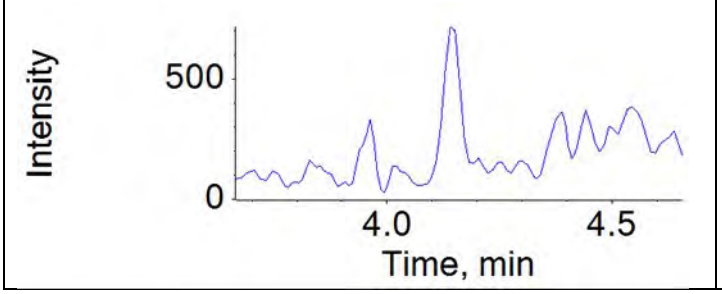
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

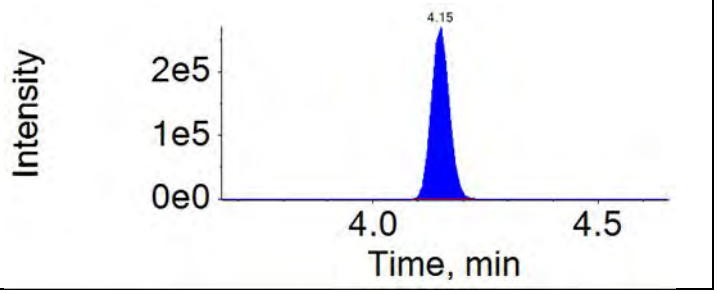
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

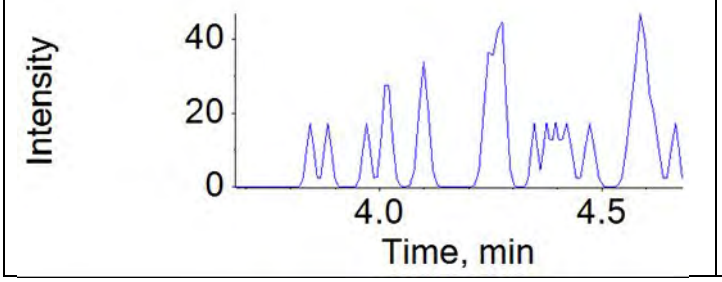
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

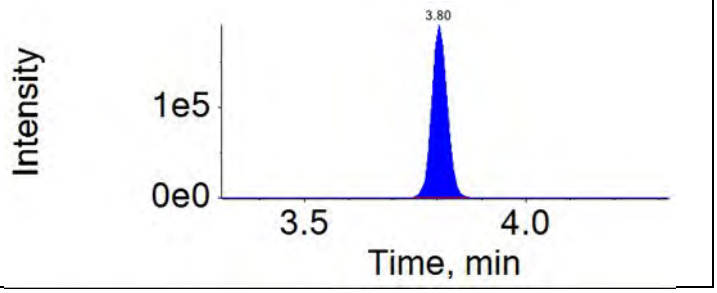
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



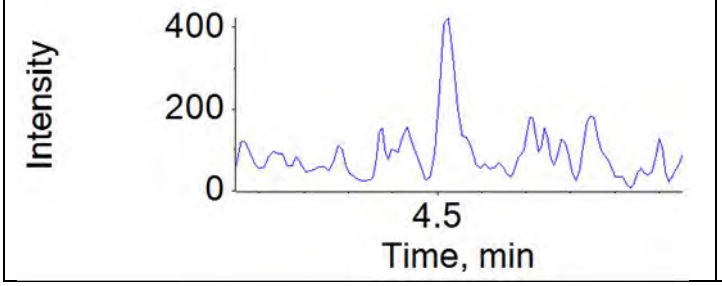


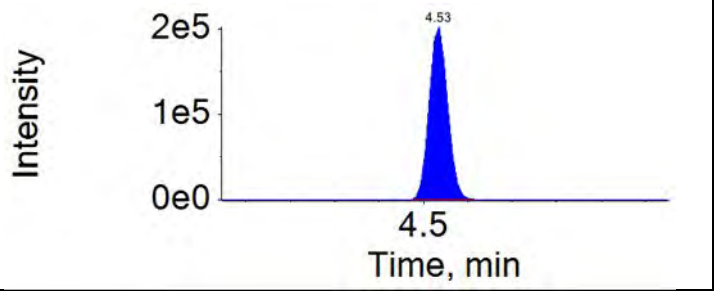
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



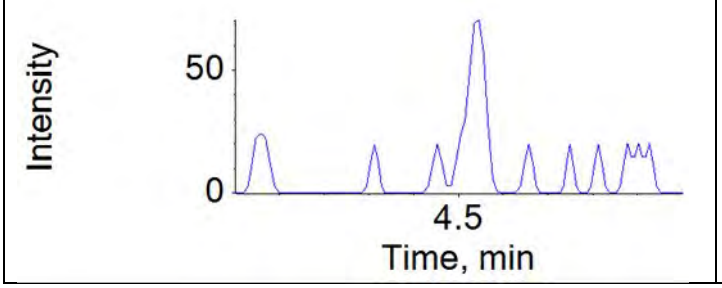


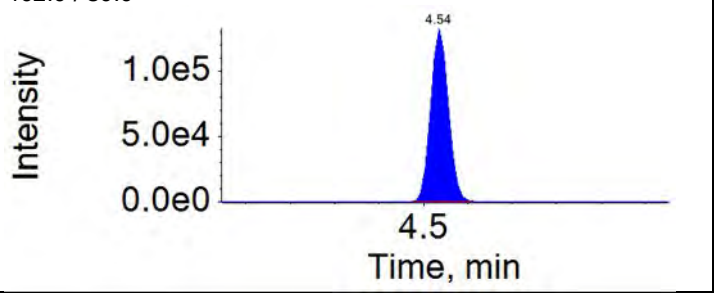
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0





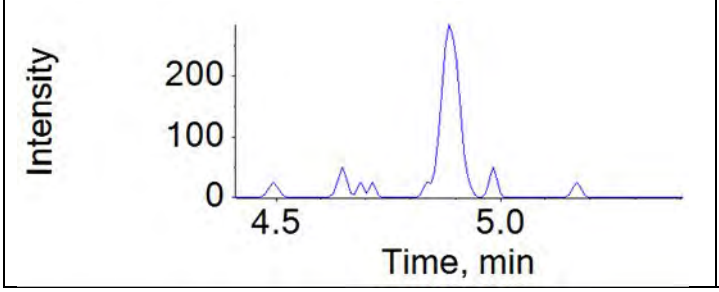
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

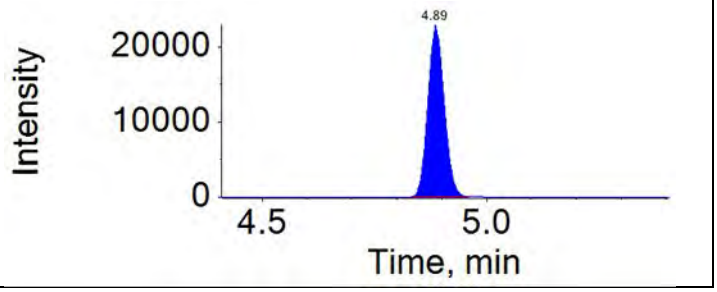




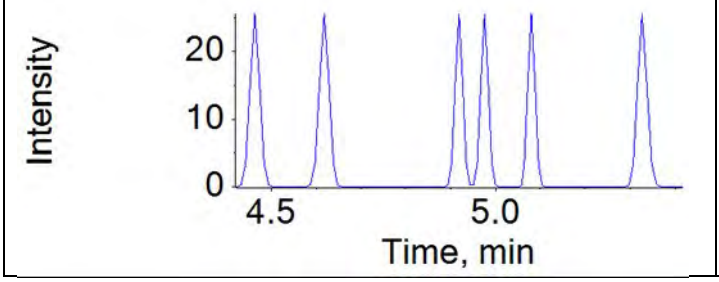
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

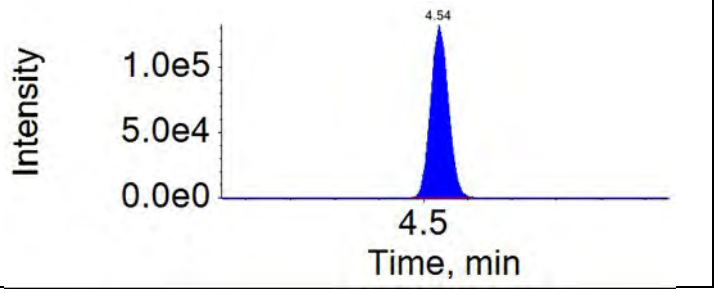
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



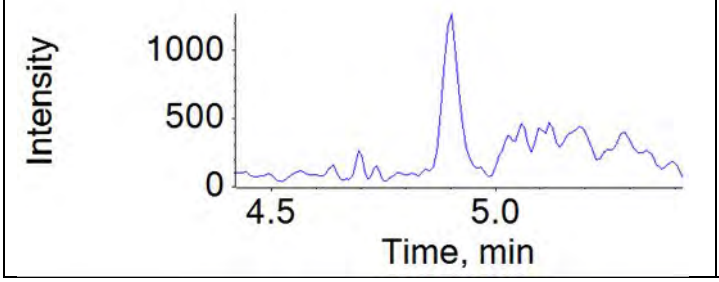


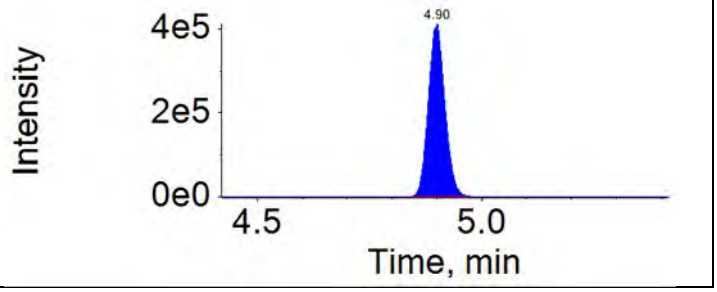
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



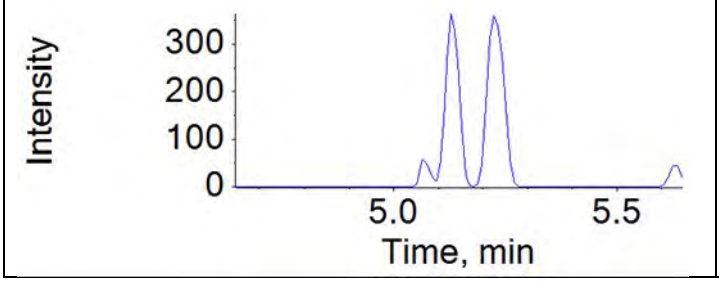


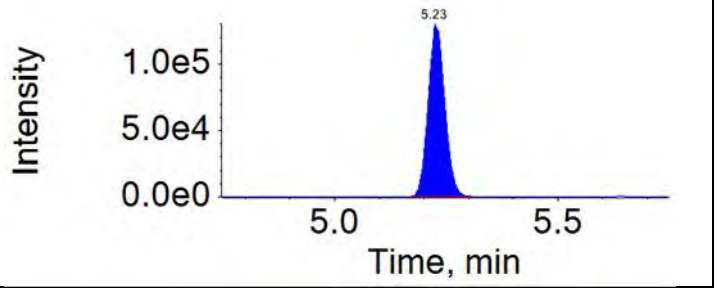
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





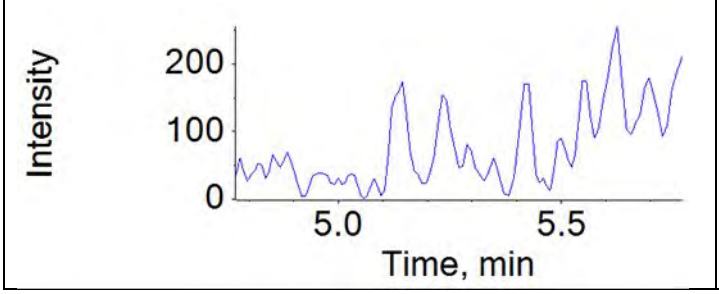
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0

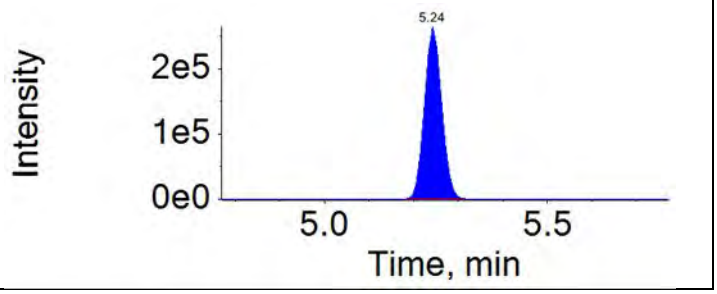




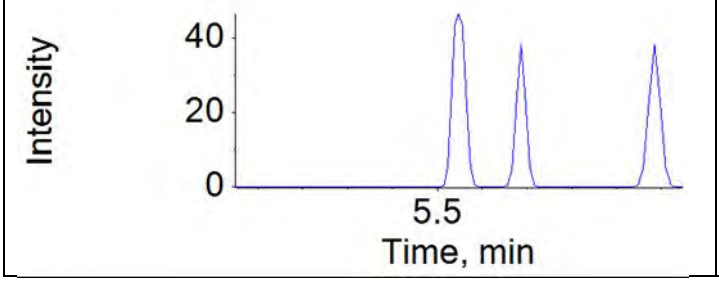
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

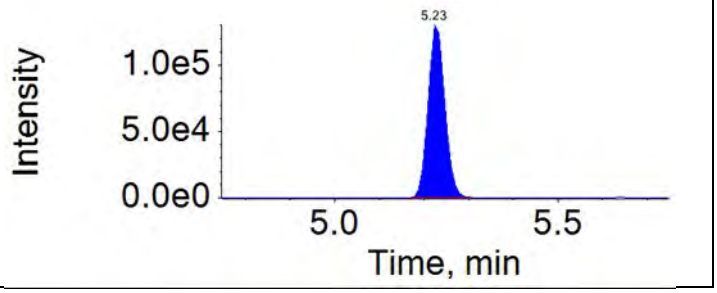
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



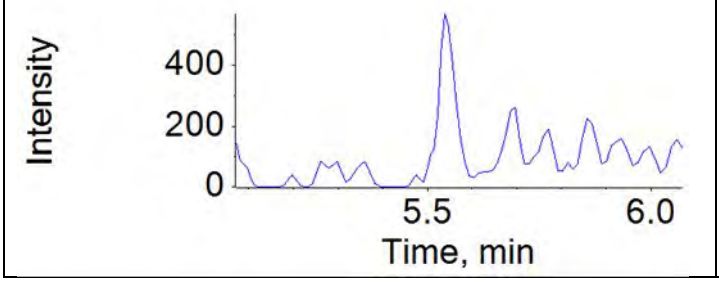


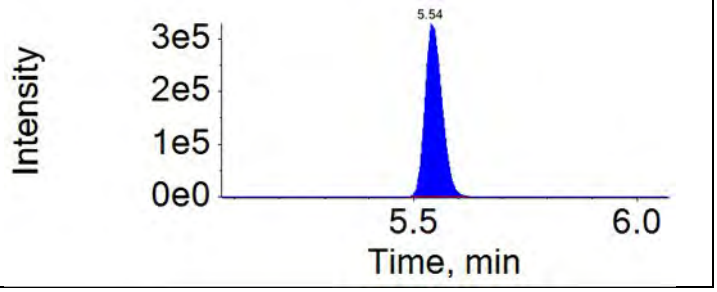
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



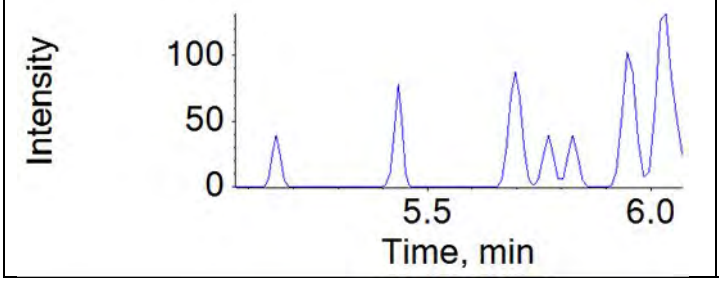


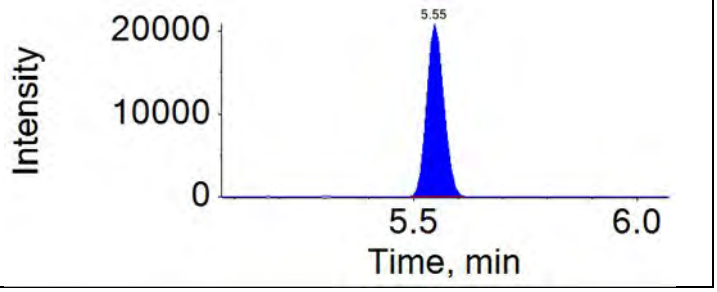
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





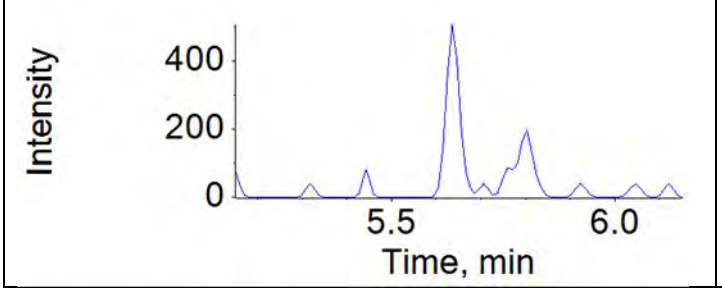
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

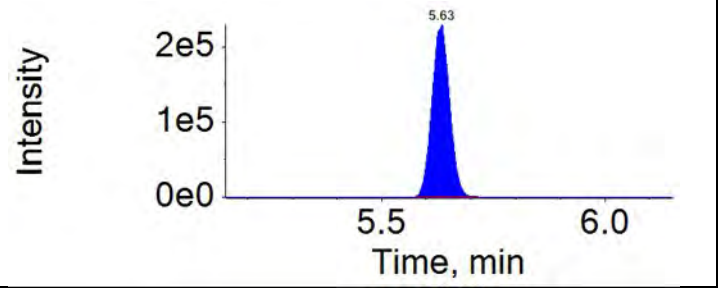




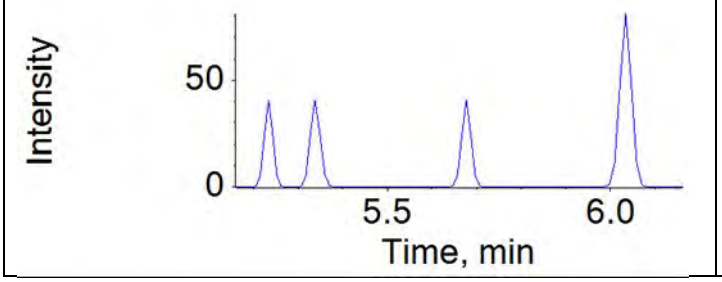
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

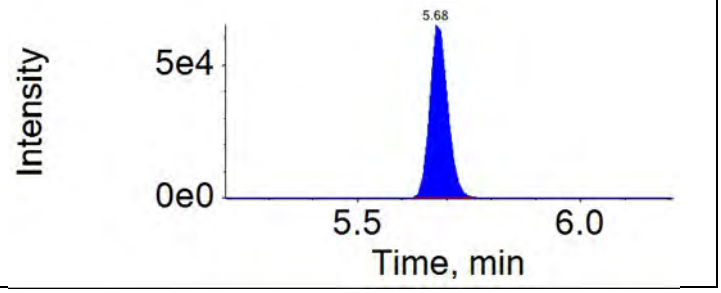
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



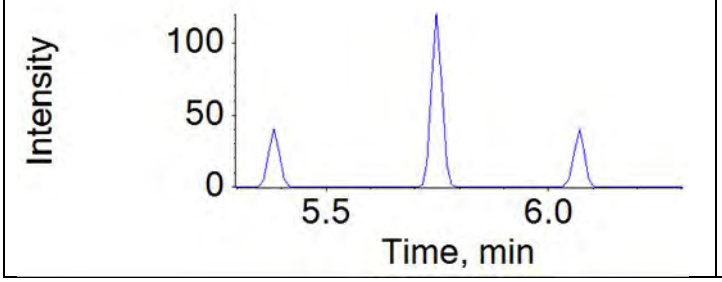


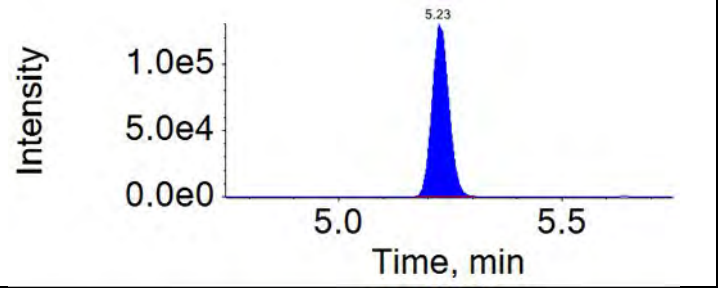
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



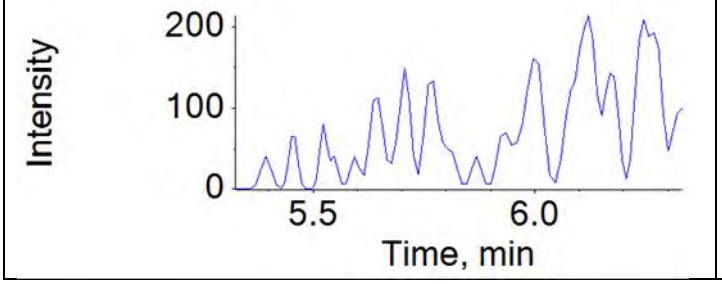


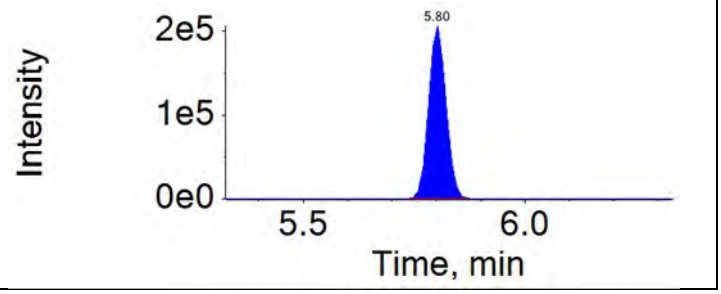
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





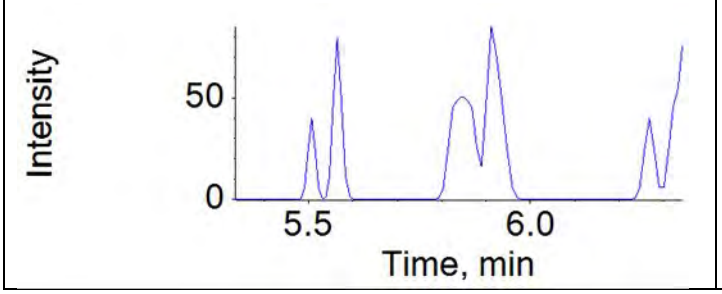
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

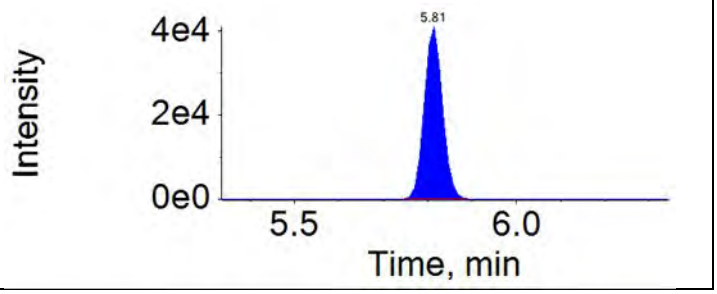




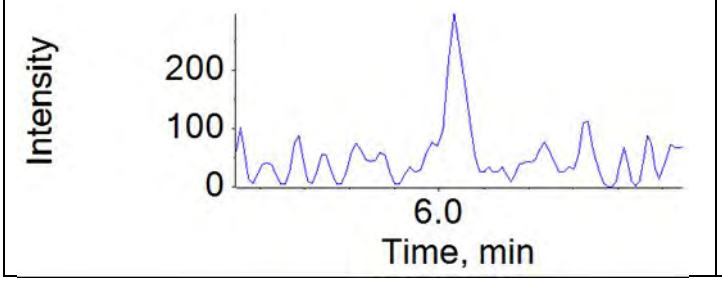
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

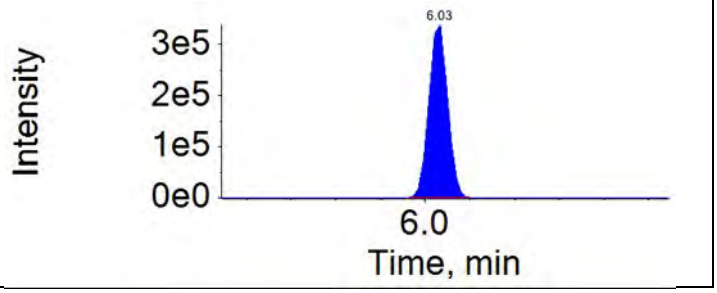
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



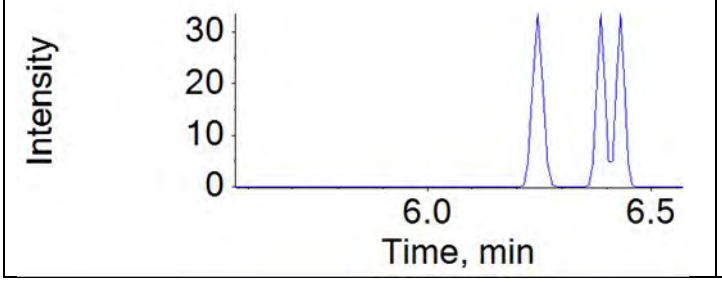


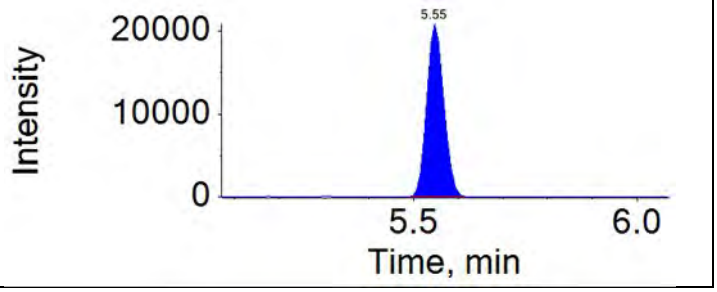
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



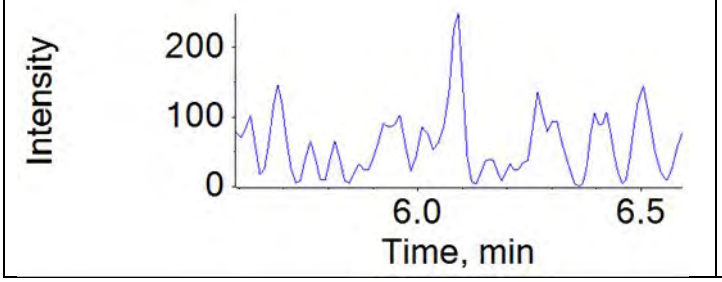


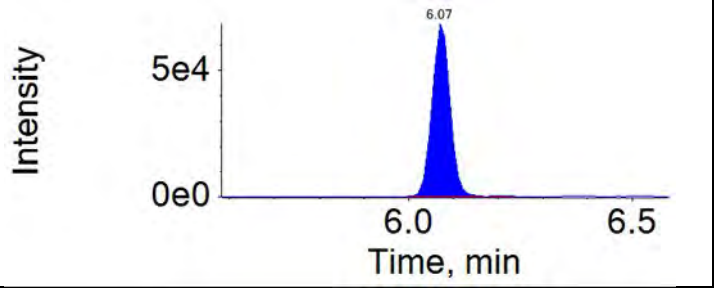
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





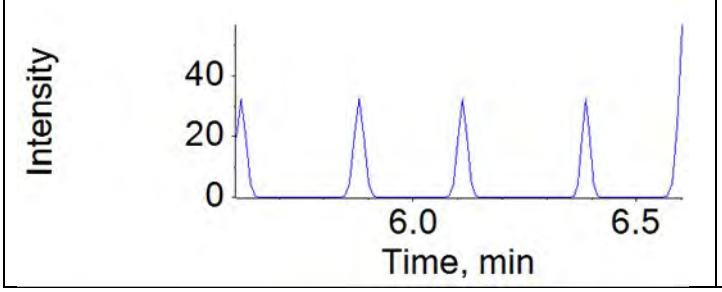
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

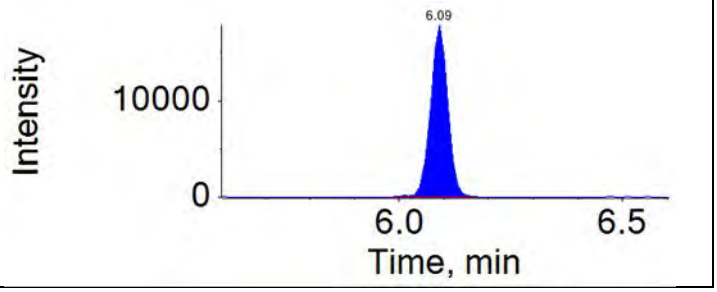




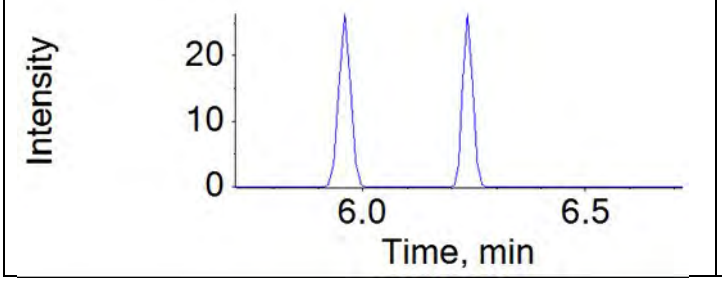
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

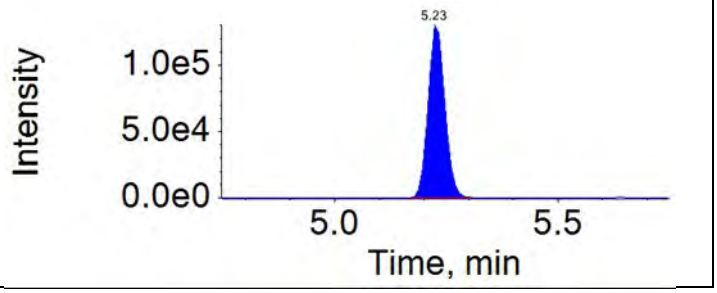
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



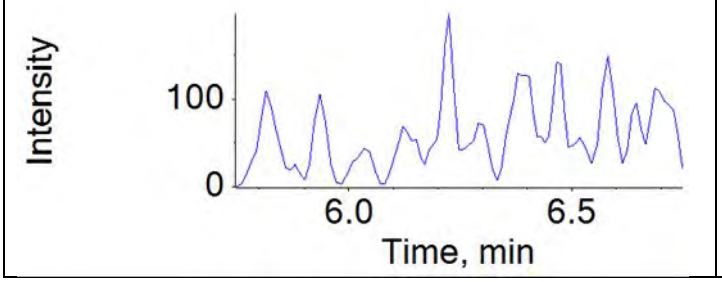


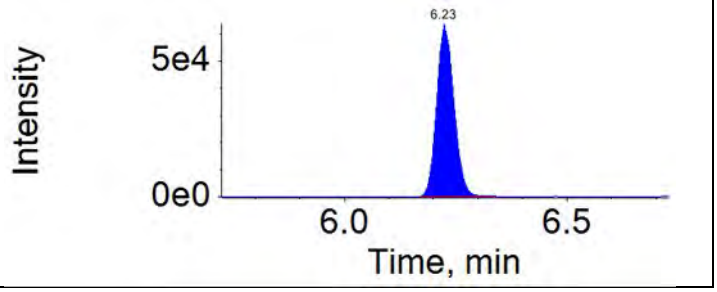
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



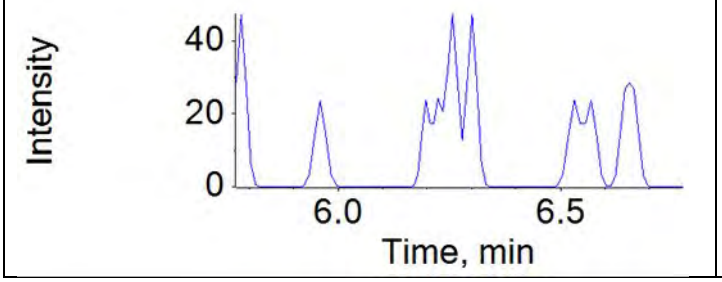


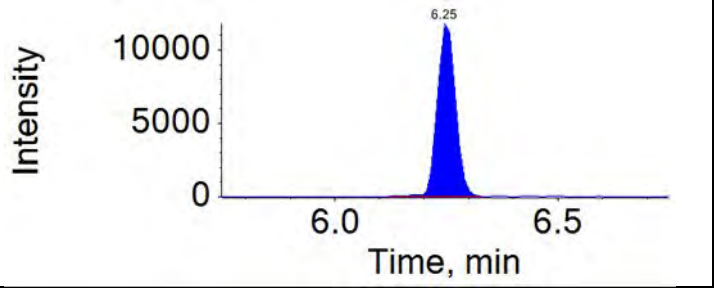
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



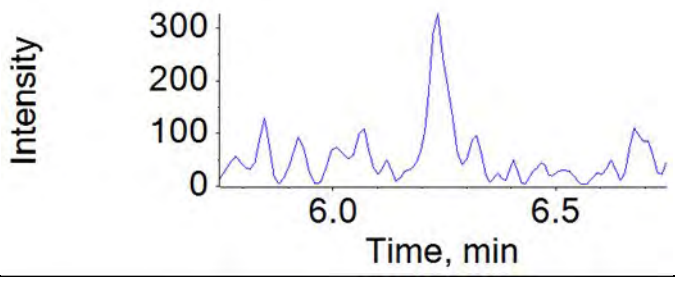
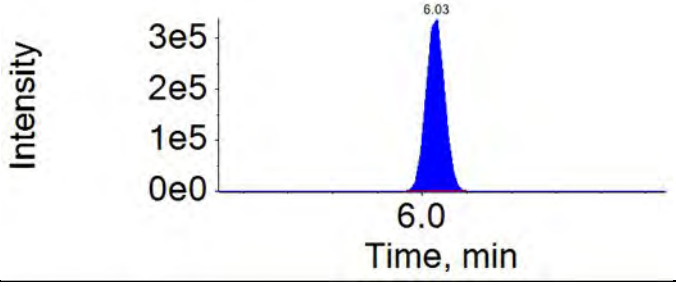


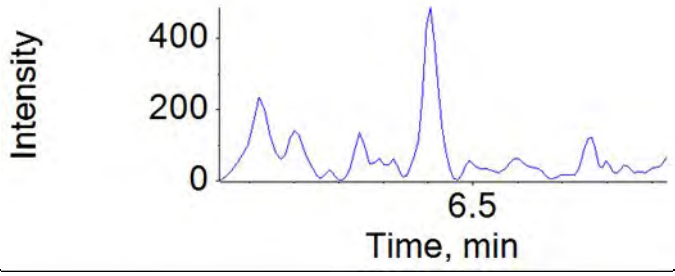
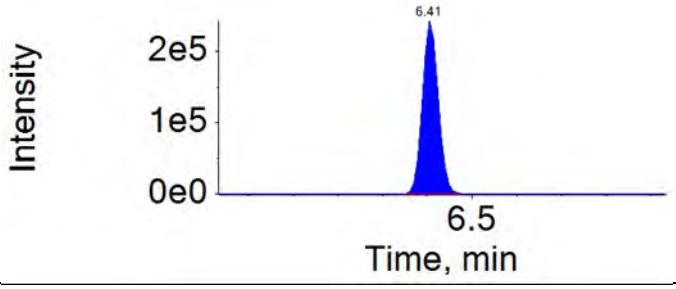
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

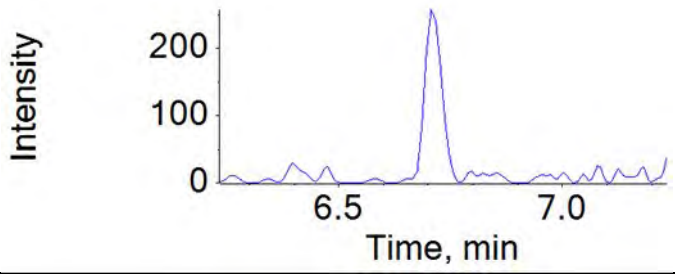
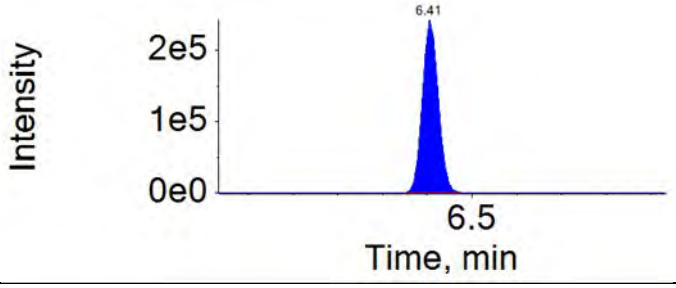


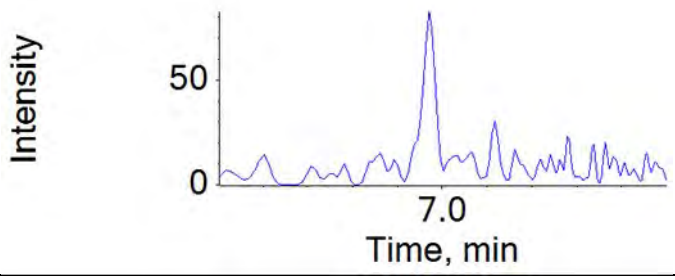
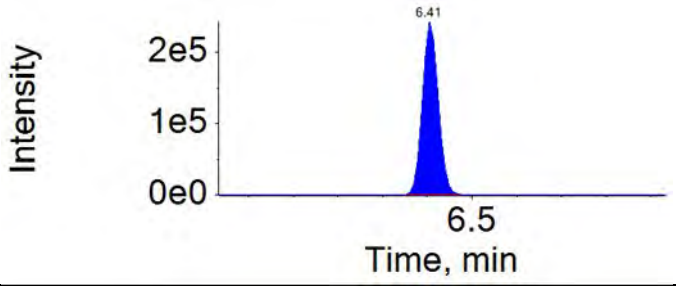


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

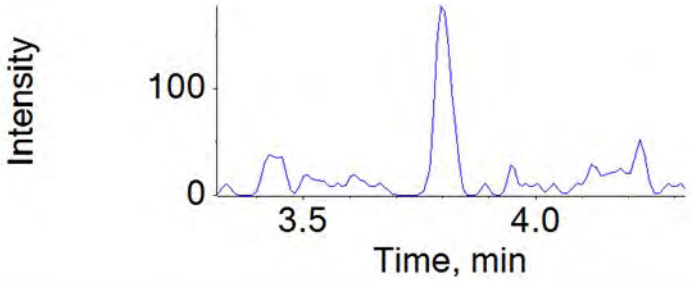
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

Ion Ratio Report

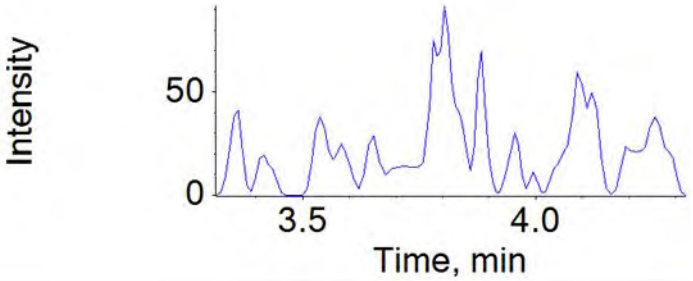
Sample Name: BLK360005 **Instrument Name:** LM27631 **File Name:** 18DEC26D-59.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
4:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
4:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFPeS	N/A	N/A	N/A	A	N/A	N/A			
PFPeS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
6:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
6:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpS	N/A	N/A	N/A	A	N/A	N/A			
PFHpS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNS	N/A	N/A	N/A	A	N/A	N/A			
PFNS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
8:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
8:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDS	N/A	N/A	N/A	A	N/A	N/A			
PFDS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
10:2-FTS	N/A	N/A	N/A	A	N/A	N/A			
10:2-FTS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxDA	N/A	N/A	N/A	A	N/A	N/A			
PFHxDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFODA	N/A	N/A	N/A	A	N/A	N/A			
PFODA_2	N/A	N/A	N/A	A	N/A	N/A		50	

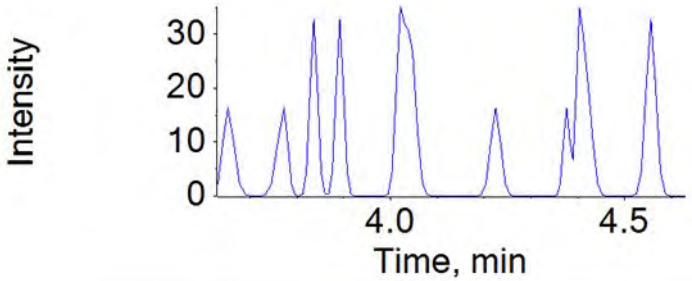
Component: PFBS
Primary Mass: 299.0 / 80.0



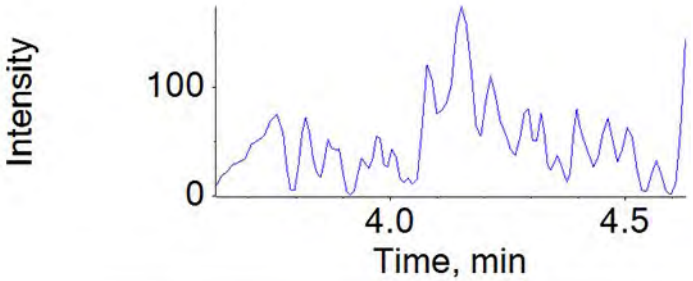
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



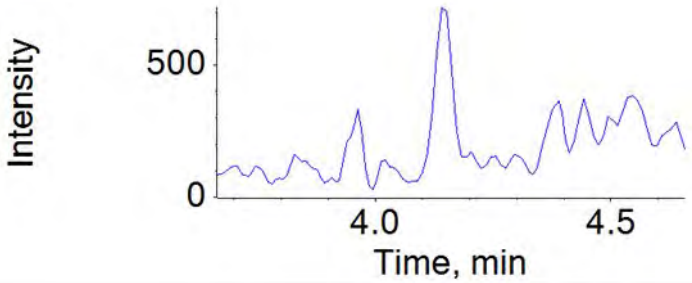
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



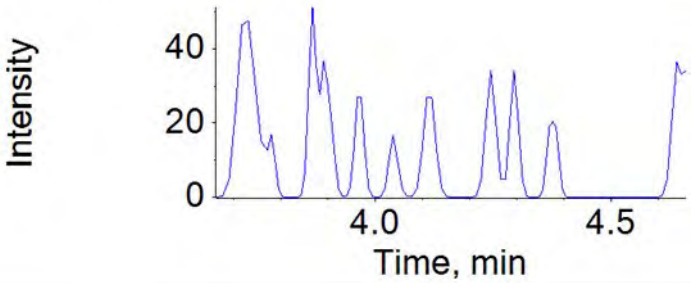
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



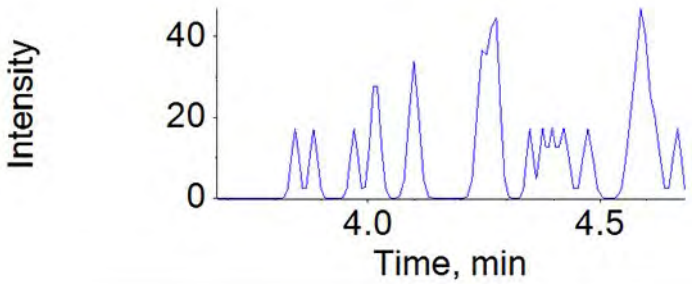
Component: PFHxA
Primary Mass: 313.0 / 269.0



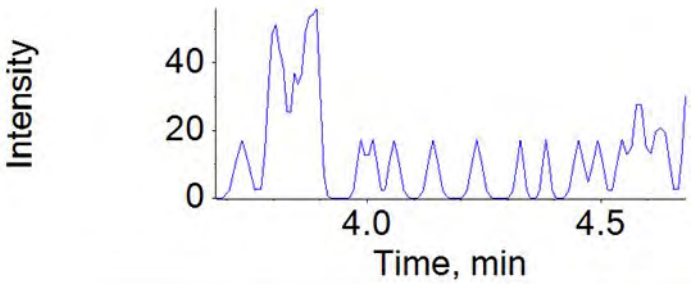
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



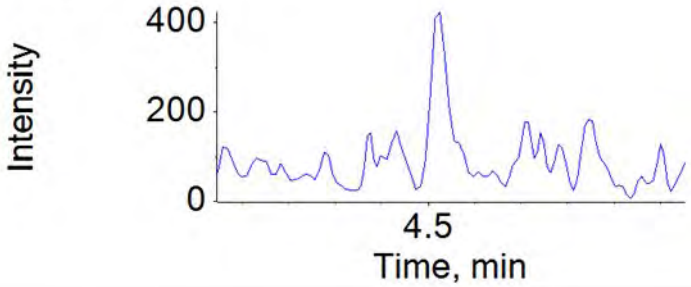
Component: PFPeS
Primary Mass: 349.0 / 80.0



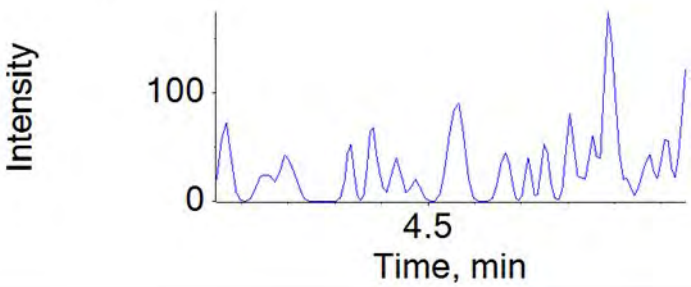
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



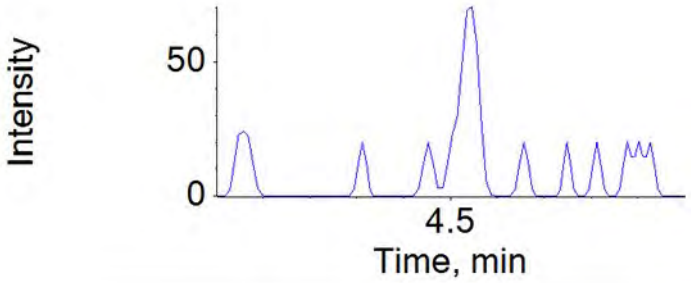
Component: PFHpA
Primary Mass: 363.0 / 319.0



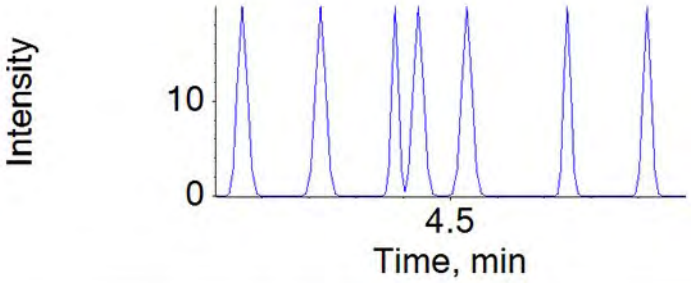
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



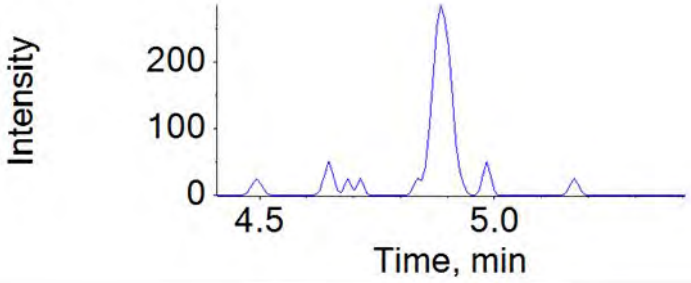
Component: PFHxS
Primary Mass: 399.0 / 80.0



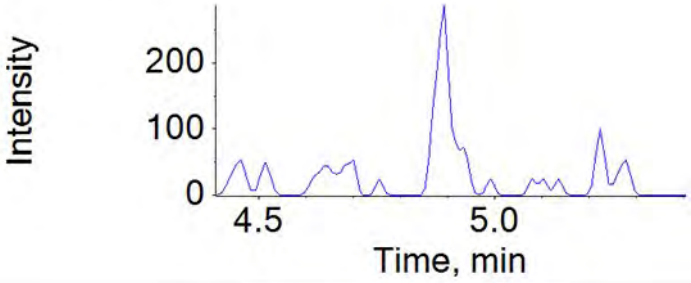
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



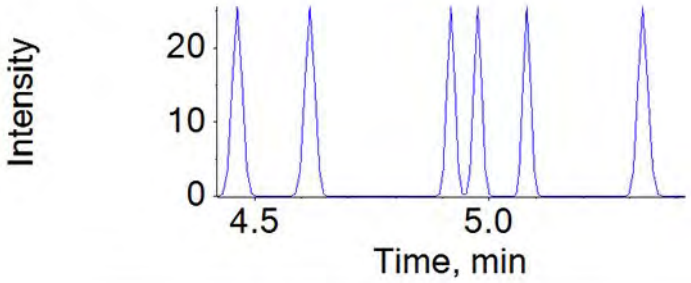
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



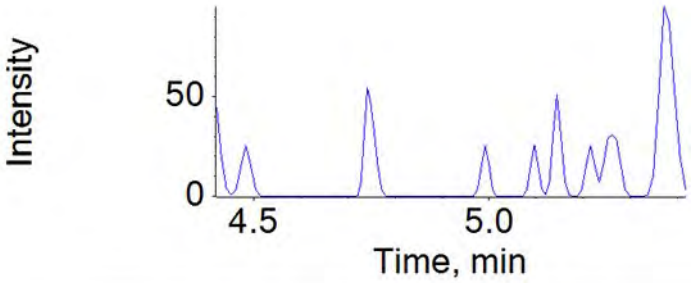
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



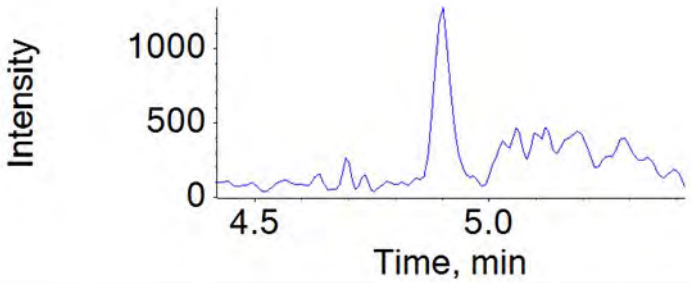
Component: PFHpS
Primary Mass: 449.0 / 80.0



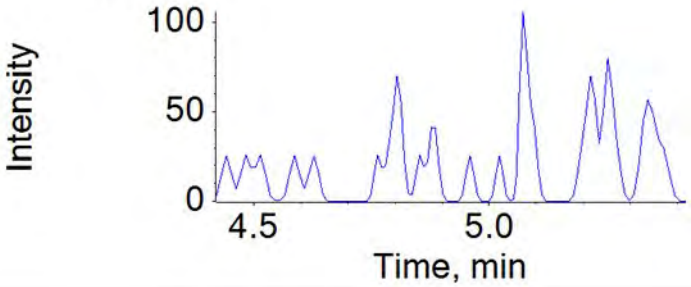
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



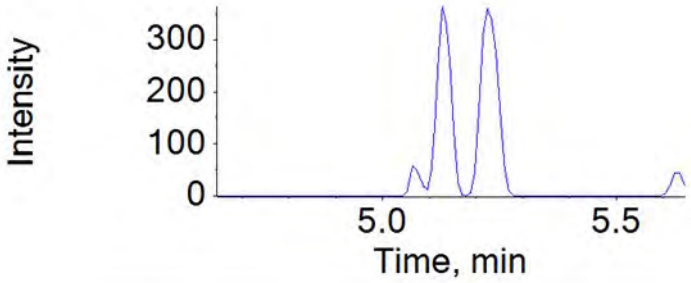
Component: PFOA
Primary Mass: 413.0 / 369.0



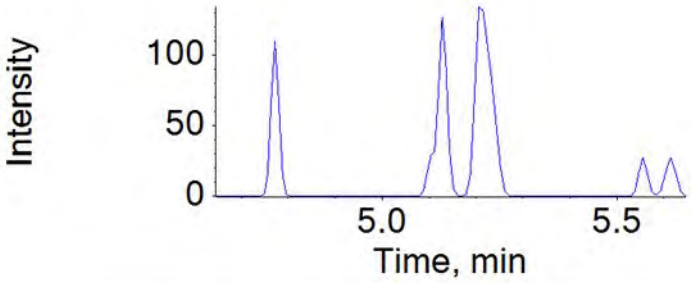
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



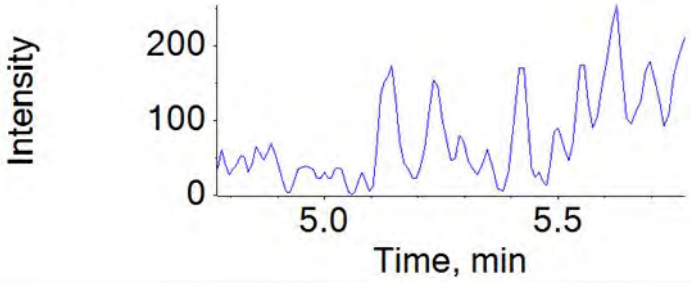
Component: PFOS
Primary Mass: 499.0 / 80.0



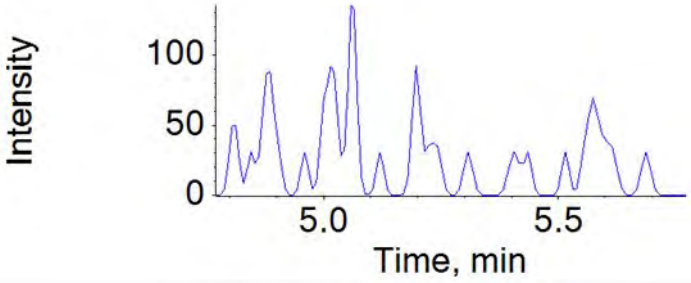
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



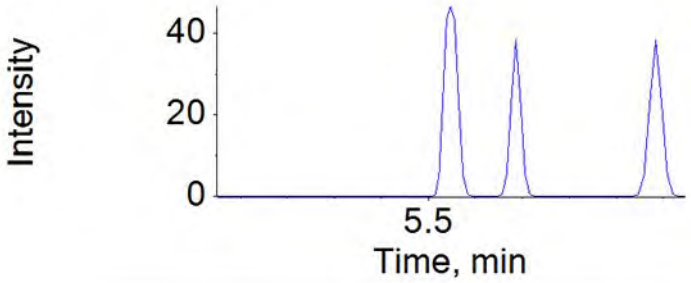
Component: PFNA
Primary Mass: 463.0 / 419.0



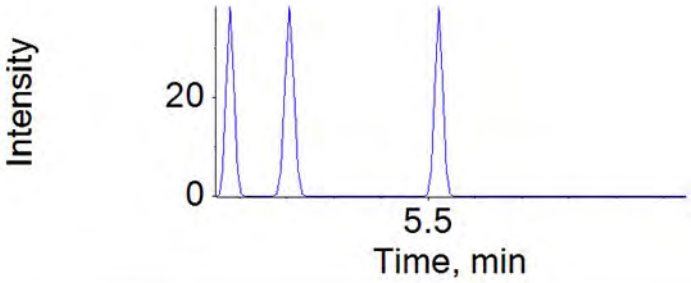
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



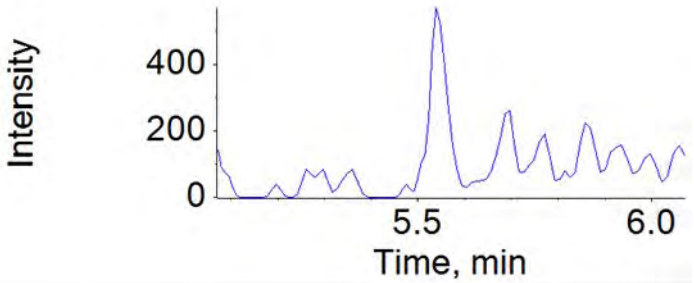
Component: PFNS
Primary Mass: 549.0 / 80.0



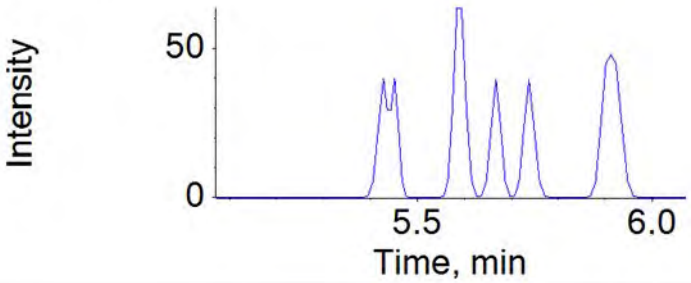
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



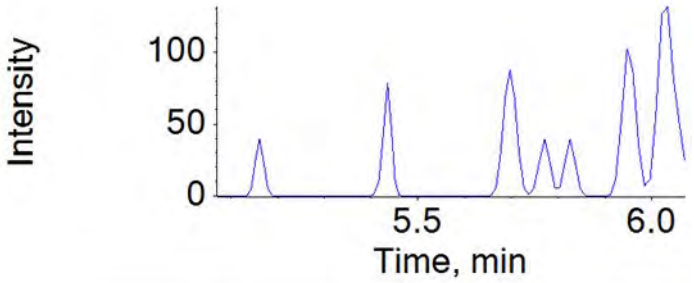
Component: PFDA
Primary Mass: 513.0 / 469.0



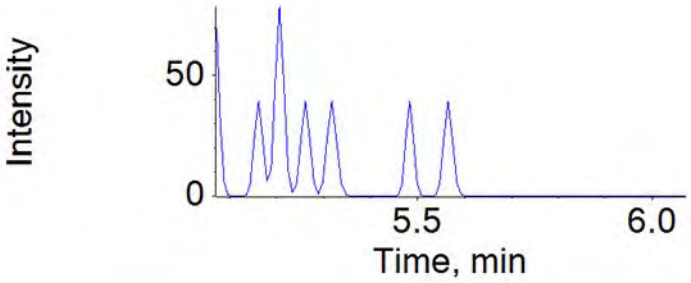
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



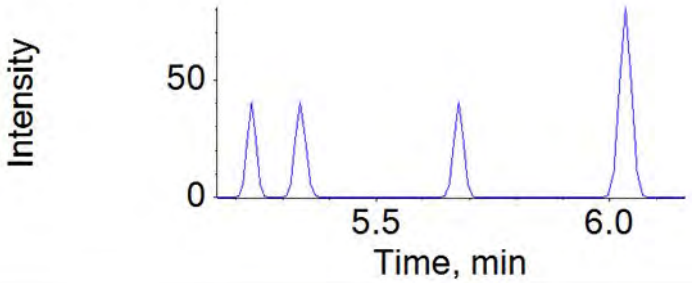
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



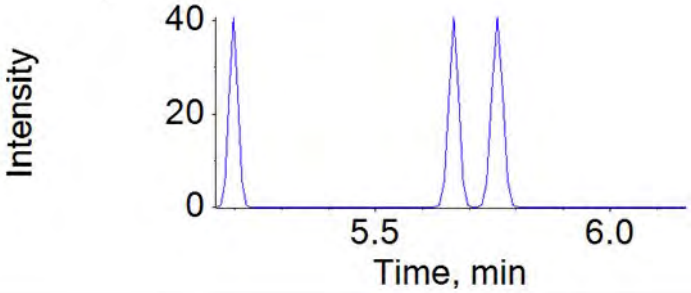
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



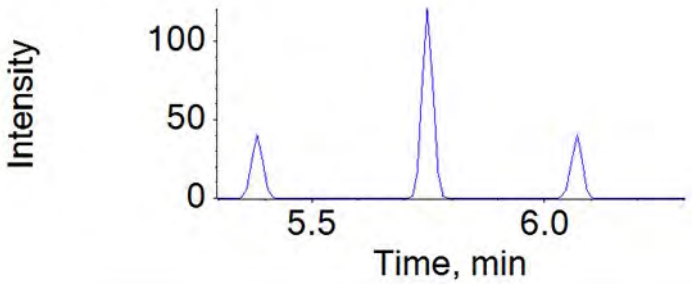
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



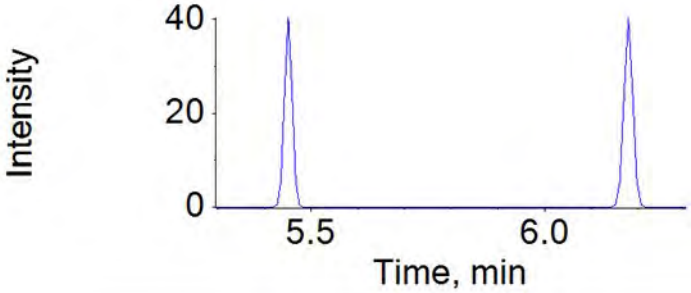
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



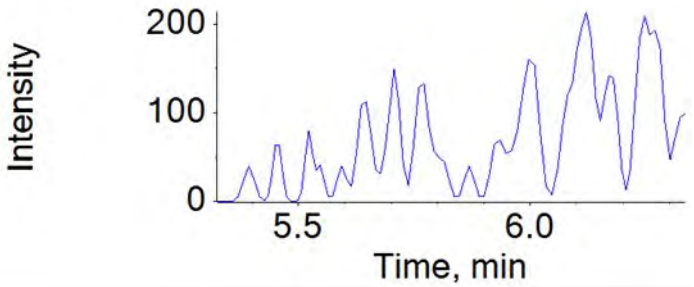
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



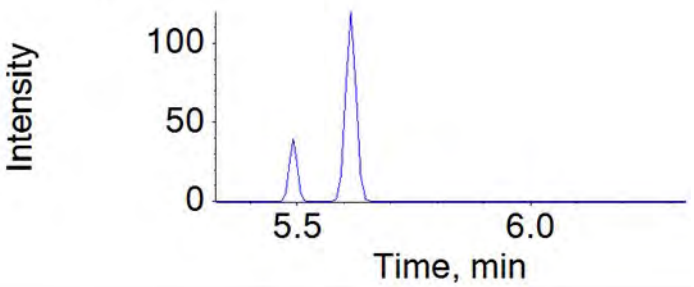
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

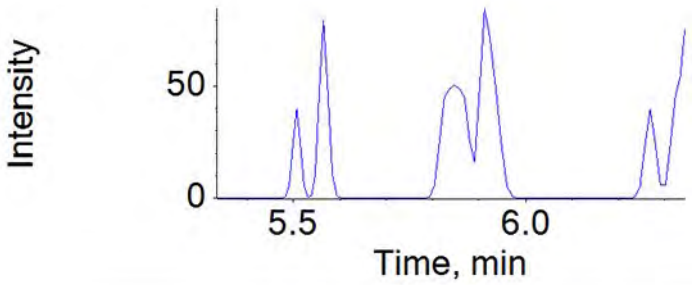
Component: PFUnDA
Primary Mass: 563.0 / 519.0



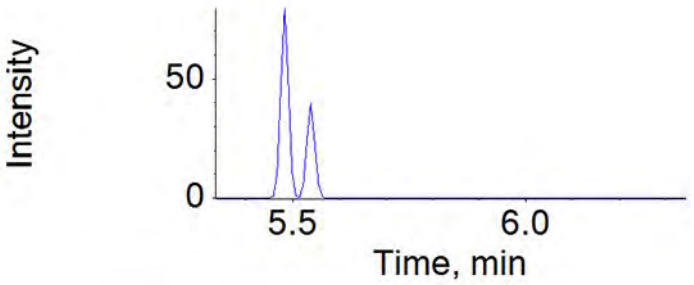
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



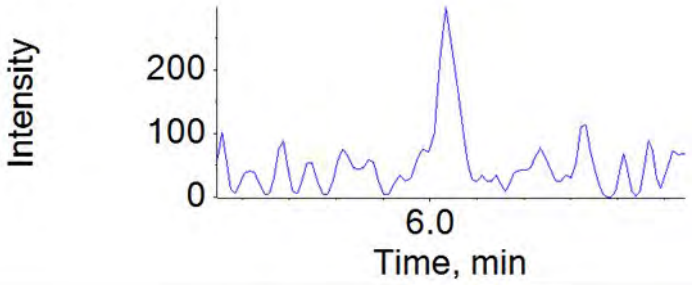
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



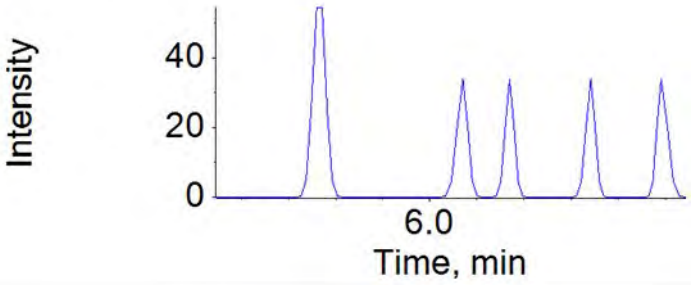
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



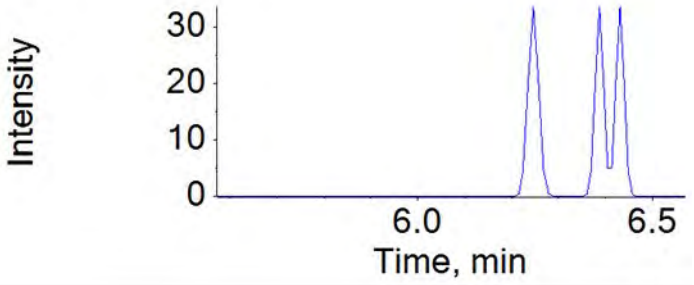
Component: PFDoDA
Primary Mass: 613.0 / 569.0



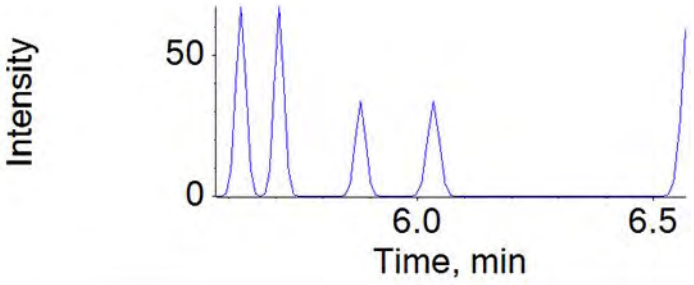
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



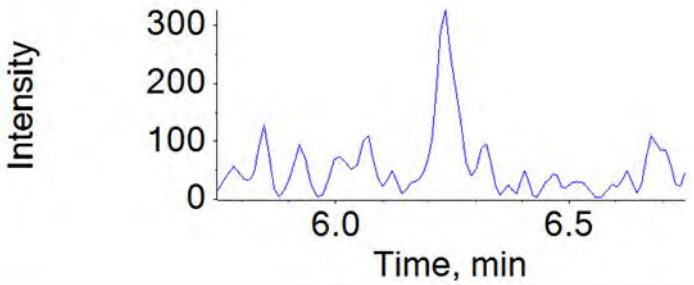
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



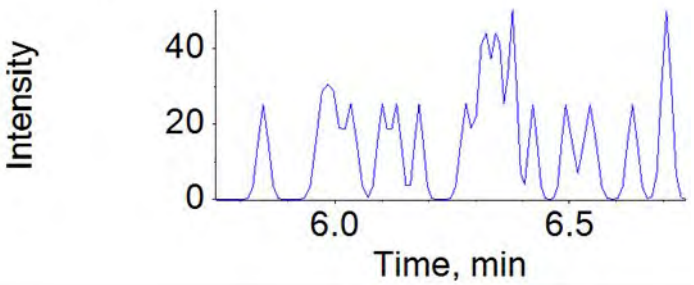
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



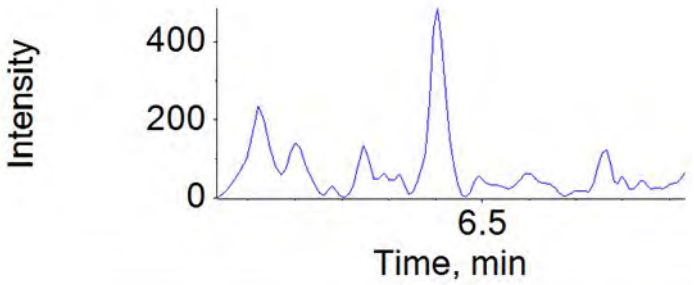
Component: PFTrDA
Primary Mass: 663.0 / 619.0



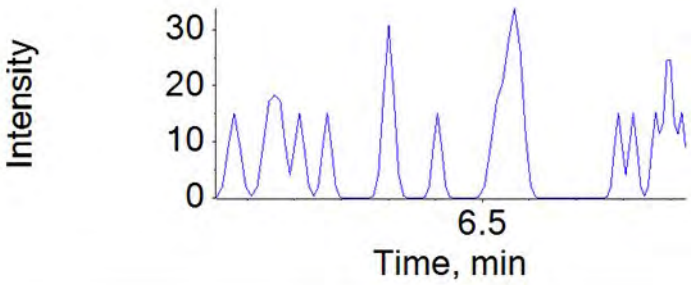
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



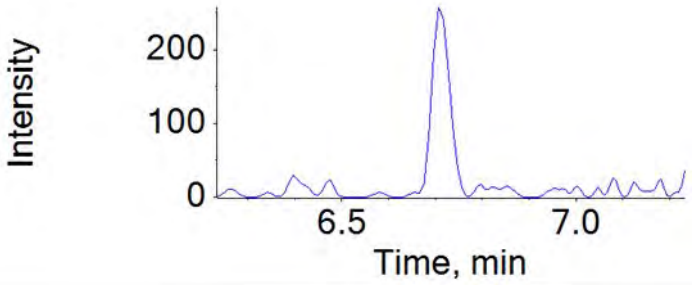
Component: PFTeDA
Primary Mass: 713.0 / 669.0



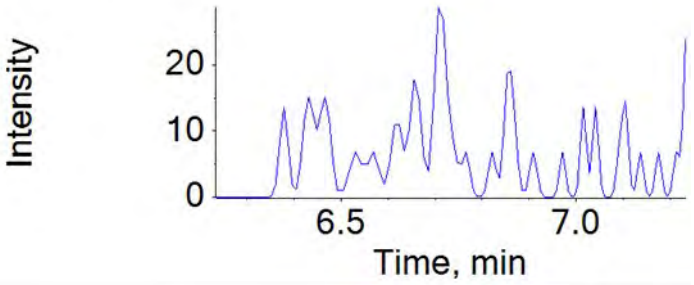
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



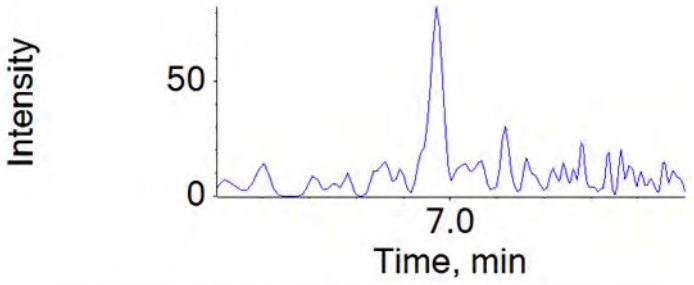
Component: PFHxDA
Primary Mass: 813.0 / 769.0



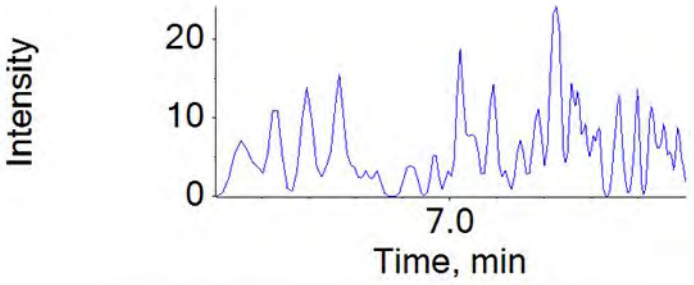
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



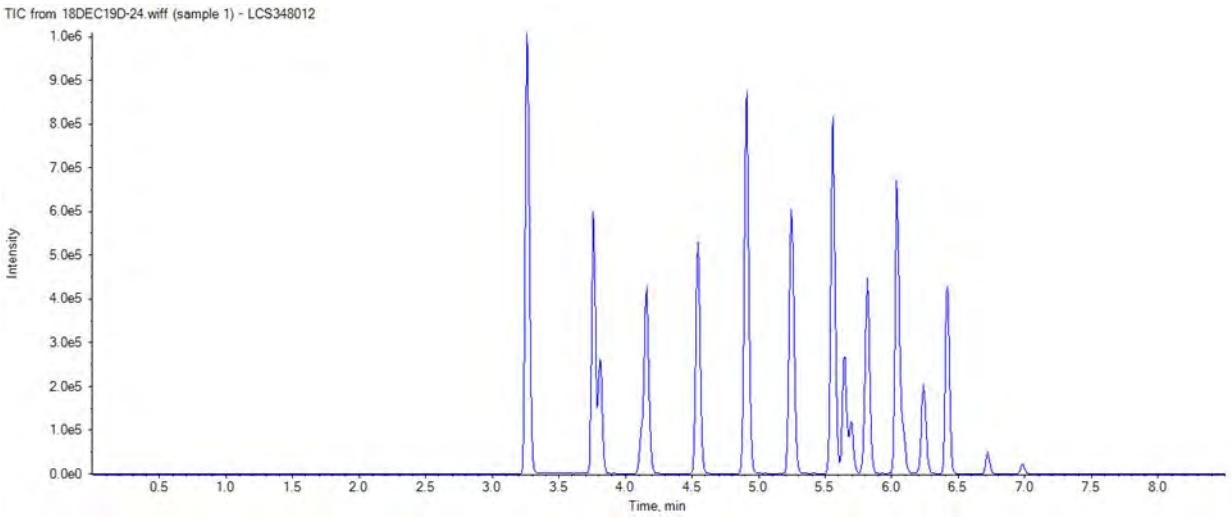
Component: PFODA_2
Secondary Mass: 913.0 / 169.0



Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18348012 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS348012	EPA 537 mod QSM 5.1 table B-15 18348012	18DEC19D-24.wiff	2018-12-19T13:35:08



Injection Standard Area Reference File**:** 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	974508.2	942675.8	3	50	
13C2-PFOA	5.00	525286.0	520268.5	1	50	
13C4-PFOS	4.78	316213.2	307968.9	3	50	
13C2-PFDA	5.00	502427.7	487375.3	3	50	

Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS348012	EPA 537 mod QSM 5.1 table B-15 18348012	18DEC19D-24.wiff	2018-12-19T13:35:08

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	263267.7	969608.1	0.272	5.440	5.767	106	70-130	
PFPeA	257897.4	929635.2	0.277	5.440	5.728	105	70-130	
PFBS	105456.3	386100.5	0.273	4.812	5.393	112	72-127	
4:2-FTS	96727.1	59616.9	1.622	14.944	17.027	114	70-130	
PFHxA	236169.5	646437.1	0.365	5.440	6.020	111	77-132	
PFPeS	53174.2	386100.5	0.138	5.104	5.608	110	70-130	
PFHpA	253234.8	530602.1	0.477	5.440	6.330	116	75-139	
PFHxS	72445.9	318230.0	0.228	5.144	4.429	86	71-130	
6:2-FTS	84540.1	45304.7	1.866	15.168	18.581	123	70-130	
PFHpS	82489.3	318230.0	0.259	5.176	5.485	106	70-130	
PFOA	248033.9	897885.3	0.276	5.440	5.854	108	76-136	
PFOS	77623.8	293942.8	0.264	5.200	4.625	89	67-134	
PFNA	222727.1	620557.6	0.359	5.440	5.706	105	73-144	
PFNS	58095.8	293942.8	0.198	5.224	5.027	96	70-130	
PFDA	218633.8	843769.8	0.259	5.440	5.353	98	67-141	
8:2-FTS	88205.2	45389.0	1.943	15.328	15.645	102	70-130	
PFOSA	124620.4	484575.7	0.257	5.440	5.145	95	70-130	
NMeFOSAA	51992.2	196381.7	0.265	5.440	6.582	121	67-124	
PFDS	52602.9	293942.8	0.179	5.240	5.876	112	70-130	
PFUnDA	233758.8	539257.7	0.433	5.440	5.743	106	83-132	
NEtFOSAA	48760.3	149255.8	0.327	5.440	6.660	122	60-131	
PFDoDA	296287.7	1021767.7	0.290	5.440	5.843	107	72-137	
10:2-FTS	75083.7	45389.0	1.654	15.424	13.476	87	70-130	
NMePFOSAE	43767.6	133732.7	0.327	5.440	5.776	106	70-130	
NMePFOSA	6699.4	14683.9	0.456	5.440	9.213	169	70-130	OOS
PFDoS	21927.5	293942.8	0.075	5.280	4.521	86	70-130	
NEtPFOSAE	46263.8	117553.5	0.394	5.440	5.143	95	70-130	
NEtPFOSA	4634.5	14402.3	0.322	5.440	6.021	111	70-130	
PFTrDA	291026.2	1021767.7	0.285	5.440	5.845	107	57-137	
PFTeDA	198393.6	745824.5	0.266	5.440	5.730	105	70-142	
PFHxDA	94333.2	745824.5	0.126	5.440	5.556	102	70-130	
PFODA	46758.9	745824.5	0.063	5.440	3.603	66	70-130	OOS

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18348012 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	LCS348012			**Data File:**		18DEC19D-24.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012			**Acquis Date:**		2018-12-19T13:35:08
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	75			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	974508.2	942675.8	3	50	
13C2-PFOA	5.0	525286.0	520268.5	1	50	
13C4-PFOS	4.8	316213.2	307968.9	3	50	
13C2-PFDA	5.0	502427.7	487375.3	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	969608.1	13C3-PFBA	974508.2	0.995	20.000	17.624	88	50-150	
E13C5-PFPeA	929635.2	13C3-PFBA	974508.2	0.954	20.000	17.794	89	50-150	
E13C3-PFBS	386100.5	13C3-PFBA	974508.2	0.396	18.600	15.431	83	50-150	
E13C2-4:2-FTS	59616.8	13C2-PFOA	525286.0	0.113	18.680	17.242	92	50-150	
E13C5-PFHxA	646437.1	13C2-PFOA	525286.0	1.231	20.000	17.608	88	50-150	
E13C3-PFHxS	318230.0	13C2-PFOA	525286.0	0.606	18.920	18.337	97	50-150	
E13C4-PFHpA	530602.1	13C2-PFOA	525286.0	1.010	20.000	17.453	87	50-150	
E13C2-6:2-FTS	45304.7	13C2-PFOA	525286.0	0.086	19.000	17.358	91	50-150	
E13C8-PFOA	897885.3	13C2-PFOA	525286.0	1.709	20.000	18.801	94	50-150	
E13C8-PFOS	293942.8	13C4-PFOS	316213.2	0.930	19.120	16.628	87	50-150	
E13C9-PFNA	620557.6	13C4-PFOS	316213.2	1.962	20.000	17.858	89	50-150	
E13C6-PFDA	843769.8	13C2-PFDA	502427.7	1.679	20.000	19.135	96	50-150	
E13C2-8:2-FTS	45389.0	13C2-PFDA	502427.7	0.090	19.160	18.624	97	50-150	
E13C8-PFOSA	484575.7	13C2-PFDA	502427.7	0.964	20.000	15.023	75	50-150	
Ed3-NMeFOSAA	196381.7	13C2-PFDA	502427.7	0.391	20.000	17.201	86	50-150	
E13C7-PFUnDA	539257.7	13C2-PFDA	502427.7	1.073	20.000	17.971	90	50-150	
Ed5-NEtFOSAA	149255.8	13C2-PFDA	502427.7	0.297	20.000	17.506	88	50-150	
E13C2-PFDoDA	1021767.7	13C2-PFDA	502427.7	2.034	20.000	17.114	86	50-150	
Ed7-NMePFOSAE	133732.7	13C2-PFDA	502427.7	0.266	20.000	9.513	48	50-150	OOS
Ed3-NMePFOSA	14683.9	13C2-PFDA	502427.7	0.029	20.000	3.212	16	50-150	OOS
Ed9-NEtPFOSAE	117553.5	13C2-PFDA	502427.7	0.234	20.000	9.568	48	50-150	OOS
Ed5-NEtPFOSA	14402.3	13C2-PFDA	502427.7	0.029	20.000	3.977	20	50-150	OOS
E13C2-PFTeDA	745824.5	13C2-PFDA	502427.7	1.484	20.000	16.733	84	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

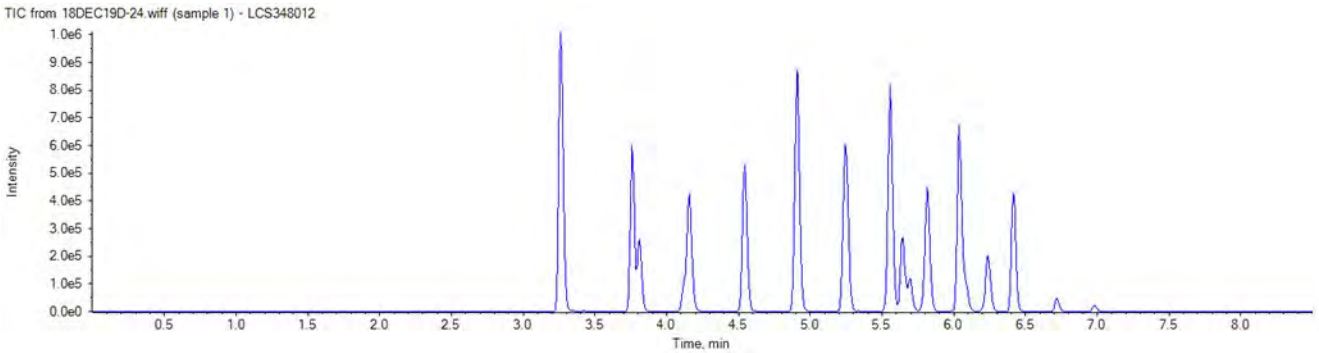
Analyte Quantitation Peak Table

Sample Name: LCS348012 **Instrument Name:** LM27631 **File Name:** 18DEC19D-24.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.26	1.000	263267.7		A	13C4-PFBA	3.26	969608.1	0.272	5.767
PFPeA	3.76	1.000	257897.4		A	13C5-PFPeA	3.76	929635.2	0.277	5.728
PFBS	3.81	1.000	105456.3		A	13C3-PFBS	3.81	386100.5	0.273	5.393
4:2-FTS	4.12	1.000	96727.1		A	13C2-4:2-FTS	4.12	59616.9	1.622	17.027
PFHxA	4.16	1.000	236169.5		A	13C5-PFHxA	4.16	646437.1	0.365	6.020
PFPeS	4.18	1.100	53174.2		A	13C3-PFBS	3.81	386100.5	0.138	5.608
PFHpA	4.54	1.000	253234.8		A	13C4-PFHpA	4.54	530602.1	0.477	6.330
PFHxS	4.55	1.000	72445.9		A	13C3-PFHxS	4.55	318230.0	0.228	4.429
6:2-FTS	4.90	1.000	84540.1		A	13C2-6:2-FTS	4.90	45304.7	1.866	18.581
PFHpS	4.90	1.080	82489.3		A	13C3-PFHxS	4.55	318230.0	0.259	5.485
PFOA	4.91	1.000	248033.9		A	13C8-PFOA	4.91	897885.3	0.276	5.854
PFOS	5.24	1.000	77623.8		A	13C8-PFOS	5.24	293942.8	0.264	4.625
PFNA	5.25	1.000	222727.1		A	13C9-PFNA	5.25	620557.6	0.359	5.706
PFNS	5.54	1.060	58095.8		A	13C8-PFOS	5.24	293942.8	0.198	5.027
PFDA	5.56	1.000	218633.8		A	13C6-PFDA	5.56	843769.8	0.259	5.353
8:2-FTS	5.56	1.000	88205.2		A	13C2-8:2-FTS	5.56	45389.0	1.943	15.645
PFOSA	5.64	1.000	124620.4		A	13C8-PFOSA	5.64	484575.7	0.257	5.145
NMeFOSAA	5.70	1.000	51992.2		A	d3-NMeFOSAA	5.69	196381.7	0.265	6.582
PFDS	5.79	1.110	52602.9		A	13C8-PFOS	5.24	293942.8	0.179	5.876
PFUnDA	5.81	1.000	233758.8		A	13C7-PFUnDA	5.82	539257.7	0.433	5.743
NEtFOSAA	5.83	1.000	48760.3		A	d5-NEtFOSAA	5.83	149255.8	0.327	6.660
PFDoDA	6.04	1.000	296287.7		A	13C2-PFDoDA	6.04	1021767.7	0.290	5.843
10:2-FTS	6.06	1.090	75083.7		A	13C2-8:2-FTS	5.56	45389.0	1.654	13.476
NMePFOSAE	6.09	1.000	43767.6		A	d7-NMePFOSAE	6.08	133732.7	0.327	5.776
NMePFOSA	6.10	1.000	6699.4		A	d3-NMePFOSA	6.10	14683.9	0.456	9.213
PFDoS	6.21	1.190	21927.5		A	13C8-PFOS	5.24	293942.8	0.075	4.521
NEtPFOSAE	6.25	1.000	46263.8		A	d9-NEtPFOSAE	6.24	117553.5	0.394	5.143
NEtPFOSA	6.26	1.000	4634.5		A	d5-NEtPFOSA	6.26	14402.3	0.322	6.021
PFTrDA	6.24	1.030	291026.2		A	13C2-PFDoDA	6.04	1021767.7	0.285	5.845
PFTeDA	6.42	1.000	198393.6		A	13C2-PFTeDA	6.42	745824.5	0.266	5.730
PFHxDA	6.72	1.050	94333.2		A	13C2-PFTeDA	6.42	745824.5	0.126	5.556
PFODA	6.98	1.090	46758.9		A	13C2-PFTeDA	6.42	745824.5	0.063	3.603

