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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, SDG BSI03

Marine Corps Ballistics Base Barstow
Barstow, California

November 2019

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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
Soil Samples
Collected on 10/30/18

SDG# BSI03

GROUP	SAMPLE NUMBERS
2005352	9881869-9881874

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:** **01/22/2019**

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 BSI03 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
9881869	OU1-BLDG573-S-06-01	10/30/2018 08:25	11/02/2018 10:10
9881870	OU1-BLDG573-S-06-03	10/30/2018 08:35	11/02/2018 10:10
9881871	OU1-BLDG573-S-06-05	10/30/2018 08:40	11/02/2018 10:10
9881872	OU1-BLDG573-S-06-05 MS	10/30/2018 08:40	11/02/2018 10:10
9881873	OU1-BLDG573-S-06-05 MSD	10/30/2018 08:40	11/02/2018 10:10
9881874	OU1-BLDG573-S-06-08	10/30/2018 08:50	11/02/2018 10:10

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14478 PFAS in Soil by LC/MS/MS-DoD
14510 PFAS Solid Prep - DoD

A 1 gram sample of soil/sediment is sonicated with an acetonitrile/methanol solution followed by dispersive cleanup of the extract using graphitized carbon. The resultant 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.

00111 Moisture
00118 Moisture
00121 Moisture Duplicate

A well-mixed sample is heated by reflected infrared in an aluminum pan and dried to a constant weight. The decrease in weight in weight after drying is calculated as the moisture content.

Reference: SM 2540 G-1997 %Moisture Calculation for Dry Weight Determination

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: January 18, 2019 14:04

Project: Barstow Site Inspection

Account #: 43806
Group Number: 2005352
SDG: BSI03
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-BLDG573-S-06-01 Grab Soil	10/30/2018 08:25	9881869
OU1-BLDG573-S-06-03 Grab Soil	10/30/2018 08:35	9881870
OU1-BLDG573-S-06-05 Grab Soil	10/30/2018 08:40	9881871
OU1-BLDG573-S-06-05 MS Grab Soil	10/30/2018 08:40	9881872
OU1-BLDG573-S-06-05 MSD Grab Soil	10/30/2018 08:40	9881873
OU1-BLDG573-S-06-08 Grab Soil	10/30/2018 08:50	9881874
OU1-BLDG573-S-06-10 Grab Soil	10/30/2018 08:55	9881875
OU1-BLDG573-S-06-12 Grab Soil	10/30/2018 09:00	9881876

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 #: 2005352

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 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: 9881873

The following analytes were manually integrated due to incorrect integrations:
NMeFOSAA

Sample #s: 9881872

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

Sample #s: 9881869

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid

SM 2540 G-1997 %Moisture Calc, Wet Chemistry

Batch #: 18310820001A (Sample number(s): 9881869-9881874 BKG: 9881871)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Moisture, Moisture, Moisture Duplicate

Sample Description: **OU1-BLDG573-S-06-01 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:25
SDG#: BSI03-01

Gutierrez Canales Engineering
ELLE Sample #: SW 9881869
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	N.D.	0.56	2.2	3.3	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.56	2.2	3.3	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.22	0.67	0.89	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.33	0.76	1.1	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.22	0.76	0.89	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.22	0.76	0.89	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.22	0.71	0.89	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.22	0.76	0.89	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.22	0.76	0.89	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.22	0.72	0.89	1
14478	Perfluorooctanoic acid	335-67-1	0.36 J	0.22	0.76	0.89	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.22	0.76	0.89	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.22	0.76	0.89	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.22	0.76	0.89	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	15.3	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 21:28	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

Sample Description: **OU1-BLDG573-S-06-03 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:35
SDG#: BSI03-02

Gutierrez Canales Engineering
ELLE Sample #: SW 9881870
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	N.D.	0.48	1.9	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.48	1.9	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.19	0.57	0.76	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.65	0.96	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.19	0.65	0.76	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.19	0.65	0.76	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.19	0.61	0.76	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.19	0.65	0.76	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.19	0.65	0.76	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.19	0.62	0.76	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.19	0.65	0.76	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.19	0.65	0.76	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.19	0.65	0.76	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.19	0.65	0.76	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	3.1	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 21:37	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

Sample Description: **OU1-BLDG573-S-06-05 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:40
SDG#: BSI03-03BKG

Gutierrez Canales Engineering
ELLE Sample #: SW 9881871
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	N.D.	0.49	2.0	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	2.0	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.59	0.78	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.66	0.98	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.66	0.78	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.66	0.78	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.62	0.78	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.66	0.78	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.66	0.78	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.63	0.78	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.66	0.78	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.66	0.78	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.66	0.78	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.66	0.78	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	1.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 21:46	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

Sample Description: **OU1-BLDG573-S-06-05 MS Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:40
SDG#: BSI03-03MS

Gutierrez Canales Engineering
ELLE Sample #: SW 9881872
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	1.2 J	0.49	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	1.2 J	0.49	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	1.3	0.20	0.59	0.79	1
14478	Perfluorodecanoic acid	335-76-2	1.4	0.30	0.67	0.98	1
14478	Perfluorododecanoic acid	307-55-1	1.3	0.20	0.67	0.79	1
14478	Perfluoroheptanoic acid	375-85-9	1.5	0.20	0.67	0.79	1
14478	Perfluorohexanesulfonate	355-46-4	1.3	0.20	0.63	0.79	1
14478	Perfluorohexanoic acid	307-24-4	1.5	0.20	0.67	0.79	1
14478	Perfluorononanoic acid	375-95-1	1.5	0.20	0.67	0.79	1
14478	Perfluoro-octanesulfonate	1763-23-1	1.4	0.20	0.64	0.79	1
14478	Perfluorooctanoic acid	335-67-1	1.6	0.20	0.67	0.79	1
14478	Perfluorotetradecanoic acid	376-06-7	1.5	0.20	0.67	0.79	1
14478	Perfluorotridecanoic acid	72629-94-8	1.3	0.20	0.67	0.79	1
14478	Perfluoroundecanoic acid	2058-94-8	1.4	0.20	0.67	0.79	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00118	Moisture	n.a.	1.4	0.50	0.50	0.50	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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 21:55	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

Sample Description: **OU1-BLDG573-S-06-05 MSD Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:40
SDG#: BSI03-03MSD

Gutierrez Canales Engineering
ELLE Sample #: SW 9881873
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	1.3 J	0.48	1.9	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	1.1 J	0.48	1.9	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	1.3	0.19	0.58	0.77	1
14478	Perfluorodecanoic acid	335-76-2	1.4	0.29	0.66	0.97	1
14478	Perfluorododecanoic acid	307-55-1	1.3	0.19	0.66	0.77	1
14478	Perfluoroheptanoic acid	375-85-9	1.6	0.19	0.66	0.77	1
14478	Perfluorohexanesulfonate	355-46-4	1.4	0.19	0.62	0.77	1
14478	Perfluorohexanoic acid	307-24-4	1.5	0.19	0.66	0.77	1
14478	Perfluorononanoic acid	375-95-1	1.5	0.19	0.66	0.77	1
14478	Perfluoro-octanesulfonate	1763-23-1	1.4	0.19	0.63	0.77	1
14478	Perfluorooctanoic acid	335-67-1	1.5	0.19	0.66	0.77	1
14478	Perfluorotetradecanoic acid	376-06-7	1.5	0.19	0.66	0.77	1
14478	Perfluorotridecanoic acid	72629-94-8	1.4	0.19	0.66	0.77	1
14478	Perfluoroundecanoic acid	2058-94-8	1.5	0.19	0.66	0.77	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00118	Moisture	n.a.	1.4	0.50	0.50	0.50	1
00121	Moisture Duplicate	n.a.	1.3	0.50	0.50	0.50	1
	The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 22:04	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

Sample Description: **OU1-BLDG573-S-06-08 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:50
SDG#: BSI03-04

Gutierrez Canales Engineering
ELLE Sample #: SW 9881874
ELLE Group #: 2005352
Matrix: Soil

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous	**EPA 537 mod QSM 5.1 table B-15**		**ng/g**	**ng/g**	**ng/g**	**ng/g**	
14478	NEtFOSAA	2991-50-6	N.D.	0.51	2.0	3.1	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.51	2.0	3.1	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.61	0.81	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.31	0.69	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.69	0.81	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.69	0.81	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.65	0.81	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.69	0.81	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.69	0.81	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.66	0.81	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.69	0.81	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.69	0.81	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.69	0.81	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.69	0.81	1
Wet Chemistry	**SM 2540 G-1997 %Moisture Calc**		**%**	**%**	**%**	**%**	
00111	Moisture	n.a.	3.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

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
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/07/2018 22:13	Marissa C Drexinger	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18309011	11/05/2018 16:00	Anthony C Polaski	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18310820001A	11/06/2018 11:02	Larry E Bevins	1

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

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Sample Description: **OU1-BLDG573-S-06-10 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 08:55
SDG#: BSI03-05

Gutierrez Canales Engineering
ELLE Sample #: **SW 9881875**
ELLE Group #: **2005352**

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: **OU1-BLDG573-S-06-12 Grab Soil**
MCLB Barstow

Project Name: **Barstow Site Inspection**

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 09:00
SDG#: BSI03-06

Gutierrez Canales Engineering
ELLE Sample #: **SW 9881876**
ELLE Group #: **2005352**

Sample Comments

CA ELAP Lab Certification No. 2792

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:04

Group Number: 2005352

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/g	ng/g	ng/g	ng/g
Batch number: 18309011	Sample number(s): 9881869-9881874			
NEtFOSAA	N.D.	0.50	2.0	3.0
NMeFOSAA	N.D.	0.50	2.0	3.0
Perfluorobutanesulfonate	N.D.	0.20	0.60	0.80
Perfluorodecanoic acid	N.D.	0.30	0.68	1.0
Perfluorododecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroheptanoic acid	N.D.	0.20	0.68	0.80
Perfluorohexanesulfonate	N.D.	0.20	0.64	0.80
Perfluorohexanoic acid	N.D.	0.20	0.68	0.80
Perfluorononanoic acid	N.D.	0.20	0.68	0.80
Perfluoro-octanesulfonate	N.D.	0.20	0.65	0.80
Perfluorooctanoic acid	N.D.	0.20	0.68	0.80
Perfluorotetradecanoic acid	N.D.	0.20	0.68	0.80
Perfluorotridecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroundecanoic acid	N.D.	0.20	0.68	0.80

LCS/LCSD

Analysis Name	LCS Spike Added ng/g	LCS Conc ng/g	LCSD Spike Added ng/g	LCSD Conc ng/g	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18309011	Sample number(s): 9881869-9881874								
NEtFOSAA	1.36	1.13			83		70-130		
NMeFOSAA	1.36	1.45			106		70-130		
Perfluorobutanesulfonate	1.20	1.24			103		70-130		
Perfluorodecanoic acid	1.36	1.57			116		70-130		
Perfluorododecanoic acid	1.36	1.34			99		70-130		
Perfluoroheptanoic acid	1.36	1.59			117		70-130		
Perfluorohexanesulfonate	1.29	1.31			102		70-130		
Perfluorohexanoic acid	1.36	1.55			114		70-130		
Perfluorononanoic acid	1.36	1.53			113		70-130		
Perfluoro-octanesulfonate	1.30	1.40			108		70-130		
Perfluorooctanoic acid	1.36	1.59			117		70-130		
Perfluorotetradecanoic acid	1.36	1.57			116		70-130		
Perfluorotridecanoic acid	1.36	1.44			106		70-130		
Perfluoroundecanoic acid	1.36	1.47			108		70-130		

*- 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: 01/18/2019 14:04

Group Number: 2005352

LCS/LCSD (continued)

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18310820001A	Sample number(s): 9881869-9881874								
Moisture	89.5	89.4			100		99-101		
Moisture	89.5	89.4			100		99-101		
Moisture Duplicate	89.5	89.4			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/g	MS Spike Added ng/g	MS Conc ng/g	MSD Spike Added ng/g	MSD Conc ng/g	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18309011	Sample number(s): 9881869-9881874 UNSPK: 9881871									
NEtFOSAA	N.D.	1.32	1.14	1.30	1.26	87	97	70-130	10	30
NMeFOSAA	N.D.	1.32	1.15	1.30	1.11	87	86	70-130	3	30
Perfluorobutanesulfonate	N.D.	1.17	1.25	1.15	1.31	107	115	70-130	5	30
Perfluorodecanoic acid	N.D.	1.32	1.42	1.30	1.42	108	110	70-130	0	30
Perfluorododecanoic acid	N.D.	1.32	1.29	1.30	1.30	98	100	70-130	1	30
Perfluoroheptanoic acid	N.D.	1.32	1.49	1.30	1.59	113	122	70-130	7	30
Perfluorohexanesulfonate	N.D.	1.25	1.31	1.23	1.36	105	111	70-130	4	30
Perfluorohexanoic acid	N.D.	1.32	1.47	1.30	1.51	112	116	70-130	2	30
Perfluorononanoic acid	N.D.	1.32	1.51	1.30	1.48	114	114	70-130	2	30
Perfluoro-octanesulfonate	N.D.	1.26	1.40	1.24	1.42	111	115	70-130	1	30
Perfluorooctanoic acid	N.D.	1.32	1.56	1.30	1.51	118	117	70-130	3	30
Perfluorotetradecanoic acid	N.D.	1.32	1.48	1.30	1.46	112	113	70-130	1	30
Perfluorotridecanoic acid	N.D.	1.32	1.29	1.30	1.34	98	104	70-130	4	30
Perfluoroundecanoic acid	N.D.	1.32	1.42	1.30	1.43	108	111	70-130	1	30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 18310820001A	Sample number(s): 9881869-9881874 BKG: 9881871			
Moisture	1.40	1.32	6* (1)	5
Moisture	1.40	1.32	6* (1)	5
Moisture Duplicate	1.40	1.32	6* (1)	5

*- 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: 01/18/2019 14:04

Group Number: 2005352

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 Soil by LC/MS/MS-DoD
Batch number: 18309011

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)
9881869	53	0.57	57	0.38	59	0.57	54	0.57	61	0.57	57	0.85
9881870	83	0.56	86	0.37	83	0.56	79	0.56	87	0.56	89	0.83
9881871	85	0.58	87	0.38	87	0.58	86	0.58	90	0.58	89	0.87
9881872	84	0.58	88	0.39	87	0.58	87	0.58	92	0.58	90	0.87
9881873	78	0.57	80	0.38	79	0.57	82	0.57	86	0.57	81	0.86
9881874	76	0.59	79	0.39	80	0.59	76	0.59	81	0.59	81	0.88
Blank	86	1.2	89	0.80	85	1.2	89	1.2	93	1.2	88	1.8
LCS	83	1.2	87	0.80	85	1.2	85	1.2	90	1.2	83	1.8
MS	84	0.58	88	0.39	87	0.58	87	0.58	92	0.58	90	0.87
MSD	78	0.57	80	0.38	79	0.57	82	0.57	86	0.57	81	0.86
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/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)
9881869	54	0.38	57	0.57	58	0.85	56	0.57	56	0.85	61	0.57
9881870	89	0.37	86	0.56	88	0.83	89	0.56	91	0.83	82	0.56
9881871	89	0.38	90	0.58	87	0.87	86	0.58	87	0.87	86	0.58
9881872	90	0.39	96	0.58	96	0.87	94	0.58	89	0.87	96	0.58
9881873	83	0.38	86	0.57	88	0.86	85	0.57	83	0.86	87	0.57
9881874	83	0.39	84	0.59	81	0.88	83	0.59	80	0.88	80	0.59
Blank	91	0.80	86	1.2	87	1.8	90	1.2	80	1.8	83	1.2
LCS	87	0.80	85	1.2	83	1.8	84	1.2	83	1.8	86	1.2
MS	90	0.39	96	0.58	96	0.87	94	0.58	89	0.87	96	0.58
MSD	83	0.38	86	0.57	88	0.86	85	0.57	83	0.86	87	0.57
Limits:	50-150		50-150		50-150		50-150		50-150		50-150	

	13C2-PFTeDA	
	%Rec	LOD (ng/g)
9881869	55	0.57
9881870	80	0.56
9881871	86	0.58
9881872	90	0.58
9881873	83	0.57
9881874	74	0.59

*- 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: 2005352
Reported: 01/18/2019 14:04

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 Soil by LC/MS/MS-DoD
Batch number: 18309011

	13C2-PFTeDA %Rec	LOD (ng/g)
Blank	80	1.2
LCS	77	1.2
MS	90	0.58
MSD	83	0.57
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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For Eurofins Lancaster Laboratories Environmental use only
Acct. # 43806 Group # 205352 Sample # 986869-76

COC # 567958

Client Information

Client: GCE	Acct. #:
Project Name/#: 146-c719-006 Barstow Site Inspection	PWSID #:
Project Manager: Eric Rider	P.O. #:
Sampler: Jesse MacNeill	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

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil/Sediment	Water	Other	Total # of Containers	EPA 537 Modified								Remarks
OU1-BLDG573-S-06-01	10/30/18	0825	X		X			2	X								
OU1-BLDG573-S-06-03		0835	X		X			2	X								
OU1-BLDG573-S-06-05		0840	X		X			6	X								MS/MSD
OU1-BLDG573-S-06-08		0850	X		X			1	X								
OU1-BLDG573-S-06-10		0855	X		X			1	X								Hold
OU1-BLDG573-S-06-12		0900	X		X			1	X								Hold
OU1-BLDG573-S-01-01		0945	X		X			6	X								MS/MSD
OU1-BLDG573-S-01-03		0955	X		X			2	X								

For Lab Use Only
FSC:
SCR#: 233289 TM

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: jmacneill@neiaw.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
Edwin Hernandez TM	10/31/18	1330			
Jesse MacNeill	10/31/18	1300			

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 0.5-7.6 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 231984

Group Number(s): 405352

Client: GCE

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	11/02/2018 10:10
Number of Packages:	6	Number of Projects:	7
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:	No
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 Melvin Sanchez (8943) at 20:43 on 11/02/2018

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?	Samples Collected Same Day as Receipt?
1	DT131	5.5	DT	Wet	Y	Bagged	N	N
2	DT131	0.5	DT	Wet	Y	Bagged	N	N
3	DT131	5.8	DT	Wet	Y	Bagged	N	N
4	DT131	7.6	DT	Wet	Y	Bagged	Y	N
5	DT131	1.5	DT	Wet	Y	Bagged	N	N
6	DT131	0.5	DT	Wet	Y	Bagged	N	N

Elevated Temperature Details

All Temperatures in °C

Cooler #	Thermometer ID	Top Left Temp	Top Right Temp	Bottom Left Temp	Bottom Right Temp	Center Temp	Factors Contributing to Elevated Temp	Comments
4	32170023	10.2	8.2	9.4	11.0	8.3	Temp bottle wasn't touching ice bag.	

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

Client: GCE

Samples In Elevated-Temperature Coolers

Cooler #	Sample ID
4	OU1-Bldg 371-S-03-10
4	OU1-Bldg 371-S-04-6
4	OU1-Bldg 371-S-04-03
4	OU1-Bldg 371-S-04-01
4	OU1-Bldg 371-S-03-03
4	OU1-Bldg 371-S-04-10
4	OU1-Bldg 371-S-03-08
4	OU1-Bldg 371-S-04-08
4	OU1-Bldg 371-S-04-12
4	OU1-Bldg 371-S-03-01
4	OU1-Bldg 371-S-03-05
4	OU1-Bldg 371-S-03-12

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
OU1-Bldg573-S-01-12	10/30/2018 10:35	

2425 New Holland Pike
Lancaster, PA 17605-2425

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: BSI03

PFAS Group

Fraction: PFAS by LC/MS/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9881869	OU1-BLDG573-S-06-01		X	1	
9881870	OU1-BLDG573-S-06-03		X	1	
9881871	OU1-BLDG573-S-06-05		X	1	Unspiked
9881872	OU1-BLDG573-S-06-05 MS		X	1	Matrix Spike
9881873	OU1-BLDG573-S-06-05 MSD		X	1	Matrix Spike Duplicate
9881874	OU1-BLDG573-S-06-08		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.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI03

PFAS Group

Fraction: PFAS by LC/MS/MS

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: BSI03

Fraction: PFAS by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
PFAS in Soil by LC/MS/MS-DoD	18309011	BLK309011B	11/07/2018 21:10
		LCS309011Q	11/07/2018 21:19
		9881869	11/07/2018 21:28
		9881870	11/07/2018 21:37
		9881871 UNSPK	11/07/2018 21:46
		9881872 MS	11/07/2018 21:55
		9881873 MSD	11/07/2018 22:04
		9881874	11/07/2018 22:13

Quality Control Summary
Method Blank
PFAS Group
SDG: BSI03
Matrix: SOLID

Fraction: PFAS by LC/MS/MS

18309011 / BLK309011B Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorononanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorodecanoic acid	11/07/18	N.D.	ng/g	0.30	0.68	1.0
Perfluoroundecanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorododecanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotridecanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotetradecanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorohexanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluoroheptanoic acid	11/07/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorobutanesulfonate	11/07/18	N.D.	ng/g	0.20	0.60	0.80
Perfluorohexanesulfonate	11/07/18	N.D.	ng/g	0.20	0.64	0.80
Perfluoro-octanesulfonate	11/07/18	N.D.	ng/g	0.20	0.65	0.80
NEtFOSAA	11/07/18	N.D.	ng/g	0.50	2.0	3.0
NMeFOSAA	11/07/18	N.D.	ng/g	0.50	2.0	3.0

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI03
Matrix: SOIL

18309011		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
BLK309011	11/07/18 21:10	83	80	86	85	89
LCS309011	11/07/18 21:19	86	77	83	85	85
9881869	11/07/18 21:28	61	55	53	59	54
9881870	11/07/18 21:37	82	80	83	83	79
9881871	11/07/18 21:46	86	86	85	87	86
9881872MS	11/07/18 21:55	96	90	84	87	87
9881873MSD	11/07/18 22:04	87	83	78	79	82
9881874	11/07/18 22:13	80	74	76	80	76

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI03
Matrix: SOIL

18309011		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
BLK309011	11/07/18 21:10	89	86	90	93	88
LCS309011	11/07/18 21:19	87	85	84	90	83
9881869	11/07/18 21:28	57	57	56	61	57
9881870	11/07/18 21:37	86	86	89	87	89
9881871	11/07/18 21:46	87	90	86	90	89
9881872MS	11/07/18 21:55	88	96	94	92	90
9881873MSD	11/07/18 22:04	80	86	85	86	81
9881874	11/07/18 22:13	79	84	83	81	81

* Outside QC Limits

FORM 02A
SURROGATES
LC/MS/MS

SDG No.: BSI03
Matrix: SOIL

18309011		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	**DATE/TIME**	% Recovery	% Recovery	% Recovery
BLK309011	11/07/18 21:10	91	87	80
LCS309011	11/07/18 21:19	87	83	83
9881869	11/07/18 21:28	54	58	56
9881870	11/07/18 21:37	89	88	91
9881871	11/07/18 21:46	89	87	87
9881872MS	11/07/18 21:55	90	96	89
9881873MSD	11/07/18 22:04	83	88	83
9881874	11/07/18 22:13	83	81	80

* Outside QC Limits

PFAS Group

Fraction: PFAS by LC/MS/MS

UNSPK: 9881871 MS: 9881872 MSD: 9881873 **Analyte**	Batch: **18309011** (Sample number(s): 9881869-9881874)								
	Spike Added ng/g MS/MSD	**Unspiked Conc ng/g**	**MS Conc ng/g**	**MSD Conc ng/g**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	1.32 / 1.30	N.D.	1.56	1.51	118	117	70-130	3	30
Perfluorononanoic acid	1.32 / 1.30	N.D.	1.51	1.48	114	114	70-130	2	30
Perfluorodecanoic acid	1.32 / 1.30	N.D.	1.42	1.42	108	110	70-130	0	30
Perfluoroundecanoic acid	1.32 / 1.30	N.D.	1.42	1.43	108	111	70-130	1	30
Perfluorododecanoic acid	1.32 / 1.30	N.D.	1.29	1.30	98	100	70-130	1	30
Perfluorotridecanoic acid	1.32 / 1.30	N.D.	1.29	1.34	98	104	70-130	4	30
Perfluorotetradecanoic acid	1.32 / 1.30	N.D.	1.48	1.46	112	113	70-130	1	30
Perfluorohexanoic acid	1.32 / 1.30	N.D.	1.47	1.51	112	116	70-130	2	30
Perfluoroheptanoic acid	1.32 / 1.30	N.D.	1.49	1.59	113	122	70-130	7	30
Perfluorobutanesulfonate	1.17 / 1.15	N.D.	1.25	1.31	107	115	70-130	5	30
Perfluorohexanesulfonate	1.25 / 1.23	N.D.	1.31	1.36	105	111	70-130	4	30
Perfluoro-octanesulfonate	1.26 / 1.24	N.D.	1.40	1.42	111	115	70-130	1	30
NEtFOSAA	1.32 / 1.30	N.D.	1.14 J	1.26 J	87	97	70-130	10	30
NMeFOSAA	1.32 / 1.30	N.D.	1.15 J	1.11 J	87	86	70-130	3	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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

SDG: BSI03
Matrix: SOLID

PFAS Group
Fraction: PFAS by LC/MS/MS

LCS: LCS309011Q	Batch: **18309011** (Sample number(s): 9881869-9881874)							
Analyte	**Spike Added ng/g**	**LCS Conc ng/g**	**LCSD Conc ng/g**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Perfluorooctanoic acid	1.36	1.59	NA	117	NA	70-130	NA	NA
Perfluorononanoic acid	1.36	1.53	NA	113	NA	70-130	NA	NA
Perfluorodecanoic acid	1.36	1.57	NA	116	NA	70-130	NA	NA
Perfluoroundecanoic acid	1.36	1.47	NA	108	NA	70-130	NA	NA
Perfluorododecanoic acid	1.36	1.34	NA	99	NA	70-130	NA	NA
Perfluorotridecanoic acid	1.36	1.44	NA	106	NA	70-130	NA	NA
Perfluorotetradecanoic acid	1.36	1.57	NA	116	NA	70-130	NA	NA
Perfluorohexanoic acid	1.36	1.55	NA	114	NA	70-130	NA	NA
Perfluoroheptanoic acid	1.36	1.59	NA	117	NA	70-130	NA	NA
Perfluorobutanesulfonate	1.20	1.24	NA	103	NA	70-130	NA	NA
Perfluorohexanesulfonate	1.29	1.31	NA	102	NA	70-130	NA	NA
Perfluoro-octanesulfonate	1.30	1.40	NA	108	NA	70-130	NA	NA
NEtFOSAA	1.36	1.13 J	NA	83	NA	70-130	NA	NA
NMeFOSAA	1.36	1.45 J	NA	106	NA	70-130	NA	NA

Fraction: PFAS by LC/MS/MS

14478: PFAS in Soil by LC/MS/MS-DoD Analyte Name	Default DL	Default LOD	Default LOQ	Units
Perfluorooctanoic acid	.2	.68	0.80	ng/g
Perfluorononanoic acid	.2	.68	0.80	ng/g
Perfluorodecanoic acid	.3	.68	1.0	ng/g
Perfluoroundecanoic acid	.2	.68	0.80	ng/g
Perfluorododecanoic acid	.2	.68	0.80	ng/g
Perfluorotridecanoic acid	.2	.68	0.80	ng/g
Perfluorotetradecanoic acid	.2	.68	0.80	ng/g
Perfluorohexanoic acid	.2	.68	0.80	ng/g
Perfluoroheptanoic acid	.2	.68	0.80	ng/g
Perfluorobutanesulfonate	.2	.6	0.80	ng/g
Perfluorohexanesulfonate	.2	.64	0.80	ng/g
Perfluoro-octanesulfonate	.2	.65	0.80	ng/g
NEtFOSAA	.5	2	3.0	ng/g
NMeFOSAA	.5	2	3.0	ng/g