Total Ion Chromatogram

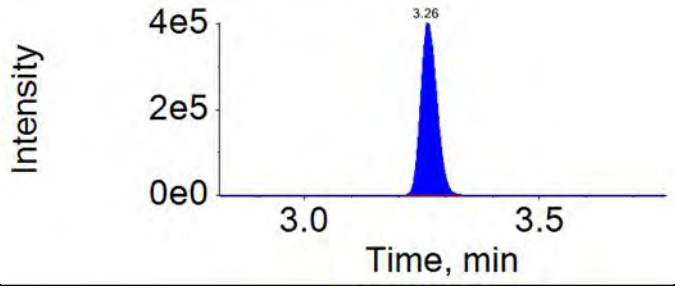


APPROVED
By MSM at 10:14 am, 12/20/18

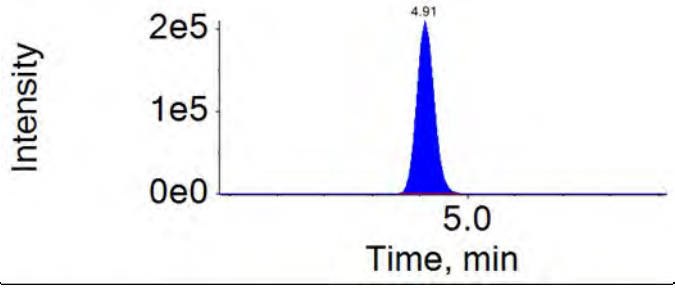
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

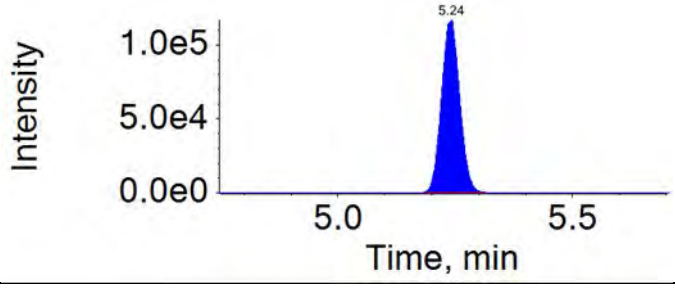
Injection Standard: 13C3-PFBA
216.0 / 172.0



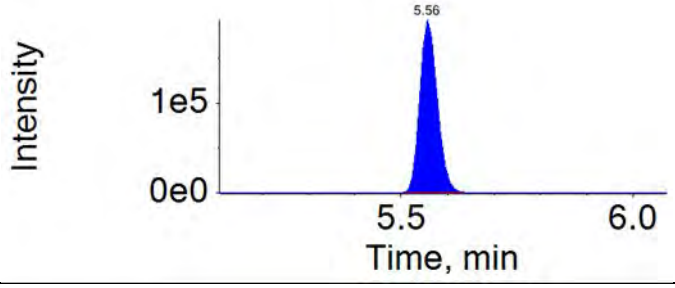
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

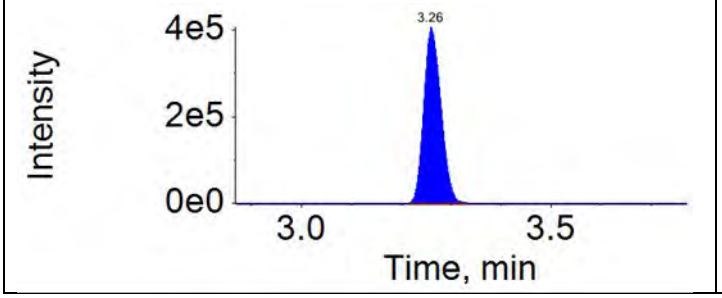


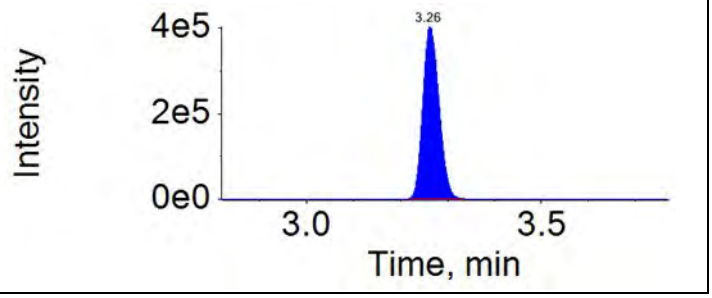
Injection Standard: 13C2-PFDA
515.0 / 470.0



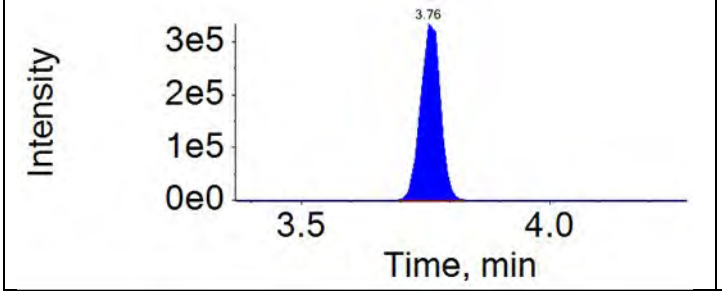
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

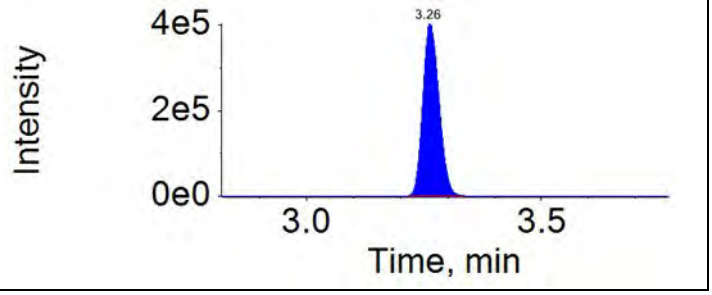
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



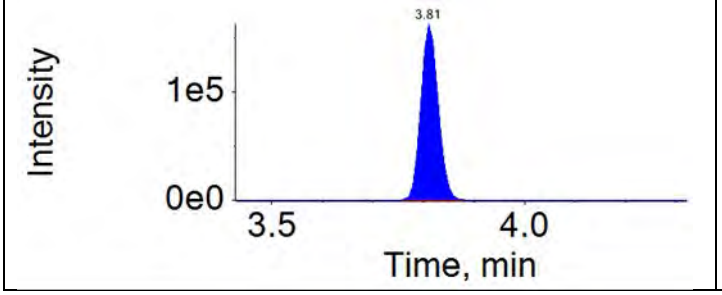


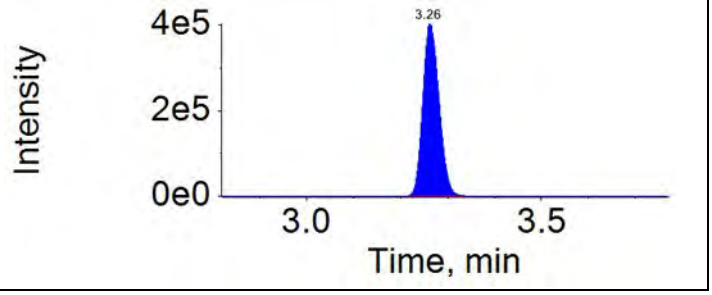
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



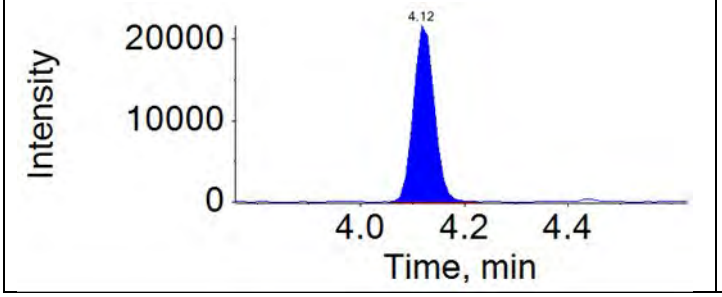


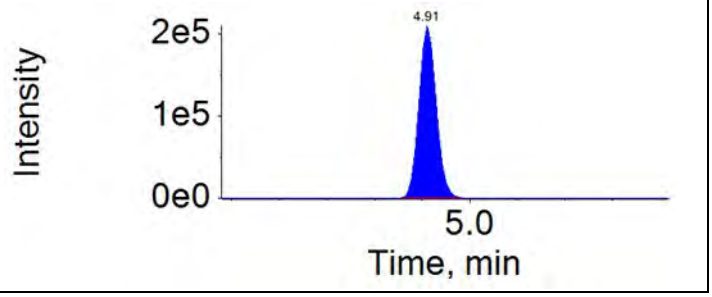
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





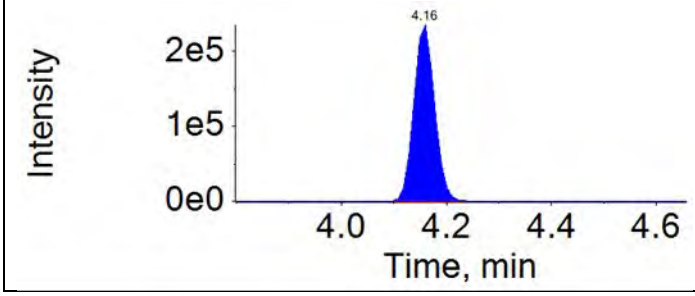
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

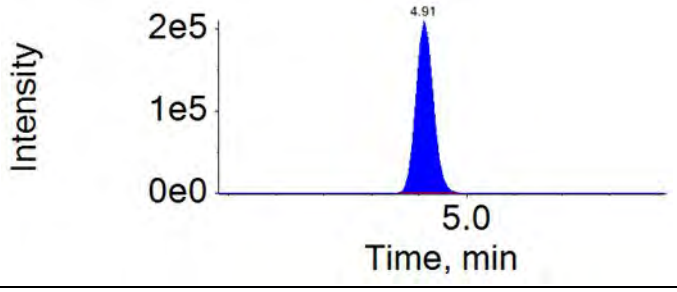




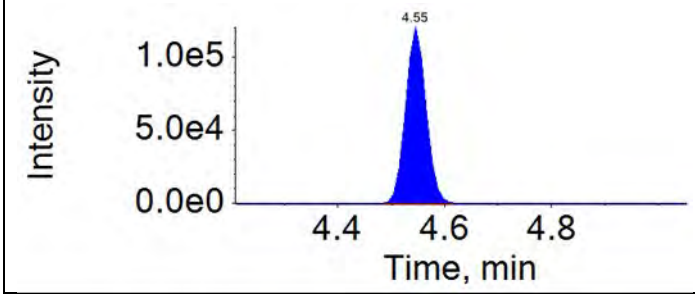
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

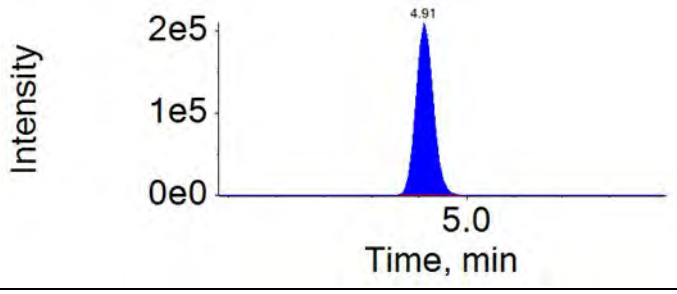
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



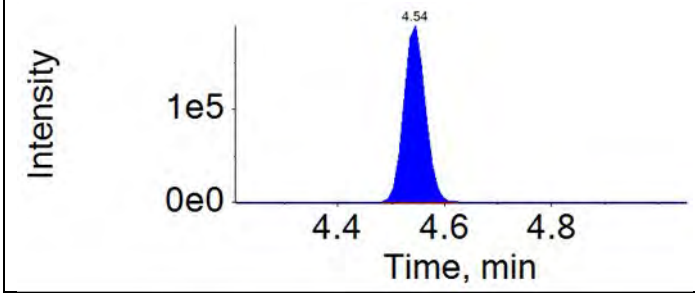


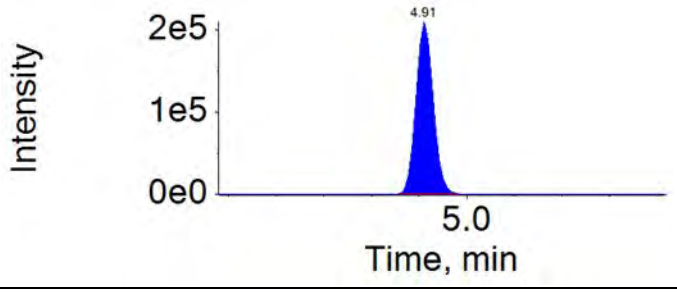
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



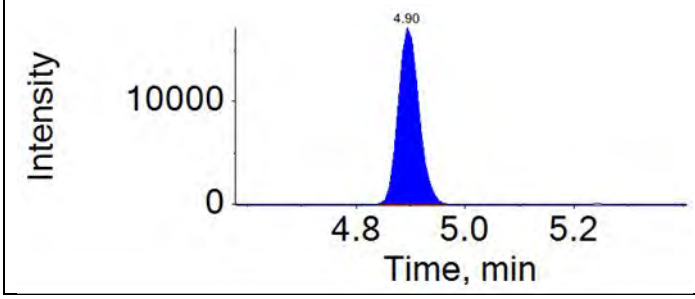


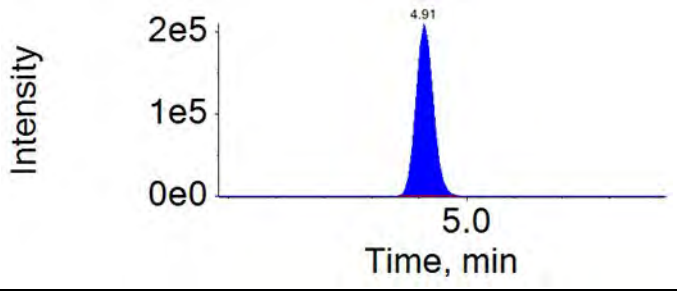
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



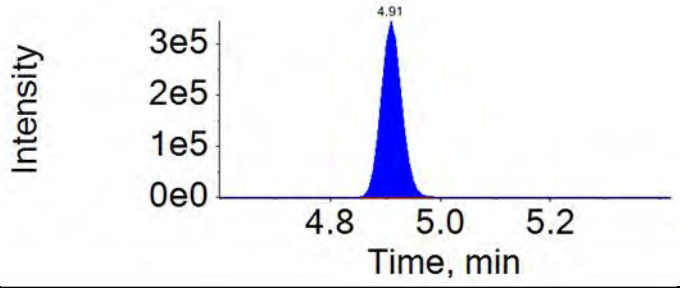
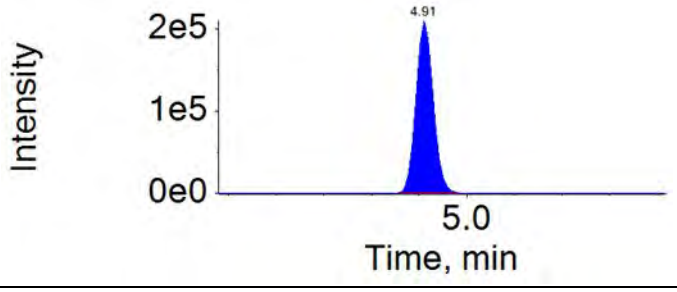


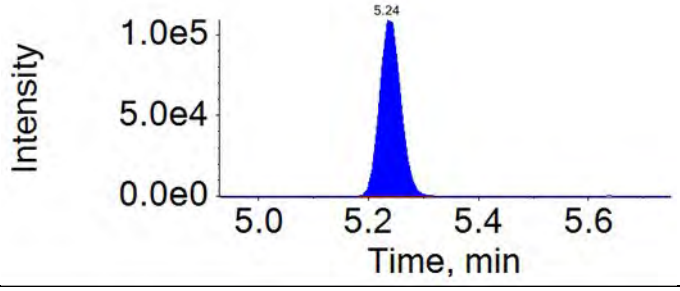
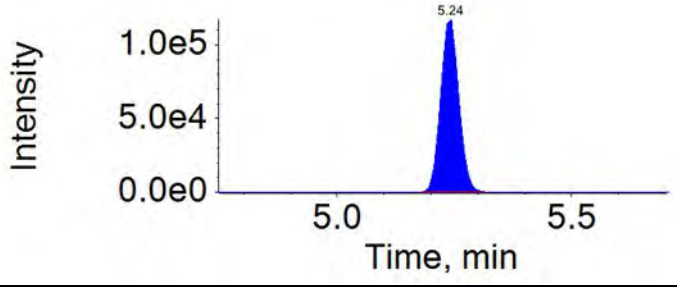
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

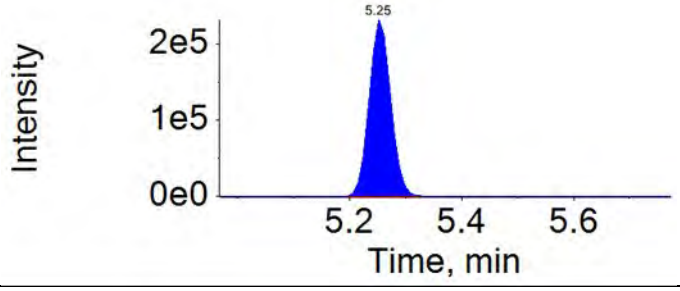
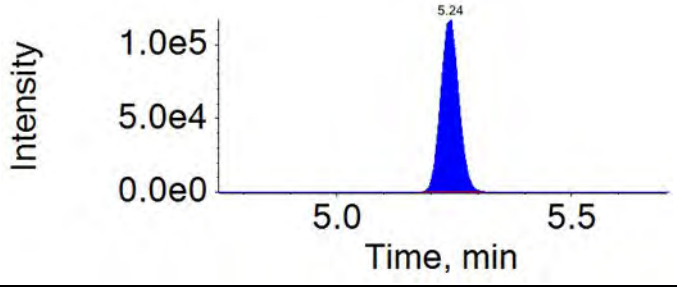


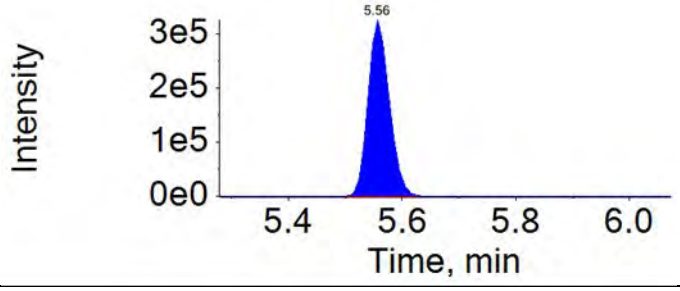
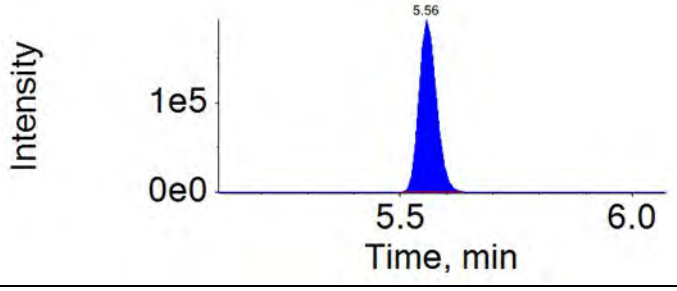


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

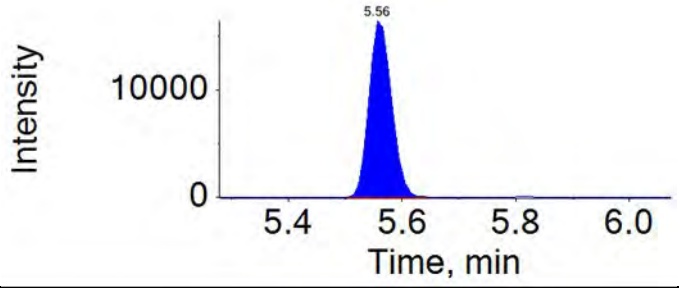
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

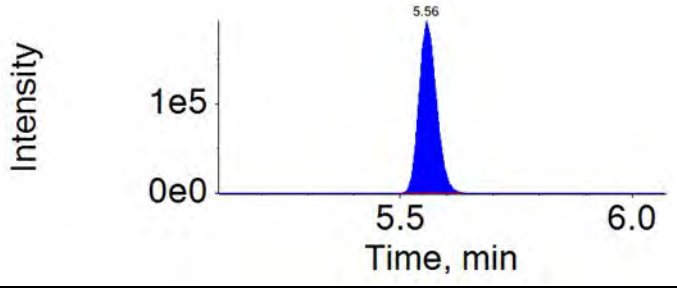
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

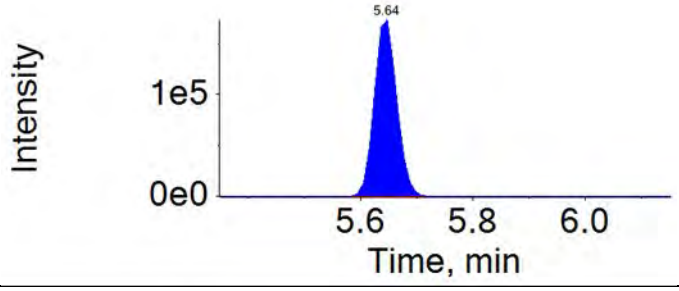
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

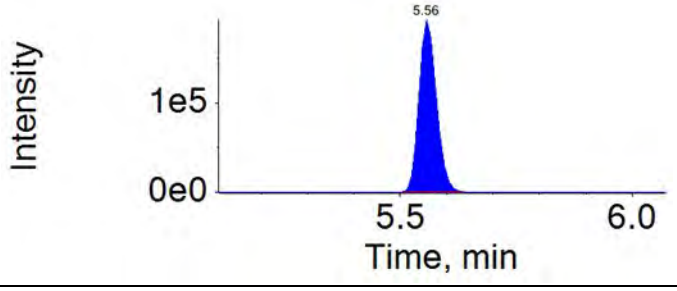
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



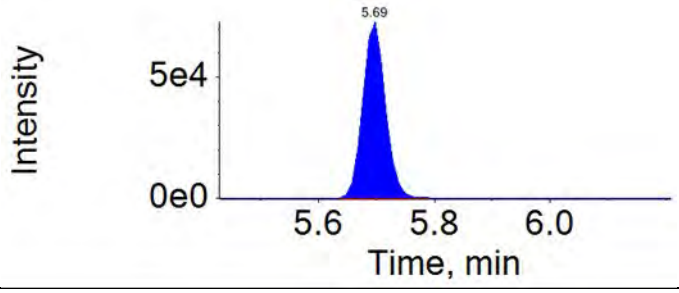


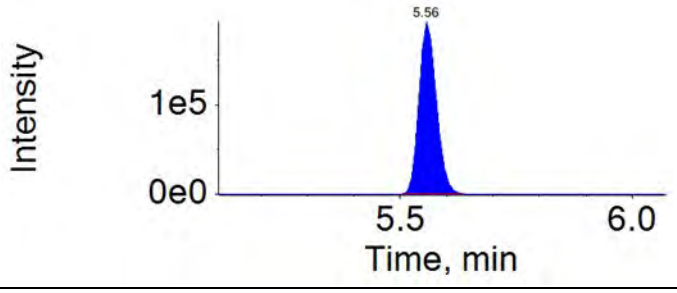
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



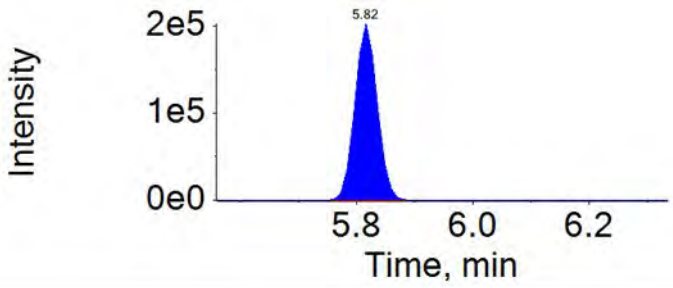


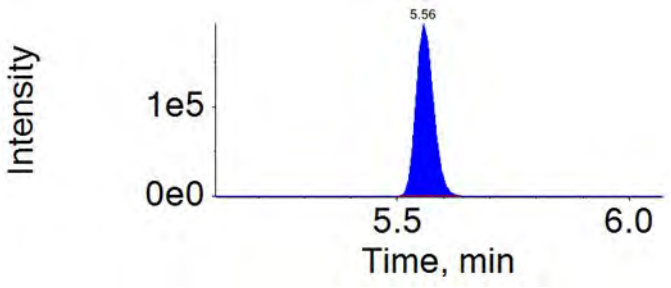
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





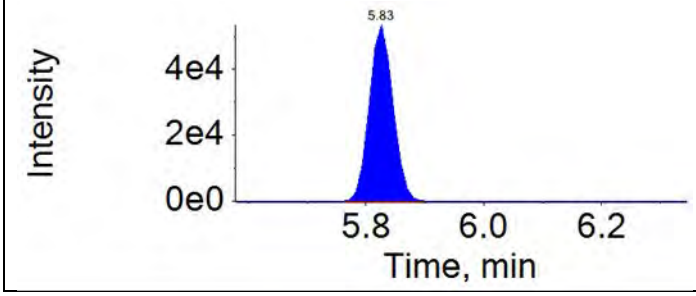
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

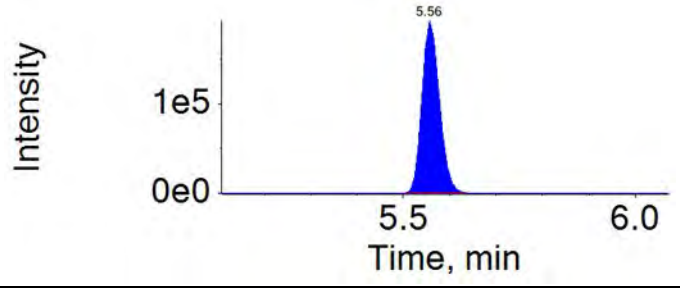




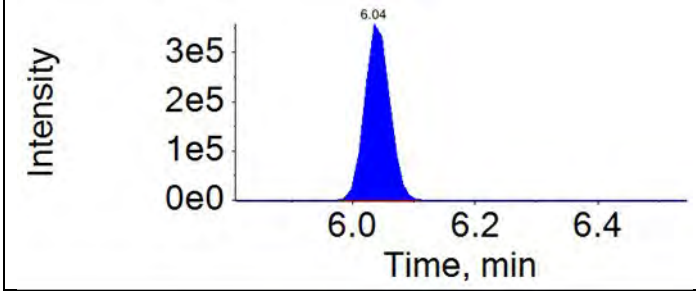
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

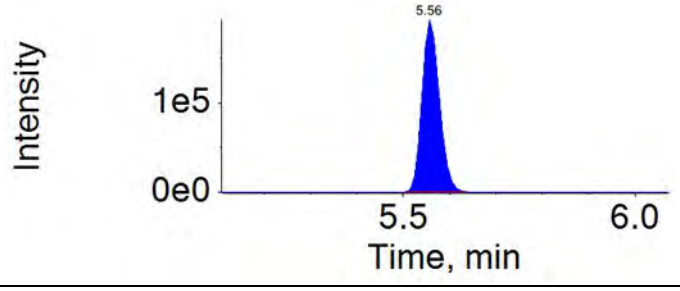
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



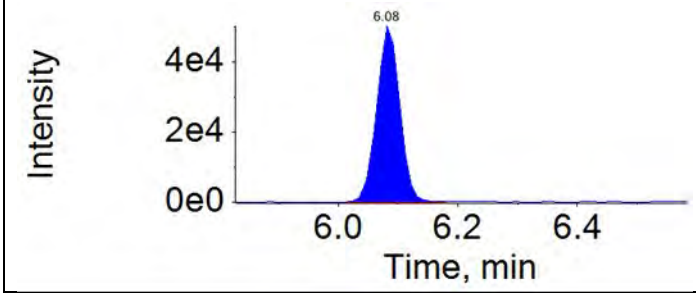


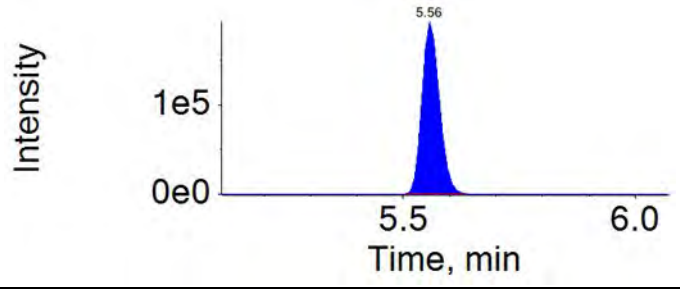
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



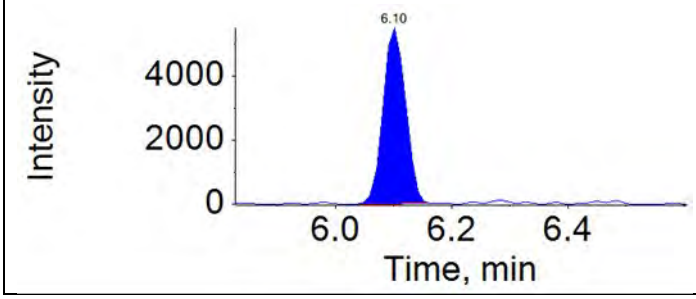


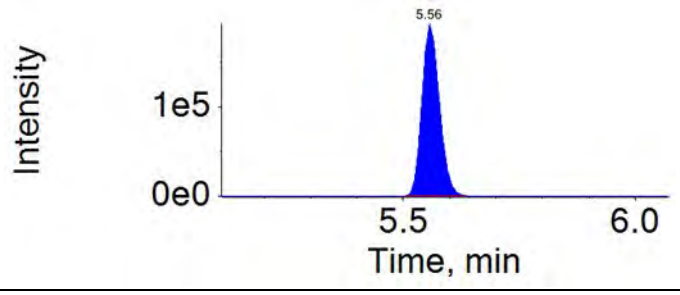
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





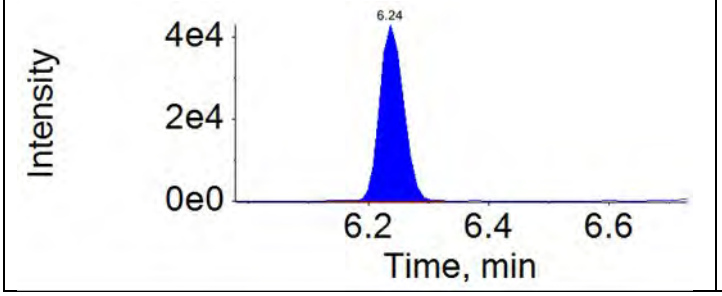
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

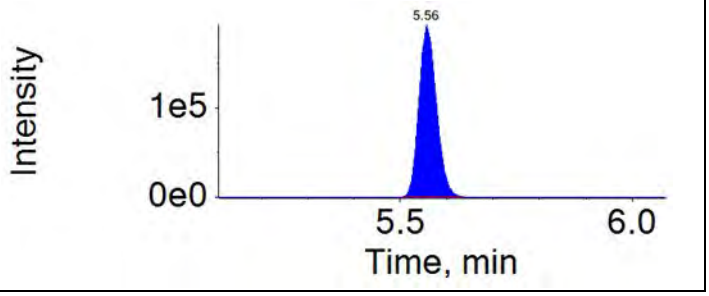




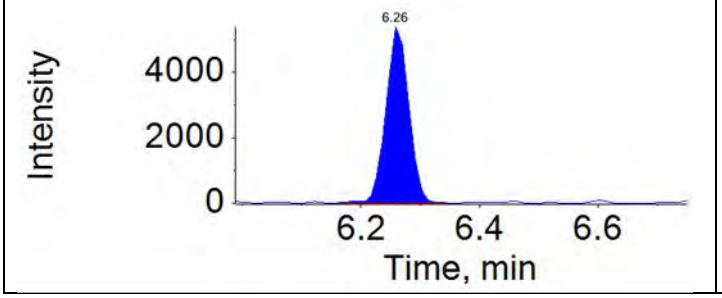
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

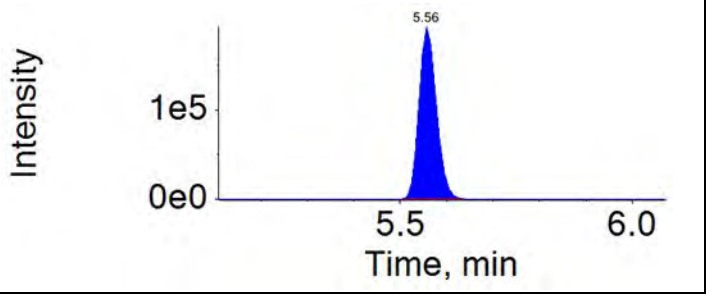
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



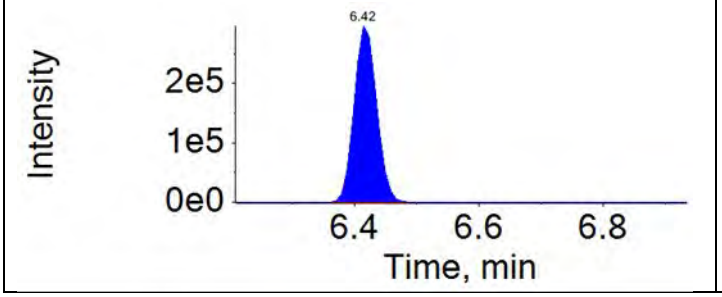


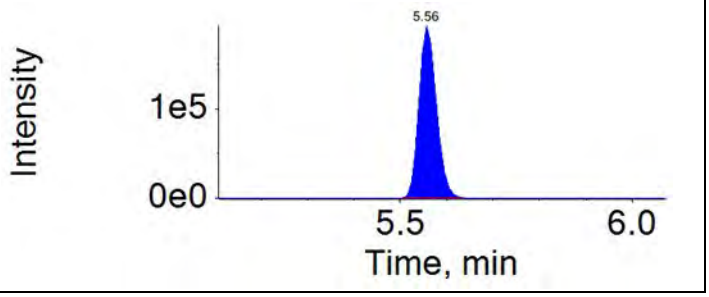
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





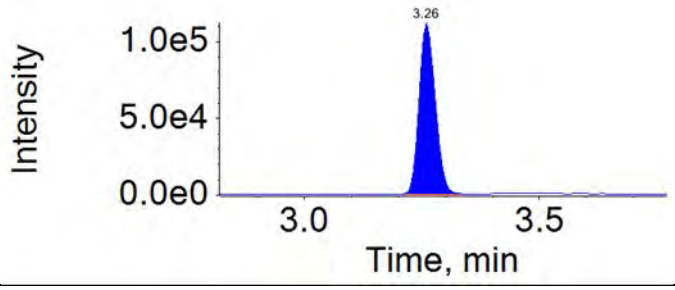
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

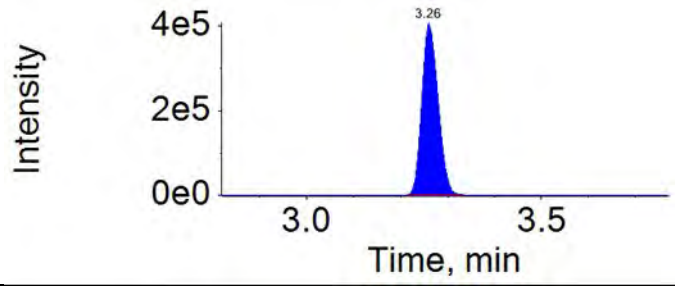




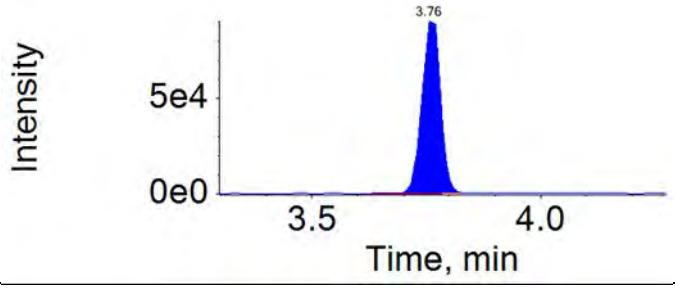
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

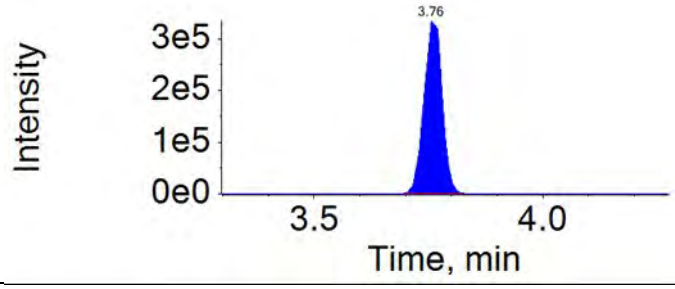
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



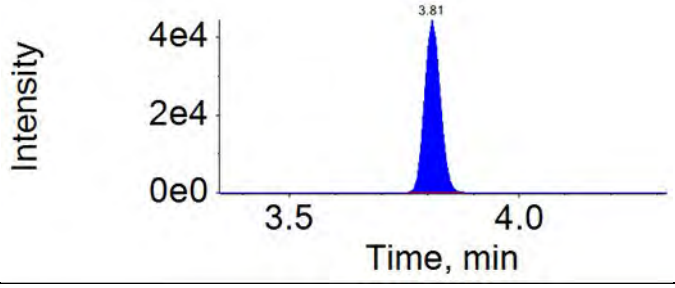


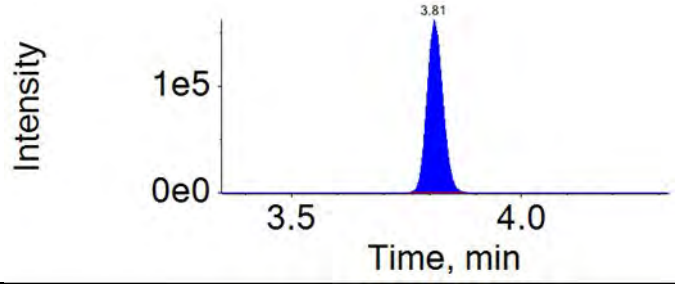
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



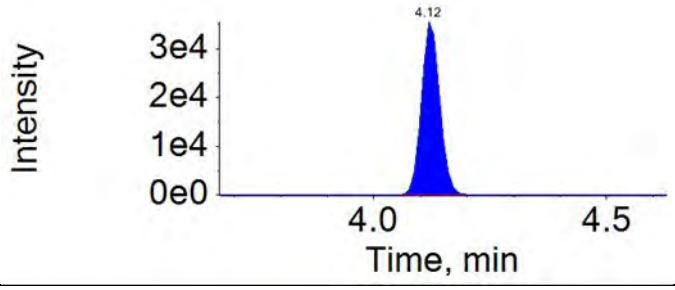


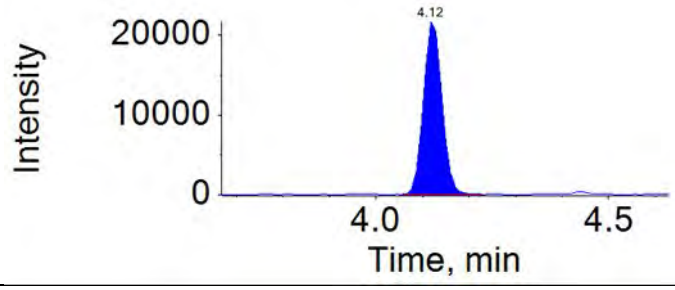
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



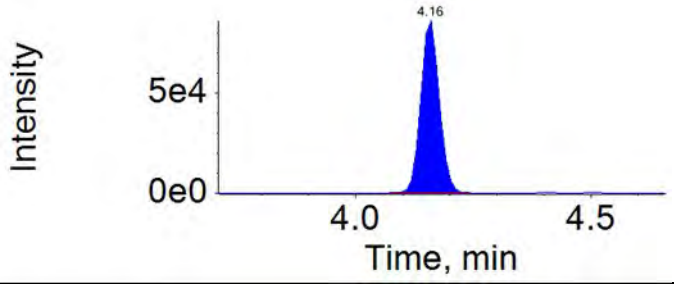
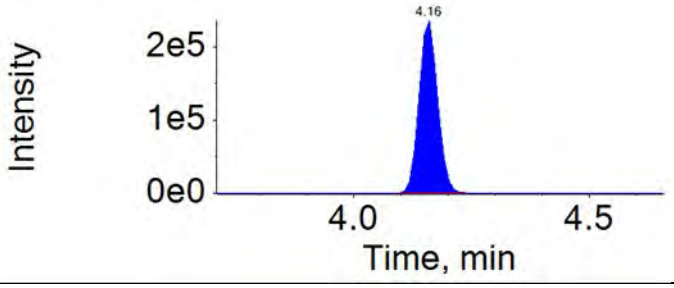


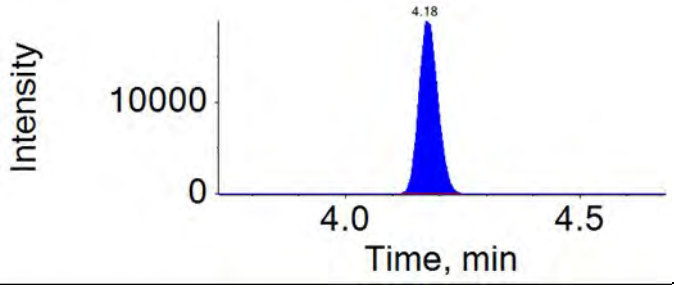
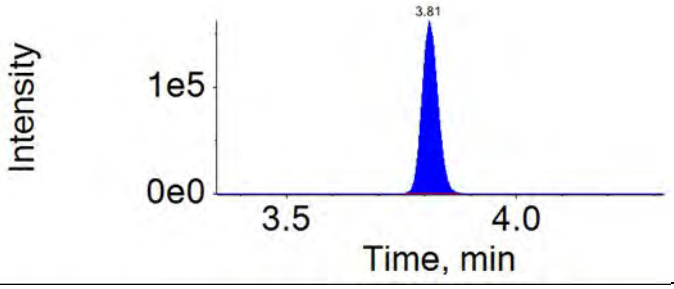
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

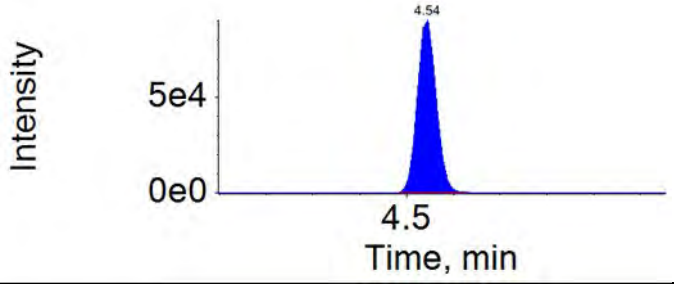
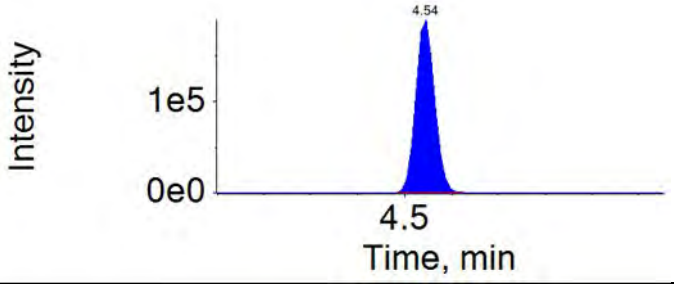


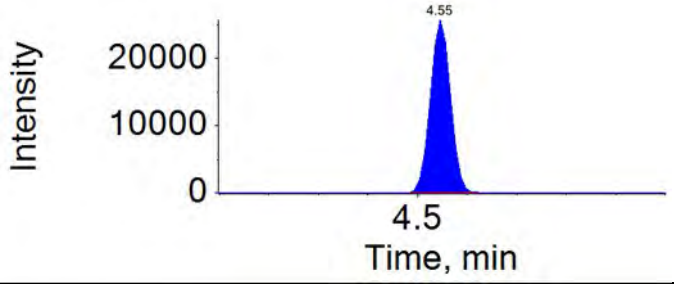
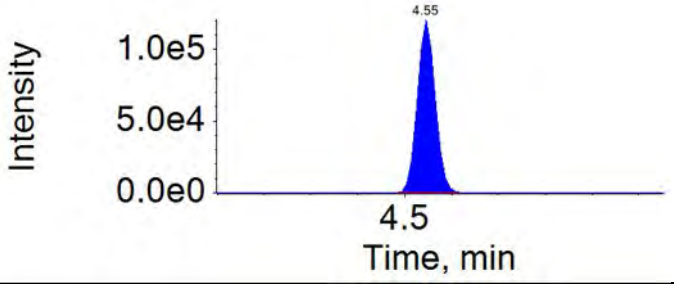


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

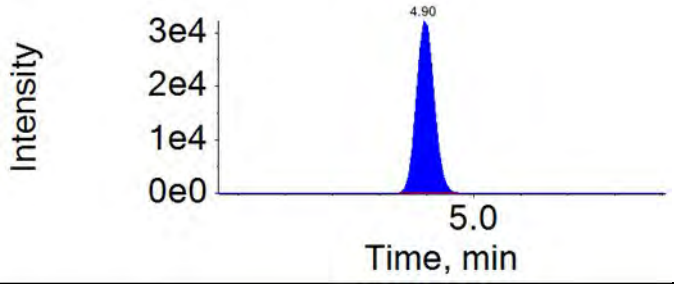
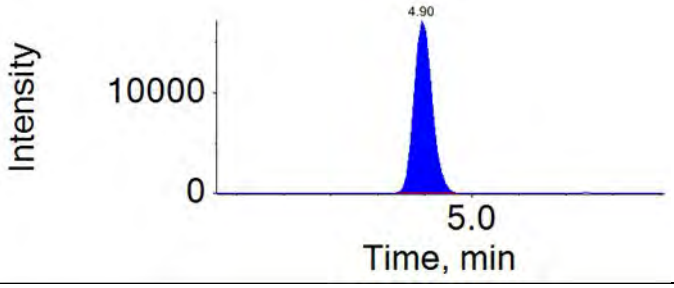
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

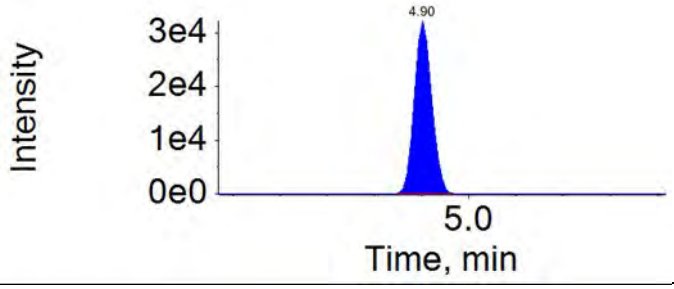
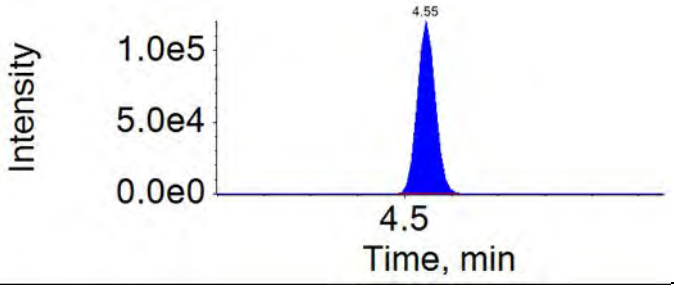
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

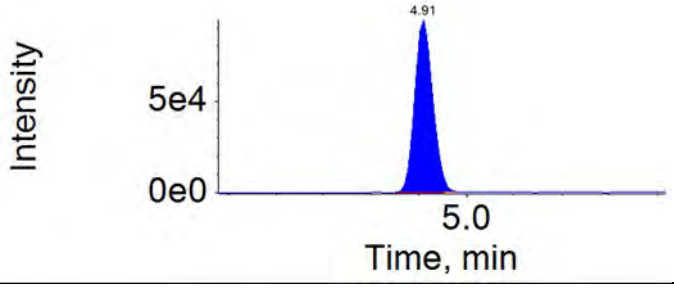
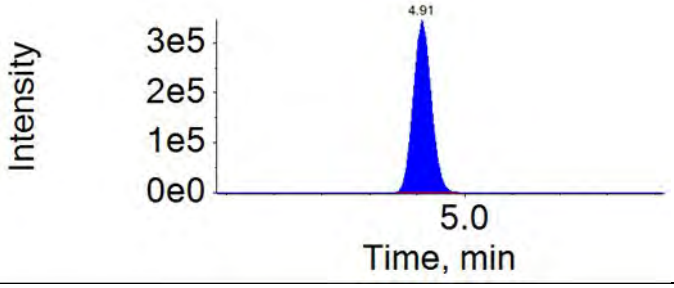
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

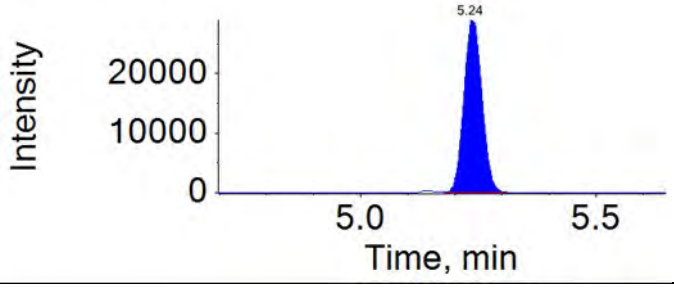
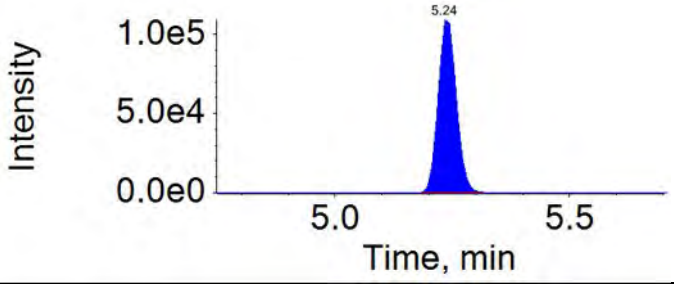
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

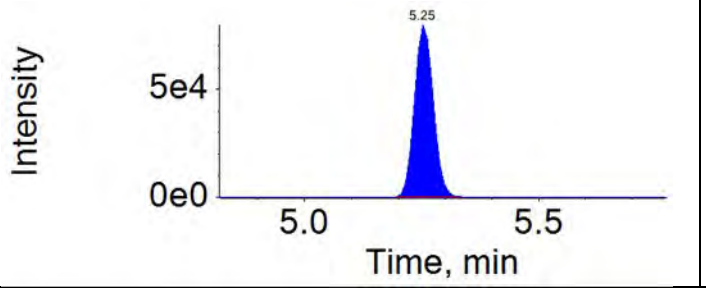
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

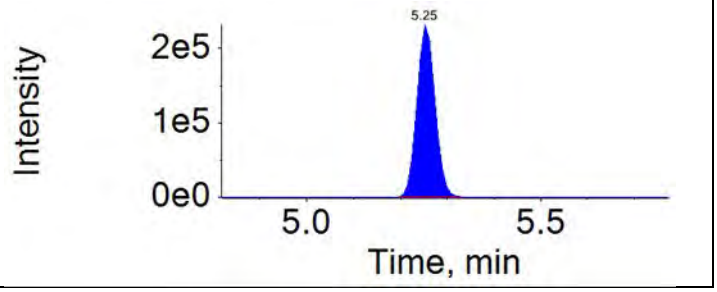
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

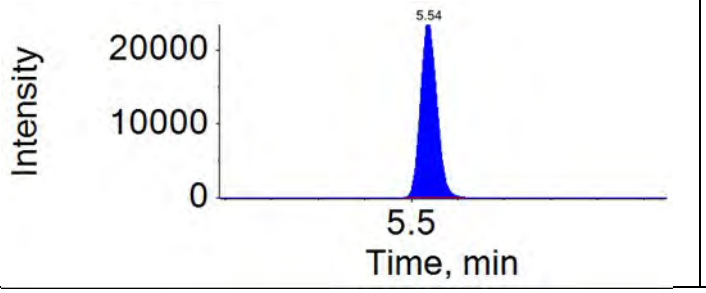
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

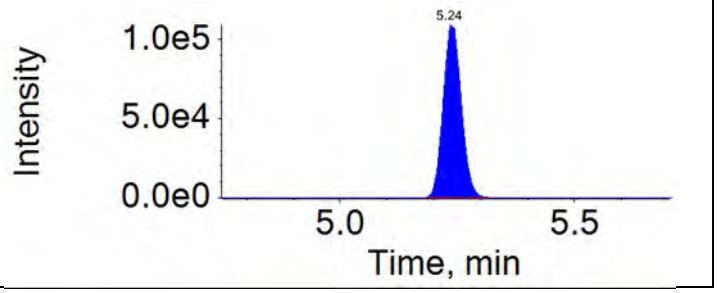
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



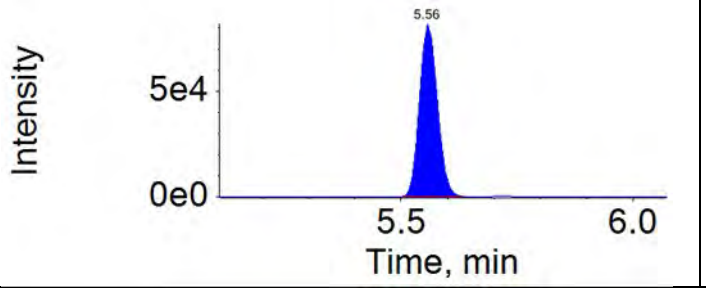


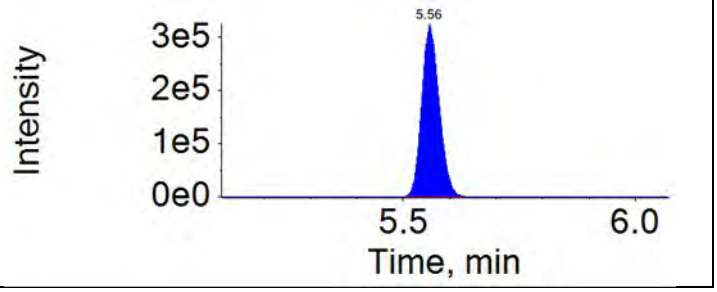
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



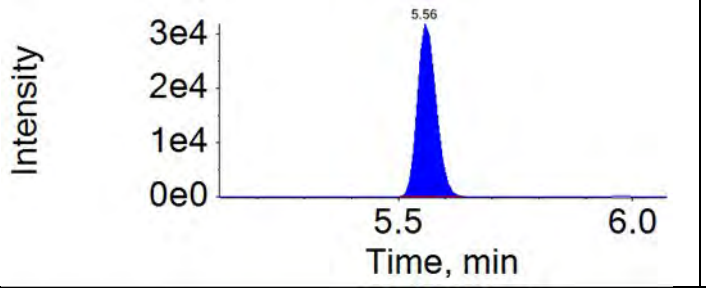


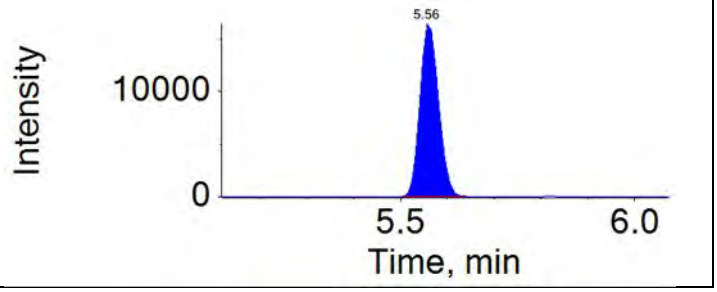
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





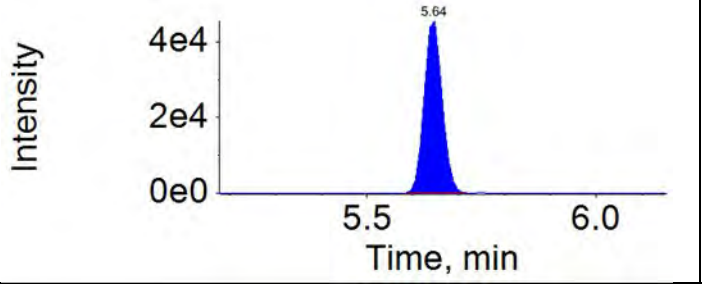
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

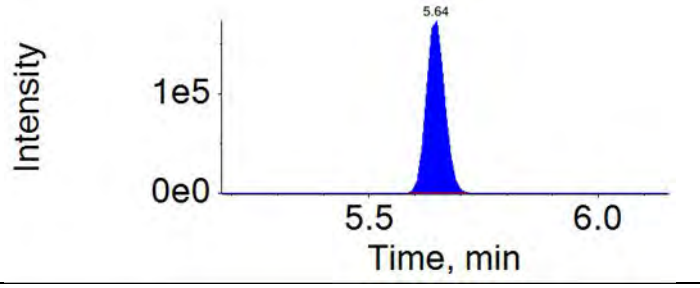




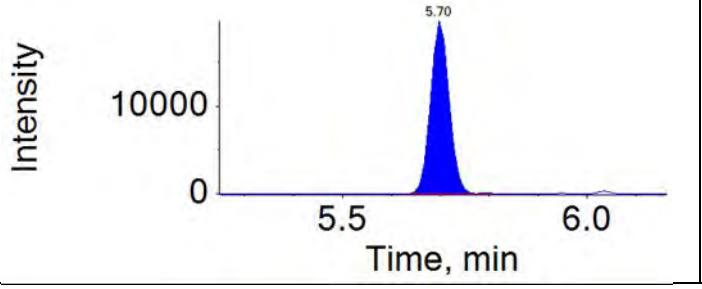
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

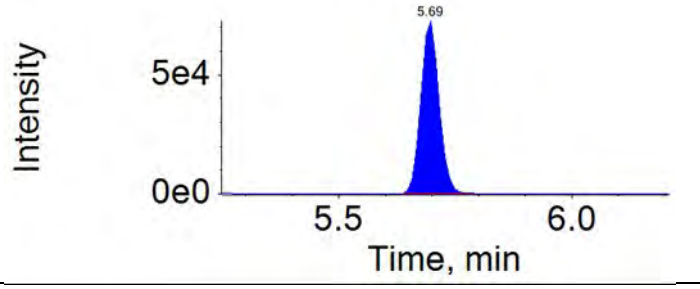
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



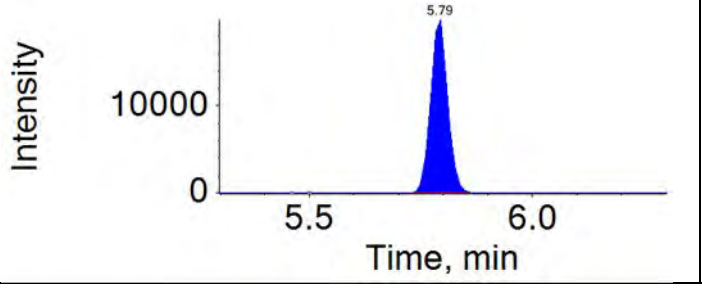


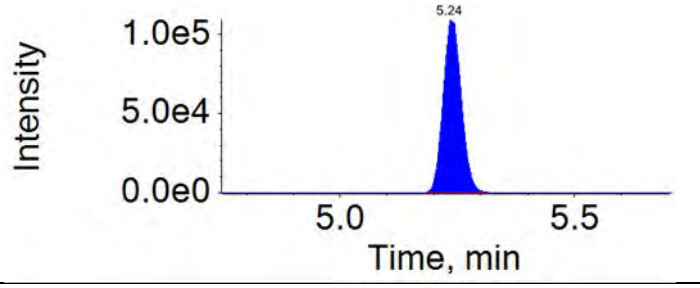
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



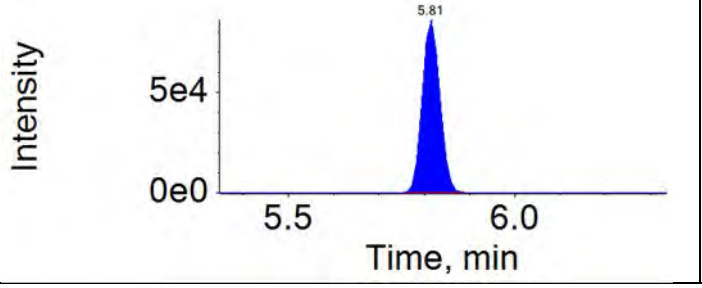


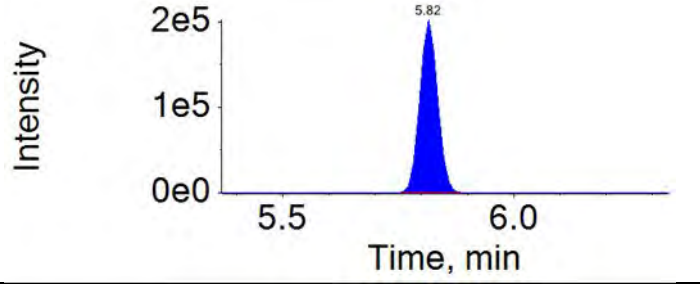
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





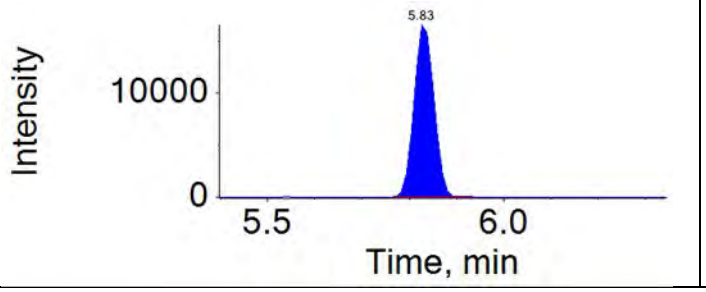
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0

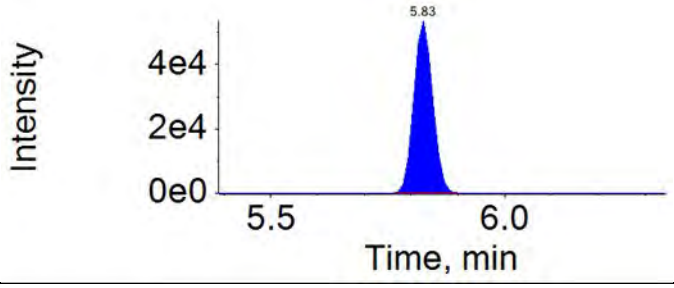




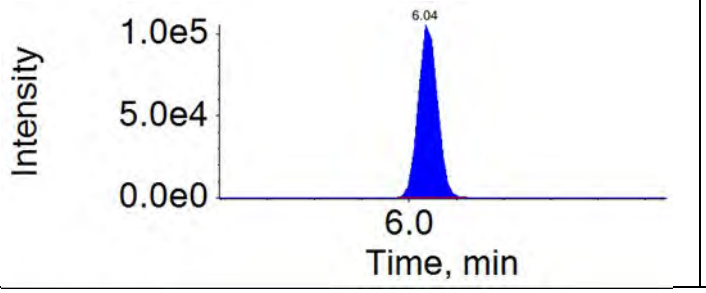
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

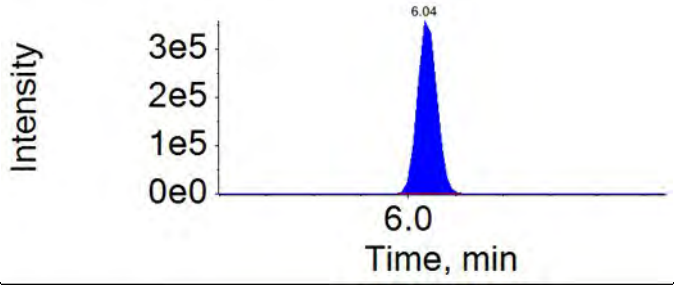
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



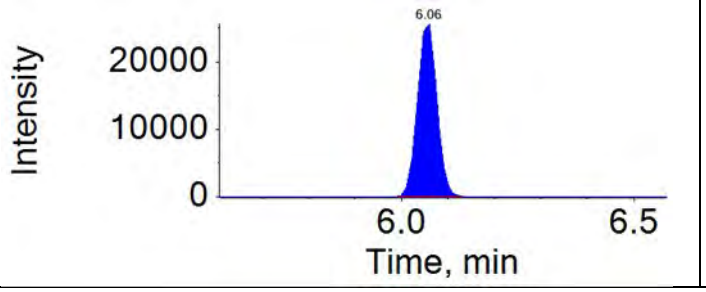


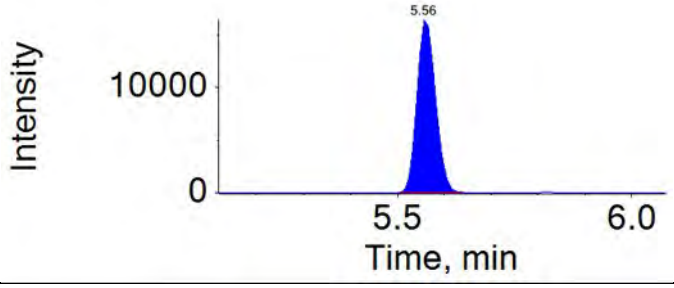
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



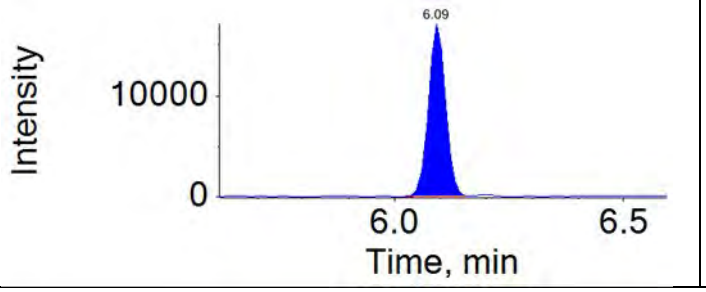


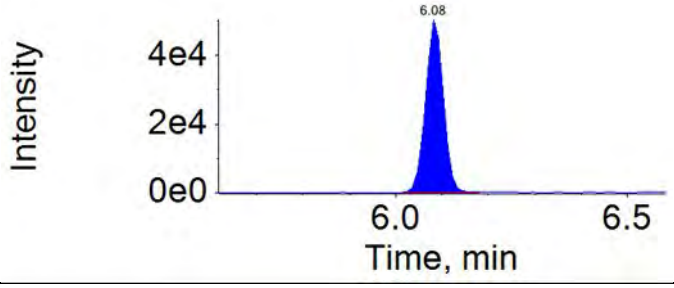
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





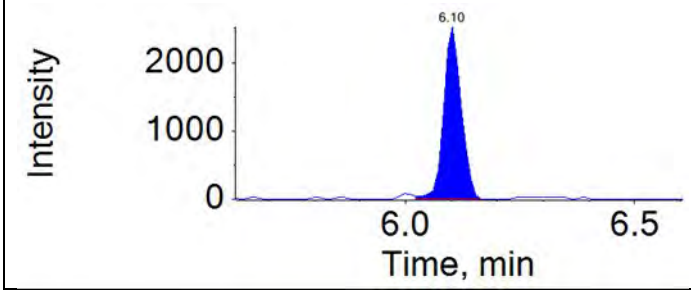
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

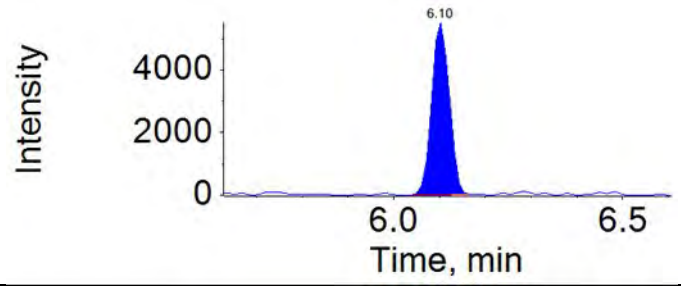




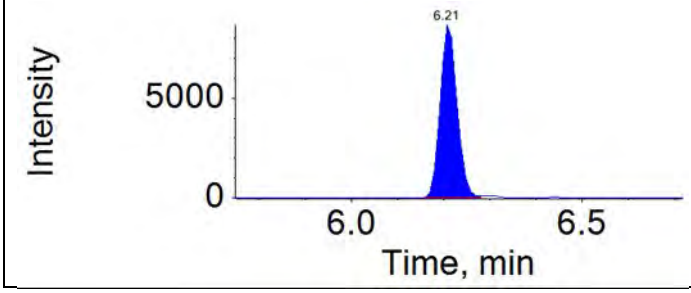
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

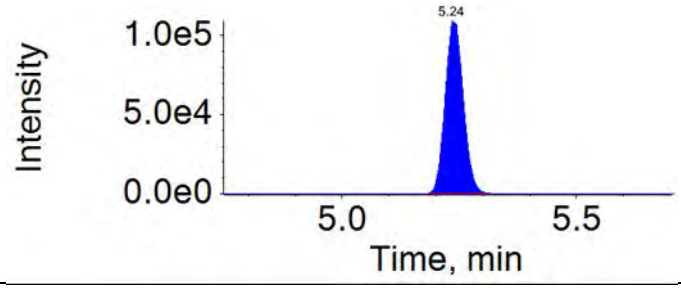
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



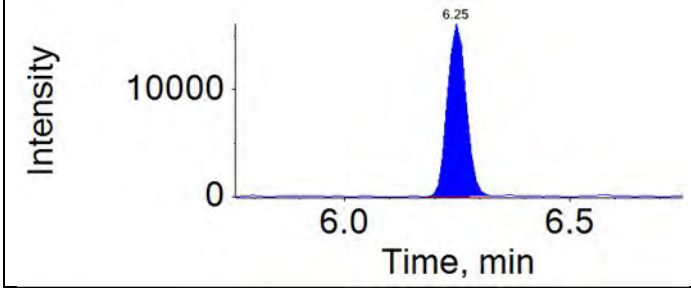


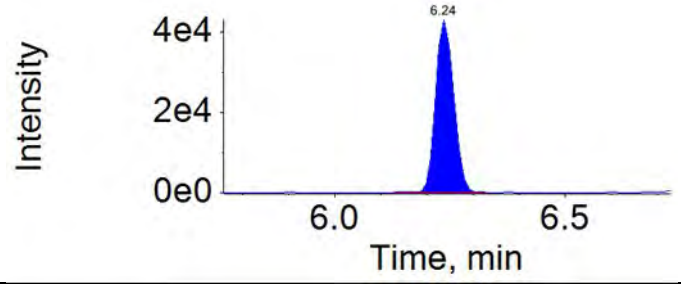
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



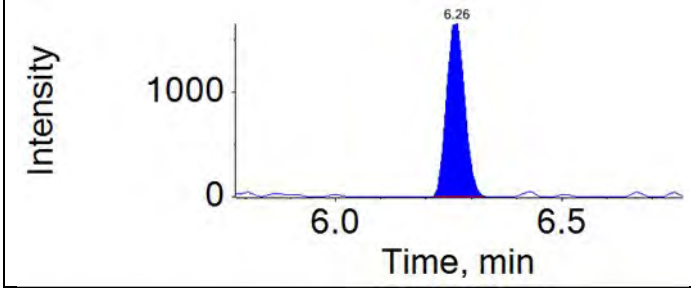


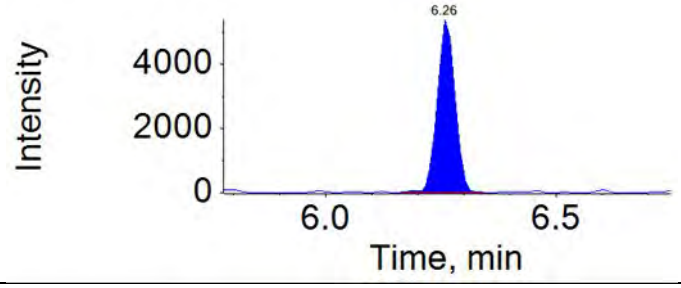
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



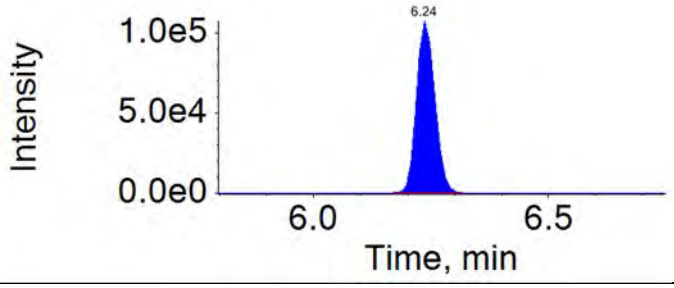
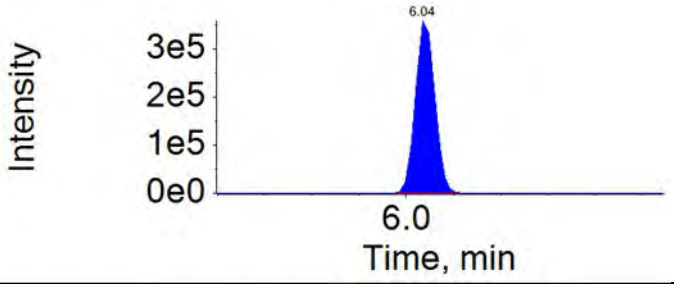


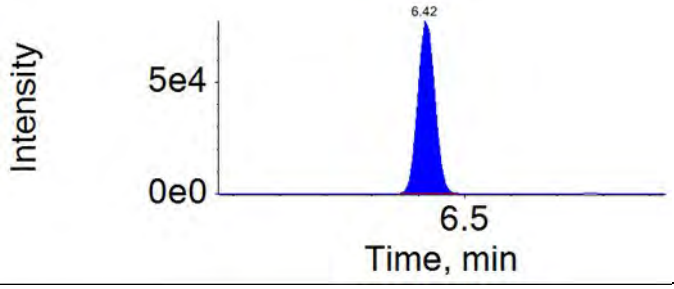
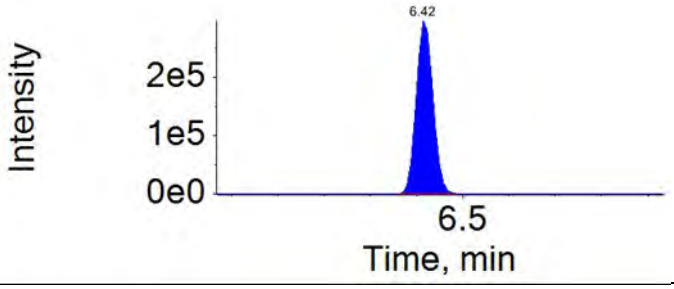
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

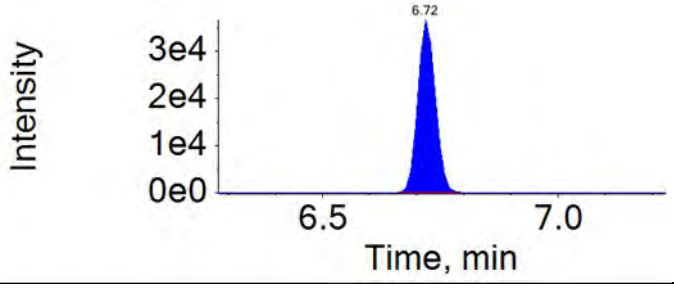
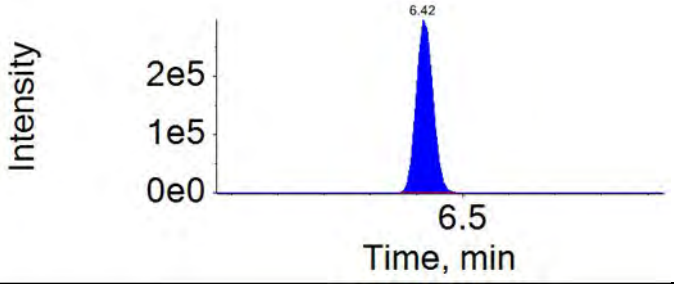


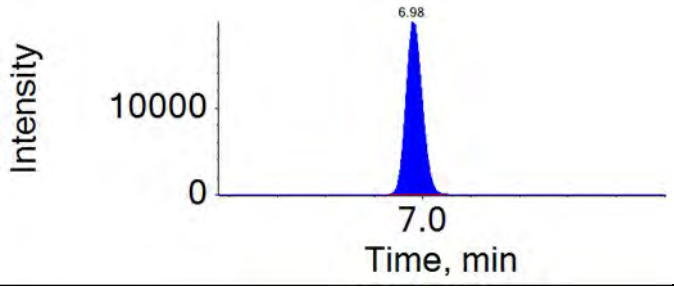
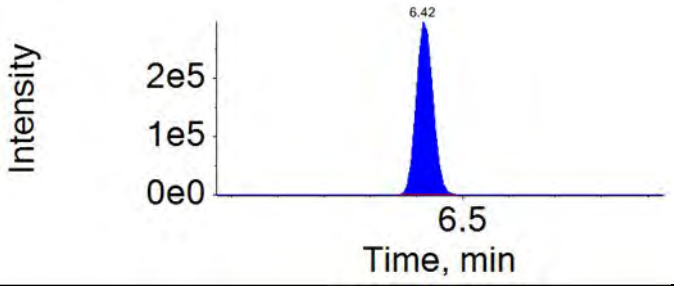


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

Ion Ratio Report

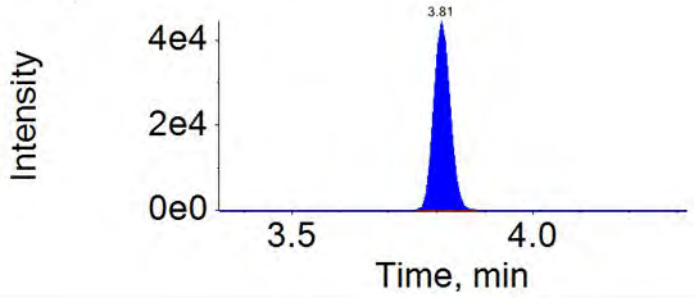
Sample Name: LCS348012 **Instrument Name:** LM27631 **File Name:** 18DEC19D-24.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	105456.3	A	N/A	1.0000			
PFBS_2	3.81	1.00	37153.4	A	N/A	0.3523	-4	50	
4:2-FTS	4.12	1.00	96727.1	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	57949.9	A	N/A	0.5991	-2	50	
PFHxA	4.16	1.00	236169.5	A	N/A	1.0000			
PFHxA_2	4.16	1.00	2400.5	A	N/A	0.0102	-11	50	
PFPeS	4.18	1.10	53174.2	A	N/A	1.0000			
PFPeS_2	4.18	1.10	26455.0	A	N/A	0.4975	-5	50	
PFHpA	4.54	1.00	253234.8	A	N/A	1.0000			
PFHpA_2	4.54	1.00	13493.4	A	N/A	0.0533	-3	50	
PFHxS	4.55	1.00	72445.9	A	N/A	1.0000			
PFHxS_2	4.54	1.00	28852.6	A	N/A	0.3983	19	50	
6:2-FTS	4.90	1.00	84540.1	A	N/A	1.0000			
6:2-FTS_2	4.90	1.00	54226.4	A	N/A	0.6414	1	50	
PFHpS	4.90	1.08	82489.3	A	N/A	1.0000			
PFHpS_2	4.90	1.08	31712.3	A	N/A	0.3844	-6	50	
PFOA	4.91	1.00	248033.9	A	N/A	1.0000			
PFOA_2	4.91	1.00	13761.2	A	N/A	0.0555	-6	50	
PFOS	5.24	1.00	77623.8	A	N/A	1.0000			
PFOS_2	5.24	1.00	28088.0	A	N/A	0.3618	21	50	
PFNA	5.25	1.00	222727.1	A	N/A	1.0000			
PFNA_2	5.26	1.00	4484.6	A	N/A	0.0201	-6	50	
PFNS	5.54	1.06	58095.8	A	N/A	1.0000			
PFNS_2	5.54	1.06	24467.6	A	N/A	0.4212	-9	50	
PFDA	5.56	1.00	218633.8	A	N/A	1.0000			
PFDA_2	5.55	1.00	1214.3	A	N/A	0.0056	-13	50	
8:2-FTS	5.56	1.00	88205.2	A	N/A	1.0000			
8:2-FTS_2	5.56	1.00	55459.2	A	N/A	0.6288	7	50	
NMeFOSAA	5.70	1.00	51992.2	A	N/A	1.0000			
NMeFOSAA_2	5.70	1.00	11195.5	A	N/A	0.2153	-18	50	
PFDS	5.79	1.11	52602.9	A	N/A	1.0000			
PFDS_2	5.79	1.11	24938.5	A	N/A	0.4741	-4	50	
PFUnDA	5.81	1.00	233758.8	A	N/A	1.0000			
PFUnDA_2	5.82	1.00	454.2	A	N/A	0.0019	-45	50	
NEtFOSAA	5.83	1.00	48760.3	A	N/A	1.0000			
NEtFOSAA_2	5.83	1.00	30518.6	A	N/A	0.6259	-9	50	
PFDoDA	6.04	1.00	296287.7	A	N/A	1.0000			
PFDoDA_2	6.04	1.00	2539.3	A	N/A	0.0086	-36	50	
10:2-FTS	6.06	1.09	75083.7	A	N/A	1.0000			
10:2-FTS_2	6.06	1.09	55875.7	A	N/A	0.7442	6	50	
PFTrDA	6.24	1.03	291026.2	A	N/A	1.0000			
PFTrDA_2	6.24	1.03	2541.7	A	N/A	0.0087	-7	50	
PFTeDA	6.42	1.00	198393.6	A	N/A	1.0000			
PFTeDA_2	6.41	1.00	1501.2	A	N/A	0.0076	30	50	
PFHxDA	6.72	1.05	94333.2	A	N/A	1.0000			
PFHxDA_2	6.72	1.05	5973.0	A	N/A	0.0633	-4	50	
PFODA	6.98	1.09	46758.9	A	N/A	1.0000			
PFODA_2	6.98	1.09	1183.2	A	N/A	0.0253	-7	50	

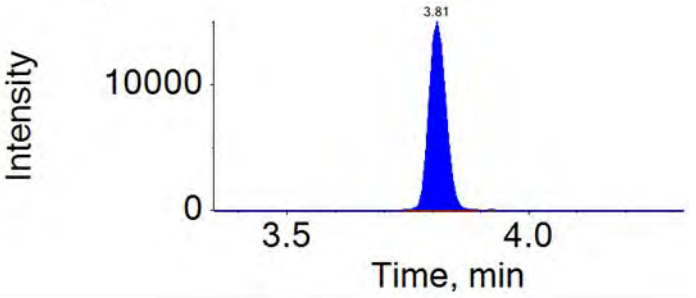
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

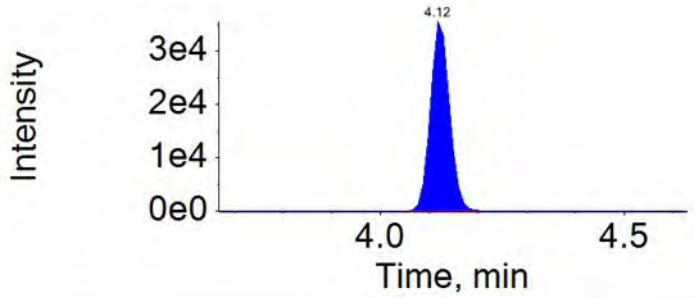
Component: PFBS
Primary Mass: 299.0 / 80.0



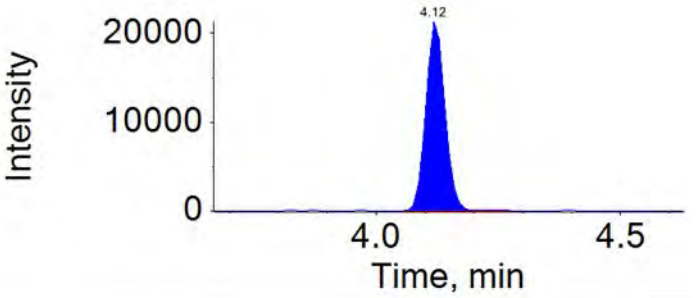
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



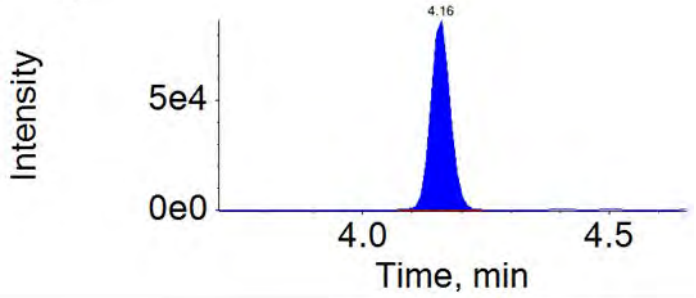
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



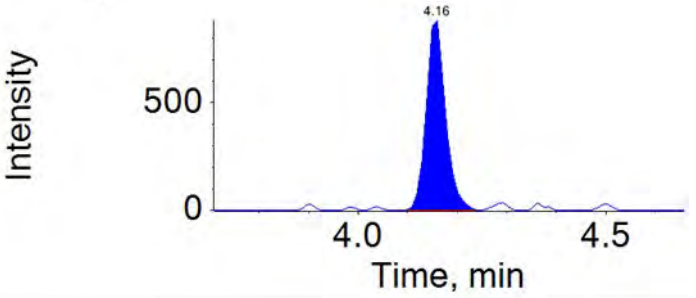
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



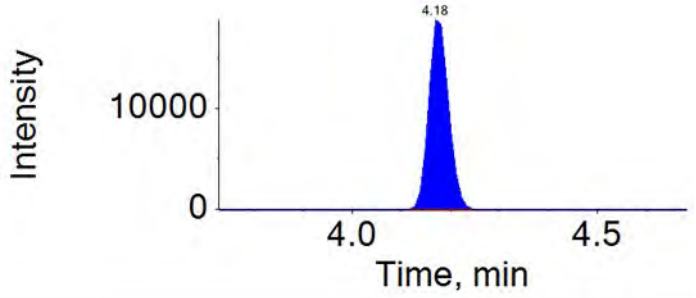
Component: PFHxA
Primary Mass: 313.0 / 269.0



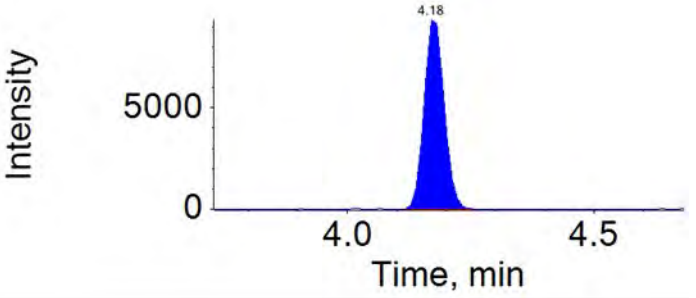
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



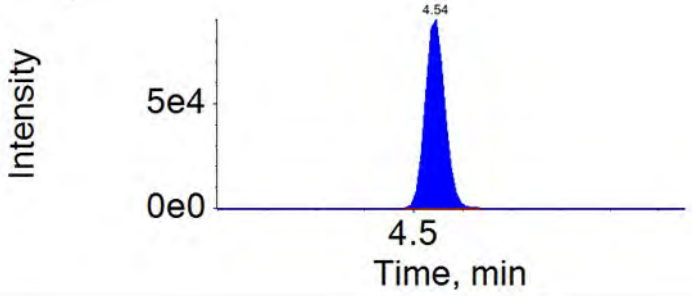
Component: PFPeS
Primary Mass: 349.0 / 80.0



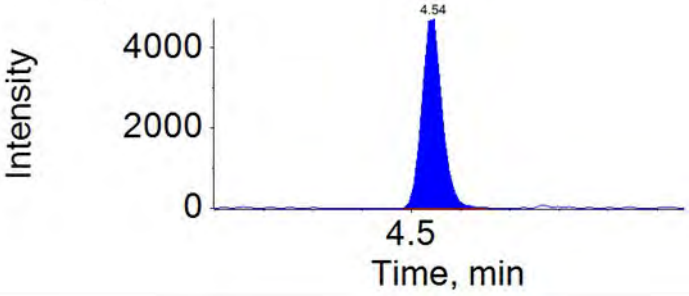
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



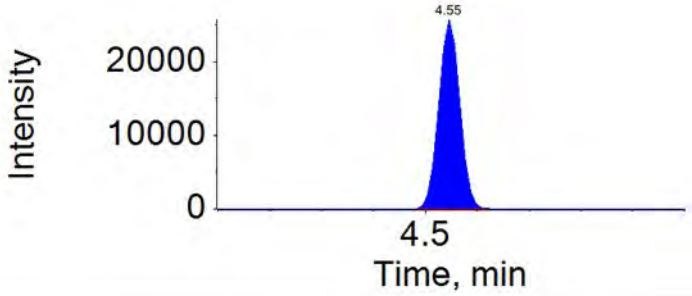
Component: PFHpA
Primary Mass: 363.0 / 319.0



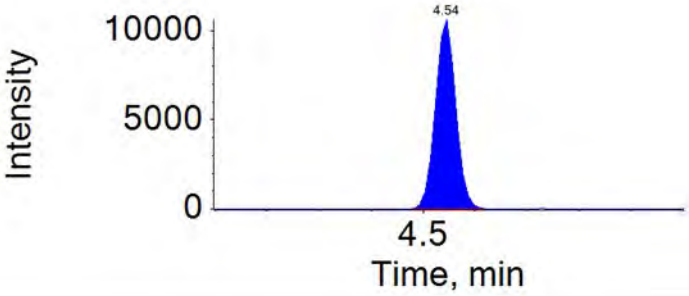
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



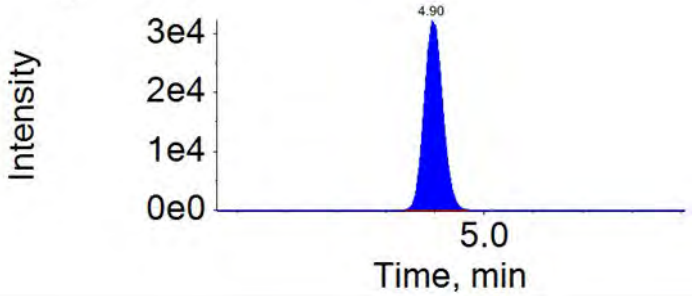
Component: PFHxS
Primary Mass: 399.0 / 80.0



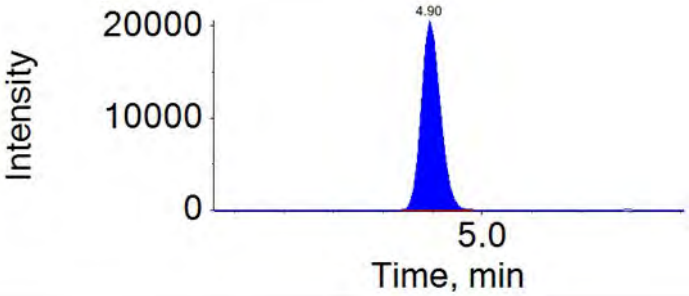
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



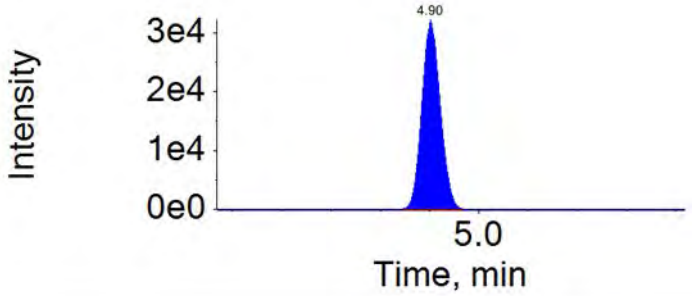
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



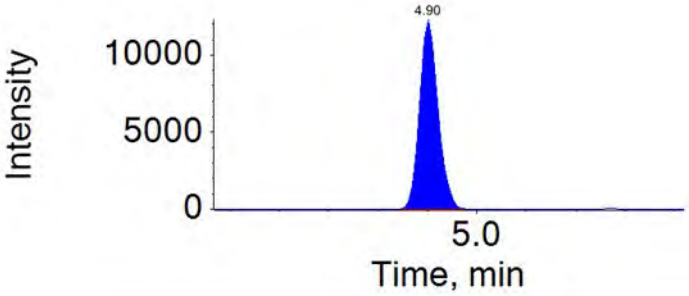
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



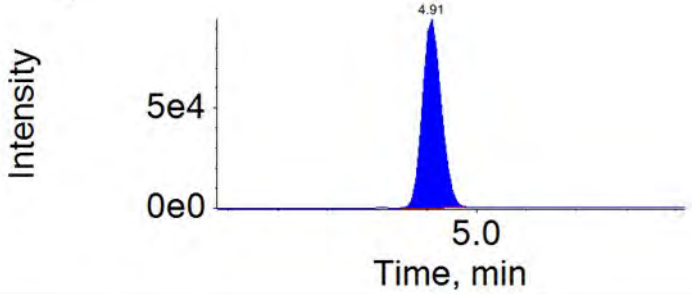
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



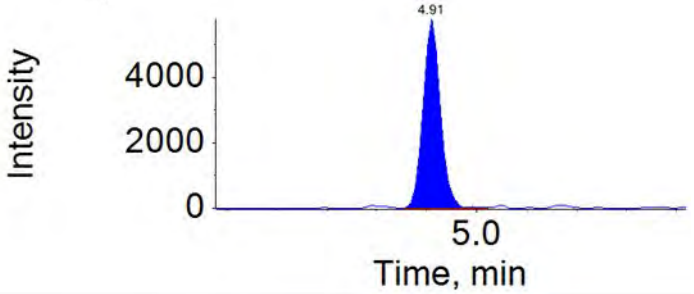
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

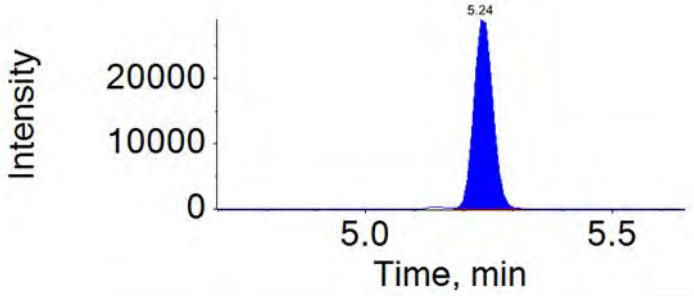
Component: PFOA
Primary Mass: 413.0 / 369.0



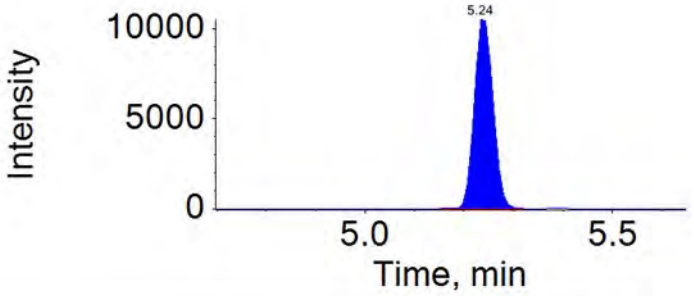
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



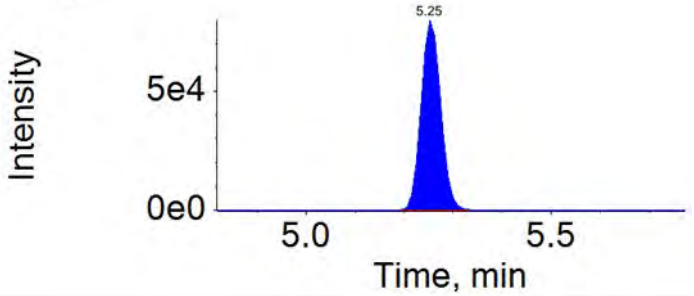
Component: PFOS
Primary Mass: 499.0 / 80.0



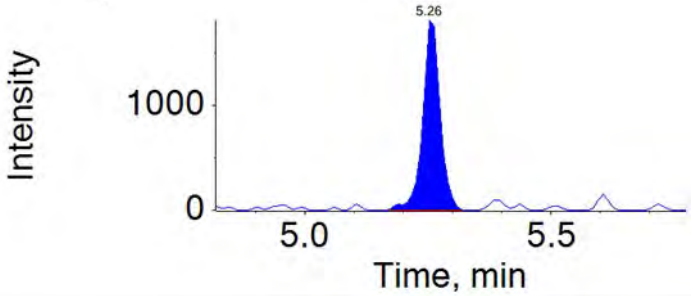
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



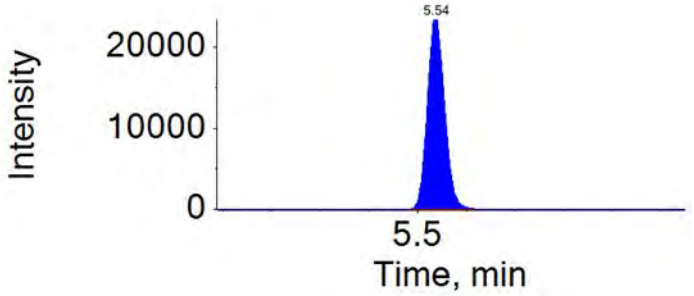
Component: PFNA
Primary Mass: 463.0 / 419.0



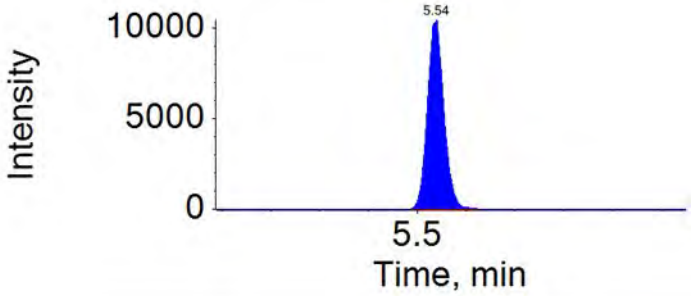
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



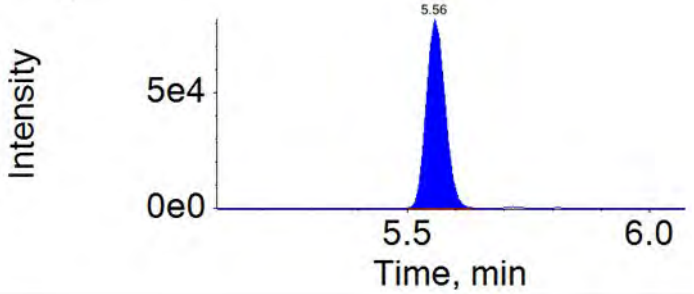
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



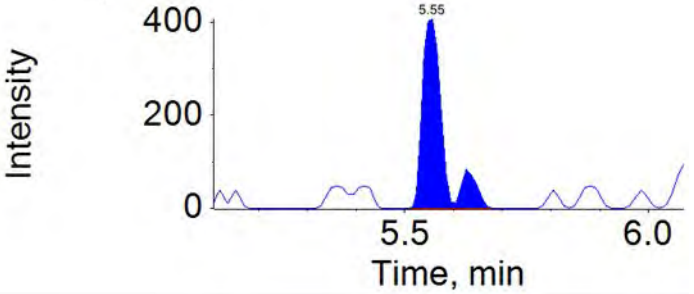
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

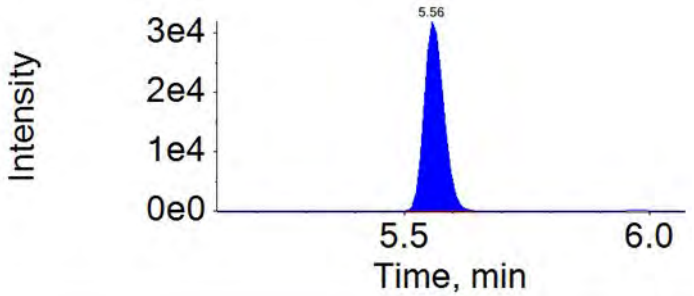
Component: PFDA
Primary Mass: 513.0 / 469.0



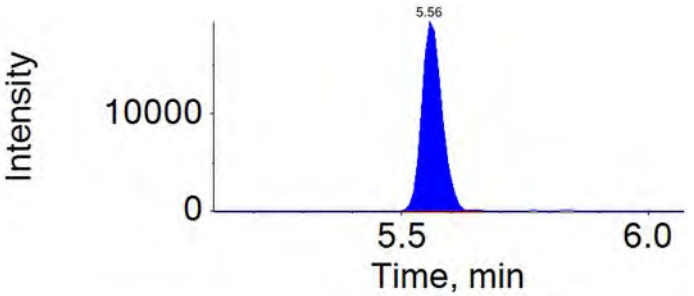
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



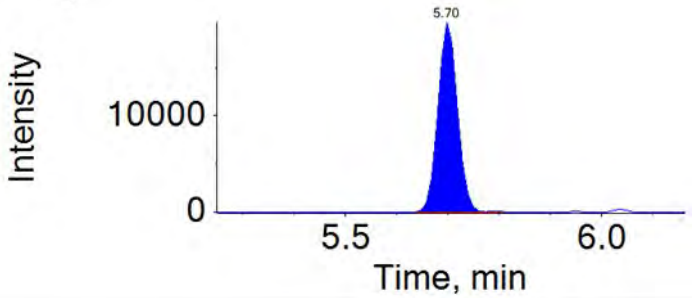
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



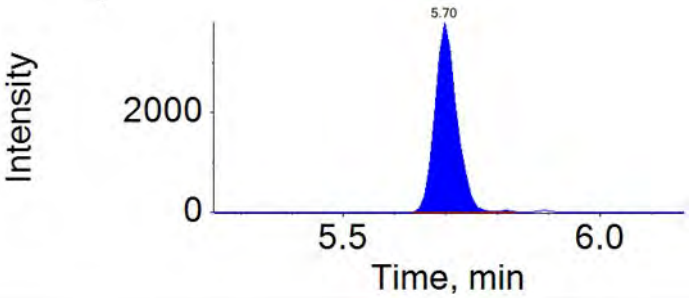
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



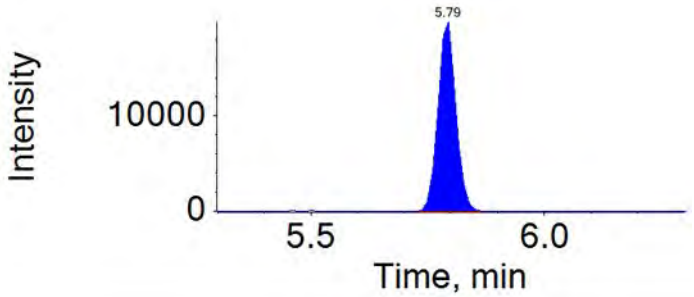
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



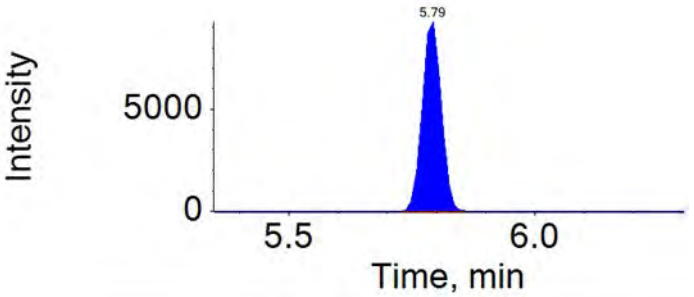
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Secondary Mass: 570.0 / 483.0



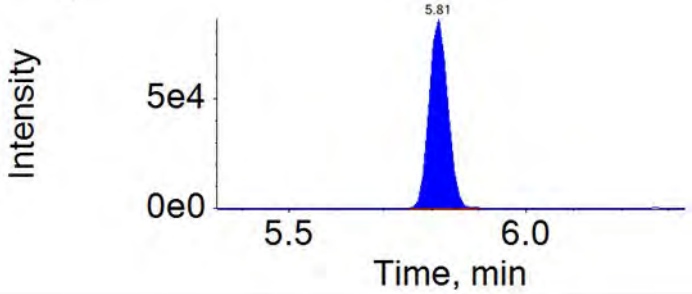
Component: PFDS
Primary Mass: 599.0 / 80.0



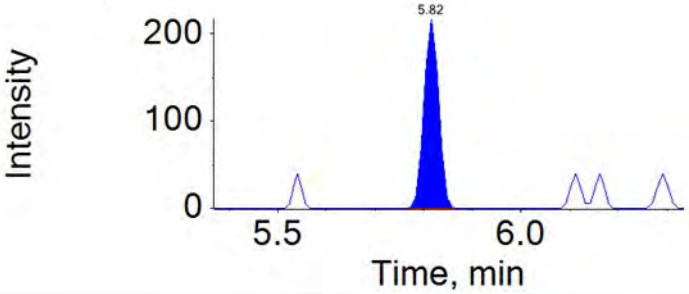
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



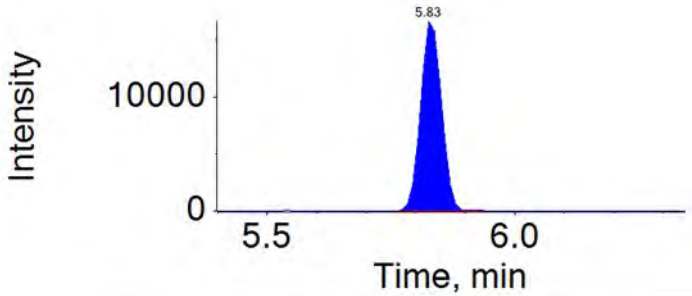
Component: PFUnDA
Primary Mass: 563.0 / 519.0



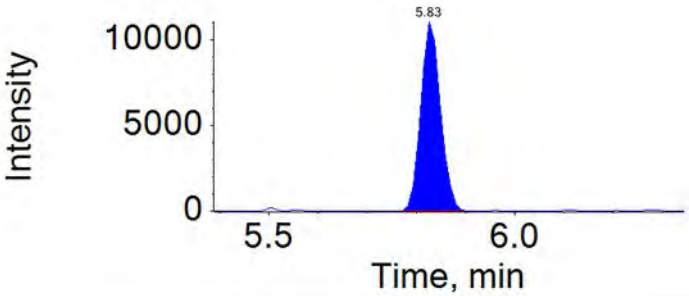
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



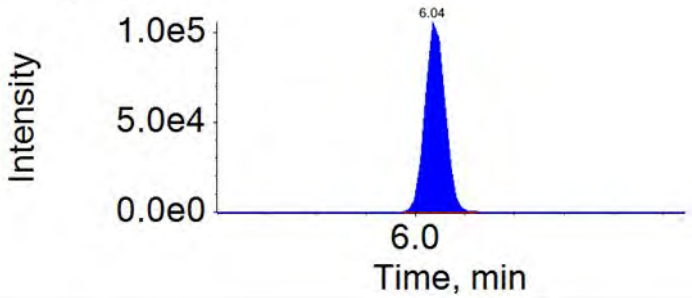
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



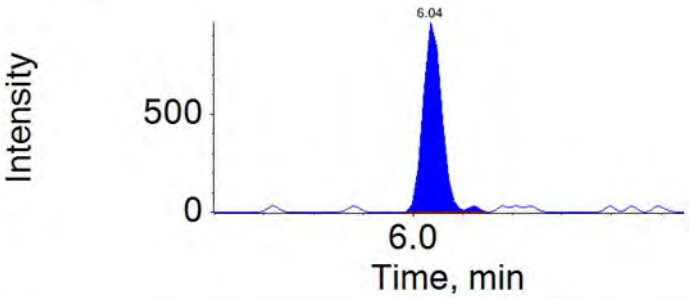
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



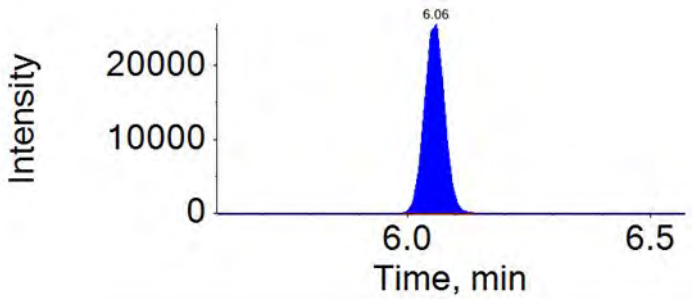
Component: PFDoDA
Primary Mass: 613.0 / 569.0



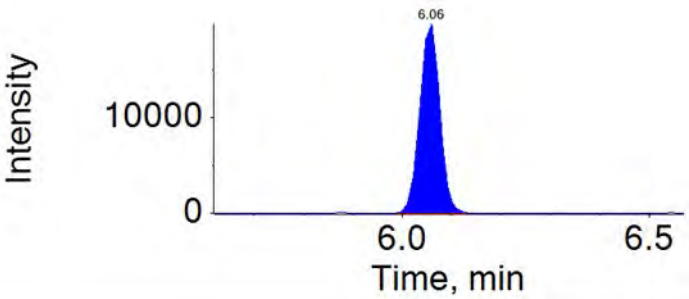
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



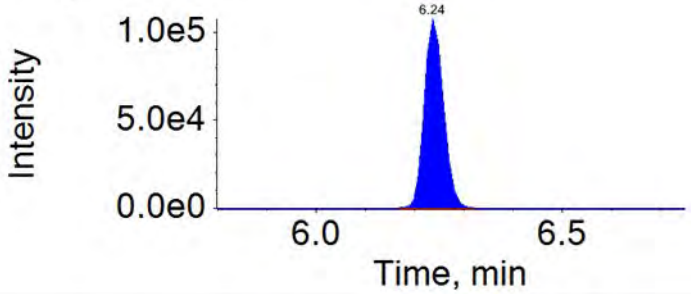
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



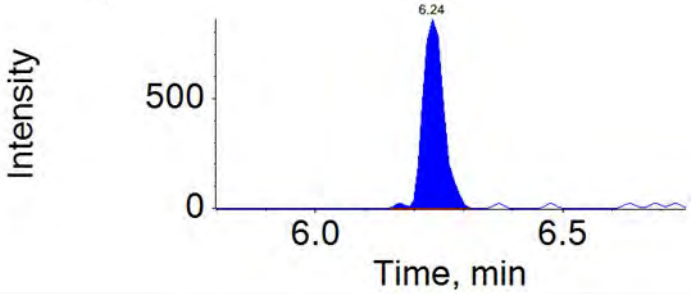
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



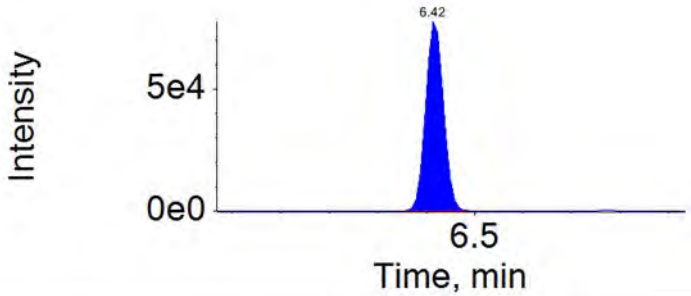
Component: PFTrDA
Primary Mass: 663.0 / 619.0



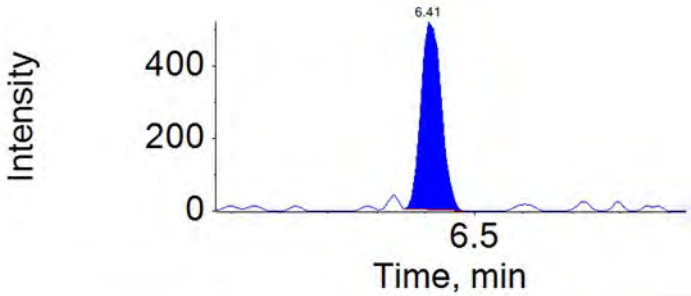
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



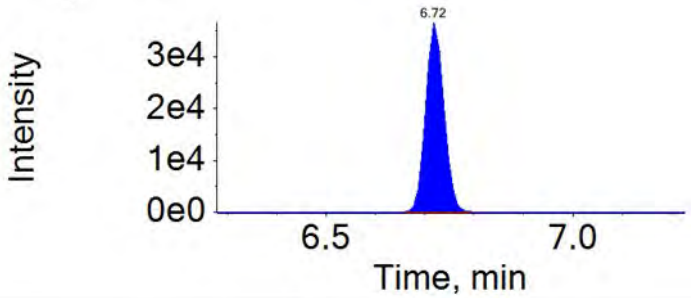
Component: PFTeDA
Primary Mass: 713.0 / 669.0



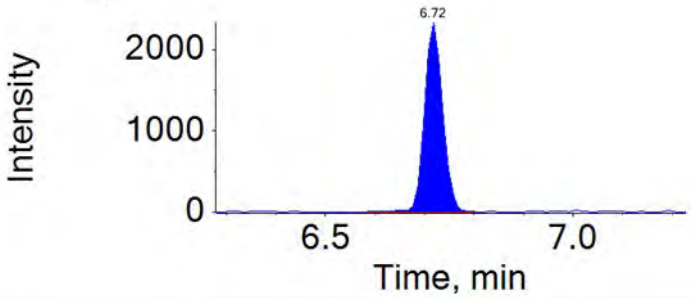
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



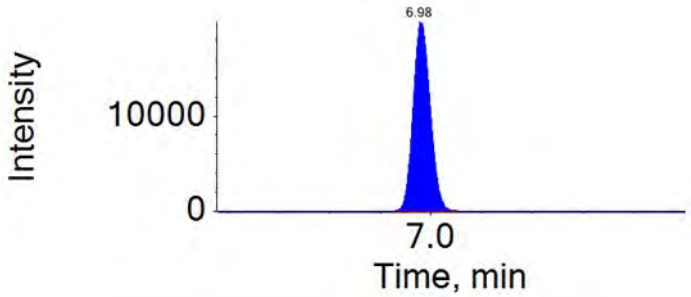
Component: PFHxDA
Primary Mass: 813.0 / 769.0



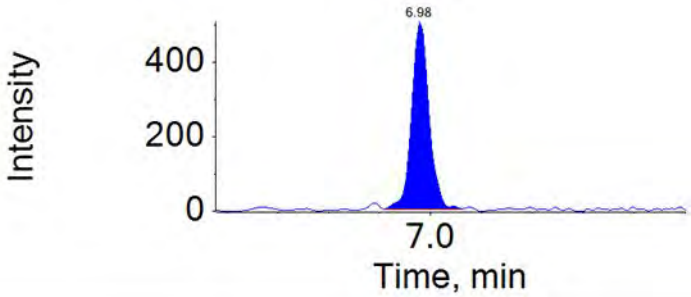
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



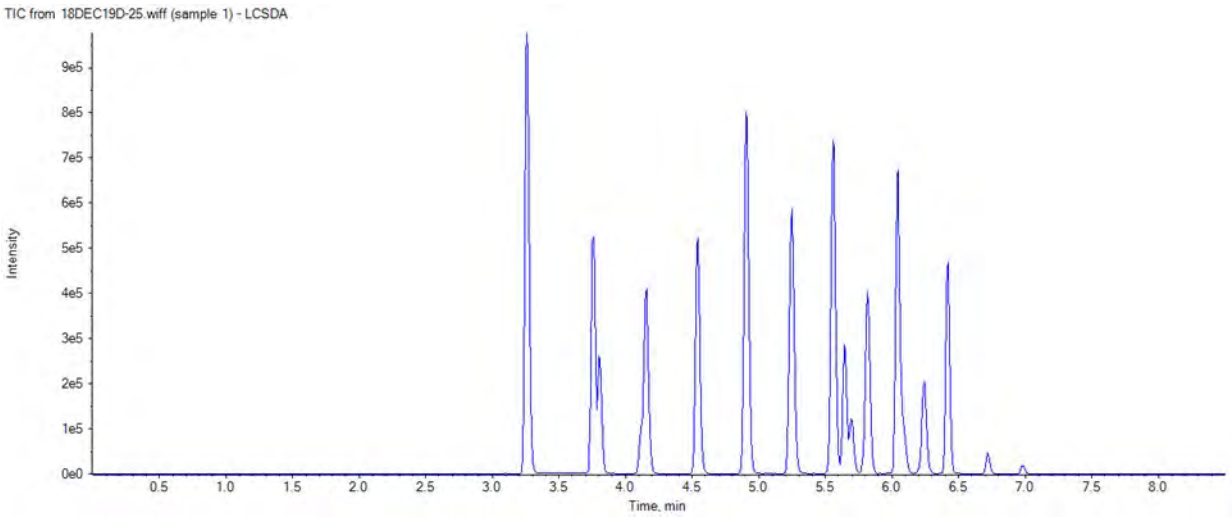
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18348012 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCSDA	EPA 537 mod QSM 5.1 table B-15 18348012	18DEC19D-25.wiff	2018-12-19T13:44:11



Injection Standard Area Reference File**:** 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	960259.6	942675.8	2	50	
13C2-PFOA	5.00	505247.4	520268.5	-3	50	
13C4-PFOS	4.78	303366.7	307968.9	-1	50	
13C2-PFDA	5.00	487604.1	487375.3	0	50	

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCSDA	EPA 537 mod QSM 5.1 table B-15 18348012	18DEC19D-25.wiff	2018-12-19T13:44:11

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	265560.3	964411.2	0.275	5.440	5.848	108	70-130	
PFPeA	242932.0	921883.7	0.264	5.440	5.441	100	70-130	
PFBS	106228.8	390011.4	0.272	4.812	5.378	112	72-127	
4:2-FTS	91516.6	59254.5	1.544	14.944	16.208	108	70-130	
PFHxA	227556.9	638204.5	0.357	5.440	5.875	108	77-132	
PFPeS	51446.3	390011.4	0.132	5.104	5.372	105	70-130	
PFHpA	249304.0	529223.6	0.471	5.440	6.248	115	75-139	
PFHxS	88268.9	306946.0	0.288	5.144	5.595	109	71-130	
6:2-FTS	86104.8	45533.7	1.891	15.168	18.830	124	70-130	
PFHpS	77849.4	306946.0	0.254	5.176	5.367	104	70-130	
PFOA	246327.0	863982.6	0.285	5.440	6.042	111	76-136	
PFOS	81680.4	289769.3	0.282	5.200	4.937	95	67-134	
PFNA	213170.2	575583.2	0.370	5.440	5.888	108	73-144	
PFNS	60937.8	289769.3	0.210	5.224	5.349	102	70-130	
PFDA	213640.3	779133.0	0.274	5.440	5.664	104	67-141	
8:2-FTS	91335.8	48053.0	1.901	15.328	15.303	100	70-130	
PFOSA	121738.0	500076.8	0.243	5.440	4.870	90	70-130	
NMeFOSAA	48318.4	212073.7	0.228	5.440	5.664	104	67-124	
PFDS	47460.0	289769.3	0.164	5.240	5.378	103	70-130	
PFUnDA	212329.6	499866.8	0.425	5.440	5.627	103	83-132	
NEtFOSAA	49021.4	142133.8	0.345	5.440	7.031	129	60-131	
PFDoDA	277657.8	1037522.6	0.268	5.440	5.392	99	72-137	
10:2-FTS	77841.5	48053.0	1.620	15.424	13.197	86	70-130	
NMePFOSAE	47556.0	146787.3	0.324	5.440	5.718	105	70-130	
NMePFOSA	5760.8	22232.2	0.259	5.440	5.232	96	70-130	
PFDoS	25318.8	289769.3	0.087	5.280	5.295	100	70-130	
NEtPFOSAE	46367.1	125247.6	0.370	5.440	4.838	89	70-130	
NEtPFOSA	4392.7	17142.3	0.256	5.440	4.794	88	70-130	
PFTrDA	287810.1	1037522.6	0.277	5.440	5.693	105	57-137	
PFTeDA	195870.7	783242.2	0.250	5.440	5.386	99	70-142	
PFHxDA	88301.3	783242.2	0.113	5.440	4.952	91	70-130	
PFODA	39754.2	783242.2	0.051	5.440	2.917	54	70-130	OOS

APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Lab Control Sample Recovery

ICAL Name: 18DEC18DCAL
QMethod Name: 18AUG20QM
Result Table: 18348012 12/20/2018 9:25:03 AM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	LCSDA			**Data File:**		18DEC19D-25.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18348012			**Acquis Date:**		2018-12-19T13:44:11
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	76			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18348012
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC18DCAL
Batch Number:	18348012			**Operator:**		MM26157
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC19D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	960259.6	942675.8	2	50	
13C2-PFOA	5.0	505247.4	520268.5	-3	50	
13C4-PFOS	4.8	303366.7	307968.9	-1	50	
13C2-PFDA	5.0	487604.1	487375.3	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	964411.2	13C3-PFBA	960259.6	1.004	20.000	17.790	89	50-150	
E13C5-PFPeA	921883.7	13C3-PFBA	960259.6	0.960	20.000	17.907	90	50-150	
E13C3-PFBS	390011.4	13C3-PFBA	960259.6	0.406	18.600	15.819	85	50-150	
E13C2-4:2-FTS	59254.5	13C2-PFOA	505247.4	0.117	18.680	17.817	95	50-150	
E13C5-PFHxA	638204.5	13C2-PFOA	505247.4	1.263	20.000	18.073	90	50-150	
E13C3-PFHxS	306946.0	13C2-PFOA	505247.4	0.608	18.920	18.388	97	50-150	
E13C4-PFHpA	529223.6	13C2-PFOA	505247.4	1.047	20.000	18.098	90	50-150	
E13C2-6:2-FTS	45533.7	13C2-PFOA	505247.4	0.090	19.000	18.137	95	50-150	
E13C8-PFOA	863982.6	13C2-PFOA	505247.4	1.710	20.000	18.808	94	50-150	
E13C8-PFOS	289769.3	13C4-PFOS	303366.7	0.955	19.120	17.086	89	50-150	
E13C9-PFNA	575583.2	13C4-PFOS	303366.7	1.897	20.000	17.265	86	50-150	
E13C6-PFDA	779133.0	13C2-PFDA	487604.1	1.598	20.000	18.206	91	50-150	
E13C2-8:2-FTS	48053.0	13C2-PFDA	487604.1	0.099	19.160	20.317	106	50-150	
E13C8-PFOSA	500076.8	13C2-PFDA	487604.1	1.026	20.000	15.975	80	50-150	
Ed3-NMeFOSAA	212073.7	13C2-PFDA	487604.1	0.435	20.000	19.140	96	50-150	
E13C7-PFUnDA	499866.8	13C2-PFDA	487604.1	1.025	20.000	17.165	86	50-150	
Ed5-NEtFOSAA	142133.8	13C2-PFDA	487604.1	0.291	20.000	17.178	86	50-150	
E13C2-PFDoDA	1037522.6	13C2-PFDA	487604.1	2.128	20.000	17.906	90	50-150	
Ed7-NMePFOSAE	146787.3	13C2-PFDA	487604.1	0.301	20.000	10.759	54	50-150	
Ed3-NMePFOSA	22232.2	13C2-PFDA	487604.1	0.046	20.000	5.011	25	50-150	OOS
Ed9-NEtPFOSAE	125247.6	13C2-PFDA	487604.1	0.257	20.000	10.504	53	50-150	
Ed5-NEtPFOSA	17142.3	13C2-PFDA	487604.1	0.035	20.000	4.877	24	50-150	OOS
E13C2-PFTeDA	783242.2	13C2-PFDA	487604.1	1.606	20.000	18.106	91	50-150	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

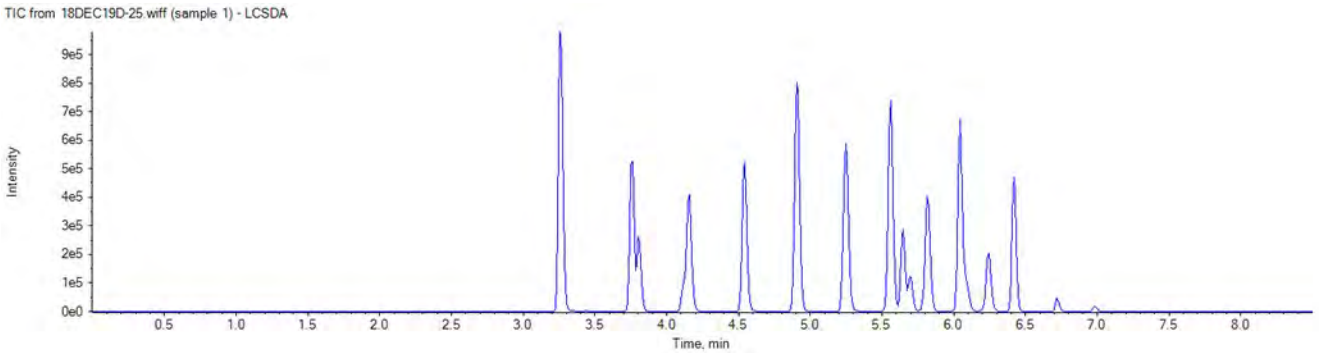
Analyte Quantitation Peak Table

Sample Name: LCSDA **Instrument Name:** LM27631 **File Name:** 18DEC19D-25.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.26	1.000	265560.3		A	13C4-PFBA	3.26	964411.2	0.275	5.848
PFPeA	3.76	1.000	242932.0		A	13C5-PFPeA	3.76	921883.7	0.264	5.441
PFBS	3.81	1.000	106228.8		A	13C3-PFBS	3.81	390011.4	0.272	5.378
4:2-FTS	4.12	1.000	91516.6		A	13C2-4:2-FTS	4.12	59254.5	1.544	16.208
PFHxA	4.15	1.000	227556.9		A	13C5-PFHxA	4.15	638204.5	0.357	5.875
PFPeS	4.17	1.100	51446.3		A	13C3-PFBS	3.81	390011.4	0.132	5.372
PFHpA	4.54	1.000	249304.0		A	13C4-PFHpA	4.54	529223.6	0.471	6.248
PFHxS	4.54	1.000	88268.9		A	13C3-PFHxS	4.54	306946.0	0.288	5.595
6:2-FTS	4.90	1.000	86104.8		A	13C2-6:2-FTS	4.90	45533.7	1.891	18.830
PFHpS	4.90	1.080	77849.4		A	13C3-PFHxS	4.54	306946.0	0.254	5.367
PFOA	4.91	1.000	246327.0		A	13C8-PFOA	4.91	863982.6	0.285	6.042
PFOS	5.24	1.000	81680.4		A	13C8-PFOS	5.24	289769.3	0.282	4.937
PFNA	5.25	1.000	213170.2		A	13C9-PFNA	5.25	575583.2	0.370	5.888
PFNS	5.54	1.060	60937.8		A	13C8-PFOS	5.24	289769.3	0.210	5.349
PFDA	5.56	1.000	213640.3		A	13C6-PFDA	5.56	779133.0	0.274	5.664
8:2-FTS	5.56	1.000	91335.8		A	13C2-8:2-FTS	5.56	48053.0	1.901	15.303
PFOSA	5.65	1.000	121738.0		A	13C8-PFOSA	5.65	500076.8	0.243	4.870
NMeFOSAA	5.70	1.000	48318.4		A	d3-NMeFOSAA	5.70	212073.7	0.228	5.664
PFDS	5.79	1.110	47460.0		A	13C8-PFOS	5.24	289769.3	0.164	5.378
PFUnDA	5.82	1.000	212329.6		A	13C7-PFUnDA	5.82	499866.8	0.425	5.627
NEtFOSAA	5.83	1.000	49021.4		A	d5-NEtFOSAA	5.83	142133.8	0.345	7.031
PFDoDA	6.04	1.000	277657.8		A	13C2-PFDoDA	6.04	1037522.6	0.268	5.392
10:2-FTS	6.06	1.090	77841.5		A	13C2-8:2-FTS	5.56	48053.0	1.620	13.197
NMePFOSAE	6.10	1.000	47556.0		A	d7-NMePFOSAE	6.09	146787.3	0.324	5.718
NMePFOSA	6.11	1.000	5760.8		A	d3-NMePFOSA	6.10	22232.2	0.259	5.232
PFDoS	6.21	1.190	25318.8		A	13C8-PFOS	5.24	289769.3	0.087	5.295
NEtPFOSAE	6.25	1.000	46367.1		A	d9-NEtPFOSAE	6.24	125247.6	0.370	4.838
NEtPFOSA	6.27	1.000	4392.7		A	d5-NEtPFOSA	6.27	17142.3	0.256	4.794
PFTrDA	6.24	1.030	287810.1		A	13C2-PFDoDA	6.04	1037522.6	0.277	5.693
PFTeDA	6.42	1.000	195870.7		A	13C2-PFTeDA	6.42	783242.2	0.250	5.386
PFHxDA	6.72	1.050	88301.3		A	13C2-PFTeDA	6.42	783242.2	0.113	4.952
PFODA	6.98	1.090	39754.2		A	13C2-PFTeDA	6.42	783242.2	0.051	2.917

Total Ion Chromatogram

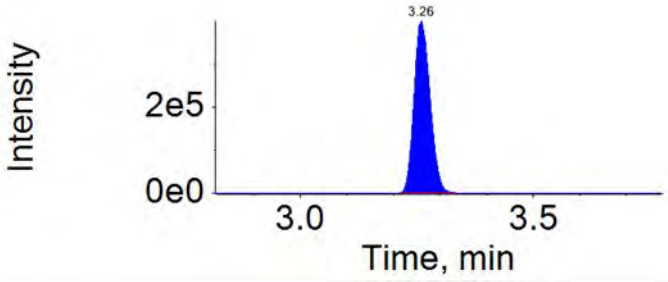


APPROVED
By MSM at 10:14 am, 12/20/18

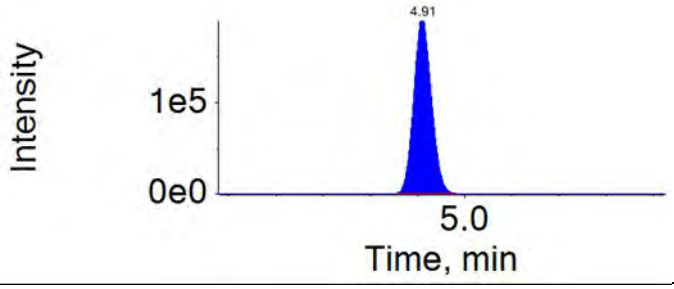
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

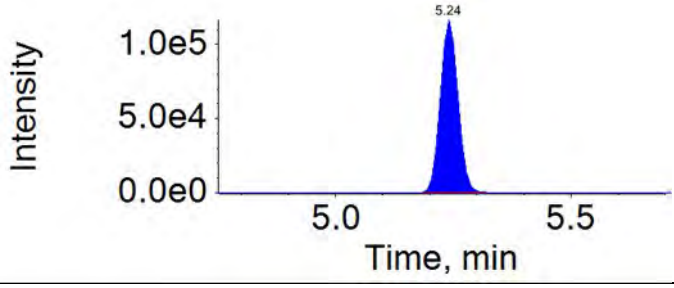
Injection Standard: 13C3-PFBA
216.0 / 172.0



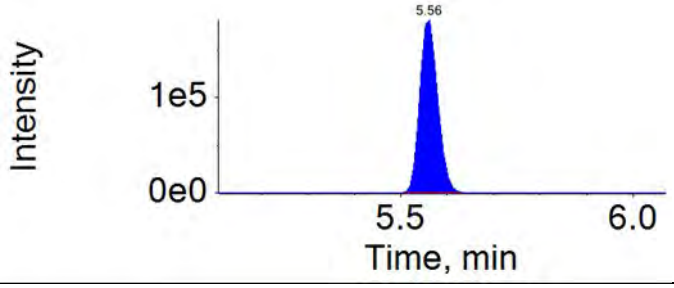
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

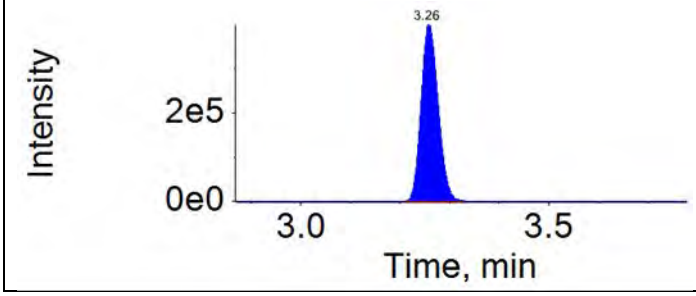


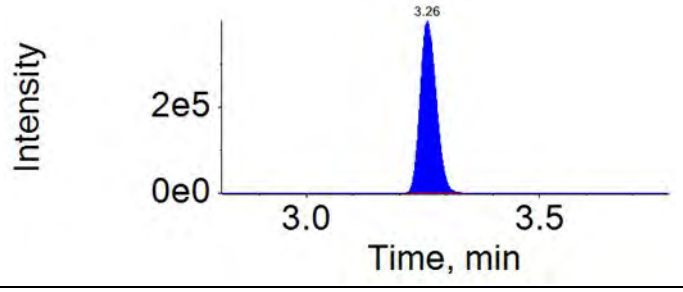
Injection Standard: 13C2-PFDA
515.0 / 470.0



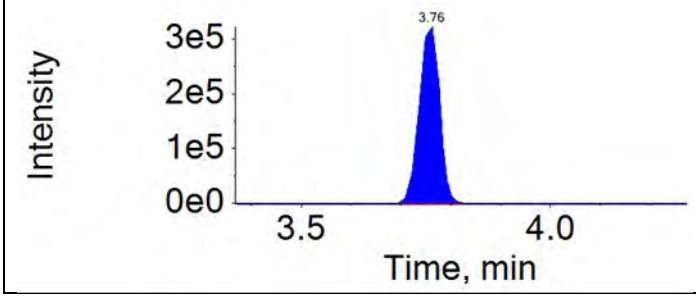
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

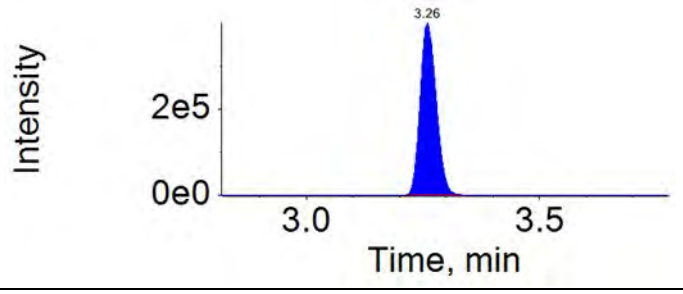
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



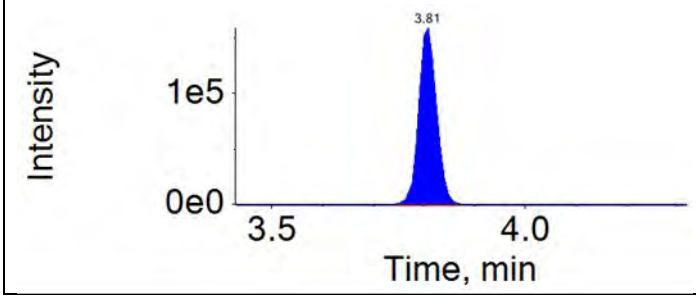


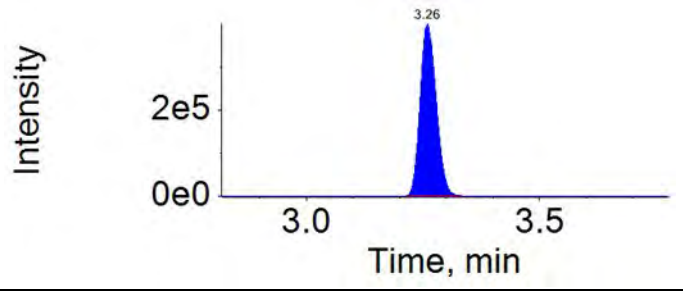
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



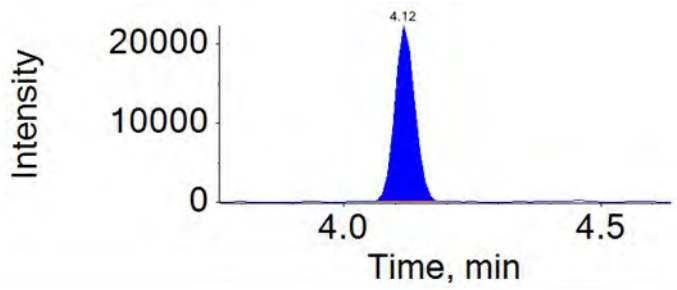


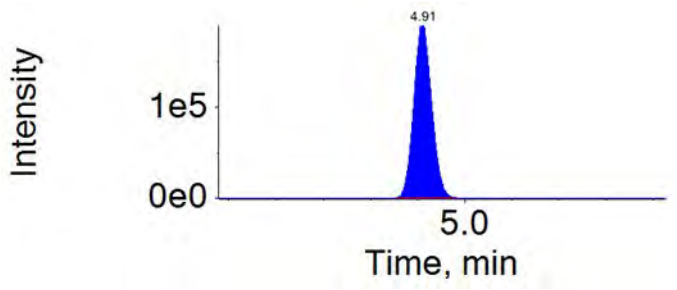
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





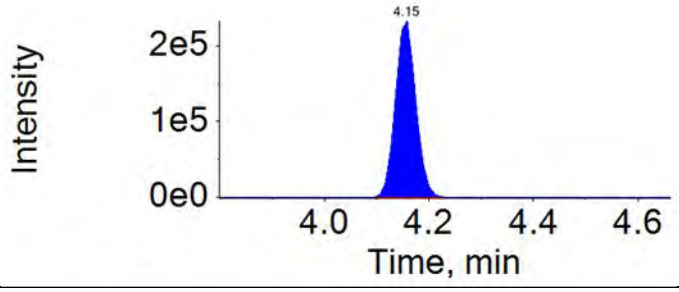
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

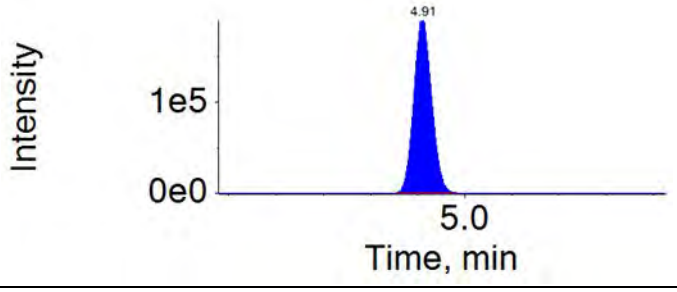




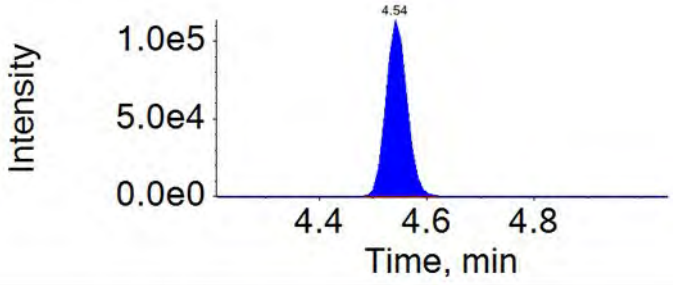
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

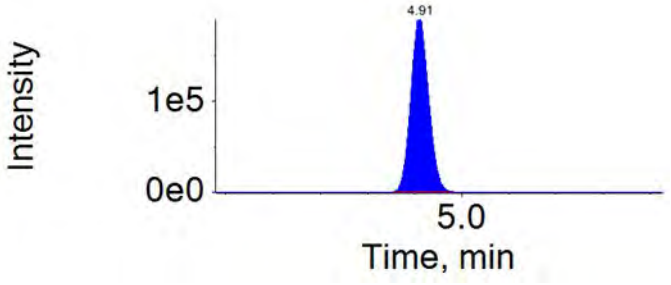
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



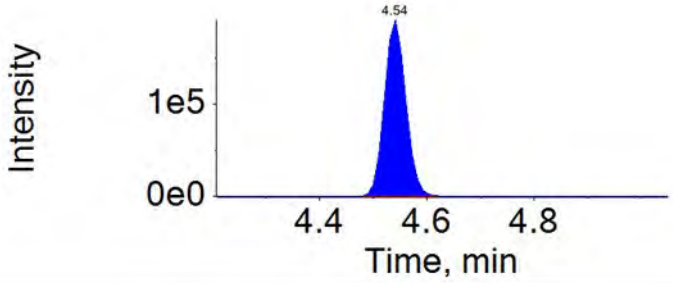


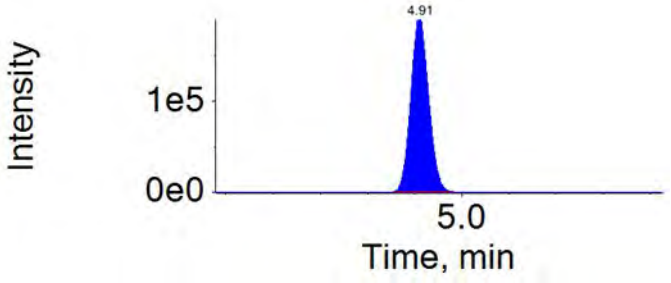
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



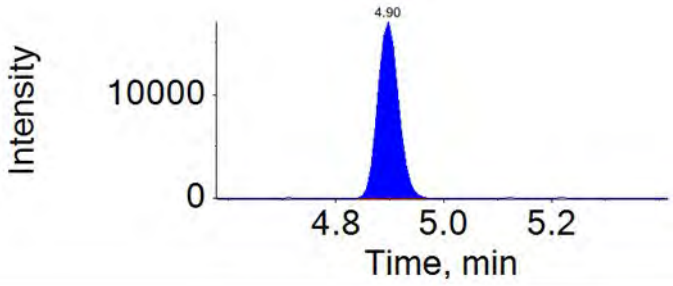


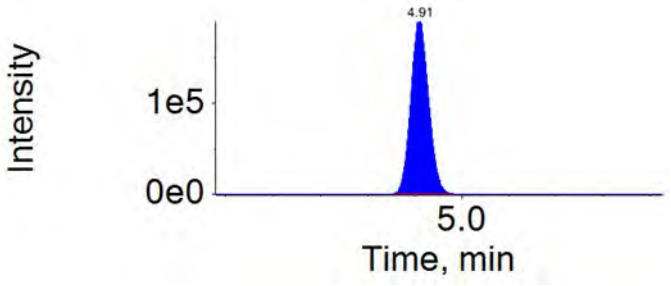
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





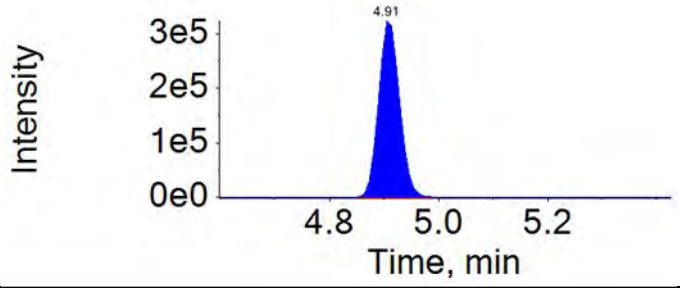
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

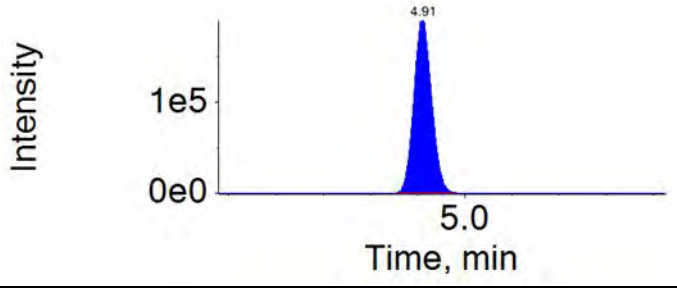




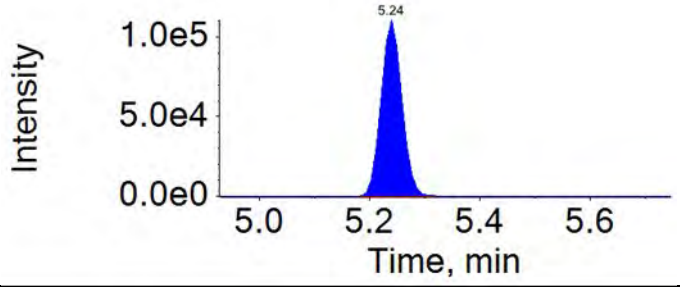
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

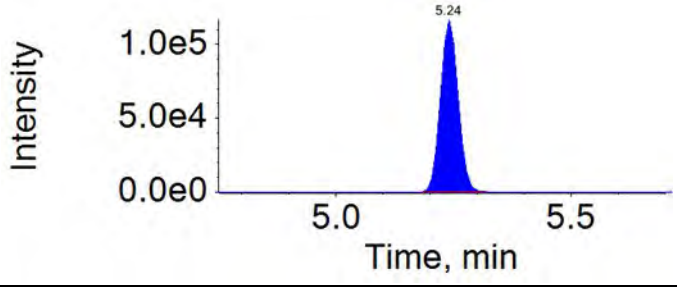
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



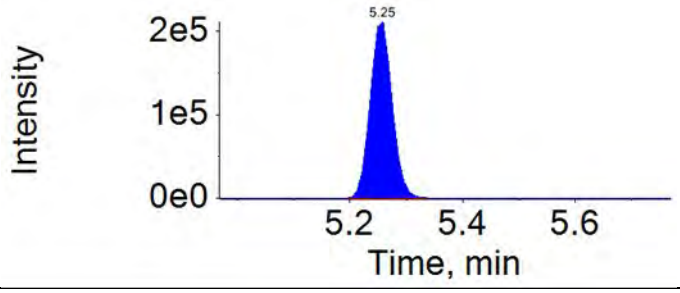


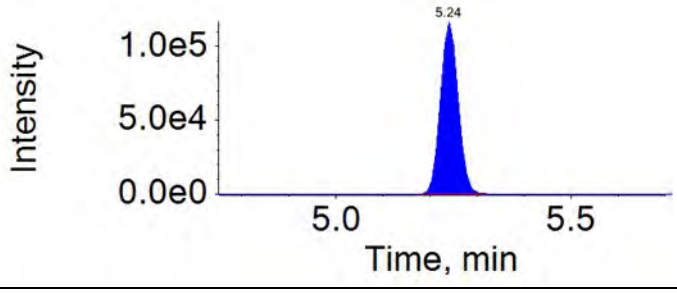
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



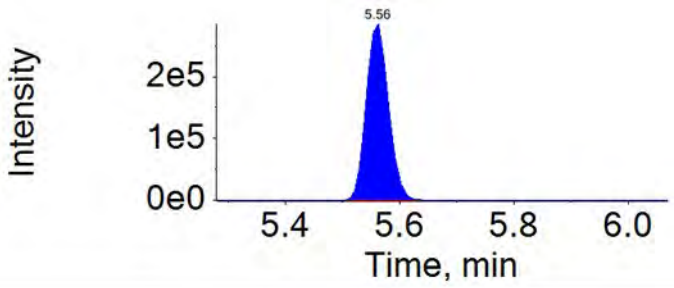


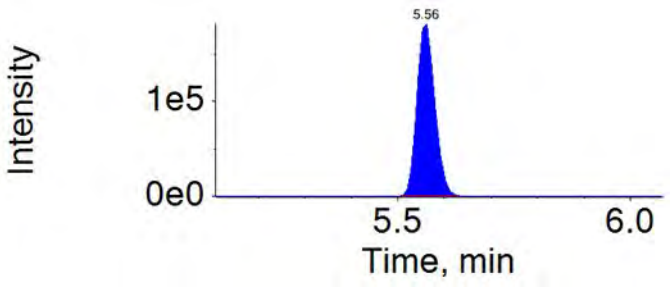
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





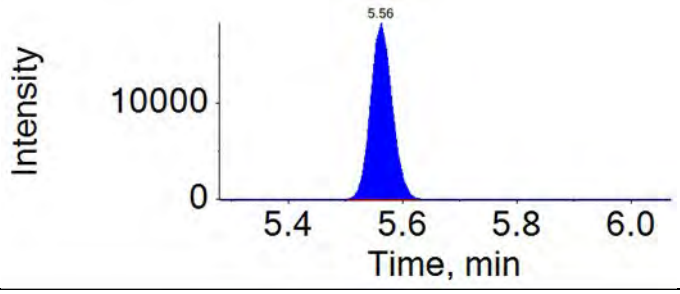
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

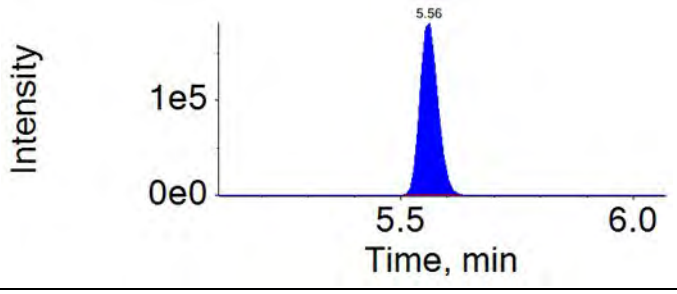




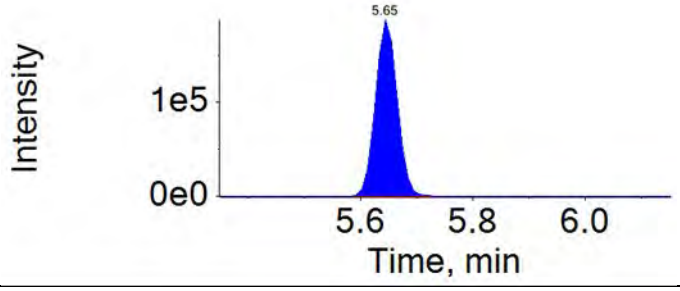
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

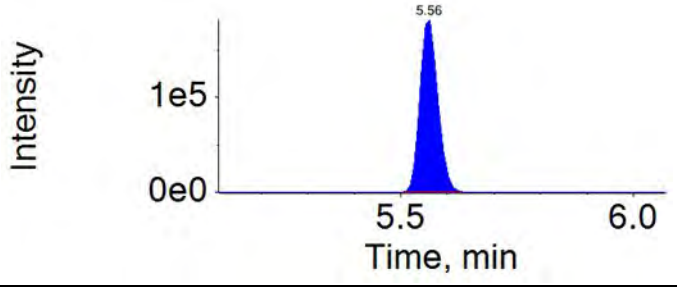
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



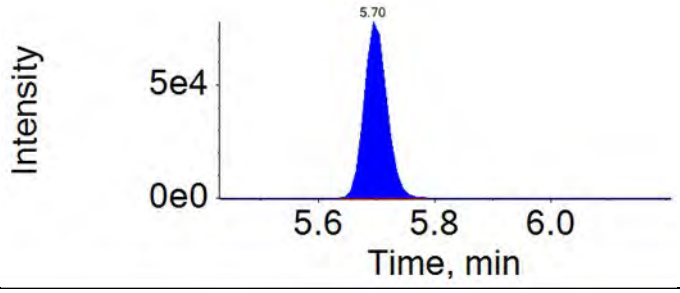


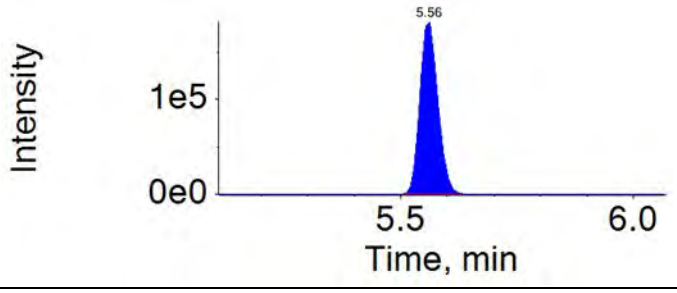
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



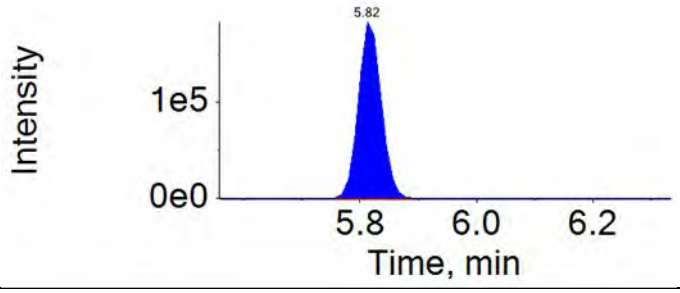


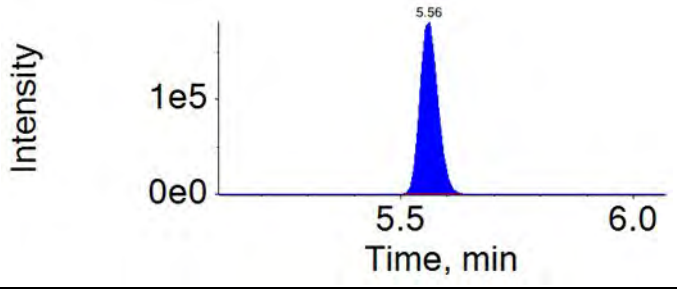
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





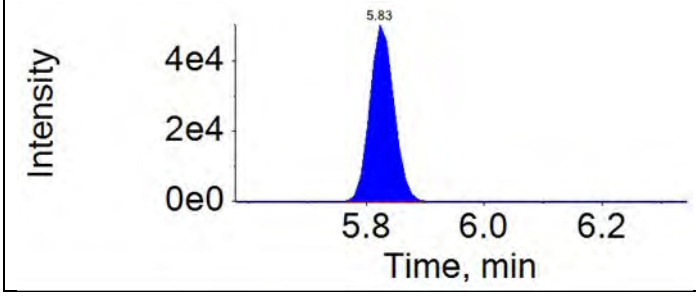
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

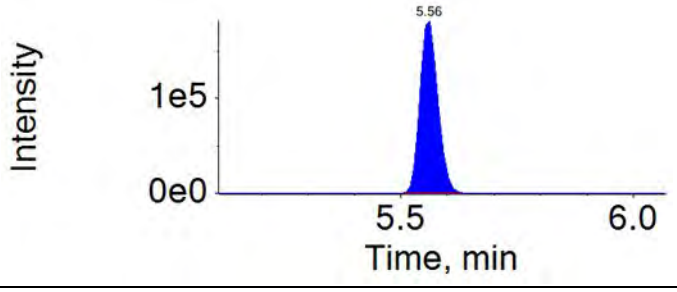




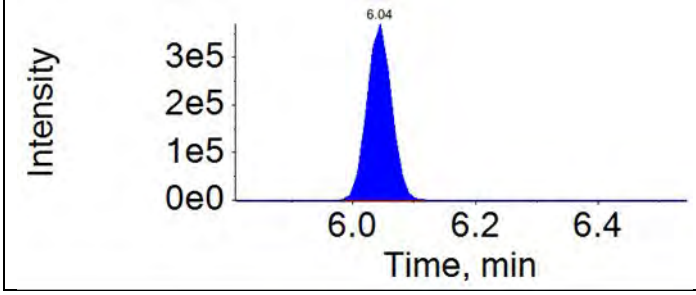
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

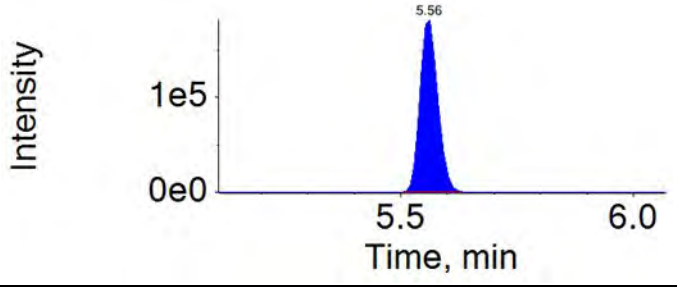
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



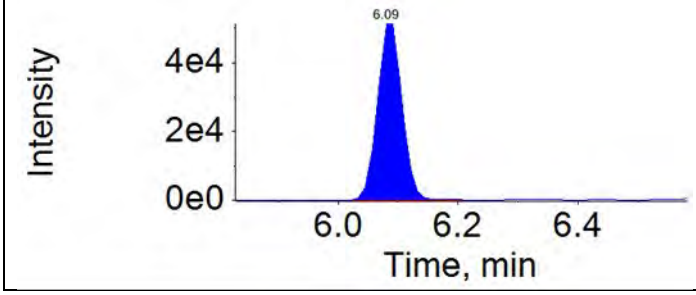


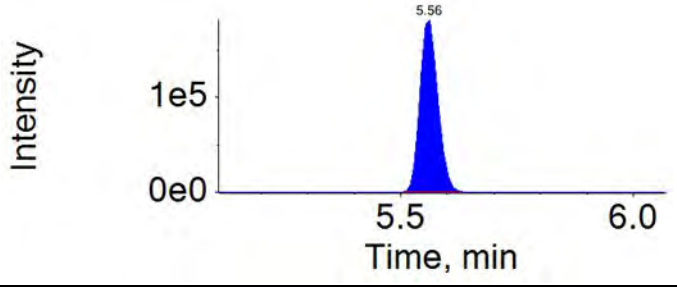
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



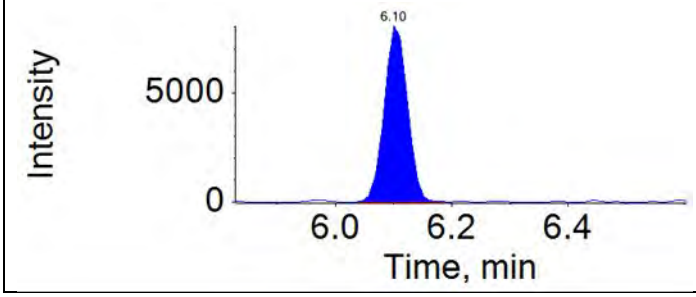


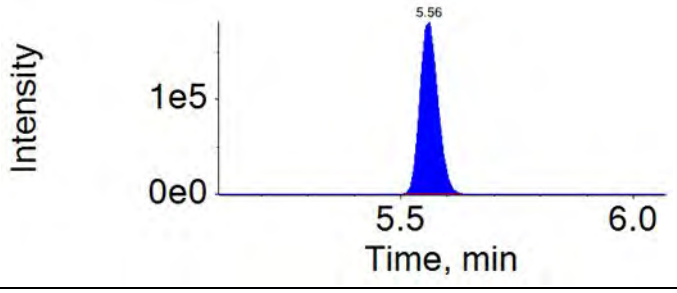
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





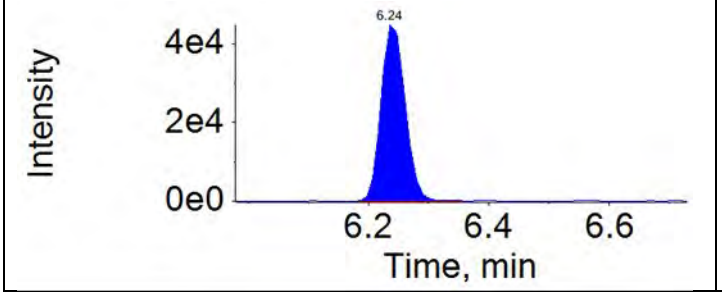
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

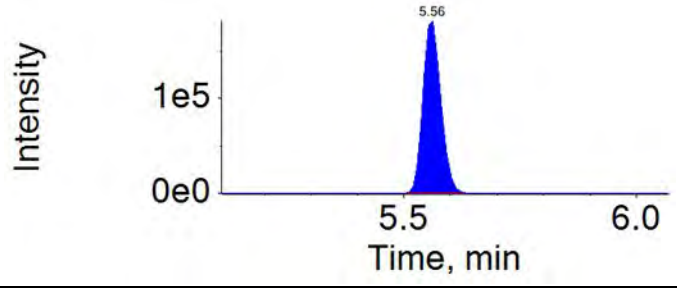




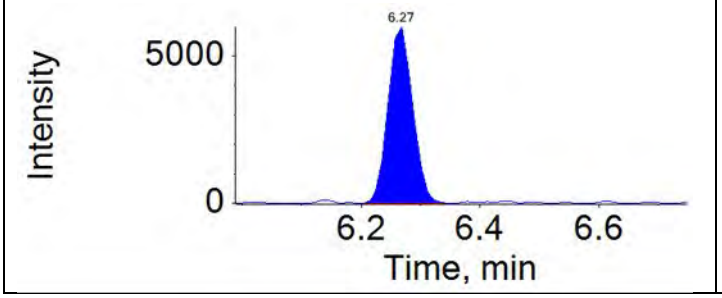
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

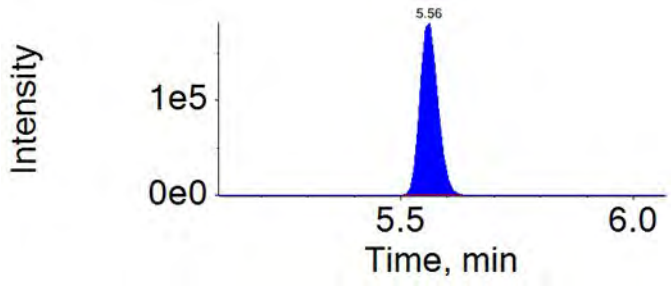
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



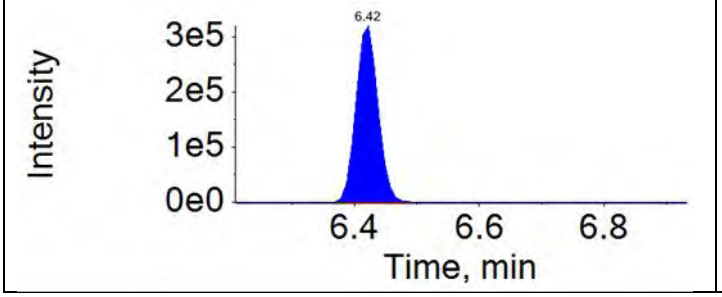


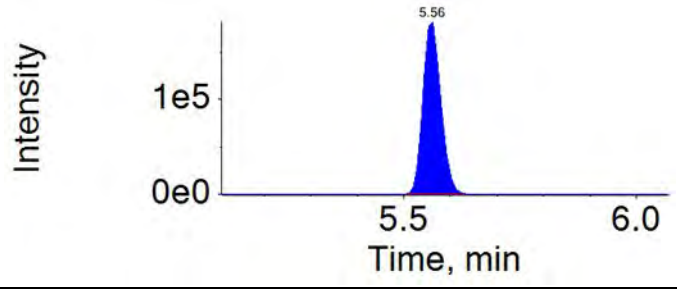
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

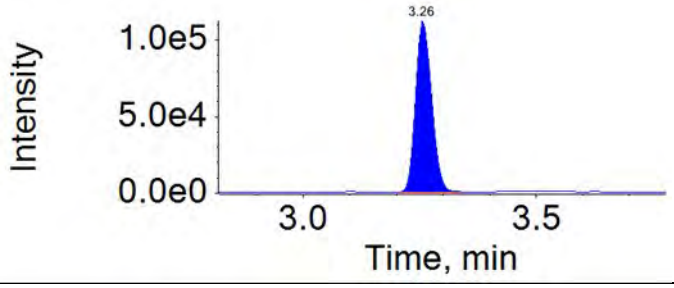
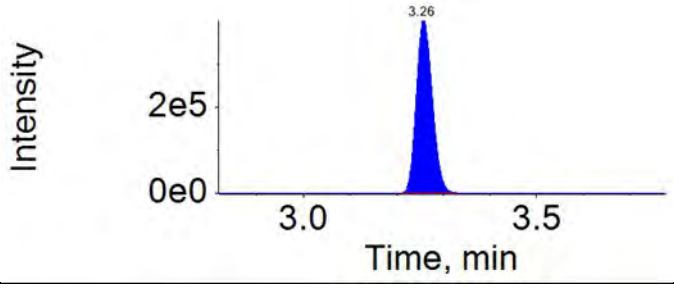


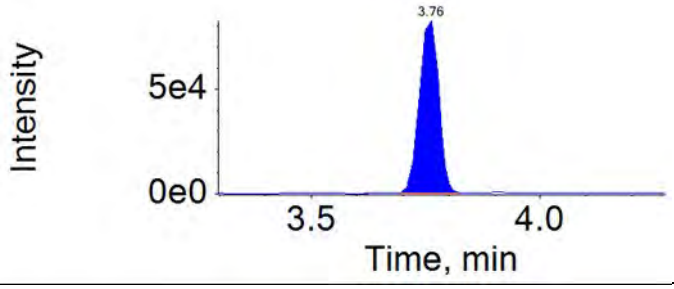
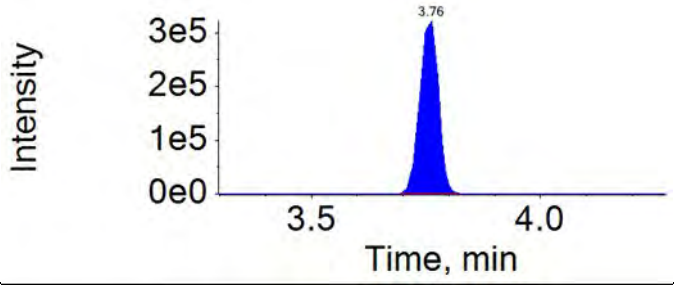


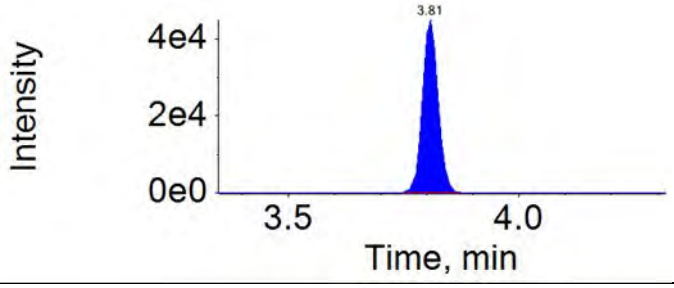
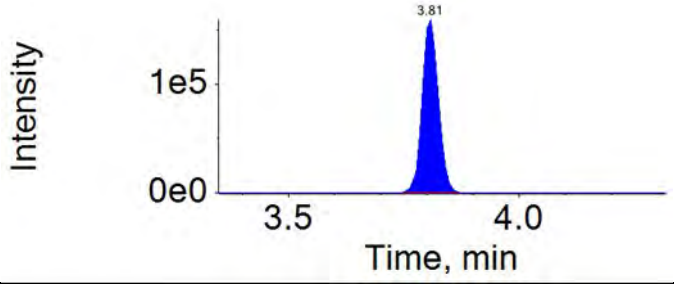
APPROVED
By MSM at 10:14 am, 12/20/18