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.238	19.1	±30
CAL2	0.093	0.50	0.545	9.0	±30
CAL3	0.362	2.00	2.120	6.0	±30
CAL4	1.495	8.00	8.747	9.3	±30
CAL5	3.745	20.00	21.919	9.6	±30
CAL6	8.813	50.00	51.576	3.2	±30
CAL7	16.327	100.00	95.554	-4.4	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.234	16.8	±30
CAL2	0.090	0.50	0.533	6.6	±30
CAL3	0.345	2.00	2.052	2.6	±30
CAL4	1.413	8.00	8.399	5.0	±30
CAL5	3.658	20.00	21.739	8.7	±30
CAL6	8.578	50.00	50.979	2.0	±30
CAL7	16.282	100.00	96.765	-3.2	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.17	0.213	25.6	±30
CAL2	0.093	0.44	0.470	6.7	±30
CAL3	0.345	1.77	1.740	-1.7	±30
CAL4	1.491	7.08	7.518	6.2	±30
CAL5	3.619	17.69	18.246	3.1	±30
CAL6	9.131	44.22	46.035	4.1	±30
CAL7	16.978	88.45	85.599	-3.2	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.19	0.191	2.3	±30
CAL2	0.183	0.47	0.492	5.3	±30
CAL3	0.731	1.87	1.964	5.2	±30
CAL4	2.975	7.47	7.999	7.1	±30
CAL5	7.477	18.68	20.102	7.6	±30
CAL6	17.311	46.70	46.538	-0.3	±30
CAL7	34.031	93.40	91.487	-2.0	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.055	0.20	0.235	17.4	±30
CAL2	0.123	0.50	0.529	5.8	±30
CAL3	0.498	2.00	2.137	6.9	±30
CAL4	2.041	8.00	8.751	9.4	±30
CAL5	5.013	20.00	21.499	7.5	±30
CAL6	11.088	50.00	47.549	-4.9	±30
CAL7	20.388	100.00	87.434	-12.6	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.019	0.19	0.183	-3.7	±30
CAL2	0.047	0.47	0.465	-0.9	±30
CAL3	0.180	1.88	1.772	-5.7	±30
CAL4	0.803	7.50	7.922	5.6	±30
CAL5	1.911	18.76	18.849	0.5	±30
CAL6	4.746	46.90	46.806	-0.2	±30
CAL7	9.480	93.80	93.501	-0.3	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.038	0.19	0.194	2.3	±30
CAL2	0.095	0.47	0.484	2.3	±30
CAL3	0.357	1.89	1.809	-4.3	±30
CAL4	1.514	7.56	7.676	1.5	±30
CAL5	3.791	18.91	19.215	1.6	±30
CAL6	9.344	47.28	47.360	0.2	±30
CAL7	18.567	94.55	94.113	-0.5	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.065	0.20	0.220	9.9	±30
CAL2	0.160	0.50	0.539	7.8	±30
CAL3	0.636	2.00	2.139	6.9	±30
CAL4	2.500	8.00	8.409	5.1	±30
CAL5	6.316	20.00	21.243	6.2	±30
CAL6	14.317	50.00	48.150	-3.7	±30
CAL7	25.595	100.00	86.081	-13.9	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.058	0.19	0.146	-23.1	±30
CAL2	0.229	0.47	0.570	20.3	±30
CAL3	0.830	1.90	2.071	9.3	±30
CAL4	3.200	7.58	7.982	5.2	±30
CAL5	8.507	18.96	21.223	11.9	±30
CAL6	18.600	47.40	46.401	-2.1	±30
CAL7	37.244	94.80	92.910	-2.0	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.19	0.207	8.9	±30
CAL2	0.091	0.48	0.476	0.0	±30
CAL3	0.359	1.90	1.877	-1.2	±30
CAL4	1.523	7.61	7.966	4.7	±30
CAL5	3.716	19.03	19.439	2.2	±30
CAL6	8.964	47.58	46.896	-1.4	±30
CAL7	18.173	95.15	95.074	-0.1	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.218	9.1	±30
CAL2	0.097	0.50	0.547	9.5	±30
CAL3	0.378	2.00	2.131	6.5	±30
CAL4	1.592	8.00	8.963	12.0	±30
CAL5	3.824	20.00	21.532	7.7	±30
CAL6	9.132	50.00	51.417	2.8	±30
CAL7	17.031	100.00	95.892	-4.1	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.19	0.206	8.2	±30
CAL2	0.100	0.48	0.517	8.1	±30
CAL3	0.375	1.91	1.943	1.7	±30
CAL4	1.534	7.65	7.953	4.0	±30
CAL5	3.719	19.12	19.287	0.9	±30
CAL6	9.270	47.80	48.067	0.6	±30
CAL7	18.277	95.60	94.776	-0.9	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.063	0.20	0.235	17.4	±30
CAL2	0.138	0.50	0.517	3.4	±30
CAL3	0.584	2.00	2.182	9.1	±30
CAL4	2.302	8.00	8.604	7.6	±30
CAL5	5.965	20.00	22.292	11.5	±30
CAL6	13.786	50.00	51.521	3.0	±30
CAL7	25.514	100.00	95.349	-4.7	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.022	0.19	0.174	-8.3	±30
CAL2	0.061	0.48	0.485	1.1	±30
CAL3	0.245	1.92	1.946	1.3	±30
CAL4	1.045	7.68	8.284	7.9	±30
CAL5	2.423	19.20	19.215	0.1	±30
CAL6	6.277	48.00	49.770	3.7	±30
CAL7	11.805	96.00	93.596	-2.5	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.216	7.8	±30
CAL2	0.095	0.50	0.520	4.0	±30
CAL3	0.383	2.00	2.107	5.3	±30
CAL4	1.568	8.00	8.626	7.8	±30
CAL5	4.015	20.00	22.091	10.5	±30
CAL6	9.247	50.00	50.875	1.7	±30
CAL7	17.498	100.00	96.265	-3.7	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.104	0.19	0.235	22.5	±30
CAL2	0.251	0.48	0.567	18.3	±30
CAL3	0.845	1.92	1.904	-0.6	±30
CAL4	3.495	7.66	7.877	2.8	±30
CAL5	8.887	19.16	20.031	4.5	±30
CAL6	20.717	47.90	46.697	-2.5	±30
CAL7	38.137	95.80	85.963	-10.3	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.036	0.20	0.194	-3.1	±30
CAL2	0.098	0.50	0.529	5.8	±30
CAL3	0.386	2.00	2.084	4.2	±30
CAL4	1.581	8.00	8.545	6.8	±30
CAL5	3.322	20.00	17.959	-10.2	±30
CAL6	9.665	50.00	52.247	4.5	±30
CAL7	18.341	100.00	99.141	-0.9	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.035	0.20	0.178	-10.8	±30
CAL2	0.118	0.50	0.607	21.4	±30
CAL3	0.396	2.00	2.039	2.0	±30
CAL4	1.685	8.00	8.670	8.4	±30
CAL5	4.175	20.00	21.482	7.4	±30
CAL6	9.476	50.00	48.760	-2.5	±30
CAL7	19.233	100.00	98.963	-1.0	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.021	0.19	0.201	5.6	±30
CAL2	0.055	0.48	0.525	8.9	±30
CAL3	0.199	1.93	1.898	-1.6	±30
CAL4	0.859	7.70	8.210	6.6	±30
CAL5	2.032	19.26	19.412	0.8	±30
CAL6	4.983	48.15	47.605	-1.1	±30
CAL7	10.066	96.30	96.161	-0.1	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.079	0.20	0.227	13.7	±30
CAL2	0.187	0.50	0.535	7.0	±30
CAL3	0.757	2.00	2.170	8.5	±30
CAL4	2.909	8.00	8.341	4.3	±30
CAL5	7.397	20.00	21.214	6.1	±30
CAL6	17.761	50.00	50.936	1.9	±30
CAL7	33.921	100.00	97.277	-2.7	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

NEtFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.183	-8.7	±30
CAL2	0.110	0.50	0.474	-5.3	±30
CAL3	0.441	2.00	1.896	-5.2	±30
CAL4	1.838	8.00	7.900	-1.3	±30
CAL5	5.175	20.00	22.240	11.2	±30
CAL6	11.319	50.00	48.645	-2.7	±30
CAL7	23.121	100.00	99.363	-0.6	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.224	11.9	±30
CAL2	0.101	0.50	0.545	9.0	±30
CAL3	0.377	2.00	2.046	2.3	±30
CAL4	1.466	8.00	7.946	-0.7	±30
CAL5	3.887	20.00	21.067	5.3	±30
CAL6	9.018	50.00	48.873	-2.3	±30
CAL7	15.613	100.00	84.613	-15.4	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.19	0.222	15.0	±30
CAL2	0.177	0.48	0.551	14.4	±30
CAL3	0.647	1.93	2.014	4.5	±30
CAL4	2.271	7.71	7.073	-8.3	±30
CAL5	6.446	19.28	20.071	4.1	±30
CAL6	15.876	48.20	49.437	2.6	±30
CAL7	30.453	96.40	94.827	-1.6	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.054	0.20	0.244	22.1	±30
CAL2	0.124	0.50	0.555	11.0	±30
CAL3	0.453	2.00	2.029	1.5	±30
CAL4	1.959	8.00	8.781	9.8	±30
CAL5	4.923	20.00	22.062	10.3	±30
CAL6	11.752	50.00	52.660	5.3	±30
CAL7	21.059	100.00	94.369	-5.6	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.036	0.20	0.201	0.6	±30
CAL2	0.101	0.50	0.568	13.6	±30
CAL3	0.375	2.00	2.101	5.1	±30
CAL4	1.368	8.00	7.657	-4.3	±30
CAL5	3.939	20.00	22.050	10.2	±30
CAL6	9.140	50.00	51.162	2.3	±30
CAL7	17.323	100.00	96.961	-3.0	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.010	0.19	0.189	-0.3	±30
CAL2	0.025	0.48	0.487	0.7	±30
CAL3	0.108	1.94	2.084	7.4	±30
CAL4	0.416	7.74	8.039	3.9	±30
CAL5	0.991	19.36	19.132	-1.2	±30
CAL6	2.465	48.40	47.576	-1.7	±30
CAL7	5.047	96.80	97.407	0.6	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.074	0.20	0.237	18.5	±30
CAL2	0.181	0.50	0.579	15.9	±30
CAL3	0.650	2.00	2.083	4.2	±30
CAL4	2.703	8.00	8.666	8.3	±30
CAL5	6.965	20.00	22.328	11.6	±30
CAL6	16.033	50.00	51.396	2.8	±30
CAL7	29.763	100.00	95.411	-4.6	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.191	-4.7	±30
CAL2	0.096	0.50	0.424	-15.3	±30
CAL3	0.393	2.00	1.732	-13.4	±30
CAL4	1.711	8.00	7.534	-5.8	±30
CAL5	4.679	20.00	20.605	3.0	±30
CAL6	11.449	50.00	50.423	0.8	±30
CAL7	22.658	100.00	99.791	-0.2	±30

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

SDG No.: BSI03

Instrument ID: 27631
Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33
Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.250	25.1	±30
CAL2	0.082	0.50	0.519	3.9	±30
CAL3	0.337	2.00	2.128	6.4	±30
CAL4	1.306	8.00	8.235	2.9	±30
CAL5	3.375	20.00	21.280	6.4	±30
CAL6	7.657	50.00	48.287	-3.4	±30
CAL7	12.611	100.00	79.528	-20.5	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.232	16.2	±30
CAL2	0.082	0.50	0.482	-3.6	±30
CAL3	0.358	2.00	2.103	5.1	±30
CAL4	1.428	8.00	8.383	4.8	±30
CAL5	3.558	20.00	20.892	4.5	±30
CAL6	8.573	50.00	50.344	0.7	±30
CAL7	16.733	100.00	98.263	-1.7	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.019	0.20	0.236	17.9	±30
CAL2	0.042	0.50	0.524	4.8	±30
CAL3	0.167	2.00	2.078	3.9	±30
CAL4	0.673	8.00	8.351	4.4	±30
CAL5	1.699	20.00	21.085	5.4	±30
CAL6	3.954	50.00	49.083	-1.8	±30
CAL7	8.003	100.00	99.343	-0.7	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.015	0.20	0.220	10.2	±30
CAL2	0.036	0.50	0.511	2.2	±30
CAL3	0.142	2.00	2.041	2.0	±30
CAL4	0.570	8.00	8.162	2.0	±30
CAL5	1.481	20.00	21.218	6.1	±30
CAL6	3.399	50.00	48.698	-2.6	±30
CAL7	6.970	100.00	99.849	-0.2	±30

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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.: BSI03

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1=18NOV07DCAL-10.WIFF; CAL2=18NOV07DCAL-11.WIFF; CAL3=18NOV07DCAL-12.WIFF;
CAL4=18NOV07DCAL-13.WIFF; CAL5=18NOV07DCAL-14.WIFF; CAL6=18NOV07DCAL-15.WIFF;
CAL7=18NOV07DCAL-16.WIFF;

Analyte	RF							RF
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	%RSD
Perfluorobutanoic acid	1.018	0.931	0.905	0.934	0.936	0.881	0.816	6
Perfluoropentanoic acid	0.983	0.897	0.863	0.883	0.914	0.858	0.814	6
Perfluorobutanesulfonate	1.158	0.984	0.907	0.979	0.951	0.960	0.893	8
4:2 fluorotelomersulfonate	1.777	1.830	1.827	1.860	1.869	1.731	1.702	3
Perfluorohexanoic acid	1.369	1.233	1.246	1.275	1.253	1.109	---	6
Perfluoropentanesulfonate	0.454	0.467	0.444	0.498	0.474	0.471	0.470	3
Perfluorohexanesulfonate	0.955	0.955	0.893	0.948	0.948	0.935	0.929	2
Perfluoroheptanoic acid	1.634	1.603	1.590	1.563	1.579	1.432	---	4
6:2 fluorotelomersulfonate	1.464	2.292	2.080	2.004	2.131	1.864	1.866	13
Perfluoroheptanesulfonate	0.984	0.904	0.893	0.946	0.924	0.891	0.903	3
Perfluorooctanoic acid	0.969	0.972	0.946	0.995	0.956	0.913	0.852	5
Perfluoro-octanesulfonate	0.998	0.997	0.938	0.958	0.930	0.927	0.914	3
Perfluorononanoic acid	1.571	1.383	1.459	1.439	1.491	1.379	1.276	6
Perfluorononanesulfonate	0.553	0.609	0.611	0.650	0.603	0.625	0.588	5
Perfluorodecanoic acid	0.980	0.945	0.957	0.980	1.004	0.925	0.875	4
8:2 fluorotelomersulfonate	2.603	2.513	2.112	2.184	2.222	2.072	---	9
Perfluorooctanesulfonamide	0.896	0.979	0.964	0.988	0.831	0.967	0.917	6
NMeFOSAA	0.867	1.180	0.991	1.053	1.044	0.948	0.962	9
Perfluorodecanesulfonate	0.528	0.545	0.492	0.534	0.504	0.495	0.500	4
Perfluoroundecanoic acid	1.982	1.865	1.891	1.818	1.849	1.776	1.696	5
NEtFOSAA	1.063	1.102	1.103	1.149	1.294	1.132	1.156	6
Perfluorododecanoic acid	1.032	1.006	0.944	0.916	0.972	0.902	---	5
10:2-fluorotelomersulfonate	1.769	1.760	1.607	1.411	1.601	1.578	1.513	7
NMePFOSAE	1.362	1.238	1.132	1.225	1.231	1.175	1.053	7
NMePFOSA	0.899	1.015	0.938	0.855	0.985	0.914	0.866	6
Perfluorododecanesulfonate	0.247	0.249	0.266	0.257	0.245	0.243	0.249	3
NEtPFOSAE	1.848	1.807	1.624	1.689	1.741	1.603	1.488	7
NEtPFOSA	1.082	0.962	0.983	1.069	1.170	1.145	1.133	7
Perfluorotridecanoic acid	0.992	0.824	0.844	0.816	0.844	0.766	---	8
Perfluorotetradecanoic acid	0.989	0.821	0.895	0.892	0.889	0.857	0.837	6
Perfluorohexadecanoic acid	0.475	0.422	0.418	0.420	0.425	0.395	0.400	6
Perfluorooctadecanoic acid	0.385	0.357	0.356	0.356	0.370	0.340	0.348	4

--- Calibration point does not apply

* = % RSD > 20

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI03

Instrument ID: 27631 Lab File ID: 18NOV07D-05.WIFF

Date/Time Analyzed: 11/07/2018 11:56 Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	9.69	±30
Perfluoropentanoic acid	0.50	0.56	11.11	±30
Perfluorobutanesulfonate	0.44	0.47	5.80	±30
4:2 fluorotelomersulfonate	0.47	0.46	-1.91	±30
Perfluorohexanoic acid	0.50	0.54	8.14	±30
Perfluoropentanesulfonate	0.47	0.49	3.67	±30
Perfluorohexanesulfonate	0.47	0.44	-7.73	±30
Perfluoroheptanoic acid	0.50	0.54	8.60	±30
6:2 fluorotelomersulfonate	0.47	0.54	13.25	±30
Perfluoroheptanesulfonate	0.48	0.46	-3.48	±30
Perfluorooctanoic acid	0.50	0.57	13.63	±30
Perfluoro-octanesulfonate	0.48	0.51	7.58	±30
Perfluorononanoic acid	0.50	0.52	3.57	±30
Perfluorononanesulfonate	0.48	0.43	-10.53	±30
Perfluorodecanoic acid	0.50	0.48	-3.13	±30
8:2 fluorotelomersulfonate	0.48	0.46	-3.47	±30
Perfluorooctanesulfonamide	0.50	0.52	3.09	±30
NMeFOSAA	0.50	0.47	-6.74	±30
Perfluorodecanesulfonate	0.48	0.43	-11.12	±30
Perfluoroundecanoic acid	0.50	0.54	8.99	±30
NEtFOSAA	0.50	0.58	16.02	±30
Perfluorododecanoic acid	0.50	0.52	4.53	±30
10:2-fluorotelomersulfonate	0.48	0.41	-15.22	±30
NMePFOSAE	0.50	0.54	8.68	±30
NMePFOSA	0.50	0.57	13.40	±30
Perfluorododecanesulfonate	0.48	0.49	0.96	±30
NEtPFOSAE	0.50	0.58	15.93	±30
NEtPFOSA	0.50	0.50	0.04	±30
Perfluorotridecanoic acid	0.50	0.54	8.06	±30
Perfluorotetradecanoic acid	0.50	0.51	2.25	±30
Perfluorohexadecanoic acid	0.50	0.66	31.35 *	±30
Perfluorooctadecanoic acid	0.50	0.66	32.07 *	±30

* Outside QC Limits.

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FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI03

Instrument ID: 27631 Lab File ID: 18NOV07D-62.WIFF

Date/Time Analyzed: 11/07/2018 20:34 Lab Sample ID: CCV7_ISC_CAL2

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	10.13	±30
Perfluoropentanoic acid	0.50	0.54	7.67	±30
Perfluorobutanesulfonate	0.44	0.48	8.96	±30
4:2 fluorotelomersulfonate	0.47	0.48	3.76	±30
Perfluorohexanoic acid	0.50	0.55	9.87	±30
Perfluoropentanesulfonate	0.47	0.47	-0.23	±30
Perfluorohexanesulfonate	0.47	0.42	-10.53	±30
Perfluoroheptanoic acid	0.50	0.56	12.83	±30
6:2 fluorotelomersulfonate	0.47	0.55	16.65	±30
Perfluoroheptanesulfonate	0.48	0.47	-0.95	±30
Perfluorooctanoic acid	0.50	0.57	14.07	±30
Perfluoro-octanesulfonate	0.48	0.47	-2.57	±30
Perfluorononanoic acid	0.50	0.57	14.13	±30
Perfluorononanesulfonate	0.48	0.49	1.55	±30
Perfluorodecanoic acid	0.50	0.51	1.21	±30
8:2 fluorotelomersulfonate	0.48	0.54	12.53	±30
Perfluorooctanesulfonamide	0.50	0.54	7.47	±30
NMeFOSAA	0.50	0.59	17.22	±30
Perfluorodecanesulfonate	0.48	0.53	10.95	±30
Perfluoroundecanoic acid	0.50	0.52	4.93	±30
NEtFOSAA	0.50	0.48	-3.81	±30
Perfluorododecanoic acid	0.50	0.51	1.92	±30
10:2-fluorotelomersulfonate	0.48	0.62	28.25	±30
NMePFOSAE	0.50	0.54	8.43	±30
NMePFOSA	0.50	0.77	53.57 *	±30
Perfluorododecanesulfonate	0.48	0.42	-13.01	±30
NEtPFOSAE	0.50	0.56	11.14	±30
NEtPFOSA	0.50	0.50	0.58	±30
Perfluorotridecanoic acid	0.50	0.55	9.64	±30
Perfluorotetradecanoic acid	0.50	0.59	17.96	±30
Perfluorohexadecanoic acid	0.50	0.56	11.04	±30
Perfluorooctadecanoic acid	0.50	0.57	13.06	±30

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI03

Instrument ID: 27631 Lab File ID: 18NOV07D-74.WIFF

Date/Time Analyzed: 11/07/2018 22:22 Lab Sample ID: CCV8_CAL3

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.16	8.13	±30
Perfluoropentanoic acid	2.00	2.11	5.50	±30
Perfluorobutanesulfonate	1.77	1.83	3.43	±30
4:2 fluorotelomersulfonate	1.87	1.84	-1.26	±30
Perfluorohexanoic acid	2.00	2.10	4.89	±30
Perfluoropentanesulfonate	1.88	1.82	-3.27	±30
Perfluorohexanesulfonate	1.89	1.82	-3.95	±30
Perfluoroheptanoic acid	2.00	2.12	6.09	±30
6:2 fluorotelomersulfonate	1.90	2.01	6.22	±30
Perfluoroheptanesulfonate	1.90	1.92	1.09	±30
Perfluorooctanoic acid	2.00	2.16	8.18	±30
Perfluoro-octanesulfonate	1.91	2.03	6.45	±30
Perfluorononanoic acid	2.00	2.11	5.48	±30
Perfluorononanesulfonate	1.92	1.95	1.44	±30
Perfluorodecanoic acid	2.00	2.13	6.52	±30
8:2 fluorotelomersulfonate	1.92	2.16	12.81	±30
Perfluorooctanesulfonamide	2.00	2.07	3.25	±30
NMeFOSAA	2.00	1.85	-7.66	±30
Perfluorodecanesulfonate	1.93	2.05	6.17	±30
Perfluoroundecanoic acid	2.00	1.97	-1.40	±30
NEtFOSAA	2.00	1.78	-11.01	±30
Perfluorododecanoic acid	2.00	2.06	2.87	±30
10:2-fluorotelomersulfonate	1.93	2.27	17.85	±30
NMePFOSAE	2.00	2.03	1.54	±30
NMePFOSA	2.00	1.87	-6.43	±30
Perfluorododecanesulfonate	1.94	1.77	-8.54	±30
NEtPFOSAE	2.00	2.15	7.54	±30
NEtPFOSA	2.00	1.90	-5.02	±30
Perfluorotridecanoic acid	2.00	2.08	4.17	±30
Perfluorotetradecanoic acid	2.00	2.16	8.02	±30
Perfluorohexadecanoic acid	2.00	2.20	10.01	±30
Perfluorooctadecanoic acid	2.00	2.08	4.10	±30

* Outside QC Limits.

FORM 07
CALIBRATION VERIFICATION SUMMARY
LC/MS/MS

SDG No.: BSI03

Instrument ID: 27631 Lab File ID: 18NOV07DCAL-20.WIFF

Date/Time Analyzed: 11/07/2018 11:09 Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.09	4.37	±30
Perfluoropentanoic acid	2.00	2.08	4.09	±30
Perfluorobutanesulfonate	1.77	1.83	3.13	±30
4:2 fluorotelomersulfonate	1.98	2.11	6.41	±30
Perfluorohexanoic acid	2.00	2.25	12.42	±30
Perfluoropentanesulfonate	1.88	1.94	3.35	±30
Perfluorohexanesulfonate	1.89	1.93	1.87	±30
Perfluoroheptanoic acid	2.00	2.19	9.28	±30
6:2 fluorotelomersulfonate	2.09	1.92	-8.35	±30
Perfluoroheptanesulfonate	1.90	1.87	-1.62	±30
Perfluorooctanoic acid	2.00	2.15	7.42	±30
Perfluoro-octanesulfonate	1.91	2.09	9.36	±30
Perfluorononanoic acid	2.00	2.06	3.07	±30
Perfluorononanesulfonate	1.92	1.98	2.88	±30
Perfluorodecanoic acid	2.00	2.08	3.96	±30
8:2 fluorotelomersulfonate	2.11	2.09	-0.82	±30
Perfluorooctanesulfonamide	2.00	2.07	3.64	±30
NMeFOSAA	2.00	1.63	-18.67	±30
Perfluorodecanesulfonate	1.93	1.96	1.77	±30
Perfluoroundecanoic acid	2.00	2.16	8.03	±30
NEtFOSAA	2.00	1.95	-2.25	±30
Perfluorododecanoic acid	2.00	2.04	1.95	±30
10:2-fluorotelomersulfonate	2.12	1.64	-22.85	±30
NMePFOSAE	2.00	2.16	7.79	±30
NMePFOSA	2.00	2.14	6.78	±30
Perfluorododecanesulfonate	1.94	2.09	7.77	±30
NEtPFOSAE	2.00	2.19	9.62	±30
NEtPFOSA	2.00	1.79	-10.51	±30
Perfluorotridecanoic acid	2.00	2.06	2.83	±30
Perfluorotetradecanoic acid	2.00	2.10	4.78	±30
Perfluorohexadecanoic acid	2.00	2.06	2.88	±30
Perfluorooctadecanoic acid	2.00	2.01	0.72	±30

* Outside QC Limits.

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FORM 08A DOD
INTERNAL STANDARDS
LC/MS/MS

SDG No.: BSI03
Matrix: SOIL

Batch: 18309011 File Name:18NOV07DCAL-12.WIFF		13C2-PFDA Area	13C2-PFOA Area	13C3-PFBA Area	13C4-PFOS Area
CAL3 Area/ CCV Area		311442	524424	730411	274062
LOWER LIMIT		155721	262212	365206	137031
UPPER LIMIT		467163	786636	1095617	411093
LAB SAMPLE ID	**DATE ANALYZED**				
BLK309011	11/07/18 21:10	348185	532550	745926	286419
LCS309011	11/07/18 21:19	340617	543890	763019	298006
9881869	11/07/18 21:28	346891	556698	782177	309053
9881870	11/07/18 21:37	348832	574562	797287	288368
9881871	11/07/18 21:46	355704	565538	793086	303260
9881872MS	11/07/18 21:55	328625	575038	790547	301809
9881873MSD	11/07/18 22:04	330851	554284	783518	298679
9881874	11/07/18 22:13	347203	577630	779021	293991

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: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881869			**Data File:**		18NOV07D-68.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-01 Grab Soil			**Acquis Date:**		2018-11-07T21:28:12
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	38			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.06000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	782177.0	730410.6	7	50	
13C2-PFOA	5.0	556697.9	524423.6	6	50	
13C4-PFOS	4.8	309053.1	274061.7	13	50	
13C2-PFDA	5.0	346890.8	311442.1	11	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	262486.4	13C3-PFBA	782177.0	0.336	8.774	4.647	53	50-150	
E13C5-PFHxA	430427.7	13C2-PFOA	556697.9	0.773	9.434	5.366	57	50-150	
E13C3-PFHxS	214840.7	13C2-PFOA	556697.9	0.386	8.925	5.227	59	50-150	
E13C4-PFHpA	333250.0	13C2-PFOA	556697.9	0.599	9.434	5.138	54	50-150	
E13C8-PFOA	613003.9	13C2-PFOA	556697.9	1.101	9.434	5.794	61	50-150	
E13C8-PFOS	191995.9	13C4-PFOS	309053.1	0.621	9.019	5.183	57	50-150	
E13C9-PFNA	307965.0	13C4-PFOS	309053.1	0.996	9.434	5.136	54	50-150	
E13C6-PFDA	393581.5	13C2-PFDA	346890.8	1.135	9.434	5.384	57	50-150	
Ed3-NMeFOSAA	53762.8	13C2-PFDA	346890.8	0.155	9.434	5.438	58	50-150	
E13C7-PFUnDA	169061.6	13C2-PFDA	346890.8	0.487	9.434	5.305	56	50-150	
Ed5-NEtFOSAA	42021.8	13C2-PFDA	346890.8	0.121	9.434	5.289	56	50-150	
E13C2-PFDoDA	395349.3	13C2-PFDA	346890.8	1.140	9.434	5.797	61	50-150	
E13C2-PFTeDA	266370.6	13C2-PFDA	346890.8	0.768	9.434	5.216	55	50-150	

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

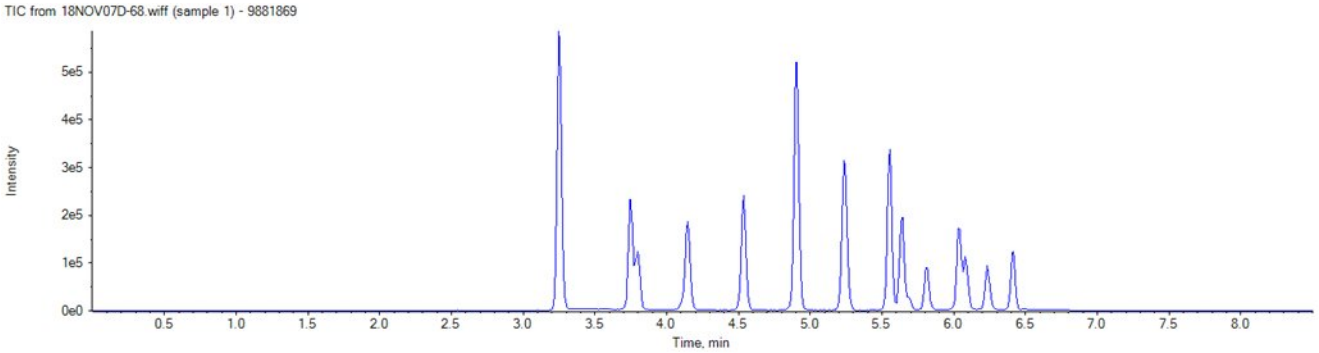
Analyte Quantitation Peak Table

Sample Name: 9881869 **Instrument Name:** LM27631 **File Name:** 18NOV07D-68.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.06000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	262486.4	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	430427.7	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	214840.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	333250.0	N/A	
PFOA	4.90	1.000	17450.1		M	13C8-PFOA	4.90	613003.9	0.028	0.302
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	191995.9	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	307965.0	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	393581.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	53762.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	169061.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	42021.8	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	395349.3	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	395349.3	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	266370.6	N/A	

Total Ion Chromatogram

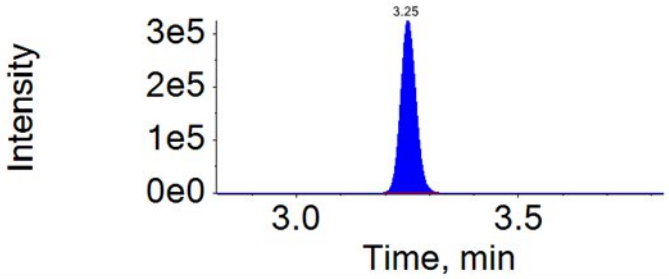


APPROVED
By MCD at 5:14 pm, 11/8/18

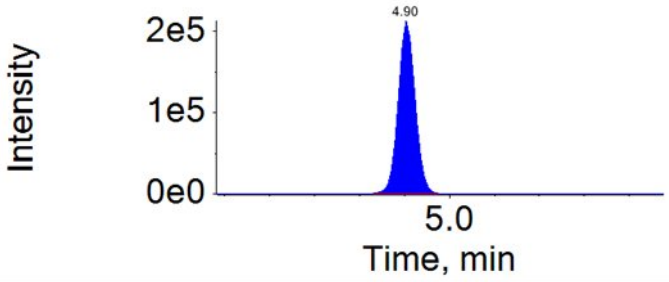
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

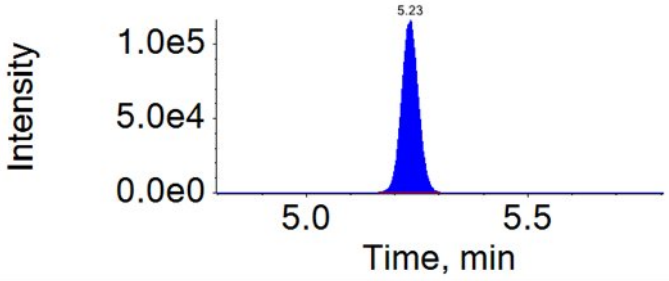
Injection Standard: 13C3-PFBA
216.0 / 172.0



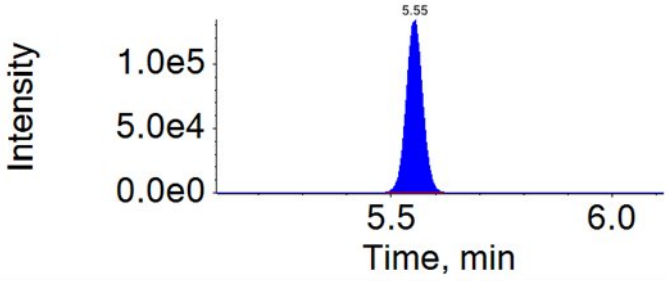
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