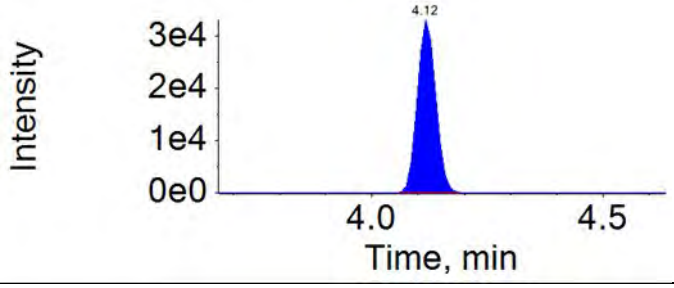
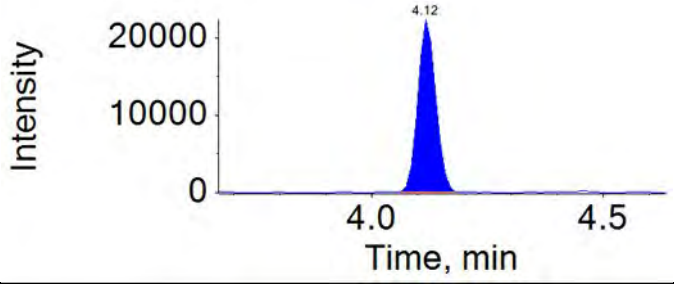
REVIEWED
By umar at 4:41 pm, 12/28/18

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

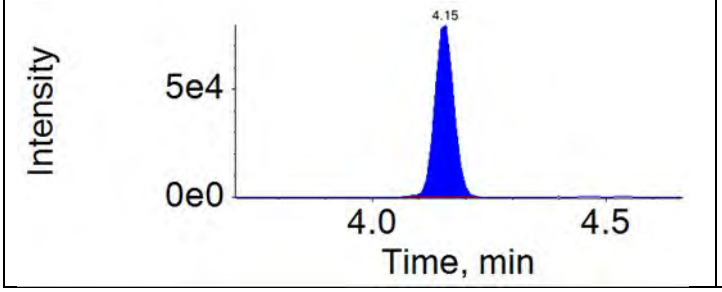
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

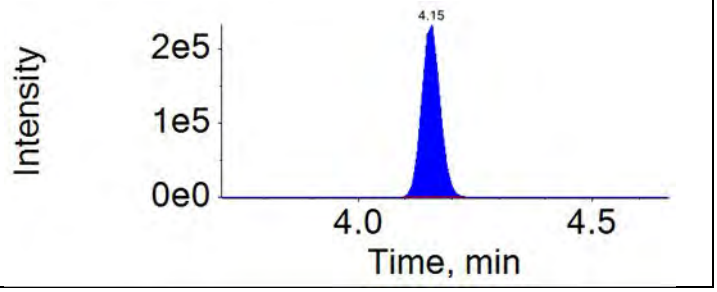
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

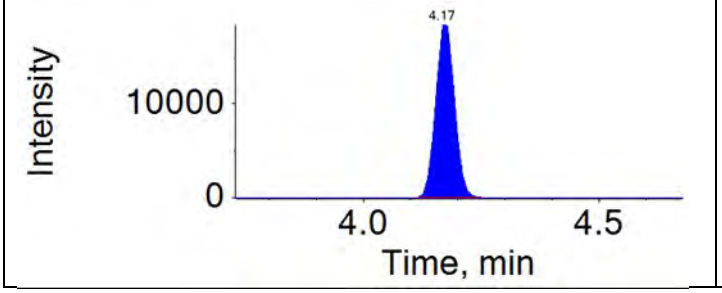
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

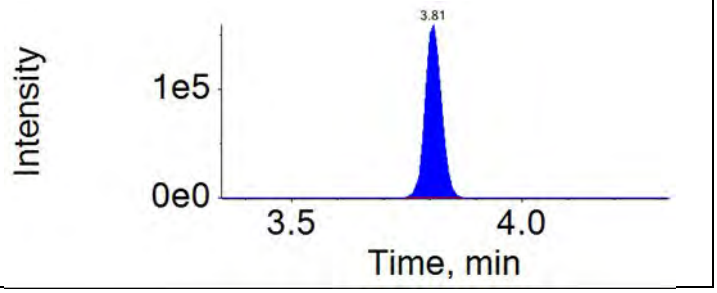
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



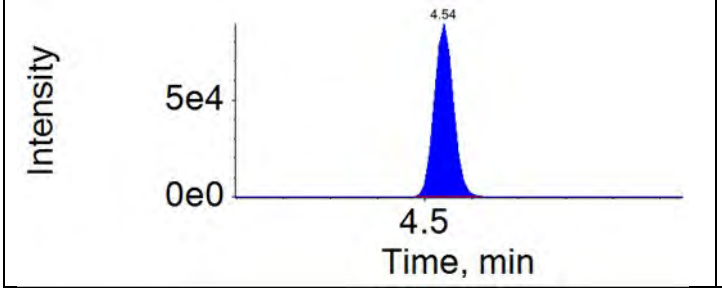


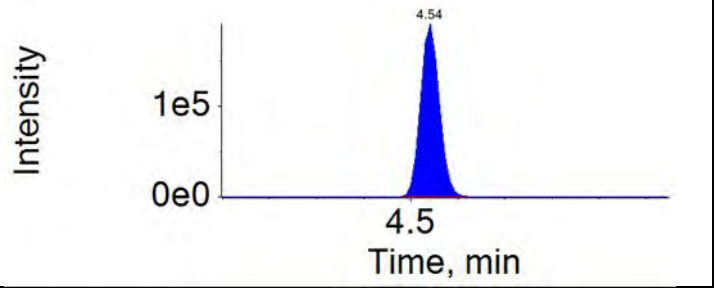
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



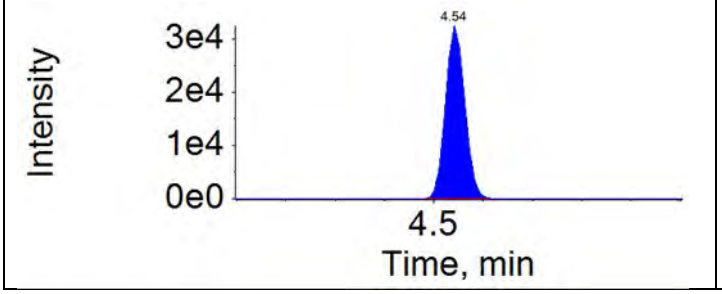


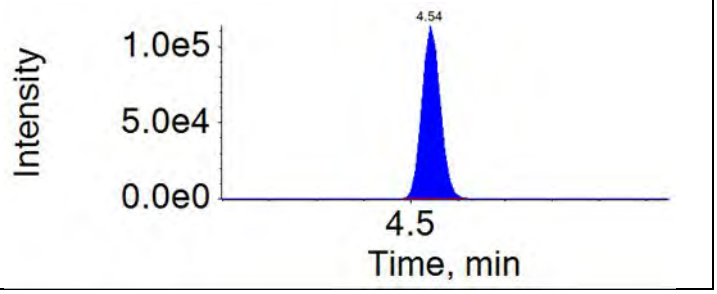
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0



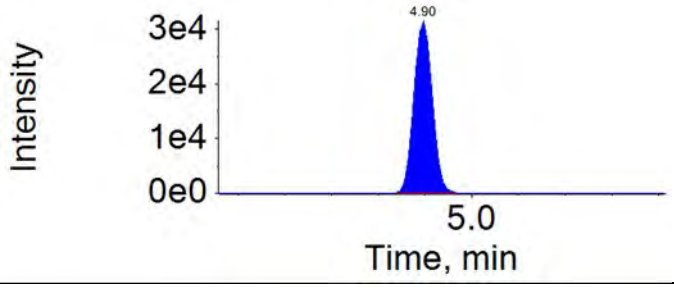
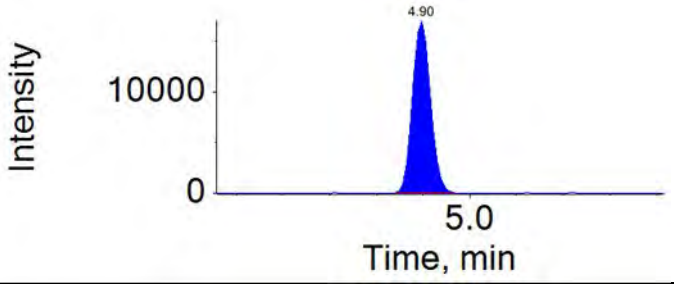


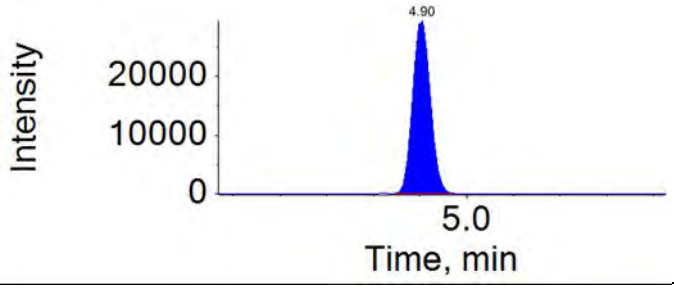
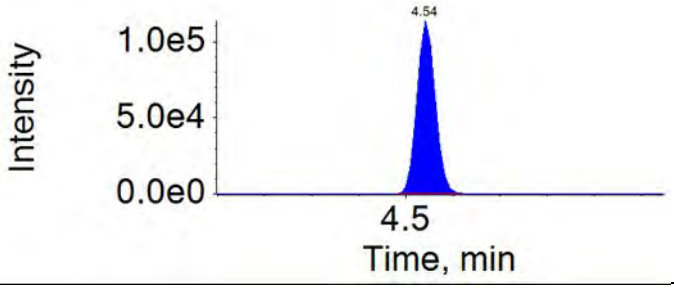
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0

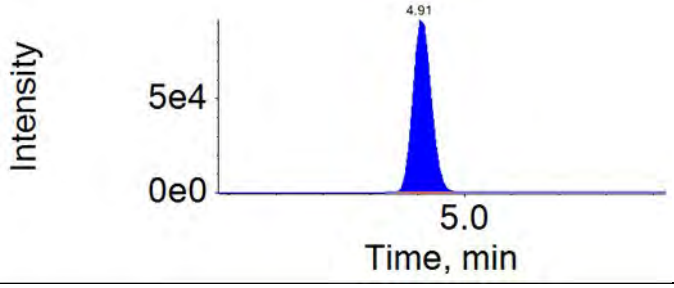
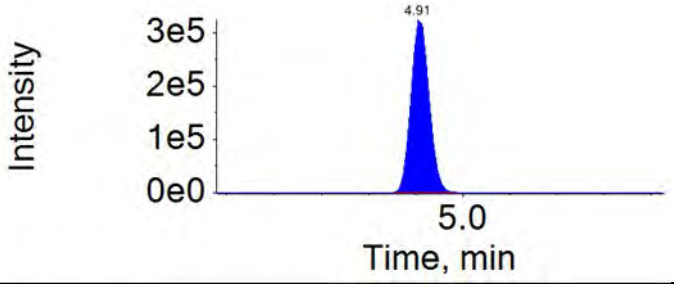


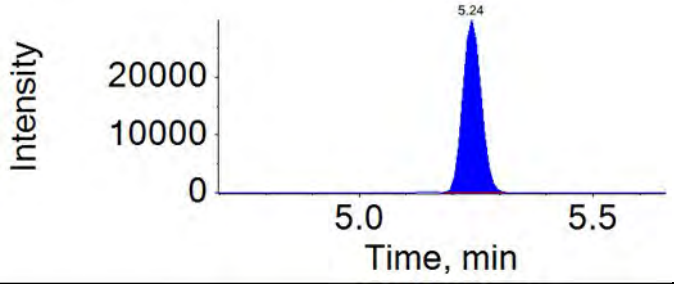
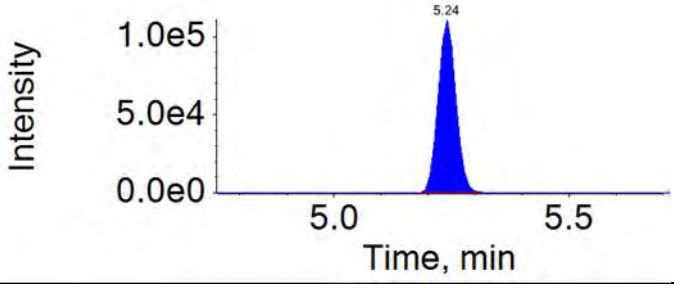


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

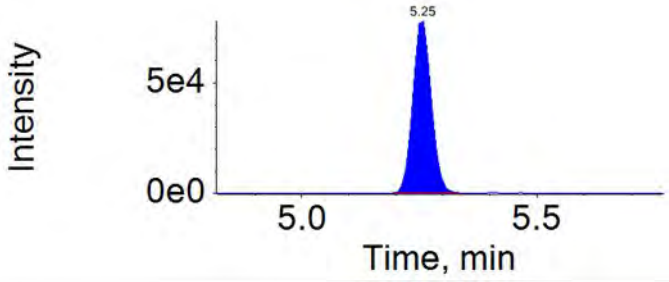
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

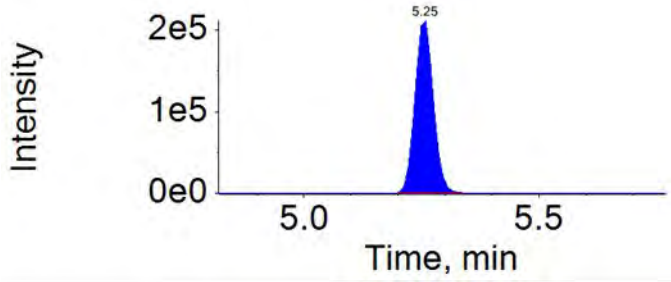
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

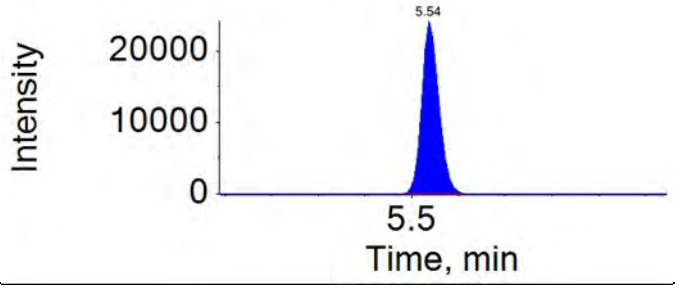
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

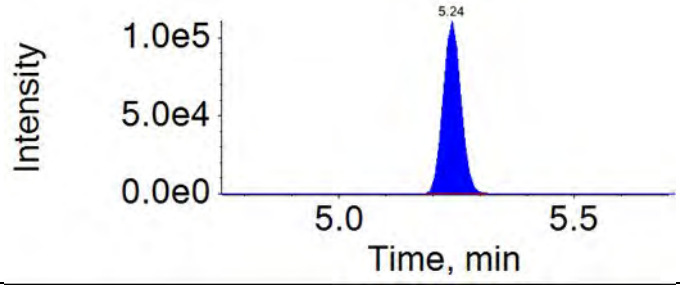
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



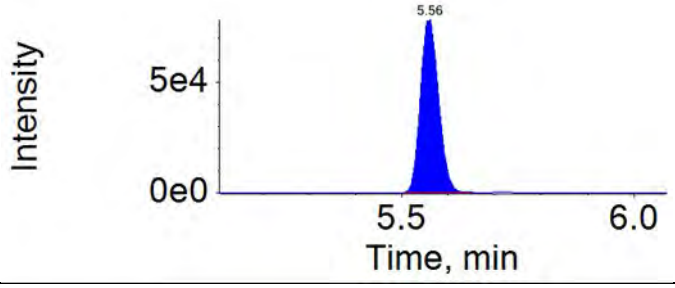


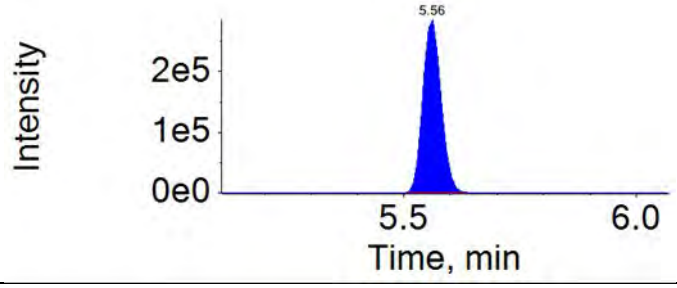
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



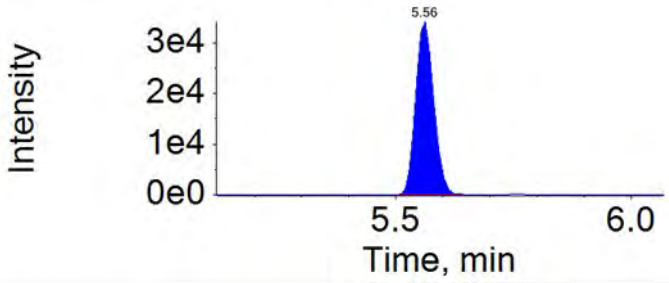


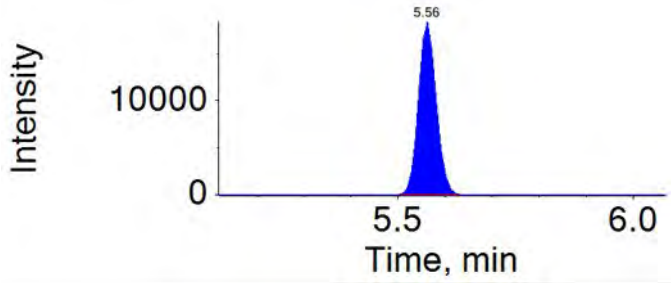
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



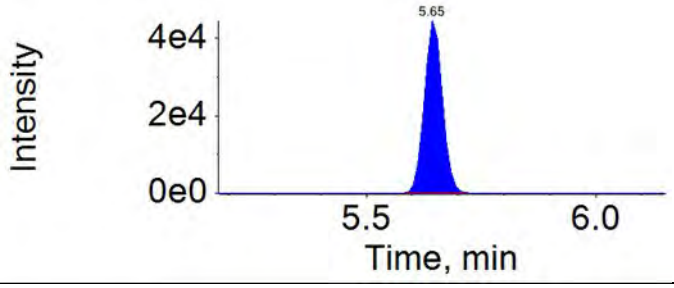
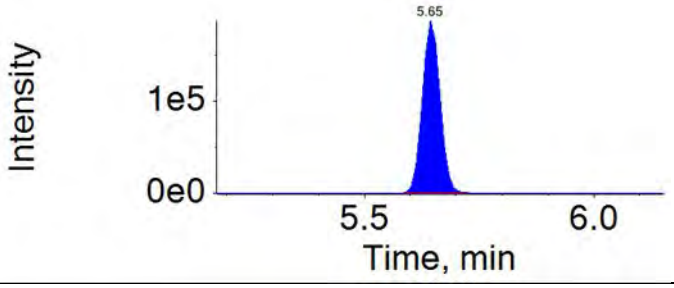


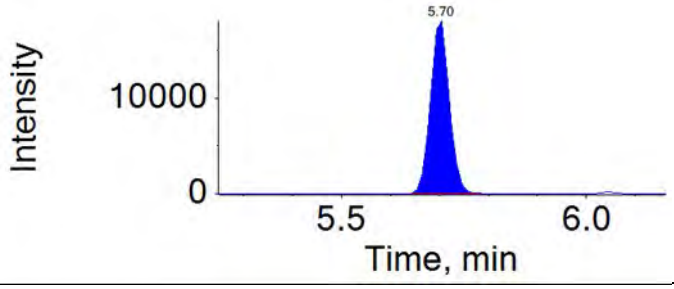
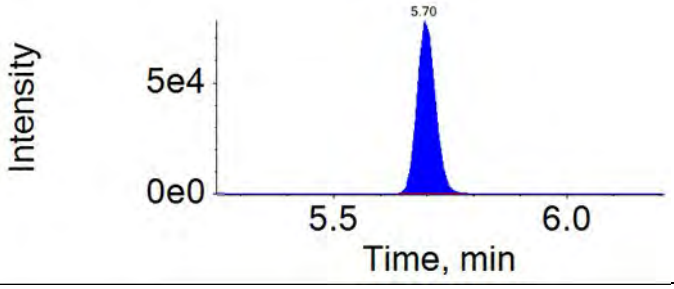
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

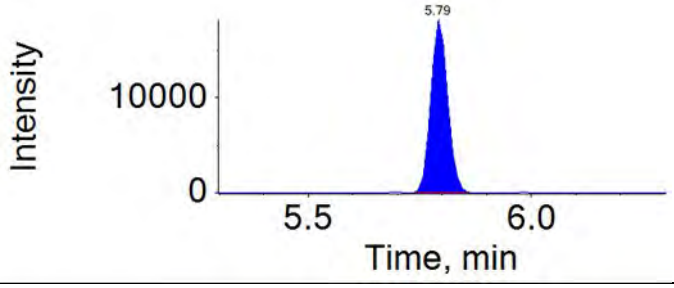
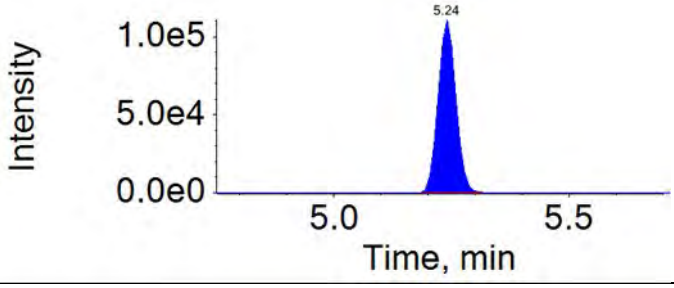


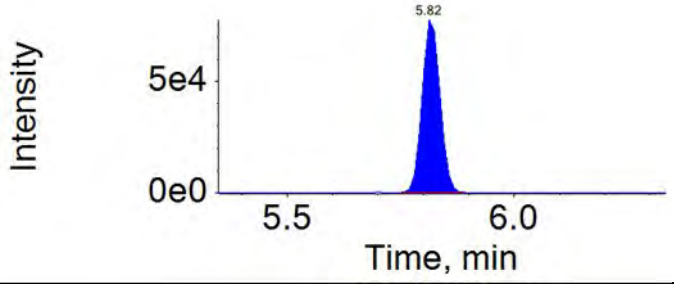
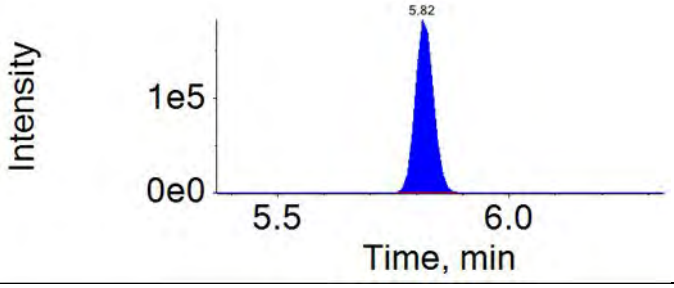


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

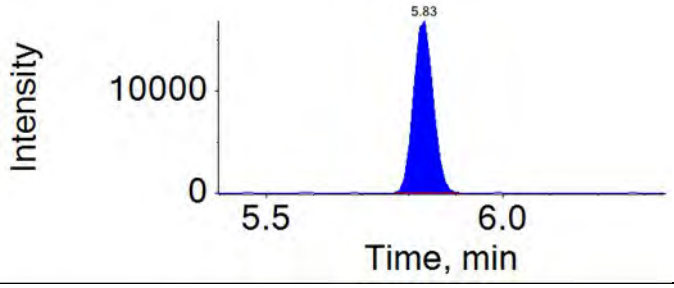
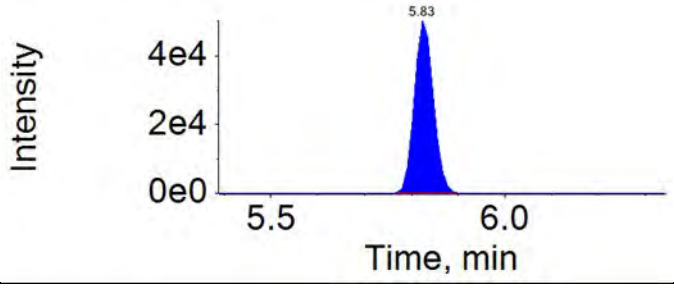
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

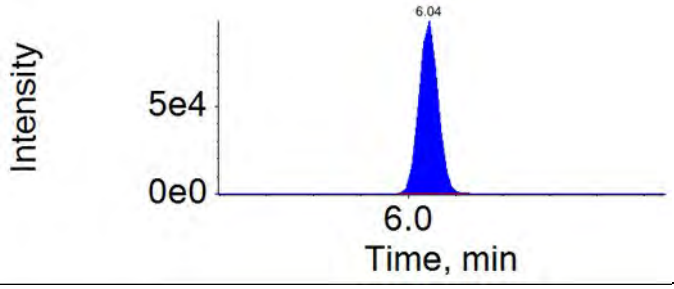
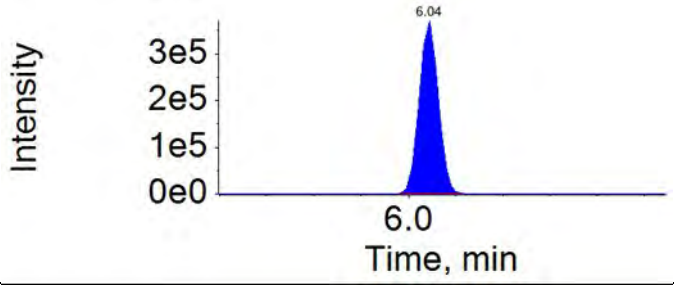
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

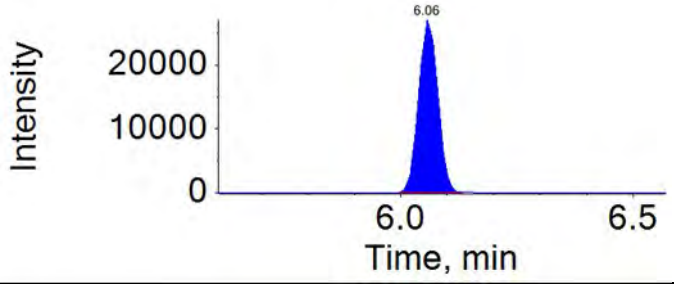
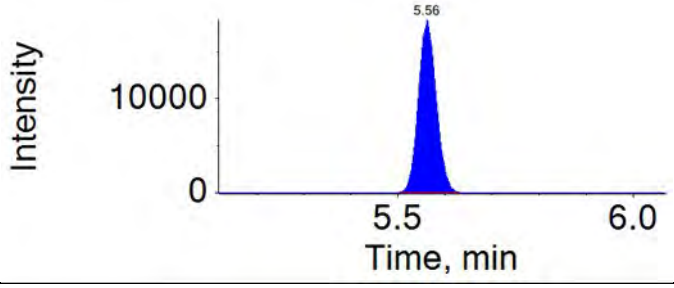
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

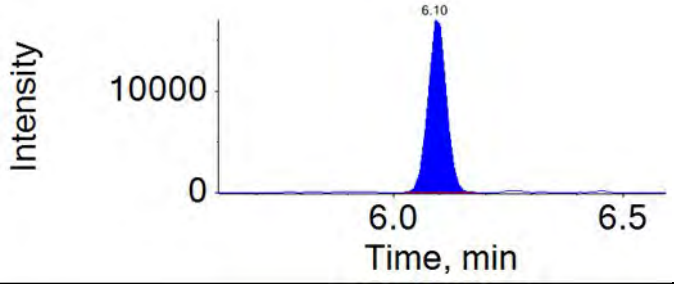
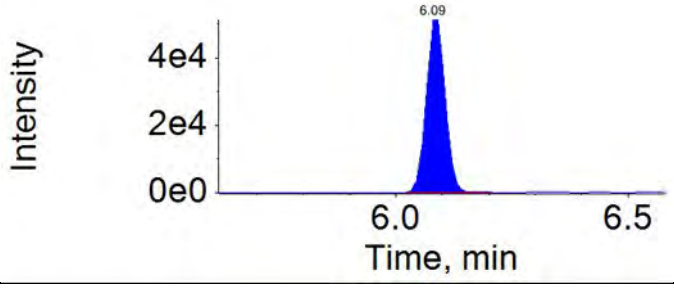
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

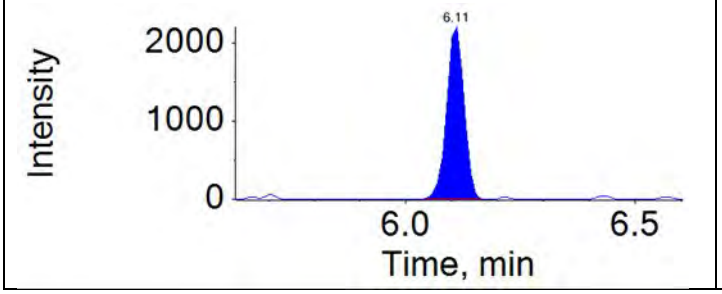
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

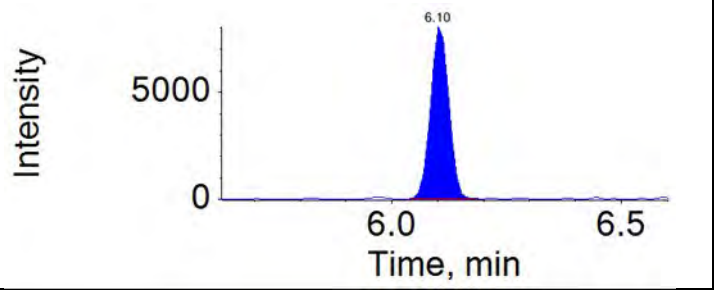
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

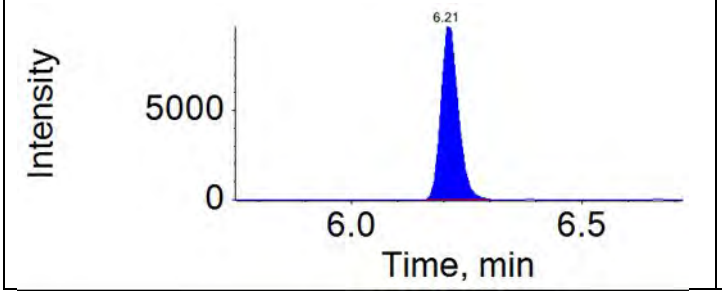
ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

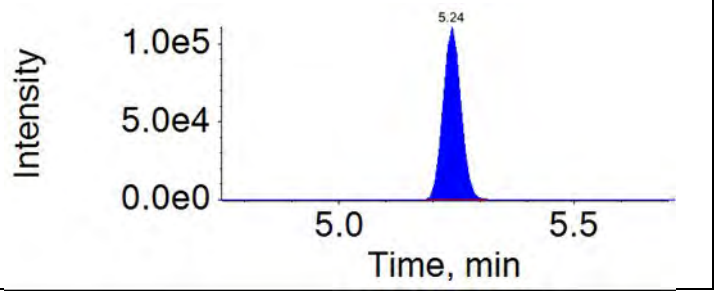
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



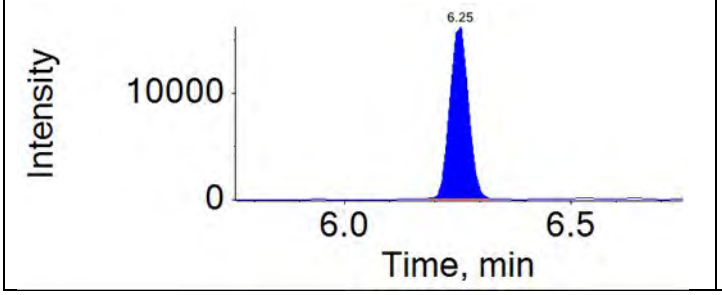


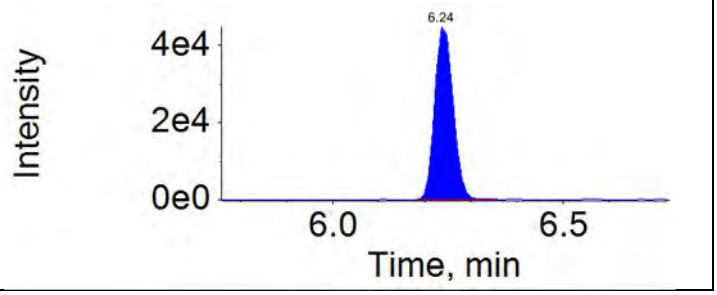
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



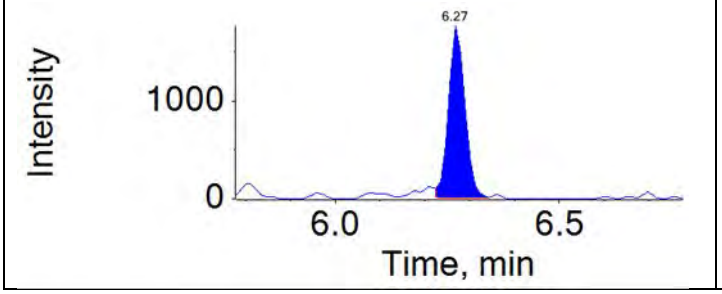


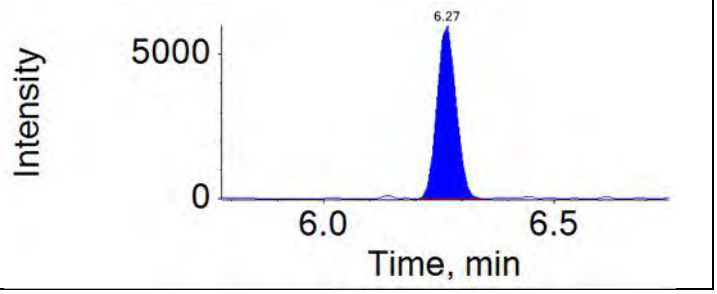
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



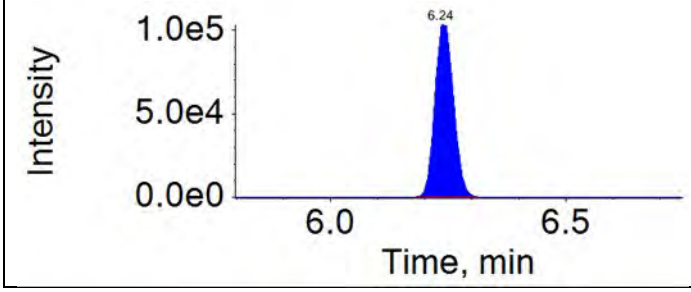
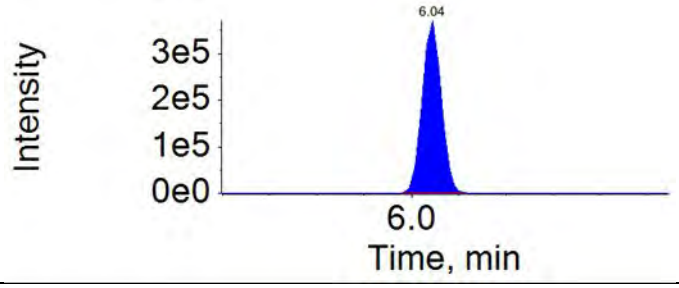


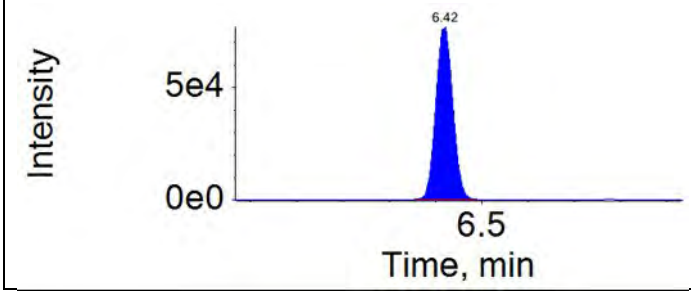
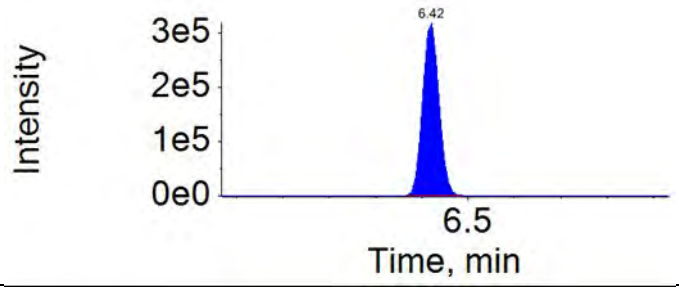
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

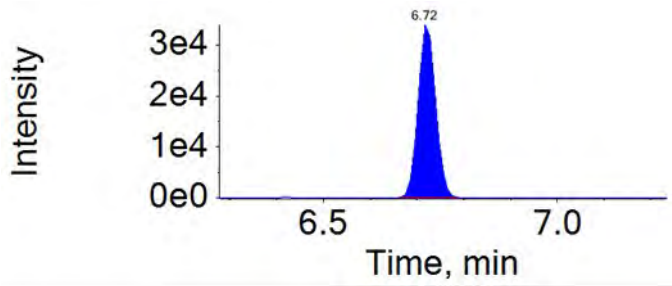
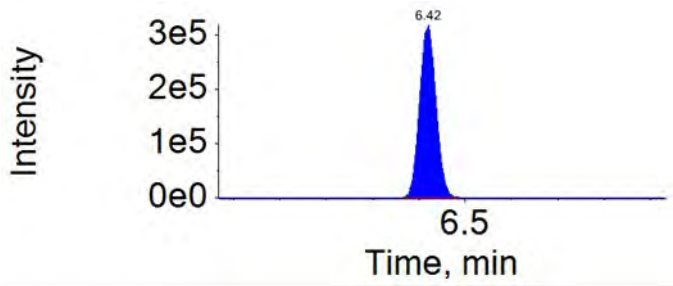


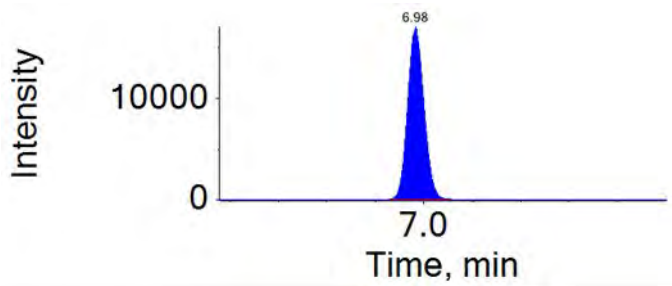
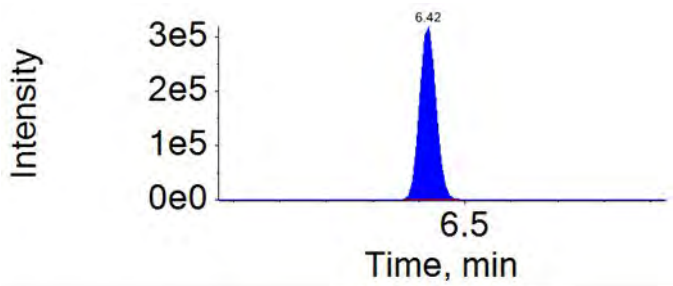


ICAL Name: 18DEC18DCAL **Result Table:** 18348012 12/20/2018 9:25:03 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

Ion Ratio Report

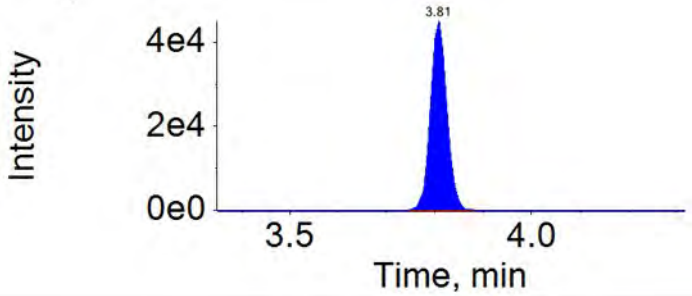
Sample Name: LCSDA **Instrument Name:** LM27631 **File Name:** 18DEC19D-25.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	106228.8	A	N/A	1.0000			
PFBS_2	3.81	1.00	36478.0	A	N/A	0.3434	-7	50	
4:2-FTS	4.12	1.00	91516.6	A	N/A	1.0000			
4:2-FTS_2	4.12	1.00	57926.2	A	N/A	0.6330	3	50	
PFHxA	4.15	1.00	227556.9	A	N/A	1.0000			
PFHxA_2	4.16	1.00	2478.2	A	N/A	0.0109	-5	50	
PFPeS	4.17	1.10	51446.3	A	N/A	1.0000			
PFPeS_2	4.17	1.10	26517.8	A	N/A	0.5154	-2	50	
PFHpA	4.54	1.00	249304.0	A	N/A	1.0000			
PFHpA_2	4.54	1.00	12280.2	A	N/A	0.0493	-10	50	
PFHxS	4.54	1.00	88268.9	A	N/A	1.0000			
PFHxS_2	4.54	1.00	29814.6	A	N/A	0.3378	1	50	
6:2-FTS	4.90	1.00	86104.8	A	N/A	1.0000			
6:2-FTS_2	4.89	1.00	57140.1	A	N/A	0.6636	5	50	
PFHpS	4.90	1.08	77849.4	A	N/A	1.0000			
PFHpS_2	4.90	1.08	31999.6	A	N/A	0.4110	0	50	
PFOA	4.91	1.00	246327.0	A	N/A	1.0000			
PFOA_2	4.91	1.00	13644.1	A	N/A	0.0554	-6	50	
PFOS	5.24	1.00	81680.4	A	N/A	1.0000			
PFOS_2	5.24	1.00	26351.8	A	N/A	0.3226	8	50	
PFNA	5.25	1.00	213170.2	A	N/A	1.0000			
PFNA_2	5.26	1.00	4953.8	A	N/A	0.0232	8	50	
PFNS	5.54	1.06	60937.8	A	N/A	1.0000			
PFNS_2	5.54	1.06	27238.2	A	N/A	0.4470	-3	50	
PFDA	5.56	1.00	213640.3	A	N/A	1.0000			
PFDA_2	5.56	1.00	1836.6	A	N/A	0.0086	35	50	
8:2-FTS	5.56	1.00	91335.8	A	N/A	1.0000			
8:2-FTS_2	5.56	1.00	55742.5	A	N/A	0.6103	4	50	
NMeFOSAA	5.70	1.00	48318.4	A	N/A	1.0000			
NMeFOSAA_2	5.70	1.00	12123.2	A	N/A	0.2509	-4	50	
PFDS	5.79	1.11	47460.0	A	N/A	1.0000			
PFDS_2	5.79	1.11	24011.5	A	N/A	0.5059	2	50	
PFUnDA	5.82	1.00	212329.6	A	N/A	1.0000			
PFUnDA_2	5.81	1.00	849.7	A	N/A	0.0040	13	50	
NEtFOSAA	5.83	1.00	49021.4	A	N/A	1.0000			
NEtFOSAA_2	5.83	1.00	32338.9	A	N/A	0.6597	-4	50	
PFDoDA	6.04	1.00	277657.8	A	N/A	1.0000			
PFDoDA_2	6.04	1.00	2103.1	A	N/A	0.0076	-44	50	
10:2-FTS	6.06	1.09	77841.5	A	N/A	1.0000			
10:2-FTS_2	6.06	1.09	58357.9	A	N/A	0.7497	7	50	
PFTrDA	6.24	1.03	287810.1	A	N/A	1.0000			
PFTrDA_2	6.24	1.03	2518.8	A	N/A	0.0088	-6	50	
PFTeDA	6.42	1.00	195870.7	A	N/A	1.0000			
PFTeDA_2	6.42	1.00	1327.8	A	N/A	0.0068	16	50	
PFHxDA	6.72	1.05	88301.3	A	N/A	1.0000			
PFHxDA_2	6.72	1.05	4567.4	A	N/A	0.0517	-21	50	
PFODA	6.98	1.09	39754.2	A	N/A	1.0000			
PFODA_2	6.98	1.09	1094.3	A	N/A	0.0275	1	50	

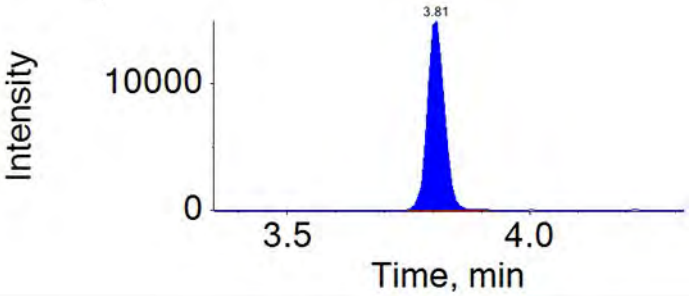
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

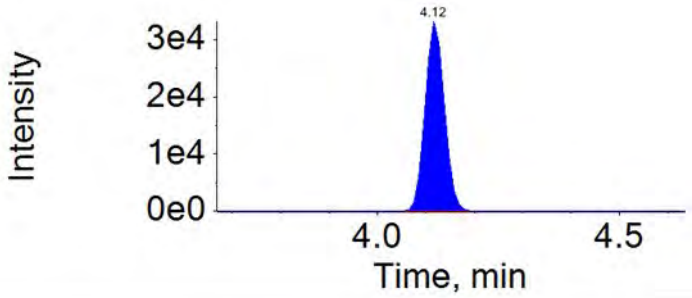
Component: PFBS
Primary Mass: 299.0 / 80.0



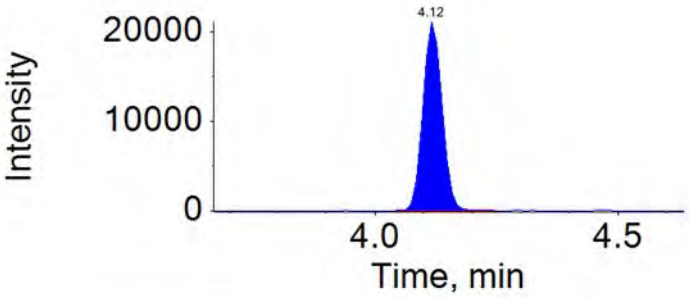
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



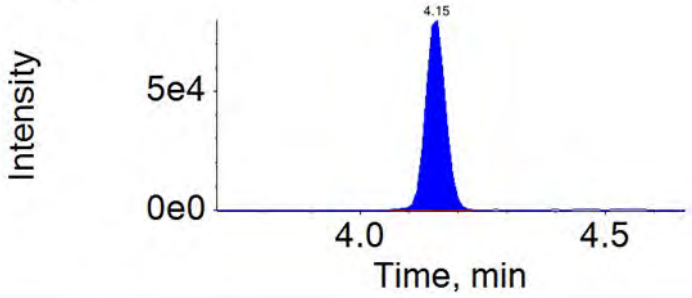
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



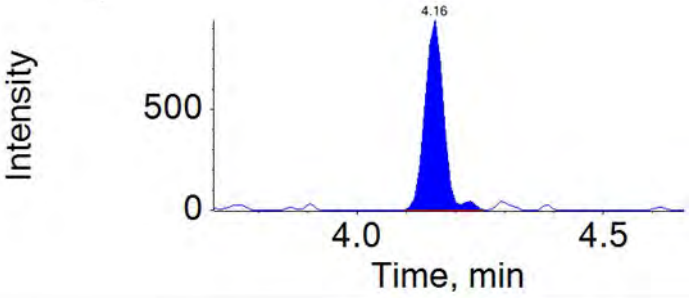
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



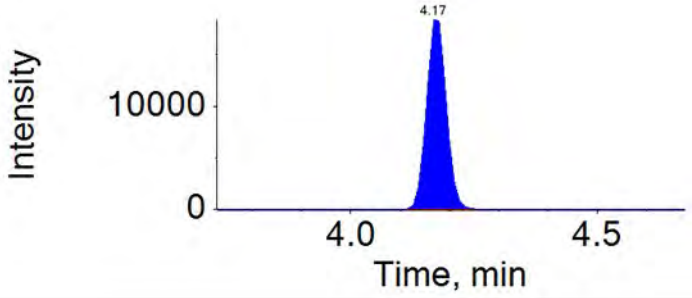
Component: PFHxA
Primary Mass: 313.0 / 269.0



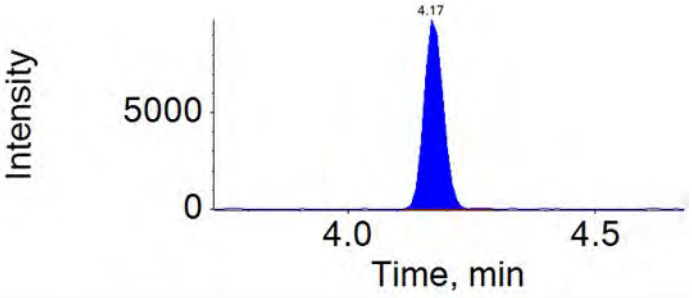
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



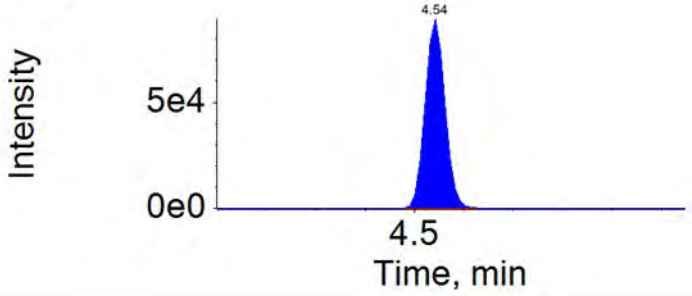
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



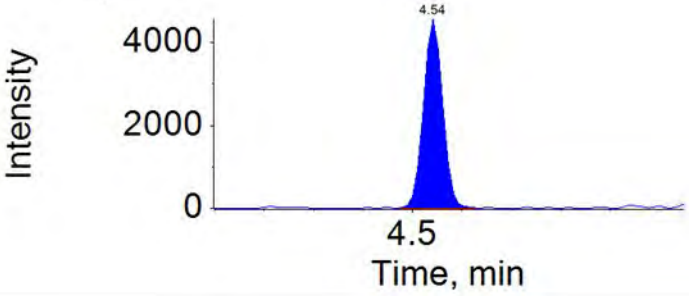
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

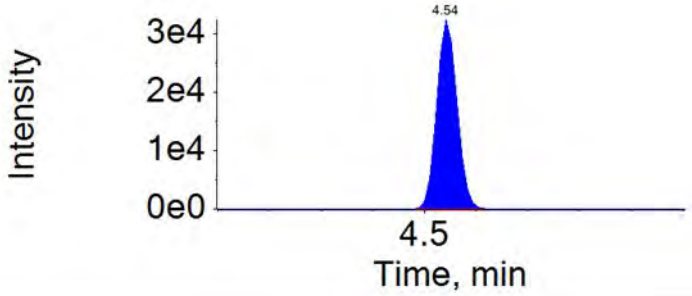
Component: PFHpA
Primary Mass: 363.0 / 319.0



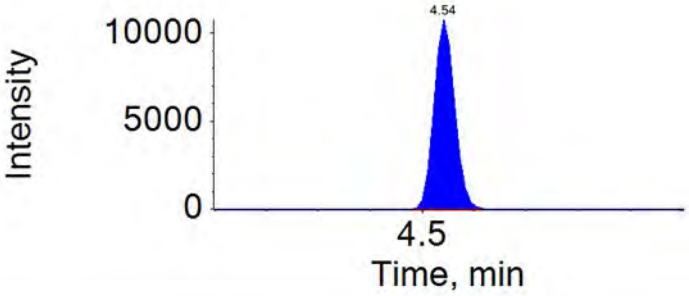
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



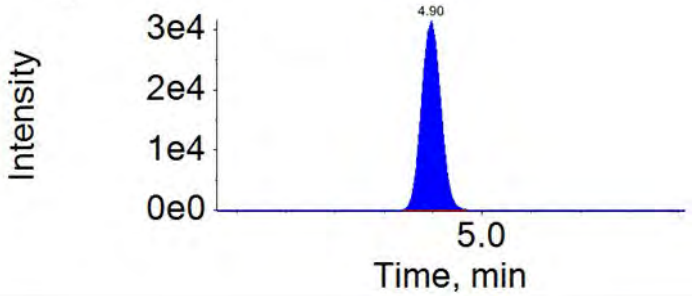
Component: PFHxS
Primary Mass: 399.0 / 80.0



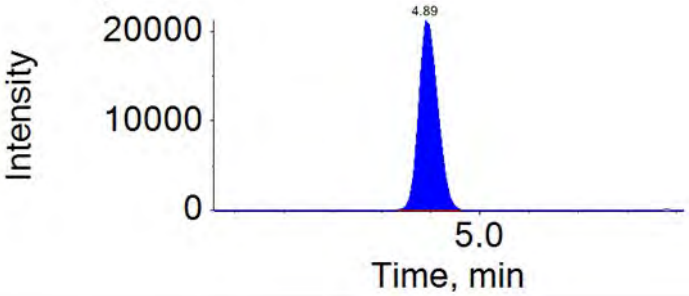
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



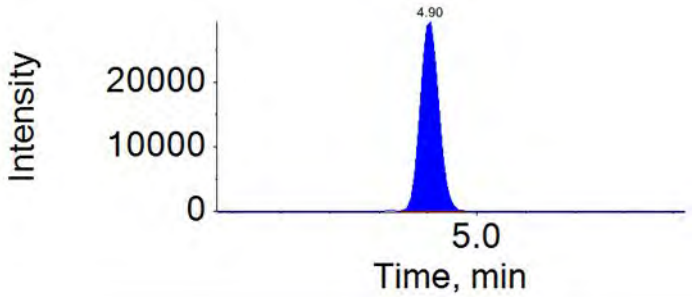
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



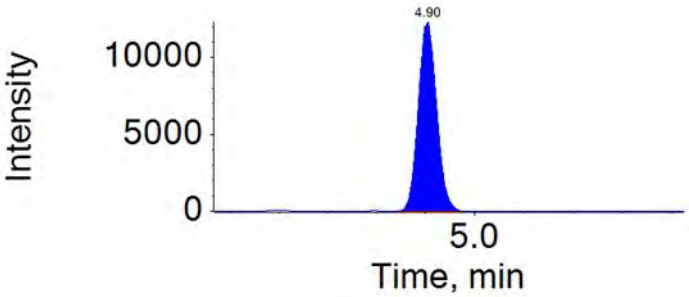
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



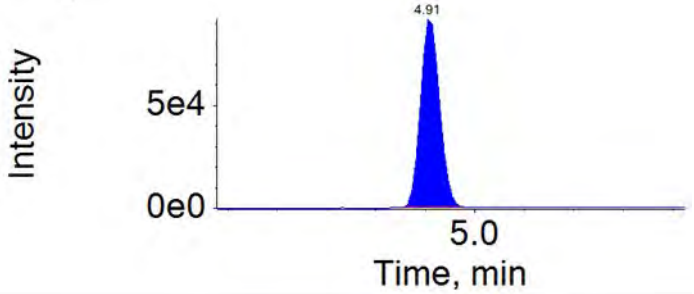
Component: PFHpS
Primary Mass: 449.0 / 80.0



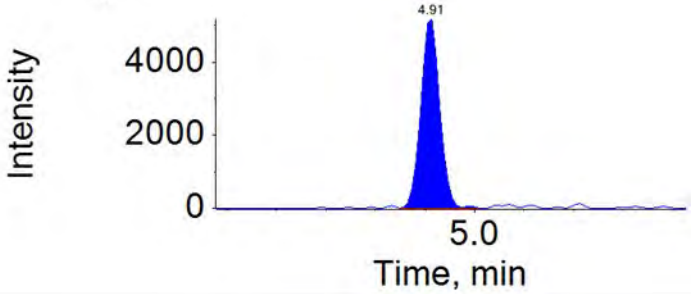
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



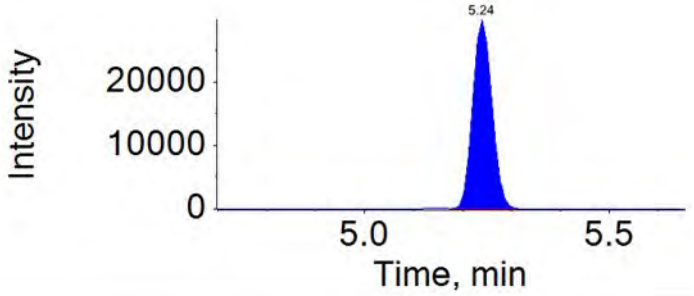
Component: PFOA
Primary Mass: 413.0 / 369.0



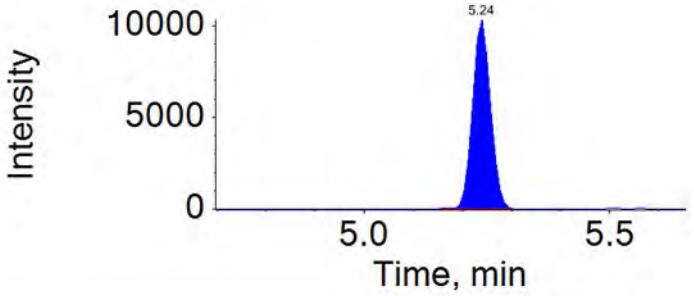
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



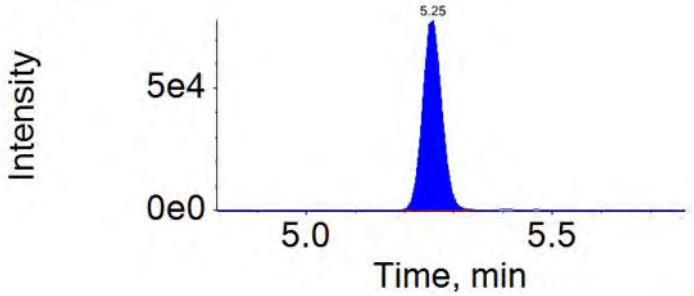
Component: PFOS
Primary Mass: 499.0 / 80.0



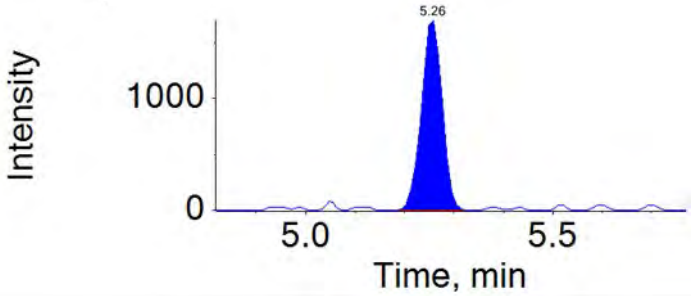
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



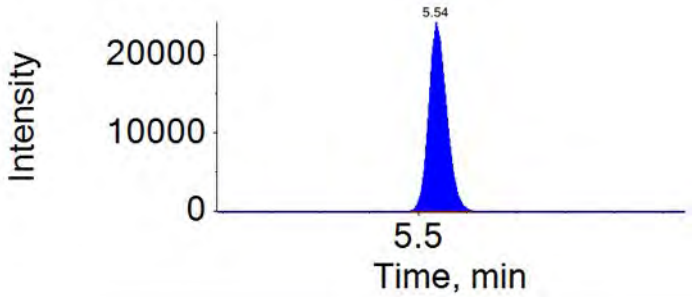
Component: PFNA
Primary Mass: 463.0 / 419.0



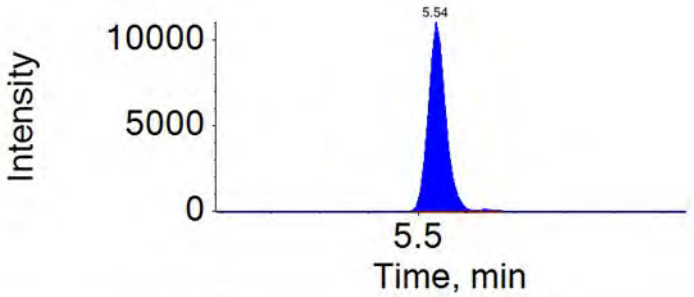
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



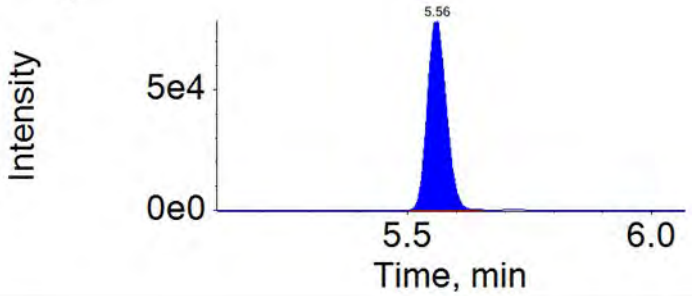
Component: PFNS
Primary Mass: 549.0 / 80.0



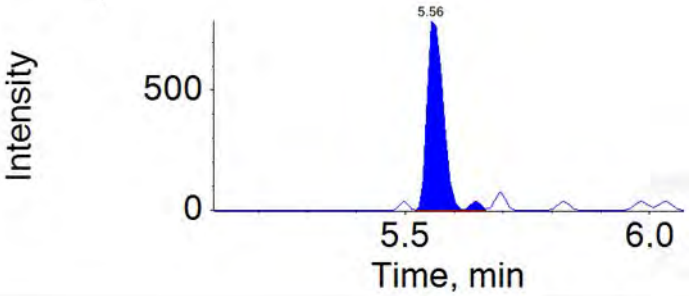
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



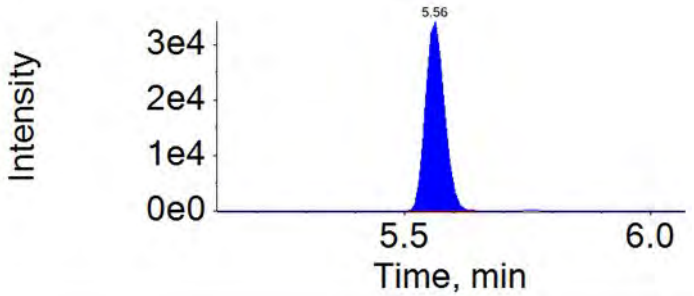
Component: PFDA
Primary Mass: 513.0 / 469.0



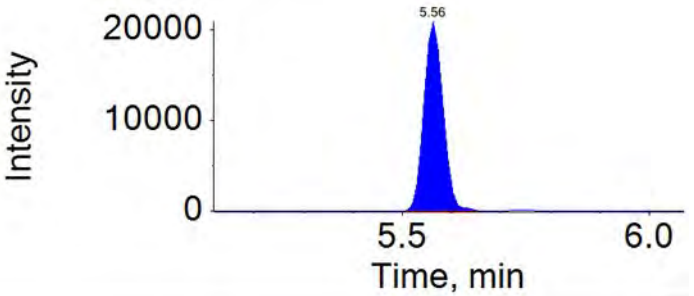
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



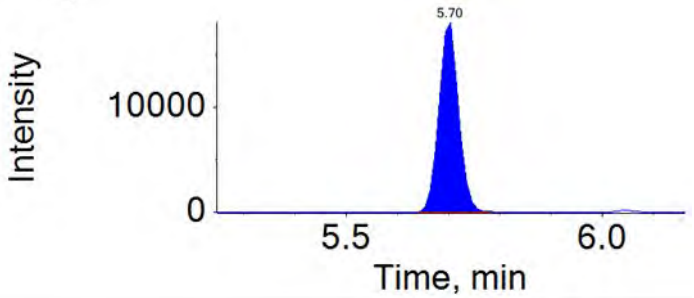
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



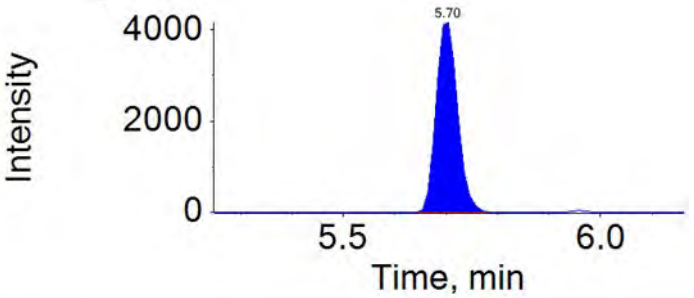
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



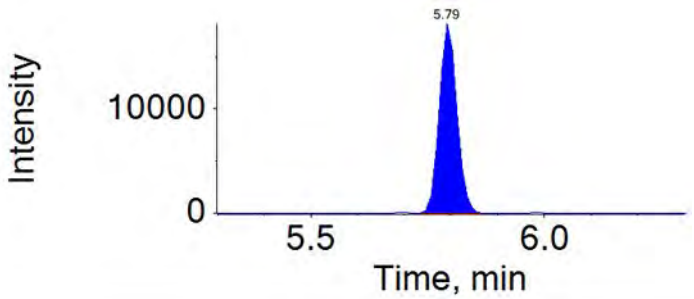
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



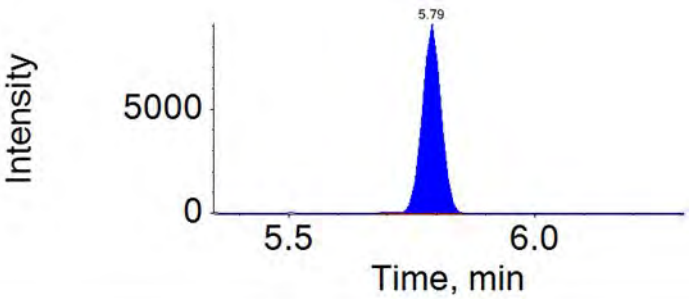
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



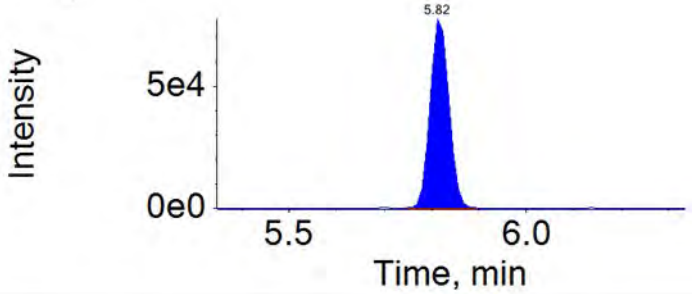
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



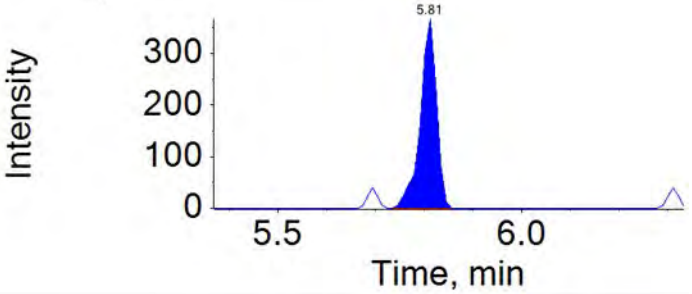
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

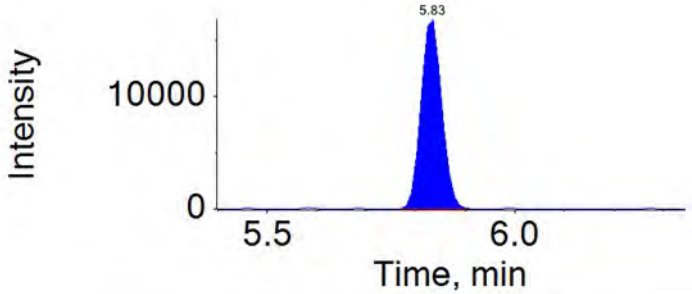
Component: PFUnDA
Primary Mass: 563.0 / 519.0



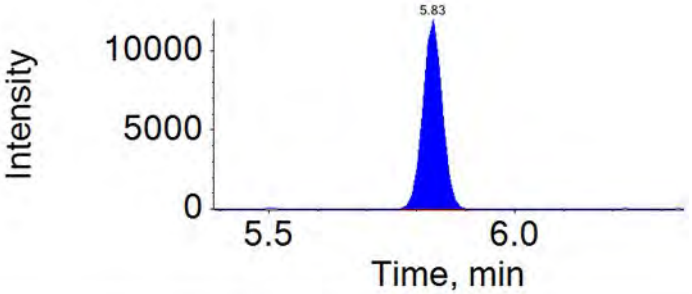
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



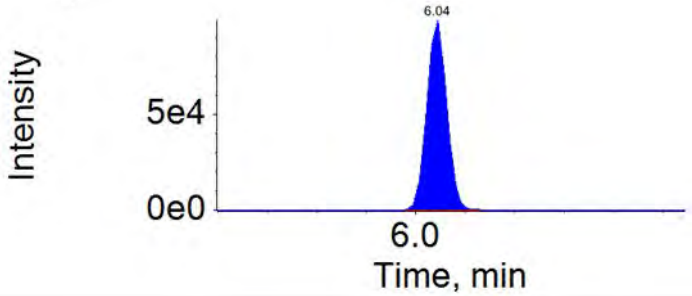
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



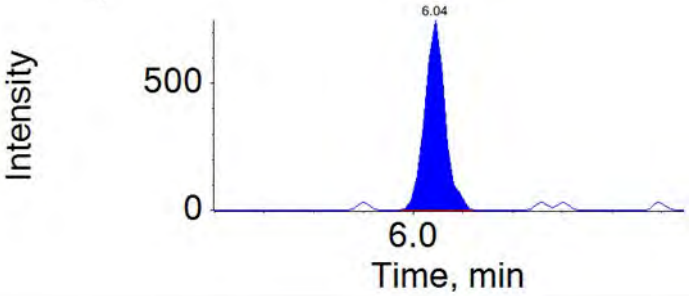
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



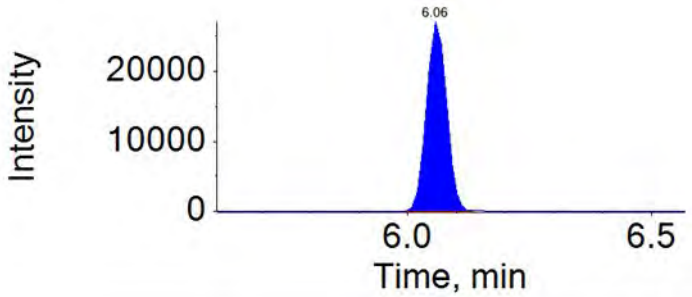
Component: PFDoDA
Primary Mass: 613.0 / 569.0



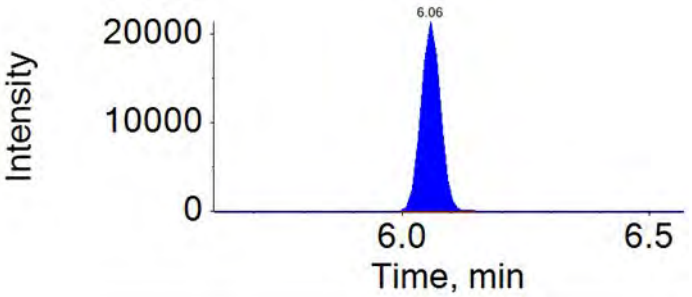
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



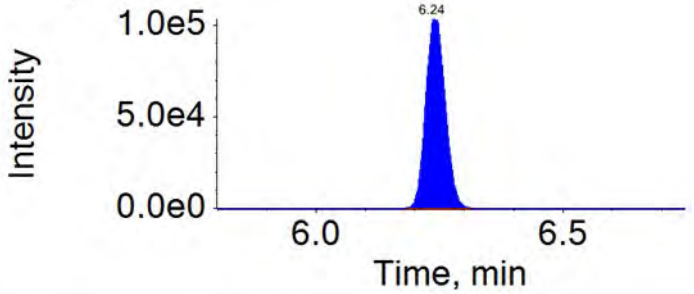
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



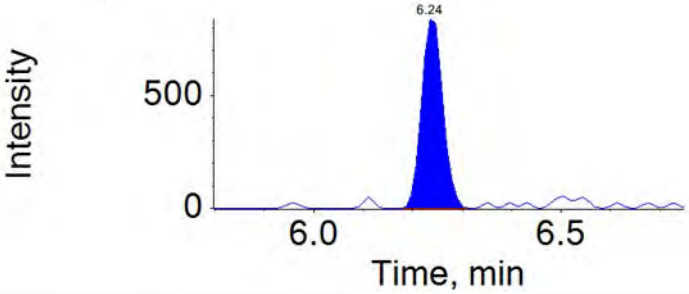
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



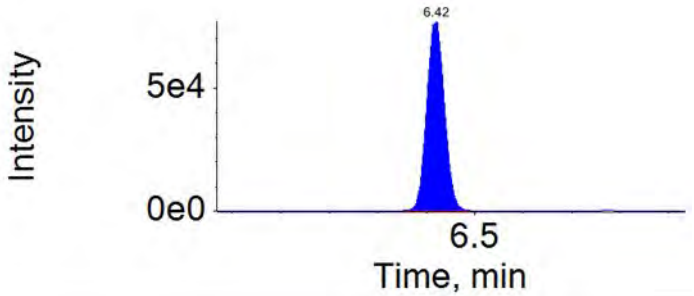
Component: PFTrDA
Primary Mass: 663.0 / 619.0



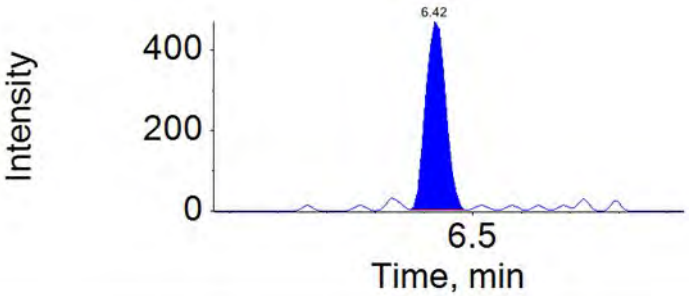
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



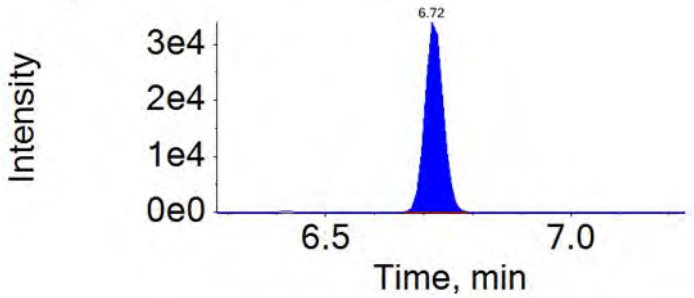
Component: PFTeDA
Primary Mass: 713.0 / 669.0



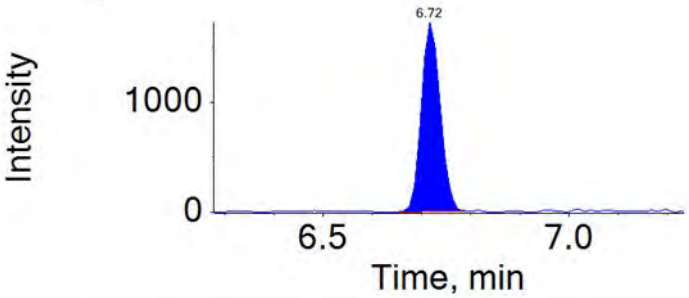
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



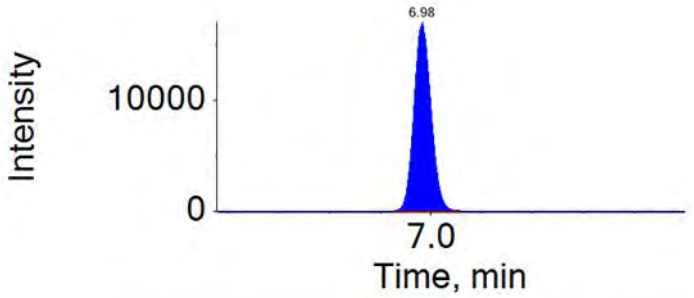
Component: PFHxDA
Primary Mass: 813.0 / 769.0



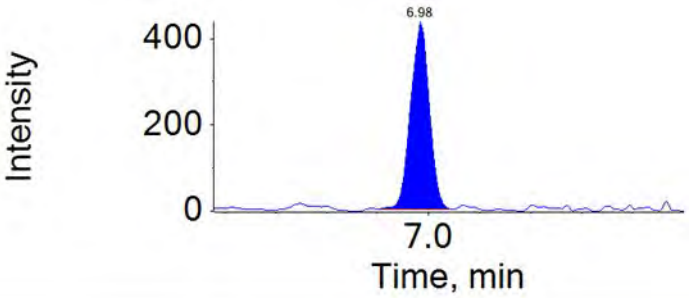
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



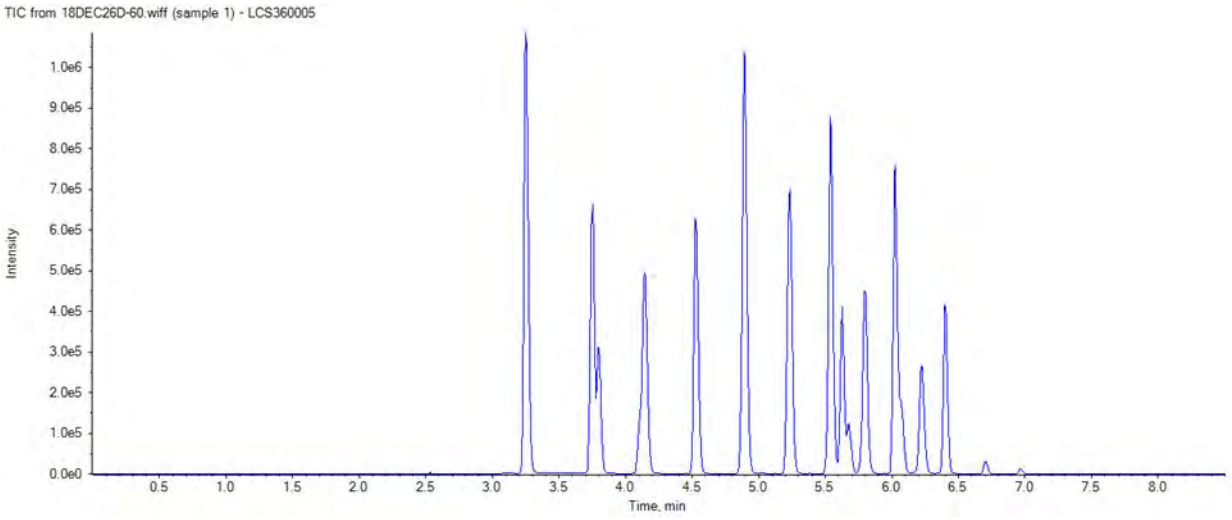
APPROVED
By MSM at 10:14 am, 12/20/18

REVIEWED
By umar at 4:41 pm, 12/28/18

Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL
QMethod Name: 18AUG20QM
Result Table: 18360005 12/29/2018 12:03:34 AM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS360005	EPA 537 mod QSM 5.1 table B-15 18360005	18DEC26D-60.wiff	2018-12-27T00:13:29



Injection Standard Area Reference File**:** 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	943696.4	965438.2	-2	50	
13C2-PFOA	5.00	517242.1	527066.0	-2	50	
13C4-PFOS	4.78	308613.2	307230.6	0	50	
13C2-PFDA	5.00	486210.0	493258.9	-1	50	

Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:03:34 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS360005	EPA 537 mod QSM 5.1 table B-15 18360005	18DEC26D-60.wiff	2018-12-27T00:13:29

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	370602.7	1138701.4	0.325	5.440	6.877	126	70-130	
PFPeA	341751.3	1100649.7	0.310	5.440	6.165	113	70-130	
PFBS	144196.5	456350.6	0.316	4.812	6.272	130	72-127	OOS
4:2-FTS	131746.4	83683.4	1.574	14.944	15.440	103	70-130	
PFHxA	320243.9	774531.1	0.413	5.440	6.788	125	77-132	
PFPeS	78104.8	456350.6	0.171	5.104	6.892	135	70-130	OOS
PFHpA	338134.2	618915.1	0.546	5.440	6.906	127	75-139	
PFHxS	114859.3	363021.3	0.316	5.144	5.918	115	71-130	
6:2-FTS	145177.9	65284.6	2.224	15.168	21.326	141	70-130	OOS
PFHpS	113356.6	363021.3	0.312	5.176	6.538	126	70-130	
PFOA	353625.6	1058799.1	0.334	5.440	7.068	130	76-136	
PFOS	103147.4	336034.0	0.307	5.200	5.346	103	67-134	
PFNA	289475.2	702731.4	0.412	5.440	6.622	122	73-144	
PFNS	76115.1	336034.0	0.227	5.224	6.193	119	70-130	
PFDA	267383.1	872568.2	0.306	5.440	7.067	130	67-141	
8:2-FTS	107811.4	53110.9	2.030	15.328	16.042	105	70-130	
PFOSA	190549.6	666444.8	0.286	5.440	6.017	111	70-130	
NMeFOSAA	49176.8	192314.3	0.256	5.440	5.964	110	67-124	
PFDS	63524.2	336034.0	0.189	5.240	6.233	119	70-130	
PFUnDA	271716.8	585832.2	0.464	5.440	7.095	130	83-132	
NEtFOSAA	43106.1	127456.8	0.338	5.440	6.955	128	60-131	
PFDoDA	343647.9	1113182.9	0.309	5.440	6.300	116	72-137	
10:2-FTS	89091.1	53110.9	1.677	15.424	13.698	89	70-130	
NMePFOSAE	78497.2	219291.0	0.358	5.440	6.053	111	70-130	
NMePFOSA	16638.8	57740.1	0.288	5.440	5.751	106	70-130	
PFDoS	22267.6	336034.0	0.066	5.280	3.962	75	70-130	
NEtPFOSAE	80428.8	185258.4	0.434	5.440	5.746	106	70-130	
NEtPFOSA	12665.1	42757.7	0.296	5.440	5.571	102	70-130	
PFTrDA	334263.2	1113182.9	0.300	5.440	6.394	118	57-137	
PFTeDA	200706.3	662563.8	0.303	5.440	6.891	127	70-142	
PFHxDA	61470.9	662563.8	0.093	5.440	4.279	79	70-130	
PFODA	26728.5	662563.8	0.040	5.440	2.386	44	70-130	OOS

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL
QMethod Name: 18AUG20QM
Result Table: 18360005 12/29/2018 12:03:34 AM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	LCS360005			**Data File:**		18DEC26D-60.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18360005			**Acquis Date:**		2018-12-27T00:13:29
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	13			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18360005
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	18360005			**Operator:**		MCD7824
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	943696.4	965438.2	-2	50	
13C2-PFOA	5.0	517242.1	527066.0	-2	50	
13C4-PFOS	4.8	308613.2	307230.6	0	50	
13C2-PFDA	5.0	486210.0	493258.9	-1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1138701.4	13C3-PFBA	943696.4	1.207	20.000	21.414	107	50-150	
E13C5-PFPeA	1100649.7	13C3-PFBA	943696.4	1.166	20.000	22.221	111	50-150	
E13C3-PFBS	456350.6	13C3-PFBA	943696.4	0.484	18.600	18.793	101	50-150	
E13C2-4:2-FTS	83683.4	13C2-PFOA	517242.2	0.162	18.680	24.655	132	50-150	
E13C5-PFHxA	774531.1	13C2-PFOA	517242.2	1.497	20.000	21.912	110	50-150	
E13C3-PFHxS	363021.3	13C2-PFOA	517242.2	0.702	18.920	21.572	114	50-150	
E13C4-PFHpA	618915.1	13C2-PFOA	517242.2	1.197	20.000	21.563	108	50-150	
E13C2-6:2-FTS	65284.6	13C2-PFOA	517242.2	0.126	19.000	24.702	130	50-150	
E13C8-PFOA	1058799.1	13C2-PFOA	517242.2	2.047	20.000	22.941	115	50-150	
E13C8-PFOS	336034.0	13C4-PFOS	308613.2	1.089	19.120	18.987	99	50-150	
E13C9-PFNA	702731.4	13C4-PFOS	308613.2	2.277	20.000	20.065	100	50-150	
E13C6-PFDA	872568.2	13C2-PFDA	486210.0	1.795	20.000	20.611	103	50-150	
E13C2-8:2-FTS	53110.9	13C2-PFDA	486210.0	0.109	19.160	22.604	118	50-150	
E13C8-PFOSA	666444.8	13C2-PFDA	486210.0	1.371	20.000	21.900	110	50-150	
Ed3-NMeFOSAA	192314.3	13C2-PFDA	486210.0	0.396	20.000	20.189	101	50-150	
E13C7-PFUnDA	585832.2	13C2-PFDA	486210.0	1.205	20.000	20.825	104	50-150	
Ed5-NEtFOSAA	127456.8	13C2-PFDA	486210.0	0.262	20.000	18.169	91	50-150	
E13C2-PFDoDA	1113182.9	13C2-PFDA	486210.0	2.290	20.000	19.864	99	50-150	
Ed7-NMePFOSAE	219291.0	13C2-PFDA	486210.0	0.451	20.000	17.057	85	50-150	
Ed3-NMePFOSA	57740.1	13C2-PFDA	486210.0	0.119	20.000	13.466	67	50-150	
Ed9-NEtPFOSAE	185258.4	13C2-PFDA	486210.0	0.381	20.000	16.584	83	50-150	
Ed5-NEtPFOSA	42757.7	13C2-PFDA	486210.0	0.088	20.000	12.416	62	50-150	
E13C2-PFTeDA	662563.8	13C2-PFDA	486210.0	1.363	20.000	16.076	80	50-150	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