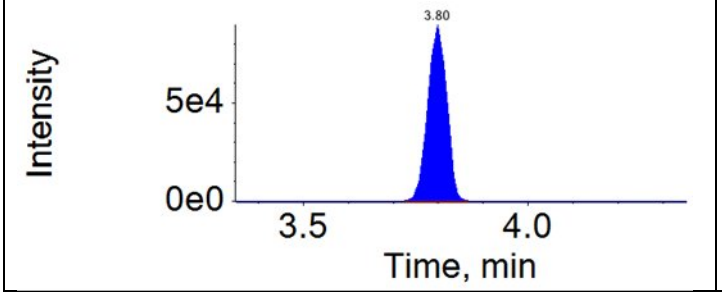


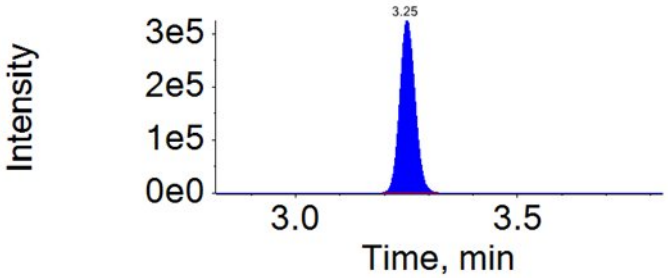
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

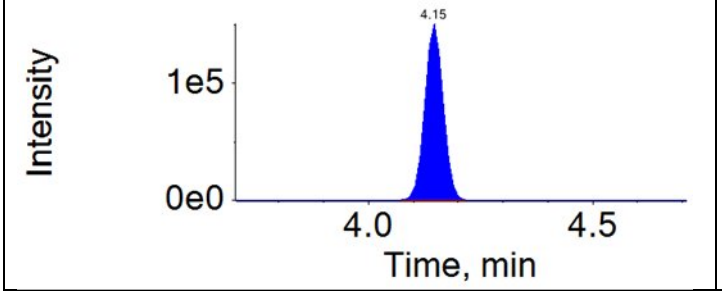
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

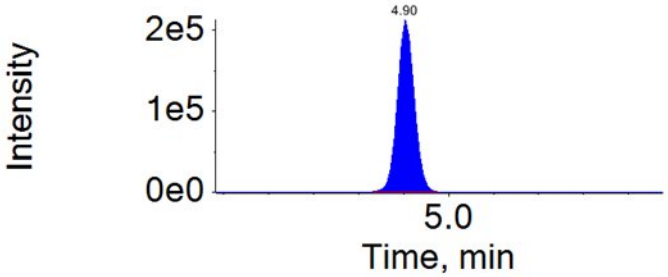
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



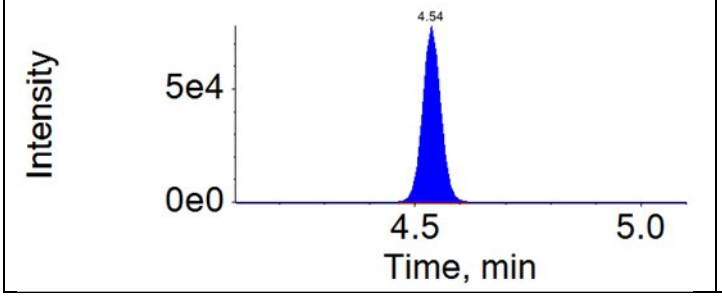


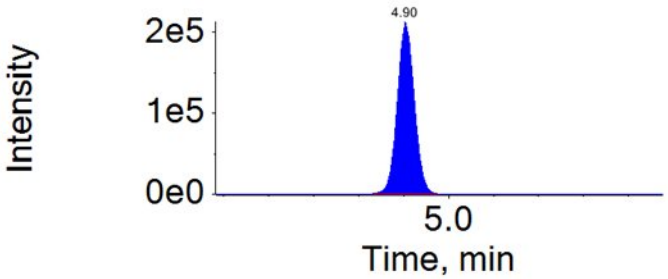
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



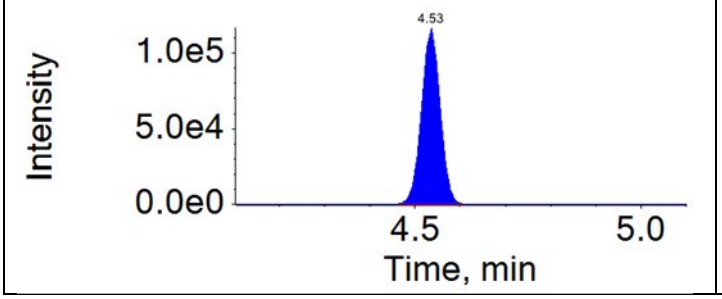


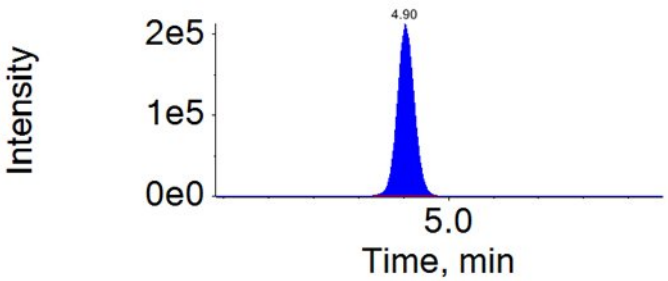
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





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

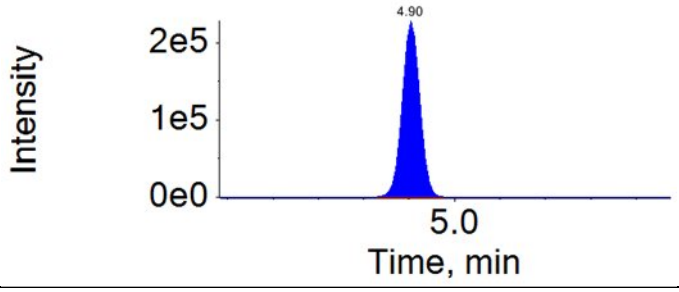
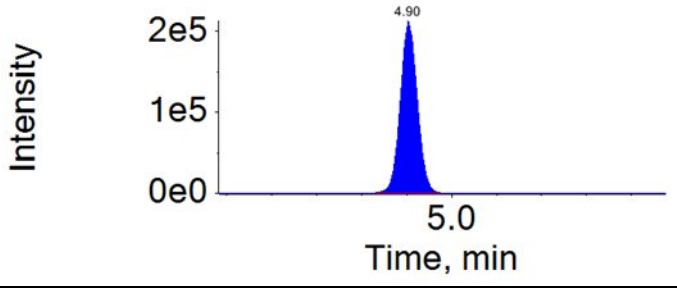


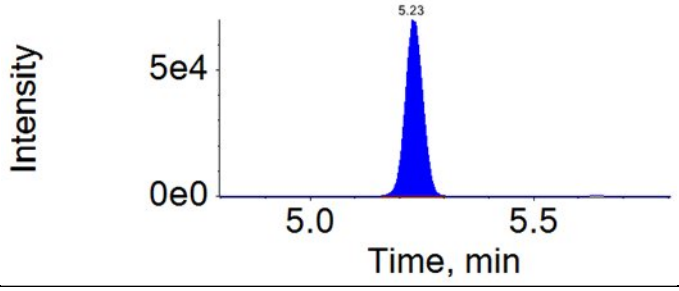
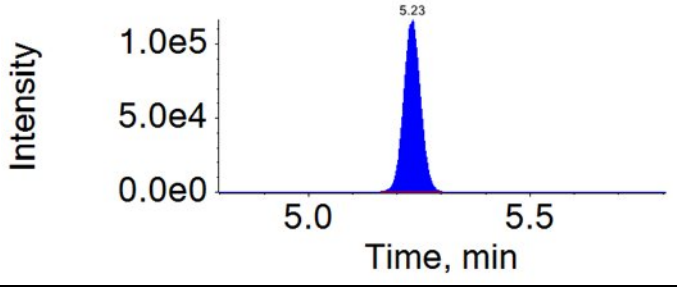


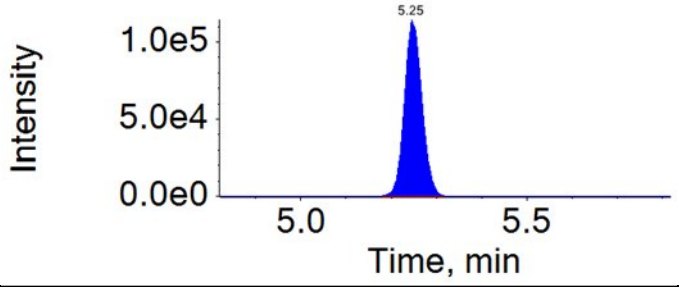
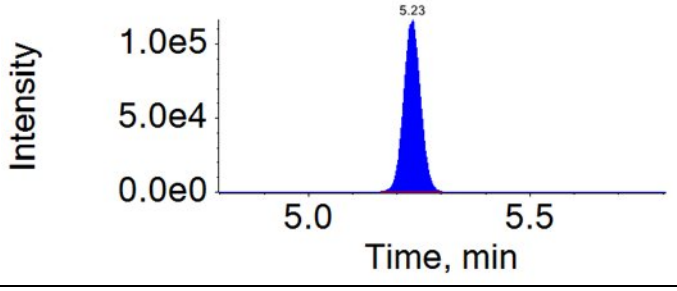
APPROVED
By MCD at 5:14 pm, 11/8/18

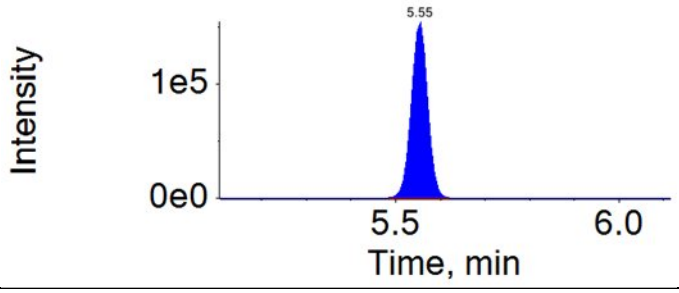
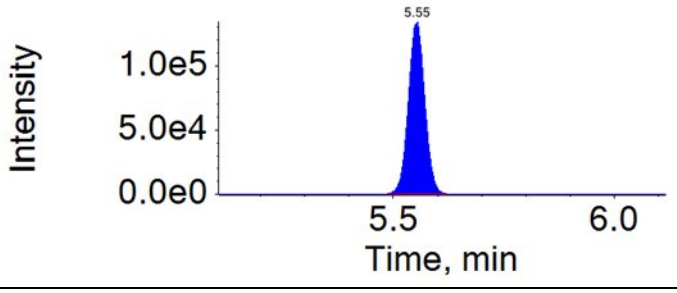
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

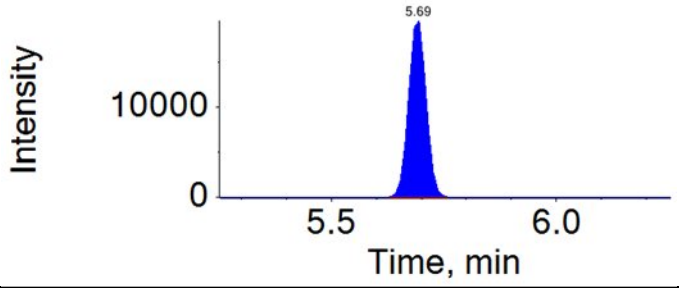
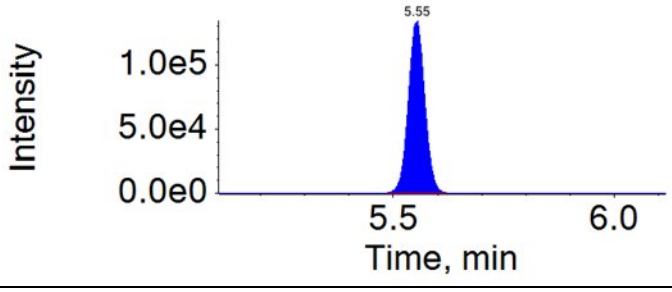
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

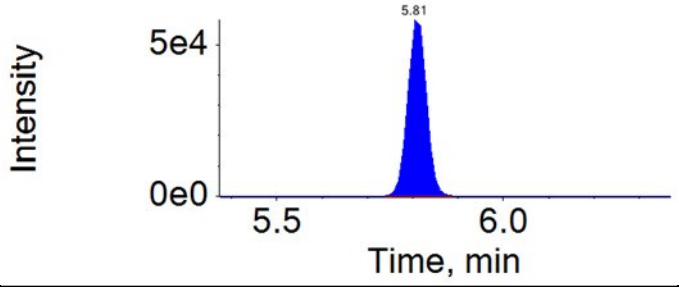
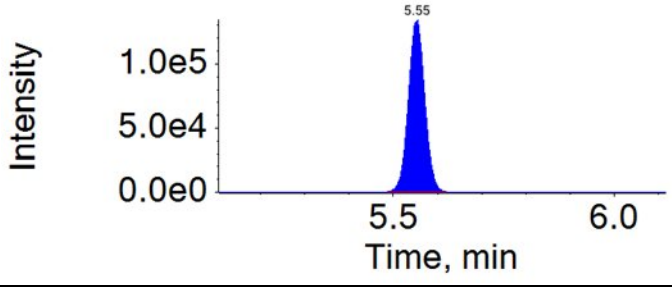
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

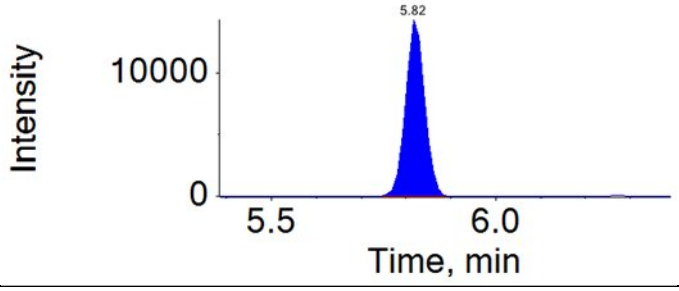
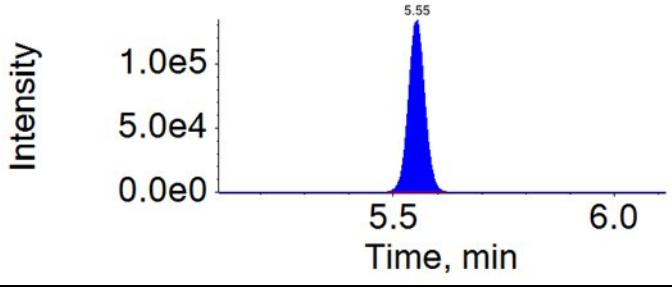
APPROVED
By MCD at 5:14 pm, 11/8/18

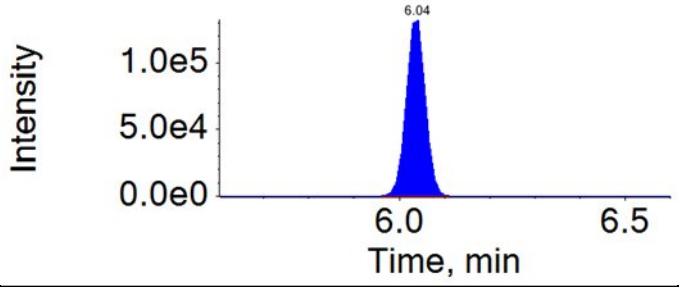
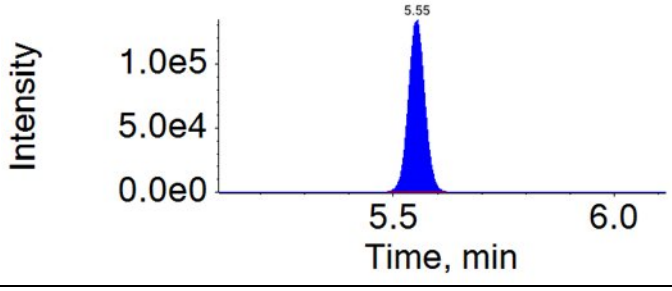
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

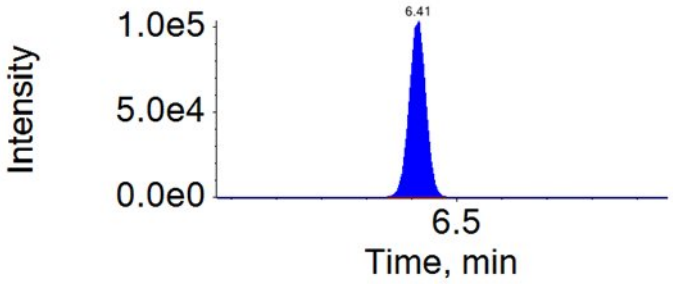
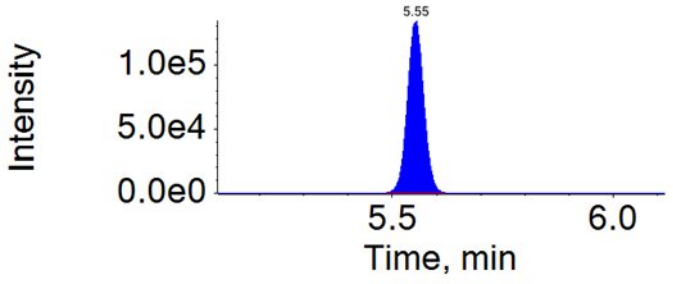
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

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

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

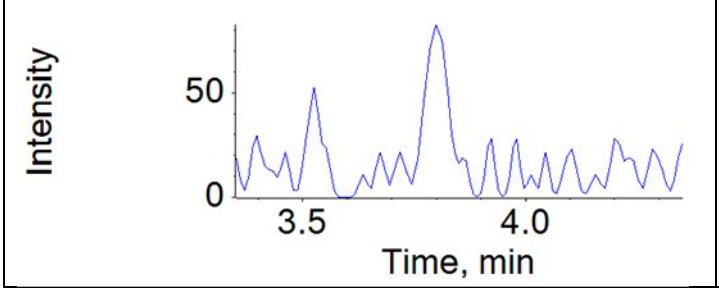
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

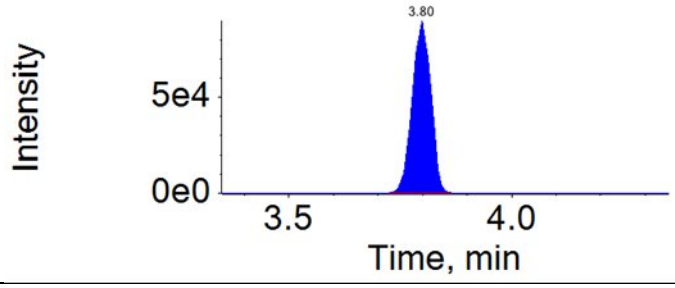
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

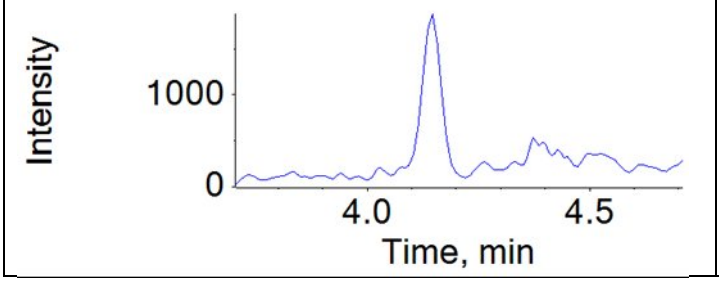
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

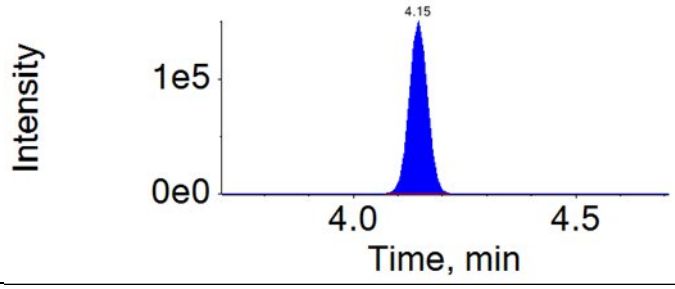
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



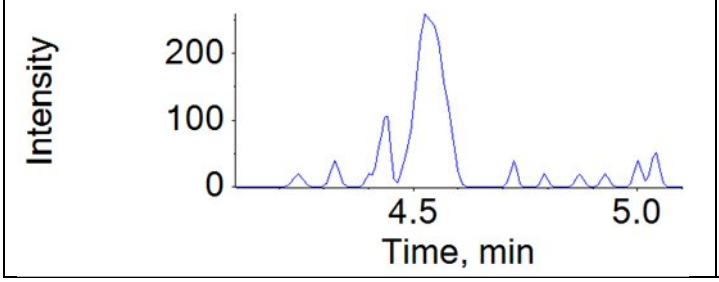


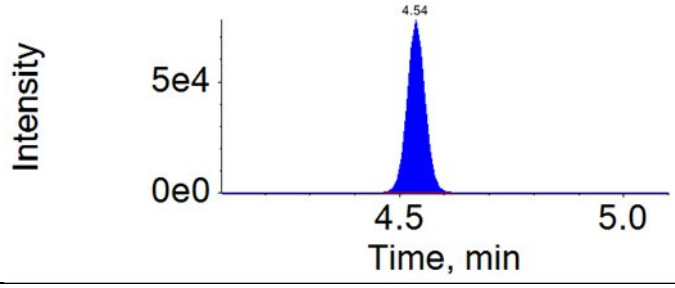
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



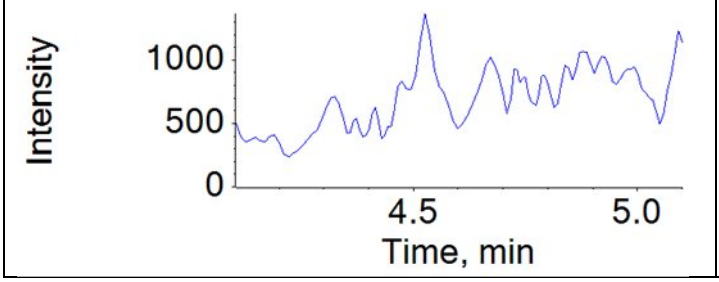


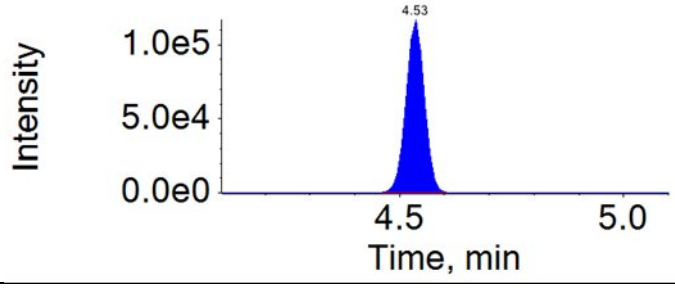
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



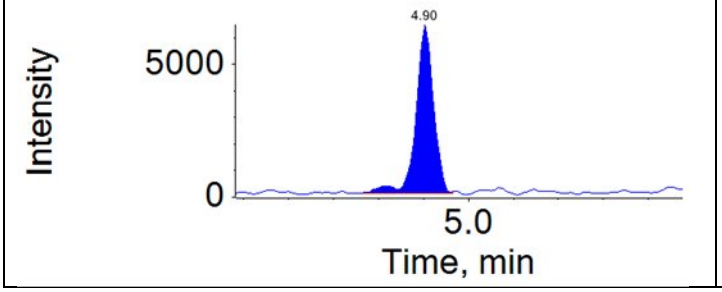


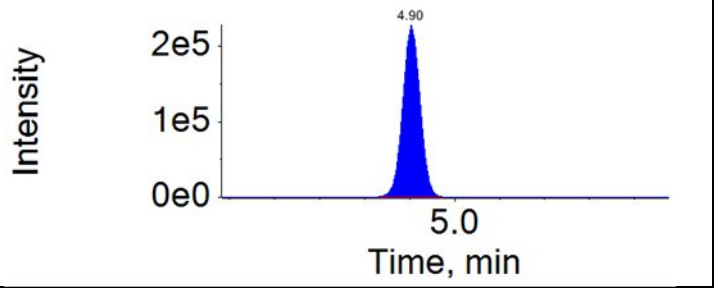
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

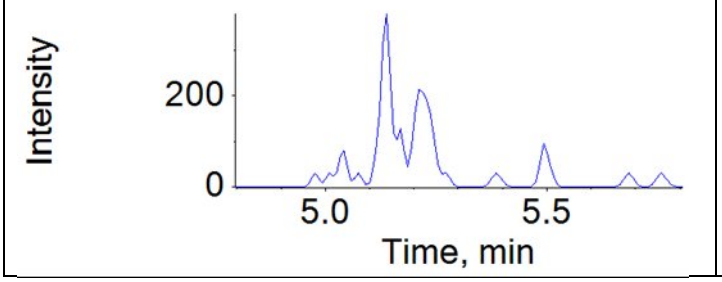
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

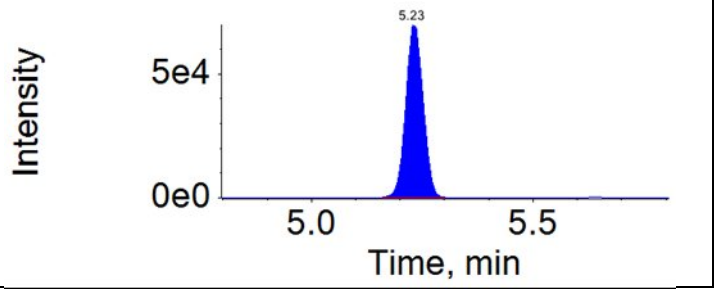
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



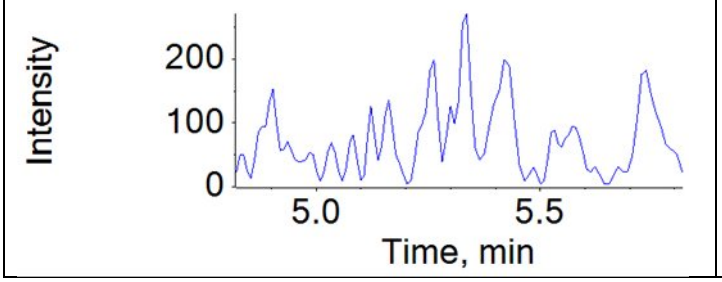


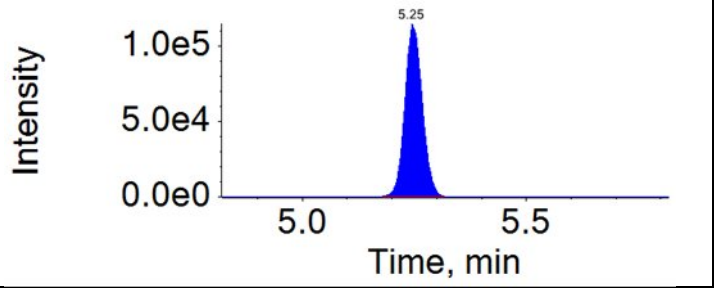
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



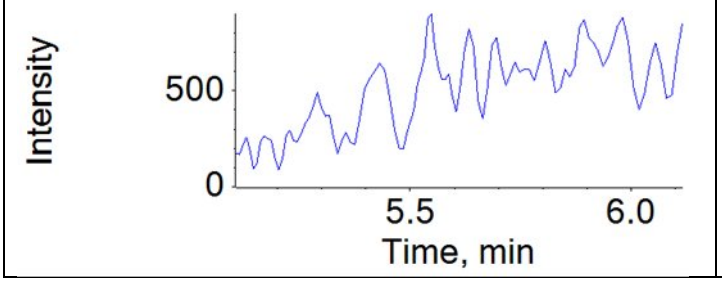


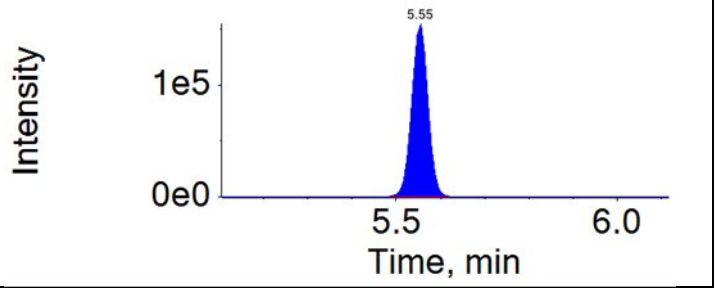
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





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



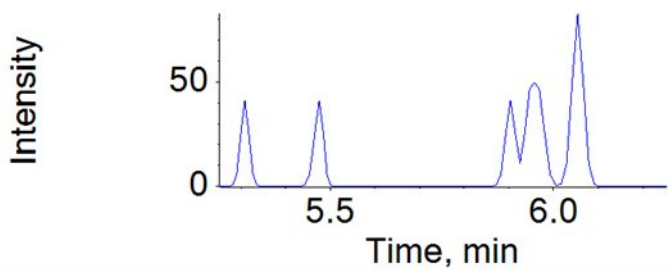


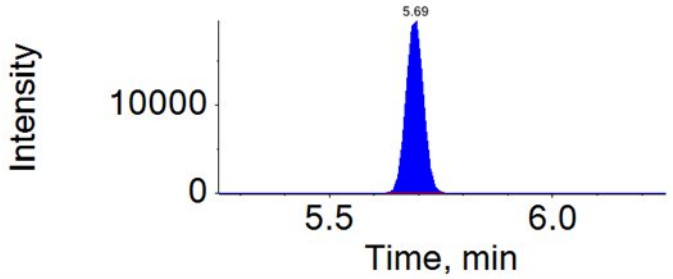
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

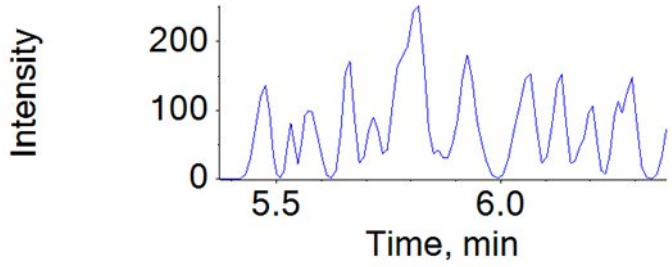
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

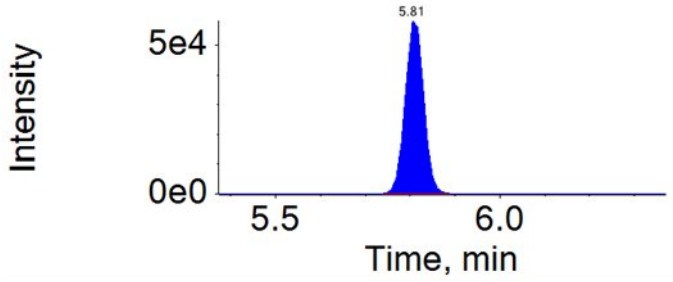
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



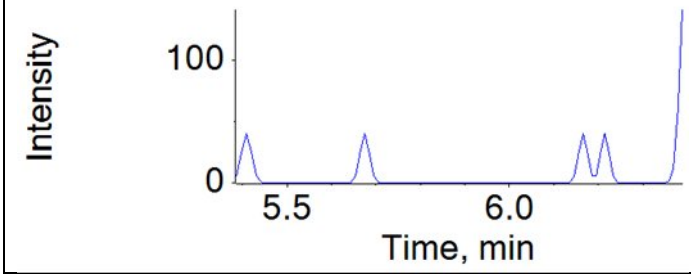


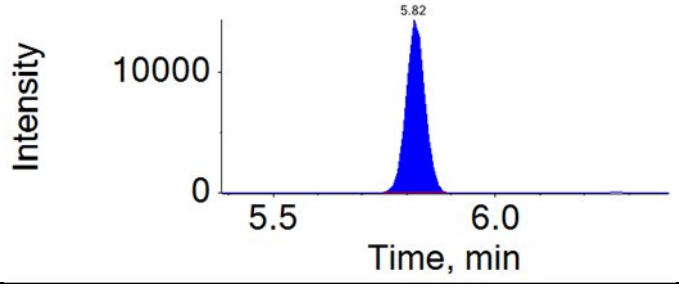
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



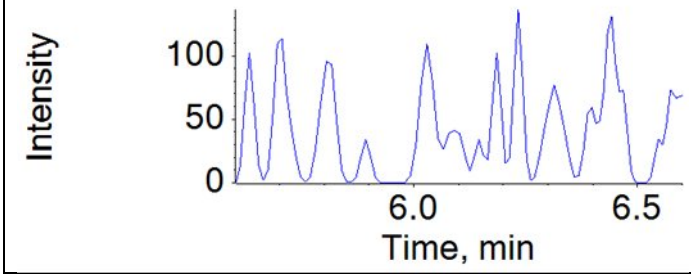


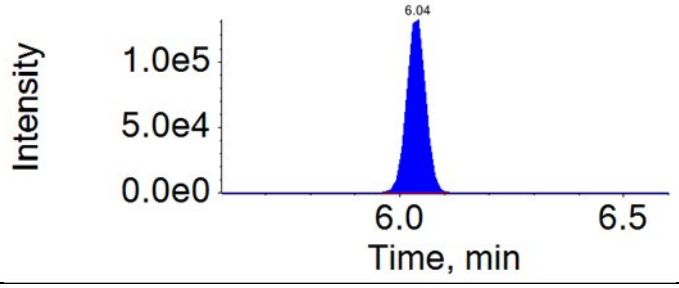
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





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



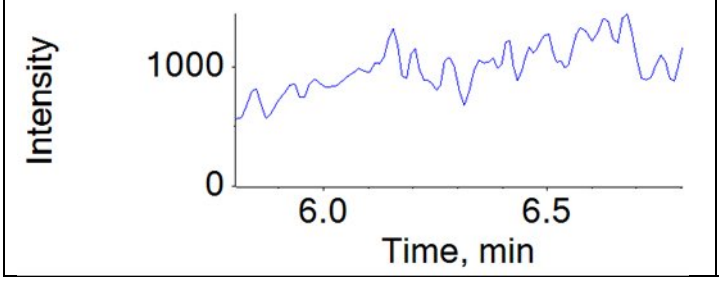


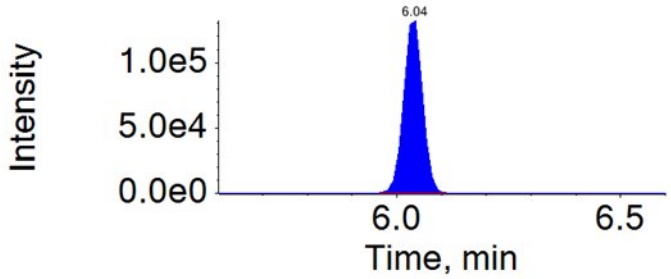
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

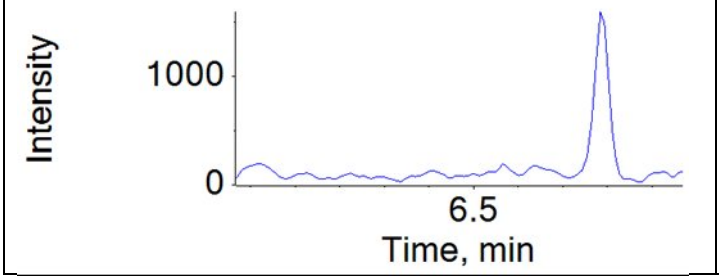
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

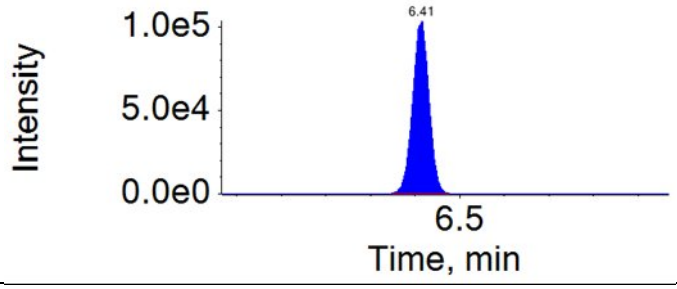
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





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





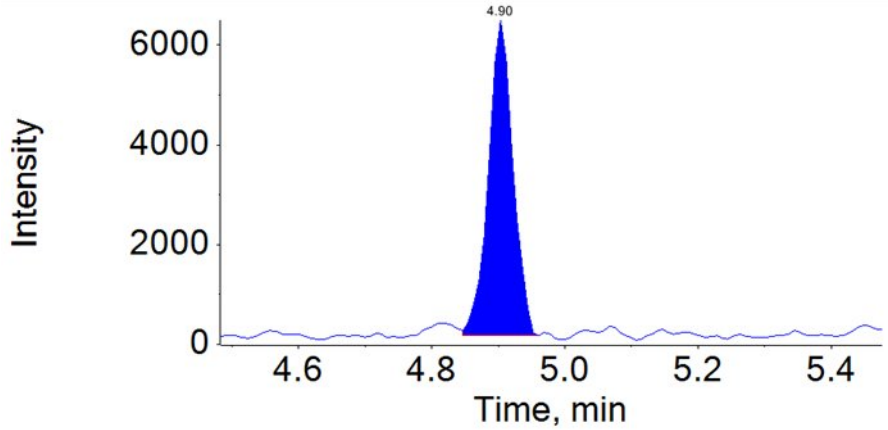
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

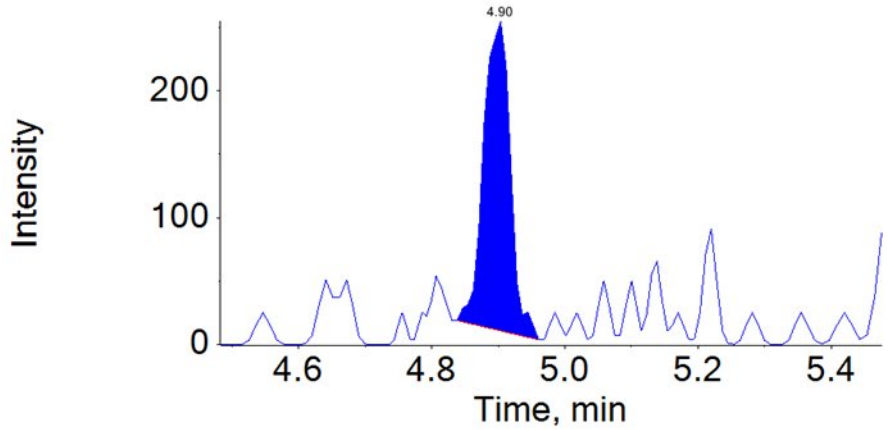
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QMethod File: MQ4-18AUG13

Component Name:
PFOA
RT (min.):
4.90
Peak Area:
16202.7
Mass Range:
413.0 / 369.0
File Name:
18NOV07D-68.wiff
Sample Name:
9881869



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.90
Peak Area:
684.1
Mass Range:
413.0 / 169.0
File Name:
18NOV07D-68.wiff
Sample Name:
9881869



Integration Comment: incorrect integration

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Ion Ratio Report

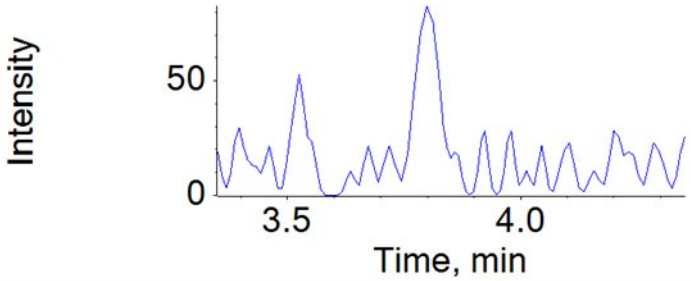
Sample Name: 9881869 **Instrument Name:** LM27631 **File Name:** 18NOV07D-68.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	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	
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	
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	
PFOA	4.90	1.00	17450.1	M	N/A	0.0485			
PFOA_2	4.90	1.00	846.7	M	N/A	0.0485	-24	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	

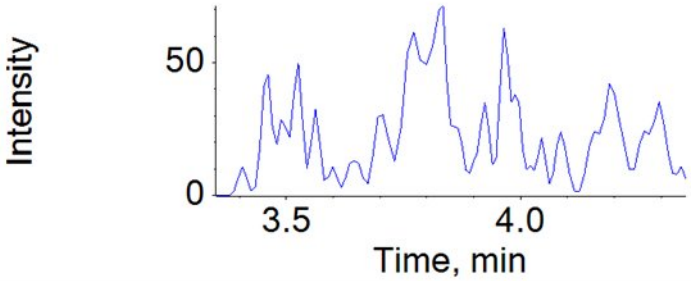
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

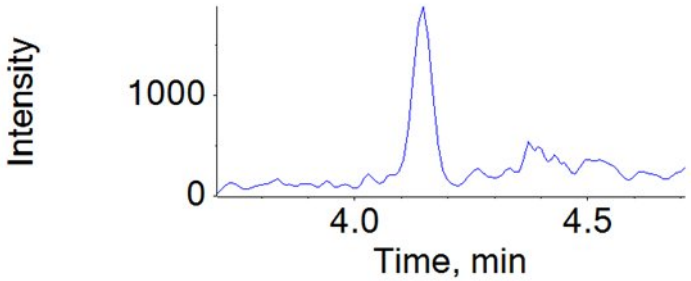
Component: PFBS
Primary Mass: 299.0 / 80.0



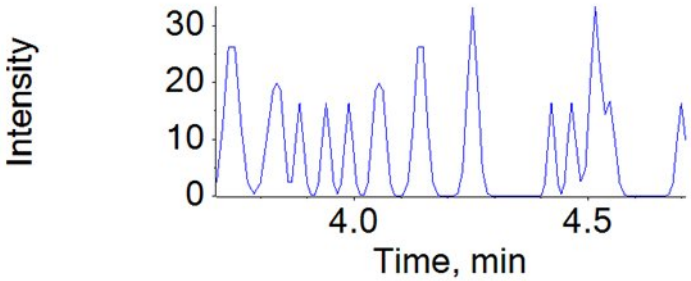
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



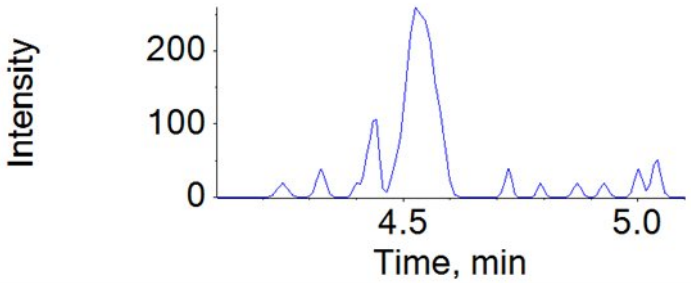
Component: PFHxA
Primary Mass: 313.0 / 269.0



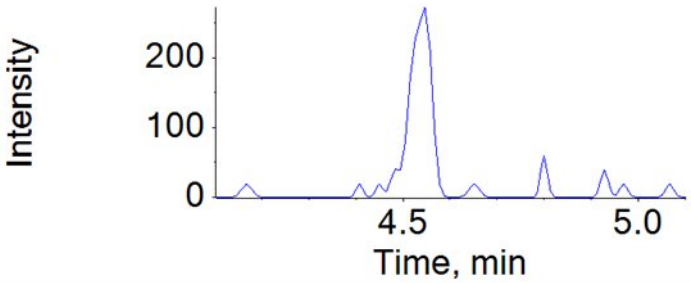
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



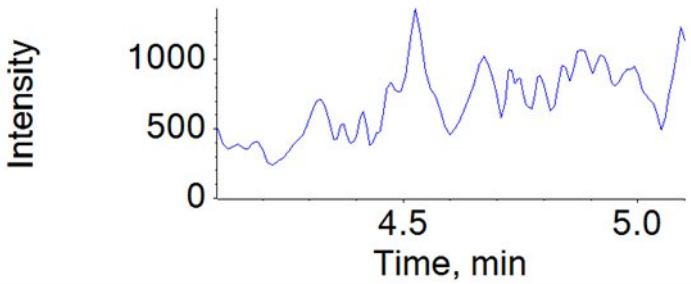
Component: PFHxS
Primary Mass: 399.0 / 80.0



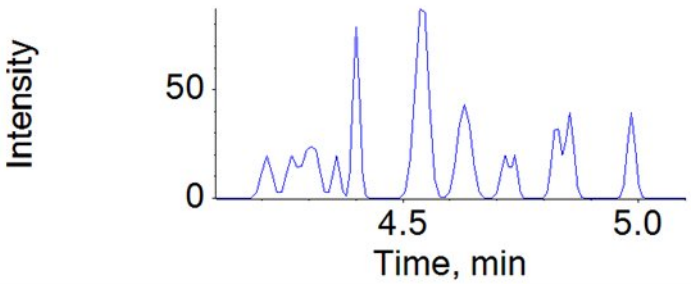
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



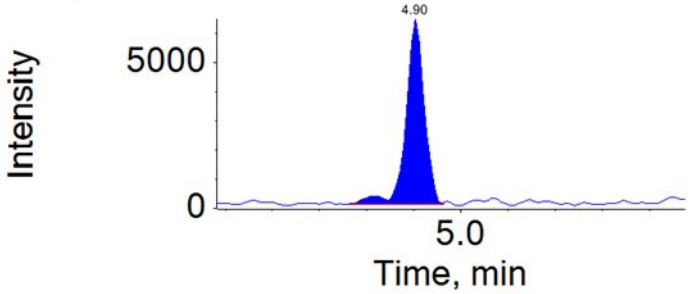
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



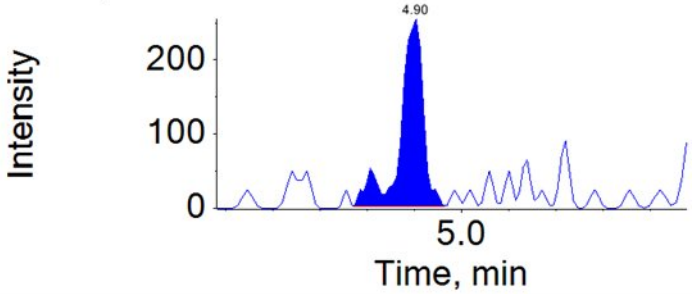
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

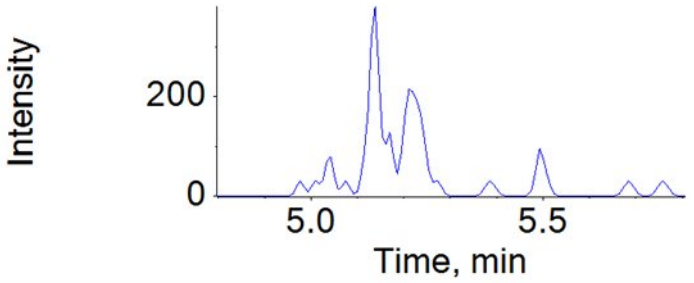
Component: PFOA
Primary Mass: 413.0 / 369.0



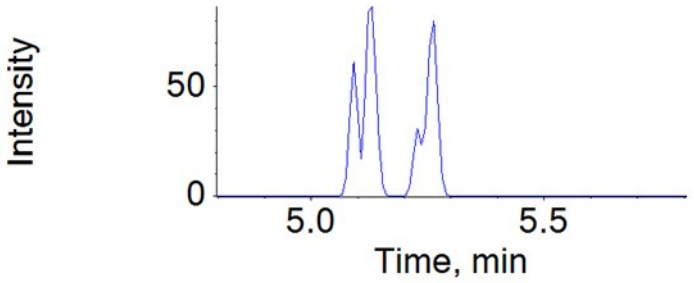
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



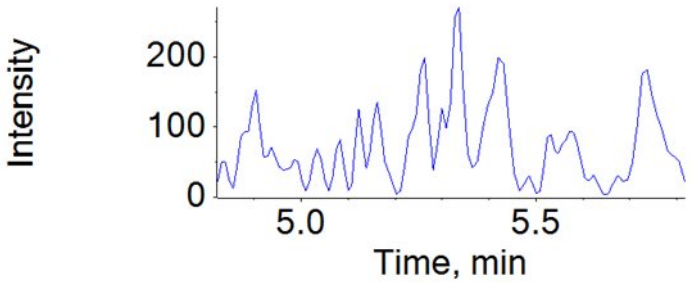
Component: PFOS
Primary Mass: 499.0 / 80.0



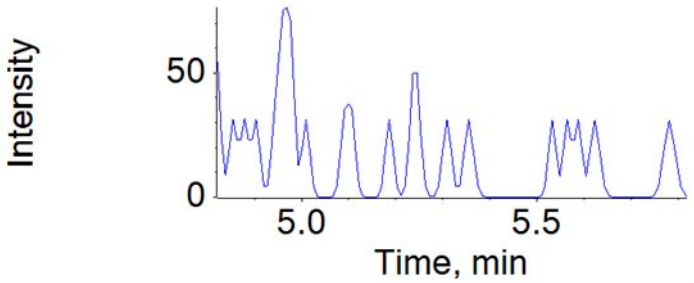
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



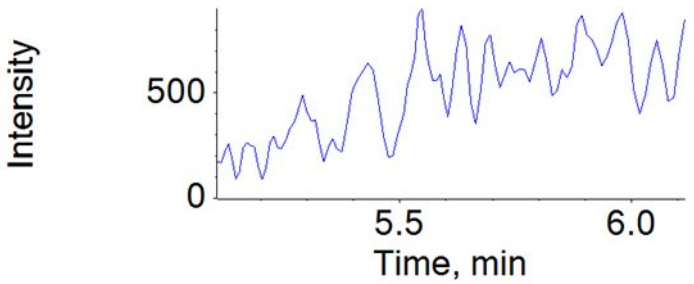
Component: PFNA
Primary Mass: 463.0 / 419.0



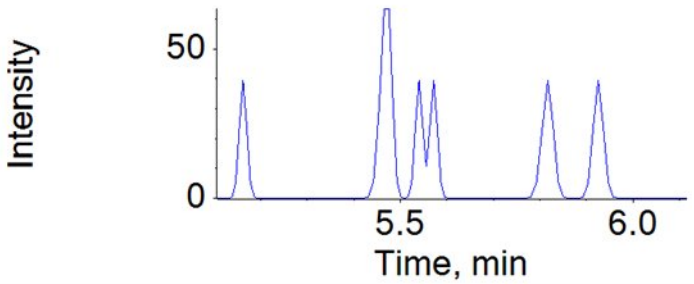
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



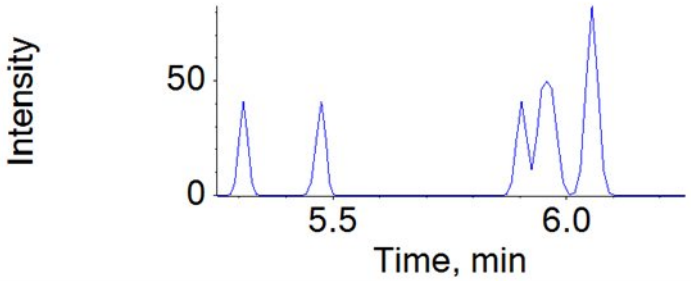
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



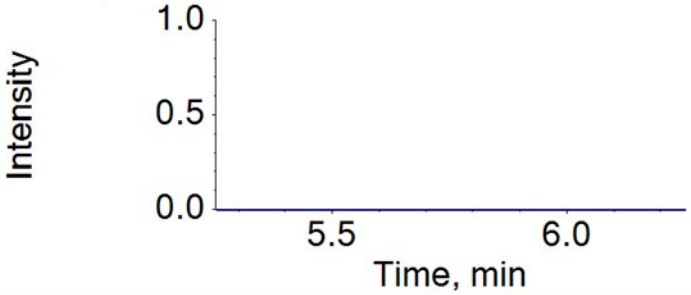
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

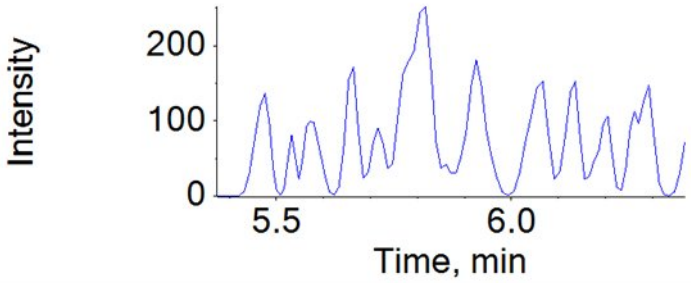
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



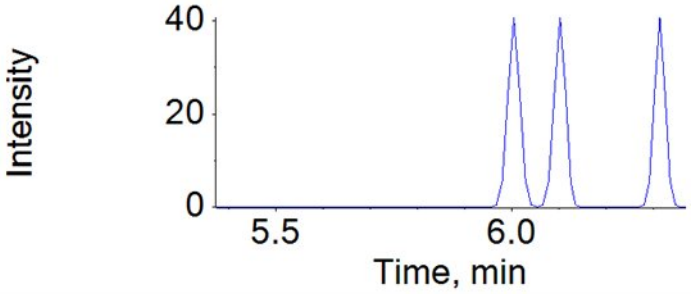
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



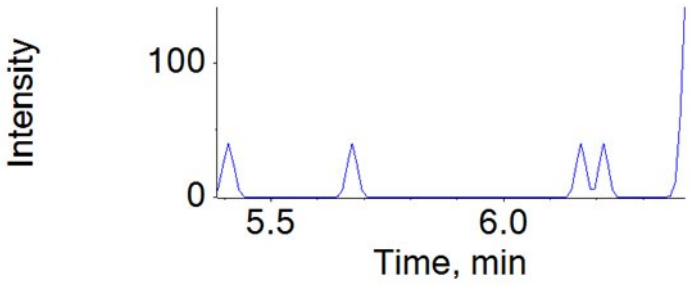
Component: PFUnDA
Primary Mass: 563.0 / 519.0



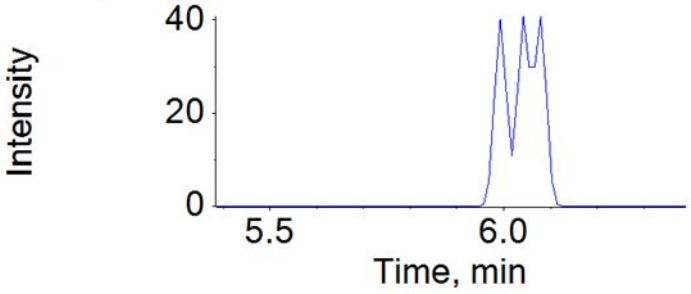
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



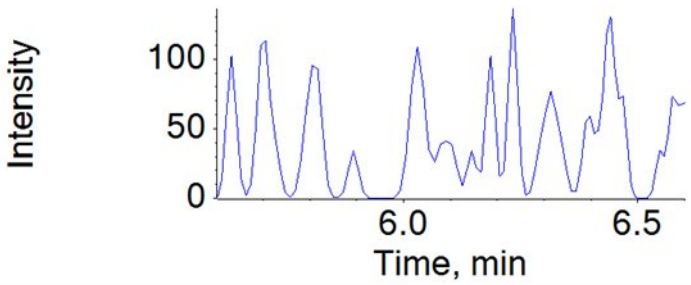
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



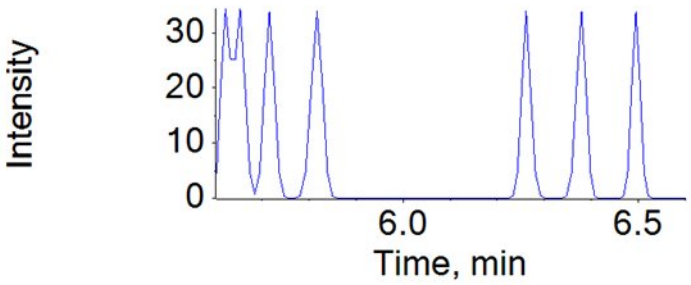
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



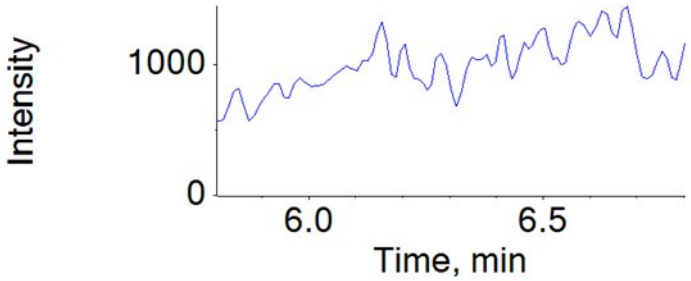
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



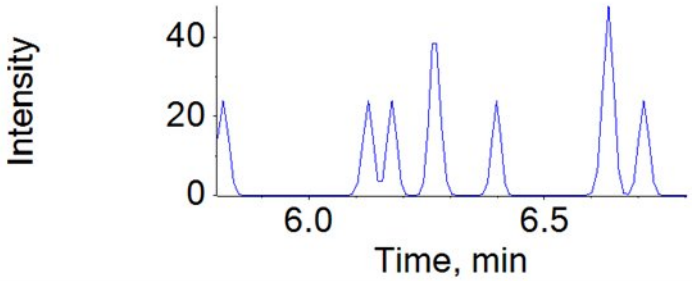
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

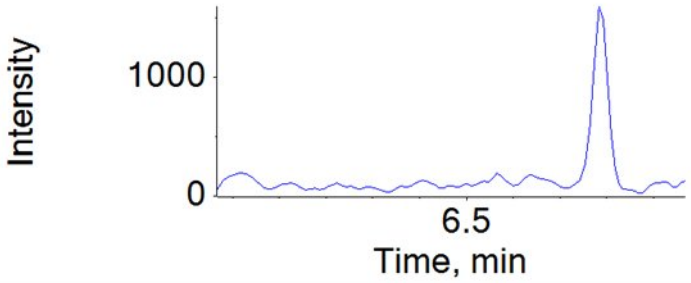
Component: PFTrDA
Primary Mass: 663.0 / 619.0



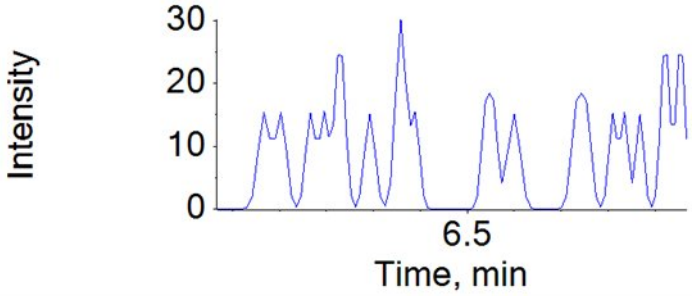
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881870			**Data File:**		18NOV07D-69.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-03 Grab Soil			**Acquis Date:**		2018-11-07T21:37:12
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	39			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.08000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	797286.6	730410.6	9	50	
13C2-PFOA	5.0	574561.8	524423.6	10	50	
13C4-PFOS	4.8	288367.9	274061.7	5	50	
13C2-PFDA	5.0	348832.2	311442.1	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
E13C3-PFBS	418457.5	13C3-PFBA	797286.6	0.525	8.611	7.133	83	50-150	
E13C5-PFHxA	667838.7	13C2-PFOA	574561.8	1.162	9.259	7.918	86	50-150	
E13C3-PFHxS	312407.6	13C2-PFOA	574561.8	0.544	8.759	7.228	83	50-150	
E13C4-PFHpA	496486.7	13C2-PFOA	574561.8	0.864	9.259	7.280	79	50-150	
E13C8-PFOA	898331.9	13C2-PFOA	574561.8	1.564	9.259	8.074	87	50-150	
E13C8-PFOS	278391.7	13C4-PFOS	288367.9	0.965	8.852	7.905	89	50-150	
E13C9-PFNA	468116.9	13C4-PFOS	288367.9	1.623	9.259	8.212	89	50-150	
E13C6-PFDA	599429.4	13C2-PFDA	348832.2	1.718	9.259	8.003	86	50-150	
Ed3-NMeFOSAA	82689.3	13C2-PFDA	348832.2	0.237	9.259	8.163	88	50-150	
E13C7-PFUnDA	269166.3	13C2-PFDA	348832.2	0.772	9.259	8.243	89	50-150	
Ed5-NEtFOSAA	68608.3	13C2-PFDA	348832.2	0.197	9.259	8.429	91	50-150	
E13C2-PFDoDA	533604.5	13C2-PFDA	348832.2	1.530	9.259	7.637	82	50-150	
E13C2-PFTeDA	386223.7	13C2-PFDA	348832.2	1.107	9.259	7.381	80	50-150	

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

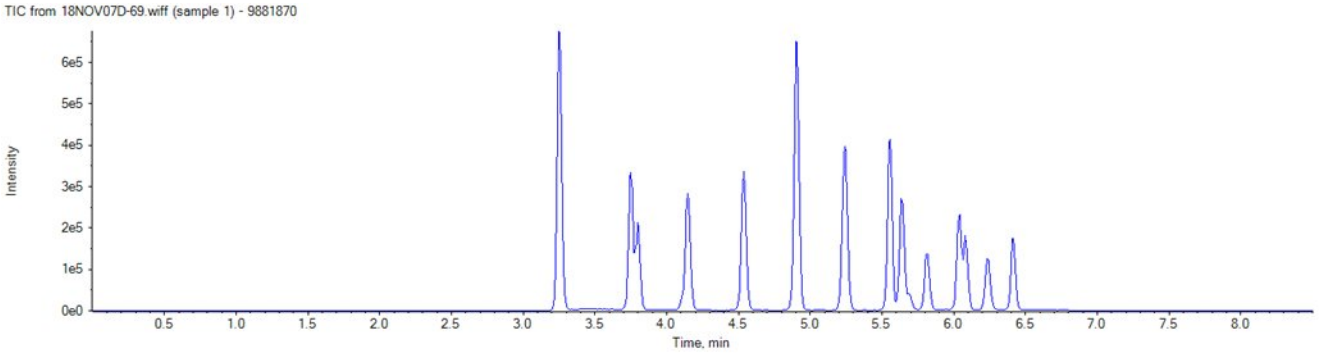
Analyte Quantitation Peak Table

Sample Name: 9881870 **Instrument Name:** LM27631 **File Name:** 18NOV07D-69.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.08000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	418457.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	667838.7	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	312407.6	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	496486.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	898331.9	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	278391.7	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	468116.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	599429.4	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	82689.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	269166.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	68608.3	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	533604.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	533604.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	386223.7	N/A	