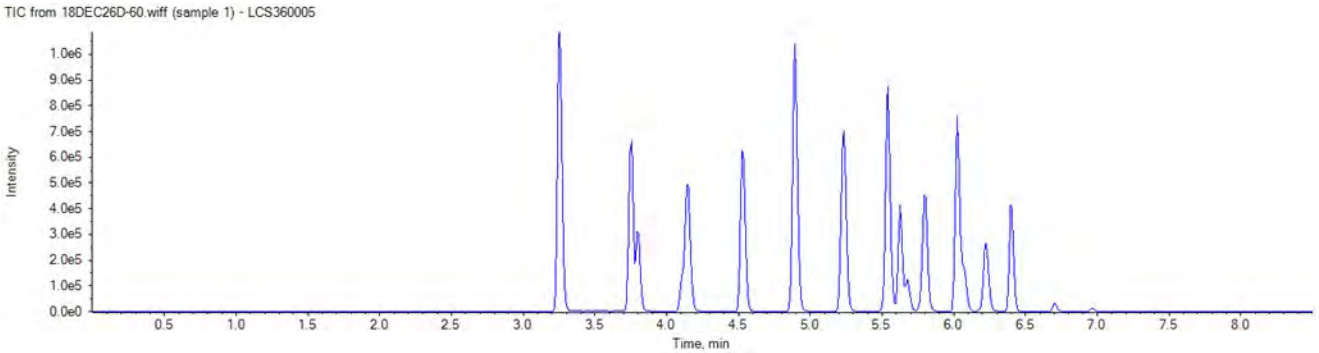
Analyte Quantitation Peak Table

Sample Name: LCS360005 **Instrument Name:** LM27631 **File Name:** 18DEC26D-60.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.25	1.000	370602.7		A	13C4-PFBA	3.25	1138701.4	0.325	6.877
PFPeA	3.75	1.000	341751.3		A	13C5-PFPeA	3.75	1100649.7	0.310	6.165
PFBS	3.80	1.000	144196.5		A	13C3-PFBS	3.80	456350.6	0.316	6.272
4:2-FTS	4.11	1.000	131746.4		A	13C2-4:2-FTS	4.11	83683.4	1.574	15.440
PFHxA	4.14	1.000	320243.9		A	13C5-PFHxA	4.14	774531.1	0.413	6.788
PFPeS	4.16	1.100	78104.8		A	13C3-PFBS	3.80	456350.6	0.171	6.892
PFHpA	4.53	1.000	338134.2		A	13C4-PFHpA	4.53	618915.1	0.546	6.906
PFHxS	4.53	1.000	114859.3		A	13C3-PFHxS	4.53	363021.3	0.316	5.918
6:2-FTS	4.88	1.000	145177.9		A	13C2-6:2-FTS	4.88	65284.6	2.224	21.326
PFHpS	4.89	1.080	113356.6		A	13C3-PFHxS	4.53	363021.3	0.312	6.538
PFOA	4.90	1.000	353625.6		A	13C8-PFOA	4.90	1058799.1	0.334	7.068
PFOS	5.22	1.000	103147.4		A	13C8-PFOS	5.23	336034.0	0.307	5.346
PFNA	5.24	1.000	289475.2		A	13C9-PFNA	5.24	702731.4	0.412	6.622
PFNS	5.52	1.060	76115.1		A	13C8-PFOS	5.23	336034.0	0.227	6.193
PFDA	5.54	1.000	267383.1		A	13C6-PFDA	5.54	872568.2	0.306	7.067
8:2-FTS	5.54	1.000	107811.4		A	13C2-8:2-FTS	5.54	53110.9	2.030	16.042
PFOSA	5.63	1.000	190549.6		A	13C8-PFOSA	5.63	666444.8	0.286	6.017
NMeFOSAA	5.68	1.000	49176.8		A	d3-NMeFOSAA	5.68	192314.3	0.256	5.964
PFDS	5.78	1.110	63524.2		A	13C8-PFOS	5.23	336034.0	0.189	6.233
PFUnDA	5.80	1.000	271716.8		A	13C7-PFUnDA	5.80	585832.2	0.464	7.095
NEtFOSAA	5.81	1.000	43106.1		A	d5-NEtFOSAA	5.81	127456.8	0.338	6.955
PFDoDA	6.02	1.000	343647.9		A	13C2-PFDoDA	6.02	1113182.9	0.309	6.300
10:2-FTS	6.04	1.090	89091.1		A	13C2-8:2-FTS	5.54	53110.9	1.677	13.698
NMePFOSAE	6.08	1.000	78497.2		A	d7-NMePFOSAE	6.07	219291.0	0.358	6.053
NMePFOSA	6.09	1.000	16638.8		A	d3-NMePFOSA	6.09	57740.1	0.288	5.751
PFDoS	6.19	1.190	22267.6		A	13C8-PFOS	5.23	336034.0	0.066	3.962
NEtPFOSAE	6.23	1.000	80428.8		A	d9-NEtPFOSAE	6.22	185258.4	0.434	5.746
NEtPFOSA	6.25	1.000	12665.1		A	d5-NEtPFOSA	6.24	42757.7	0.296	5.571
PFTrDA	6.22	1.030	334263.2		A	13C2-PFDoDA	6.02	1113182.9	0.300	6.394
PFTeDA	6.40	1.000	200706.3		A	13C2-PFTeDA	6.40	662563.8	0.303	6.891
PFHxDA	6.70	1.050	61470.9		A	13C2-PFTeDA	6.40	662563.8	0.093	4.279
PFODA	6.97	1.090	26728.5		A	13C2-PFTeDA	6.40	662563.8	0.040	2.386

Total Ion Chromatogram

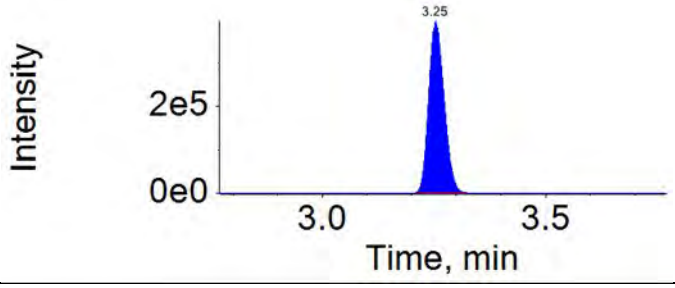


APPROVED
By MCD at 0:13 am, 12/29/18

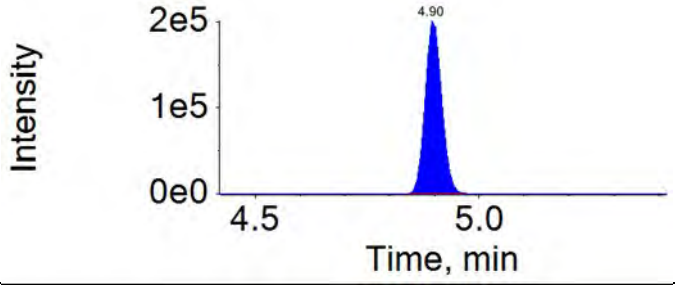
REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

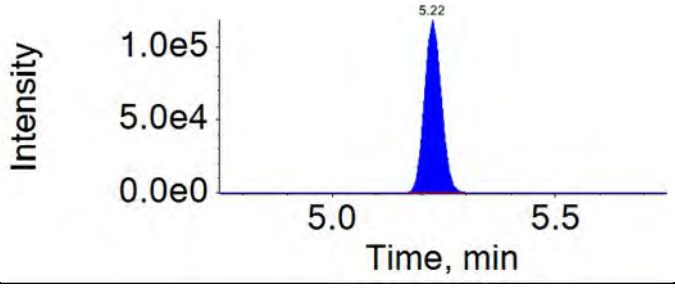
Injection Standard: 13C3-PFBA
216.0 / 172.0



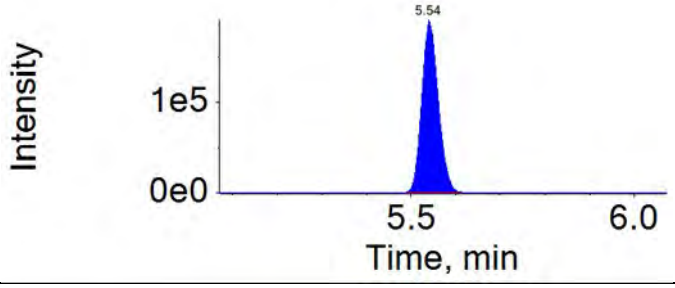
Injection Standard: 13C2-PFOA
415.0 / 370.0



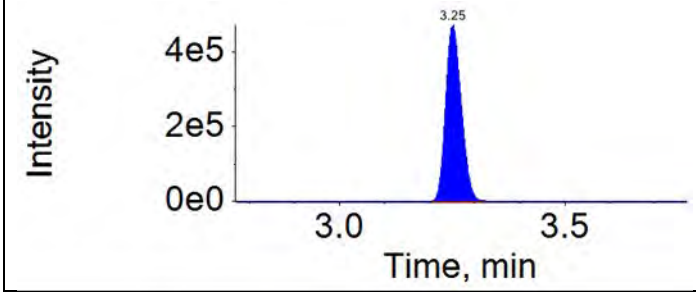
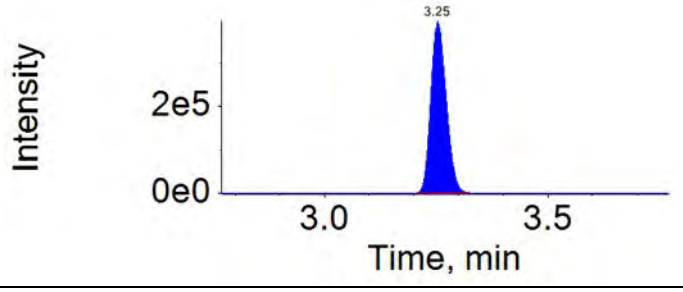
Injection Standard: 13C4-PFOS
503.0 / 80.0

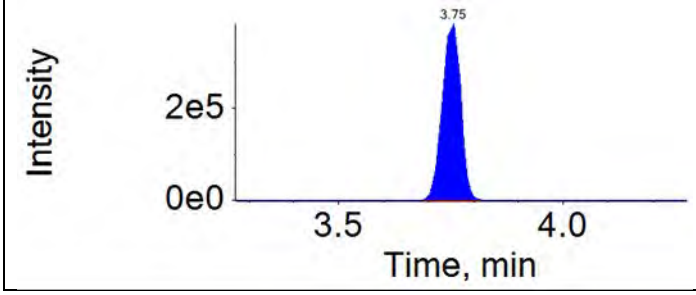
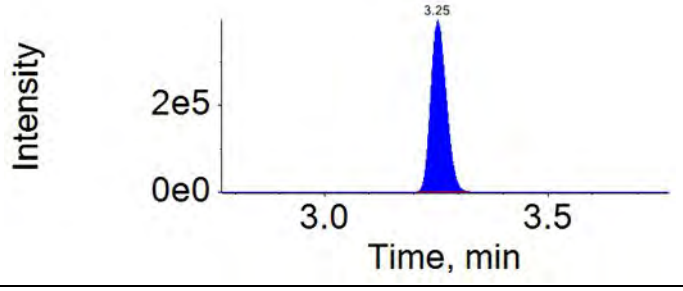


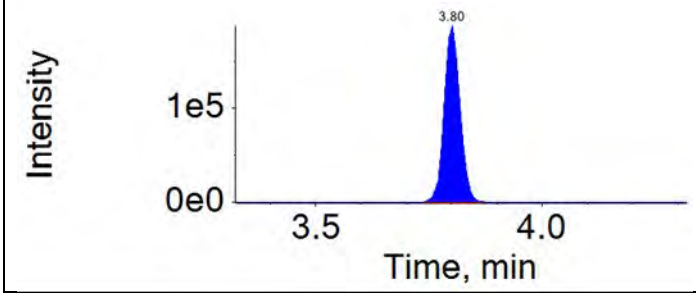
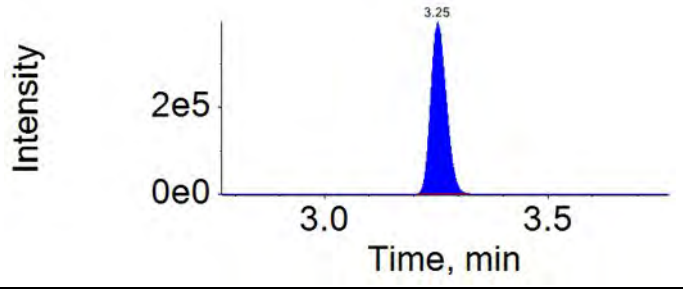
Injection Standard: 13C2-PFDA
515.0 / 470.0

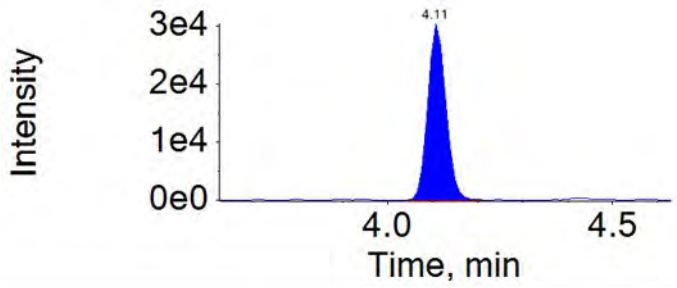
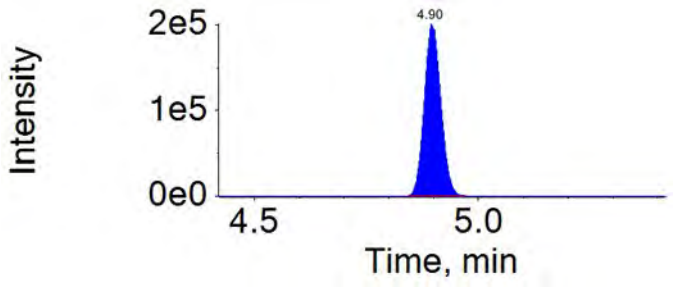


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

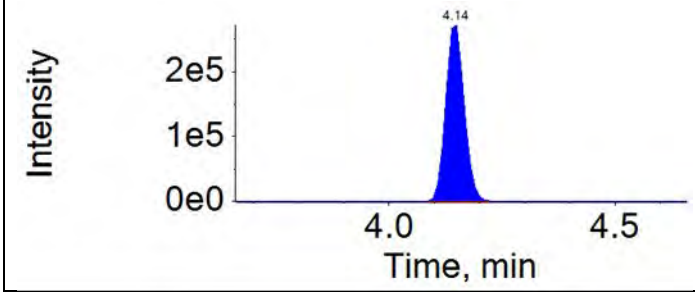
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

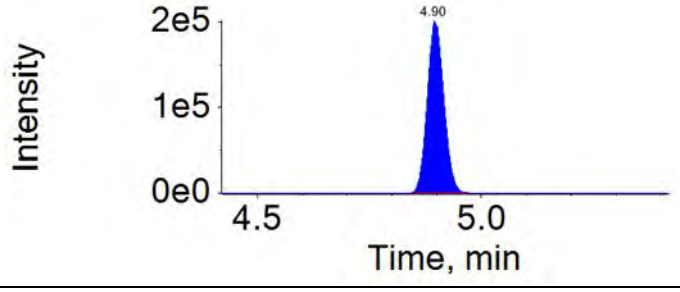
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

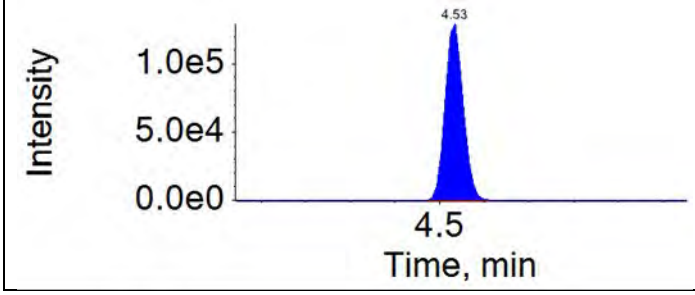
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

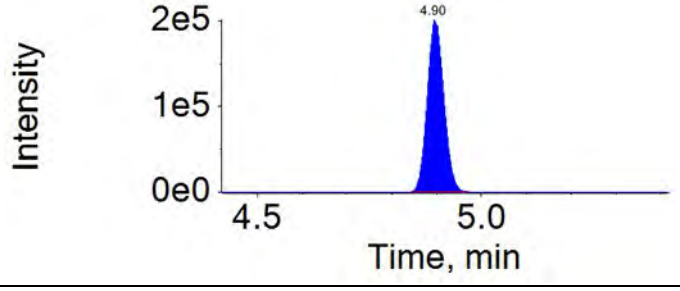
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



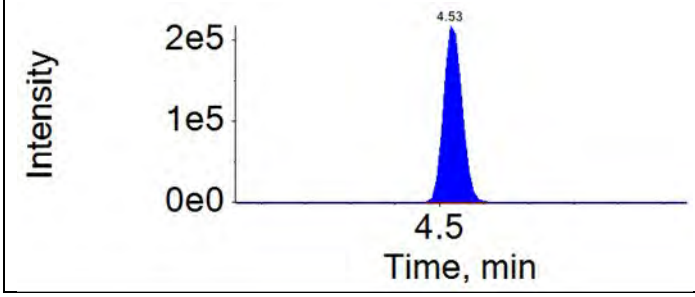


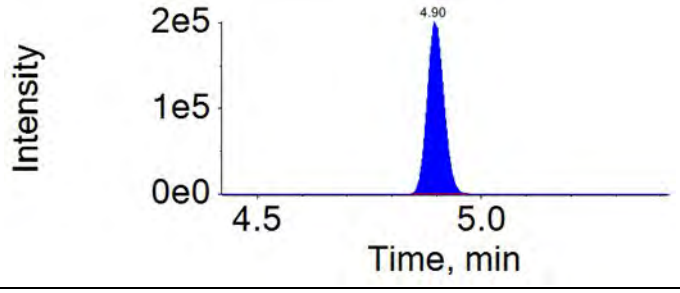
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



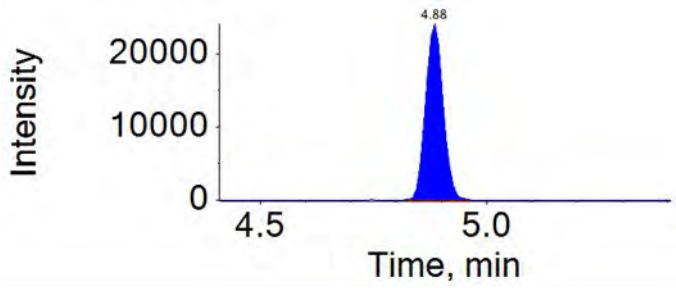


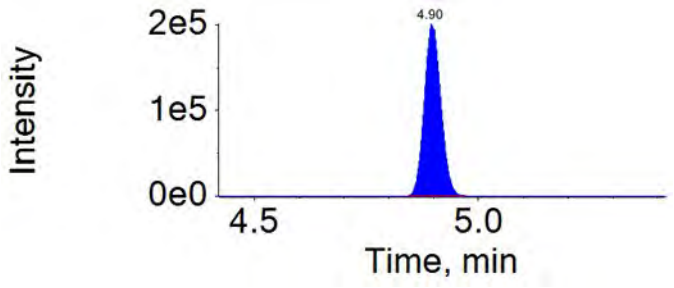
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



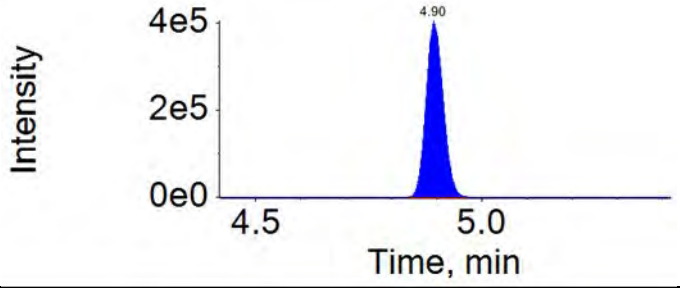
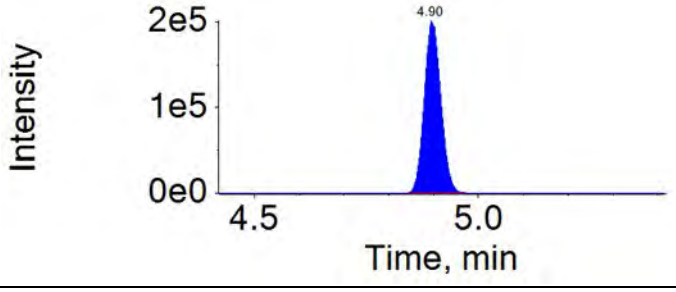


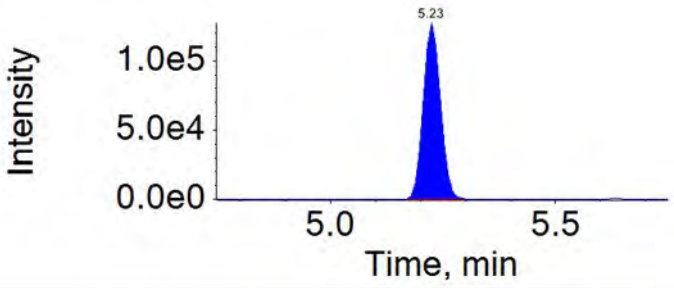
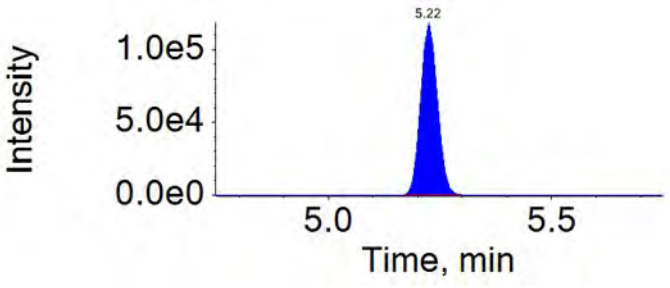
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

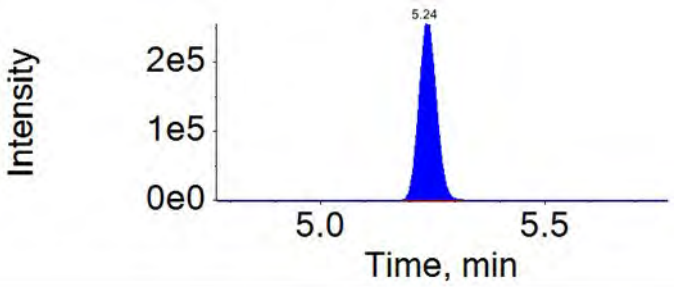
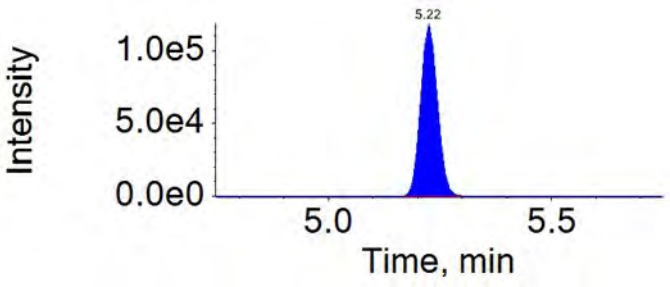


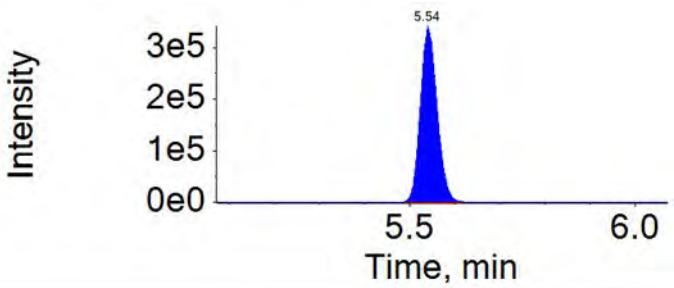
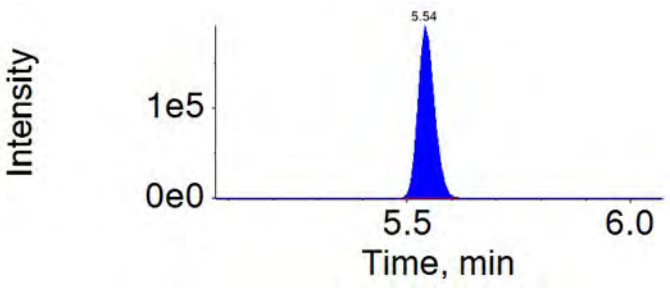


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

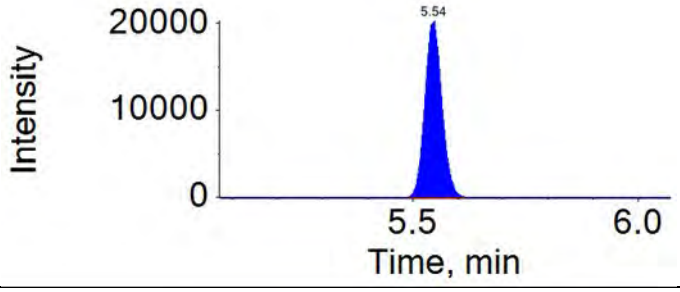
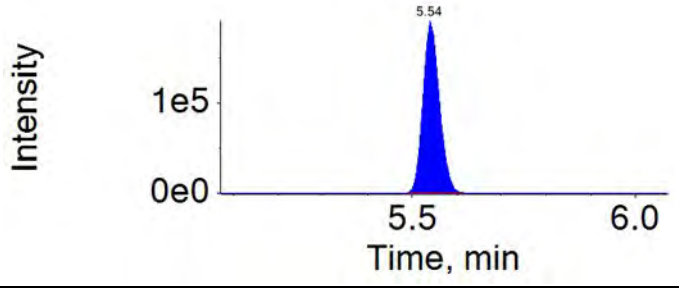
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

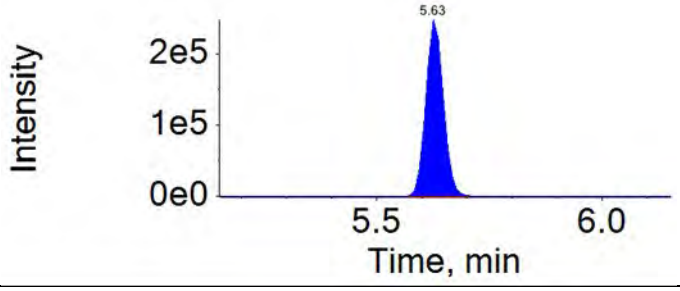
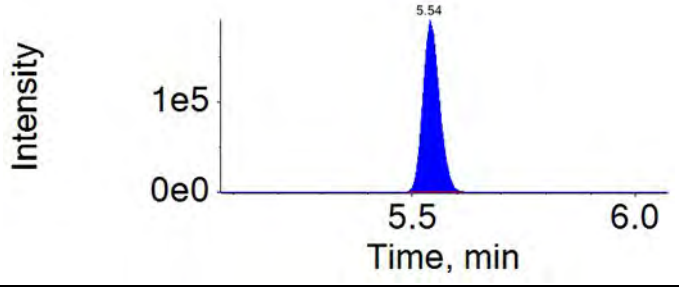
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

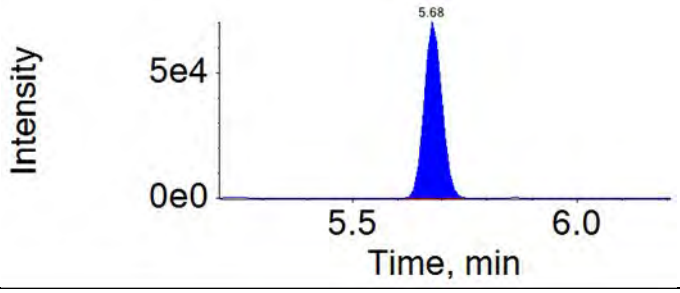
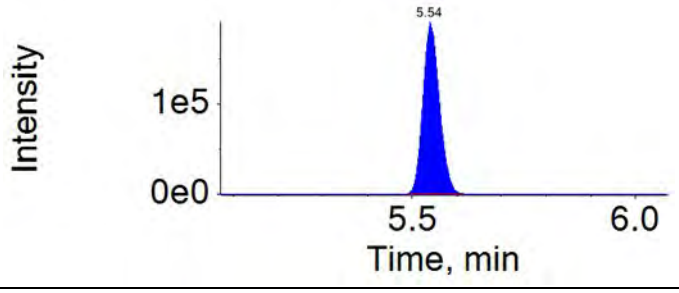
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

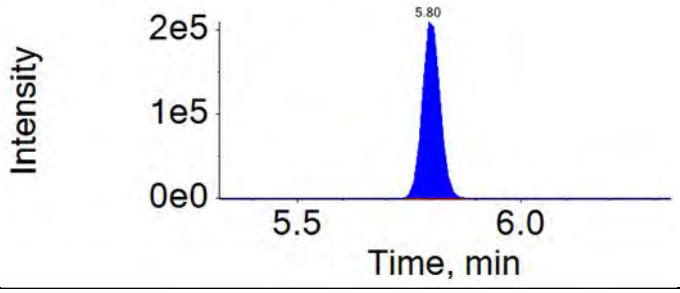
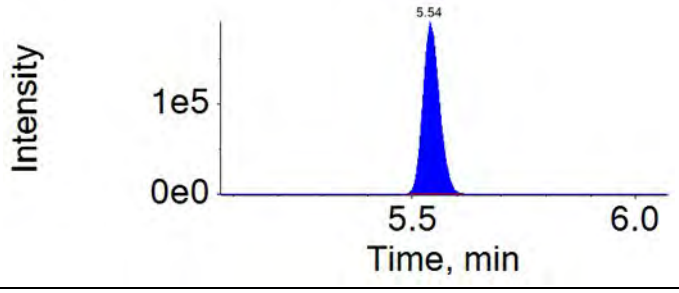
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

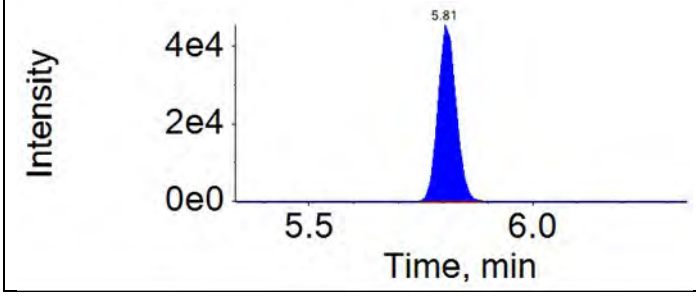
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

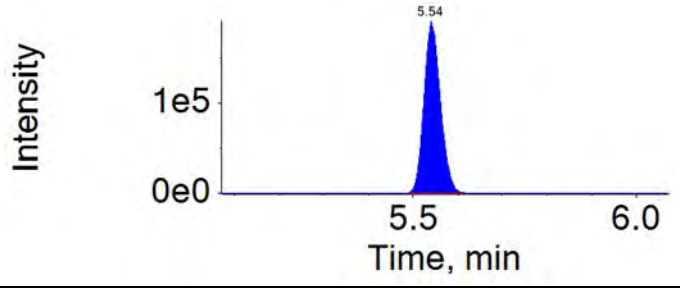
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

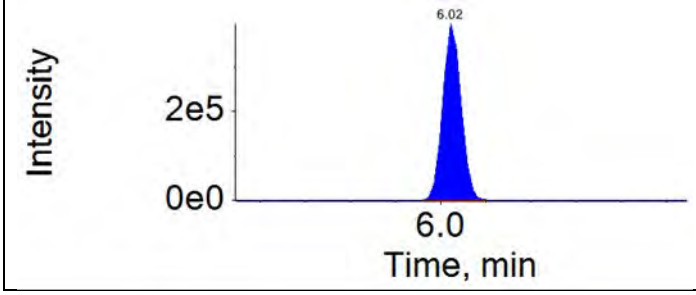
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

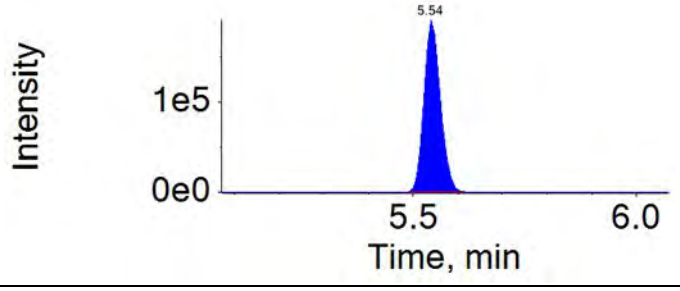
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



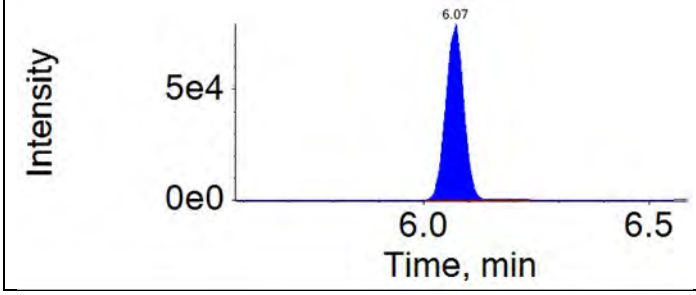


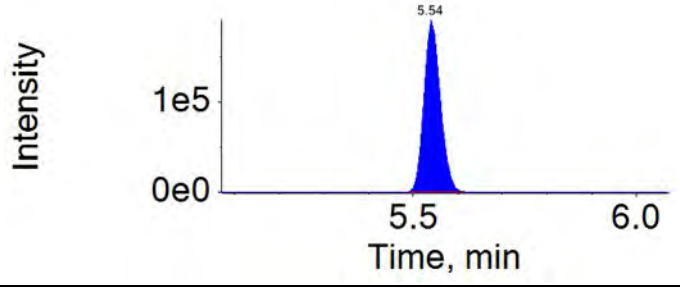
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



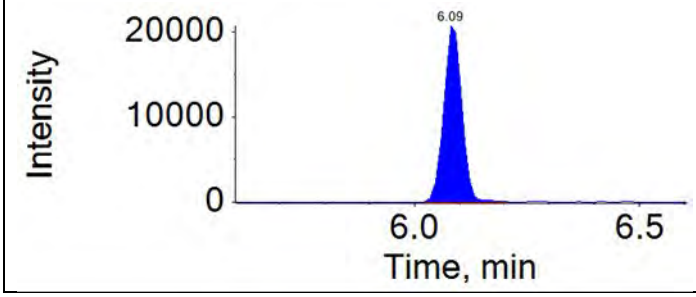


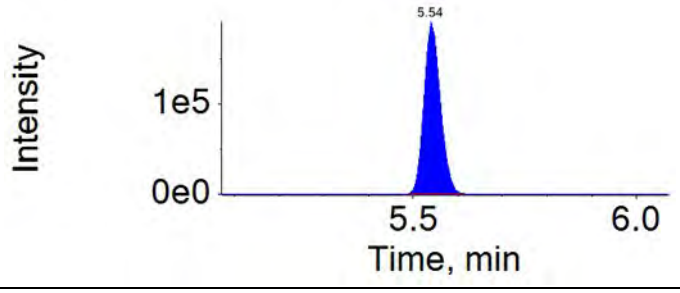
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





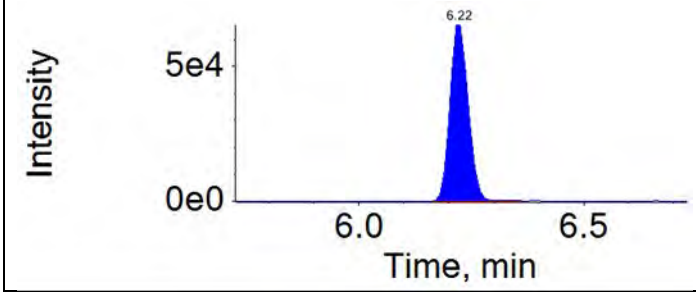
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

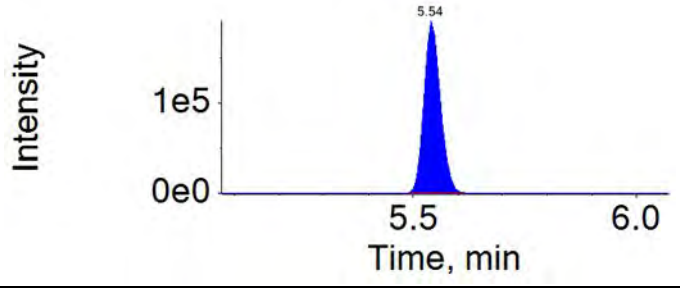




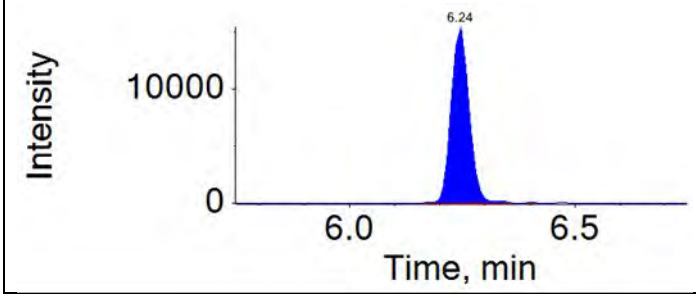
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

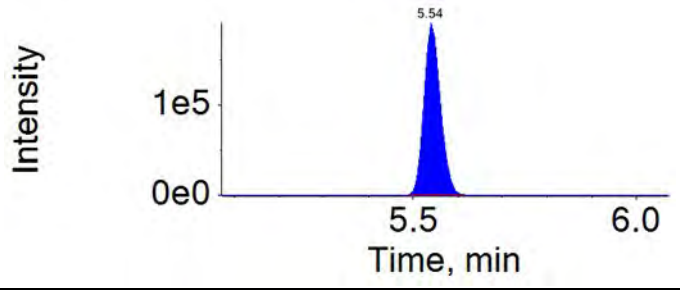
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



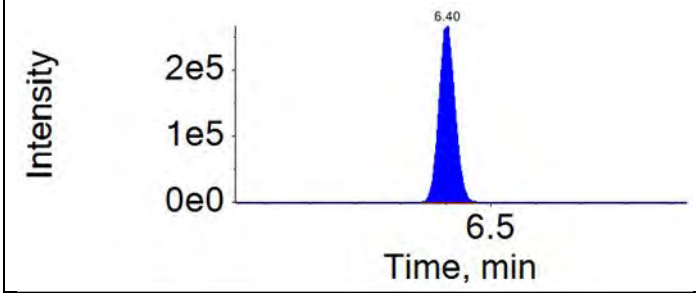


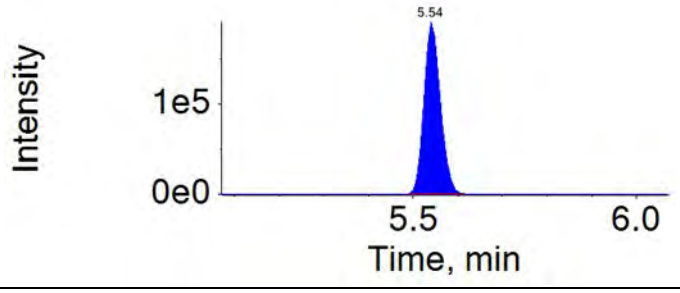
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





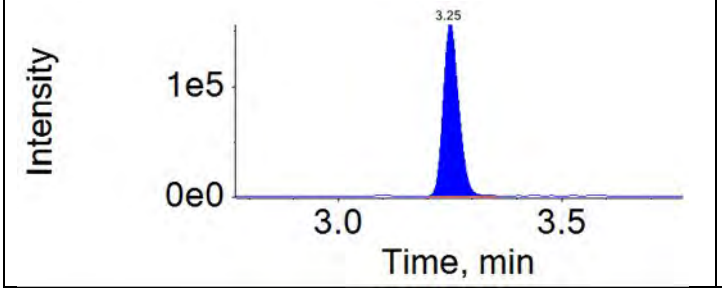
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

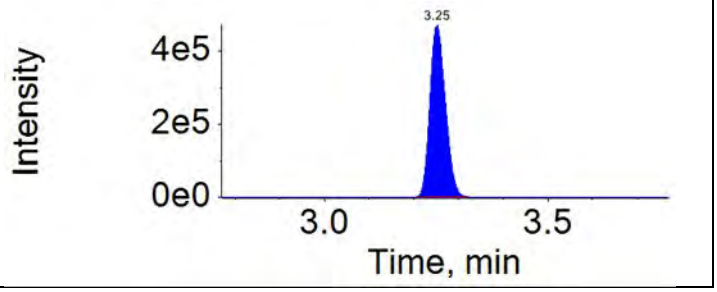




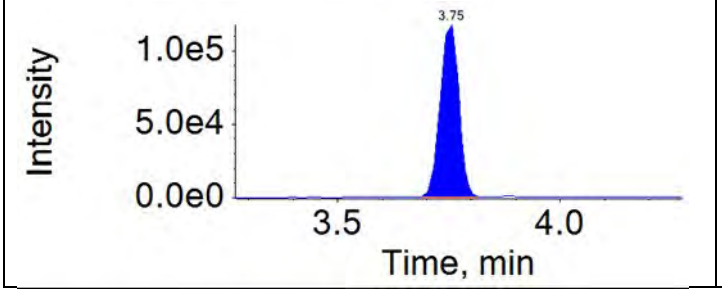
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

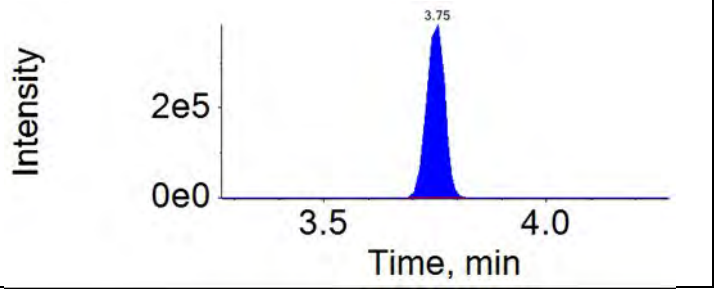
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



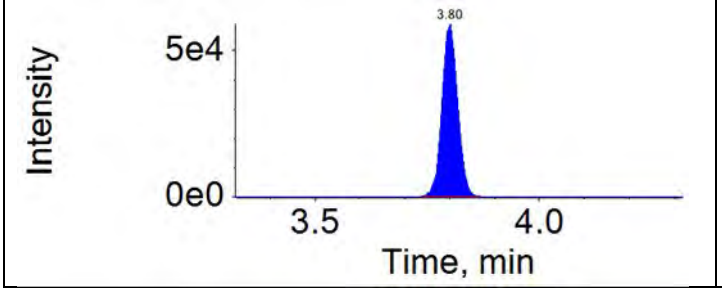


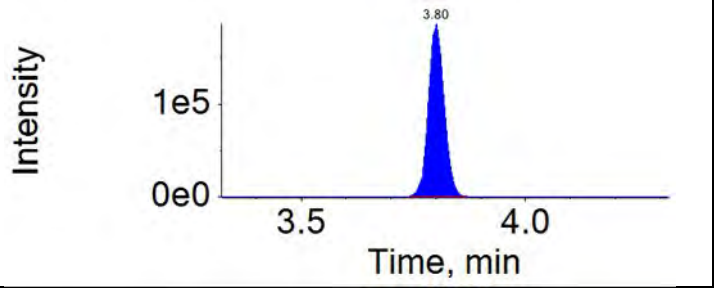
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



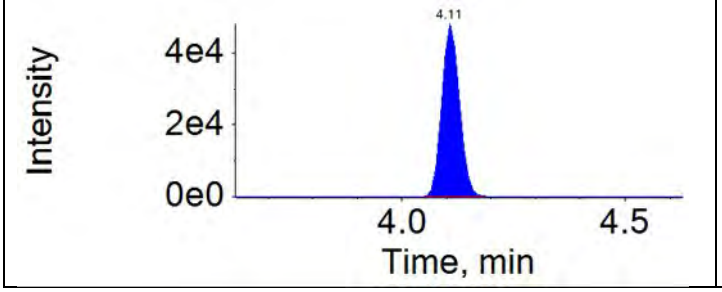


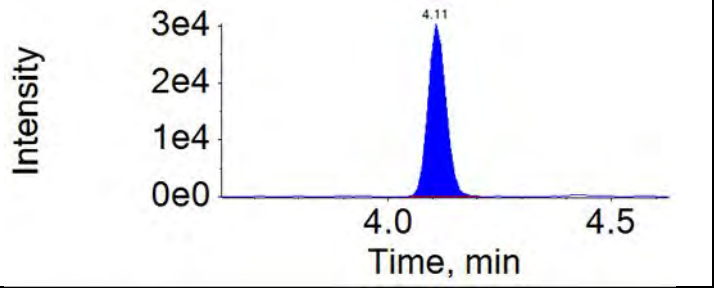
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



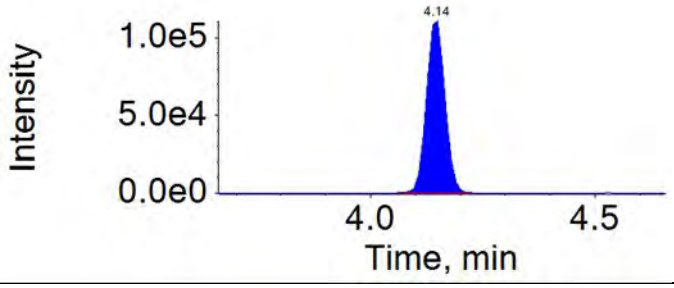
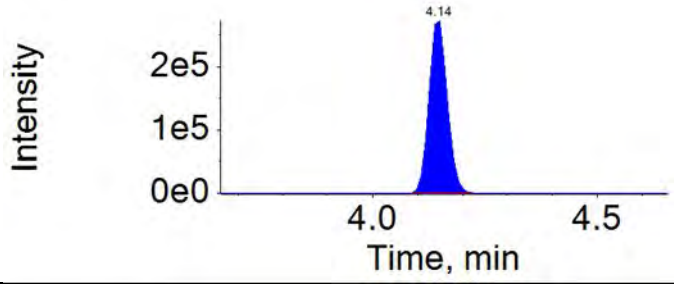


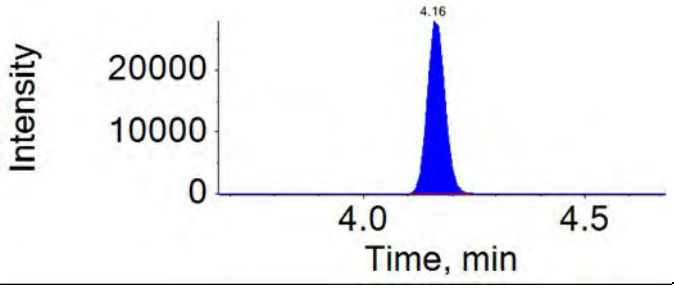
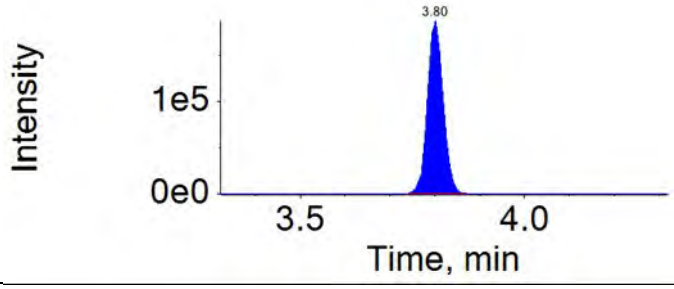
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

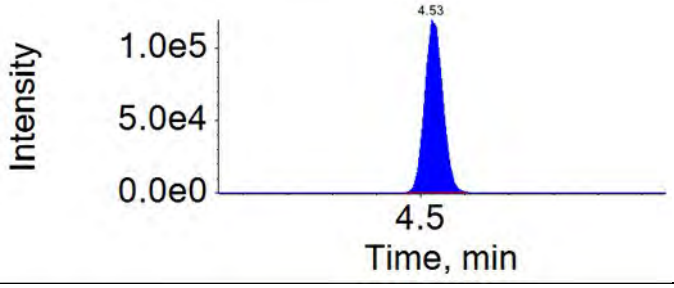
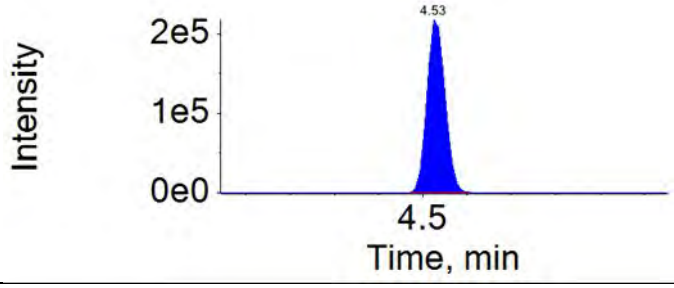


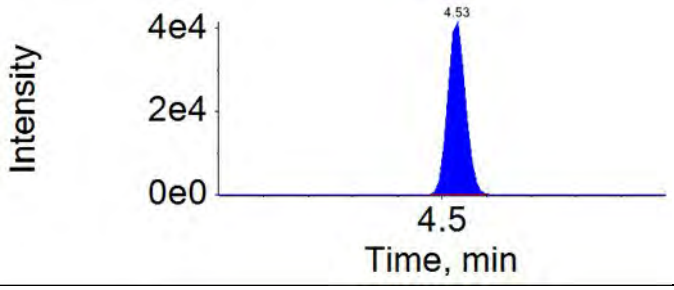
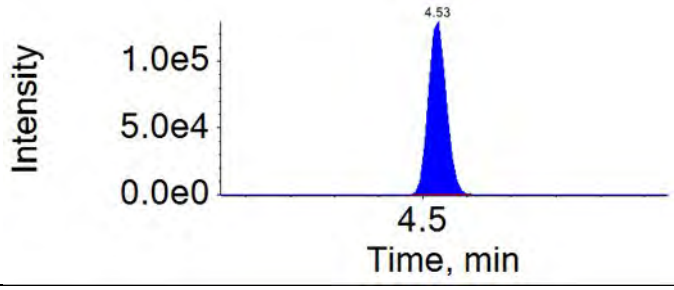


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

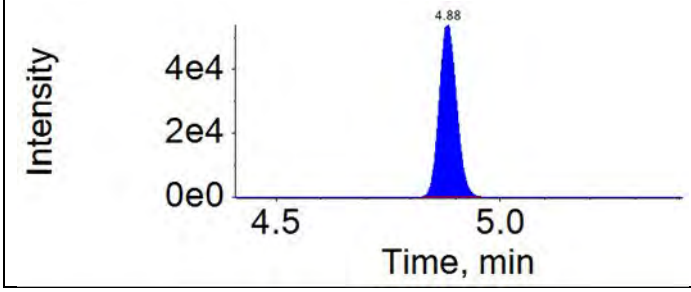
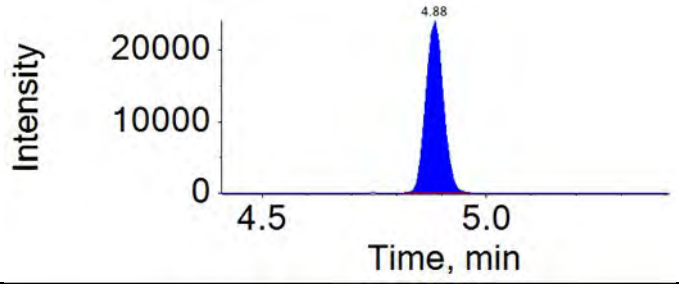
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

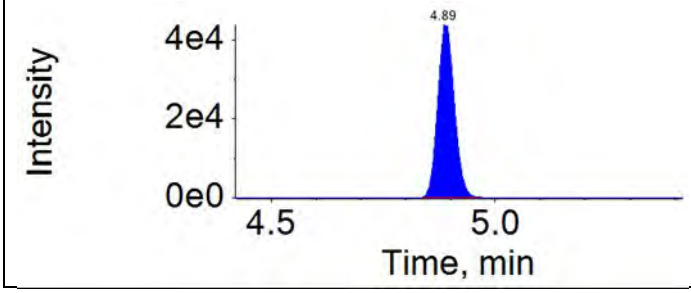
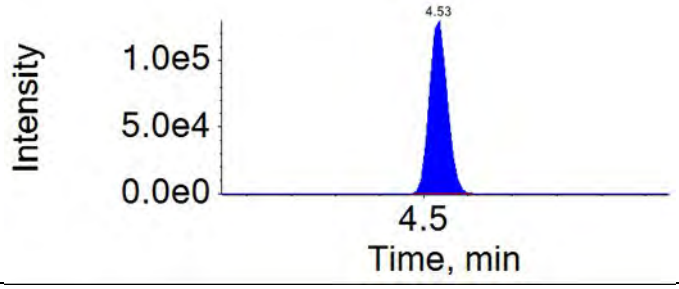
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

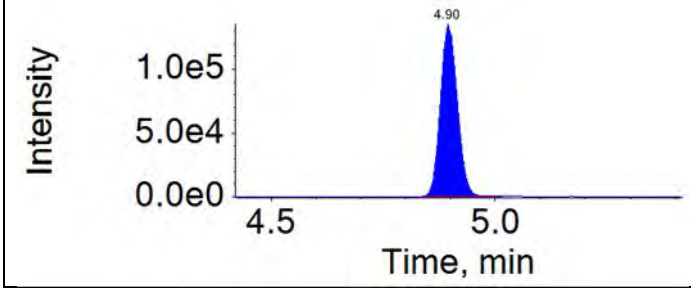
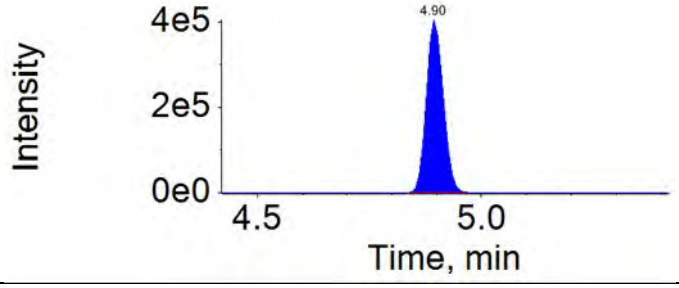
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

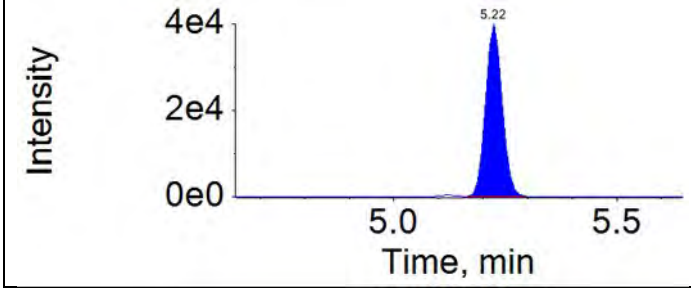
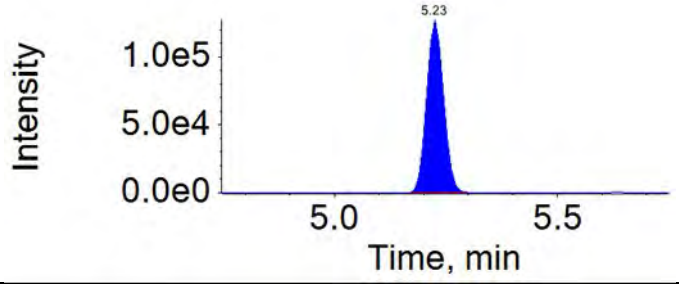
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

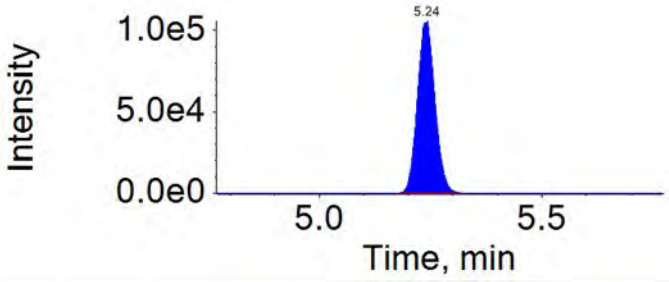
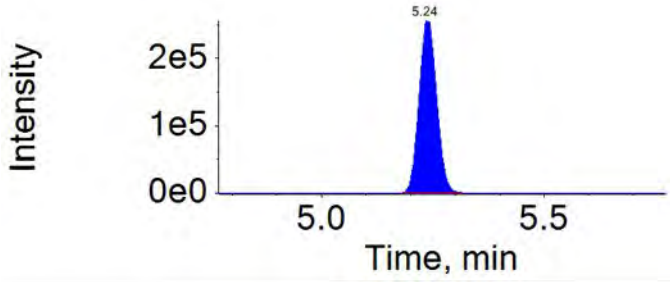
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

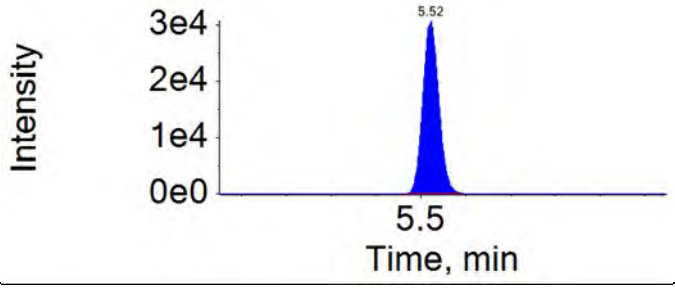
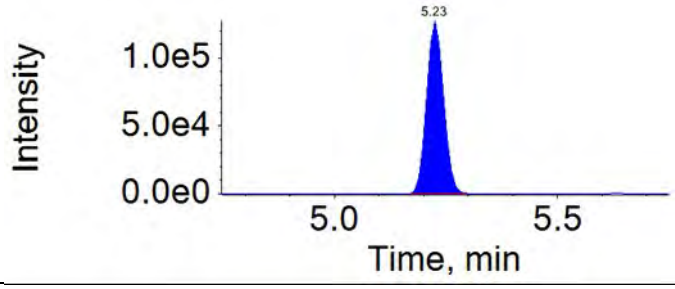
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

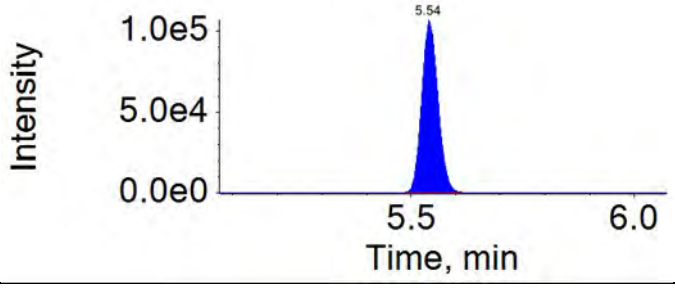
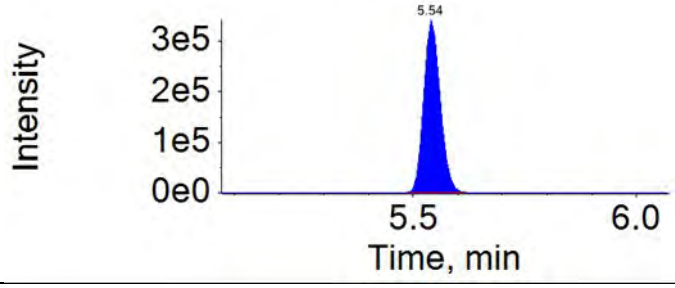
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

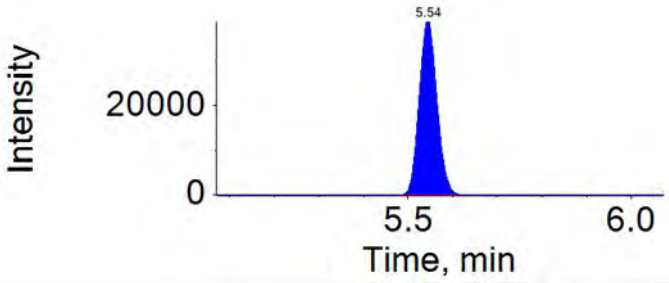
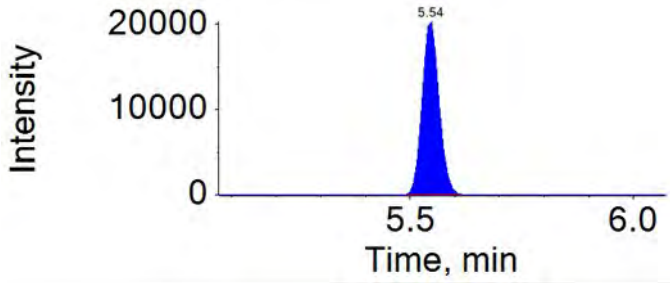
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

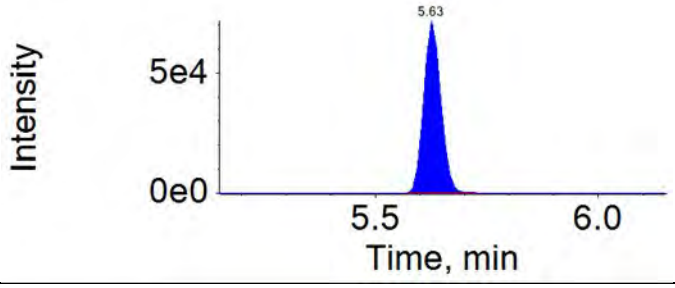
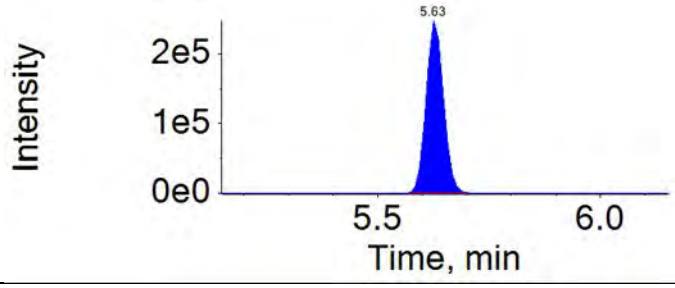
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

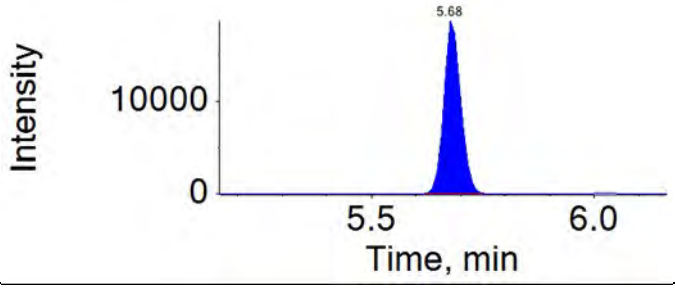
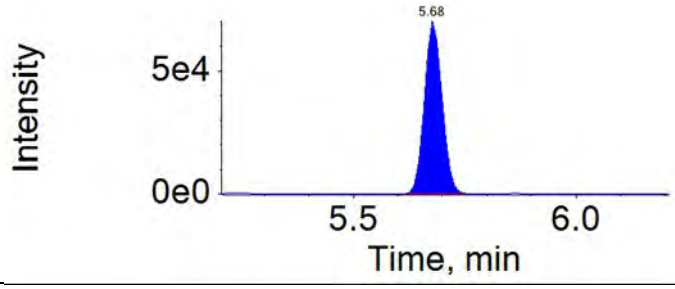
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0
	

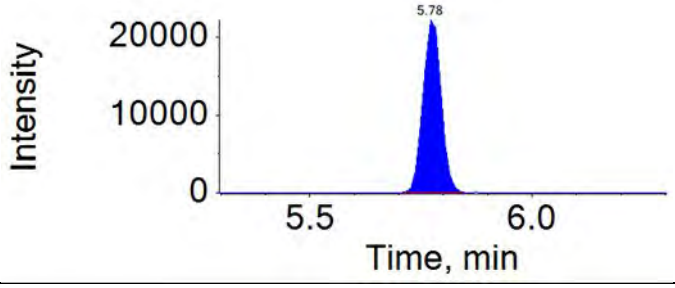
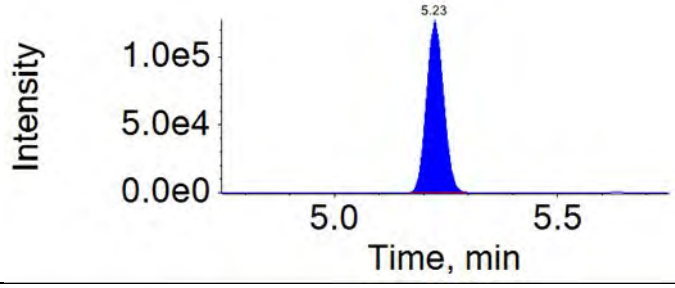
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

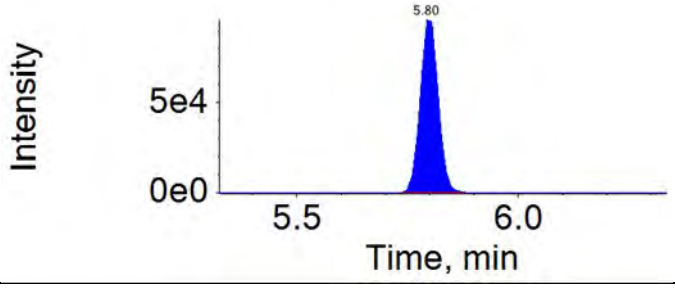
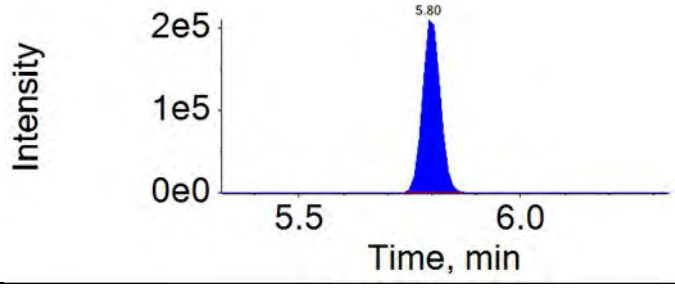
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

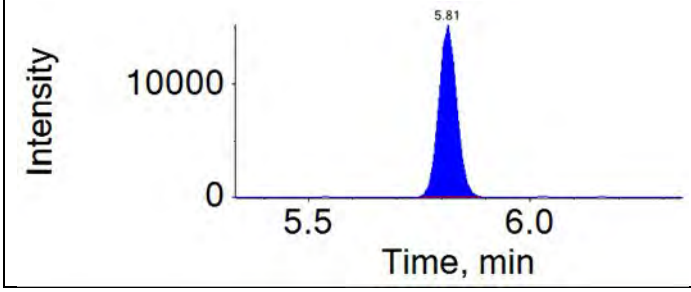
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

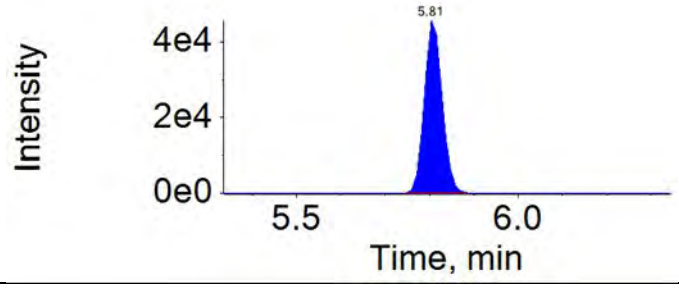
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

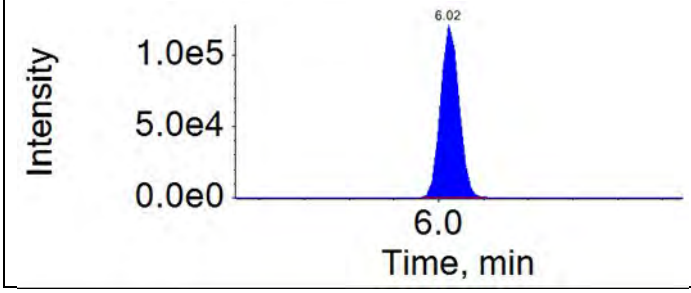
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

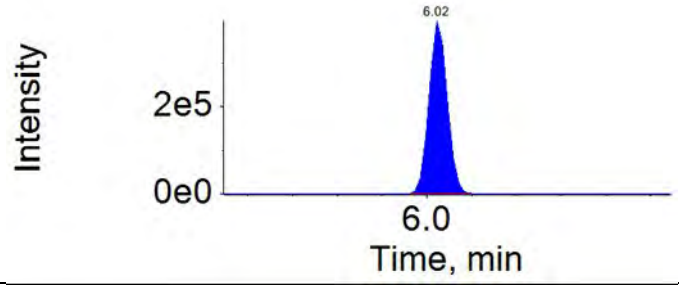
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



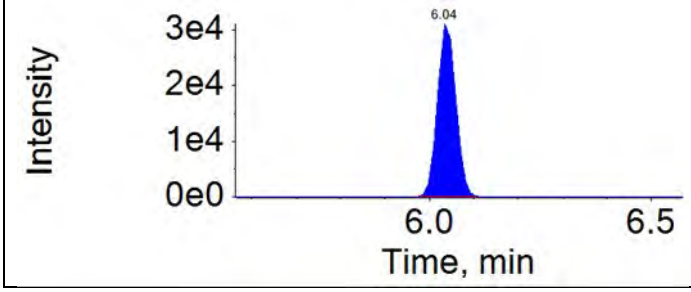


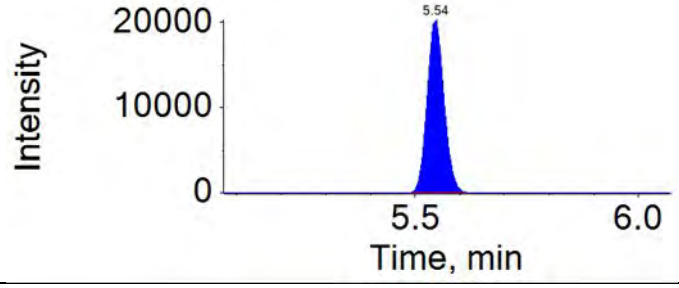
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



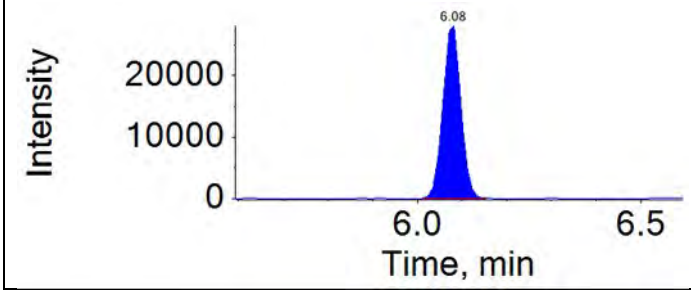


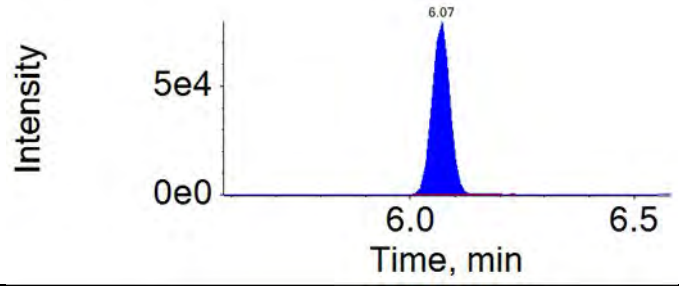
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





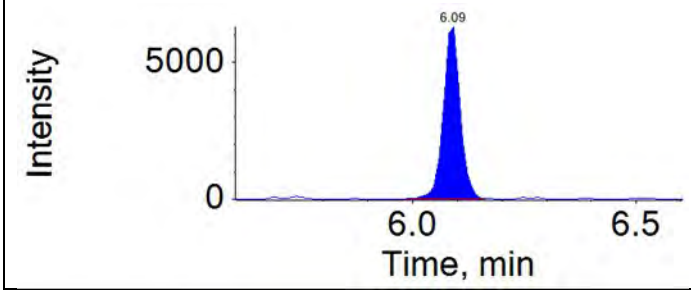
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

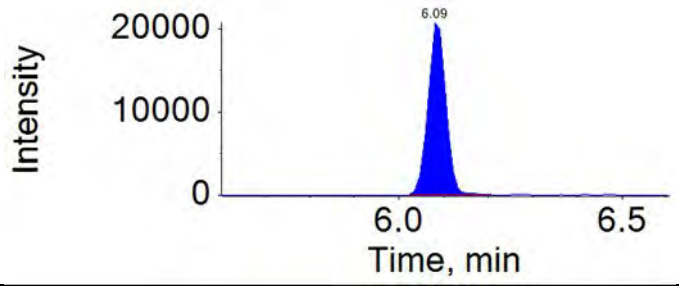




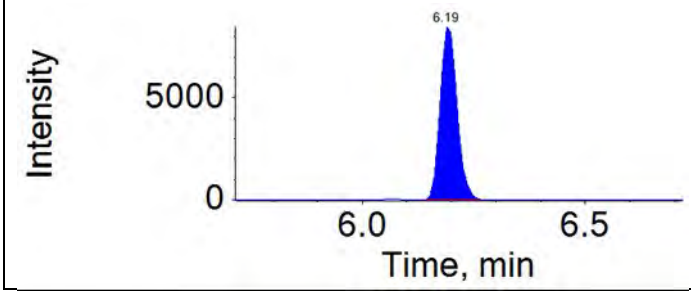
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

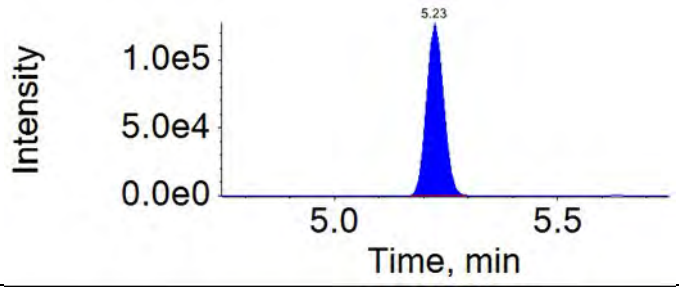
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



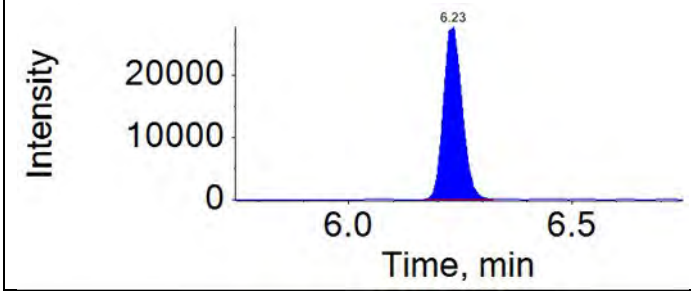


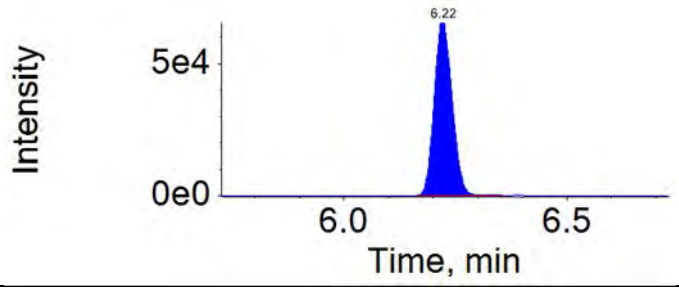
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



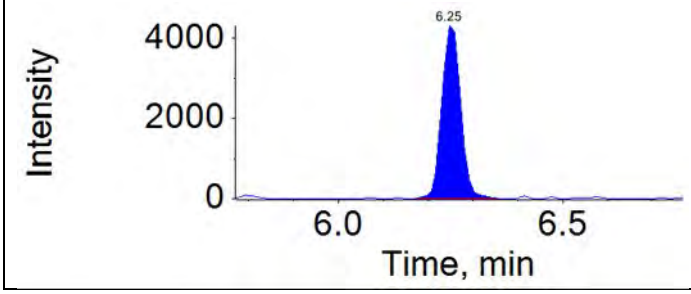


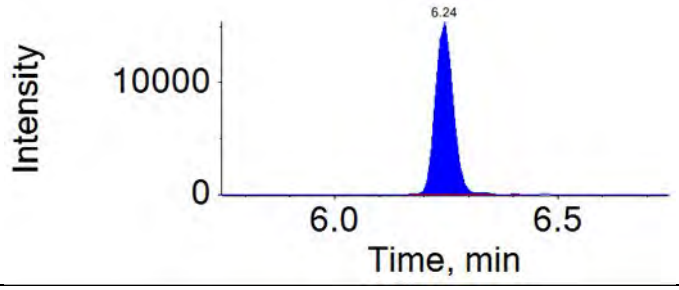
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



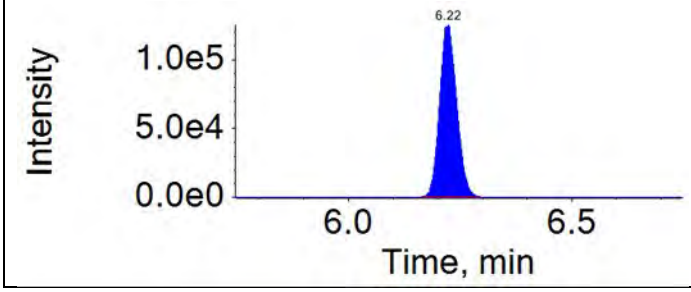
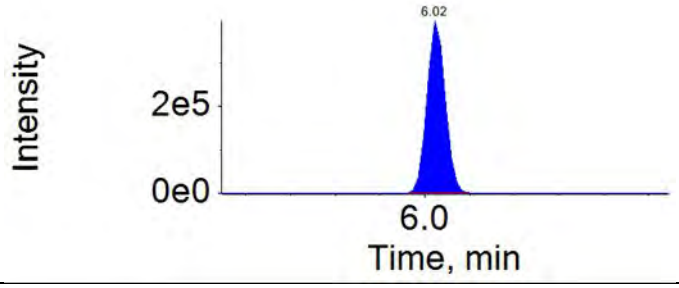


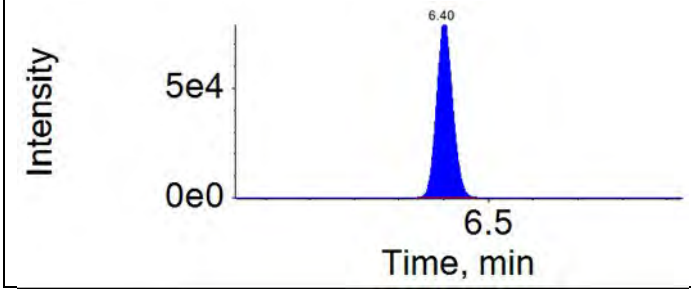
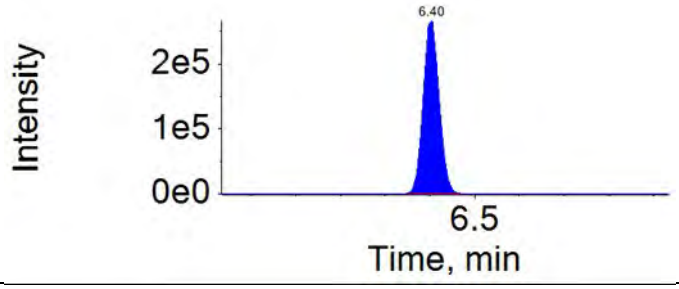
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

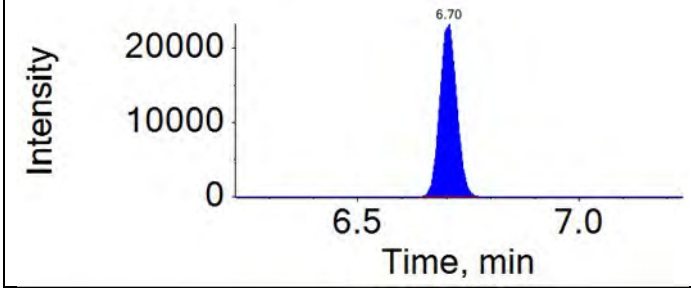
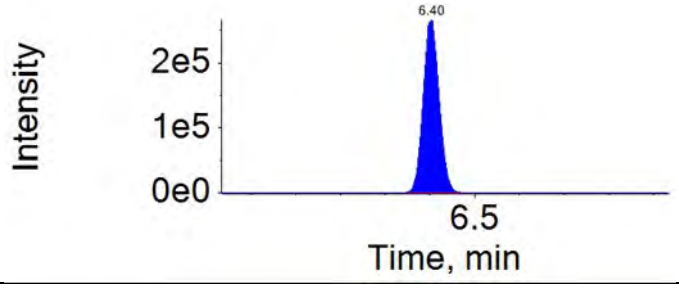


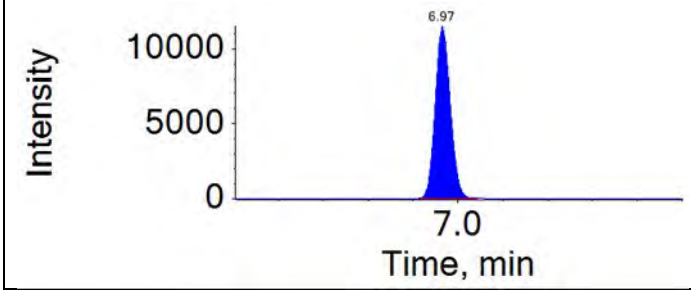
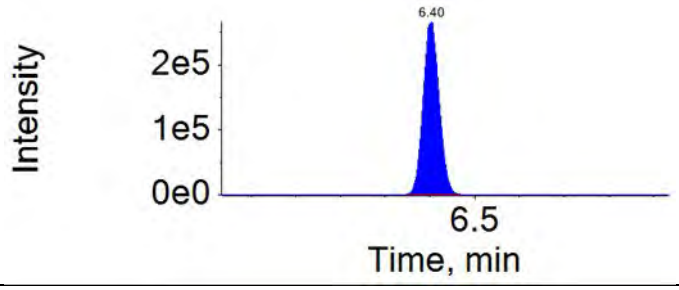


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

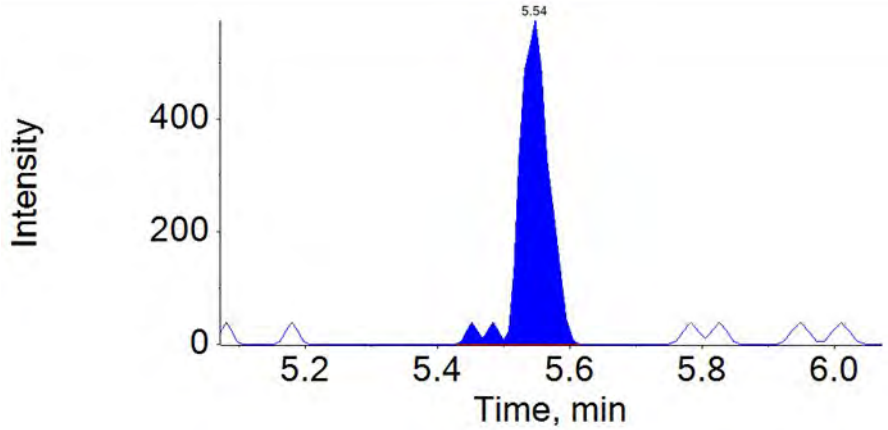
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