Total Ion Chromatogram

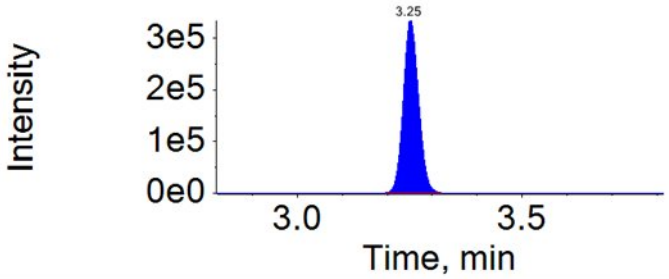


APPROVED
By MCD at 5:14 pm, 11/8/18

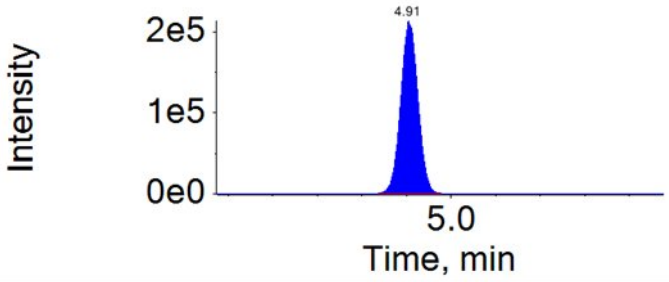
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

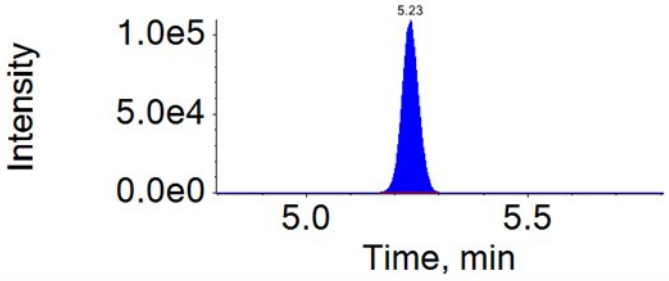
Injection Standard: 13C3-PFBA
216.0 / 172.0



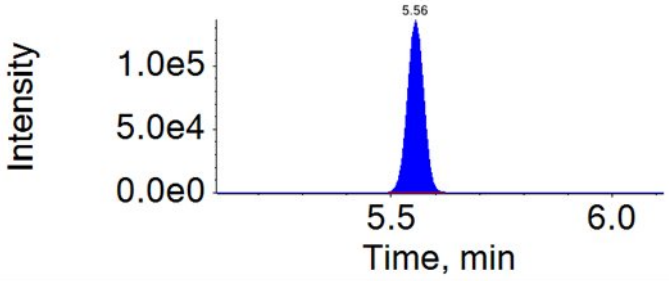
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



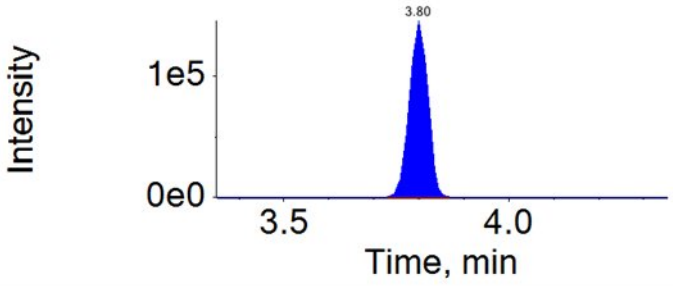
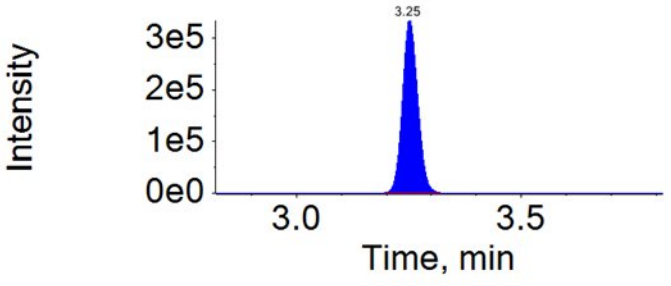
Injection Standard: 13C2-PFDA
515.0 / 470.0

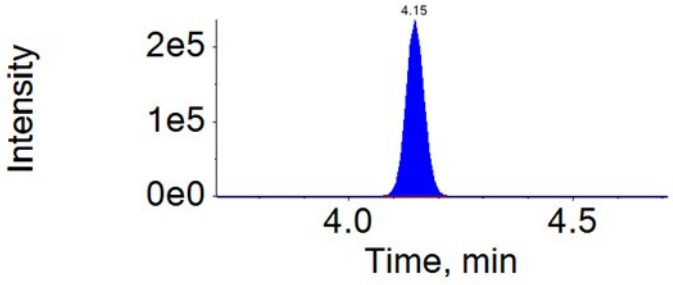
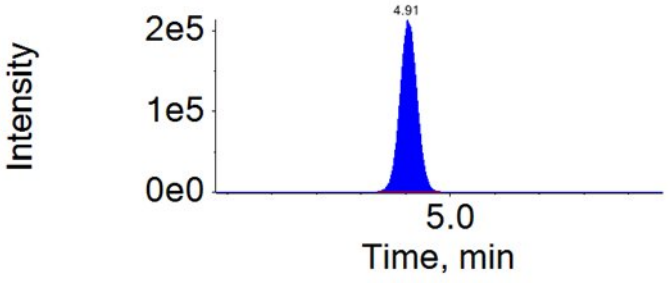


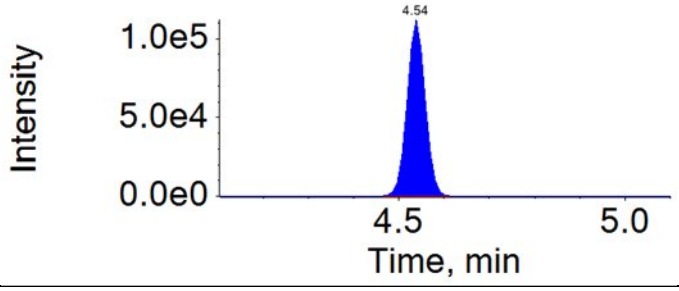
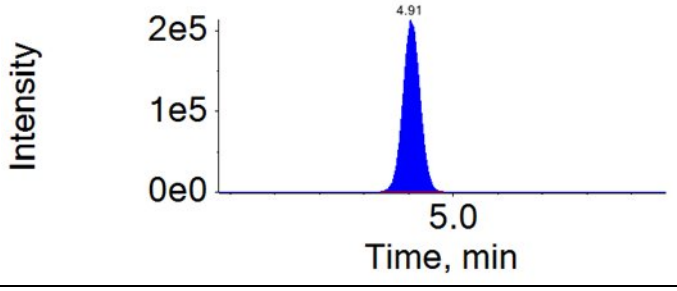
APPROVED
By MCD at 5:14 pm, 11/8/18

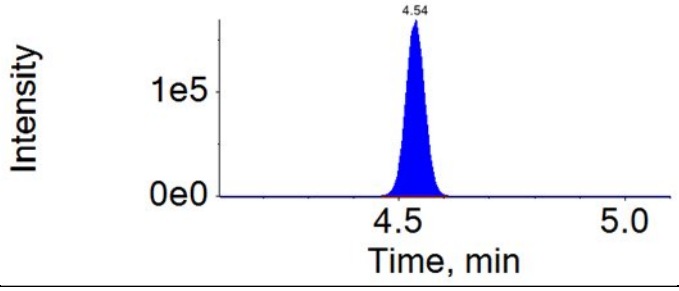
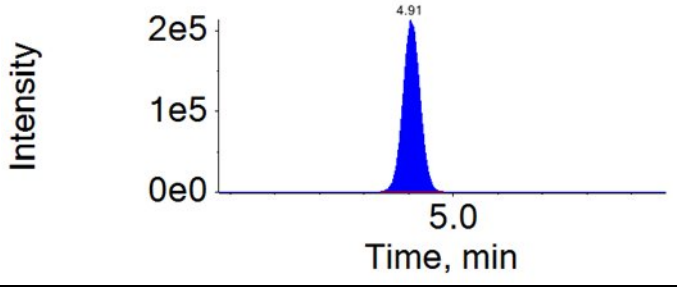
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

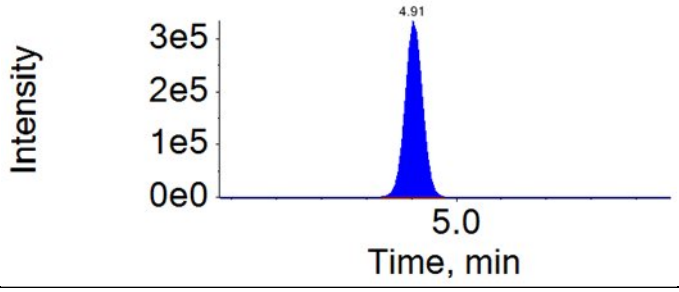
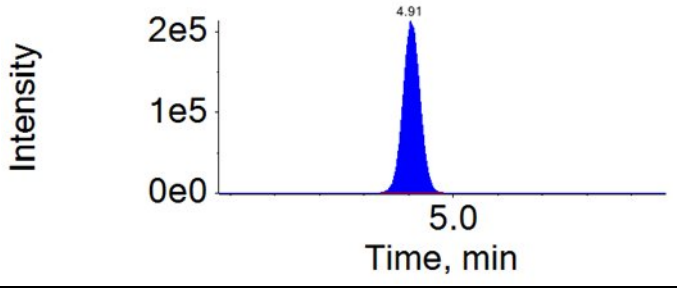
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

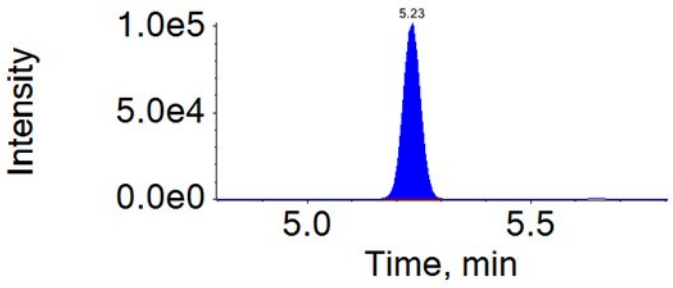
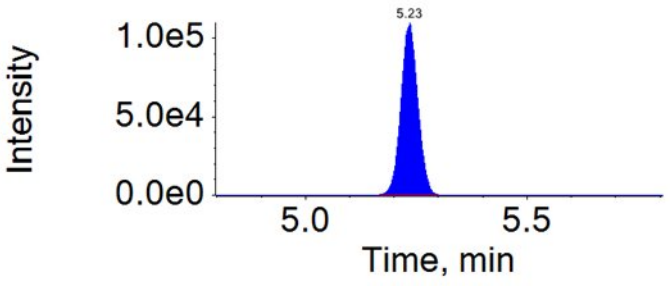
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

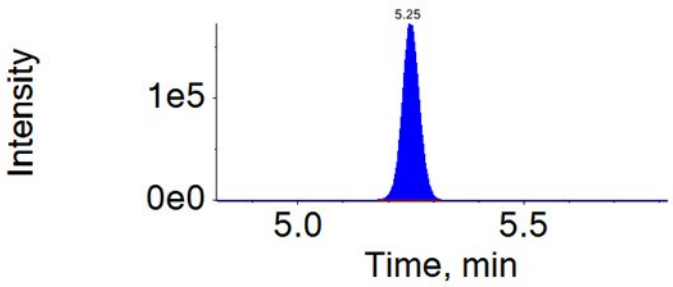
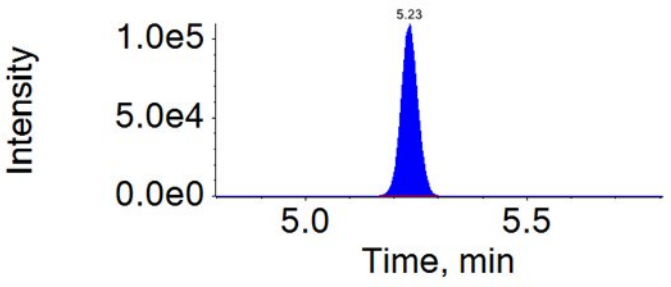
APPROVED
By MCD at 5:14 pm, 11/8/18

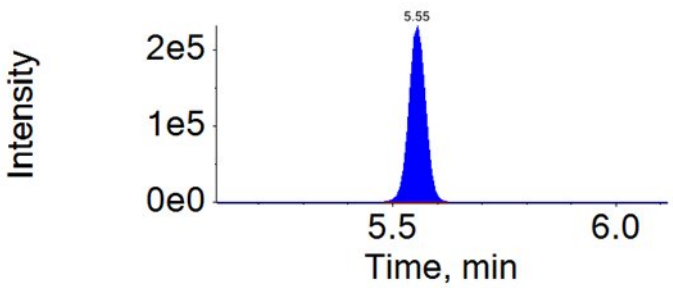
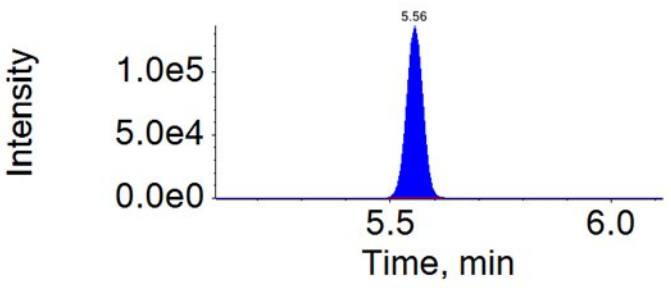
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

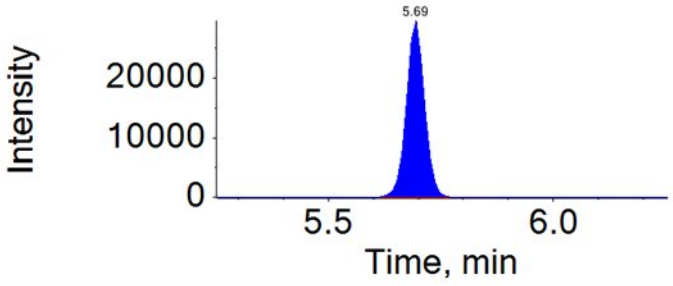
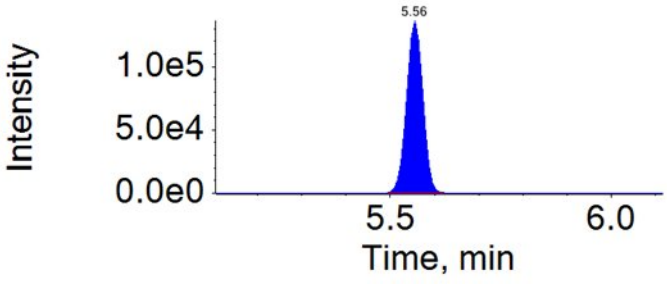
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

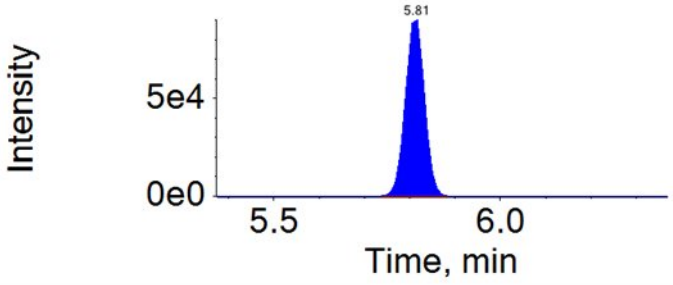
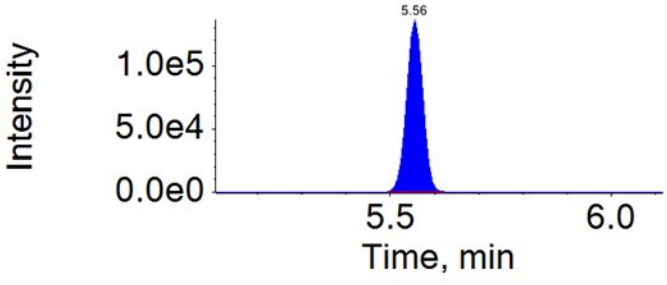
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

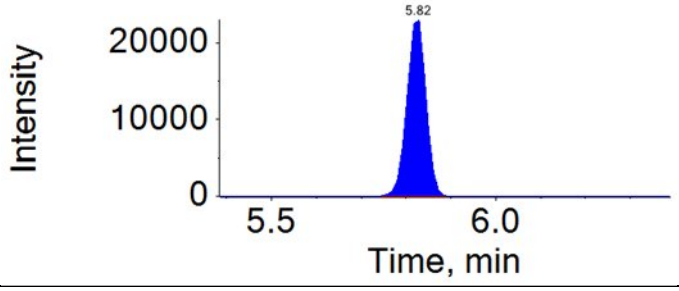
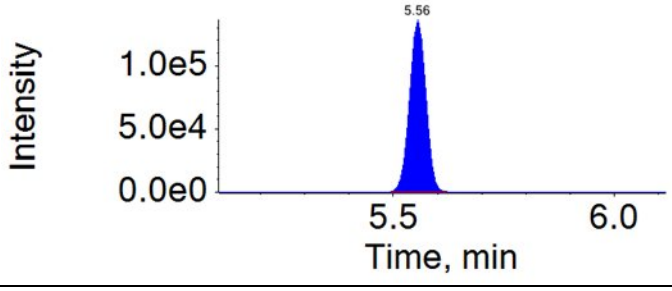
APPROVED
By MCD at 5:14 pm, 11/8/18

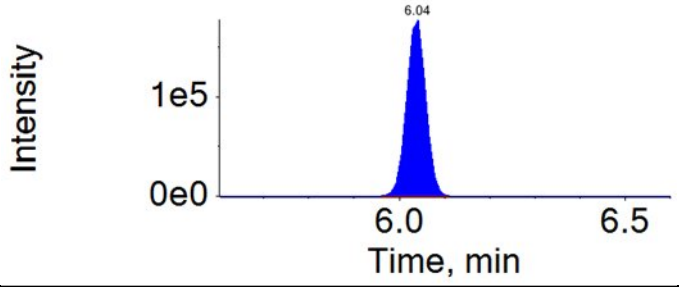
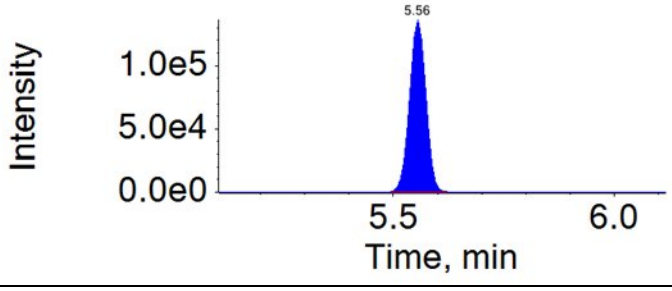
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

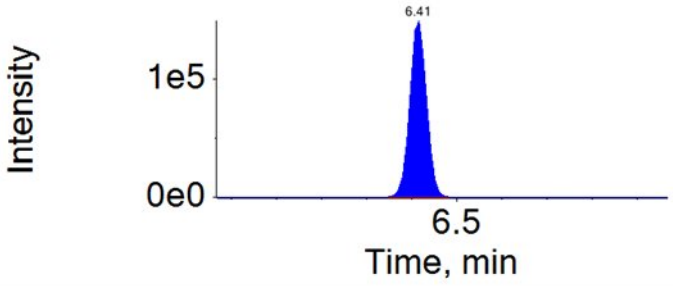
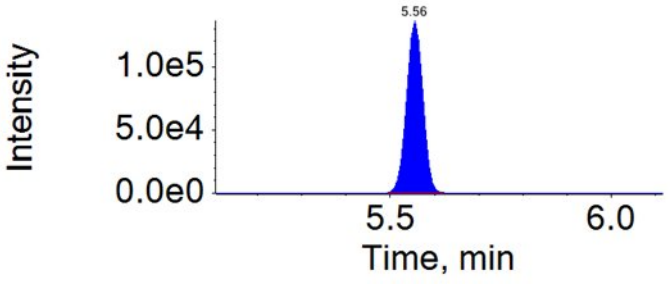
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

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

APPROVED
By MCD at 5:14 pm, 11/8/18

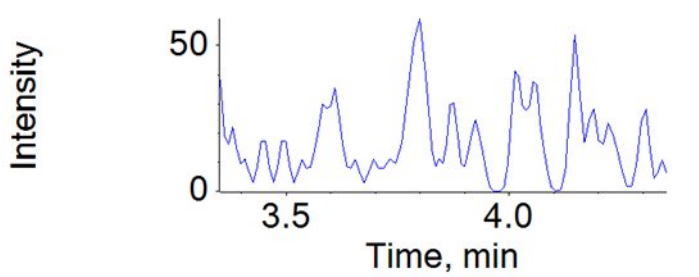
REVIEWED
By umar at 11:35 am, 11/12/18

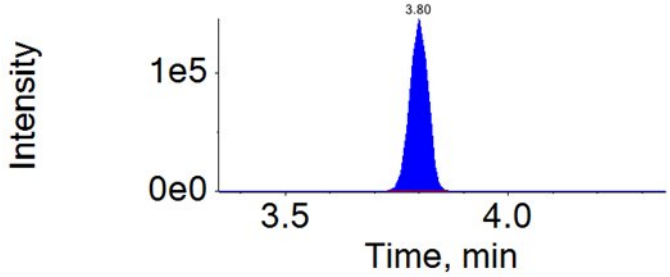
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

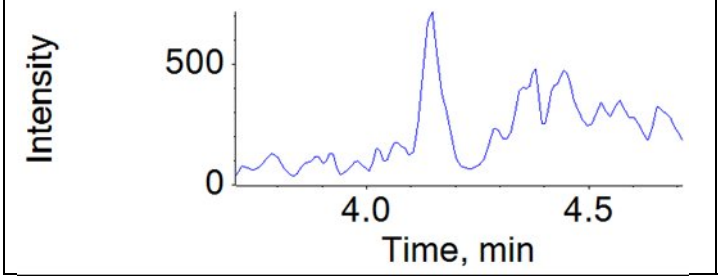
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

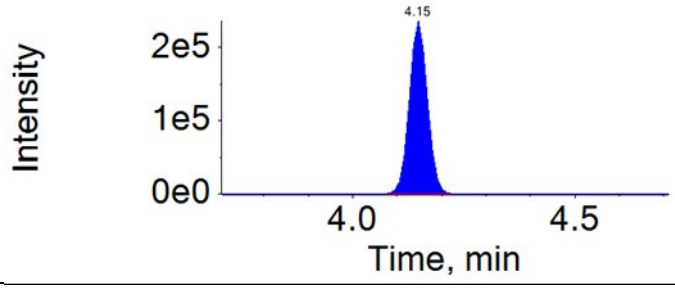
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



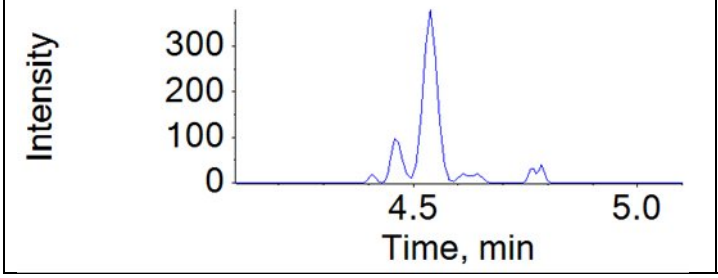


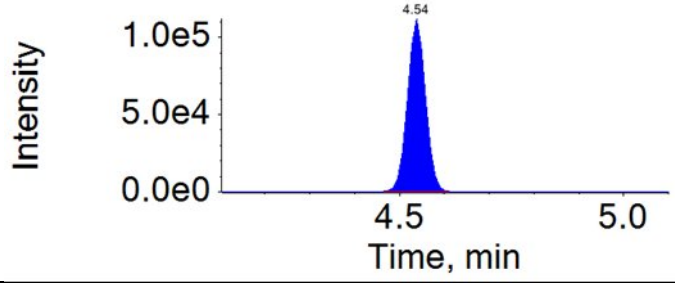
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



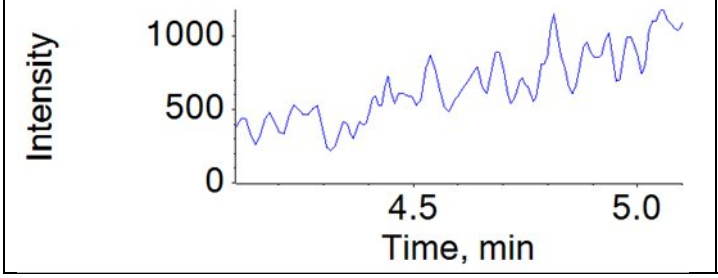


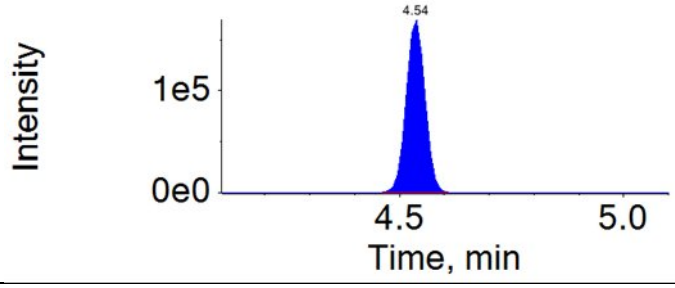
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



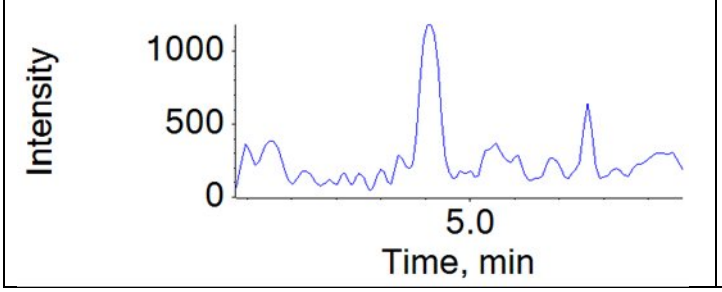


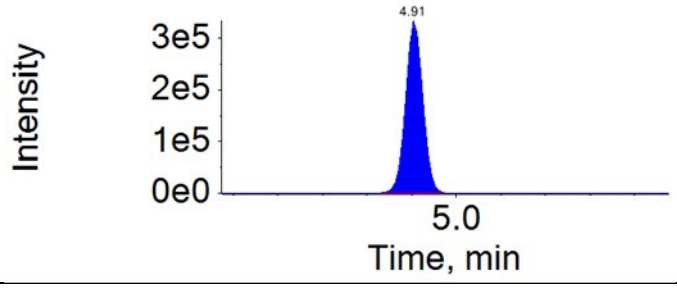
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

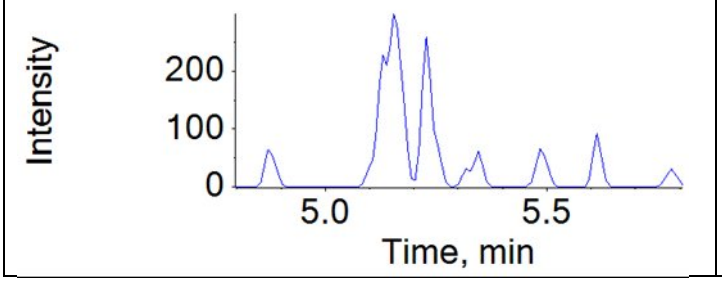
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

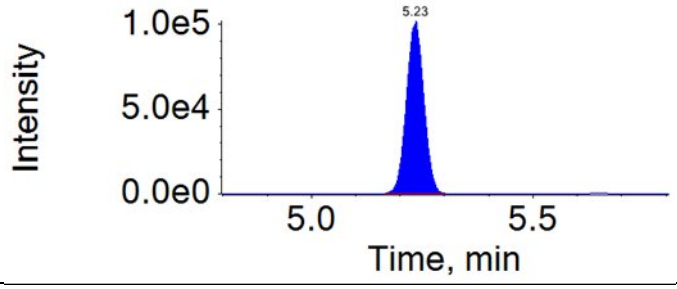
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



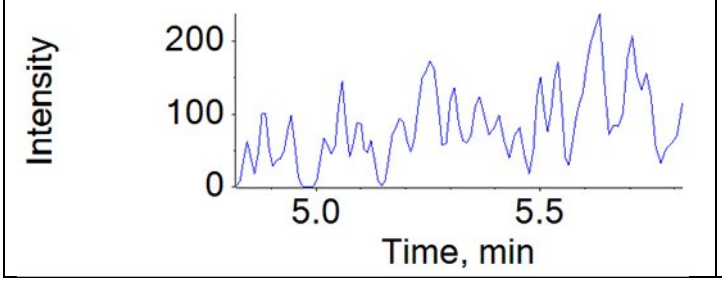


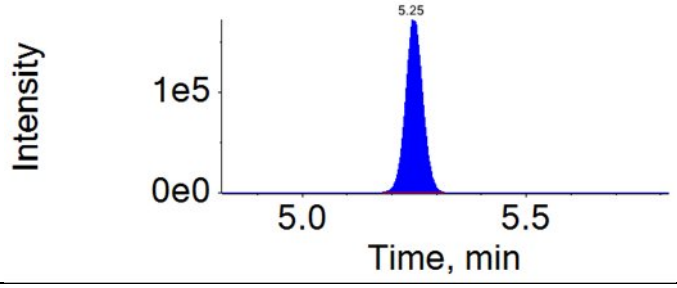
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



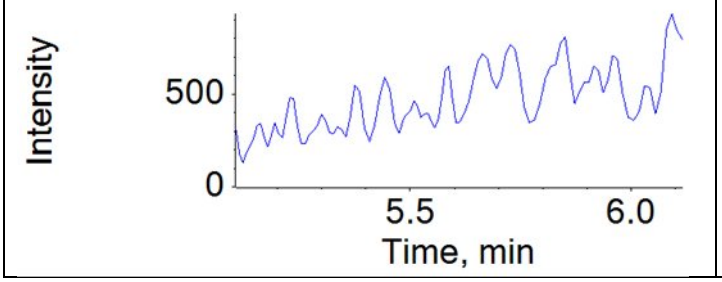


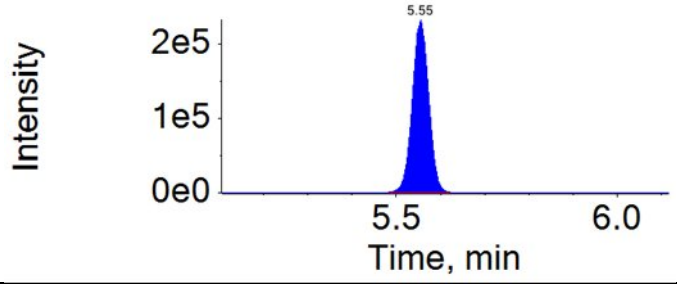
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





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



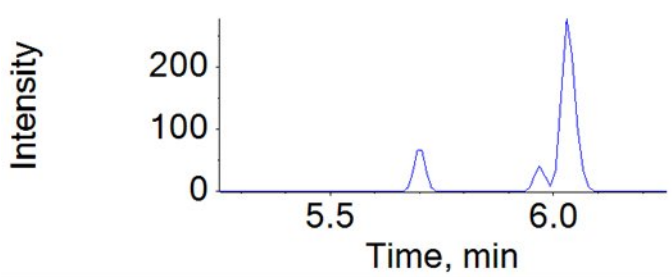


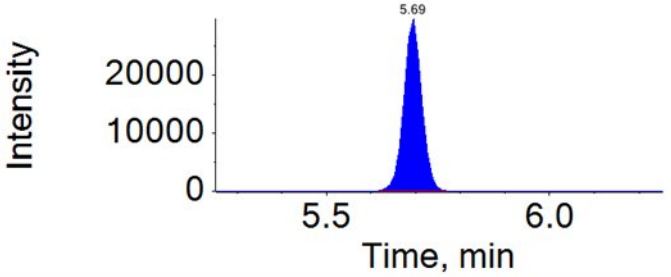
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

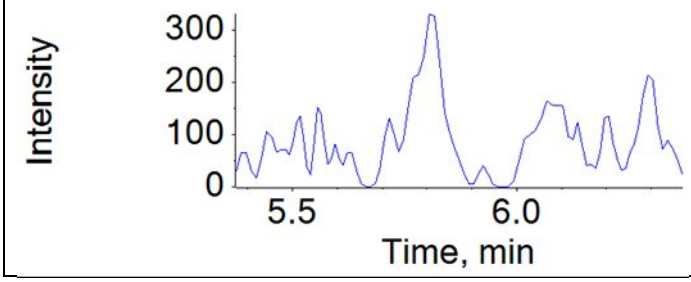
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

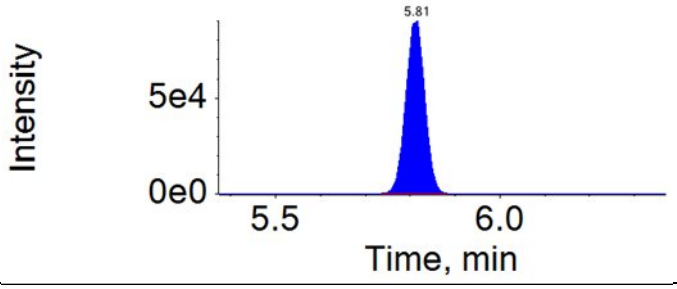
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



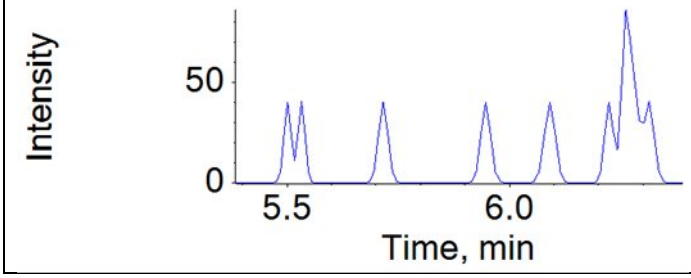


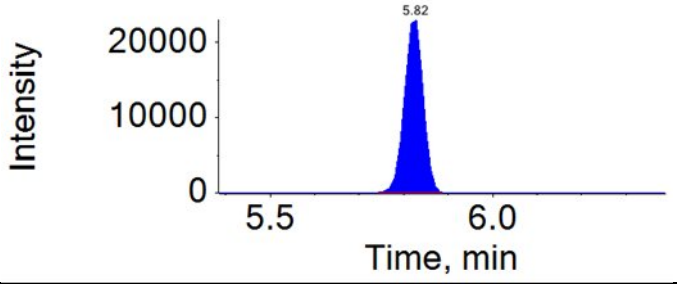
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



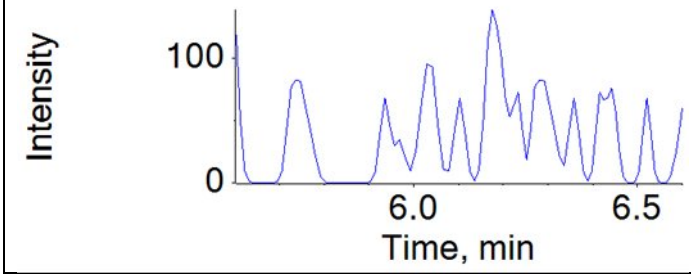


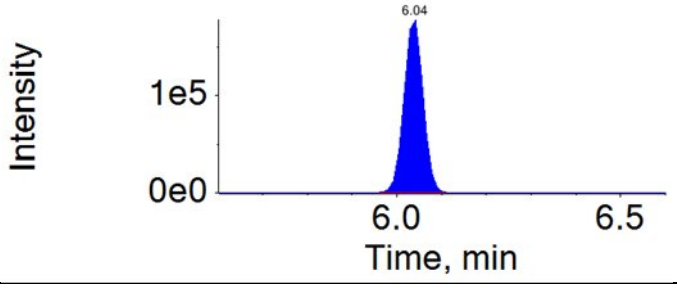
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





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



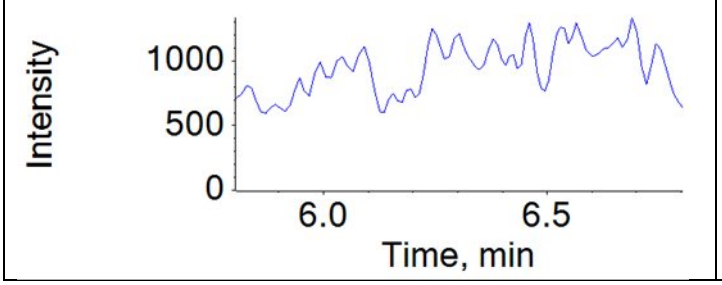


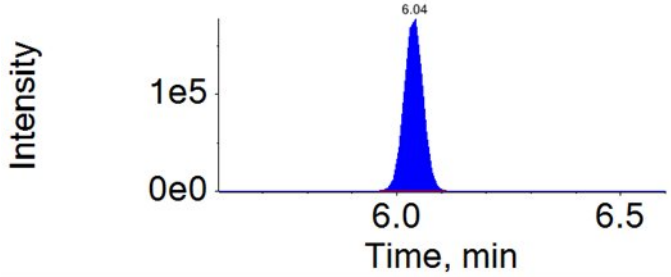
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

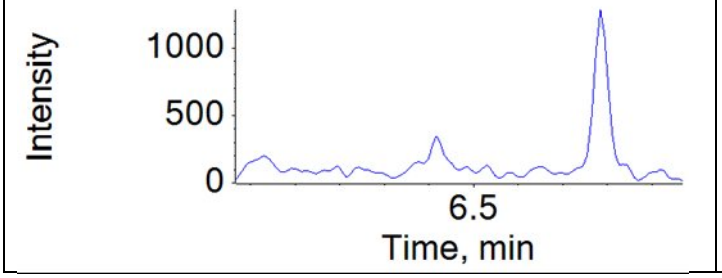
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

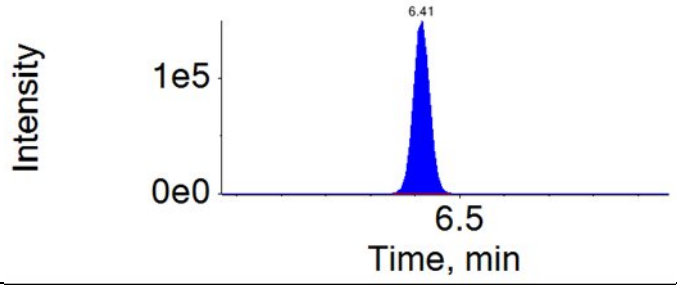
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





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





APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Ion Ratio Report

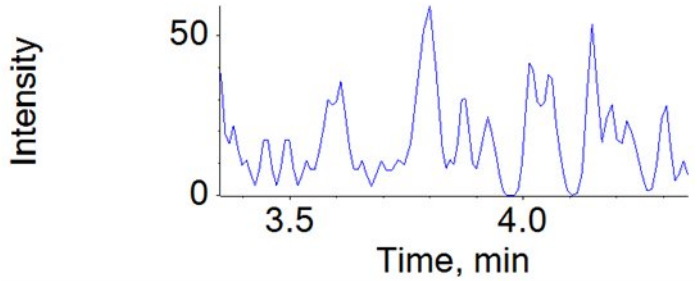
Sample Name: 9881870 **Instrument Name:** LM27631 **File Name:** 18NOV07D-69.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	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	
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	
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	
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	

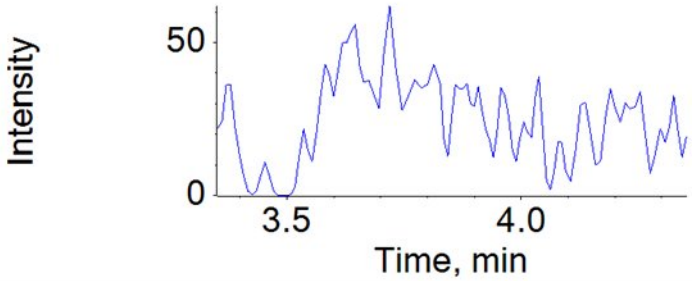
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

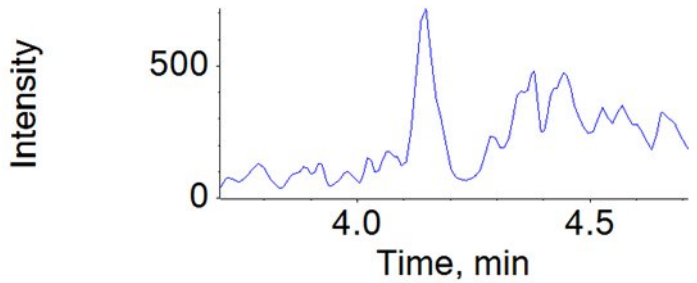
Component: PFBS
Primary Mass: 299.0 / 80.0



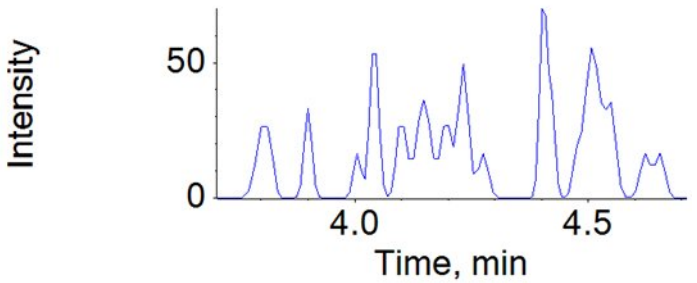
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



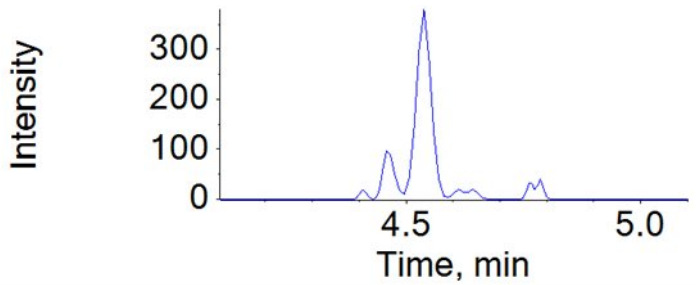
Component: PFHxA
Primary Mass: 313.0 / 269.0



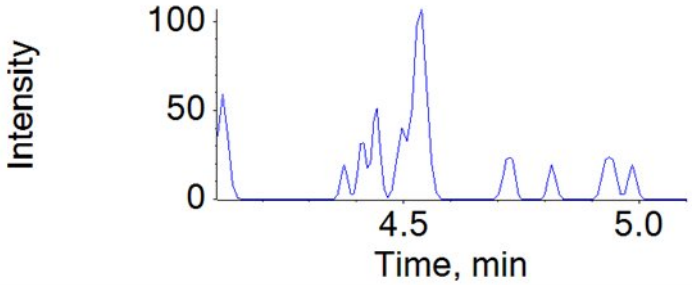
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



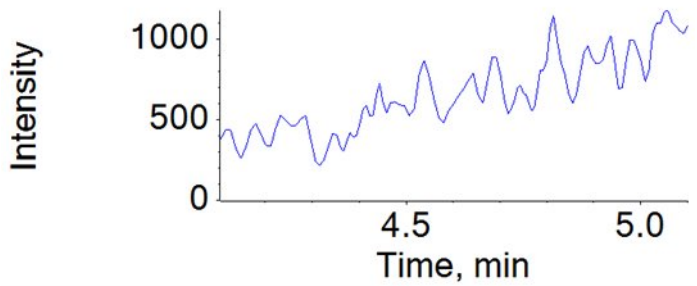
Component: PFHxS
Primary Mass: 399.0 / 80.0



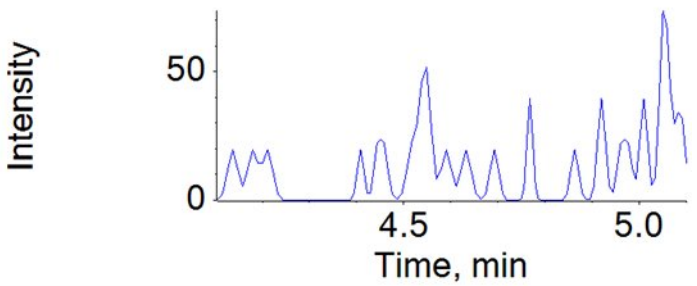
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



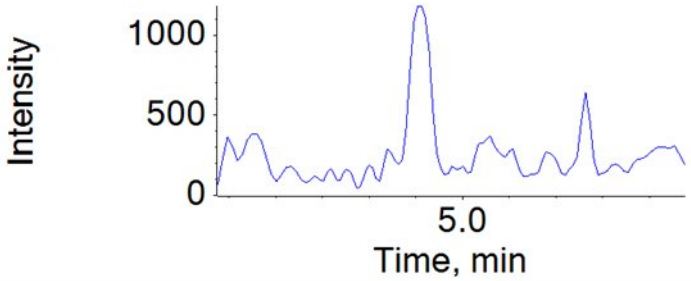
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



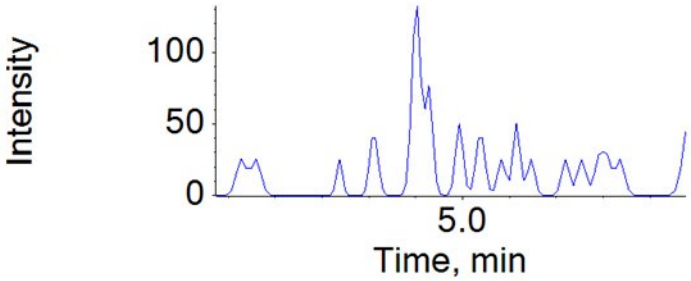
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REVIEWED
By umar at 11:35 am, 11/12/18

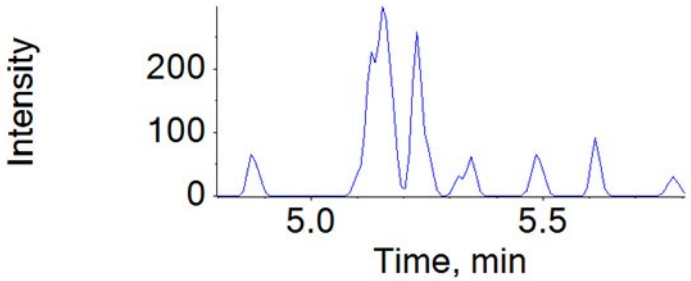
Component: PFOA
Primary Mass: 413.0 / 369.0



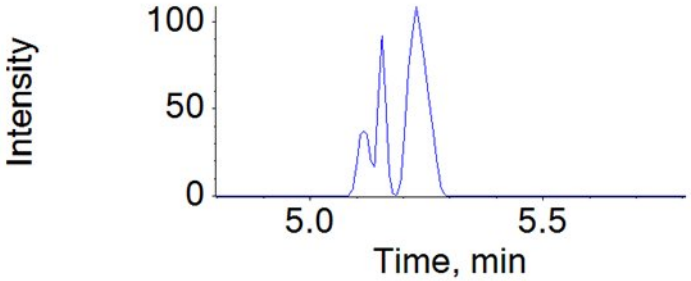
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



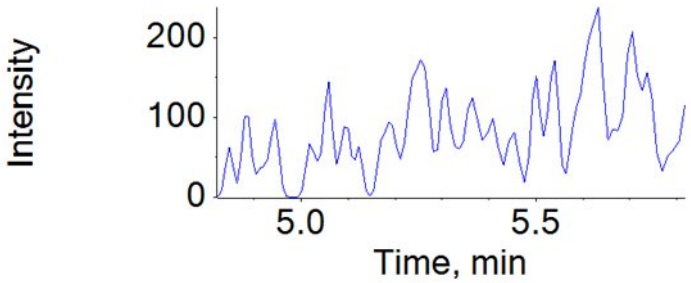
Component: PFOS
Primary Mass: 499.0 / 80.0



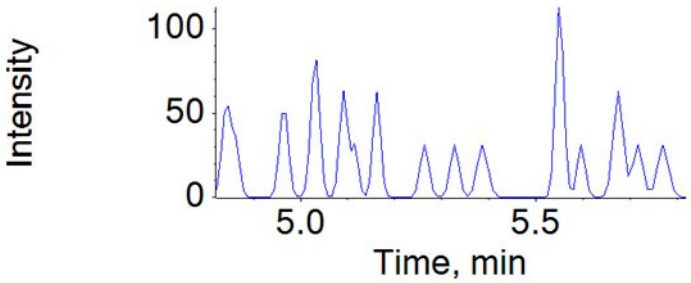
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



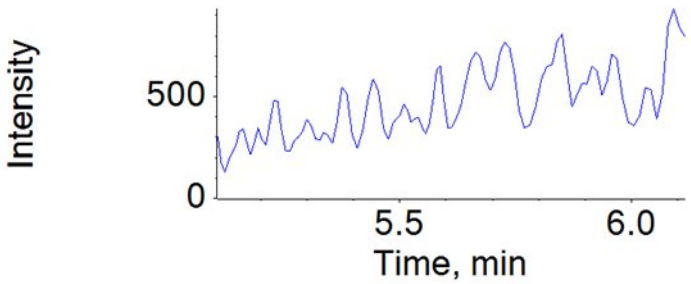
Component: PFNA
Primary Mass: 463.0 / 419.0



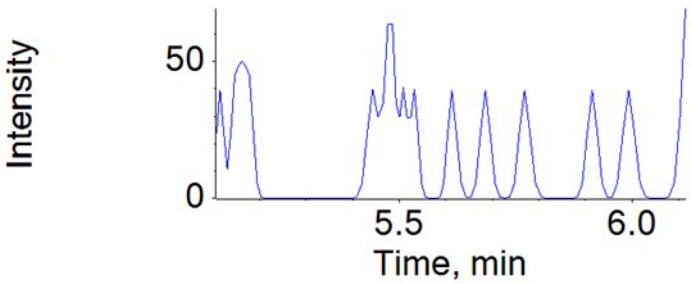
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



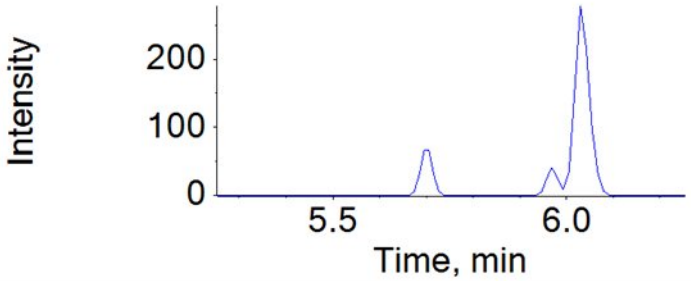
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



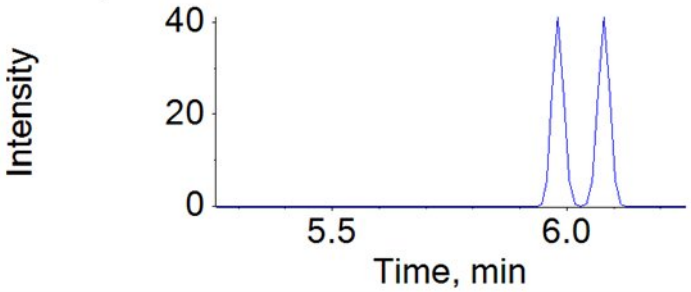
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By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

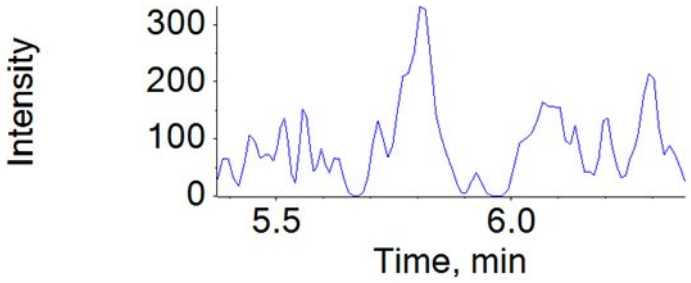
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



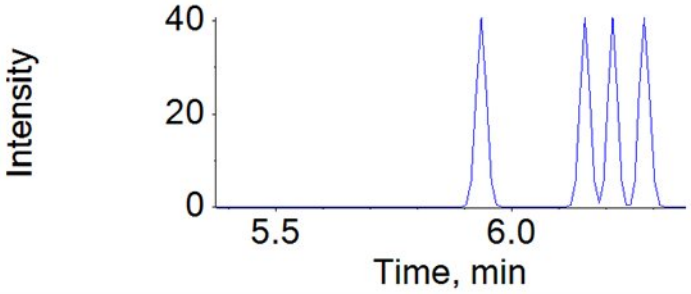
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



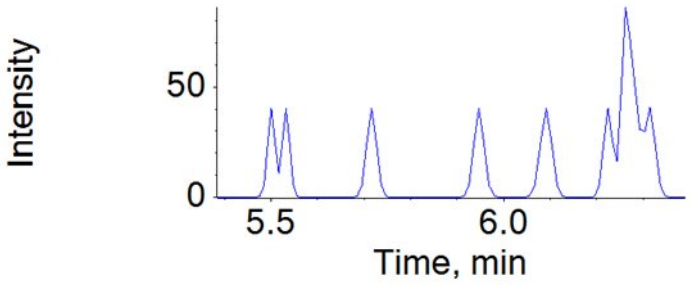
Component: PFUnDA
Primary Mass: 563.0 / 519.0



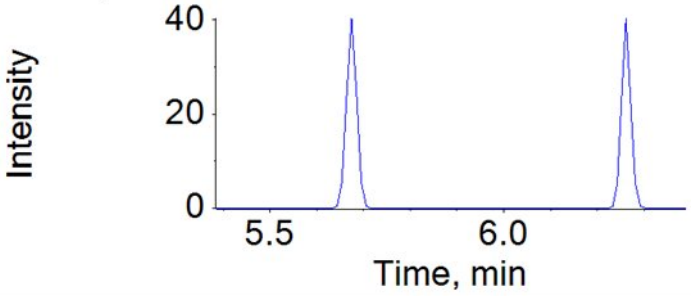
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



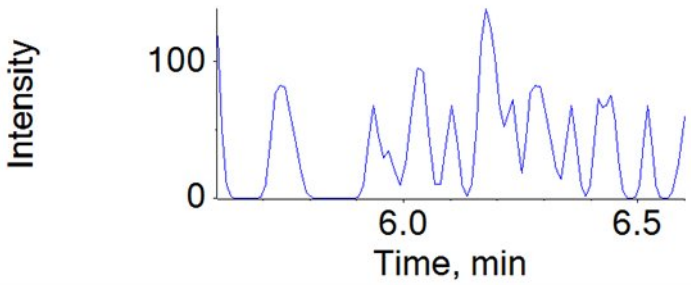
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



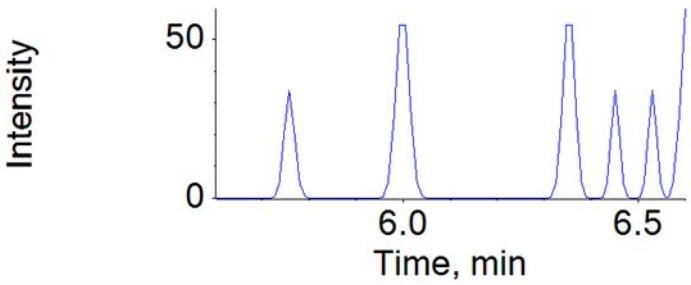
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



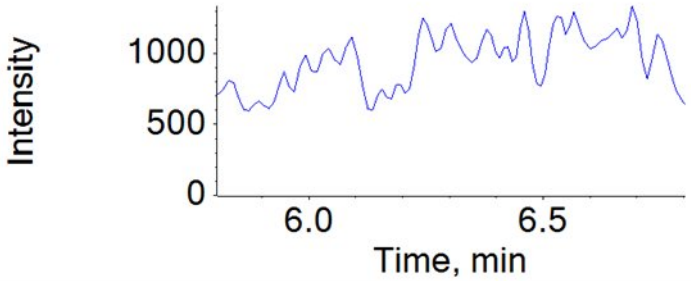
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



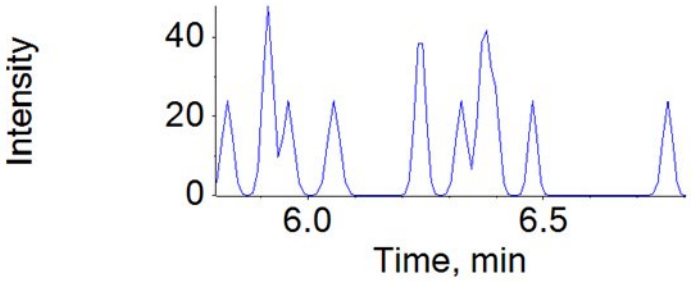
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

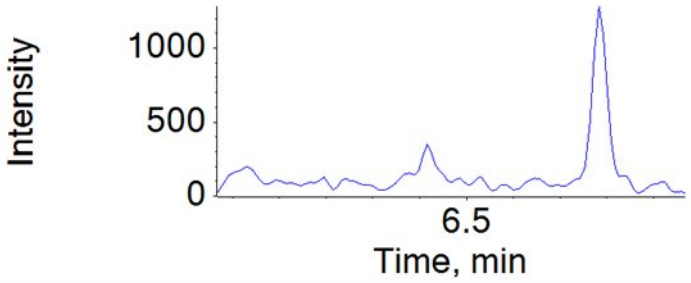
Component: PFTrDA
Primary Mass: 663.0 / 619.0



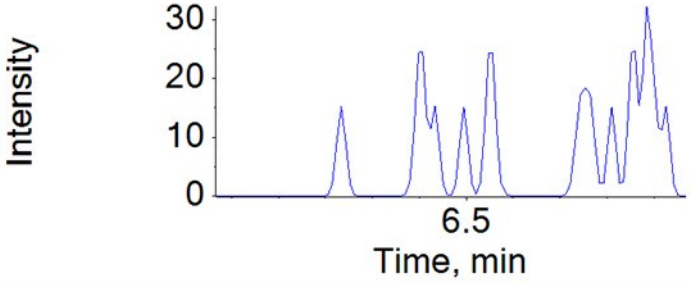
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881871BKG			**Data File:**		18NOV07D-70.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 Grab Soil			**Acquis Date:**		2018-11-07T21:46:15
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	40			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.04000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	793086.0	730410.6	9	50	
13C2-PFOA	5.0	565537.7	524423.6	8	50	
13C4-PFOS	4.8	303260.3	274061.7	11	50	
13C2-PFDA	5.0	355704.4	311442.1	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
E13C3-PFBS	427157.0	13C3-PFBA	793086.0	0.539	8.942	7.602	85	50-150	
E13C5-PFHxA	671750.2	13C2-PFOA	565537.7	1.188	9.615	8.402	87	50-150	
E13C3-PFHxS	324531.6	13C2-PFOA	565537.7	0.574	9.096	7.922	87	50-150	
E13C4-PFHpA	531662.4	13C2-PFOA	565537.7	0.940	9.615	8.224	86	50-150	
E13C8-PFOA	907771.3	13C2-PFOA	565537.7	1.605	9.615	8.608	90	50-150	
E13C8-PFOS	293016.8	13C4-PFOS	303260.3	0.966	9.192	8.216	89	50-150	
E13C9-PFNA	493166.5	13C4-PFOS	303260.3	1.626	9.615	8.542	89	50-150	
E13C6-PFDA	635764.7	13C2-PFDA	355704.4	1.787	9.615	8.644	90	50-150	
Ed3-NMeFOSAA	83561.3	13C2-PFDA	355704.4	0.235	9.615	8.401	87	50-150	
E13C7-PFUnDA	264266.1	13C2-PFDA	355704.4	0.743	9.615	8.242	86	50-150	
Ed5-NEtFOSAA	66660.7	13C2-PFDA	355704.4	0.187	9.615	8.340	87	50-150	
E13C2-PFDoDA	567681.6	13C2-PFDA	355704.4	1.596	9.615	8.274	86	50-150	
E13C2-PFTeDA	423023.1	13C2-PFDA	355704.4	1.189	9.615	8.233	86	50-150	

APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

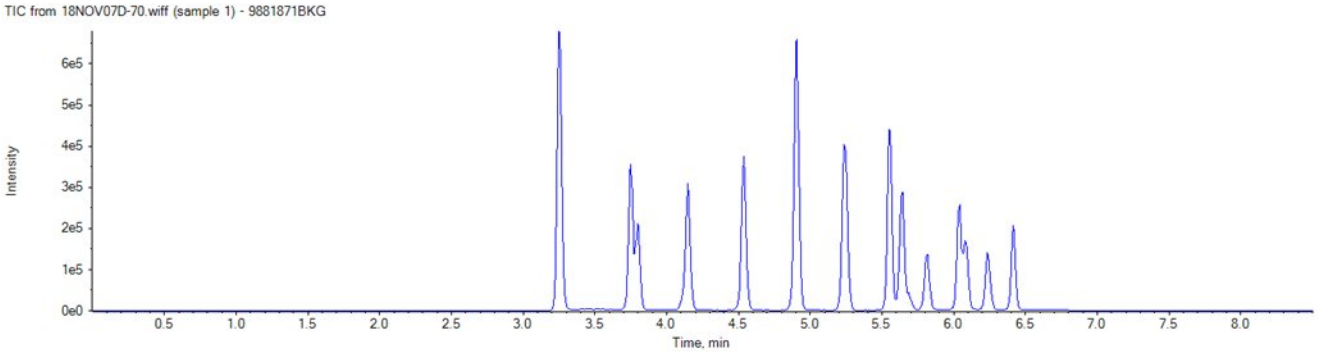
Analyte Quantitation Peak Table

Sample Name: 9881871BKG **Instrument Name:** LM27631 **File Name:** 18NOV07D-70.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.04000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	427157.0	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	671750.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	324531.6	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	531662.4	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	907771.3	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	293016.8	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	493166.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	635764.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	83561.3	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	264266.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	66660.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	567681.6	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	567681.6	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	423023.1	N/A	

Total Ion Chromatogram

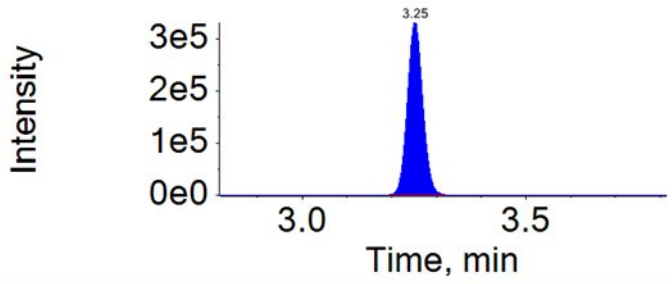


APPROVED
By MCD at 5:14 pm, 11/8/18

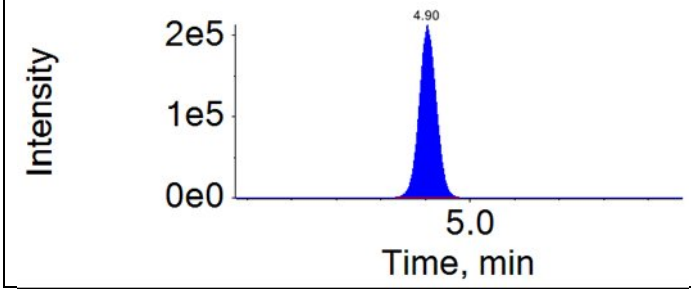
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ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

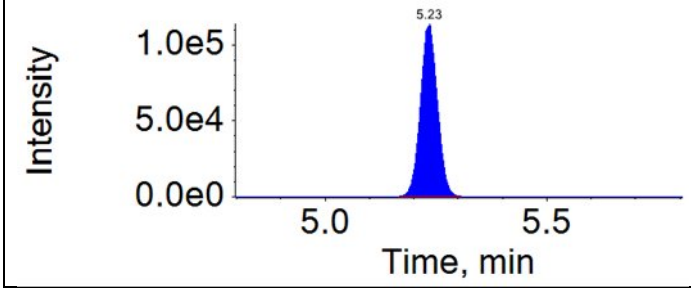
Injection Standard: 13C3-PFBA
216.0 / 172.0



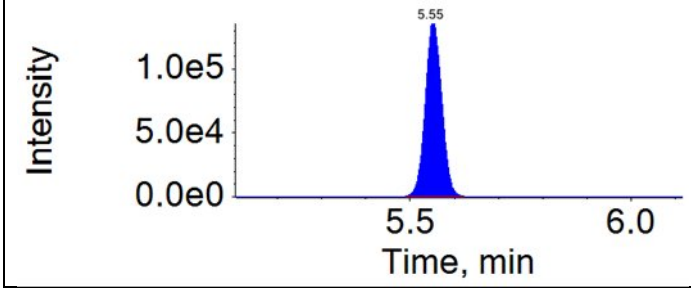
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

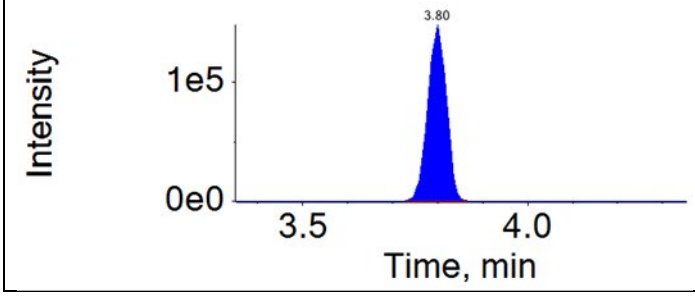


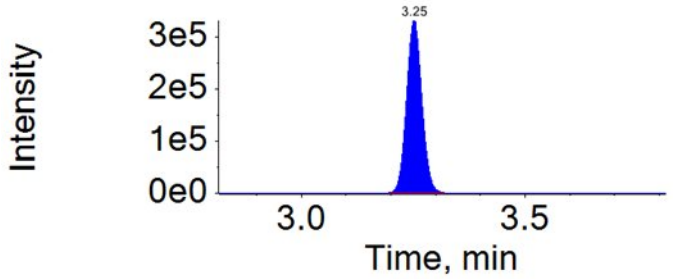
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

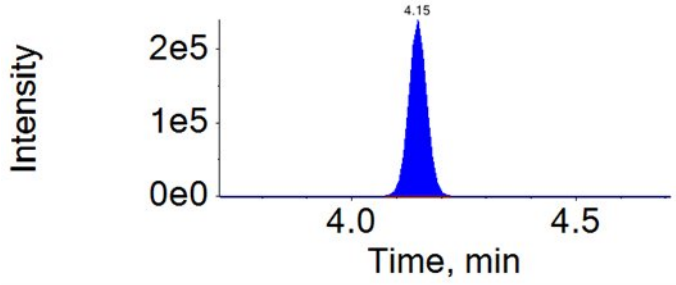
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

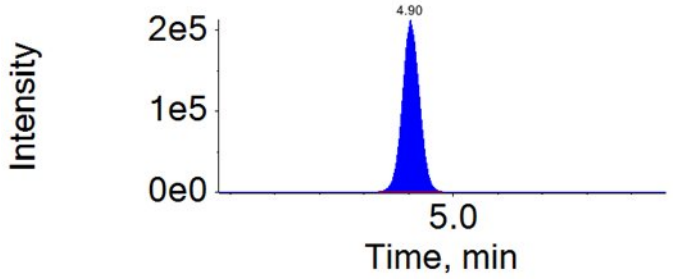
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



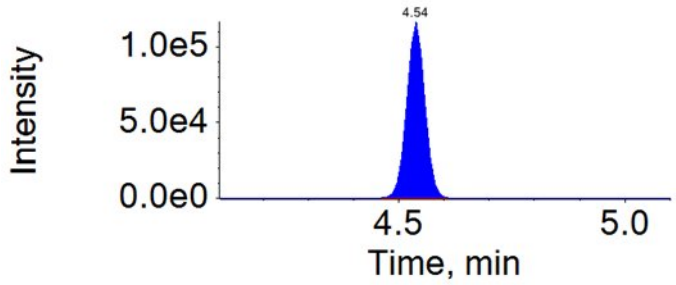


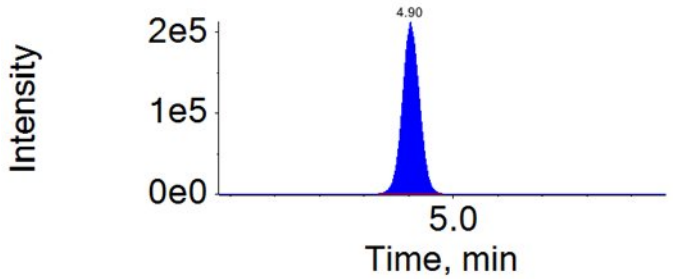
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



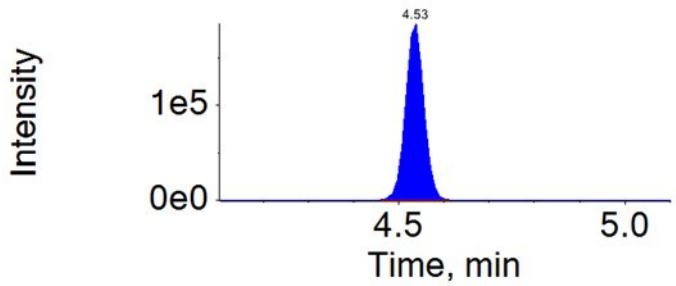


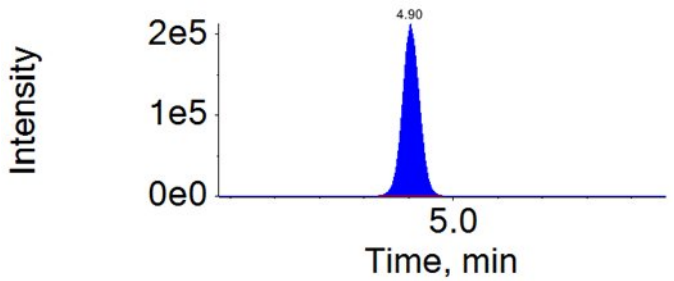
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





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

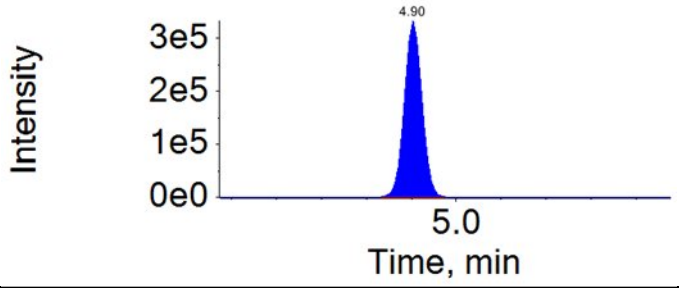
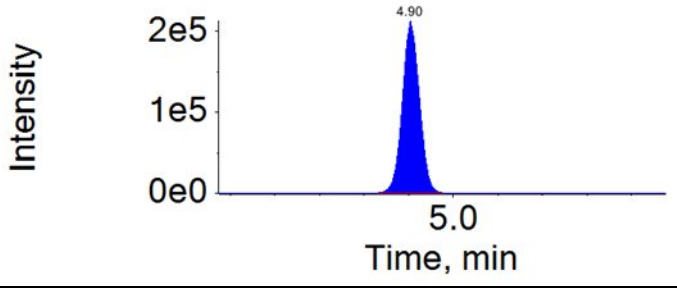


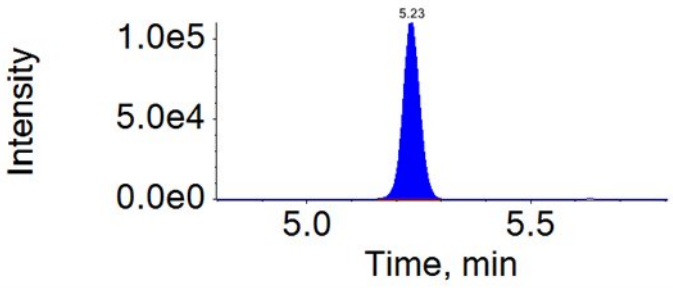
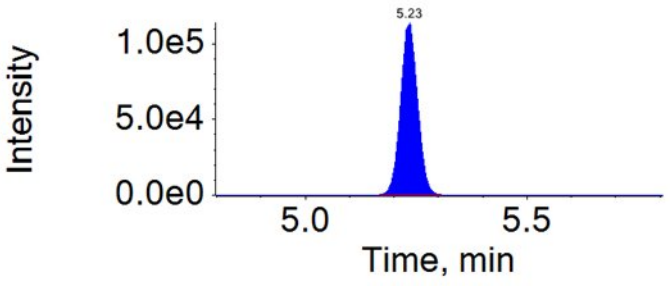


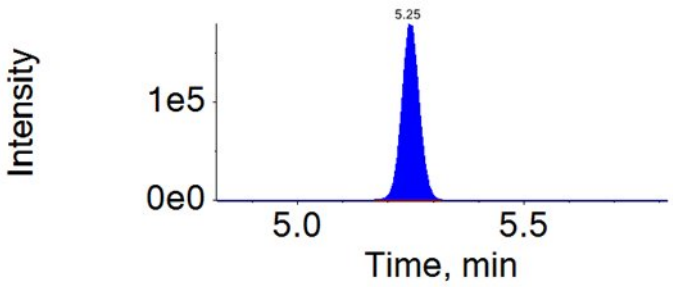
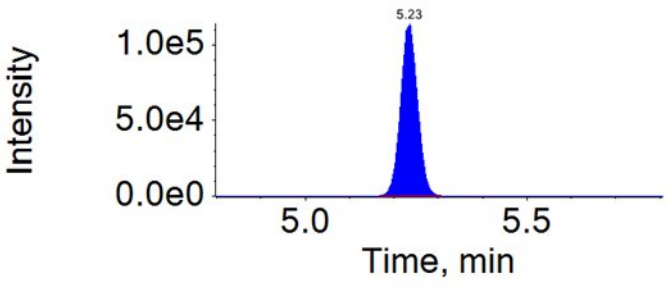
APPROVED
By MCD at 5:14 pm, 11/8/18

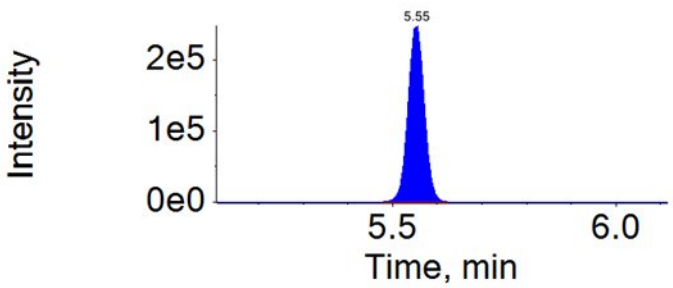
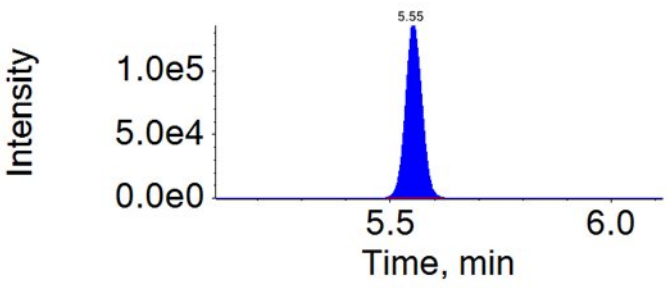
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

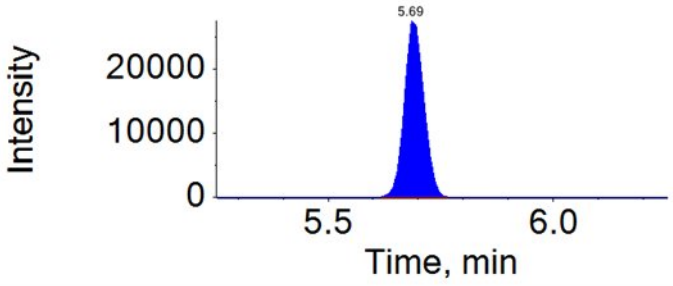
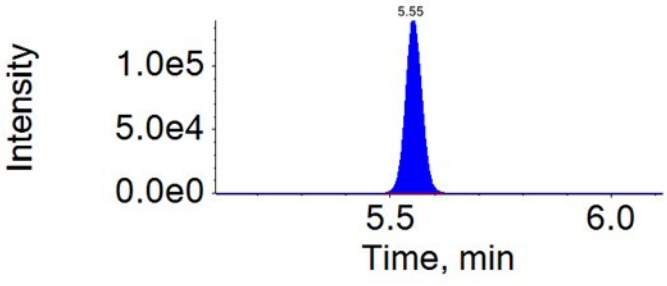
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

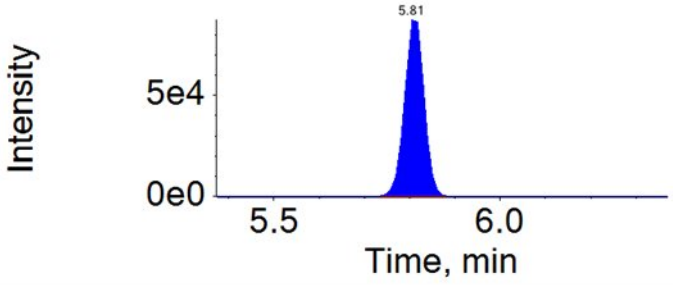
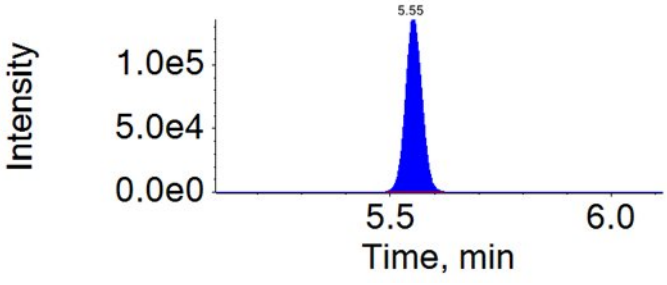
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

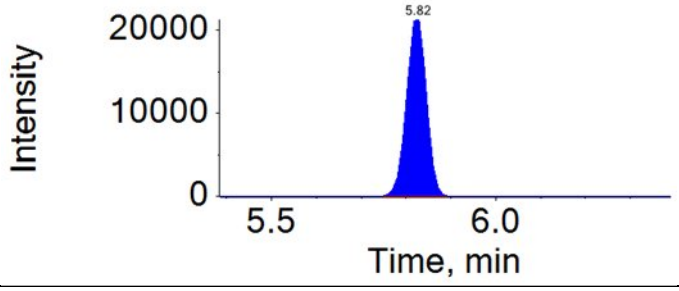
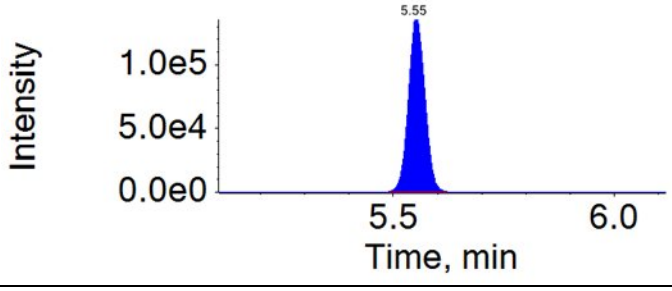
APPROVED
By MCD at 5:14 pm, 11/8/18

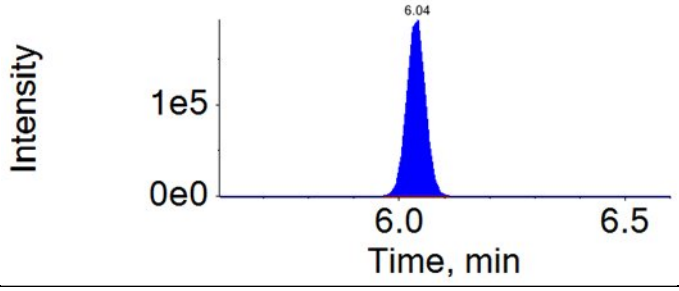
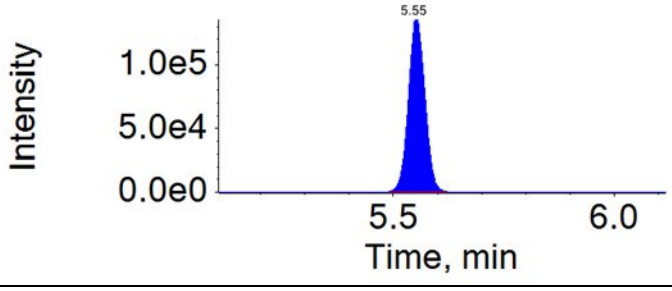
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

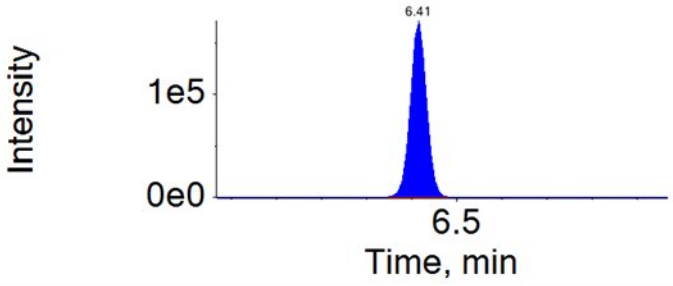
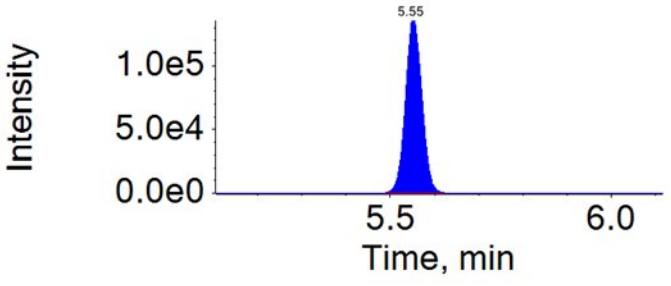
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

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

APPROVED
By MCD at 5:14 pm, 11/8/18

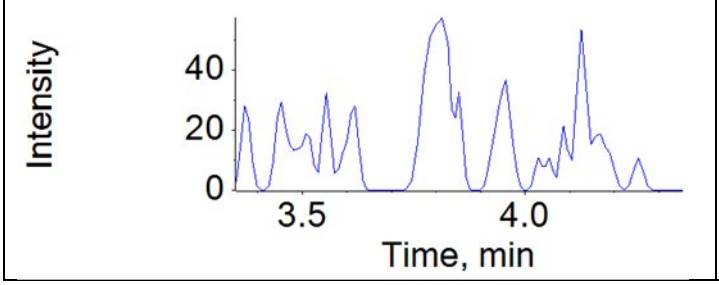
REVIEWED
By umar at 11:35 am, 11/12/18

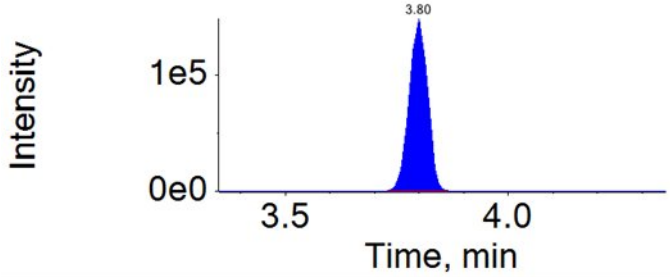
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

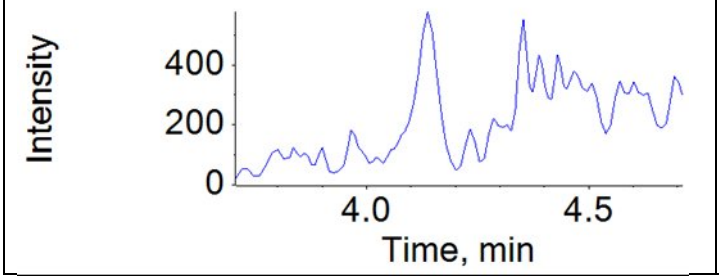
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

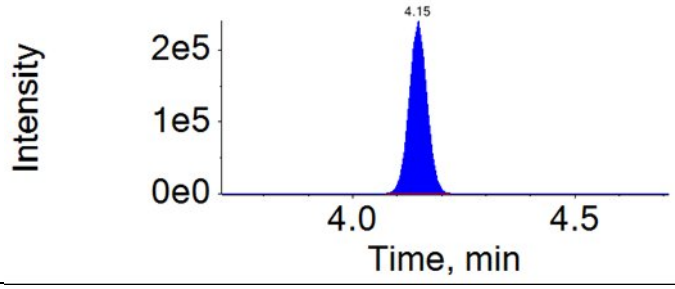
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



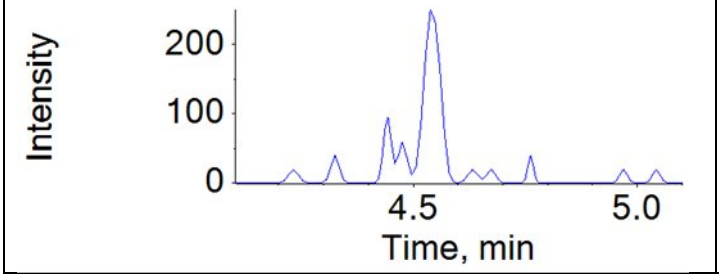


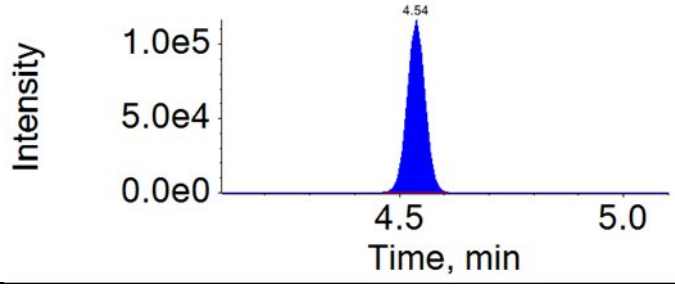
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



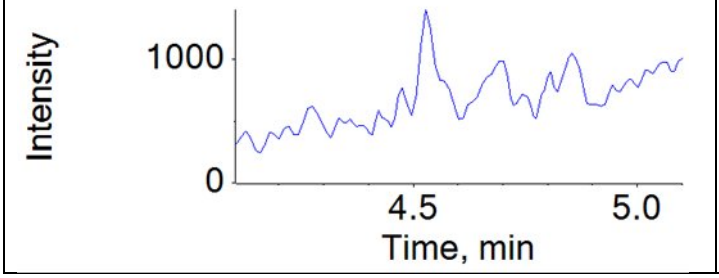


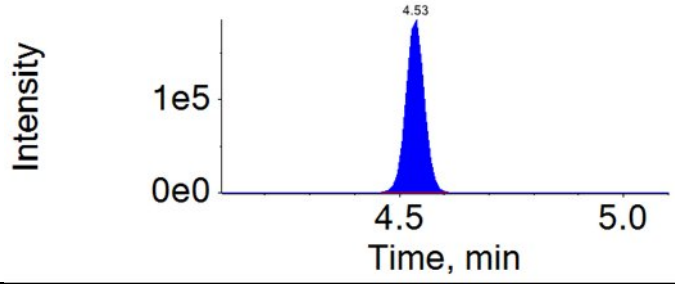
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



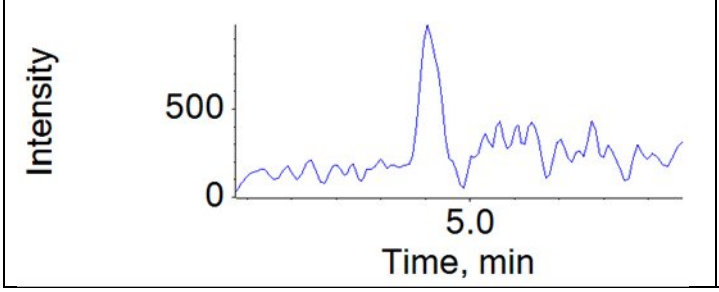


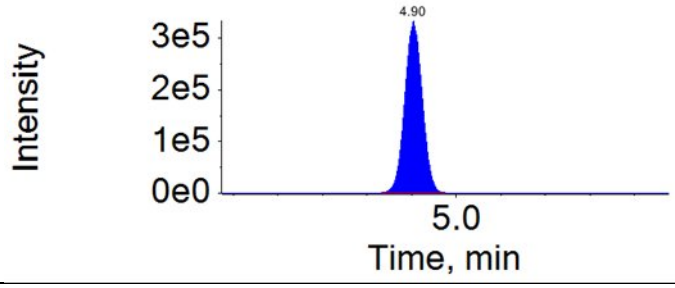
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

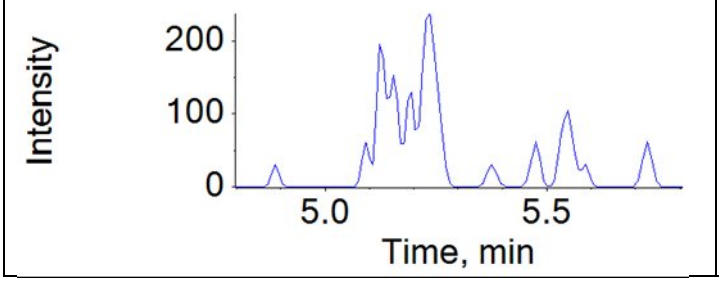
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

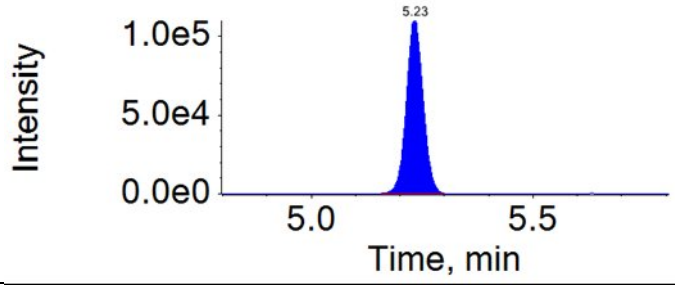
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



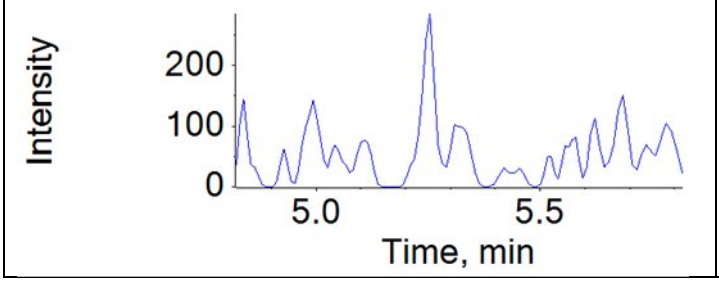


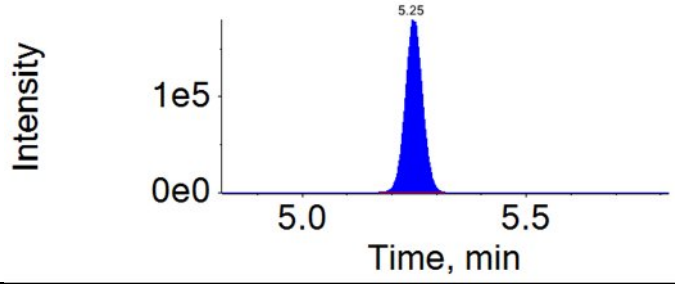
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