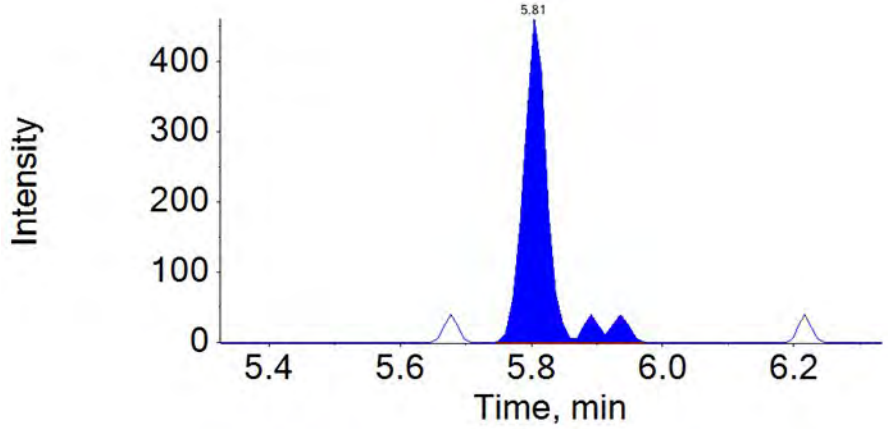
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFDA_2
RT (min.):
5.54
Peak Area:
1808.5
Mass Range:
513.0 / 169.0
File Name:
18DEC26D-60.wiff
Sample Name:
LCS360005



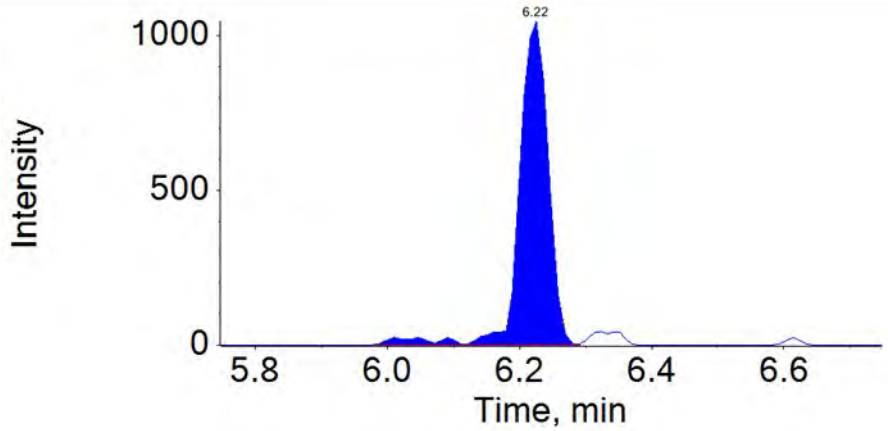
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.81
Peak Area:
1244.3
Mass Range:
563.0 / 169.0
File Name:
18DEC26D-60.wiff
Sample Name:
LCS360005



Integration Comment: incorrect integration

Component Name:
PFTrDA_2
RT (min.):
6.22
Peak Area:
3228.7
Mass Range:
663.0 / 169.0
File Name:
18DEC26D-60.wiff
Sample Name:
LCS360005



Integration Comment: incorrect integration

Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 0:13 am, 12/29/18

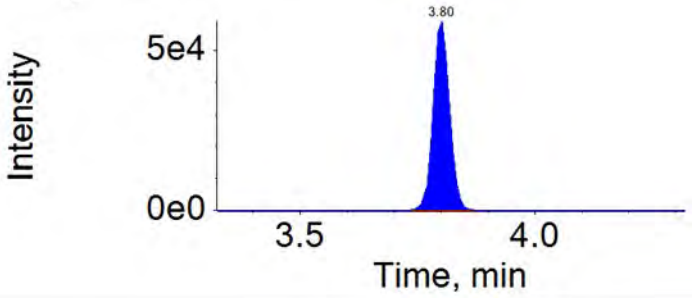
REVIEWED
By umar at 2:42 pm, 12/31/18

Ion Ratio Report

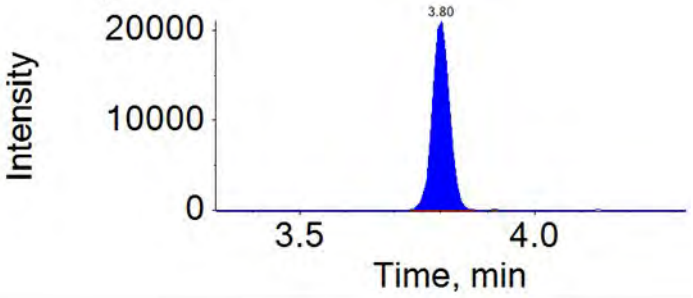
Sample Name: LCS360005 **Instrument Name:** LM27631 **File Name:** 18DEC26D-60.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	144196.5	A	N/A	0.3687			
PFBS_2	3.80	1.00	53164.1	A	N/A	0.3687	2	50	
4:2-FTS	4.11	1.00	131746.4	A	N/A	0.6592			
4:2-FTS_2	4.11	1.00	86842.9	A	N/A	0.6592	8	50	
PFHxA	4.14	1.00	320243.9	A	N/A	0.0108			
PFHxA_2	4.14	1.00	3460.7	A	N/A	0.0108	-11	50	
PFPeS	4.16	1.10	78104.8	A	N/A	0.4880			
PFPeS_2	4.16	1.10	38113.5	A	N/A	0.4880	-4	50	
PFHpA	4.53	1.00	338134.2	A	N/A	0.0542			
PFHpA_2	4.53	1.00	18332.9	A	N/A	0.0542	-4	50	
PFHxS	4.53	1.00	114859.3	A	N/A	0.3359			
PFHxS_2	4.53	1.00	38583.1	A	N/A	0.3359	-7	50	
6:2-FTS	4.88	1.00	145177.9	A	N/A	0.6617			
6:2-FTS_2	4.88	1.00	96064.5	A	N/A	0.6617	4	50	
PFHpS	4.89	1.08	113356.6	A	N/A	0.3886			
PFHpS_2	4.89	1.08	44052.3	A	N/A	0.3886	-3	50	
PFOA	4.90	1.00	353625.6	A	N/A	0.0545			
PFOA_2	4.89	1.00	19271.1	A	N/A	0.0545	1	50	
PFOS	5.22	1.00	103147.4	A	N/A	0.3805			
PFOS_2	5.22	1.00	39246.8	A	N/A	0.3805	23	50	
PFNA	5.24	1.00	289475.2	A	N/A	0.0206			
PFNA_2	5.24	1.00	5953.2	A	N/A	0.0206	-3	50	
PFNS	5.52	1.06	76115.1	A	N/A	0.4757			
PFNS_2	5.52	1.06	36206.1	A	N/A	0.4757	5	50	
PFDA	5.54	1.00	267383.1	A	N/A	0.0064			
PFDA_2	5.54	1.00	1714.9	M	N/A	0.0064	-2	50	
8:2-FTS	5.54	1.00	107811.4	A	N/A	0.6254			
8:2-FTS_2	5.54	1.00	67428.7	A	N/A	0.6254	3	50	
NMeFOSAA	5.68	1.00	49176.8	A	N/A	0.2638			
NMeFOSAA_2	5.69	1.00	12972.9	A	N/A	0.2638	5	50	
PFDS	5.78	1.11	63524.2	A	N/A	0.4667			
PFDS_2	5.78	1.11	29649.8	A	N/A	0.4667	-4	50	
PFUnDA	5.80	1.00	271716.8	A	N/A	0.0041			
PFUnDA_2	5.81	1.00	1108.9	M	N/A	0.0041	-4	50	
NEtFOSAA	5.81	1.00	43106.1	A	N/A	0.6513			
NEtFOSAA_2	5.81	1.00	28076.2	A	N/A	0.6513	-4	50	
PFDoDA	6.02	1.00	343647.9	A	N/A	0.0092			
PFDoDA_2	6.02	1.00	3152.4	A	N/A	0.0092	-32	50	
10:2-FTS	6.04	1.09	89091.1	A	N/A	0.7507			
10:2-FTS_2	6.04	1.09	66880.2	A	N/A	0.7507	13	50	
PFTrDA	6.22	1.03	334263.2	A	N/A	0.0090			
PFTrDA_2	6.22	1.03	3021.8	M	N/A	0.0090	5	50	
PFTeDA	6.40	1.00	200706.3	A	N/A	0.0067			
PFTeDA_2	6.40	1.00	1335.3	A	N/A	0.0067	10	50	
PFHxDA	6.70	1.05	61470.9	A	N/A	0.0638			
PFHxDA_2	6.71	1.05	3924.3	A	N/A	0.0638	0	50	
PFODA	6.97	1.09	26728.5	A	N/A	0.0210			
PFODA_2	6.96	1.09	560.0	A	N/A	0.0210	-21	50	

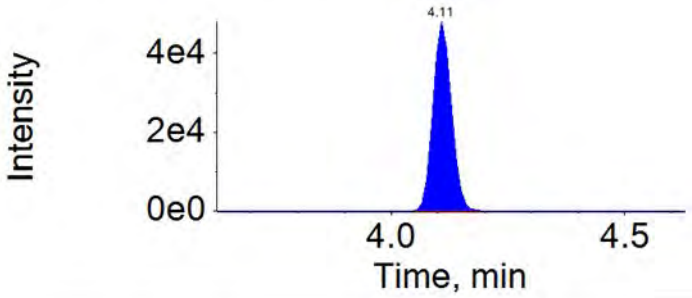
Component: PFBS
Primary Mass: 299.0 / 80.0



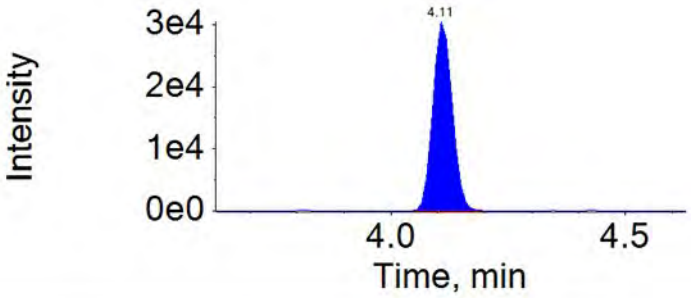
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



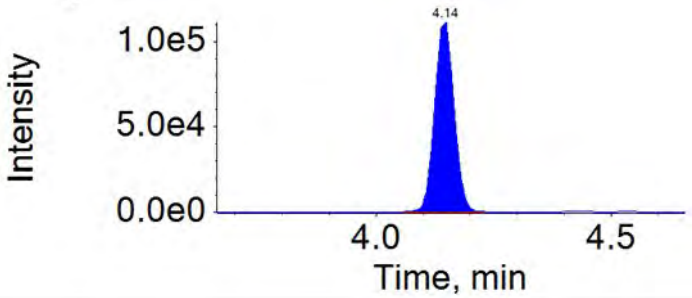
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



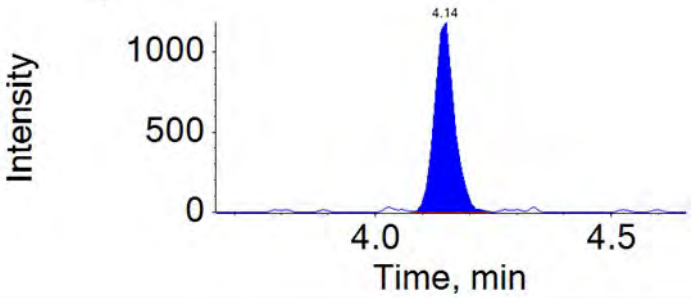
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



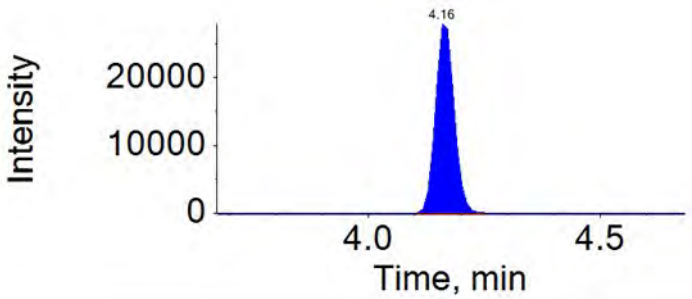
Component: PFHxA
Primary Mass: 313.0 / 269.0



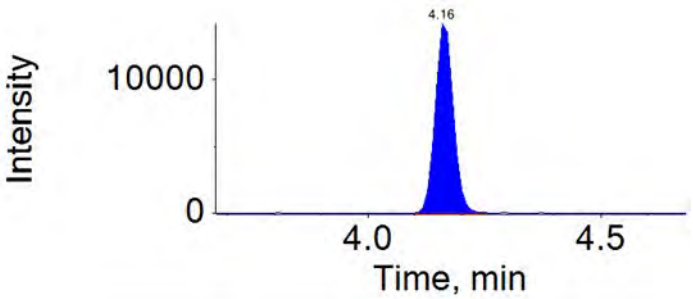
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



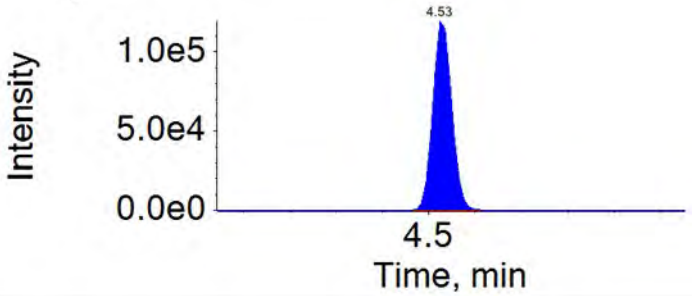
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



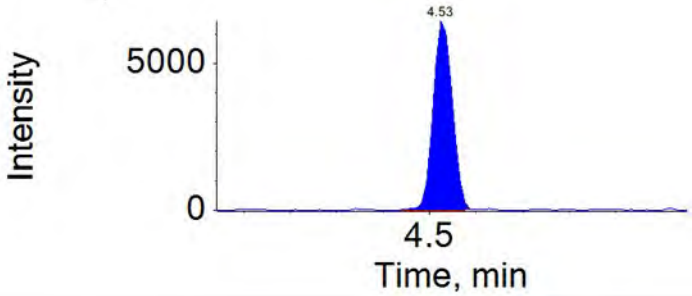
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

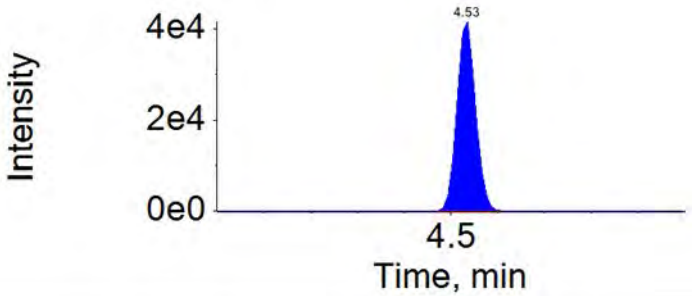
Component: PFHpA
Primary Mass: 363.0 / 319.0



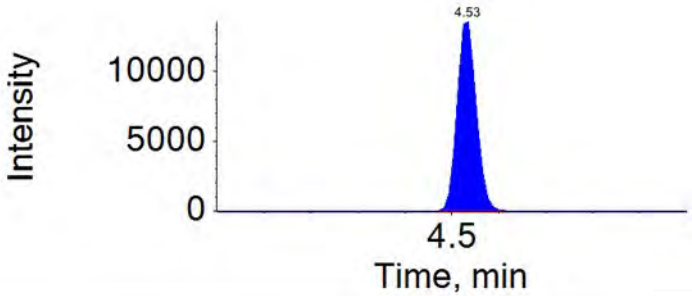
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



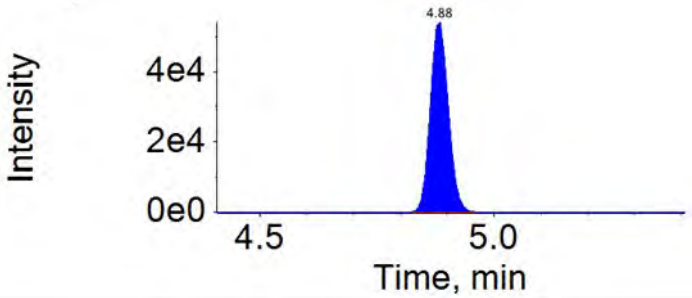
Component: PFHxS
Primary Mass: 399.0 / 80.0



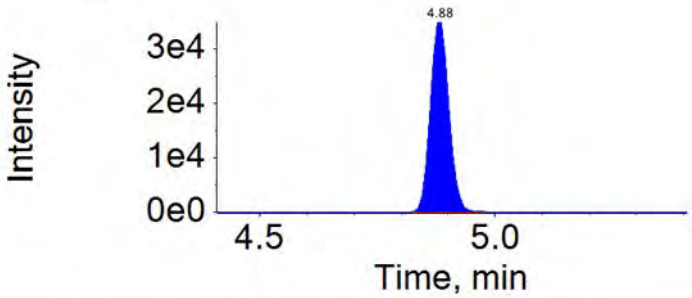
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



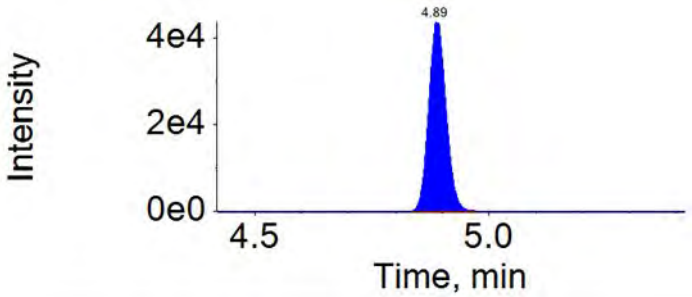
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



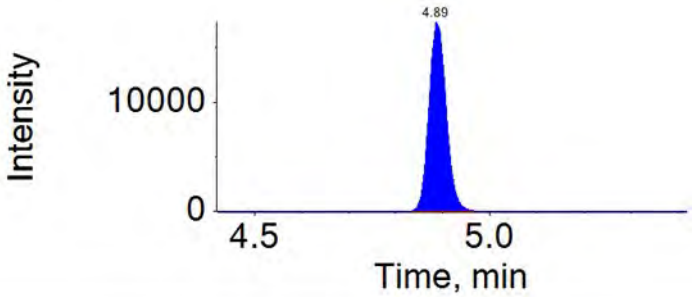
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



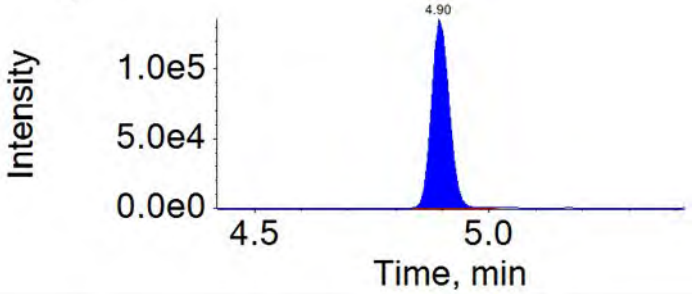
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



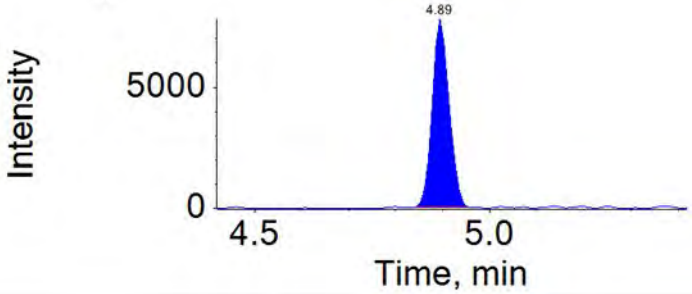
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

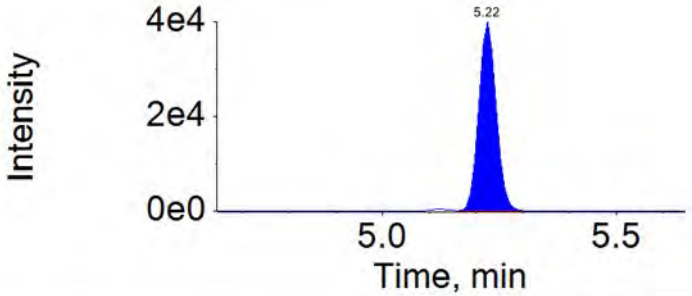
Component: PFOA
Primary Mass: 413.0 / 369.0



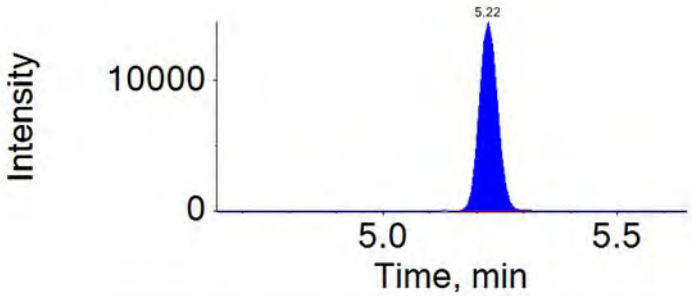
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



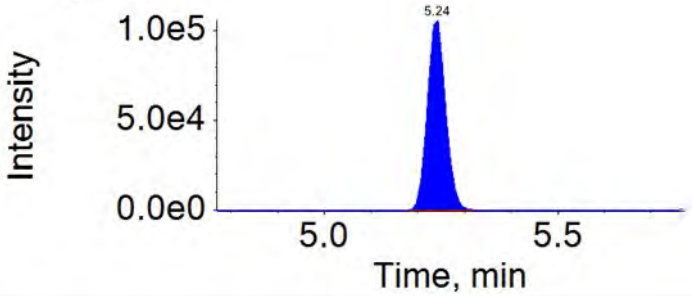
Component: PFOS
Primary Mass: 499.0 / 80.0



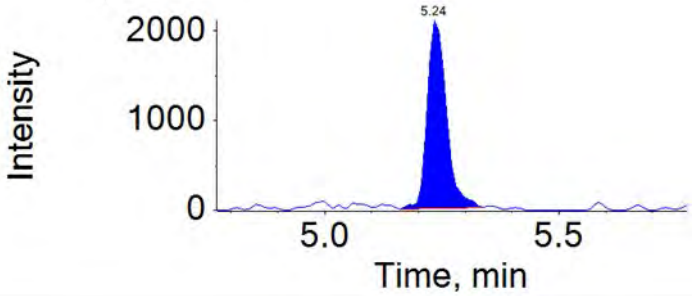
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



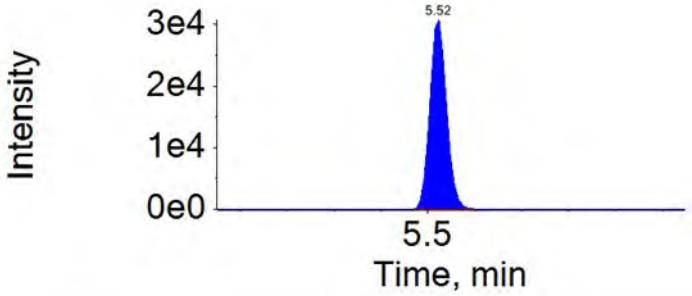
Component: PFNA
Primary Mass: 463.0 / 419.0



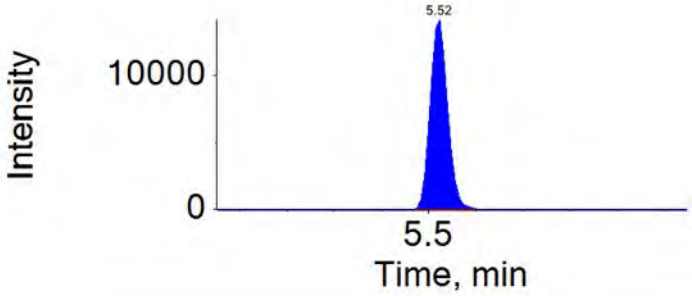
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



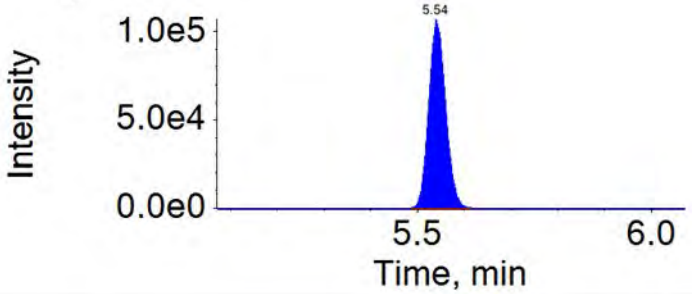
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



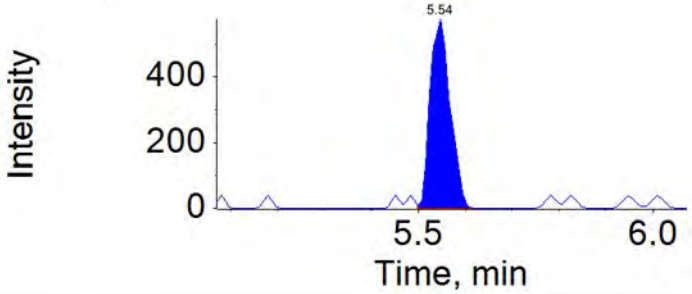
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

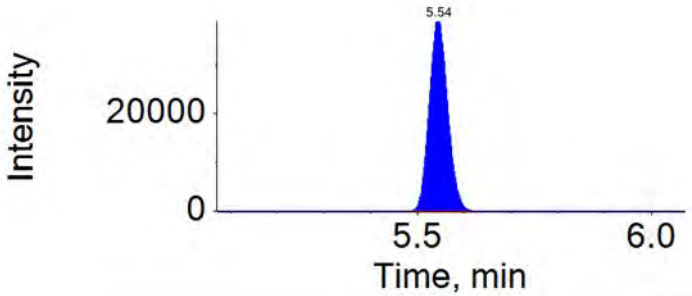
Component: PFDA
Primary Mass: 513.0 / 469.0



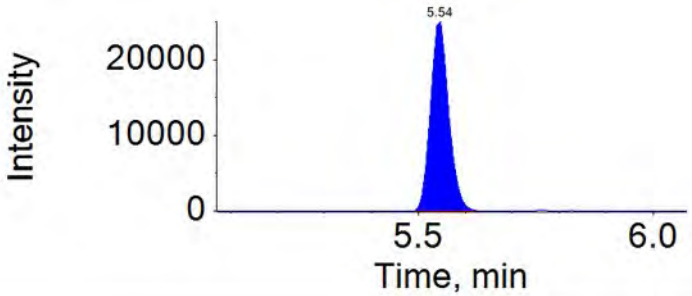
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



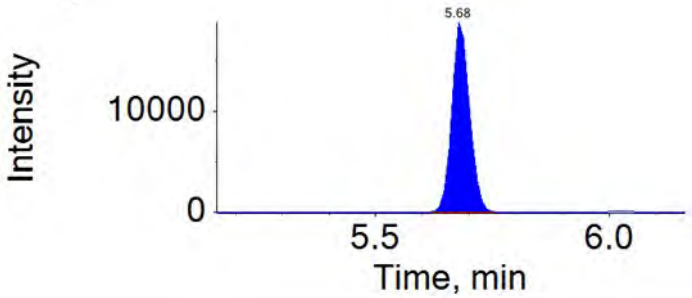
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



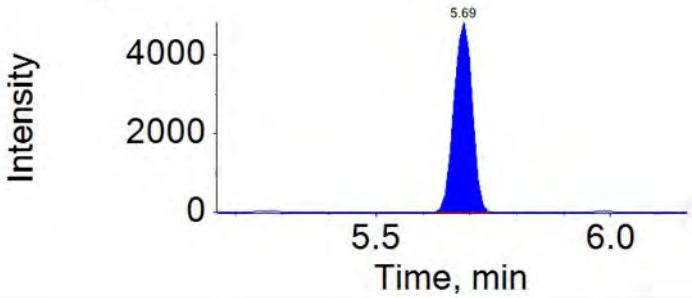
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



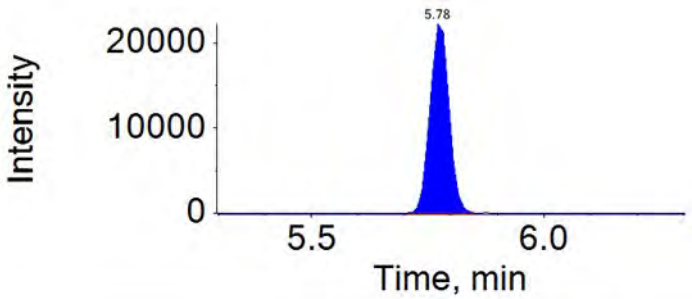
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



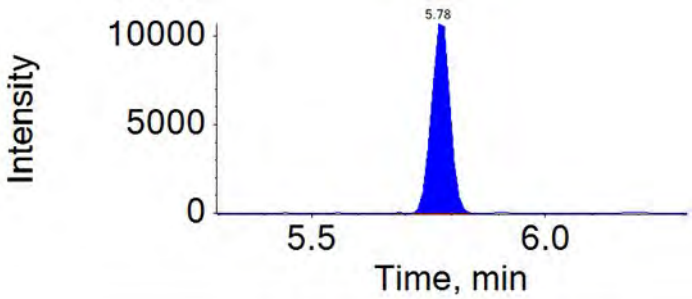
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



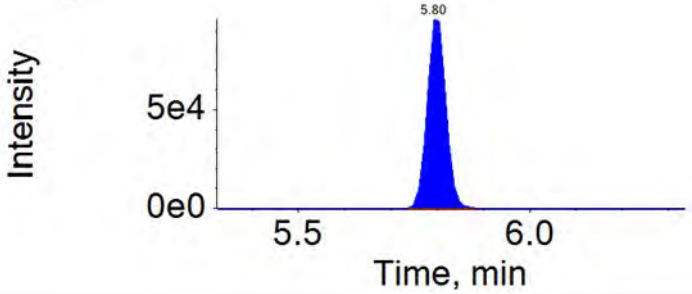
Component: PFDS
Primary Mass: 599.0 / 80.0



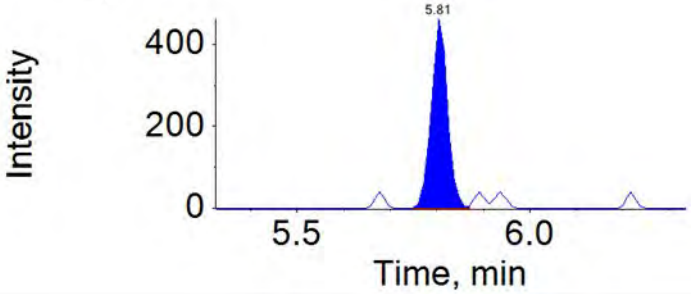
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



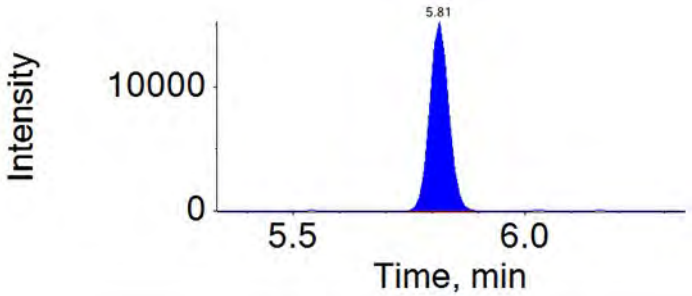
Component: PFUnDA
Primary Mass: 563.0 / 519.0



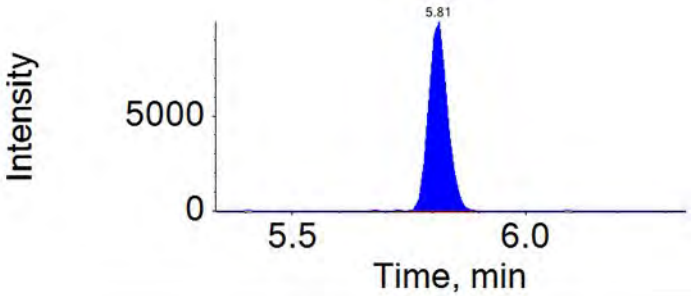
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



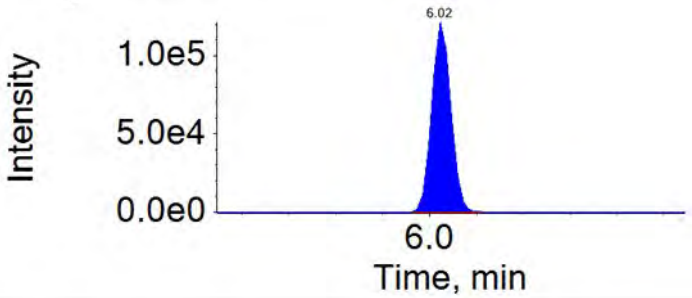
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



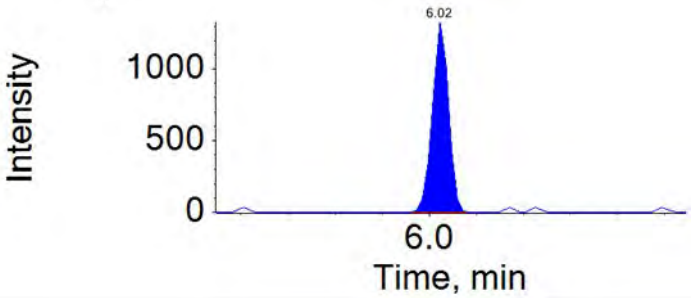
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Secondary Mass: 584.0 / 526.0



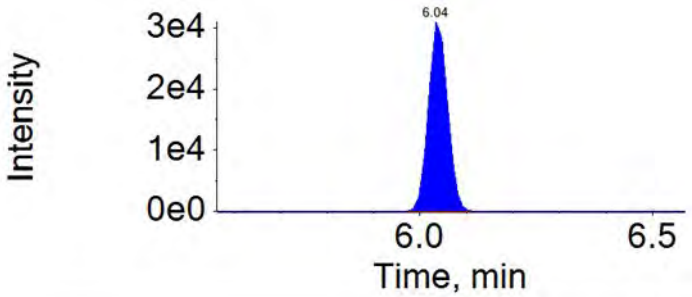
Component: PFDoDA
Primary Mass: 613.0 / 569.0



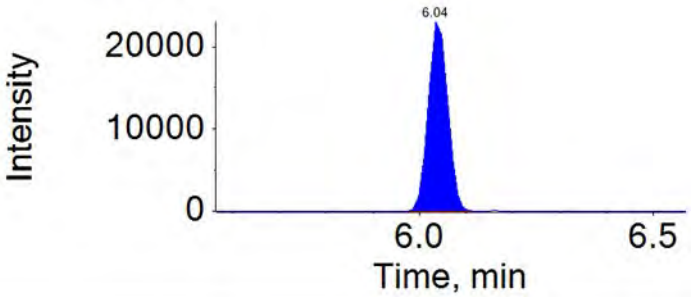
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



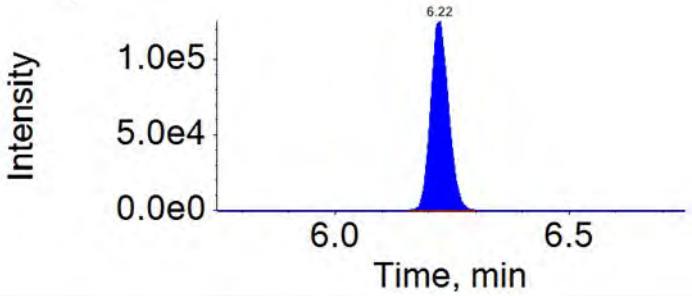
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



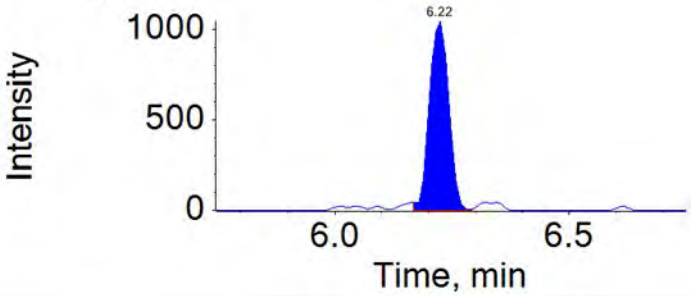
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



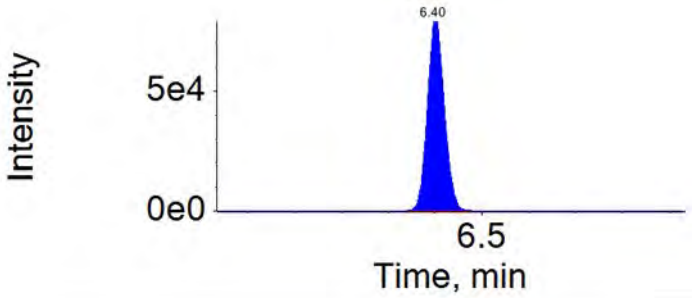
Component: PFTrDA
Primary Mass: 663.0 / 619.0



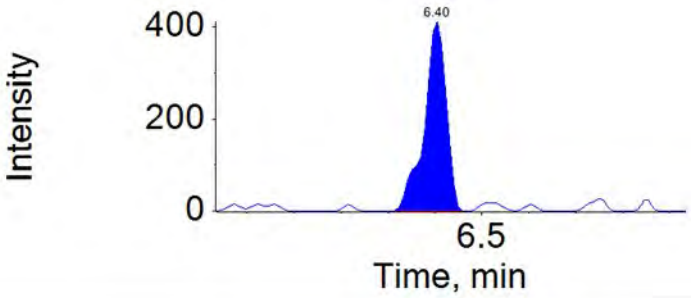
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



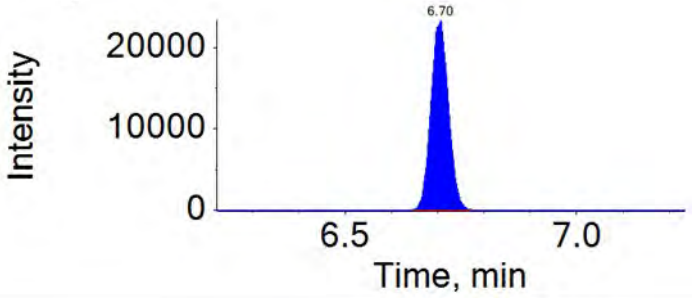
Component: PFTeDA
Primary Mass: 713.0 / 669.0



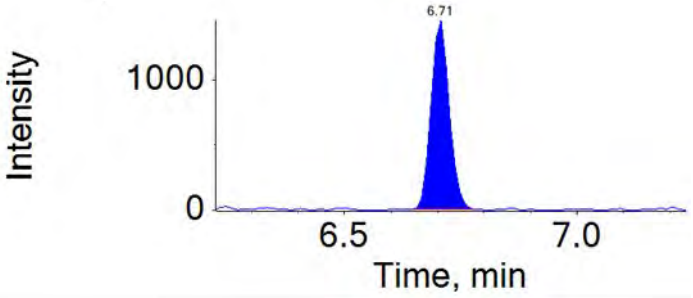
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



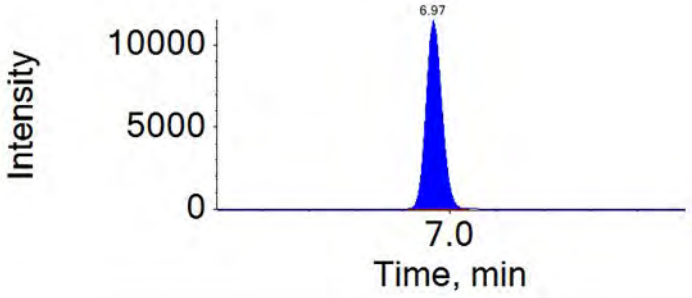
Component: PFHxDA
Primary Mass: 813.0 / 769.0



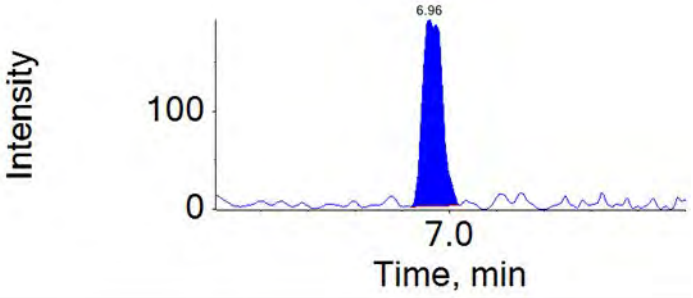
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



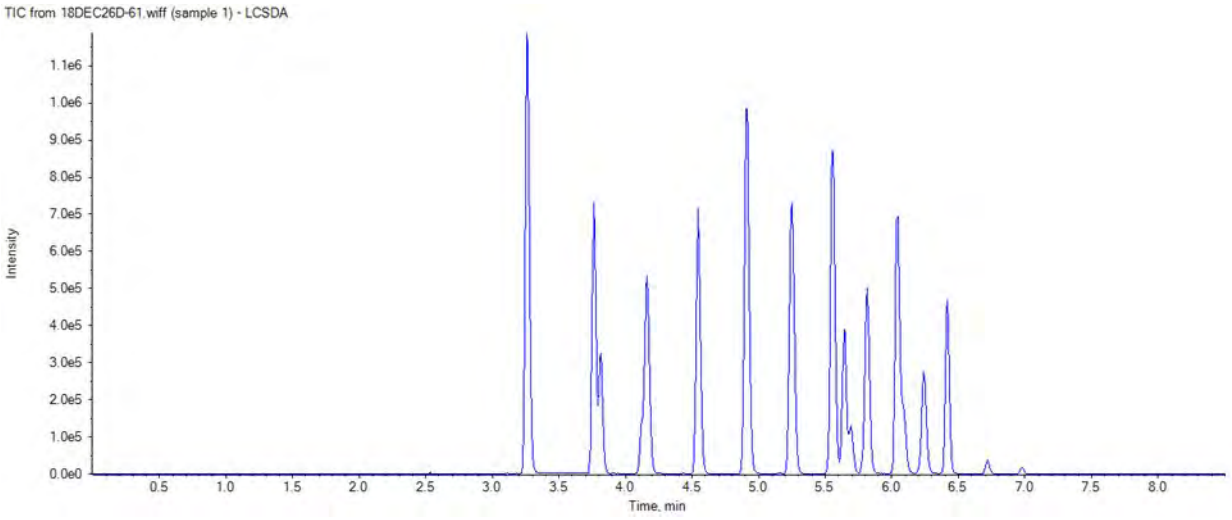
Component: PFODA_2
Secondary Mass: 913.0 / 169.0



Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL
QMethod Name: 18AUG20QM
Result Table: 18360005 12/29/2018 12:03:34 AM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCSDA	EPA 537 mod QSM 5.1 table B-15 18360005	18DEC26D-61.wiff	2018-12-27T00:22:29



Injection Standard Area Reference File**:** 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.00	989496.7	965438.2	2	50	
13C2-PFOA	5.00	549141.8	527066.0	4	50	
13C4-PFOS	4.78	307154.9	307230.6	0	50	
13C2-PFDA	5.00	515094.5	493258.9	4	50	

Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:03:34 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCSDA	EPA 537 mod QSM 5.1 table B-15 18360005	18DEC26D-61.wiff	2018-12-27T00:22:29

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	370377.7	1220865.5	0.303	5.440	6.410	118	70-130	
PFPeA	342348.7	1140580.3	0.300	5.440	5.959	110	70-130	
PFBS	143964.5	465567.1	0.309	4.812	6.138	128	72-127	OOS
4:2-FTS	136515.7	78610.3	1.737	14.944	17.032	114	70-130	
PFHxA	325018.9	813497.2	0.400	5.440	6.559	121	77-132	
PFPeS	77394.0	465567.1	0.166	5.104	6.694	131	70-130	OOS
PFHpA	335490.8	681457.1	0.492	5.440	6.223	114	75-139	
PFHxS	117535.8	376178.6	0.312	5.144	5.845	114	71-130	
6:2-FTS	121907.9	62959.3	1.936	15.168	18.569	122	70-130	
PFHpS	111447.7	376178.6	0.296	5.176	6.203	120	70-130	
PFOA	338164.8	1061402.9	0.319	5.440	6.743	124	76-136	
PFOS	112412.9	361529.0	0.311	5.200	5.415	104	67-134	
PFNA	332864.2	768235.3	0.433	5.440	6.965	128	73-144	
PFNS	79593.3	361529.0	0.220	5.224	6.019	115	70-130	
PFDA	290106.4	979352.7	0.296	5.440	6.831	126	67-141	
8:2-FTS	124760.4	57574.0	2.167	15.328	17.125	112	70-130	
PFOSA	183807.4	670196.3	0.274	5.440	5.771	106	70-130	
NMeFOSAA	53957.1	212546.5	0.254	5.440	5.921	109	67-124	
PFDS	61238.2	361529.0	0.169	5.240	5.585	107	70-130	
PFUnDA	291314.2	643702.5	0.453	5.440	6.923	127	83-132	
NEtFOSAA	50184.9	134651.1	0.373	5.440	7.665	141	60-131	OOS
PFDoDA	358063.6	1153530.8	0.310	5.440	6.334	116	72-137	
10:2-FTS	102393.1	57574.0	1.778	15.424	14.523	94	70-130	
NMePFOSAE	82849.0	241907.8	0.342	5.440	5.791	106	70-130	
NMePFOSA	13885.0	53460.6	0.260	5.440	5.184	95	70-130	
PFDoS	24377.3	361529.0	0.067	5.280	4.031	76	70-130	
NEtPFOSAE	82188.8	197823.1	0.415	5.440	5.499	101	70-130	
NEtPFOSA	12245.8	37651.7	0.325	5.440	6.117	112	70-130	
PFTrDA	336813.9	1153530.8	0.292	5.440	6.218	114	57-137	
PFTeDA	218413.8	749197.4	0.292	5.440	6.632	122	70-142	
PFHxDA	74666.9	749197.4	0.100	5.440	4.596	84	70-130	
PFODA	34113.5	749197.4	0.046	5.440	2.693	50	70-130	OOS

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Lab Control Sample Recovery

ICAL Name: 18DEC26DCAL
QMethod Name: 18AUG20QM
Result Table: 18360005 12/29/2018 12:03:34 AM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	LCSDA			**Data File:**		18DEC26D-61.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18360005			**Acquis Date:**		2018-12-27T00:22:29
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	14			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18360005
QMethod File:	18AUG20QM			**ICAL Name:**		18DEC26DCAL
Batch Number:	18360005			**Operator:**		MCD7824
Sample Wt.:	0.25000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18DEC26DCAL-08

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	989496.7	965438.2	2	50	
13C2-PFOA	5.0	549141.8	527066.0	4	50	
13C4-PFOS	4.8	307154.9	307230.6	0	50	
13C2-PFDA	5.0	515094.5	493258.9	4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	1220865.5	13C3-PFBA	989496.7	1.234	20.000	21.897	109	50-150	
E13C5-PFPeA	1140580.3	13C3-PFBA	989496.7	1.153	20.000	21.961	110	50-150	
E13C3-PFBS	465567.1	13C3-PFBA	989496.7	0.471	18.600	18.285	98	50-150	
E13C2-4:2-FTS	78610.3	13C2-PFOA	549141.8	0.143	18.680	21.815	117	50-150	
E13C5-PFHxA	813497.2	13C2-PFOA	549141.8	1.481	20.000	21.677	108	50-150	
E13C3-PFHxS	376178.6	13C2-PFOA	549141.8	0.685	18.920	21.056	111	50-150	
E13C4-PFHpA	681457.1	13C2-PFOA	549141.8	1.241	20.000	22.363	112	50-150	
E13C2-6:2-FTS	62959.3	13C2-PFOA	549141.8	0.115	19.000	22.438	118	50-150	
E13C8-PFOA	1061402.9	13C2-PFOA	549141.8	1.933	20.000	21.662	108	50-150	
E13C8-PFOS	361529.0	13C4-PFOS	307154.9	1.177	19.120	20.524	107	50-150	
E13C9-PFNA	768235.3	13C4-PFOS	307154.9	2.501	20.000	22.040	110	50-150	
E13C6-PFDA	979352.7	13C2-PFDA	515094.5	1.901	20.000	21.836	109	50-150	
E13C2-8:2-FTS	57574.0	13C2-PFDA	515094.5	0.112	19.160	23.130	121	50-150	
E13C8-PFOSA	670196.3	13C2-PFDA	515094.5	1.301	20.000	20.788	104	50-150	
Ed3-NMeFOSAA	212546.5	13C2-PFDA	515094.5	0.413	20.000	21.061	105	50-150	
E13C7-PFUnDA	643702.5	13C2-PFDA	515094.5	1.250	20.000	21.599	108	50-150	
Ed5-NEtFOSAA	134651.1	13C2-PFDA	515094.5	0.261	20.000	18.118	91	50-150	
E13C2-PFDoDA	1153530.8	13C2-PFDA	515094.5	2.239	20.000	19.429	97	50-150	
Ed7-NMePFOSAE	241907.8	13C2-PFDA	515094.5	0.470	20.000	17.761	89	50-150	
Ed3-NMePFOSA	53460.6	13C2-PFDA	515094.5	0.104	20.000	11.769	59	50-150	
Ed9-NEtPFOSAE	197823.1	13C2-PFDA	515094.5	0.384	20.000	16.715	84	50-150	
Ed5-NEtPFOSA	37651.7	13C2-PFDA	515094.5	0.073	20.000	10.320	52	50-150	
E13C2-PFTeDA	749197.4	13C2-PFDA	515094.5	1.454	20.000	17.159	86	50-150	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

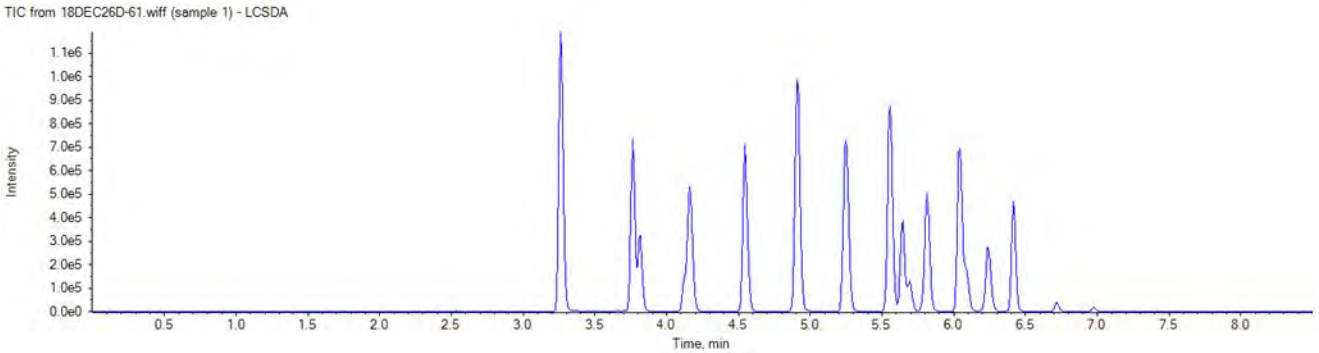
Analyte Quantitation Peak Table

Sample Name: LCSDA **Instrument Name:** LM27631 **File Name:** 18DEC26D-61.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.25000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBA	3.26	1.000	370377.7		A	13C4-PFBA	3.26	1220865.5	0.303	6.410
PFPeA	3.77	1.000	342348.7		A	13C5-PFPeA	3.76	1140580.3	0.300	5.959
PFBS	3.81	1.000	143964.5		A	13C3-PFBS	3.81	465567.1	0.309	6.138
4:2-FTS	4.12	1.000	136515.7		A	13C2-4:2-FTS	4.13	78610.3	1.737	17.032
PFHxA	4.16	1.000	325018.9		A	13C5-PFHxA	4.16	813497.2	0.400	6.559
PFPeS	4.18	1.100	77394.0		A	13C3-PFBS	3.81	465567.1	0.166	6.694
PFHpA	4.55	1.000	335490.8		A	13C4-PFHpA	4.55	681457.1	0.492	6.223
PFHxS	4.55	1.000	117535.8		A	13C3-PFHxS	4.55	376178.6	0.312	5.845
6:2-FTS	4.90	1.000	121907.9		A	13C2-6:2-FTS	4.90	62959.3	1.936	18.569
PFHpS	4.91	1.080	111447.7		A	13C3-PFHxS	4.55	376178.6	0.296	6.203
PFOA	4.91	1.000	338164.8		A	13C8-PFOA	4.91	1061402.9	0.319	6.743
PFOS	5.24	1.000	112412.9		A	13C8-PFOS	5.24	361529.0	0.311	5.415
PFNA	5.26	1.000	332864.2		A	13C9-PFNA	5.26	768235.3	0.433	6.965
PFNS	5.54	1.060	79593.3		A	13C8-PFOS	5.24	361529.0	0.220	6.019
PFDA	5.56	1.000	290106.4		A	13C6-PFDA	5.56	979352.7	0.296	6.831
8:2-FTS	5.56	1.000	124760.4		A	13C2-8:2-FTS	5.56	57574.0	2.167	17.125
PFOSA	5.64	1.000	183807.4		A	13C8-PFOSA	5.64	670196.3	0.274	5.771
NMeFOSAA	5.70	1.000	53957.1		A	d3-NMeFOSAA	5.69	212546.5	0.254	5.921
PFDS	5.79	1.100	61238.2		A	13C8-PFOS	5.24	361529.0	0.169	5.585
PFUnDA	5.81	1.000	291314.2		A	13C7-PFUnDA	5.81	643702.5	0.453	6.923
NEtFOSAA	5.83	1.000	50184.9		A	d5-NEtFOSAA	5.83	134651.1	0.373	7.665
PFDoDA	6.04	1.000	358063.6		A	13C2-PFDoDA	6.04	1153530.8	0.310	6.334
10:2-FTS	6.06	1.090	102393.1		A	13C2-8:2-FTS	5.56	57574.0	1.778	14.523
NMePFOSAE	6.09	1.000	82849.0		A	d7-NMePFOSAE	6.09	241907.8	0.342	5.791
NMePFOSA	6.10	1.000	13885.0		A	d3-NMePFOSA	6.10	53460.6	0.260	5.184
PFDoS	6.21	1.190	24377.3		A	13C8-PFOS	5.24	361529.0	0.067	4.031
NEtPFOSAE	6.25	1.000	82188.8		A	d9-NEtPFOSAE	6.24	197823.1	0.415	5.499
NEtPFOSA	6.27	1.000	12245.8		A	d5-NEtPFOSA	6.26	37651.7	0.325	6.117
PFTrDA	6.24	1.030	336813.9		A	13C2-PFDoDA	6.04	1153530.8	0.292	6.218
PFTeDA	6.42	1.000	218413.8		A	13C2-PFTeDA	6.42	749197.4	0.292	6.632
PFHxDA	6.72	1.050	74666.9		A	13C2-PFTeDA	6.42	749197.4	0.100	4.596
PFODA	6.98	1.090	34113.5		A	13C2-PFTeDA	6.42	749197.4	0.046	2.693

Total Ion Chromatogram

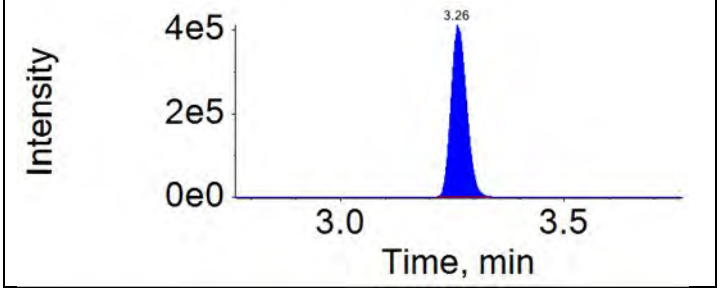


APPROVED
By MCD at 0:13 am, 12/29/18

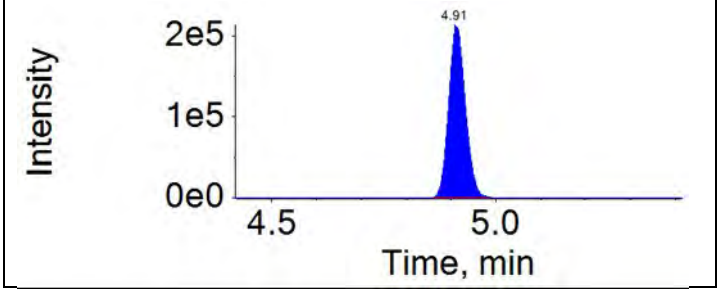
REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

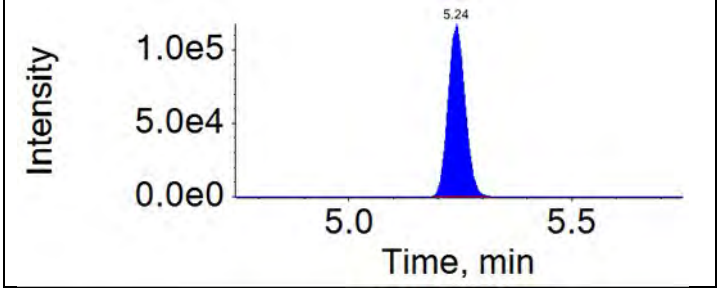
Injection Standard: 13C3-PFBA
216.0 / 172.0



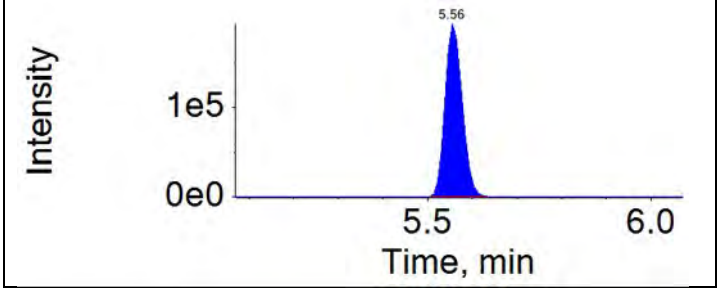
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0

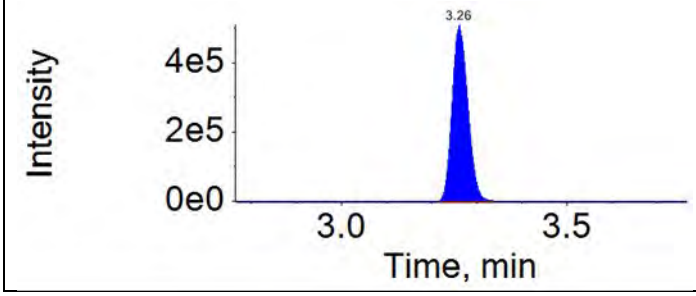


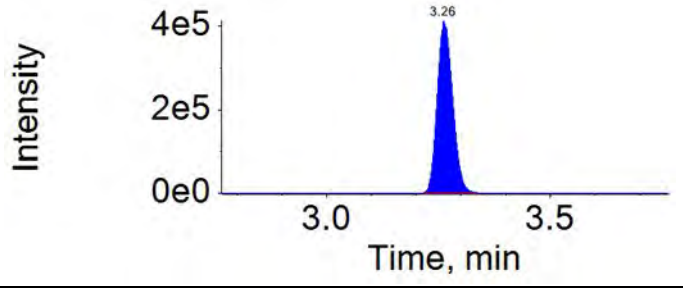
Injection Standard: 13C2-PFDA
515.0 / 470.0



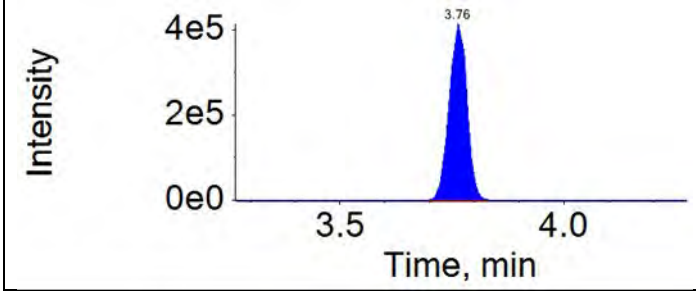
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

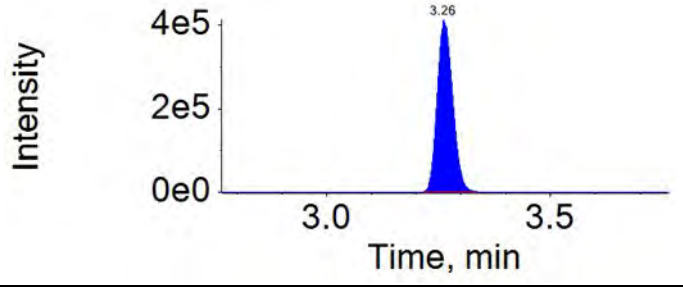
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



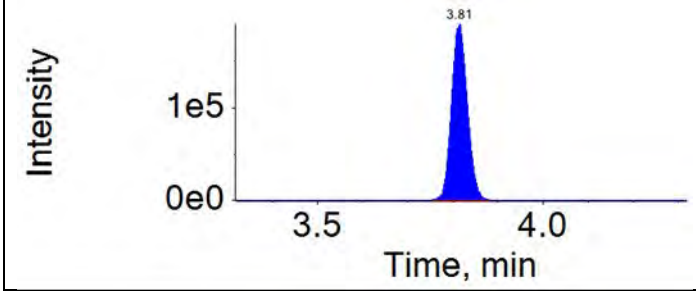


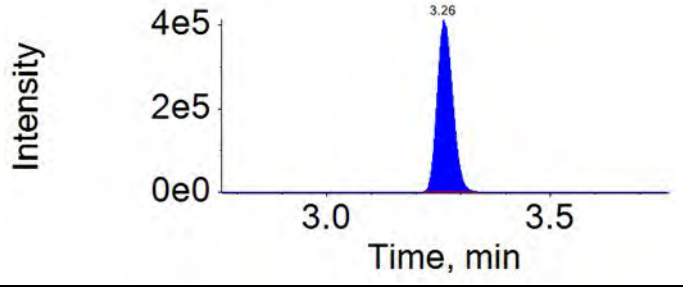
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



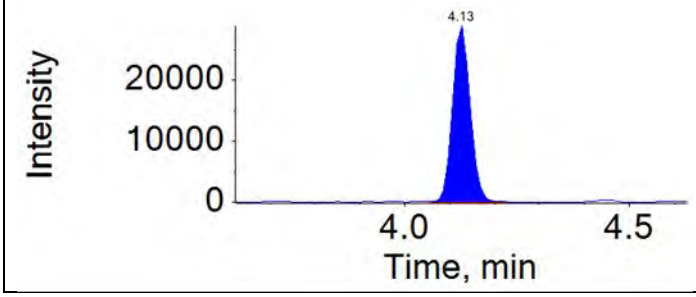


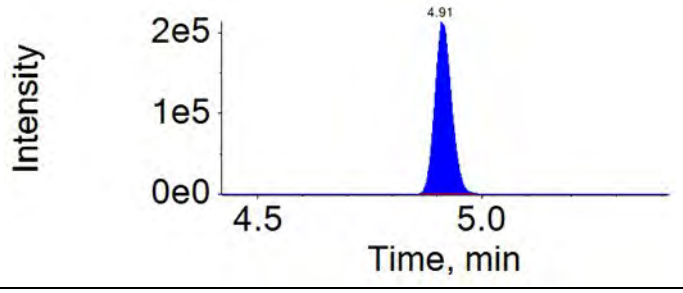
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





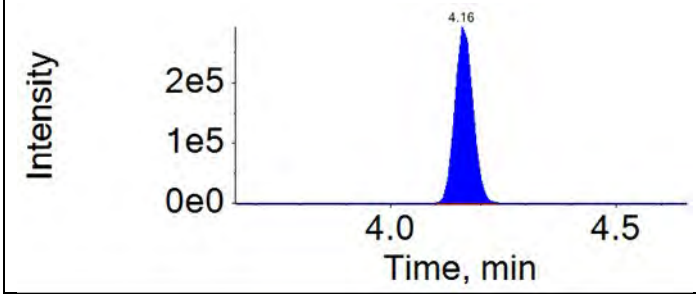
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

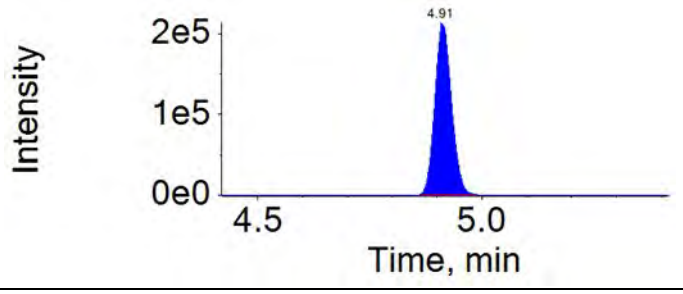




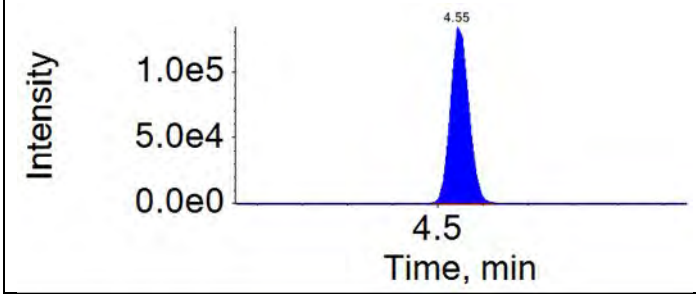
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

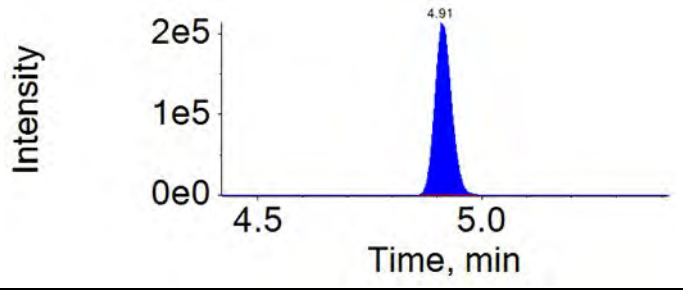
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



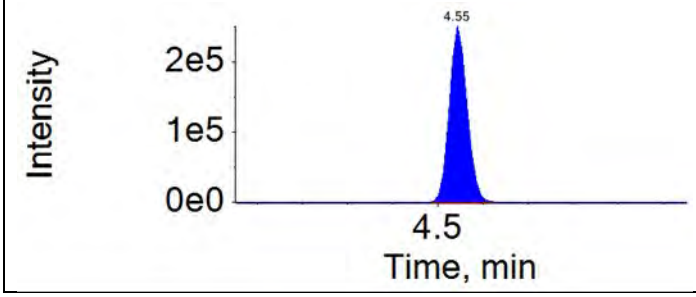


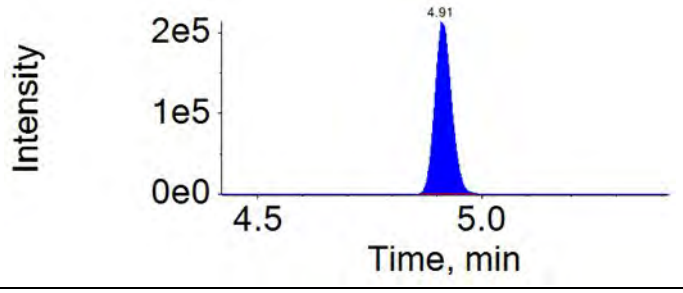
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



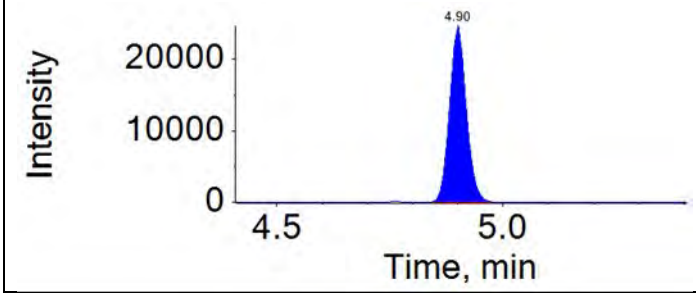


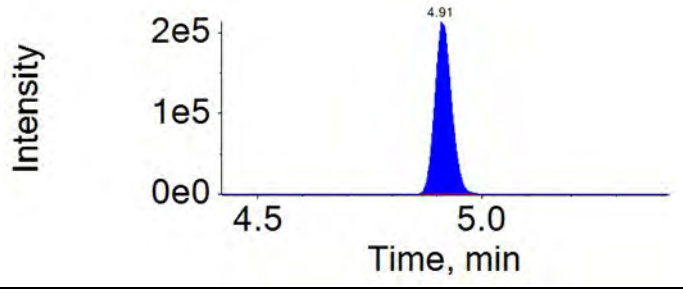
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



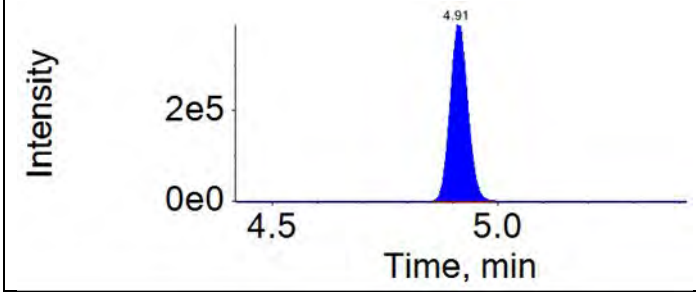
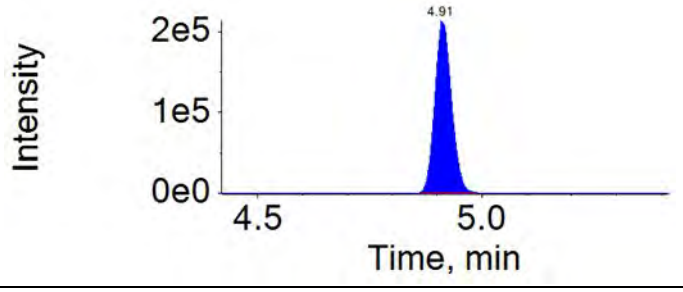


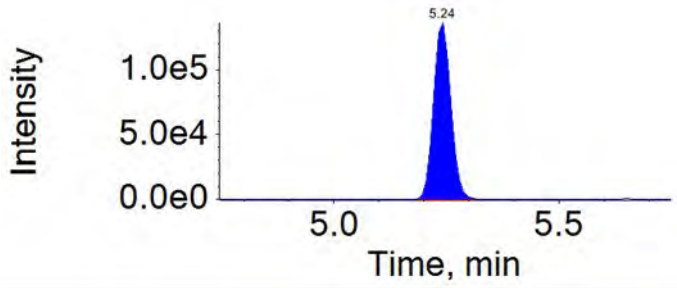
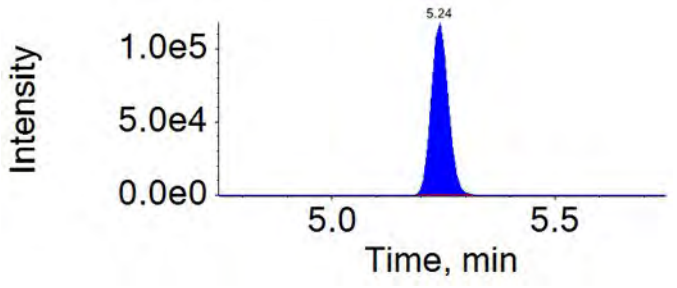
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

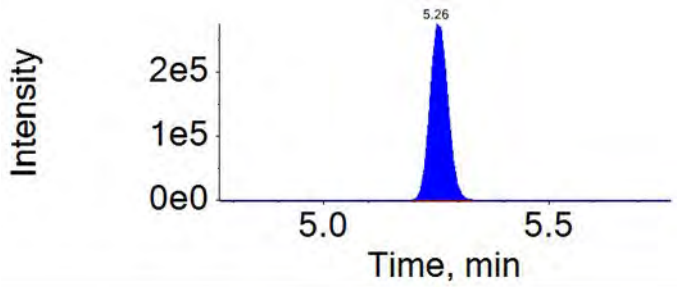
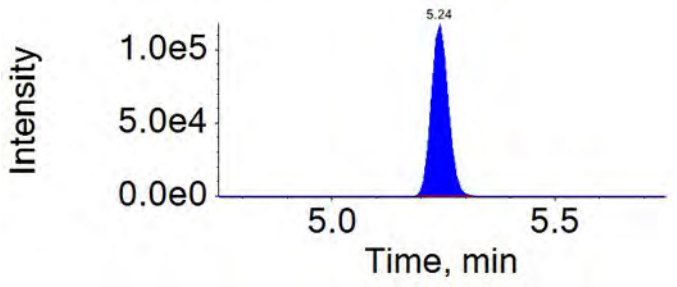


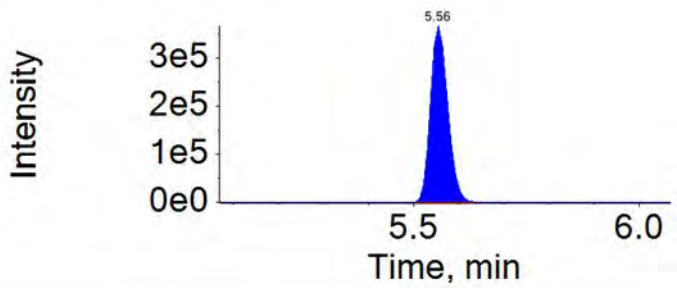
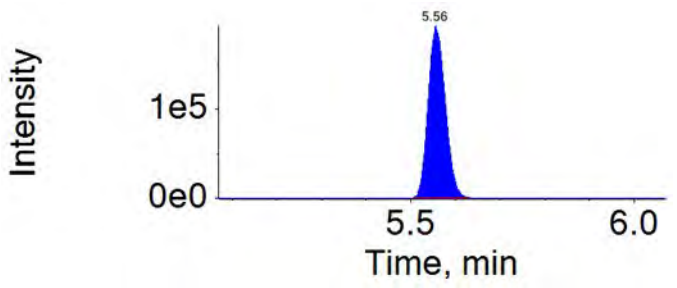


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

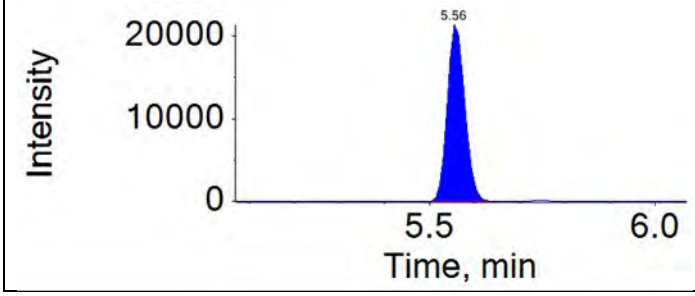
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

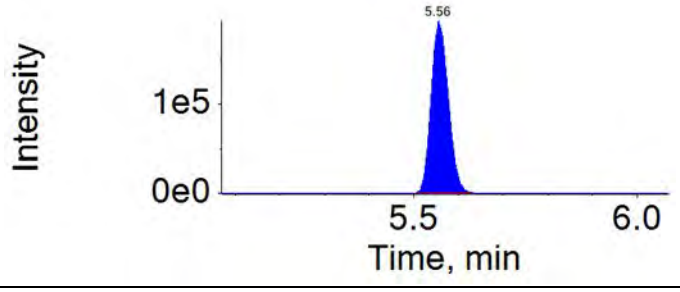
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

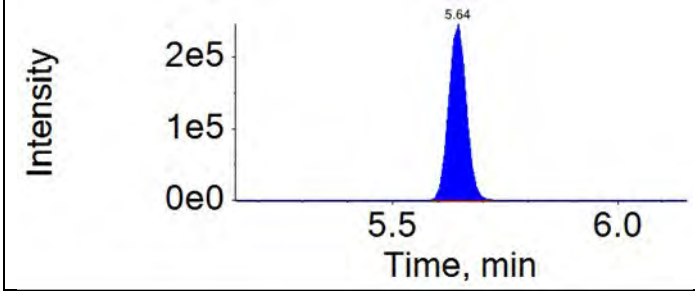
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

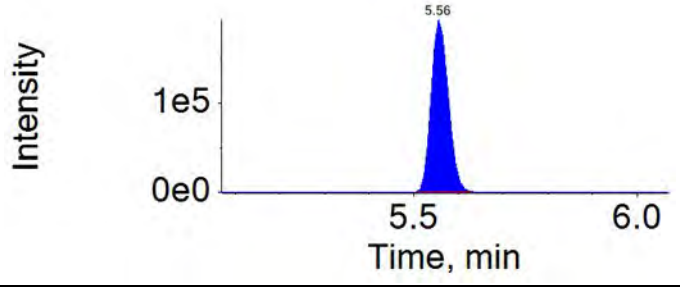
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



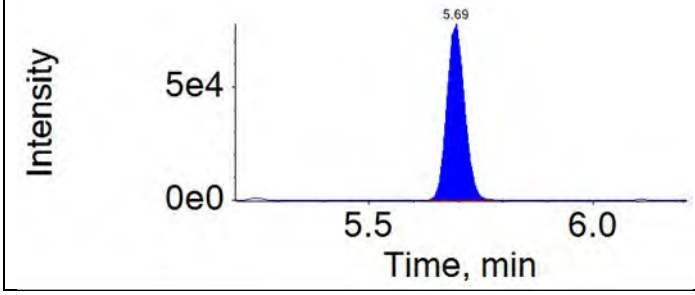


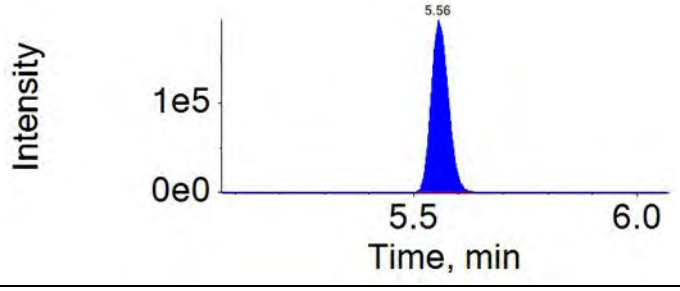
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



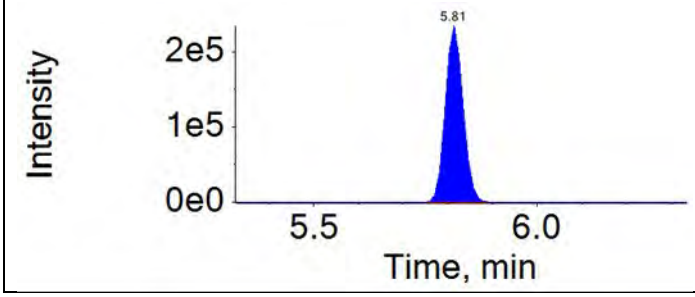


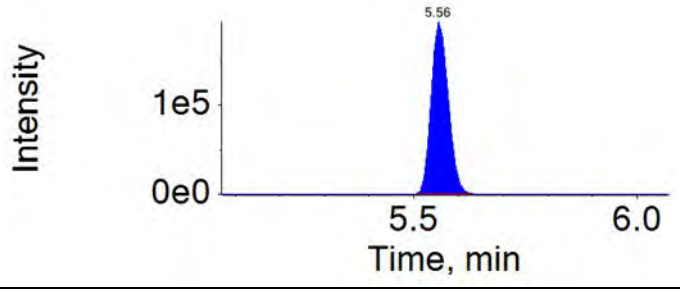
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





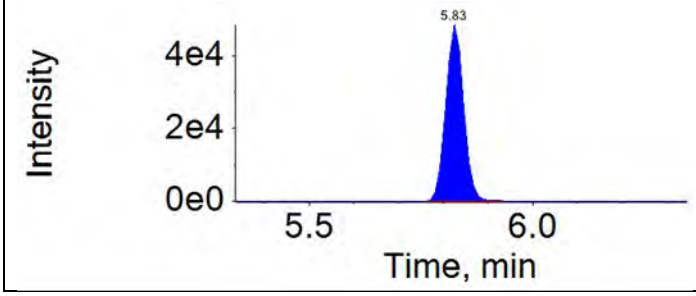
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0

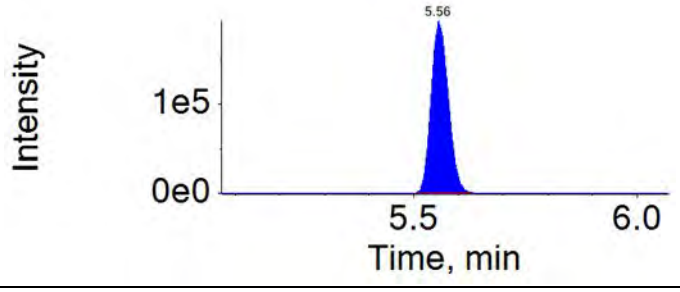




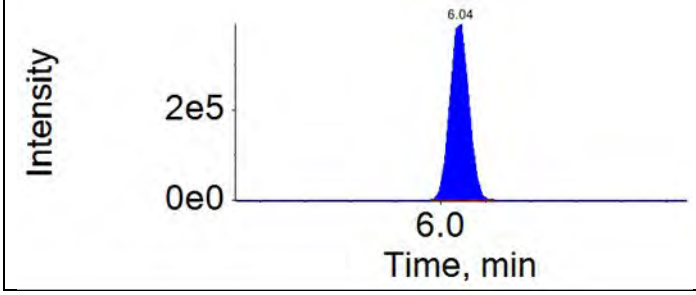
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

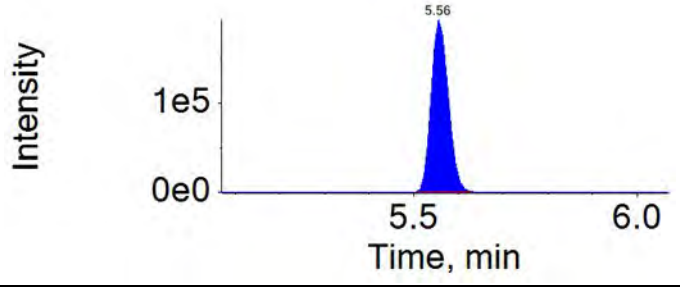
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



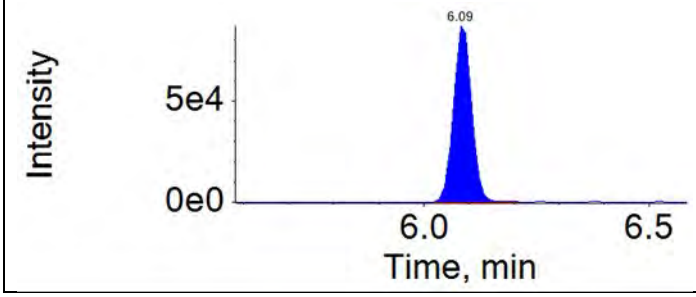


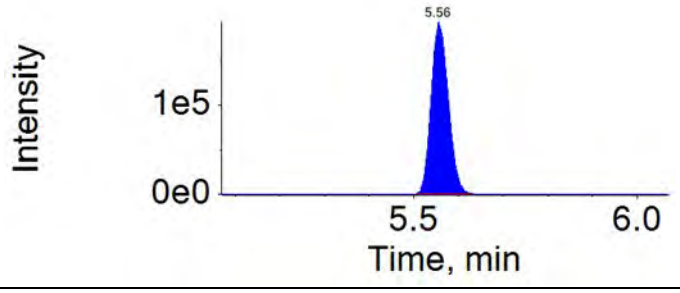
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



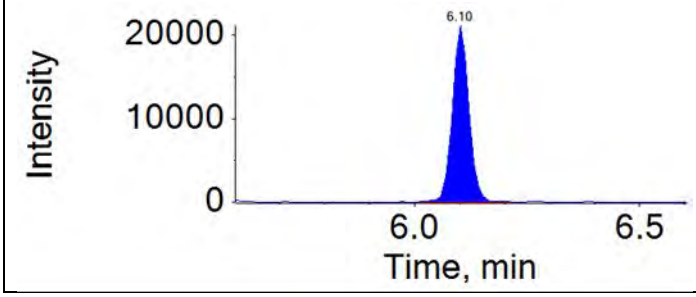


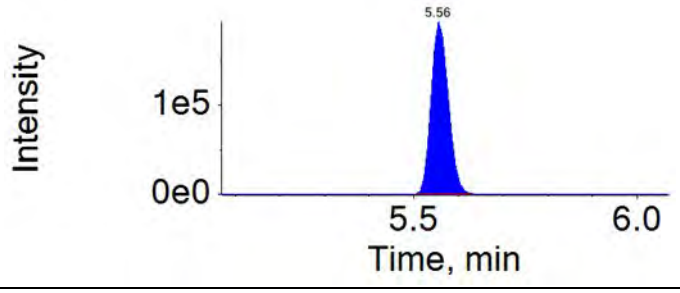
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





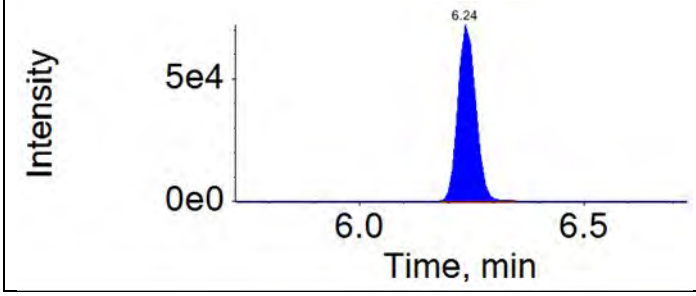
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

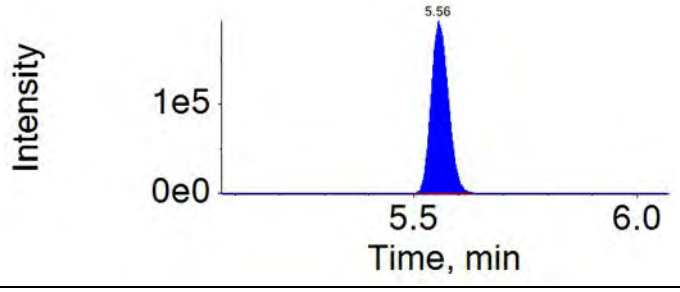




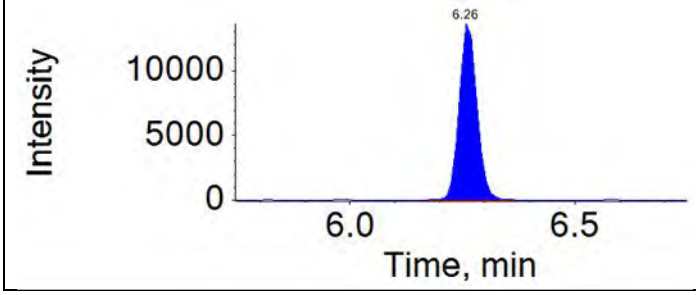
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

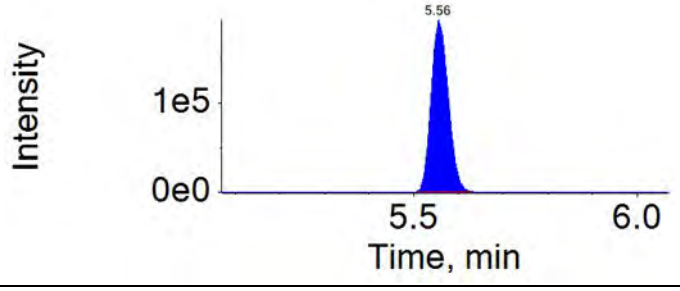
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



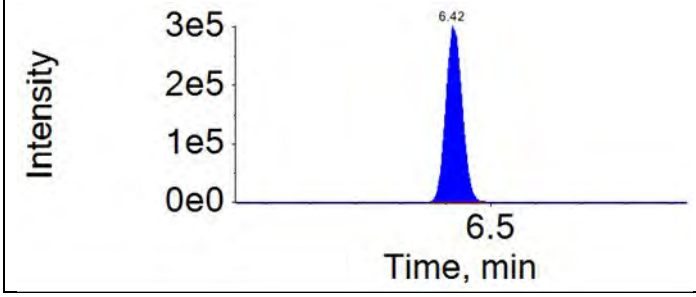


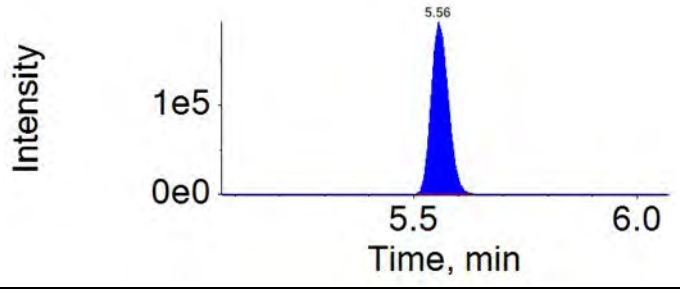
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0



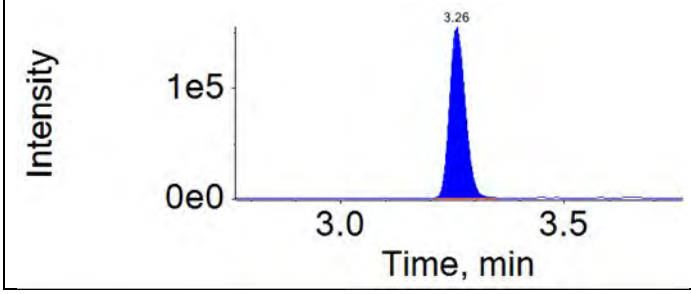
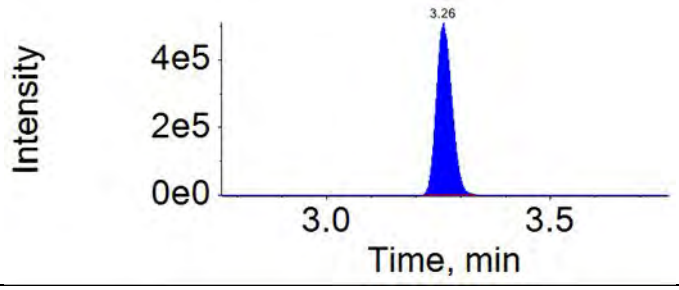


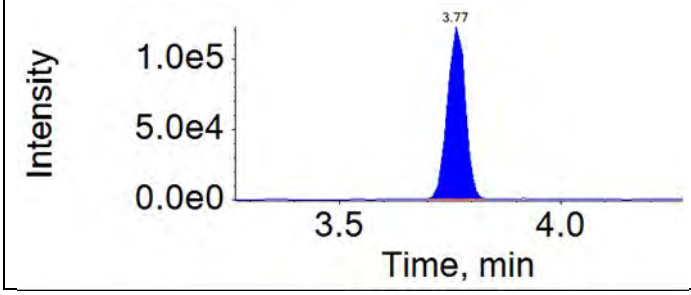
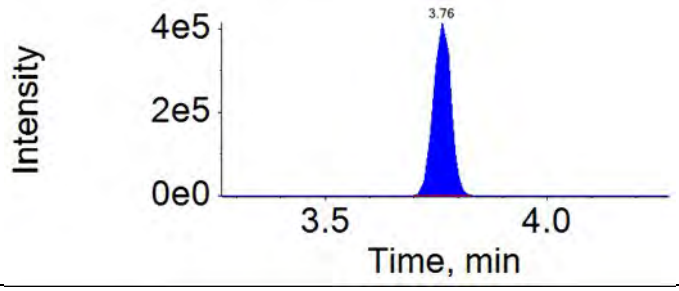
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

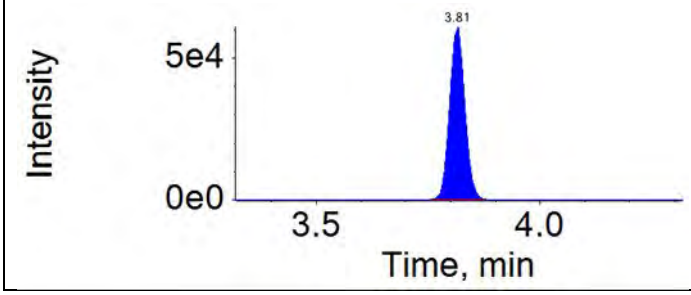
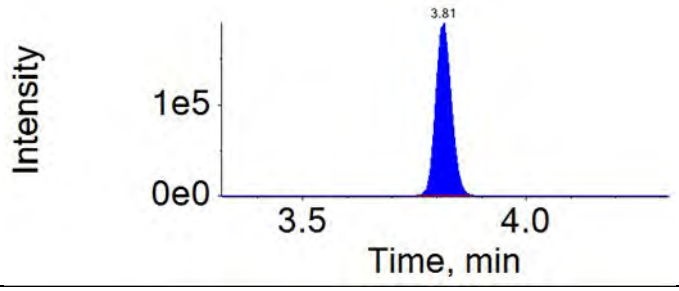


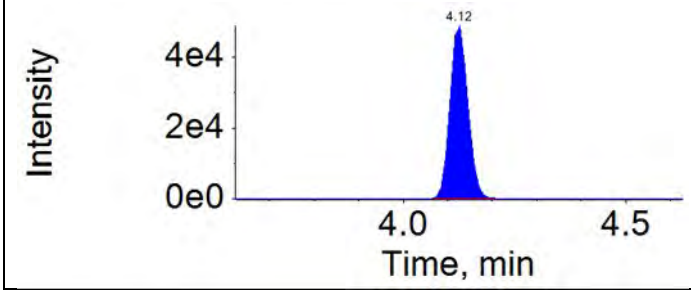
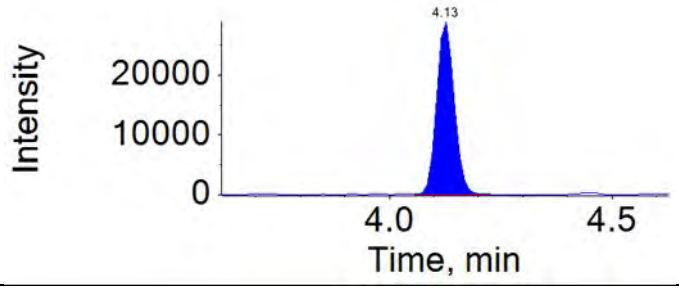


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

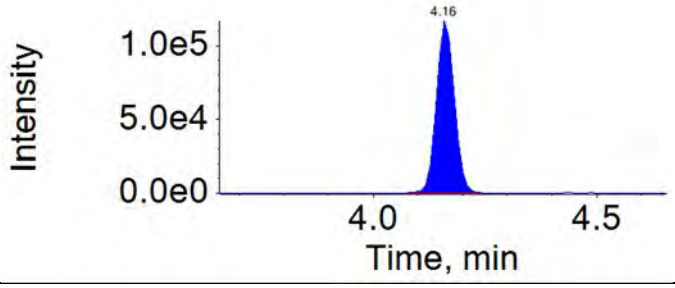
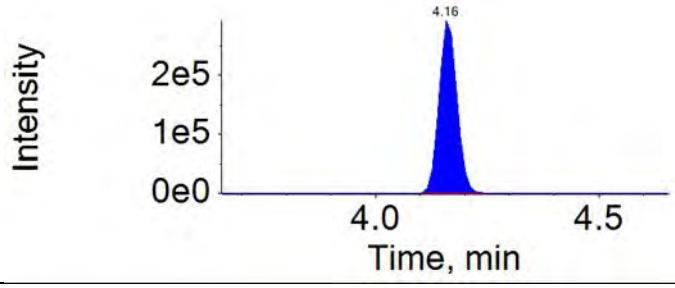
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0
	

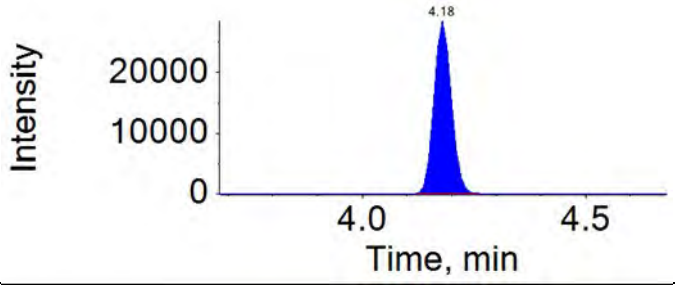
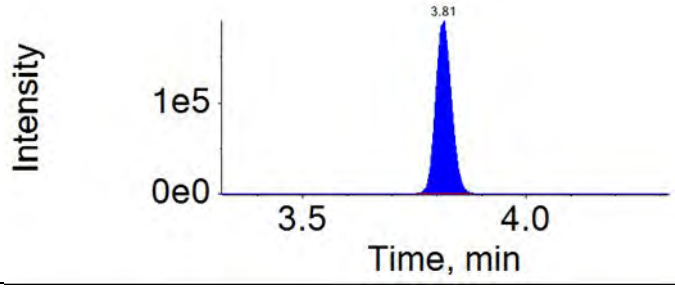
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0
	

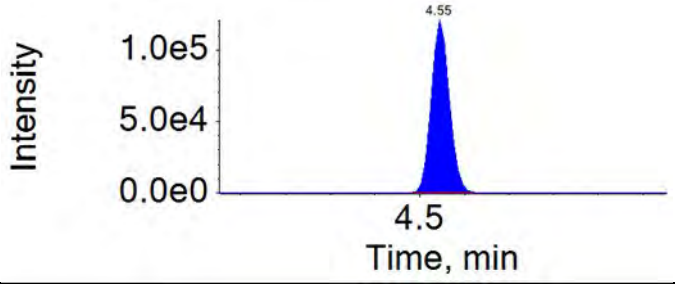
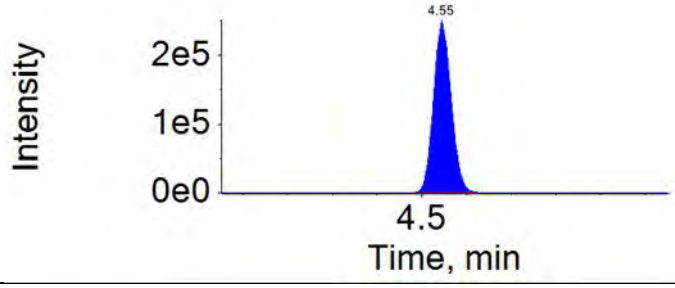
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

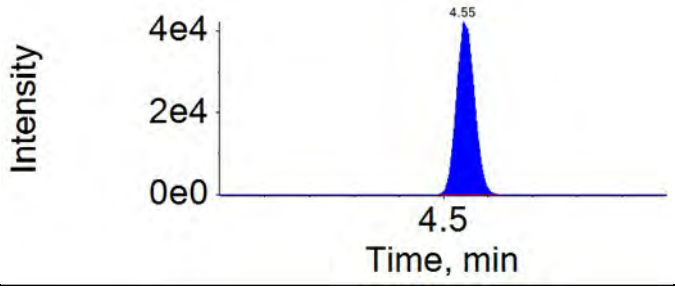
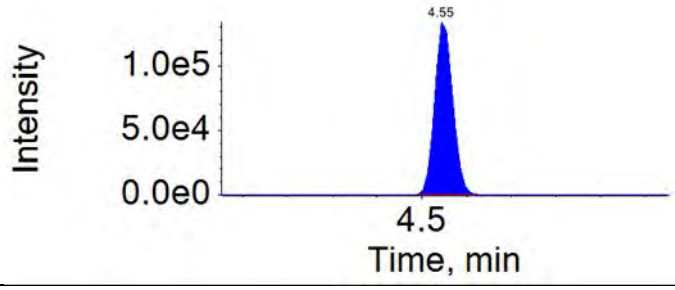
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

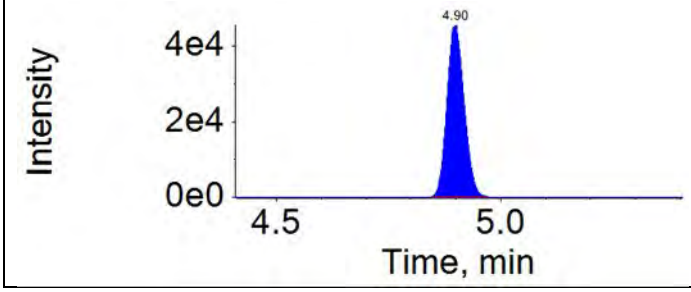
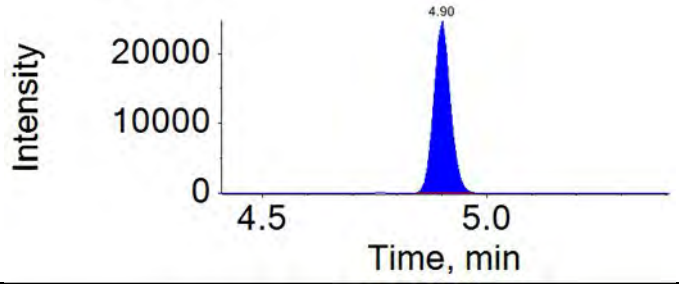
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0
	

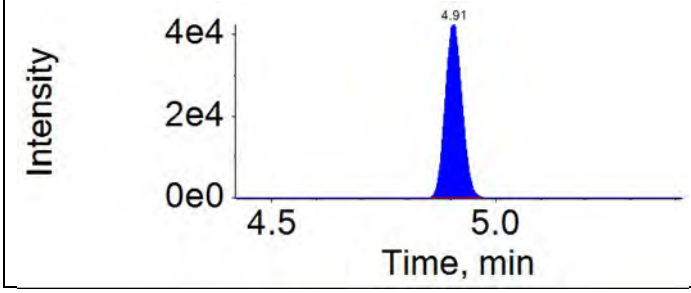
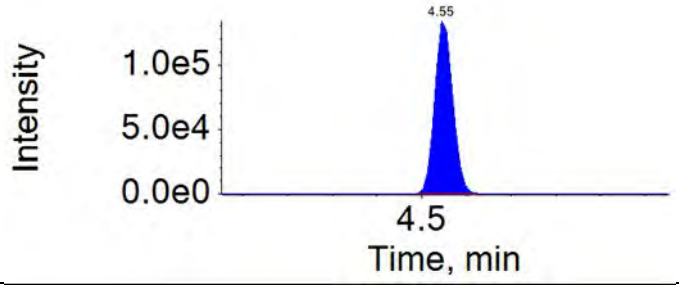
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0
	

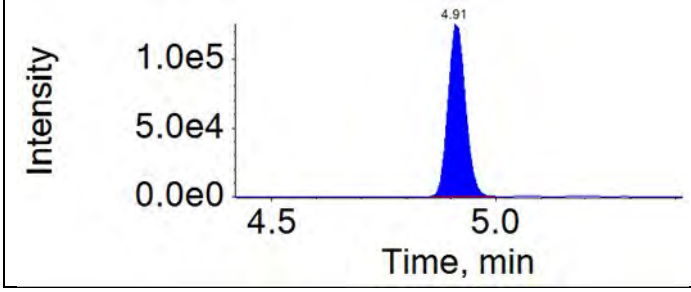
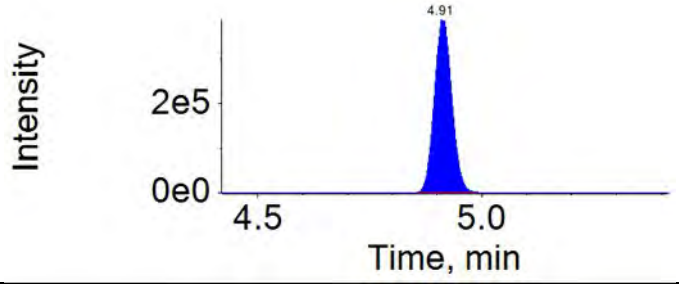
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

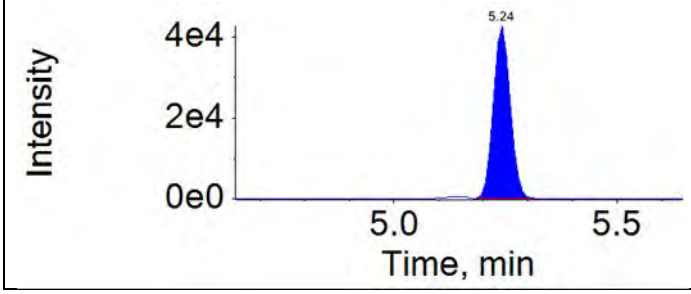
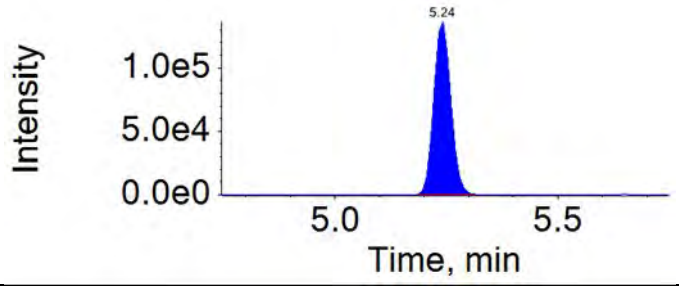
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

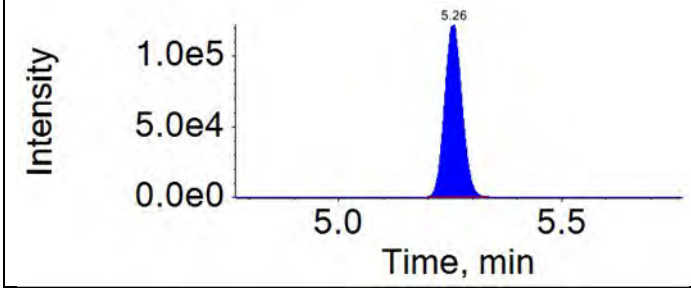
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

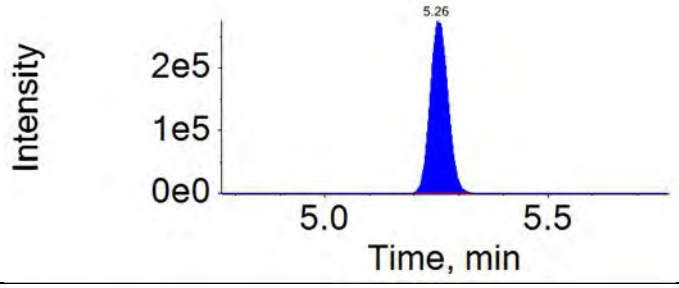
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

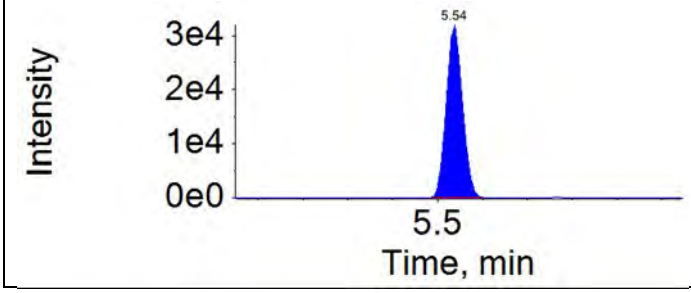
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

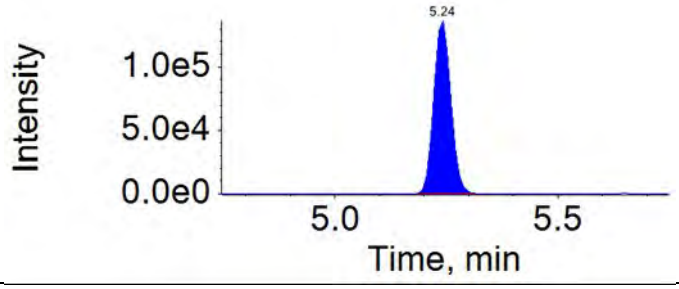
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



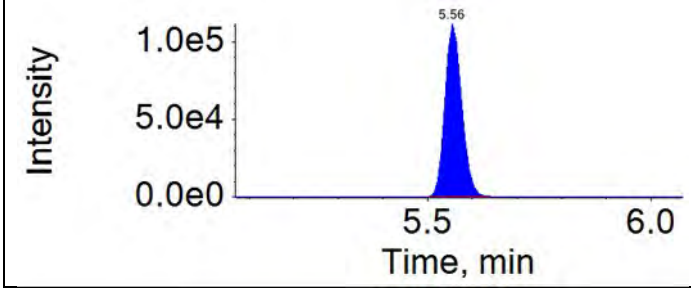


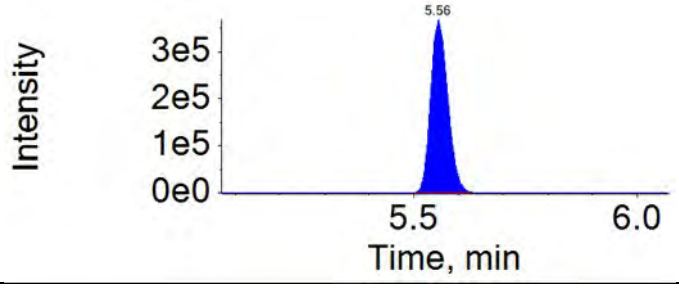
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



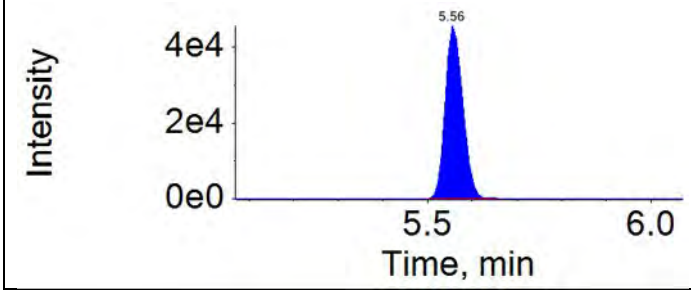


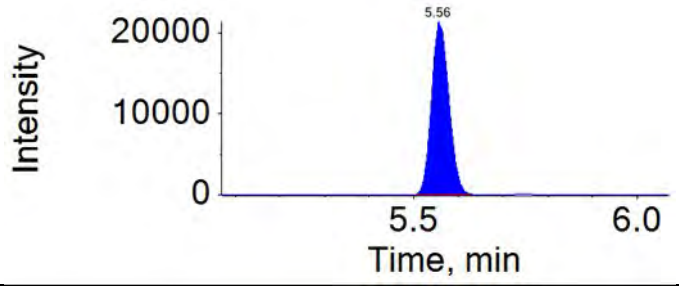
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0



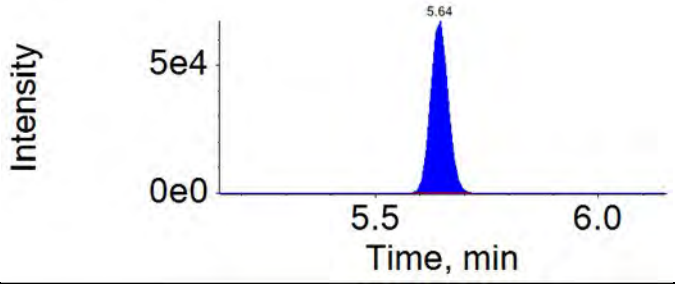
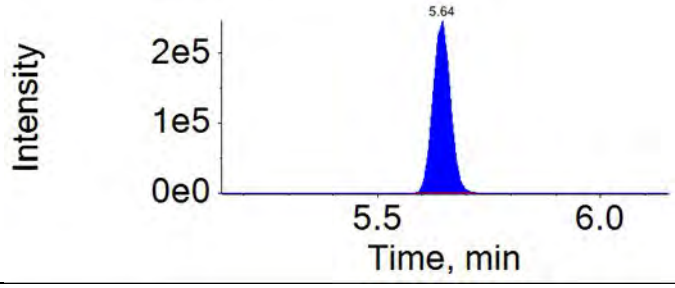


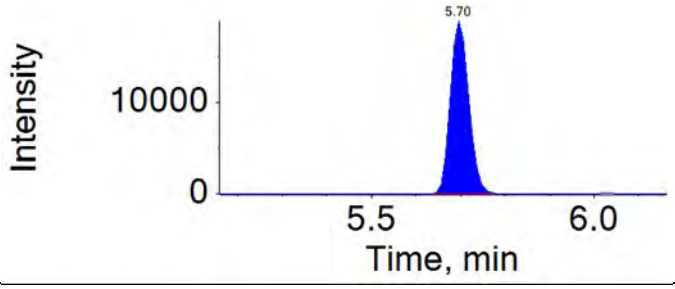
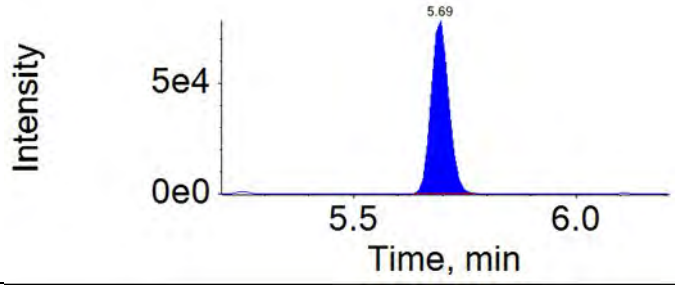
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

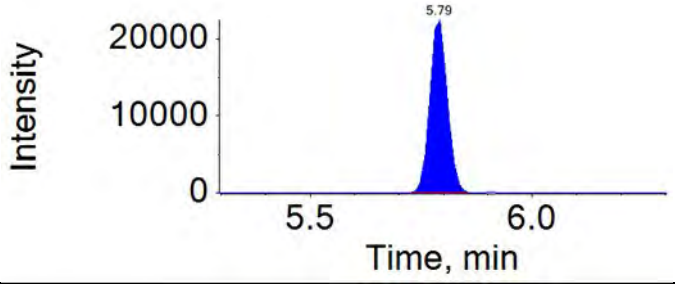
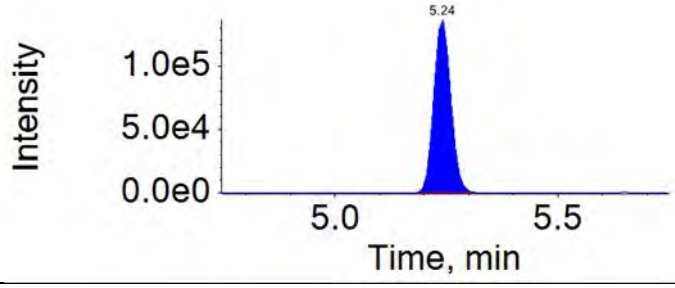


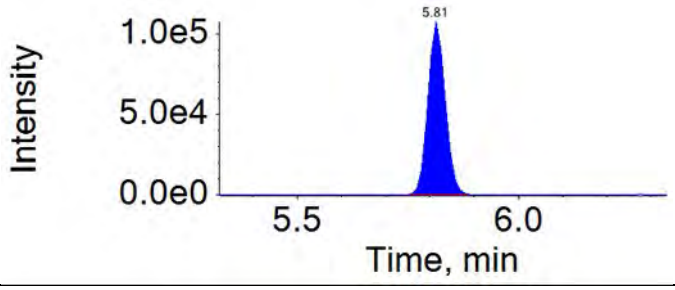
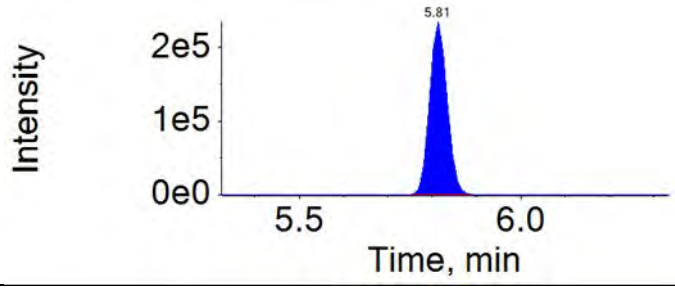


ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0
	

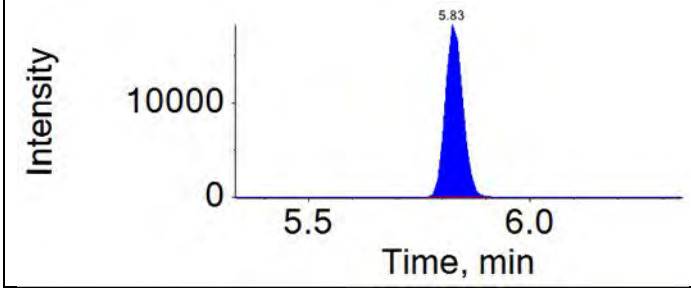
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0
	

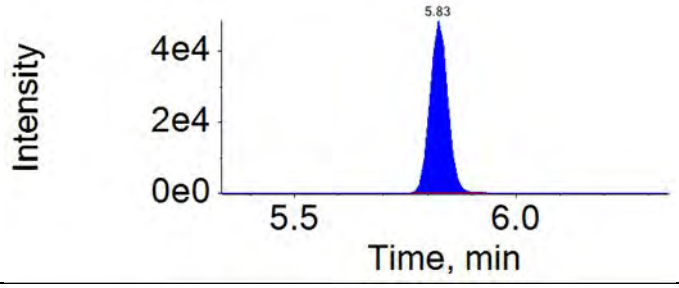
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

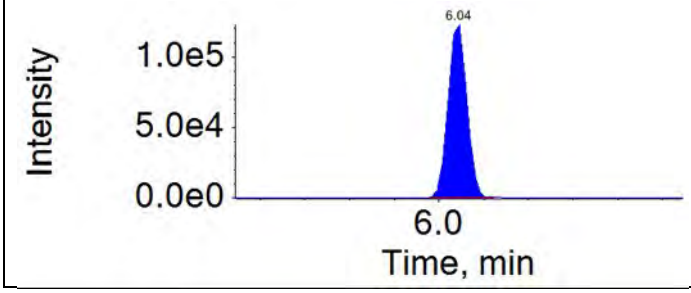
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

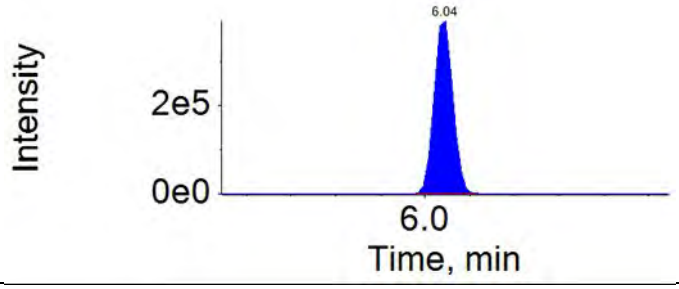
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



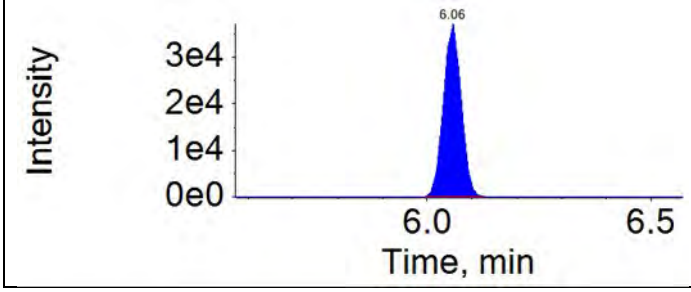


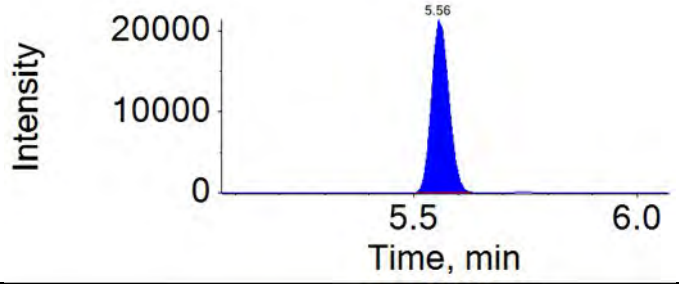
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



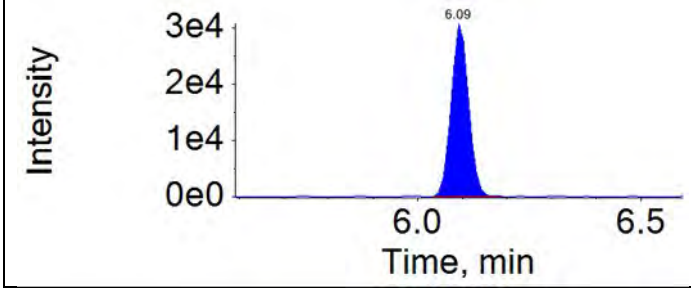


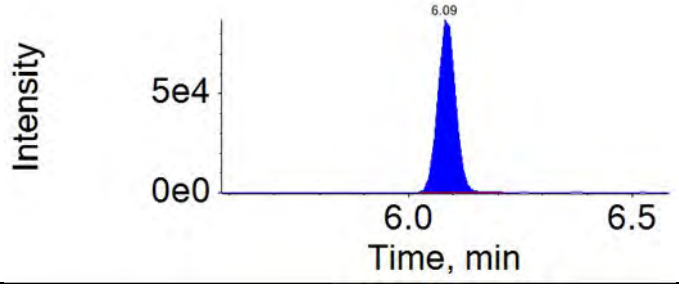
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





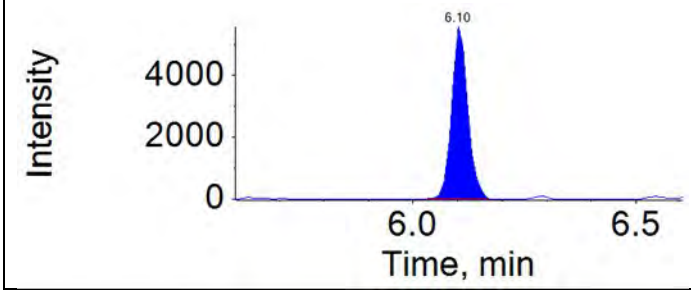
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

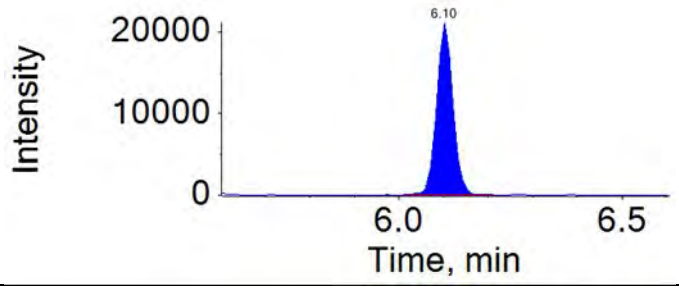




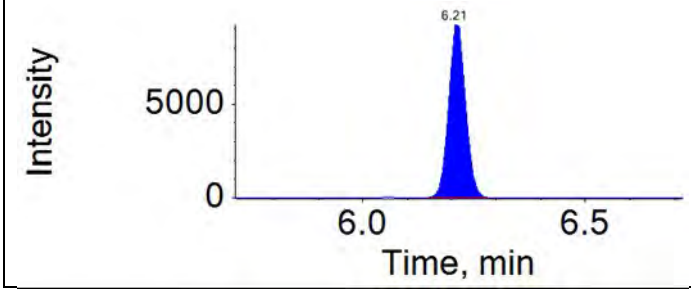
ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

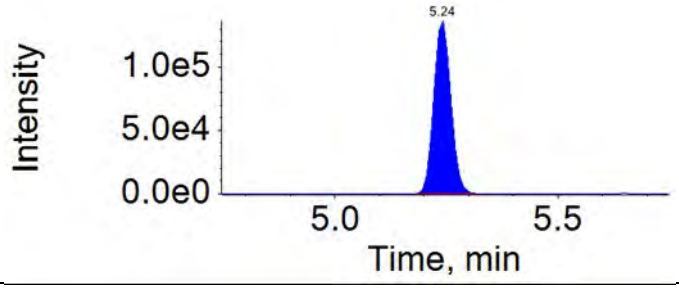
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



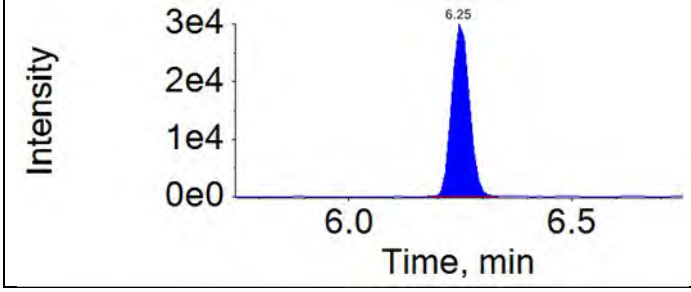


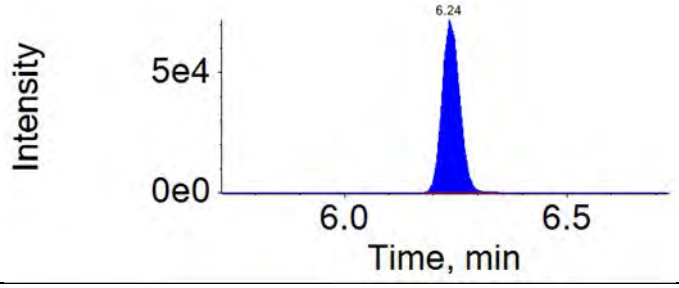
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



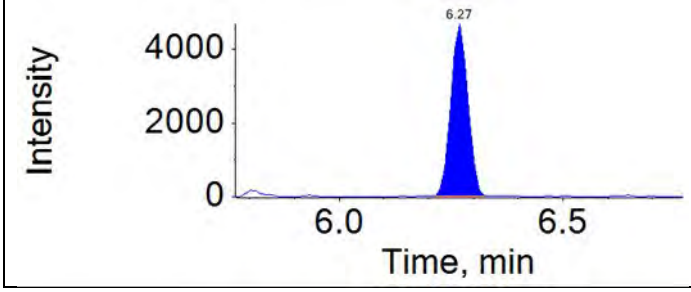


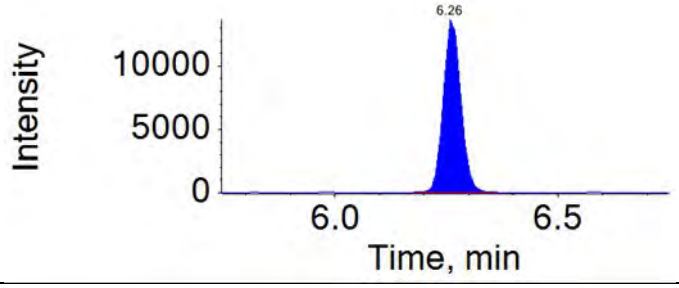
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

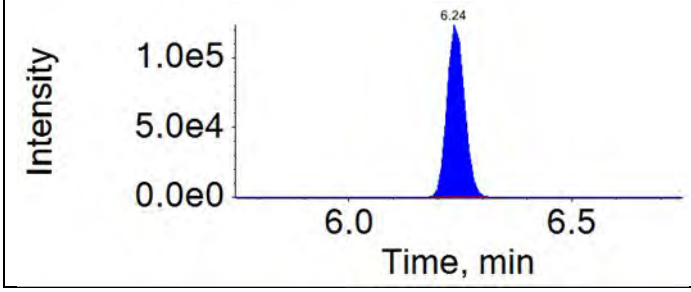
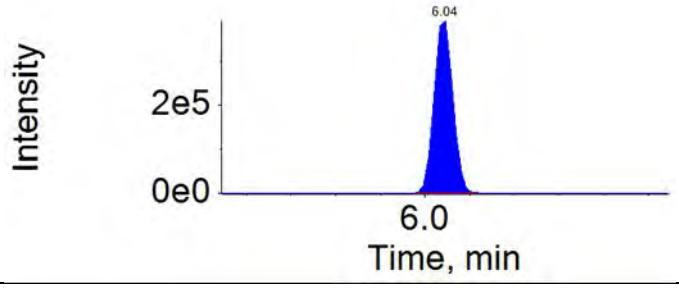


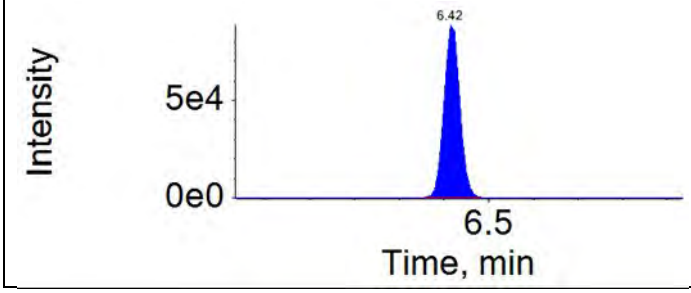
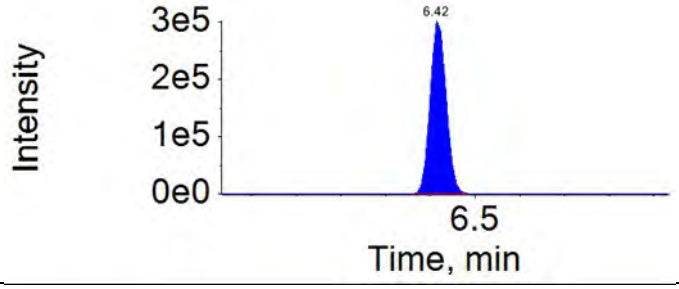


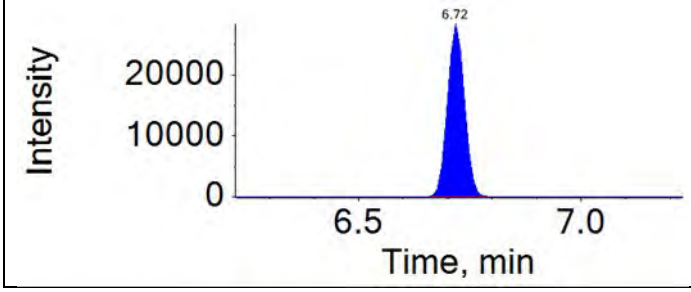
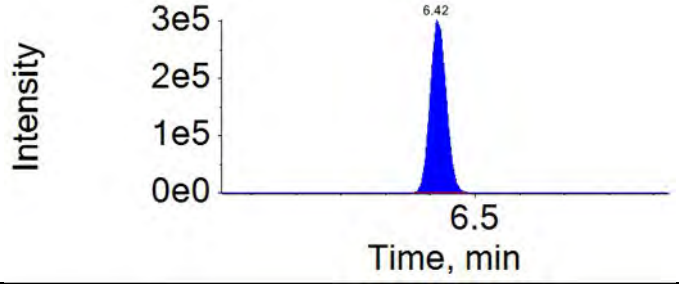
APPROVED
By MCD at 0:13 am, 12/29/18

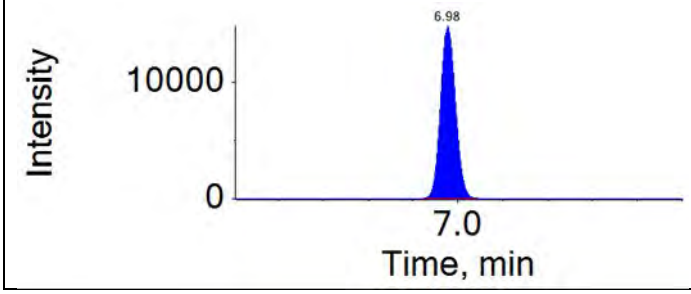
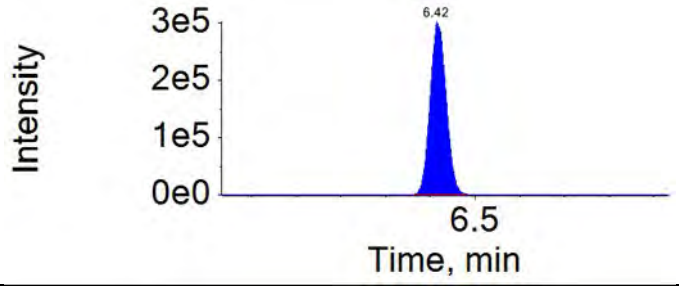
REVIEWED
By umar at 2:42 pm, 12/31/18

ICAL Name: 18DEC26DCAL **Result Table:** 18360005 12/29/2018 12:06:32 AM
QMethod Name: 18AUG20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0
	

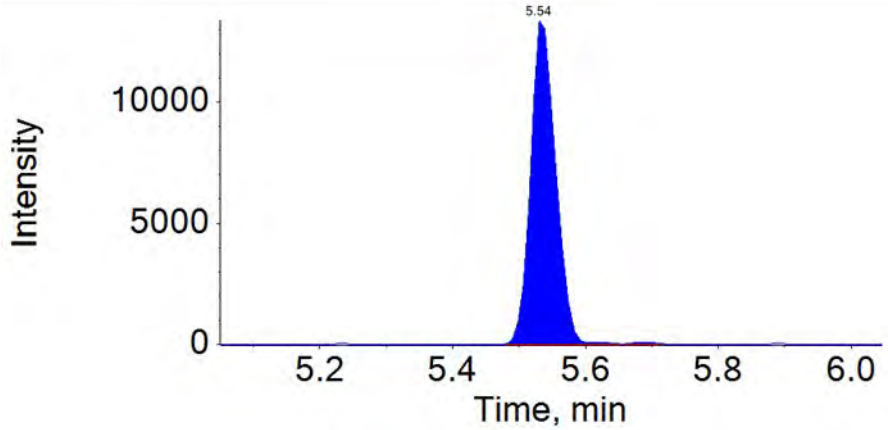
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

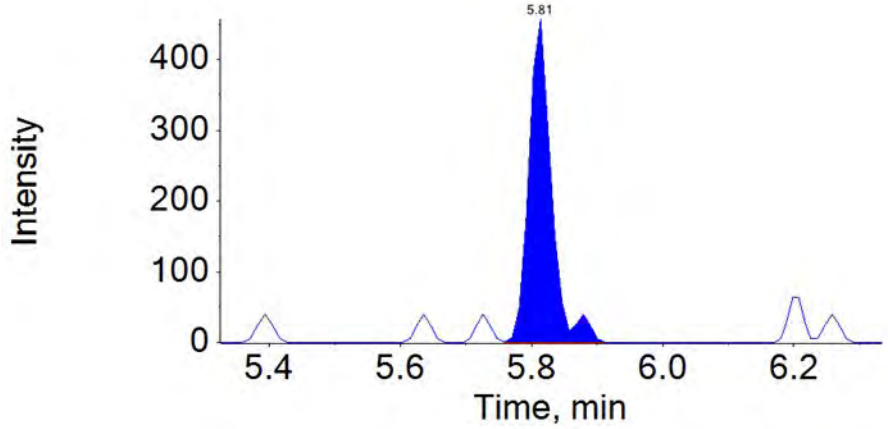
Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

Component Name:
PFNS_2
RT (min.):
5.54
Peak Area:
35274.9
Mass Range:
549.0 / 99.0
File Name:
18DEC26D-61.wiff
Sample Name:
LCSDA



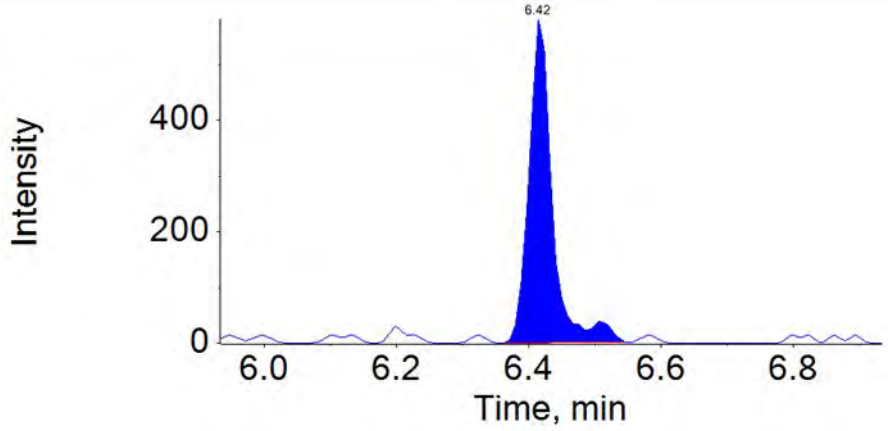
Integration Comment: incorrect integration

Component Name:
PFUnDA_2
RT (min.):
5.81
Peak Area:
1104.2
Mass Range:
563.0 / 169.0
File Name:
18DEC26D-61.wiff
Sample Name:
LCSDA



Integration Comment: incorrect integration

Component Name:
PFTeDA_2
RT (min.):
6.42
Peak Area:
1437.7
Mass Range:
713.0 / 169.0
File Name:
18DEC26D-61.wiff
Sample Name:
LCSDA



Integration Comment: incorrect integration

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Results Table Name: 18360005
Results Table Date: 12/29/2018 12:06:32 AM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Ion Ratio Report

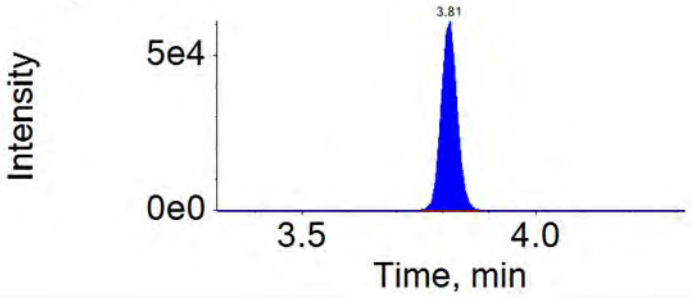
Sample Name: LCSDA **Instrument Name:** LM27631 **File Name:** 18DEC26D-61.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	143964.5	A	N/A	0.3657			
PFBS_2	3.81	1.00	52650.1	A	N/A	0.3657	1	50	
4:2-FTS	4.12	1.00	136515.7	A	N/A	0.6318			
4:2-FTS_2	4.12	1.00	86255.4	A	N/A	0.6318	4	50	
PFHxA	4.16	1.00	325018.9	A	N/A	0.0103			
PFHxA_2	4.16	1.00	3353.5	A	N/A	0.0103	-15	50	
PFPeS	4.18	1.10	77394.0	A	N/A	0.5090			
PFPeS_2	4.18	1.10	39390.5	A	N/A	0.5090	0	50	
PFHpA	4.55	1.00	335490.8	A	N/A	0.0525			
PFHpA_2	4.55	1.00	17601.1	A	N/A	0.0525	-7	50	
PFHxS	4.55	1.00	117535.8	A	N/A	0.3092			
PFHxS_2	4.55	1.00	36336.5	A	N/A	0.3092	-14	50	
6:2-FTS	4.90	1.00	121907.9	A	N/A	0.6510			
6:2-FTS_2	4.90	1.00	79359.2	A	N/A	0.6510	3	50	
PFHpS	4.91	1.08	111447.7	A	N/A	0.4135			
PFHpS_2	4.91	1.08	46088.6	A	N/A	0.4135	3	50	
PFOA	4.91	1.00	338164.8	A	N/A	0.0554			
PFOA_2	4.91	1.00	18741.3	A	N/A	0.0554	2	50	
PFOS	5.24	1.00	112412.9	A	N/A	0.3434			
PFOS_2	5.24	1.00	38607.3	A	N/A	0.3434	11	50	
PFNA	5.26	1.00	332864.2	A	N/A	0.0203			
PFNA_2	5.26	1.00	6756.7	A	N/A	0.0203	-4	50	
PFNS	5.54	1.06	79593.3	A	N/A	0.4381			
PFNS_2	5.54	1.06	34873.7	M	N/A	0.4381	-3	50	
PFDA	5.56	1.00	290106.4	A	N/A	0.0073			
PFDA_2	5.55	1.00	2116.6	A	N/A	0.0073	12	50	
8:2-FTS	5.56	1.00	124760.4	A	N/A	0.5809			
8:2-FTS_2	5.56	1.00	72469.9	A	N/A	0.5809	-4	50	
NMeFOSAA	5.70	1.00	53957.1	A	N/A	0.2570			
NMeFOSAA_2	5.70	1.00	13865.1	A	N/A	0.2570	2	50	
PFDS	5.79	1.10	61238.2	A	N/A	0.4992			
PFDS_2	5.79	1.11	30571.7	A	N/A	0.4992	3	50	
PFUnDA	5.81	1.00	291314.2	A	N/A	0.0036			
PFUnDA_2	5.81	1.00	1038.8	M	N/A	0.0036	-16	50	
NEtFOSAA	5.83	1.00	50184.9	A	N/A	0.5747			
NEtFOSAA_2	5.83	1.00	28841.1	A	N/A	0.5747	-16	50	
PFDoDA	6.04	1.00	358063.6	A	N/A	0.0101			
PFDoDA_2	6.04	1.00	3609.5	A	N/A	0.0101	-25	50	
10:2-FTS	6.06	1.09	102393.1	A	N/A	0.6908			
10:2-FTS_2	6.06	1.09	70728.8	A	N/A	0.6908	4	50	
PFTrDA	6.24	1.03	336813.9	A	N/A	0.0079			
PFTrDA_2	6.24	1.03	2655.4	A	N/A	0.0079	-8	50	
PFTeDA	6.42	1.00	218413.8	A	N/A	0.0062			
PFTeDA_2	6.42	1.00	1361.1	M	N/A	0.0062	3	50	
PFHxDA	6.72	1.05	74666.9	A	N/A	0.0648			
PFHxDA_2	6.72	1.05	4836.5	A	N/A	0.0648	2	50	
PFODA	6.98	1.09	34113.5	A	N/A	0.0265			
PFODA_2	6.98	1.09	905.6	A	N/A	0.0265	0	50	

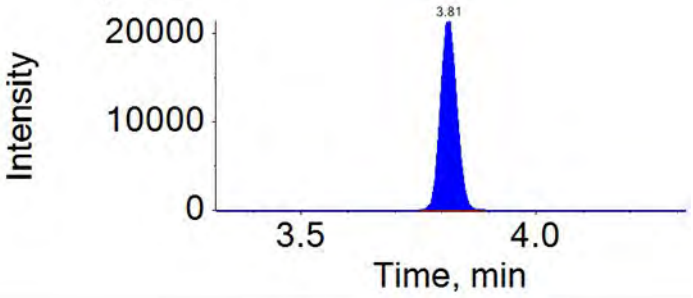
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

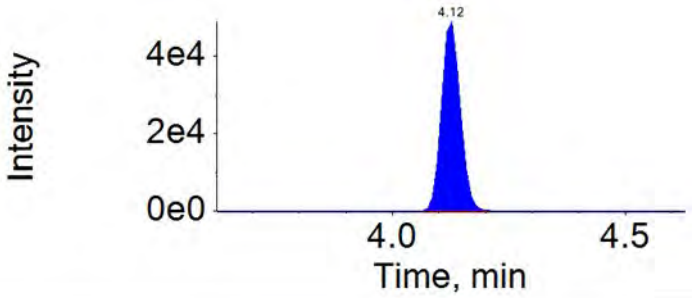
Component: PFBS
Primary Mass: 299.0 / 80.0



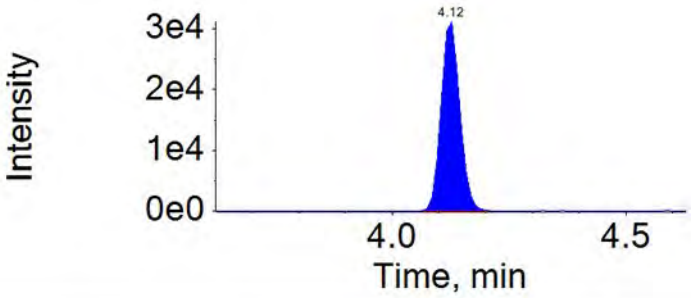
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



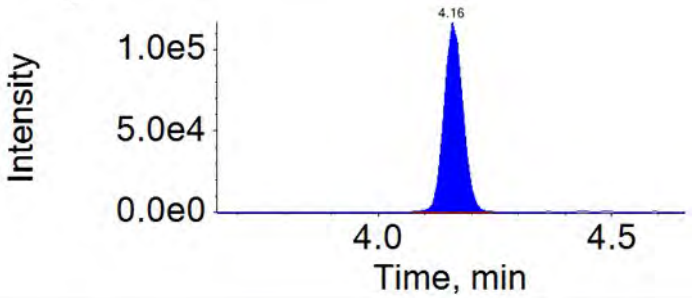
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



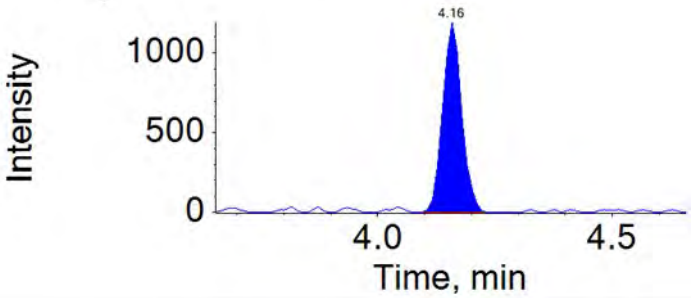
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



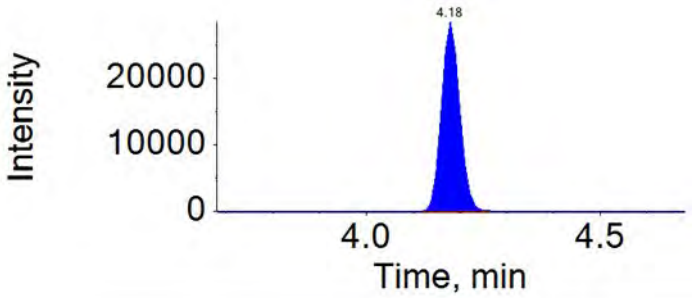
Component: PFHxA
Primary Mass: 313.0 / 269.0



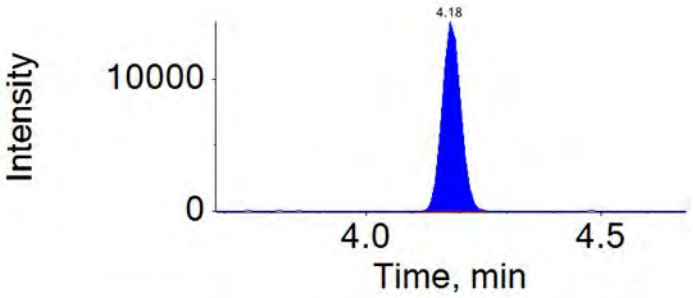
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



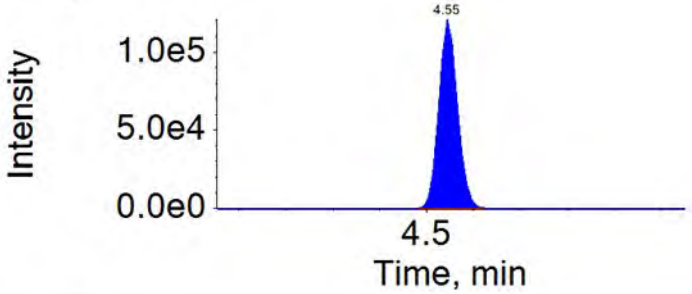
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



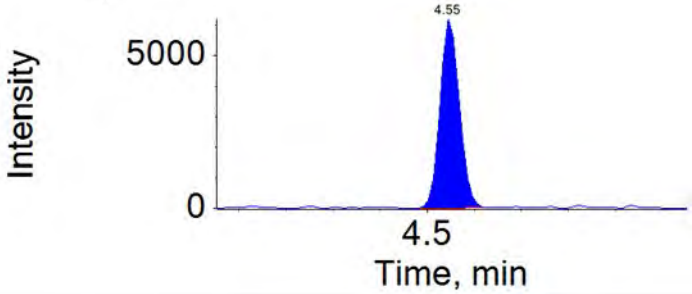
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

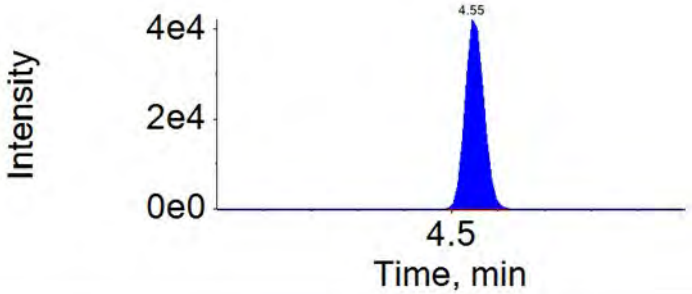
Component: PFHpA
Primary Mass: 363.0 / 319.0



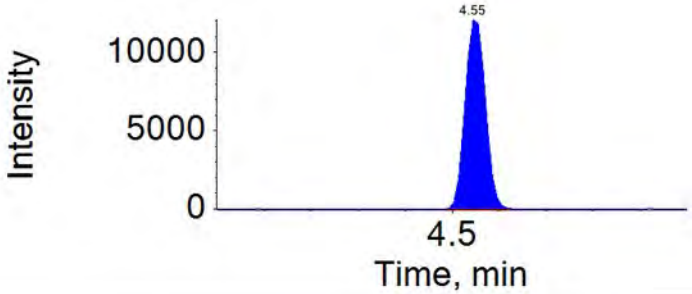
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



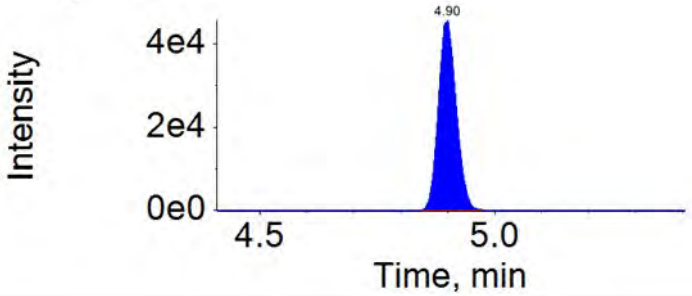
Component: PFHxS
Primary Mass: 399.0 / 80.0



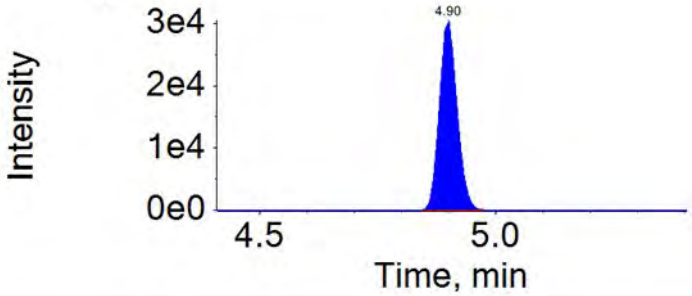
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Secondary Mass: 399.0 / 99.0



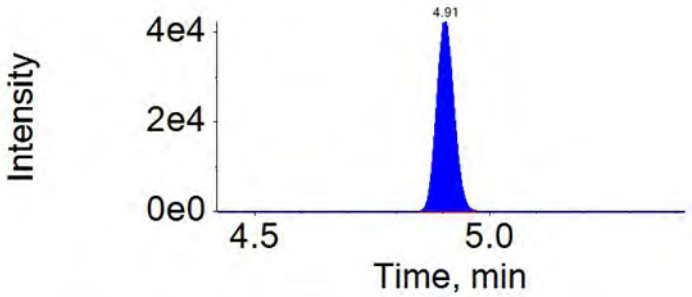
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



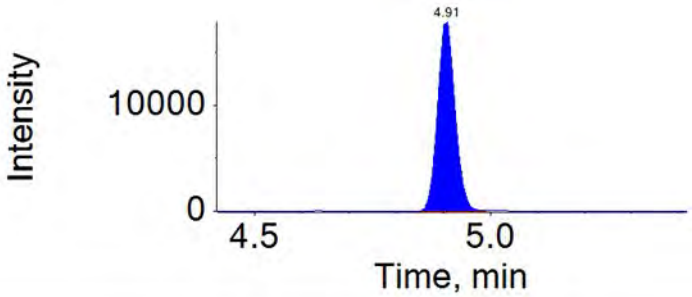
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



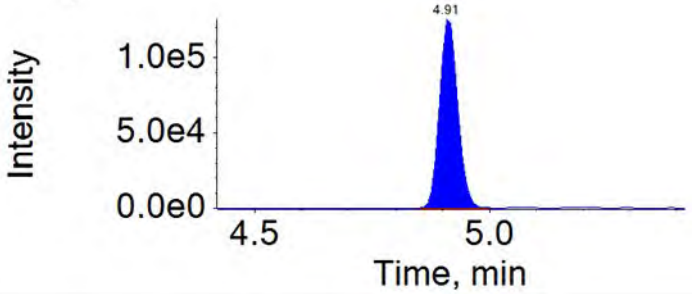
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



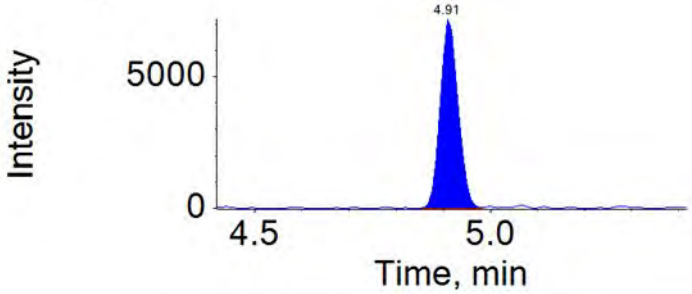
APPROVED
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By umar at 2:42 pm, 12/31/18

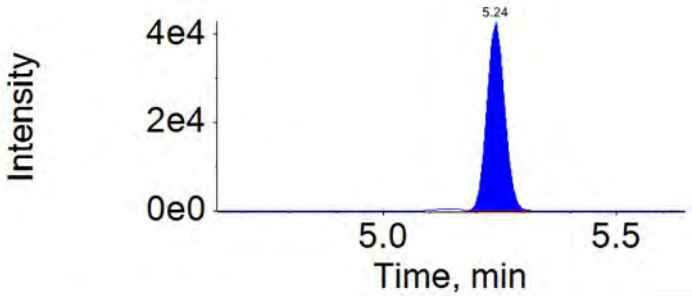
Component: PFOA
Primary Mass: 413.0 / 369.0



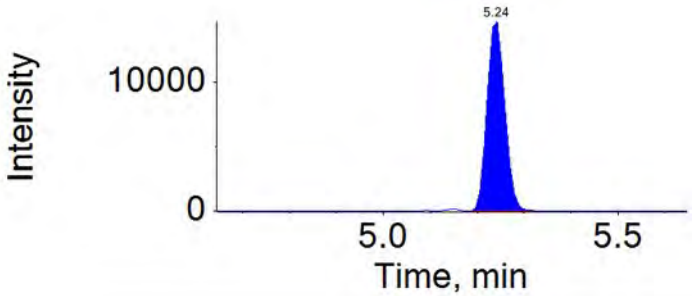
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



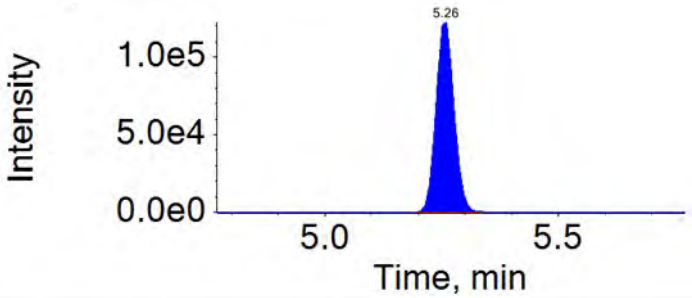
Component: PFOS
Primary Mass: 499.0 / 80.0



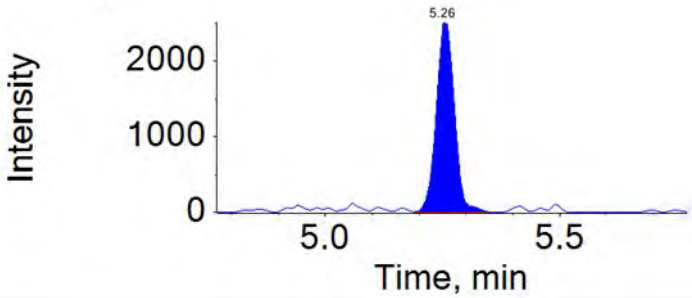
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



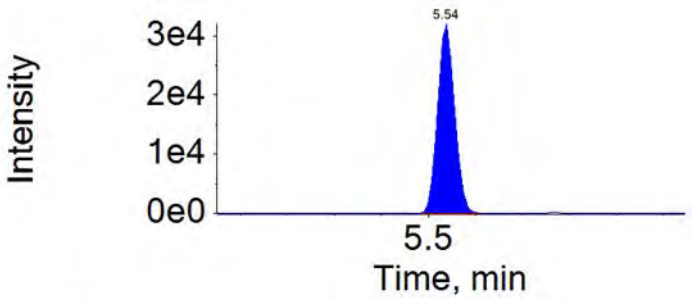
Component: PFNA
Primary Mass: 463.0 / 419.0



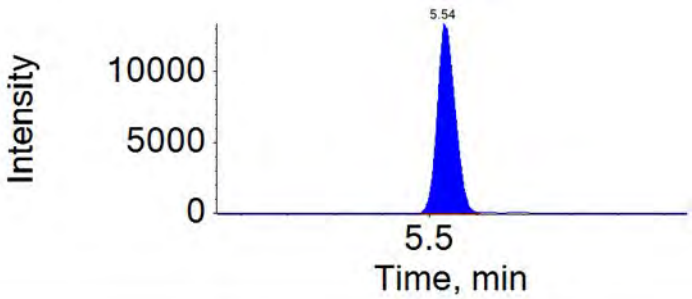
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



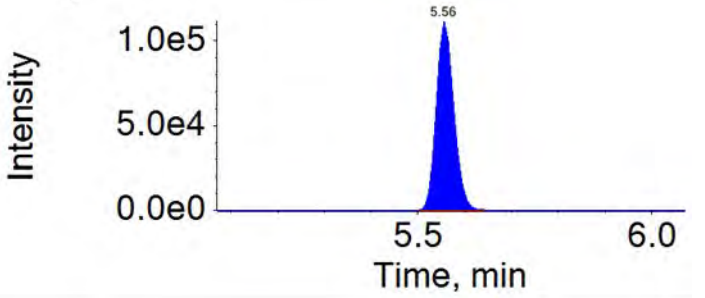
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



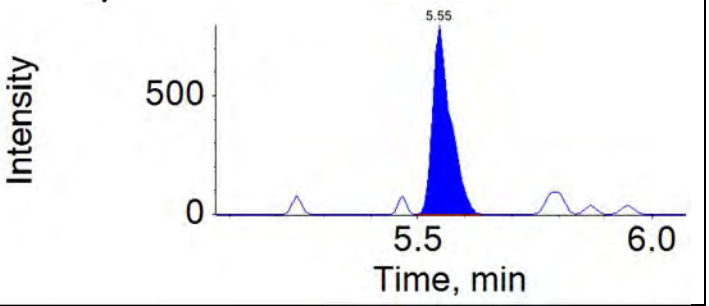
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

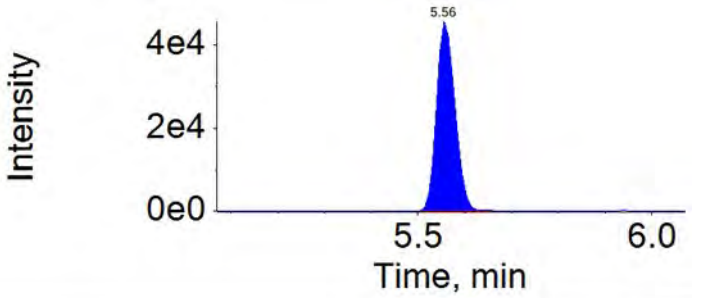
Component: PFDA
Primary Mass: 513.0 / 469.0



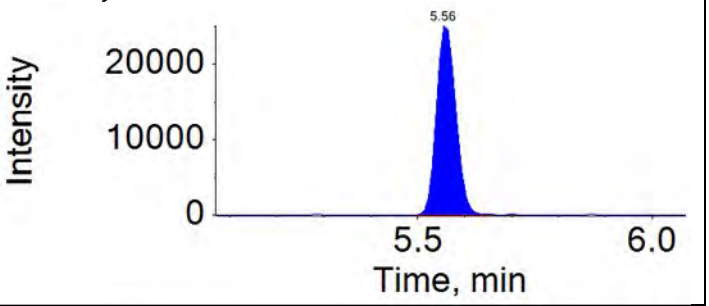
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



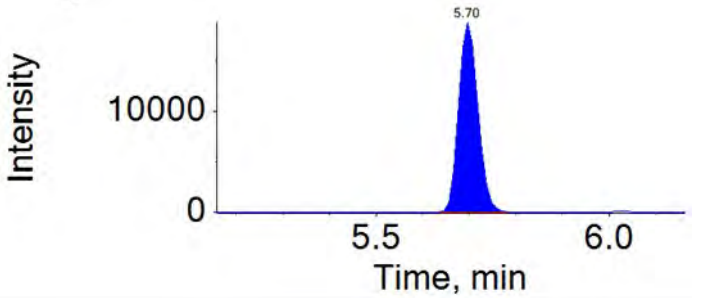
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



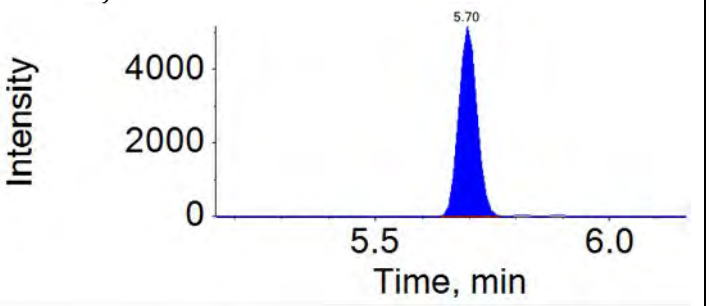
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



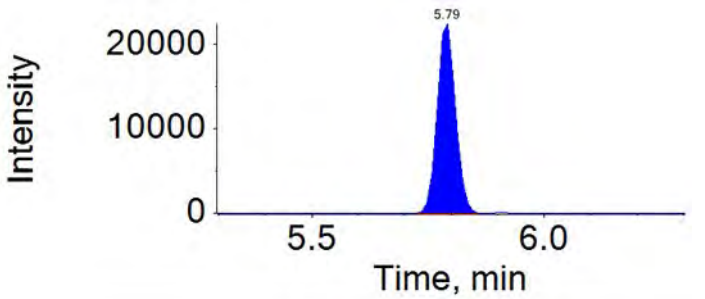
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



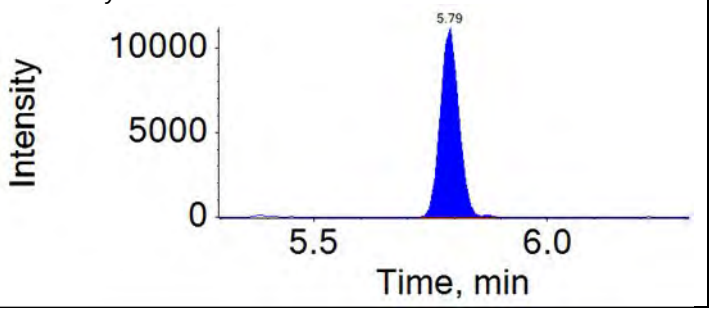
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



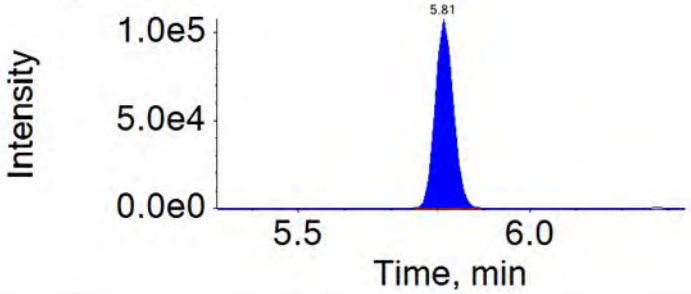
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



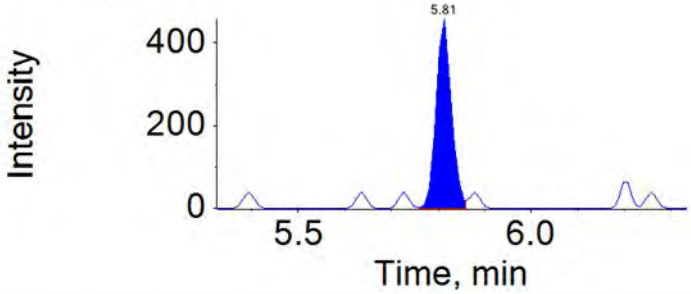
APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

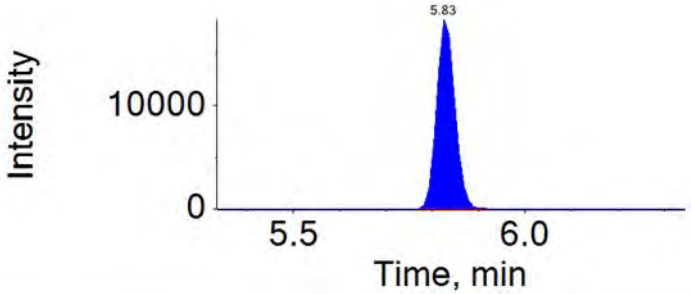
Component: PFUnDA
Primary Mass: 563.0 / 519.0



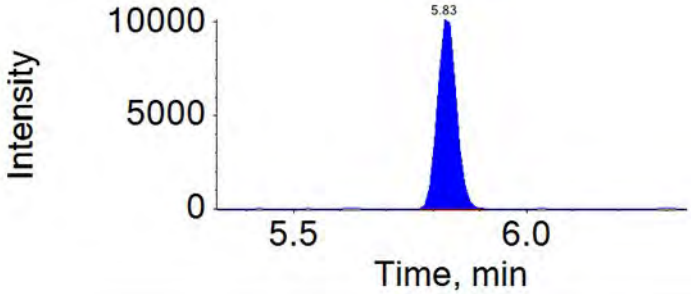
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



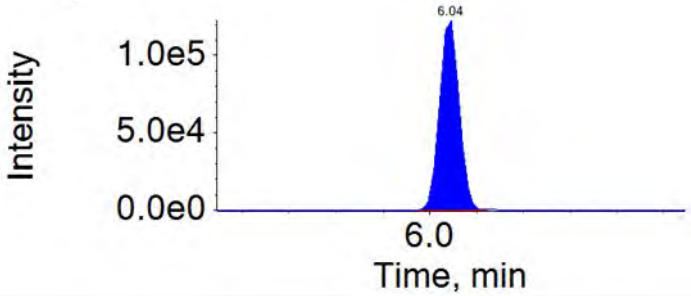
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



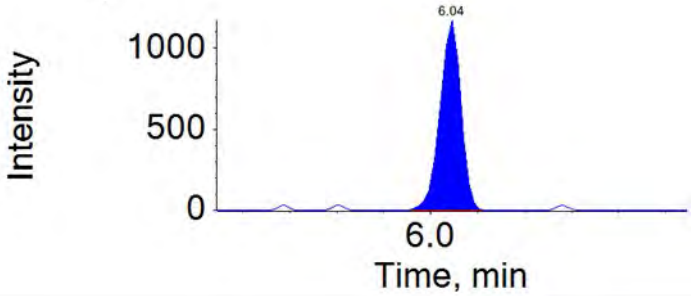
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



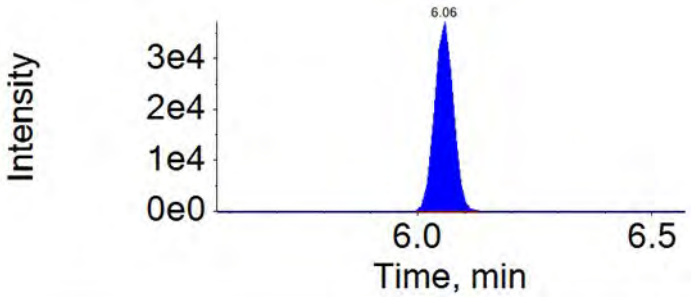
Component: PFDoDA
Primary Mass: 613.0 / 569.0



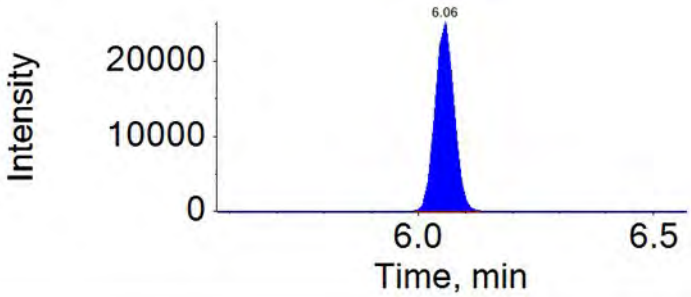
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



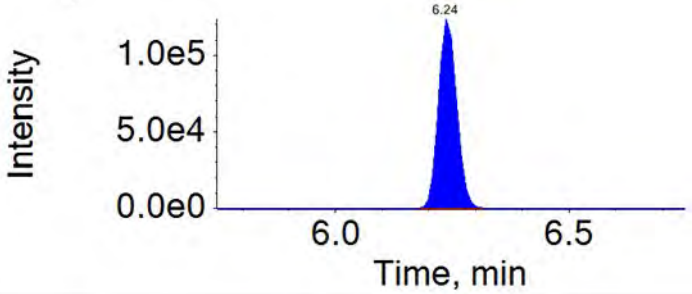
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



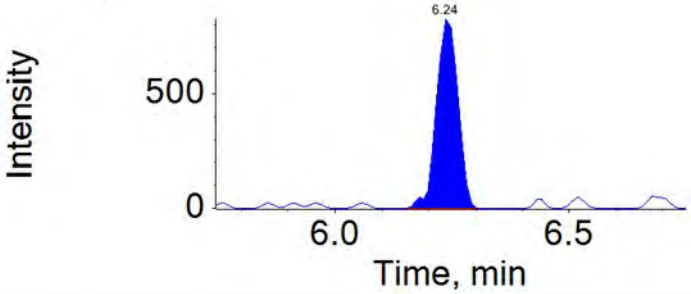
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



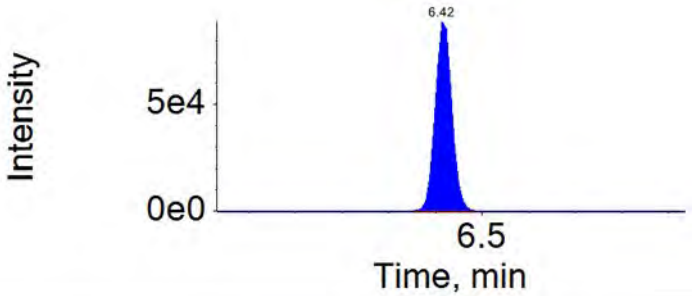
Component: PFTrDA
Primary Mass: 663.0 / 619.0



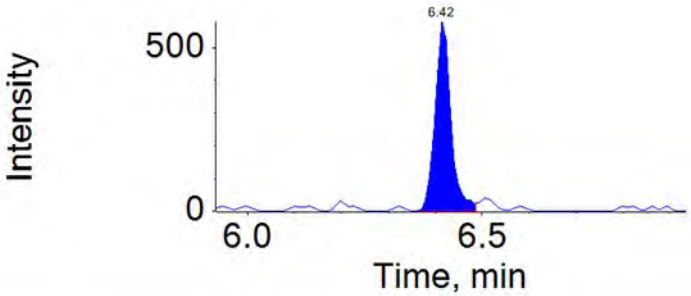
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



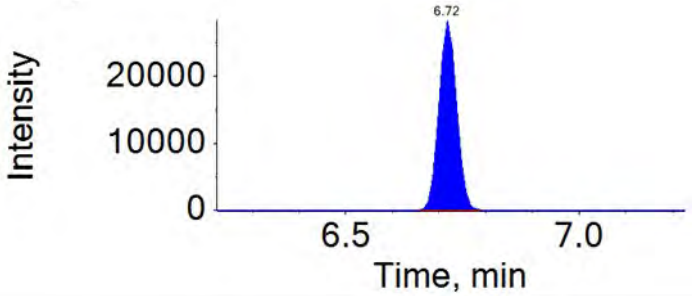
Component: PFTeDA
Primary Mass: 713.0 / 669.0



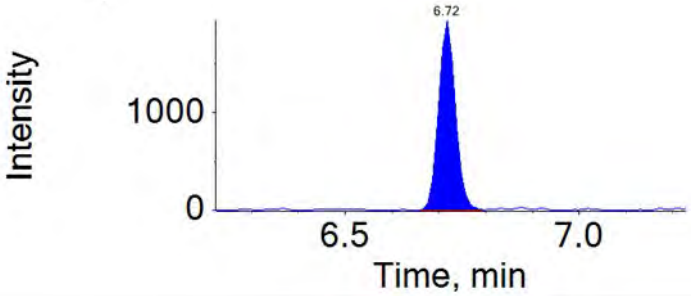
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



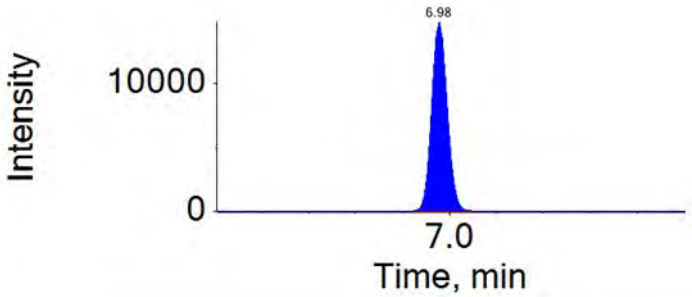
Component: PFHxDA
Primary Mass: 813.0 / 769.0



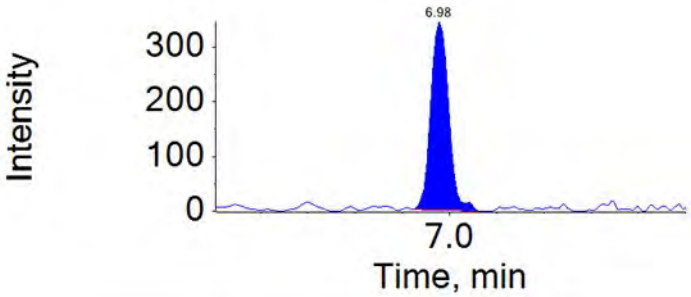
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 0:13 am, 12/29/18

REVIEWED
By umar at 2:42 pm, 12/31/18

Preparation Logs

PFAS by LC/MS/MS

Organic Extraction Batchlog Assigned to: 26543 Anthony Polaski Reviewed by: MS072657 Start Date: 12/14/18 Start time: 16:00

18348012 Tech 1: ACP26543 Tech 2: PJR9213

Analyses on Batch: PFAS in Water by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14465 PFAS Water Prep - DoD (3) ml. ACP26543

Port#	QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (3) (~~uL~~)	IS amt (uL)	BC	Comments
1	BLANKA	BLK348012	250.00	SSMODX1833CL	.025	N/A	N/A	1	20	7	
2	LCSA	LCS348012	↓	SSMODX1833CL	.025	MSMODX1833AY	.04	1	↓		
3	LCSDA	LCSD348012	↓	SSMODX1833CL	.025	MSMODX1833AY	.04	1	↓		

Spike Solutions: Witness: DDM25478 Instrument: L427631

MSMODX1833AY PFAS 537 Native Spike

SSMODX1833CL PFAS 537 Modified Extraction/Surrogate Spik Sequence: 18JEC18J01 - 18JEC191 - 18JEC20

Port#	Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (3) (~~uL~~)	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio
4	1 9927672 R	-3-01	290.85	SSMODX1833CL	.025	1	20	173b		14434	12/17/2018	N
5	2 9934777	1550·	288.13	SSMODX1833CL	.025	1	↓	173a		14434	12/20/2018	N
6	3 9934778	-9501	279.15	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
7	4 9934779	1660·	283.91	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
8	5 9934780	1610·	276.29	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
9	6 9934781	RB 166W	272.76	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
10	7 9934782	BL 166W	283.82	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
11	8 9934783	RB 161W	277.24	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
12	9 9934784	BL 161W	281.73	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
1	10 9934785	1630·	260.97	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
2	11 9934786	4-01-	279.63	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
3	12 9934787	1-01-	283.92	SSMODX1833CL	.025	1		173a		14434	12/20/2018	N
4	13 9934788	4940·	282.55	SSMODX1833CL	.025	1	↓	173a		14434	12/20/2018	N

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18348012

Organic Extraction Batchlog **18348012**

Port#	Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (uL)	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio

Reagents used During Extraction

Reagent/Material/Equip	Lot No./ID No.
0.3% NH4OH:MeOH	265431212183 3 A
1:1 ACN:MeOH	265431212183 3 B
Auto-pipette (dilutions)	
Auto-pipette (extract vialin	P1000-3
Envi-Carb	107563
Internal Standard	~~IS18398~~ (3) IS18348 33A
Methanol	DV136-05
Milli-Q H2O	House A372
SPE Cartridge #1	6429443-02
Syringe (IS)	PFAS 1x
Syringe (MS)	PFAS 10
Syringe (SS)	PFAS 9
Trizma	NA

(7) MSM 26157 12-21-18

SPT12262 12/17/18

ACP26543 12/14/18

Balance #	BG29764122	SPE Manifold	7,8	N-evap C	35°C

PJR9213 12/15/18

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

18348012

(7) MSM 26157 12-21-18

Organic Extraction Batchlog Assigned to: 12698 Courtney Fatta Reviewed by: MCD 7824 Start Date: 12/26/18 Start time: 11:20

18360005 Tech 1: CF12698 Tech 2: ACP26543

Analyses on Batch: PFAS in Water by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14465 PFAS Water Prep - DoD (3) mL CF12698 12/26/18

Port#	QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV ~~(uL)~~	IS amt (uL)	BC	Comments
1	BLANKA	BLK360005	250	SSMODX1833CO	0.025	N/A	N/A	1mL	20	7	
2	LCSA	LCS360005	250	SSMODX1833CO	0.025	MSMODX1833AZ	0.04	1mL	"		
3	LCSDA	LCSD360005	250	SSMODX1833CO	0.025	MSMODX1833AZ	0.04	1mL	"		

Spike Solutions: Witness: JP 26809 Instrument: LM27631

MSMODX1833AZ PFAS 537 Native Spike Sequence: 18DEC26DOD/18DEC26D

SSMODX1833CO PFAS 537 Modified Extraction/Surrogate Spik (3) mL

Port#	Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV ~~(uL)~~	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio
4	1 9934778 R *	-9501	200.67	SSMODX1833CC	0.025	1mL	20	173b	orange, opaque	14434	12/20/2018	N
5	2 9934786 R	4-01-	283.38	SSMODX1833CC	0.025	1mL	"	173b		14434	12/20/2018	N

(8) * 200mL of sample was centrifuged and dilutede into a clean Trizma Bottle with 50mL of Mili Q H_2O.

CF12698
12/26/18

NA MCD7824 12/29/18

18360005

Organic Extraction Batchlog **18360005**

Port#	Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (uL)	IS Amt (uL)	BC	Comments	Analyses	Due Date	Prio

Reagents used During Extraction

Reagent/Material/Equip	Lot No./ID No.
0.3% NH4OH:MeOH	126981220183 3A
1:1 ACN:MeOH	126981220183 3B
Auto-pipette (dilutions)	———
Auto-pipette (extract vialin	P1000-3
Envi-Carb	1075G3
Internal Standard	IS18360033A
Methanol	DU136-US
Milli-Q H2O	HOUSE A37C
SPE Cartridge #1	6427893-01
Syringe (IS)	PFAS 11
Syringe (MS)	PFAS 10
Syringe (SS)	PFAS 9
Trizma	SLBX0319

NA MCD7824 12/29/18

Balance #	1329764122	SPE Manifold	1	N-evap	A	39 C

ACP26543 12/26/18

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

18360005



NA MCD7824 12/29/18

CONTRACT_ID DO_CTO_NUMBER PHASE INSTALLATION_ID SAMPLE_NAME ANALYTICAL_METHOD LAB_NAME
CONTRACTOR_NAME LEACHATE_METHOD SAMPLE_BASIS EXTRACTION_METHOD RESULT_TYPE SAMPLE_MEDIUM
CLEANUP_METHOD QC_LEVEL LEACHATE_DATE LEACHATE_TIME EXTRACTION_DATE EXTRACTION_TIME ANALYSIS_DATE
ANALYSIS_TIME LAB_SAMPLE_ID LAB_REPORT_DATE LAB_REPORT_NUMBER FILTER_SIZE DILUTION RUN_NUMBER
PERCENT_MOISTURE PERCENT_LIPID ANALYTE_ID ANALYTE_VALUE ORIGINAL_ANALYTE_VALUE RESULT_UNITS
LAB_QUALIFIER VALIDATOR_QUALIFIER FINAL_QUALIFIER DETECTED GC_COLUMN_TYPE ANALYSIS_RESULT_TYPE
RADIOLOGICAL_ERROR RESULT_NARRATIVE RETENTION_TIME QC_CONTROL_LIMIT_CODE QC_ACCURACY_UPPER
QC_ACCURACY_LOWER CONTROL_LIMIT_DATE RELATIVE_PCT_DIFF QC_NARRATIVE MDL CDL IDL PQL CRQL
DETECTION_LIMIT VALIDATOR_DET_LIMIT VALIDATOR_MDL DL LOD LOQ SDG LEACH_LOT METHOD_BATCH
PREP_BATCH RUN_BATCH ANALYSIS_BATCH VALIDATOR_NAME VALIDATION_QC VAL_DATE REPORTABLE_RESULT

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
335-67-1 2.5 2.5 NG_L Y TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
375-95-1 1.0 0 NG_L U N TRG 0.35 0.35 0.35
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
335-76-2 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
2058-94-8 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
307-55-1 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
72629-94-8 1.0 0 NG_L U N TRG 0.52 0.52
0.52 1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
376-06-7 1.0 0 NG_L U N TRG 0.52 0.52 0.52
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
307-24-4 8.0 8.0 NG_L Y TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
375-85-9 2.7 2.7 NG_L Y TRG 0.35 0.35 0.35
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
375-73-5 4.2 4.2 NG_L Y TRG 0.26 0.26 0.26
0.95 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
355-46-4 11 11 NG_L Y TRG 0.35 0.35 0.35
0.95 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
1763-23-1 1.0 0 NG_L U N TRG 0.43 0.43 0.43
1.0 1.7 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.87 0.87 0.87
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y15-5-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:02:00 9934777 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.87 0.87 0.87
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 335-
67-1 14 14 NG_L Y TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 375-
95-1 0.42 0.42 NG_L J Y TRG 0.36 0.36 0.36
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 335-
76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 2058-
94-8 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 307-
55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 72629-
94-8 1.1 0 NG_L U N TRG 0.54 0.54 0.54 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 376-
06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 307-
24-4 3.4 3.4 NG_L Y TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 375-
85-9 1.3 1.3 NG_L J Y TRG 0.36 0.36 0.36 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 375-
73-5 2.6 2.6 NG_L Y TRG 0.27 0.27 0.27

0.99 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 355-
46-4 14 14 NG_L Y TRG 0.36 0.36 0.36
0.99 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 1763-
23-1 13 13 NG_L Y TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 2991-
50-6 2.1 0 NG_L U N TRG 0.90 0.90 0.90 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-5-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 14:11:00 9934778 20181231 2017387 0.00 1 1 2355-
31-9 2.1 0 NG_L U N TRG 0.90 0.90 0.90 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53
0.53 1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
307-24-4 15 15 NG_L Y TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
375-85-9 0.94 0.94 NG_L J Y TRG 0.35 0.35
0.35 1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
375-73-5 4.9 4.9 NG_L Y TRG 0.26 0.26 0.26
0.97 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
355-46-4 0.58 0.58 NG_L J Y TRG 0.35 0.35
0.35 0.97 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.88 0.88 0.88
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YS16-6-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:29:00 9934779 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.88 0.88 0.88
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
335-67-1 0.70 0.70 NG_L J Y TRG 0.45 0.45
0.45 1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54
0.54 1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
307-24-4 4.1 4.1 NG_L Y TRG 0.45 0.45 0.45
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA

METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
375-85-9 0.64 0.64 NG_L J Y TRG 0.36 0.36 0.36 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
375-73-5 1.8 1.8 NG_L Y TRG 0.27 0.27 0.27 1.0 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
355-46-4 2.0 2.0 NG_L Y TRG 0.36 0.36 0.36 1.0 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90 0.90 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:38:00 9934780 20181231 2017387 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90 0.90 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.37 0.37 0.37 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.55 0.55 0.55 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.55 0.55 0.55 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.37 0.37 0.37 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
375-73-5 1.0 0 NG_L U N TRG 0.27 0.27 0.27 1.0 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
355-46-4 1.0 0 NG_L U N TRG 0.37 0.37 0.37 1.0 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.46 0.46 0.46 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.92 0.92 0.92 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-01537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:47:00 9934781 20181231 2017387 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.92 0.92 0.92 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1 1.8

BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.35 0.35 0.35 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
375-73-5 0.97 0 NG_L U N TRG 0.26 0.26 0.26 0.97 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
355-46-4 0.97 0 NG_L U N TRG 0.35 0.35 0.35 0.97 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.88 0.88 0.88 2.1
2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YS16-6-W-02537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 14:56:00 9934782 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.88 0.88 0.88 2.1
2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54 0.54 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.36 0.36 0.36 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
375-73-5 0.41 0.41 NG_L J Y TRG 0.27 0.27 0.27 0.99 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
355-46-4 0.99 0 NG_L U N TRG 0.36 0.36 0.36 0.99 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
2991-50-6 2.2 0 NG_L U N TRG 0.90 0.90 0.90 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:05:00 9934783 20181231 2017387 0.00 1 1
2355-31-9 2.2 0 NG_L U N TRG 0.90 0.90 0.90 2.2
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
335-67-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA

METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
307-24-4 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
375-85-9 1.1 0 NG_L U N TRG 0.35 0.35 0.35 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
375-73-5 0.98 0 NG_L U N TRG 0.27 0.27 0.27 0.98 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
355-46-4 0.98 0 NG_L U N TRG 0.35 0.35 0.35 0.98 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
1763-23-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.89 0.89 0.89 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-1-W-02 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:14:00 9934784 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.89 0.89 0.89 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
335-67-1 1.1 1.1 NG_L J Y TRG 0.48 0.48 0.48 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.38 0.38 0.38 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.48 0.48 0.48 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.48 0.48 0.48 1.1
1.9 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.48 0.48 0.48 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.57 0.57 0.57 1.1
1.9 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.57 0.57 0.57 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
307-24-4 19 19 NG_L Y TRG 0.48 0.48 0.48 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
375-85-9 2.7 2.7 NG_L Y TRG 0.38 0.38 0.38 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
375-73-5 3.1 3.1 NG_L Y TRG 0.29 0.29 0.29 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
355-46-4 1.3 1.3 NG_L J Y TRG 0.38 0.38 0.38 1.1 1.9
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
1763-23-1 0.55 0.55 NG_L J Y TRG 0.48 0.48 0.48 1.1
1.9 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
2991-50-6 2.3 0 NG_L U N TRG 0.96 0.96 0.96 2.3
2.9 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YCW16-3-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:23:00 9934785 20181231 2017387 0.00 1 1
2355-31-9 2.3 0 NG_L U N TRG 0.96 0.96 0.96 2.3
2.9 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
335-67-1 7.1 7.1 NG_L Y TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.36 0.36 0.36 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1

1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.54 0.54 0.54 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.54 0.54 0.54 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
307-24-4 1.1 1.1 NG_L J Y TRG 0.45 0.45 0.45 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
375-85-9 0.46 0.46 NG_L J Y TRG 0.36 0.36 0.36 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
375-73-5 1.7 1.7 NG_L J Y TRG 0.27 0.27 0.27 0.98 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
355-46-4 9.3 9.3 NG_L Y TRG 0.36 0.36 0.36 0.98 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
1763-23-1 10 10 NG_L Y TRG 0.45 0.45 0.45 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.89 0.89 0.89 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-YIMW-4-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:32:00 9934786 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.89 0.89 0.89 2.1
2.7 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
335-67-1 9.5 9.5 NG_L Y TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
375-95-1 1.1 0 NG_L U N TRG 0.35 0.35 0.35 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
335-76-2 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
2058-94-8 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
307-55-1 1.1 0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
72629-94-8 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
376-06-7 1.1 0 NG_L U N TRG 0.53 0.53 0.53 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
307-24-4 2.2 2.2 NG_L Y TRG 0.44 0.44 0.44 1.1 1.8
BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1 375-
85-9 0.69 0.69 NG_L J Y TRG 0.35 0.35 0.35
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
375-73-5 3.6 3.6 NG_L Y TRG 0.26 0.26 0.26
0.97 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
355-46-4 5.2 5.2 NG_L Y TRG 0.35 0.35 0.35
0.97 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
1763-23-1 2.3 2.3 NG_L Y TRG 0.44 0.44 0.44
1.1 1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
2991-50-6 2.1 0 NG_L U N TRG 0.88 0.88 0.88
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-PMW-2-01 537_MOD EUROFINS BRADY GCE II NONE NA
METHOD 000 W UNK 20181214 16:00:00 20181219 15:41:00 9934787 20181231 2017387 0.00 1 1
2355-31-9 2.1 0 NG_L U N TRG 0.88 0.88 0.88
2.1 2.6 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 335-
67-1 29 29 NG_L Y TRG 0.44 0.44 0.44 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 375-
95-1 3.3 3.3 NG_L Y TRG 0.35 0.35 0.35 1.1
1.8 BSI27 18348012 18348012 18348012 18348012 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD

000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 335-76-2 1.1 0
NG_L U N TRG 0.44 0.44 0.44 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 2058-94-8 1.1
0 NG_L U N TRG 0.44 0.44 0.44 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 307-55-1 1.1 0
NG_L U N TRG 0.44 0.44 0.44 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 72629-94-8 1.1
0 NG_L U N TRG 0.53 0.53 0.53 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 376-06-7 1.1 0
NG_L U N TRG 0.53 0.53 0.53 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 307-24-4 20 20
NG_L Y TRG 0.44 0.44 0.44 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 375-85-9 9.7 9.7
NG_L Y TRG 0.35 0.35 0.35 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 375-73-5 3.7 3.7
NG_L Y TRG 0.27 0.27 0.27 0.97 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 355-46-4 50 50
NG_L Y TRG 0.35 0.35 0.35 0.97 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 1763-23-1 26
26 NG_L Y TRG 0.44 0.44 0.44 1.1 1.8 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 2991-50-6 2.1
0 NG_L U N TRG 0.88 0.88 0.88 2.1 2.7 BSI27
18348012 18348012 18348012 18348012 Y
N62473-14-D-1405N6247317F4100 BARSTOW_MCLB OU1-Y9-4-01 537_MOD EUROFINS BRADY GCE II NONE NA METHOD
000 W UNK 20181214 16:00:00 20181219 15:50:00 9934788 20181231 2017387 0.00 1 1 2355-31-9 2.1
0 NG_L U N TRG 0.88 0.88 0.88 2.1 2.7 BSI27
18348012 18348012 18348012 18348012 Y

SAMPLE_NAME CONTRACT_ID DO_CTO_NUMBER PHASE INSTALLATION_ID SITE_NAME LOCATION_NAME SPECIMEN_NAME
BIOLOGICAL_CLASS SEX AGE_CLASS EXCAVATION_NAMEPARENT_SAMPLE_NAME SAMPLE_MATRIX SAMPLE_TYPE
SAMPLING_EQUIPMENT PROJECT_PHASE COMPOSITE WATER_COLUMN COLLECT_DATE COLLECT_TIME DATUM_ELEV
ELEV_UNITSDATUM_MLLW DATUM_DESC START_DEPTH END_DEPTH DEPTH_UNITS REMOVED REMOVED_DATE
AMBIENT_BLANK EQUIPMENT_BLANK SOURCE_BLANK TRIP_BLANK SAMPLE_NARRATIVE

OU1-Y15-5-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-Y15-5-01 WG N
N 20181205 13:50:00
OU1-Y9-5-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-Y9-5-01 WG N N
20181205 17:16:00
OU1-YS16-6-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YS16-6-01 WG N
N 20181206 16:57:00
OU1-YCW16-1-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YCW16-1-01 WG N
N 20181207 09:03:00
OU1-YS16-6-W-01N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YS16-6-W-01 W EB
N 20181207 08:00:00
OU1-YS16-6-W-02N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YS16-6-W-02 W BLK
N 20181207 08:05:00
OU1-YCW16-1-W-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YCW16-1-W-01 W
EB N 20181207 09:30:00
OU1-YCW16-1-W-02 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YCW16-1-W-02 W
BLK N 20181207 09:35:00
OU1-YCW16-3-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YCW16-3-01 WG N
N 20181207 10:29:00
OU1-YIMW-4-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-YIMW-4-01 WG N
N 20181207 12:44:00
OU1-PMW-2-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-PMW-2-01 WG N
N 20181207 14:31:00
OU1-Y9-4-01 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 OU1-Y9-4-01 WG N N
20181207 15:57:00
BLK18348012 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 W LB N
LCS18348012 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 W BS N
LCSD18348012 N62473-14-D-1405N6247317F4100 BARSTOW_MCLB 00000 W BD N

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Guiterrez Canales Engineering, P.C.
2655 Camino del Rio North, Suite 100
San Diego, CA 92108
ATTN: Mr. Jesse MacNeill

February 5, 2019

SUBJECT: REVISED Barstow Site Inspection, Data Validation

Dear Mr. MacNeill

Enclosed are the revised validation reports for the fraction listed below. These SDGs were received on January 10, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #44154_RV1:

SDG #	Fraction
BSI20/2010255, BSI21/2010258 BSI22/2012436, BSI23/2014748 BSI24/2015917, BSI27/2017387 SBI22/2011587, SBI23/2011591	Perfluoroalkyl & Polyfluoroalkyl Substances

The data validation was performed under Stage 2B & 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA; October 2018
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1; 2017
- USEPA National Functional Guidelines for Organic Superfund Methods Data Review; January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
pgeng@lab-data.com
Project Manager/Senior Chemist

80/20 - NEDD - 2B/4	LDC #44154 (Guiterrez Canales Engineering, P.C. - San Diego, CA / Barstow)																																					
LDC	SDG#	DATE REC'D	(3) DATE DUE	PFAs (537M)																																			
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	BSI20/2010255	01/10/19	01/30/19	7	0																																		
B	BSI21/2010258	01/10/19	01/30/19	10	0																																		
C	BSI22/2012436	01/10/19	01/30/19	7	0																																		
D	BSI23/2014748	01/10/19	01/30/19	14	0																																		
E	BSI24/2015917	01/10/19	01/30/19	9	0																																		
F	BSI27/2017387	01/10/19	01/30/19	12	0																																		
G	SBI22/2011587	01/10/19	01/30/19	17	0																																		
H	SBI23/2011591	01/10/19	01/30/19	10	0																																		
Total	J/PG			86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B review). These sample counts do not include MS, MSD, or DUP's.

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI20/2010255

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-NNE-14-01	9903613	Water	11/14/18
OU1-NNE-14-W-01	9903614	Water	11/14/18
OU1-NNE-14-W-02	9903615	Water	11/14/18
OU1-NNE-17-01	9903616	Water	11/14/18
OU1-9N1W12L05-01	9903617	Water	11/14/18
OU1-NEP-2-01	9903618	Water	11/14/18
OU1-NRF-1-01	9903619	Water	11/14/18
OU1-NRF-1-01MS	9903620MS	Water	11/14/18
OU1-NRF-1-01MSD	9903621MSD	Water	11/14/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-NNE-14-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-NNE-14-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
OU1-NRF-1-01MS/MSD (OU1-NRF-1-01)	Perfluoroundecanoic acid	-	79 (83-132)	UJ (all non-detects)	A

For OU1-NRF-1-01MS/MSD, no data were qualified for Perfluorooctanoic acid percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU1-NNE-14-01	13C2-Perfluorododecanoic acid	35 (50-150)	Perfluorododecanoic acid Perlfuorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and labeled compound %R, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI20/2010255

Sample	Compound	Flag	A or P	Reason
OU1-NRF-1-01	Perfluoroundecanoic acid	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
OU1-NNE-14-01	Perfluorododecanoic acid Perlfuorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI20/2010255

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI20/2010255

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OU1-NNE-14-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 09:00
SDG#: BSI20-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9903613
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D. UJ	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	14	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	83	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	54	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	1.8 J	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	36	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	58	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D. UJ	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

The recovery for labeled compound 13C2-PFDoDA is outside of QC acceptance limits as noted on the QC Summary.

Sufficient sample was not available to repeat the analysis.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:32	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 D

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-14-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 10:15
SDG#: BSI20-02BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903614
ELLE Group #: 2010255
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:41	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 R

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-14-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 10:20
SDG#: BSI20-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903615
ELLE Group #: 2010255
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:50	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNE-17-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 11:14
SDG#: BSI20-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9903616
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	16	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	1.2 J	0.48	1.2	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.2	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	21	0.38	1.2	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	130	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	74	0.48	1.2	1.9	1
14434	Perfluorononanoic acid	375-95-1	1.7 J	0.38	1.2	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	51	0.48	1.2	1.9	1
14434	Perfluorooctanoic acid	335-67-1	99	0.48	1.2	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.58	1.2	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.58	1.2	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.2	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/26/2018 23:59	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-9N1W12L05-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 12:36
SDG#: BSI20-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9903617
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.1	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	16	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.87 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	6.1	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.76 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:08	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

4/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NEP-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 14:30
SDG#: BSI20-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9903618
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	20	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	0.63 J	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	11	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	69	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	97	4.5	11	18	10
14434	Perfluorononanoic acid	375-95-1	1.2 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	49	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	62	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:17	Marissa C Drexinger	1
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/28/2018 10:24	Joshua P Trost	10
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NRF-1-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/14/2018 16:25
SDG#: BSI20-07BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9903619
ELLE Group #: 2010255
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.2	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.0	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	21	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	7.3	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.8	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	44	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	23	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/27/2018 00:26	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18323012	11/19/2018 15:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

LDC #: 44154A96
SDG #: BSI20/2010255
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B, 4

Date: 1/24/19
Page: 1 of 1
Reviewer: Q
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 20% r². mc/ICV ≤ 30%
IV.	Continuing calibration/ISC	A	ccv/isc ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2. SB = 2
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-NNE-14-01	9903613	Water	11/14/18
2	OU1-NNE-14-W-01	9903614	Water	11/14/18
3	OU1-NNE-14-W-02	9903615	Water	11/14/18
4	OU1-NNE-17-01	9903616	Water	11/14/18
5	OU1-9N1W12L05-01	9903617	Water	11/14/18
6	OU1-NEP-2-01	9903618	Water	11/14/18
7	OU1-NRF-1-01	9903619	Water	11/14/18
8	OU1-NRF-1-01MS	9903620MS	Water	11/14/18
9	OU1-NRF-1-01MSD	9903621MSD	Water	11/14/18
10				
11				

Notes:

	BK3230-2B						

LDC #: KK154A96

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JVG

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			

LDC #: 44154A90

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JVG

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~44154A96~~

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: Q
2nd Reviewer: JVG

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?
Y N N/A Were all duplicate sample relative percent differences (RPD) or differences within QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		8/9	#R	( )	T9 (83-132)	( )	T (NO)	J+UJ/A
			N	( )	1ST (76-136)	( )		NO qual >4x
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )	

LDC #: ~~44544~~96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: CT
2nd Reviewer: JM

METHOD: LC/MS PFAS (EPA Method 537M)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y/N N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		1 (ND)	13C2-PFDoDA	35 (50-150)	J/UJ/A (E, Q)
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	
				( )	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/26/2018	PFOA	1	0.040	0.0410393
		2	0.120	0.1035112
		3	0.400	0.4268136
		4	1.600	1.4766669
		5	4.000	3.8556006
		6	10.000	8.9604514
		7	20.000	17.4262605

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.87925184*	0.892990
Correlation Coefficient	*0.999777*	0.99927
Coefficient of Determination (r^2)	*0.999555*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/26/2018	PFOS	1	0.039	0.0433728
		2	0.116	0.1149304
		3	0.387	0.4449716
		4	1.548	1.5784137
		5	3.870	4.3035052
		6	9.686	10.5549627
		7	19.372	22.0735376

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.12840566*	1.116930
Correlation Coefficient	*0.999823*	0.99961
Coefficient of Determination (r^2)	*0.999647*	

LDC #: ~~HBAA96~~

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: T
2nd Reviewer: SVO

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv2_cal3	11/26/18	~~PFOA~~ (1st internal standard)	2.00	2.38	2.38	18.77	18.77
			~~PFOS~~ (2nd internal standard)	1.85	1.97	1.97	6.23	6.23
			(3rd internalstandard)					
2	ccv3_cal4	11/26/18	↓ (1st internal standard)	8.00	9.02	9.02	12.79	12.79
			↓ (2nd internal standard)	7.40	6.91	6.91	6.56	6.56
			(3rd internalstandard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

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LDC #[illegible]

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: [illegible]
2nd Reviewer: JM

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 8/9

Compound	Spike Added (ng/L)		Sample Concentration (ng/L)	Spiked Sample Concentration (ng/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
PFOA	4.77	4.84	23.33	29.72	30.95	134	134	157	#157	4	4
PFOS	~~4.56~~	4.63	43.52	48.1	48.58	102	100	109	109	1	1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

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VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS320128

Compound	Spike Added (ng/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
PFOA	5.14	NA	5.31	NA	98	98				
PFOS	5.20	↓	3.79	↓	T3	T3				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

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LDC #: 41154A96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: JV

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_t = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1, PFOA:

Conc. = $\frac{(28190.)(5.00)(1)(\quad)(\quad)}{(102599)(0.8999)(0.7153)(\quad)(\quad)}$

= 57.71 ng/L

#	Sample ID	Compound	Reported Concentration (ng/L)	Calculated Concentration ( )	Qualification
	1	PFOA	58		

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI21/2010258

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-GW-10-01	9903630	Water	11/13/18
OU1-GW-10-W-01	9903633	Water	11/13/18
OU1-GW-10-W-02	9903634	Water	11/13/18
OU1-MW-A-01	9903635	Water	11/13/18
OU1-MW-A-02	9903636	Water	11/13/18
OU1-NPZ-16-01	9903637	Water	11/13/18
OU1-NPZ-8-01	9903638	Water	11/13/18
OU1-NPZ-7-01	9903639	Water	11/13/18
OU1-NWP-6-01	9903640	Water	11/13/18
OU1-NWP-6-02	9903641	Water	11/13/18
OU1-GW-10-01MS	9903631MS	Water	11/13/18
OU1-GW-10-01MSD	9903632MSD	Water	11/13/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-GW-10-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-GW-10-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For OU1-GW-10-01MS/MSD, no data were qualified for percent recoveries (%R) and relative percent differences (RPD) outside the QC limits since the MS/MSD was analyzed at greater than or equal to a 5X dilution.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples OU1-MW-A-01 and OU1-MW-A-02 and samples OU1-NWP-6-01 and OU1-NWP-6-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-MW-A-01	OU1-MW-A-02			
NEtFOSAA	2.6	2.8	7 (≤30)	-	-
NMeFOSAA	1.5	1.3	14 (≤30)	-	-
Perfluorobutanesulfonate	17	18	6 (≤30)	-	-
Perfluorodecanoic acid	4.9	4.7	4 (≤30)	-	-
Perfluoroheptanoic acid	2.4	2.4	0 (≤30)	-	-
Perfluorohexanesulfonate	15	15	0 (≤30)	-	-
Perfluorohexanoic acid	6.7	6.4	5 (≤30)	-	-
Perfluorononanoic acid	4.0	4.2	5 (≤30)	-	-
Perfluoro-octanesulfonate	47	53	12 (≤30)	-	-
Perfluorooctanoic acid	22	22	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
NEtFOSAA	1.0	1.3	26 (≤30)	-	-
Perfluorobutanesulfonate	19	24	23 (≤30)	-	-
Perfluorodecanoic acid	4.7	5.4	14 (≤30)	-	-
Perfluoroheptanoic acid	2.9	3.6	22 (≤30)	-	-
Perfluorohexanesulfonate	21	25	17 (≤30)	-	-
Perfluorohexanoic acid	6.7	7.9	16 (≤30)	-	-
Perfluorononanoic acid	6.1	6.8	11 (≤30)	-	-
Perfluoro-octanesulfonate	79	94	17 (≤30)	-	-
Perfluorooctanoic acid	27	33	20 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI21/2010258

No Sample Data Qualified in this SDG

Sample Description: OU1-GW-10-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:00
SDG#: BSI21-01BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9903630
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	8.8	21	27	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	8.8	21	27	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6,400	27	97	180	100
14434	Perfluorodecanoic acid	335-76-2	N.D.	4.4	11	18	10
14434	Perfluorododecanoic acid	307-55-1	N.D.	4.4	11	18	10
14434	Perfluoroheptanoic acid	375-85-9	2,000	35	110	180	100
14434	Perfluorohexanesulfonate	355-46-4	6,400	35	97	180	100
14434	Perfluorohexanoic acid	307-24-4	32,000	440	1,100	1,800	1000
14434	Perfluorononanoic acid	375-95-1	N.D.	3.5	11	18	10
14434	Perfluoro-octanesulfonate	1763-23-1	31	4.4	11	18	10
14434	Perfluorooctanoic acid	335-67-1	1,500	4.4	11	18	10
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	5.3	11	18	10
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	5.3	11	18	10
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	4.4	11	18	10

The recovery for labeled compound used as extraction standard 13C5-PFHxA is outside of QC acceptance limits as noted on the QC Summary. The recovery for labeled compound used as extraction standard 13C5-PFHxA is also outside of QC acceptance limits in the associated matrix spike and duplicate samples, indicating a matrix effect.

Reporting limits were raised due to interference from the sample matrix.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 10:42	Joshua P Trost	10
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 10:51	Joshua P Trost	100
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/28/2018 12:16	Joshua P Trost	1000
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-10-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:15
SDG#: BSI21-02BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903633
ELLE Group #: 2010258
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:37	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-10-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 09:20
SDG#: BSI21-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9903634
ELLE Group #: 2010258
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.84	2.0	2.5	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.84	2.0	2.5	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.25	0.93	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.93	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.42	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:46	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: **OU1-MW-A-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 10:44
SDG#: BSI21-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9903635
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	2.6	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.5 J	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	17	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.9	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	2.4	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.7	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.0	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	47	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	22	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 13:55	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-A-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 10:45
SDG#: BSI21-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9903636
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	2.8	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.3 J	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.7	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	2.4	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.4	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	53	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	22	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:04	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-16-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 12:13
SDG#: BSI21-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9903637
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.0	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.8	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.6	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.7	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	24	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:13	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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Sample Description: **OU1-NPZ-8-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 13:34
SDG#: BSI21-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9903638
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	19	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.6	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.1	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	15	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	6.3	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	4.3	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	47	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	24	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:22	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-7-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 15:01
SDG#: BSI21-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9903639
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.9	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.4	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	46	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	26	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	4.9	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	41	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:31	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/26/19 JL

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-NWP-6-01 Grab Groundwater**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 16:36
SDG#: BSI21-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9903640
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	1.0 J	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	19	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	4.7	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.9	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	21	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	6.7	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	6.1	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	79	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	27	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:40	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NWP-6-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/16/2018 11:40
Collection Date/Time: 11/13/2018 16:37
SDG#: BSI21-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9903641
ELLE Group #: 2010258
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	1.3 J	0.85	2.0	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	5.4	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.6	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	7.9	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	6.8	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	94	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	33	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/27/2018 14:58	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18324013	11/20/2018 16:00	Anthony C Polaski	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154B96
SDG #: BSI21/2010258
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer: 1
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD<20% .Y. TME/ICV≤30%
IV.	Continuing calibration/ISC	A	ECV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2. SB=3.
VII.	Matrix spike/Matrix spike duplicates	SW	11/12: %R and RPD out >5x of LCS
VIII.	Laboratory control samples	A	
IX.	Field duplicates	SW	D=4+5. 9+10
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-GW-10-01	9903630	Water	11/13/18
2	OU1-GW-10-W-01	9903633	Water	11/13/18
3	OU1-GW-10-W-02	9903634	Water	11/13/18
4	OU1-MW-A-01	9903635	Water	11/13/18
5	OU1-MW-A-02	9903636	Water	11/13/18
6	OU1-NPZ-16-01	9903637	Water	11/13/18
7	OU1-NPZ-8-01	9903638	Water	11/13/18
8	OU1-NPZ-7-01	9903639	Water	11/13/18
9	OU1-NWP-6-01	9903640	Water	11/13/18
10	OU1-NWP-6-02	9903641	Water	11/13/18
11	OU1-GW-10-01MS	9903631MS	Water	11/13/18
12	OU1-GW-10-01MSD	9903632MSD	Water	11/13/18
13				
14				
15				

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC#: 44154B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JM

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	4	5		
A	2.6	2.8	7	
B	1.5	1.3	14	
C	17	18	6	
F	4.9	4.7	4	
H	2.4	2.4	0	
I	15	15	0	
J	6.7	6.4	5	
K	4.0	4.2	5	
M	47	53	12	
N	22	22	0	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	9	10		
A	1.0	1.3	26	
C	19	24	23	
F	4.7	5.4	14	
H	2.9	3.6	22	
I	21	25	17	
J	6.7	7.9	16	
K	6.1	6.8	11	
M	79	94	17	
N	27	33	20	

LDC #: 44154B96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JVC

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery	(Limit:)	Qualifications
		1	13C5-PFHxA	42	(50-150)	(J) 9
					( )	
		11 (MS)		40	(50-150)	No qual
					( )	
		12 (MSD)	↓	41	( )	↓
					( )	
					( )	
					( )	
					( )	
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					( )	
					( )	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI22/2012436

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU2N-TIM3-01	9913119	Water	11/20/18
OU1-NSP-2-01	9913120	Water	11/20/18
OU1-NS7-4-01	9913121	Water	11/21/18
OU1-NS7-4-W-01	9913122	Water	11/21/18
OU1-NS7-4-W-02	9913123	Water	11/21/18
OU1-NS7-8-01	9913124	Water	11/21/18
OU1-NS7-3-01	9913125	Water	11/21/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample OU1-NS7-4-W-01 was identified as an equipment blank. No contaminants were found.

Sample OU1-NS7-4-W-02 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU2N-TIM3-01	13C2-Perfluorotetradecanoic acid	46 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified as estimated in one samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI22/2012436

Sample	Compound	Flag	A or P	Reason
OU2N-TIM3-01	Perfluorotetradecanoic acid	UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI22/2012436

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI22/2012436

No Sample Data Qualified in this SDG

Sample Description: OU2N-TIM3-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/20/2018 12:57
SDG#: BSI22-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9913119
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	2.2 J	0.85	2.0	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	20	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	6.0	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.8	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	16	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.2	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	60	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	24	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:04	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-2-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/20/2018 14:05
SDG#: BSI22-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9913120
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:13	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-NS7-4-01 Grab Groundwater MCLB Barstow**

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:02
SDG#: BSI22-03

Gutierrez Canales Engineering
ELLE Sample #: GW 9913121
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15			**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.51 J	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.9	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.3	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	0.98 J	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	3.1	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.4	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.0	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	4.6	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	0.61 J	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:22	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-4-W-01 Grab Water
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:15
SDG#: BSI22-04EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9913122
ELLE Group #: 2012436
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:41	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NS7-4-W-02 Grab Water
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 09:20
SDG#: BSI22-05EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9913123
ELLE Group #: 2012436
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:50	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-8-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 11:26
SDG#: BSI22-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9913124
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	6.8	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	0.93 J	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.7 J	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.5	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.4	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	1.9	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	2.5	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 19:59	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS7-3-01 Grab Groundwater
MCLB Barstow

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/27/2018 11:15
Collection Date/Time: 11/21/2018 14:30
SDG#: BSI22-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9913125
ELLE Group #: 2012436
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	12/04/2018 20:08	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18333008	11/29/2018 15:30	Danielle D McCully	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154C96
SDG #: BSI22/2012436
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: JVG

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	%RSD<20% or r^2. TMO/ICV=30%
IV.	Continuing calibration/CCV	A	CCV/ISC=30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB=4. SB=5.
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU2N-TIM3-01	9913119	Water	11/20/18
2	OU1-NSP-2-01	9913120	Water	11/20/18
3	OU1-NS7-4-01	9913121	Water	11/21/18
4	OU1-NS7-4-W-01	9913122	Water	11/21/18
5	OU1-NS7-4-W-02	9913123	Water	11/21/18
6	OU1-NS7-8-01	9913124	Water	11/21/18
7	OU1-NS7-3-01	9913125	Water	11/21/18
8				
9				
10				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~#1154c96~~

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: 1
2nd Reviewer: JVG

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		1 (~~dets~~) (ND)	13C2-PFTeDA	46 (50-150)	J/UJ/R (P)
				( )	
				( )	
				( )

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI23/2014748

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OUI-YS15-2-01	9922836	Water	11/29/18
OUI-YS15-2-W-01	9922837	Water	11/29/18
OUI-YS15-2-W-02	9922838	Water	11/29/18
OUI-YS21-3-01	9922839	Water	11/29/18
OUI-YS21-3-02	9922840	Water	11/29/18
OUI-PMW-6-01	9922841	Water	11/29/18
OUI-YS20-3-01	9922844	Water	11/29/18
OUI-YS20-3-02	9922845	Water	11/29/18
OUI-NGW01-01	9922846	Water	11/30/18
OUI-YIMW-8-01	9922847	Water	11/30/18
OUI-YIMW-8-W-01	9922850	Water	11/30/18
OUI-YIMW-8-W-02	9922851	Water	11/30/18
OUI-YIMW-6-01	9922852	Water	11/30/18
OUI-NNE-5-01	9922853	Water	11/30/18
OUI-PMW-6-01MS	9922842MS	Water	11/29/18
OUI-PMW-6-01MSD	9922843MSD	Water	11/29/18
OUI-YIMW-8-01MS	9922848MS	Water	11/30/18
OUI-YIMW-8-01MSD	9922849MSD	Water	11/30/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OUI-YS15-2-W-01 and OUI-YIMW-8-W-01 were identified as equipment blanks. No contaminants were found.

Samples OUI-YS15-2-W-02 and OUI-YIMW-8-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
OUI-YIMW-8-01MS/MSD (OUI-YIMW-8-01)	Perfluorohexanesulfonate	68 (71-130)	-	J (all detects)	A

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples OUI-YS21-3-01 and OUI-YS21-3-02 and samples OUI-YS20-3-01 and OUI-YS20-3-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OUI-YS21-3-01	OUI-YS21-3-02			
Perfluorobutanesulfonate	2.6	2.5	4 (≤30)	-	-
Perfluoroheptanoic acid	0.55	0.53	4 (≤30)	-	-
Perfluorohexanesulfonate	12	12	0 (≤30)	-	-
Perfluorohexanoic acid	1.1	1.0	10 (≤30)	-	-
Perfluoro-octanesulfonate	14	22	44 (≤30)	J (all detects)	A
Perfluorooctanoic acid	9.4	8.6	9 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OUI-YS20-3-01	OUI-YS20-3-02			
Perfluorobutanesulfonate	1.3	1.4	7 (≤30)	-	-
Perfluorohexanesulfonate	5.0	5.1	2 (≤30)	-	-
Perfluorohexanoic acid	0.48	0.47	2 (≤30)	-	-
Perfluoro-octanesulfonate	3.2	3.4	6 (≤30)	-	-
Perfluorooctanoic acid	1.5	1.5	0 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and field duplicate RPD, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI23/2014748

Sample	Compound	Flag	A or P	Reason
OUI-YIMW-8-01	Perfluorohexanesulfonate	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
OUI-YS21-3-01 OUI-YS21-3-02	Perfluoro-octanesulfonate	J (all detects)	A	Field duplicates (RPD)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI23/2014748

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI23/2014748

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OUI-YS15-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:34
SDG#: BSI23-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9922836
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.8	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	9.5	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	3.3	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	27	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	0.82 J	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:10	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS15-2-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:50
SDG#: BSI23-02EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922837
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:19	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS15-2-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 09:55
SDG#: BSI23-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922838
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.85	2.0	2.5	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.85	2.0	2.5	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.25	0.93	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.42	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.42	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.34	0.93	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.42	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.42	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.42	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:28	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS21-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:49
SDG#: BSI23-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9922839
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.55 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	14 J	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	9.4	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:37	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS21-3-02 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 11:50
SDG#: BSI23-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9922840
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.5	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.53 J	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.0 J	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	22 J	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.6	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:46	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-PMW-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 13:57
SDG#: BSI23-06BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922841
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.83 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	7.2	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.93 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 12:55	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS20-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:01
SDG#: BSI23-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9922844
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.3 J	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.0	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.48 J	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.2	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:05	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YS20-3-02 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/29/2018 16:02
SDG#: BSI23-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9922845
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.4 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.1	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.47 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	3.4	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	1.5 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/08/2018 13:23	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18339013	12/05/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-NGW01-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 10:05
SDG#: BSI23-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9922846
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	1.2	3.0	3.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	1.2	3.0	3.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	21	0.37	1.4	2.5	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.62	1.5	2.5	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.62	1.5	2.5	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.50	1.5	2.5	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.50	1.4	2.5	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.62	1.5	2.5	1
14434	Perfluorononanoic acid	375-95-1	0.76 J	0.50	1.5	2.5	1
14434	Perfluoro-octanesulfonate	1763-23-1	31	0.62	1.5	2.5	1
14434	Perfluorooctanoic acid	335-67-1	5.8	0.62	1.5	2.5	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.75	1.5	2.5	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.75	1.5	2.5	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.62	1.5	2.5	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:07	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:23
SDG#: BSI23-10BKG

Gutierrez Canales Engineering
ELLE Sample #: GW 9922847
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.6 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.41 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	8.1 J	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	0.62 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	7.1	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	4.3	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:16	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:45
SDG#: BSI23-11EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922850
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:25	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-8-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 12:50
SDG#: BSI23-12EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9922851
ELLE Group #: 2014748
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:34	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-YIMW-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 14:35
SDG#: BSI23-13

Gutierrez Canales Engineering
ELLE Sample #: GW 9922852
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.0	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.70 J	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	9.4	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	1.7 J	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.71 J	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	12	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	7.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:43	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OUI-NNE-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/04/2018 10:00
Collection Date/Time: 11/30/2018 16:05
SDG#: BSI23-14

Gutierrez Canales Engineering
ELLE Sample #: GW 9922853
ELLE Group #: 2014748
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	25	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.2	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	22	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	92	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.67 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	23	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	19	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/10/2018 23:52	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18340014	12/06/2018 16:00	Anthony C Polaski	1

1/24/19

*=This limit was used in the evaluation of the final result

LDC #: 44154D96
SDG #: BSI23/2014748
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 2
Reviewer: Q
2nd Reviewer: SM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20% r^2. True/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2,11,12 SB=3,12
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D=4+5. T+8.
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OUI-YS15-2-01	9922836	Water	11/29/18
2	OUI-YS15-2-W-01	9922837	Water	11/29/18
3	OUI-YS15-2-W-02	9922838	Water	11/29/18
4	OUI-YS21-3-01	9922839	Water	11/29/18
5	OUI-YS21-3-02	9922840	Water	11/29/18
6	OUI-PMW-6-01	9922841	Water	11/29/18
7	OUI-YS20-3-01	9922844	Water	11/29/18
8	OUI-YS20-3-02	9922845	Water	11/29/18
9	OUI-NGW01-01	9922846	Water	11/30/18
10	OUI-YIMW-8-W-01	9922847	Water	11/30/18
11	OUI-YIMW-8-W-01	9922850	Water	11/30/18
12	OUI-YIMW-8-W-02	9922851	Water	11/30/18
13	OUI-YIMW-6-01	9922852	Water	11/30/18
14	OUI-NNE-5-01	9922853	Water	11/30/18
15	OUI-PMW-6-01MS	9922842MS	Water	11/29/18

LDC #: 44154D96
SDG #: BSI23/2014748
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/31/19
Page: 2 of 2
Reviewer:
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

	Client ID	Lab ID	Matrix	Date
16	OUI-PMW-6-01MSD	9922843MSD	Water	11/29/18
17	OUI-YIMW-8-01MS	9922848MS	Water	11/30/18
18	OUI-YIMW-8-01MSD	9922849MSD	Water	11/30/18
19				
20				
21				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: ~~44154096~~

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JM

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?
Y N N/A Were all duplicate sample relative percent differences (RPD) or differences within QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		17/18	I	68 (71-130)	( )	( )	ID (dets)	J/UJ/A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 44154D96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JYG

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y/N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	4	5		
C	2.6	2.5	4	
H	0.55	0.53	4	
I	12	12	0	
J	1.1	1.0	10	
M	14	22	44	Jdets/A
N	9.4	8.6	9	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	7	8		
C	1.3	1.4	7	
I	5.0	5.1	2	
J	0.48	0.47	2	
M	3.2	3.4	6	
N	1.5	1.5	0	

V:\FIELD DUPLICATES\Field Duplicates\FD_Organics\2018\44154D96.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI24/2015917

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-YEP-3-01	9927672	Water	12/04/18
OU1-YEP-3-W-01	9927673	Water	12/04/18
OU1-YEP-3-W-02	9927674	Water	12/04/18
OU1-YS35-4-01	9927675	Water	12/04/18
OU1-YCW16-4-01	9927676	Water	12/04/18
OU1-YCW16-2-01	9927677	Water	12/04/18
OU1-Y4-2-01	9927678	Water	12/05/18
OU1-Y4-2-W-01	9927679	Water	12/05/18
OU1-Y4-2-W-02	9927680	Water	12/05/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-YEP-3-W-01 and OU1-Y4-2-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-YEP-3-W-02 and OU1-Y4-2-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI24/2015917

No Sample Data Qualified in this SDG

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Analysis Report

Sample Description: OU1-YEP-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:25
SDG#: BSI24-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9927672
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.0	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	1.5 J	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	2.4	0.34	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	14	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	0.81 J	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 13:53	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YEP-3-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:40
SDG#: BSI24-02RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9927673
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 05:53	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-YEP-3-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 10:45
SDG#: BSI24-03BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9927674
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:02	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS35-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 11:50
SDG#: BSI24-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9927675
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	5.4	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.54 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.60 J	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	14	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:11	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 13:21
SDG#: BSI24-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9927676
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.95	2.3	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.95	2.3	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.9	0.28	1.0	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.47	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.47	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	0.69 J	0.38	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.38	1.0	1.9	1
14434	Perfluorohexanoic acid	307-24-4	8.0	0.47	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.47	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.47	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.57	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.57	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.47	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:20	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/04/2018 15:04
SDG#: BSI24-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9927677
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.3	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.48	1.2	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.2	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	0.77 J	0.38	1.2	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	1.1 J	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	8.7	0.48	1.2	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.2	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.48	1.2	1.9	1
14434	Perfluorooctanoic acid	335-67-1	0.65 J	0.48	1.2	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.58	1.2	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.58	1.2	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.2	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:29	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y4-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:18
SDG#: BSI24-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9927678
ELLE Group #: 2015917
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.8	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	0.99 J	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	12	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	2.1	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.67 J	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	15	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	15	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:38	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

1/26/19 JT

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y4-2-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:45
SDG#: BSI24-08RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9927679
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 06:56	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-Y4-2-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/06/2018 10:30
Collection Date/Time: 12/05/2018 08:50
SDG#: BSI24-09BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9927680
ELLE Group #: 2015917
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/11/2018 07:05	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18343003	12/09/2018 15:55	Danielle D McCully	1

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*=This limit was used in the evaluation of the final result

LDC #: 44154E96
SDG #: BSI24/2015917
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer:
2nd Reviewer: JVC

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD ≤ 20% or r^2, TMC/ICV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV/ISC ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2.8 SB = 3, 9
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-YEP-3-01	9927672	Water	12/04/18
2	OU1-YEP-3-W-01	9927673	Water	12/04/18
3	OU1-YEP-3-W-02	9927674	Water	12/04/18
4	OU1-YS35-4-01	9927675	Water	12/04/18
5	OU1-YCW16-4-01	9927676	Water	12/04/18
6	OU1-YCW16-2-01	9927677	Water	12/04/18
7	OU1-Y4-2-01	9927678	Water	12/05/18
8	OU1-Y4-2-W-01	9927679	Water	12/05/18
9	OU1-Y4-2-W-02	9927680	Water	12/05/18
10				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): BSI27/2017387

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-Y15-5-01	9934777	Water	12/05/18
OU1-Y9-5-01	9934778	Water	12/05/18
OU1-YS16-6-01	9934779	Water	12/06/18
OU1-YCW16-1-01	9934780	Water	12/07/18
OU1-YS16-6-W-01	9934781	Water	12/07/18
OU1-YS16-6-W-02	9934782	Water	12/07/18
OU1-YCW16-1-W-01	9934783	Water	12/07/18
OU1-YCW16-1-W-02	9934784	Water	12/07/18
OU1-YCW16-3-01	9934785	Water	12/07/18
OU1-YIMW-4-01	9934786	Water	12/07/18
OU1-PMW-2-01	9934787	Water	12/07/18
OU1-Y9-4-01	9934788	Water	12/07/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-YS16-6-W-01 and OU1-YCW16-1-W-01 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
OU1-YCW16-1-W-01	12/07/18	Perfluorobutanesulfonate	0.41 ng/L	OU1-YCW16-1-01 OU1-YCW16-3-01 OU1-YIMW-4-01 OU1-PMW-2-01 OU1-Y9-4-01

Samples OU1-YS16-6-W-02 and OU1-YCW16-1-W-02 were identified as source blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
OU1-YCW16-1-01	Perfluorobutanesulfonate	1.8 ng/L	1.8U ng/L
OU1-YIMW-4-01	Perfluorobutanesulfonate	1.7 ng/L	1.7U ng/L

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
OU1-Y9-5-01	13C2-Perfluorotetradecanoic acid	36 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P
OU1-YIMW-4-01	13C2-Perfluorotetradecanoic acid	43 (50-150)	Perfluorotetradecanoic acid	UJ (all non-detects)	P

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified as estimated in two samples.

Due to equipment blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG BSI27/2017387

Sample	Compound	Flag	A or P	Reason
OU1-Y9-5-01 OU1-YIMW-4-01	Perfluorotetradecanoic acid	UJ (all non-detects)	P	Labeled compounds (%R)

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG BSI27/2017387

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG BSI27/2017387

Sample	Compound	Modified Final Concentration	A or P
OU1-YCW16-1-01	Perfluorobutanesulfonate	1.8U ng/L	A
OU1-YIMW-4-01	Perfluorobutanesulfonate	1.7U ng/L	A

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Analysis Report

Sample Description: OU1-Y15-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 13:50
SDG#: BSI27-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9934777
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.2	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	11	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.0	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	2.5	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:02	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/24/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y9-5-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/05/2018 17:16
SDG#: BSI27-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9934778
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	2.6	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	14	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	3.4	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	0.42 J	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	13	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	14	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:11	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-YS16-6-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/06/2018 16:57
SDG#: BSI27-03

Gutierrez Canales Engineering
ELLE Sample #: GW 9934779
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	4.9	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.94 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.58 J	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	15	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:29	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

12/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:03
SDG#: BSI27-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9934780
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.8 U	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.64 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	2.0	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.1	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	0.70 J	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:38	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS16-6-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:00
SDG#: BSI27-05RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934781
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:47	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YS16-6-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 08:05
SDG#: BSI27-06BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934782
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 14:56	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-W-01 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:30
SDG#: BSI27-07RB

Gutierrez Canales Engineering
ELLE Sample #: GW 9934783
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.41 J	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:05	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-1-W-02 Grab Water
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 09:35
SDG#: BSI27-08BL

Gutierrez Canales Engineering
ELLE Sample #: GW 9934784
ELLE Group #: 2017387
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:14	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YCW16-3-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 10:29
SDG#: BSI27-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9934785
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.96	2.3	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.96	2.3	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.1	0.29	1.1	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.48	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.48	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	2.7	0.38	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	1.3 J	0.38	1.1	1.9	1
14434	Perfluorohexanoic acid	307-24-4	19	0.48	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.38	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	0.55 J	0.48	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	1.1 J	0.48	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.57	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.57	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.48	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:23	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-YIMW-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 12:44
SDG#: BSI27-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9934786
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.7 J U	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.46 J	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	9.3	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.1 J	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	10	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	7.1	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D. UJ	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

The recovery for the labeled compound used as extraction standards is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was reextracted outside holding time. The data is reported from the original extraction. Both sets of data are included in the data package.

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:32	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-PMW-2-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 14:31
SDG#: BSI27-11

Gutierrez Canales Engineering
ELLE Sample #: GW 9934787
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.6	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	0.69 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	5.2	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	2.2	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	2.3	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	9.5	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:41	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-Y9-4-01 Grab Groundwater
Barstow PFAS Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 12/11/2018 10:05
Collection Date/Time: 12/07/2018 15:57
SDG#: BSI27-12

Gutierrez Canales Engineering
ELLE Sample #: GW 9934788
ELLE Group #: 2017387
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		ng/l	ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	3.7	0.27	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	9.7	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	50	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	20	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.3	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	26	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	29	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/19/2018 15:50	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18348012	12/14/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

LDC #: 44154F96
SDG #: BSI27/2017387
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 1/21/19
Page: 1 of 1
Reviewer:
2nd Reviewer: JV6

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20%, r²≥0.99, %D/%R/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB=5, 7 SB=6, 8
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-Y15-5-01	9934777	Water	12/05/18
2	OU1-Y9-5-01	9934778	Water	12/05/18
3	OU1-YS16-6-01	9934779	Water	12/06/18
4	OU1-YCW16-1-01	9934780	Water	12/07/18
5	OU1-YS16-6-W-01 EB	9934781	Water	12/07/18
6	OU1-YS16-6-W-02	9934782	Water	12/07/18
7	OU1-YCW16-1-W-01	9934783	Water	12/07/18
8	OU1-YCW16-1-W-02	9934784	Water	12/07/18
9	OU1-YCW16-3-01	9934785	Water	12/07/18
10	OU1-YIMW-4-01	9934786	Water	12/07/18
11	OU1-PMW-2-01	9934787	Water	12/07/18
12	OU1-Y9-4-01	9934788	Water	12/07/18
13				
14				
15				

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC #: 41514F96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 9
2nd Reviewer: SVG

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ng/L **Associated sample units:** ng/L
Sampling date: 13/4/18
Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: 1, 9-12

Compound	Blank ID	Sample Identification								
	7	1	10							
C	0.41	1.8/U	1.7/U							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

Privileged and Confidential

LDC #: 44154T96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Page: 1 of 1
Reviewer: 9
2nd Reviewer: SV6

METHOD: LC/MS PFAS (EPA Method 537M)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		2 (ND)	13C2-PFTeDA	36 (50-150)	Y/M/P (P)
				( )	
		10		43 ( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: January 22, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): SBI22/2011587

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-GW-9-01	9909715	Water	11/15/18
OU1-GW-9-02	9909716	Water	11/15/18
OU1-GW-9-W-01	9909717	Water	11/15/18
OU1-GW-9-W-02	9909718	Water	11/15/18
OU1-NS2-2-01	9909719	Water	11/15/18
OU1-NS2-2-02	9909720	Water	11/15/18
OU1-MW-D-01	9909721	Water	11/15/18
OU1-NNP-2-01	9909722	Water	11/15/18
OU1-NPZ-17-01	9909723	Water	11/15/18
OU1-NS2-1-01	9909724	Water	11/15/18
OU1-NSI-3-01	9909725	Water	11/16/18
OU1-NSI-3-W-01	9909726	Water	11/16/18
OU1-NSI-3-W-02	9909727	Water	11/16/18
OU1-NGW-04-01	9909728	Water	11/16/18
OU1-NGW-06-01	9909729	Water	11/16/18
OU1-MW-B-01	9909730	Water	11/16/18
OU1-NPZ-18-01	9909731	Water	11/16/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-GW-9-W-01 and OU1-NSI-3-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-GW-9-W-02 and OU1-NSI-3-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

Samples OU1-MW-A-01 and OU1-MW-A-02 and samples OU1-NWP-6-01 and OU1-NWP-6-02 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-MW-A-01	OU1-MW-A-02			
Perfluorobutanesulfonate	16	15	6 (≤30)	-	-
Perfluorodecanoic acid	2.7	2.8	4 (≤30)	-	-
Perfluoroheptanoic acid	5.6	5.4	4 (≤30)	-	-
Perfluorohexanesulfonate	18	17	6 (≤30)	-	-
Perfluorohexanoic acid	18	16	12 (≤30)	-	-
Perfluorononanoic acid	5.3	4.7	12 (≤30)	-	-
Perfluoro-octanesulfonate	54	53	2 (≤30)	-	-
Perfluorooctanoic acid	23	23	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
Perfluorobutanesulfonate	26	25	4 (≤30)	-	-
Perfluorodecanoic acid	1.7	1.7	0 (≤30)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Flag	A or P
	OU1-NWP-6-01	OU1-NWP-6-02			
Perfluoroheptanoic acid	4.6	4.7	2 (≤30)	-	-
Perfluorohexanesulfonate	33	33	0 (≤30)	-	-
Perfluorohexanoic acid	13	14	7 (≤30)	-	-
Perfluorononanoic acid	3.6	3.8	5 (≤30)	-	-
Perfluoro-octanesulfonate	51	50	2 (≤30)	-	-
Perfluorooctanoic acid	52	53	2 (≤30)	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

Raw data were not reviewed for Stage 2B validation.

XII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIII. System Performance

Raw data were not reviewed for Stage 2B validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG SBI22/2011587

No Sample Data Qualified in this SDG

Sample Description: OU1-GW-9-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:13
SDG#: SBI22-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9909715
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	16	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.7	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	5.6	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	18	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	18	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.3	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	54	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	23	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:03	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-GW-9-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:14
SDG#: SBI22-02

Gutierrez Canales Engineering
ELLE Sample #: GW 9909716
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	15	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	2.8	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.4	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	17	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	16	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.7	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	53	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	23	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:12	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: **OU1-GW-9-W-01 Grab Water**
Barstow Site Inspection

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:35
SDG#: SBI22-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909717
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:21	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

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Sample Description: OU1-GW-9-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 08:40
SDG#: SBI22-04EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909718
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:30	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS2-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 09:48
SDG#: SBI22-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9909719
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.6	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	33	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	13	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.6	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	51	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	52	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:39	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 CL

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Analysis Report

Sample Description: OU1-NS2-2-02 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 09:49
SDG#: SBI22-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9909720
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	25	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	1.7 J	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.7	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	33	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	14	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.8	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	53	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:48	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-D-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 11:01
SDG#: SBI22-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9909721
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.1	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.9	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	45	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	11	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	6.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	68	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	46	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 17:57	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-2-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 12:53
SDG#: SBI22-08

Gutierrez Canales Engineering
ELLE Sample #: GW 9909722
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.92	2.2	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.92	2.2	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.28	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.1	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	3.1	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	5.7	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	4.8	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	60	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	32	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:15	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-17-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 14:16
SDG#: SBI22-09

Gutierrez Canales Engineering
ELLE Sample #: GW 9909723
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	4.8	1.0	2.4	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.3 J	1.0	2.4	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	18	0.30	1.1	2.0	1
14434	Perfluorodecanoic acid	335-76-2	10	0.51	1.2	2.0	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.51	1.2	2.0	1
14434	Perfluoroheptanoic acid	375-85-9	3.8	0.41	1.2	2.0	1
14434	Perfluorohexanesulfonate	355-46-4	30	0.41	1.1	2.0	1
14434	Perfluorohexanoic acid	307-24-4	4.9	0.51	1.2	2.0	1
14434	Perfluorononanoic acid	375-95-1	8.0	0.41	1.2	2.0	1
14434	Perfluoro-octanesulfonate	1763-23-1	120	0.51	1.2	2.0	1
14434	Perfluorooctanoic acid	335-67-1	44	0.51	1.2	2.0	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.61	1.2	2.0	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.61	1.2	2.0	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.51	1.2	2.0	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:24	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NS2-1-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/15/2018 15:47
SDG#: SBI22-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9909724
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	1.8 J	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	1.1 J	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	6.7	0.26	0.97	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.1	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.1 J	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	17	0.35	0.97	1.8	1
14434	Perfluorohexanoic acid	307-24-4	1.2 J	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.2	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	49	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	28	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:33	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:01
SDG#: SBI22-11

Gutierrez Canales Engineering
ELLE Sample #: GW 9909725
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	13	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	2.6	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.4	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	35	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	12	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	3.1	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	50	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	32	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:42	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 8

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-W-01 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:30
SDG#: SBI22-12EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909726
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 18:51	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

12/6/18

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSI-3-W-02 Grab Water
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 09:35
SDG#: SBI22-13EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909727
ELLE Group #: 2011587
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:00	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NGW-04-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 10:42
SDG#: SBI22-14

Gutierrez Canales Engineering
ELLE Sample #: GW 9909728
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	13	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	0.91 J	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	4.6	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	39	0.36	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	6.9	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	2.6	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	62	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	30	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:09	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NGW-06-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 12:05
SDG#: SBI22-15

Gutierrez Canales Engineering
ELLE Sample #: GW 9909729
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	0.64 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	3.3	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	54	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	3.5	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	2.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	80	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	30	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/28/2018 19:18	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330012	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-MW-B-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 13:44
SDG#: SBI22-16

Gutierrez Canales Engineering
ELLE Sample #: GW 9909730
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	28	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	3.3	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	4.8	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	26	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	10	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	5.6	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	73	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	32	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.51	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.51	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:21	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NPZ-18-01 Grab Groundwater
Barstow Site Inspection

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/16/2018 14:53
SDG#: SBI22-17

Gutierrez Canales Engineering
ELLE Sample #: GW 9909731
ELLE Group #: 2011587
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	24	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	3.3	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	5.2	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	23	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	16	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	5.2	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	61	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	27	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:30	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

LDC #: 44154G96
SDG #: SBI22/2011587
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 4-2B

Date: 4/19/19
Page: 1 of 2
Reviewer:
2nd Reviewer: SW

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20%. r^2. TME/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV≤30%. ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=3.12 SB=4.13
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	SW	D=1+2. 5+6
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	N	
XII.	Target compound identification	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-GW-9-01	9909715	Water	11/15/18
2	OU1-GW-9-02	9909716	Water	11/15/18
3	OU1-GW-9-W-01	9909717	Water	11/15/18
4	OU1-GW-9-W-02	9909718	Water	11/15/18
5	OU1-NS2-2-01	9909719	Water	11/15/18
6	OU1-NS2-2-02	9909720	Water	11/15/18
7	OU1-MW-D-01	9909721	Water	11/15/18
8	OU1-NNP-2-01	9909722	Water	11/15/18
9	OU1-NPZ-17-01	9909723	Water	11/15/18
10	OU1-NS2-1-01	9909724	Water	11/15/18
11	OU1-NSI-3-01	9909725	Water	11/16/18
12	OU1-NSI-3-W-01	9909726	Water	11/16/18
13	OU1-NSI-3-W-02	9909727	Water	11/16/18
14	OU1-NGW-04-01	9909728	Water	11/16/18
15	OU1-NGW-06-01	9909729	Water	11/16/18

LDC #: 44154G96
SDG #: SBI22/2011587
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 4

Date: 1/21/19

Reviewer:
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

	Client ID	Lab ID	Matrix	Date
16	OU1-MW-B-01	9909730	Water	11/16/18
17	OU1-NPZ-18-01	9909731	Water	11/16/18
18				
19				
20				

Notes:

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC#: 44154G96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: PG
2nd Reviewer: JVM

METHOD: LC MS PFCs (EPA Method 537-Mod)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	1	2		
C	16	15	6	
F	2.7	2.8	4	
H	5.6	5.4	4	
I	18	17	6	
J	18	16	12	
K	5.3	4.7	12	
M	54	53	2	
N	23	23	0	

Compound	Concentration (ng/L)		RPD (≤30%)	Qualifications (Parent Only)
	5	6		
C	26	25	4	
F	1.7	1.7	0	
H	4.6	4.7	2	
I	33	33	0	
J	13	14	7	
K	3.6	3.8	5	
M	51	50	2	
N	52	53	2	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Barstow Site Inspection

LDC Report Date: February 5, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Eurofins

Sample Delivery Group (SDG): SBI23/2011591

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
OU1-NSP-3-01	9909753	Water	11/19/18
OU1-NSP-3-W-01	9909754	Water	11/19/18
OU1-NSP-3-W-02	9909755	Water	11/19/18
OU1-NC-8-01	9909756	Water	11/19/18
OU1-NC-6-01	9909757	Water	11/19/18
OU1-NC-1-01	9909758	Water	11/19/18
OU1-NNP-3-01	9909759	Water	11/20/18
OU1-NNP-3-W-01	9909760	Water	11/20/18
OU1-NNP-3-W-02	9909761	Water	11/20/18
OU1-NWP-5-01	9909762	Water	11/20/18

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Field Sampling and Analysis Plan for Site Inspection Per- and Polyfluoroalkyl Substances, Nebo Main Base and Yermo Annex, Marine Corps Logistics Base, Barstow, CA (October 2018), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 20.0%.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

All compound concentrations were at the limit of quantitation (LOQ) for the ISC standard.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples OU1-NSP-3-W-01 and OU1-NNP-3-W-01 were identified as equipment blanks. No contaminants were found.

Samples OU1-NSP-3-W-02 and OU1-NNP-3-W-02 were identified as source blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria.

The laboratory indicated that PFAS are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Barstow Site Inspection
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG SBI23/2011591

No Sample Data Qualified in this SDG

Sample Description: **OU1-NSP-3-01 Grab Groundwater**
Barstow Site Investigation

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 10:59
SDG#: SBI23-01

Gutierrez Canales Engineering
ELLE Sample #: GW 9909753
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	0.60 J	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:39	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-3-W-01 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 11:15
SDG#: SBI23-02EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909754
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:48	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NSP-3-W-02 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 11:20
SDG#: SBI23-03EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909755
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.87	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.87	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.96	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.44	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.96	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.44	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.44	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.44	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 20:57	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

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*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-8-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 12:55
SDG#: SBI23-04

Gutierrez Canales Engineering
ELLE Sample #: GW 9909756
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	1.2 J	0.26	0.94	1.7	1
14434	Perfluorodecanoic acid	335-76-2	0.56 J	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	2.3	0.34	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	2.3	0.34	0.94	1.7	1
14434	Perfluorohexanoic acid	307-24-4	8.2	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	0.71 J	0.34	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	15	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:06	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 ✓

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-6-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 14:35
SDG#: SBI23-05

Gutierrez Canales Engineering
ELLE Sample #: GW 9909757
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.98	2.4	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.98	2.4	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.30 J	0.29	1.1	2.0	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.49	1.2	2.0	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.49	1.2	2.0	1
14434	Perfluoroheptanoic acid	375-85-9	1.3 J	0.39	1.2	2.0	1
14434	Perfluorohexanesulfonate	355-46-4	0.70 J	0.39	1.1	2.0	1
14434	Perfluorohexanoic acid	307-24-4	6.3	0.49	1.2	2.0	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.39	1.2	2.0	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.49	1.2	2.0	1
14434	Perfluorooctanoic acid	335-67-1	7.6	0.49	1.2	2.0	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.59	1.2	2.0	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.59	1.2	2.0	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.49	1.2	2.0	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18337008	12/04/2018 16:40	Joshua P Trost	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18337008	12/03/2018 16:00	Danielle D McCully	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NC-1-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/19/2018 16:32
SDG#: SBI23-06

Gutierrez Canales Engineering
ELLE Sample #: GW 9909758
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	0.29 J	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	1.7 J	0.37	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	0.76 J	0.37	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	8.3	0.46	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	8.6	0.46	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:24	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 9

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-3-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:21
SDG#: SBI23-07

Gutierrez Canales Engineering
ELLE Sample #: GW 9909759
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.88	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.88	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	14	0.26	0.96	1.8	1
14434	Perfluorodecanoic acid	335-76-2	2.9	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	3.0	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	25	0.35	0.96	1.8	1
14434	Perfluorohexanoic acid	307-24-4	4.7	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	3.6	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	45	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	30	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:42	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19 Q

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-3-W-01 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:30
SDG#: SBI23-08EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909760
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.90	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.90	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	0.99	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	0.99	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.54	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.54	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 21:51	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/6/19 q

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OU1-NNP-3-W-02 Grab Water
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 08:35
SDG#: SBI23-09EB

Gutierrez Canales Engineering
ELLE Sample #: GW 9909761
ELLE Group #: 2011591
Matrix: Water

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	N.D.	0.86	2.1	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.86	2.1	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.26	0.95	1.7	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.43	1.0	1.7	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.43	1.0	1.7	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.35	1.0	1.7	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.35	0.95	1.7	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.43	1.0	1.7	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.35	1.0	1.7	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.43	1.0	1.7	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.52	1.0	1.7	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.52	1.0	1.7	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.43	1.0	1.7	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/28/2018 22:00	Mark Makowiecki	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/26/19

*=This limit was used in the evaluation of the final result

Sample Description: OU1-NNP-5-01 Grab Groundwater
Barstow Site Investigation

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/21/2018 11:00
Collection Date/Time: 11/20/2018 10:19
SDG#: SBI23-10

Gutierrez Canales Engineering
ELLE Sample #: GW 9909762
ELLE Group #: 2011591
Matrix: Groundwater

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Detection Limit*	As Received Limit of Detection	As Received Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/l**	**ng/l**	**ng/l**	**ng/l**	
14434	NEtFOSAA	2991-50-6	2.6 J	0.89	2.1	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.89	2.1	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	26	0.27	0.98	1.8	1
14434	Perfluorodecanoic acid	335-76-2	4.0	0.44	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.44	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	6.8	0.35	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	79	0.35	0.98	1.8	1
14434	Perfluorohexanoic acid	307-24-4	39	0.44	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	13	0.35	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	97	0.44	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	23	0.44	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.53	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.53	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.44	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/29/2018 21:32	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18330013	11/26/2018 16:00	Anthony C Polaski	1

1/16/19

*=This limit was used in the evaluation of the final result

LDC #: 44154H96
SDG #: SBI23/2011591
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Stage 2B4

Date: 1/31/19
Page: 1 of 1
Reviewer: 1
2nd Reviewer: JM

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	RSD≤20%. r^2. TM0/ICV≤30%
IV.	Continuing calibration/ISC	A	CCV/ISC≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB=2.8 SB=3,9
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	A	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	OU1-NSP-3-01	9909753	Water	11/19/18
2	OU1-NSP-3-W-01	9909754	Water	11/19/18
3	OU1-NSP-3-W-02	9909755	Water	11/19/18
4	OU1-NC-8-01	9909756	Water	11/19/18
5	OU1-NC-6-01	9909757	Water	11/19/18
6	OU1-NC-1-01	9909758	Water	11/19/18
7	OU1-NNP-3-01	9909759	Water	11/20/18
8	OU1-NNP-3-W-01	9909760	Water	11/20/18
9	OU1-NNP-3-W-02	9909761	Water	11/20/18
10	OU1-NNP-5-01	9909762	Water	11/20/18
11				
12				

Notes:

LDC #: 44154H96

VALIDATION FINDINGS CHECKLIST

Page: 1 of 3
Reviewer: 9
2nd Reviewer: JW

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			

LDC #: 44154#96

VALIDATION FINDINGS CHECKLIST

Reviewer: Q
2nd Reviewer: JV6

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. NEtFOSAA			
B. NMeFOSAA			
C. Perfluorobutanesulfonate			
D. Perfluorobutanoic acid			
E. Perfluorodecanesulfonate			
F. Perfluorodecanoic acid			
G. Perfluorododecanoic acid			
H. Perfluoroheptanoic acid			
I. Perfluorohexanesulfonate			
J. Perfluorohexanoic acid			
K. Perfluorononanoic acid			
L. Perfluorooctanesulfonamide			
M. Perfluoro-octanesulfonate			
N. Perfluorooctanoic acid			
O. Perfluoropentanoic acid			
P. Perfluorotetradecanoic acid			
Q. Perfluorotridecanoic acid			
R. Perfluoroundecanoic acid			

LDC: 44154H96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewwe: 9
2nd Reviewer: JVG

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/28/2018	PFOA	1	0.040	0.0412551
		2	0.120	0.1032343
		3	0.400	0.4251480
		4	1.600	1.6180283
		5	4.000	3.9501116
		6	10.000	9.4990554
		7	20.000	17.3013685

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.88598307*	0.967630
Correlation Coefficient	*0.999027*	0.99955
Coefficient of Determination (r^2)	*0.998054*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
11/28/2018	PFOS	1	0.039	0.0410015
		2	0.116	0.1089653
		3	0.387	0.4501466
		4	1.548	1.6273983
		5	3.870	4.3562471
		6	9.686	10.8403194
		7	19.372	22.4809355

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.15088058*	1.139530
Correlation Coefficient	*0.999874*	0.99969
Coefficient of Determination (r^2)	*0.999747*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
12/4/2018	PFOA	1	0.040	0.0410375
		2	0.120	0.1078823
		3	0.400	0.4266144
		4	1.600	1.5216516
		5	4.000	4.0864872
		6	10.000	9.5327125
		7	20.000	18.4415655

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*0.93134901*	0.944630
Correlation Coefficient	*0.999759*	0.99936
Coefficient of Determination (r^2)	*0.999518*	

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
12/4/2018	PFOS	1	0.039	0.0470742
		2	0.116	0.1128684
		3	0.387	0.4282712
		4	1.548	1.6316595
		5	3.870	4.2854714
		6	9.686	10.5344483
		7	19.372	22.4560318

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*1.14323595*	1.127850
Correlation Coefficient	*0.999666*	0.99945
Coefficient of Determination (r^2)	*0.999332*	

LDC #: ~~44C4~~ #96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JRV

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV4_ISC	12/4/18	~~PFOA~~ (1st internal standard)	0.60	0.60	0.60	0.79	0.79
	CCL2		~~PFOS~~ (2nd internal standard)	0.56	0.45	0.45	19.33	19.95
			(3rd internalstandard)					
2	CCV2_CAL3	11/28/18	(1st internal standard)	2.00	2.16	~~2.16~~	8.20	8.20
			(2nd internal standard)	1.85	1.87	1.87	1.00	1.00
			(3rd internalstandard)					
3	CCV3_CAL4	11/28/18	(1st internal standard)	8.00	7.55	7.55	5.57	5.57
			(2nd internal standard)	7.40	6.90	6.90	6.69	6.69
			(3rd internalstandard)					
4	CCV4_ISC -	11/28/18	(1st internal standard)	0.60	0.55	0.55	9.12	9.12
	CAL2		(2nd internal standard)	0.56	0.47	0.47	16.20	16.94
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

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LDC #: 44154#96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: JVC

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccVT-ISC_	11/29/18	PFOA (1st internal standard)	0.60	0.56	0.56	6.71	6.71
	ccV2		PFOS (2nd internal standard)	0.56	0.47	0.47	15.33	16.1
			(3rd internalstandard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internalstandard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

Privileged and Confidential

LDC #: [illegible]

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: 9
2nd Reviewer: JM

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 330013

Compound	Spike Added (ng/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
PFOA	5.14	5.14	5.49	5.63	101	101	104	104	3	3
PFOS	5.20	5.20	4.21	4.22	81	81	81	81	0	0

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Privileged and Confidential

LDC #: 44544/96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd reviewer: JVG

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1, PFOS

Conc. = $\frac{(13139)(4.78)(1)}{(31646)(1.13953)(0.2880)}$ = 0.604 ng/L

#	Sample ID	Compound	Reported Concentration (ng/L)	Calculated Concentration ( )	Qualification
	1	PFOS	0.60		

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LDC #: 44154

EDD POPULATION COMPLETENESS WORKSHEET

Date: 1/29
Page: 1 of 1
2nd Reviewer: FM

The LDC job number listed above was entered by JE.
Entered from Body or Summary

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	—	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	—	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	Y/Y	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	Y	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	-Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples

		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water

YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
Y15-5	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6906405.45	2149596.29	Perfluoroalkyl Compounds	OU1-Y15-5-01	WG	Ground water
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-01	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YCW16-1-W-02	WQ	Water for QC samples
		BARSTOW_MCLB			BSI27			Perfluoroalkyl Compounds	OU1-YS16-6-W-02	WQ	Water for QC samples
YIMW-4	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903583.57	2148598.51	Perfluoroalkyl Compounds	OU1-YIMW-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
Y9-4	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904626.86	2147211.01	Perfluoroalkyl Compounds	OU1-Y9-4-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
YS16-6	SITE 00037	BARSTOW_MCLB	WL	Well	BSI27	6903210.69	2150232.84	Perfluoroalkyl Compounds	OU1-YS16-6-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water

YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
YCW-16-3	SITE 00037	BARSTOW_MCLB	SV	Soil vapor extraction system	BSI27	6902414.91	2149906.82	Perfluoroalkyl Compounds	OU1-YCW16-3-01	WG	Ground water
Y9-5	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6904627.07	2147211.06	Perfluoroalkyl Compounds	OU1-Y9-5-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
PMW-2	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6905321.26	2148493.37	Perfluoroalkyl Compounds	OU1-PMW-2-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water
YCW-16-1	SITE 00037	BARSTOW_MCLB	WLM	Monitoring well	BSI27	6902543.11	2149275.54	Perfluoroalkyl Compounds	OU1-YCW16-1-01	WG	Ground water

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