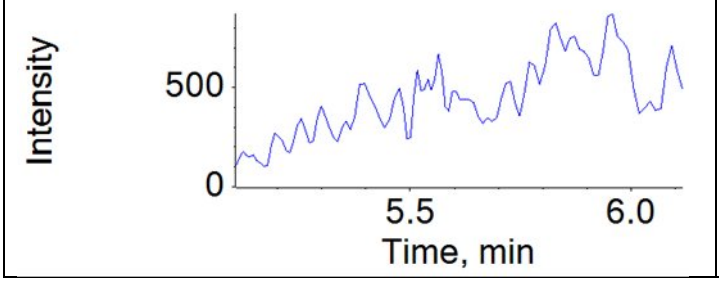


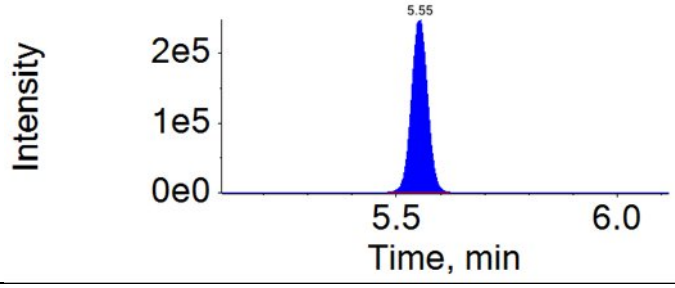
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





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



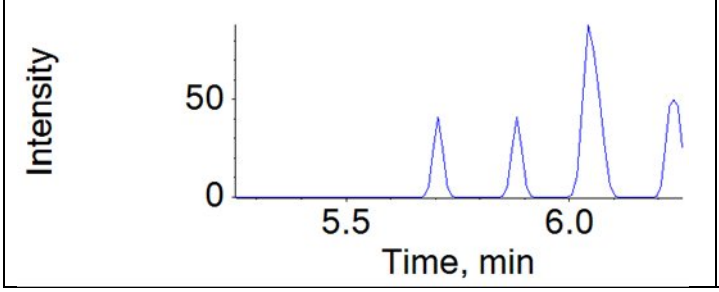


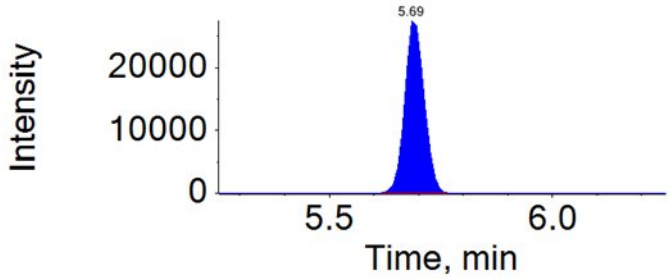
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

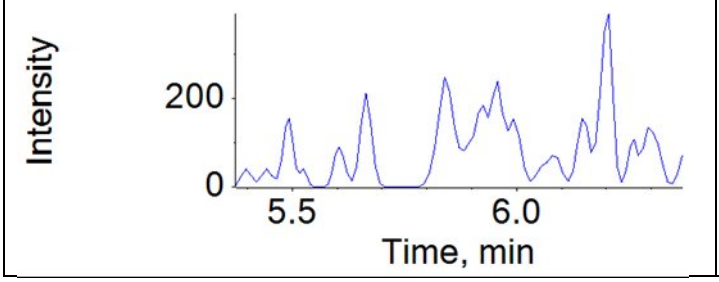
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

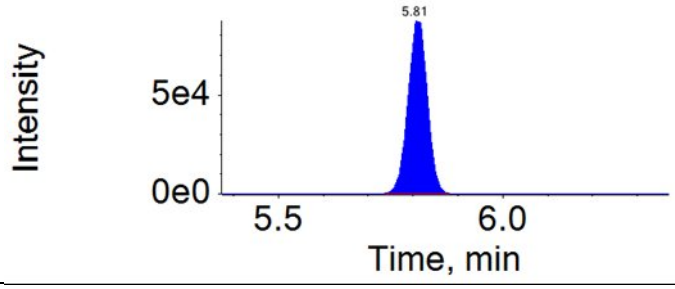
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



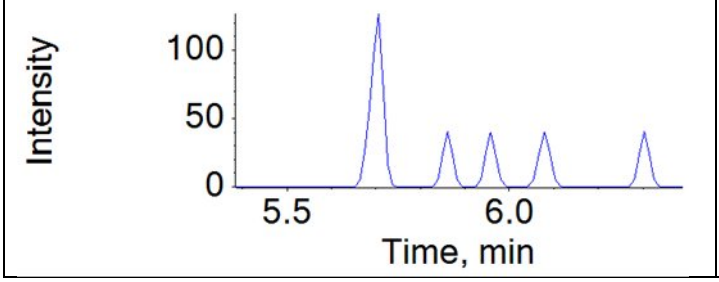


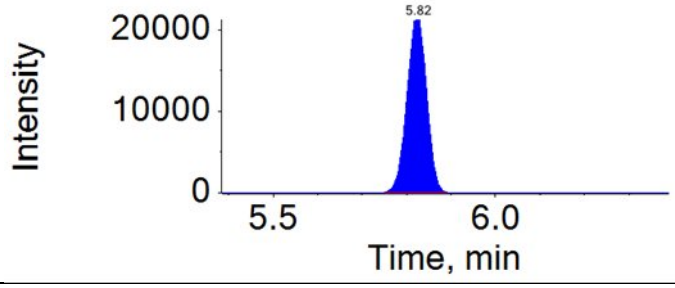
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



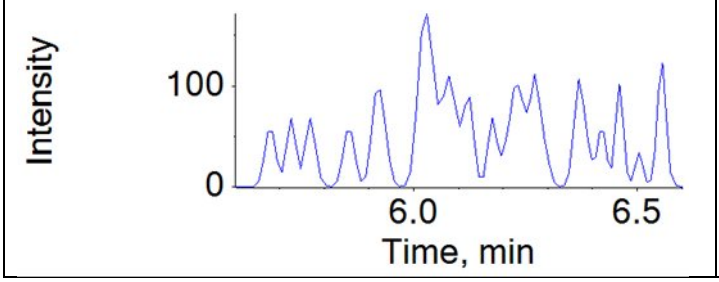


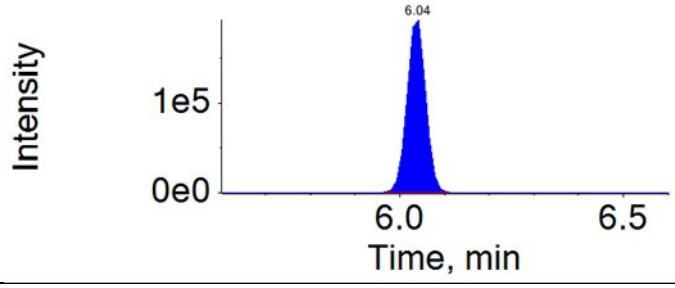
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





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



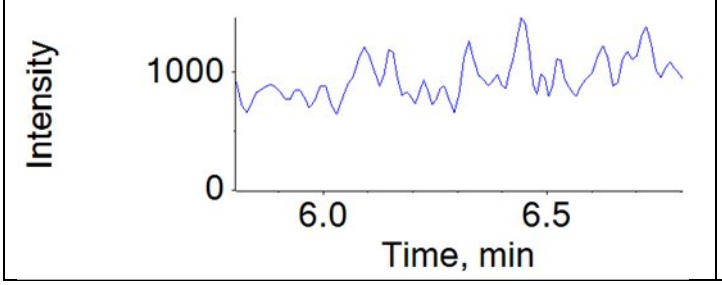


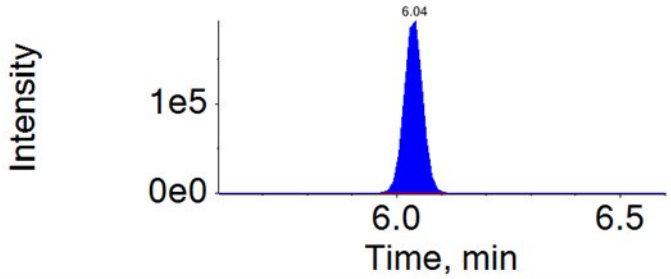
APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

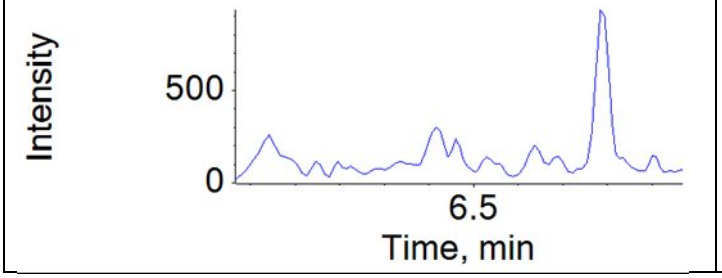
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

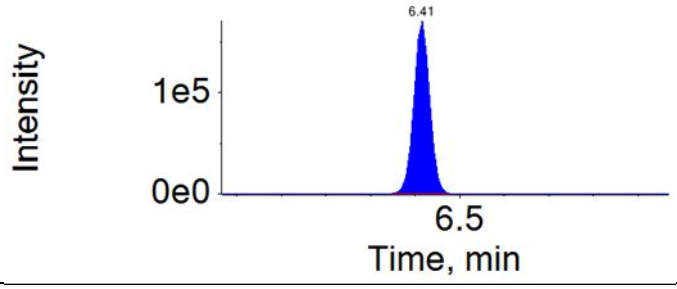
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





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





APPROVED
By MCD at 5:14 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Ion Ratio Report

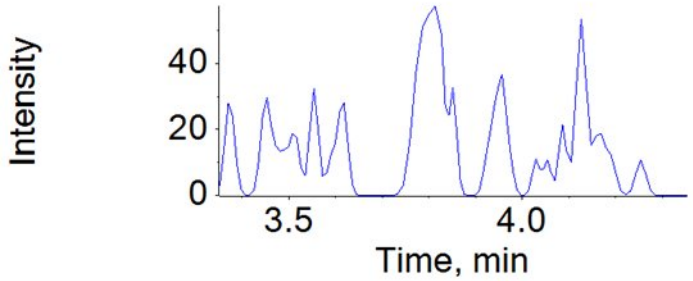
Sample Name: 9881871BKG **Instrument Name:** LM27631 **File Name:** 18NOV07D-70.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	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	
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	
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	
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	

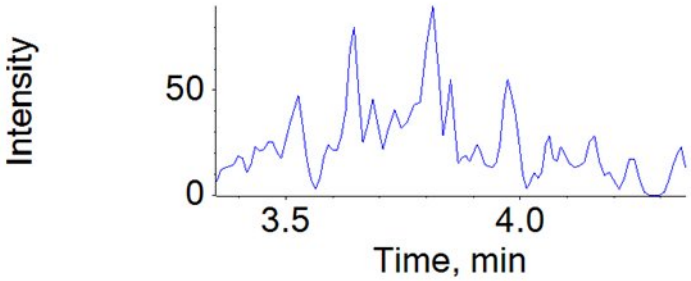
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

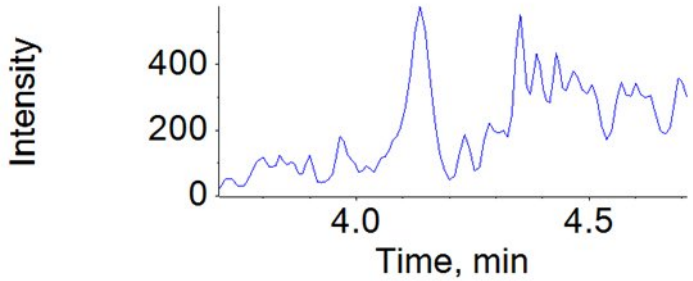
Component: PFBS
Primary Mass: 299.0 / 80.0



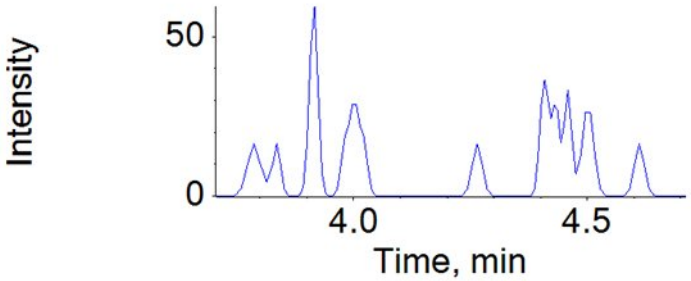
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



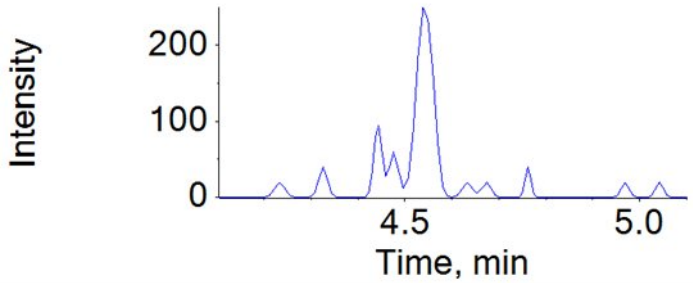
Component: PFHxA
Primary Mass: 313.0 / 269.0



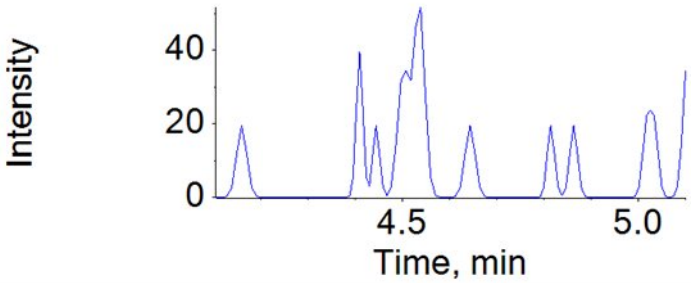
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



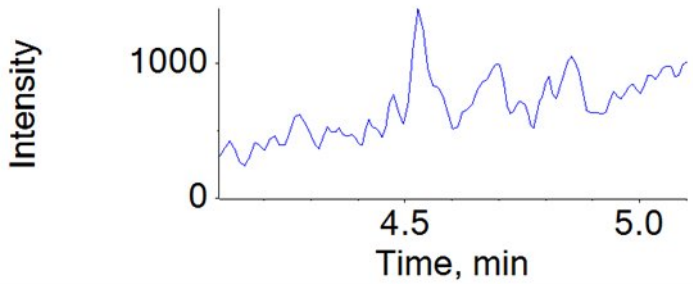
Component: PFHxS
Primary Mass: 399.0 / 80.0



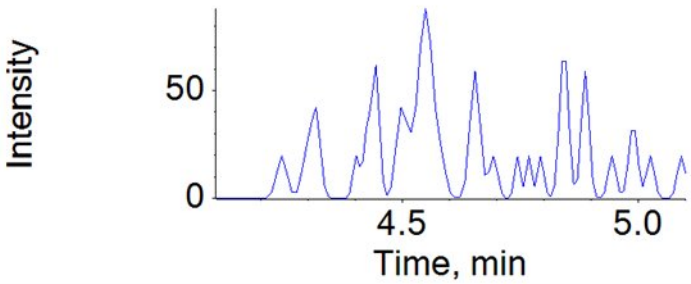
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



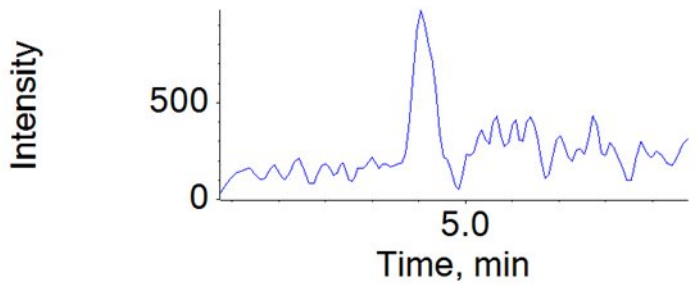
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



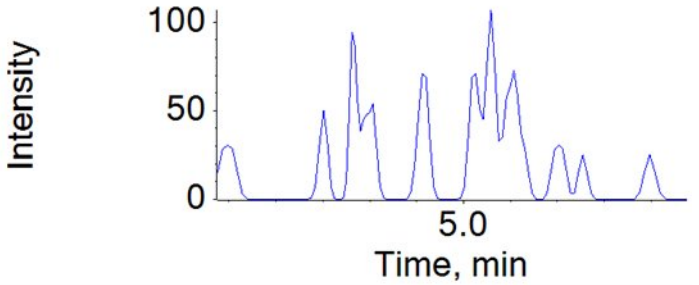
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

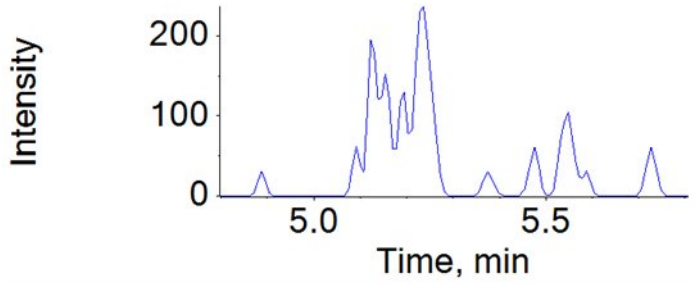
Component: PFOA
Primary Mass: 413.0 / 369.0



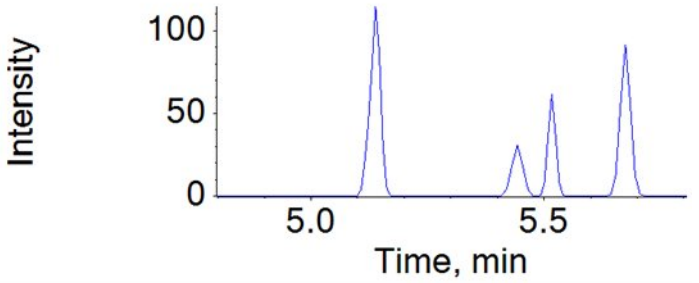
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



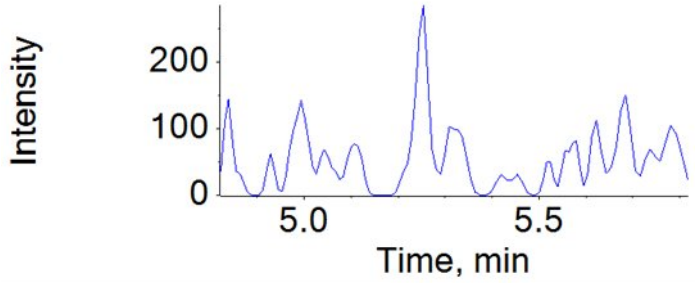
Component: PFOS
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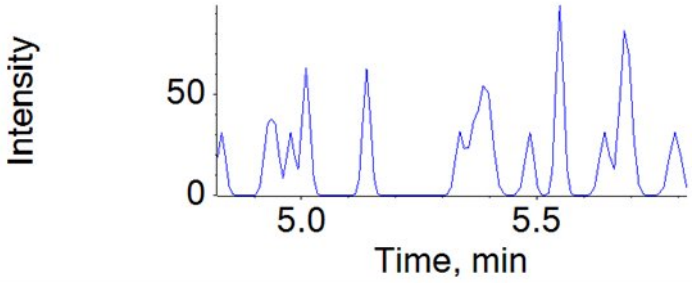
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



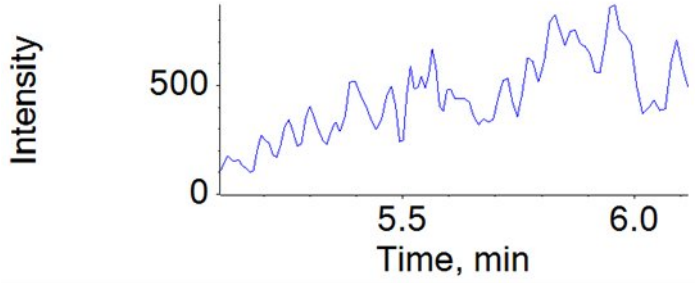
Component: PFNA
Primary Mass: 463.0 / 419.0



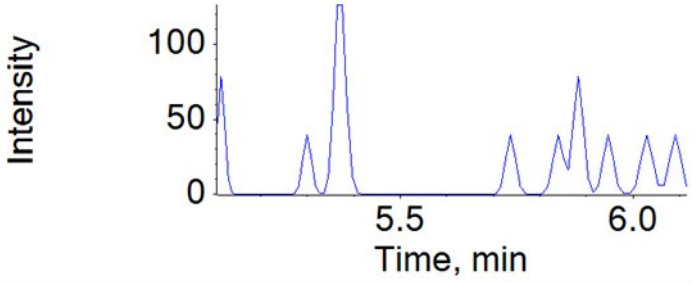
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



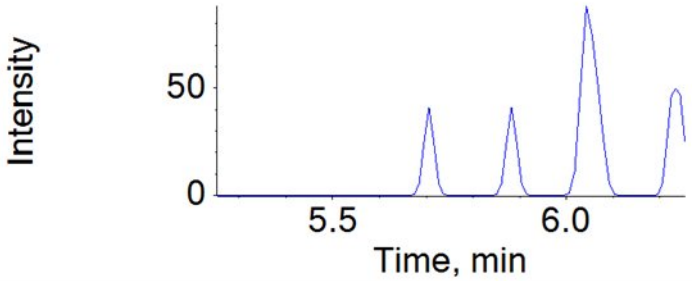
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



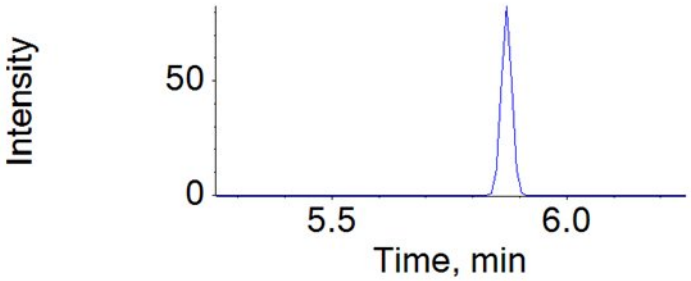
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

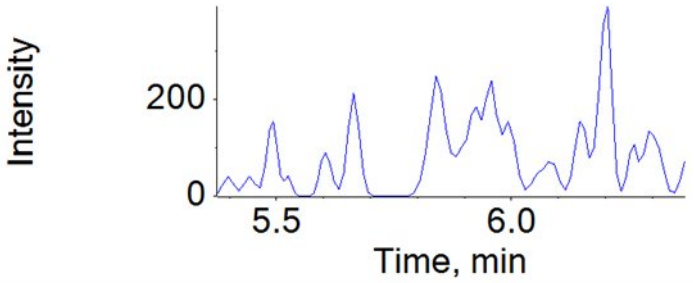
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



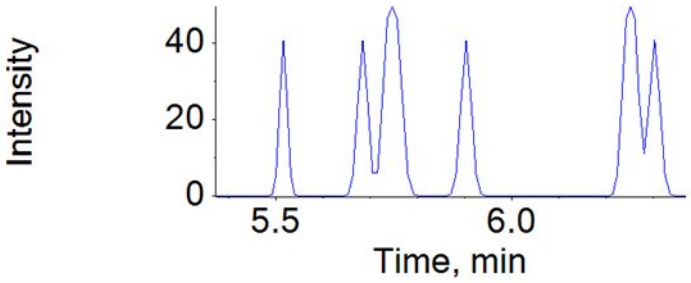
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



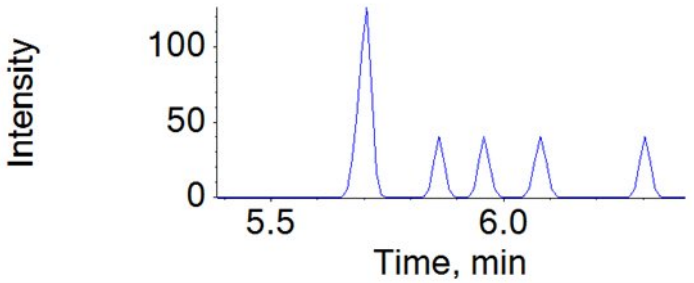
Component: PFUnDA
Primary Mass: 563.0 / 519.0



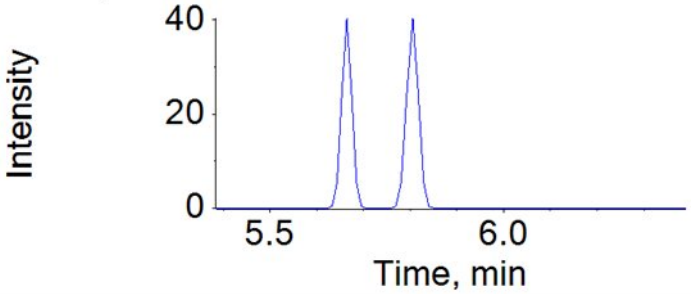
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



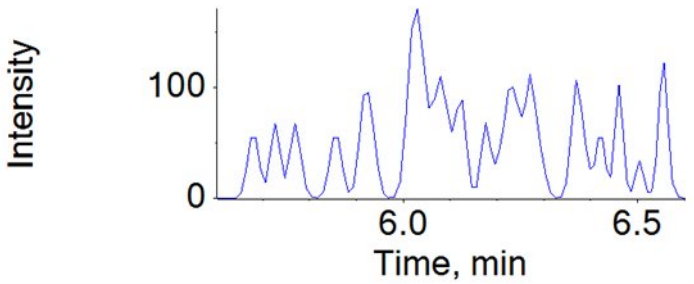
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



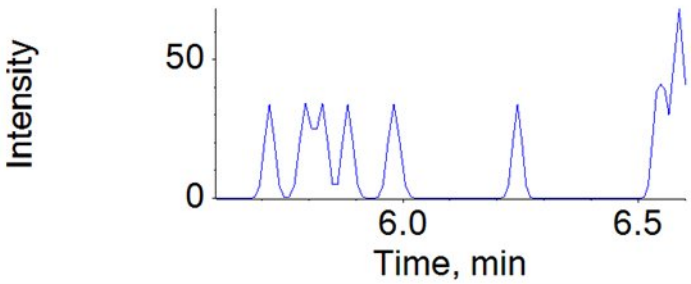
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



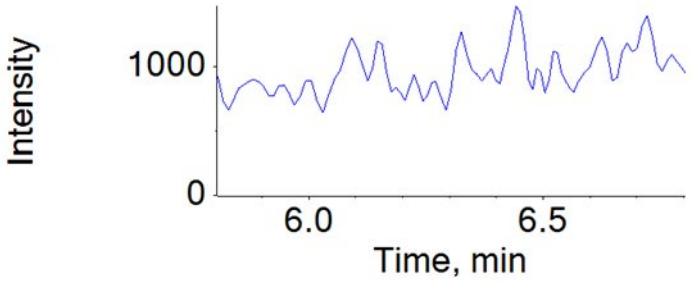
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



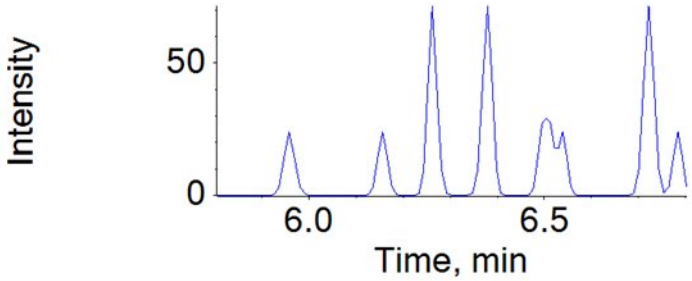
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

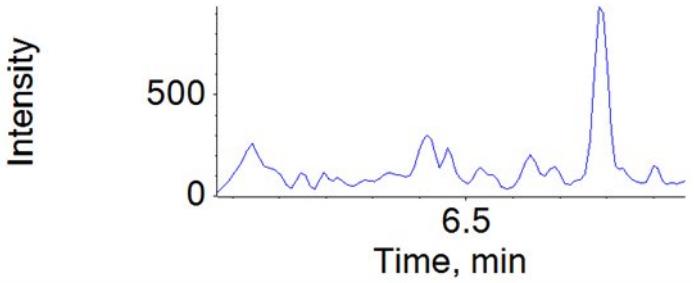
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Primary Mass: 663.0 / 619.0



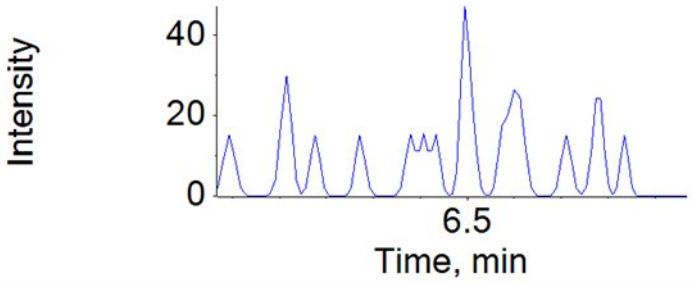
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881874			**Data File:**		18NOV07D-73.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-08 Grab Soil			**Acquis Date:**		2018-11-07T22:13:15
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	43			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.02000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	779021.1	730410.6	7	50	
13C2-PFOA	5.0	577630.0	524423.6	10	50	
13C4-PFOS	4.8	293990.7	274061.7	7	50	
13C2-PFDA	5.0	347203.0	311442.1	11	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	373935.1	13C3-PFBA	779021.1	0.480	9.118	6.907	76	50-150	
E13C5-PFHxA	621586.8	13C2-PFOA	577630.0	1.076	9.804	7.762	79	50-150	
E13C3-PFHxS	303836.6	13C2-PFOA	577630.0	0.526	9.275	7.404	80	50-150	
E13C4-PFHpA	483481.5	13C2-PFOA	577630.0	0.837	9.804	7.466	76	50-150	
E13C8-PFOA	841976.2	13C2-PFOA	577630.0	1.458	9.804	7.970	81	50-150	
E13C8-PFOS	256035.9	13C4-PFOS	293990.7	0.871	9.373	7.551	81	50-150	
E13C9-PFNA	447678.8	13C4-PFOS	293990.7	1.523	9.804	8.156	83	50-150	
E13C6-PFDA	582445.6	13C2-PFDA	347203.0	1.678	9.804	8.272	84	50-150	
Ed3-NMeFOSAA	75844.2	13C2-PFDA	347203.0	0.218	9.804	7.965	81	50-150	
E13C7-PFUnDA	250758.7	13C2-PFDA	347203.0	0.722	9.804	8.169	83	50-150	
Ed5-NEtFOSAA	59791.5	13C2-PFDA	347203.0	0.172	9.804	7.814	80	50-150	
E13C2-PFDoDA	516339.0	13C2-PFDA	347203.0	1.487	9.804	7.861	80	50-150	
E13C2-PFTeDA	357980.6	13C2-PFDA	347203.0	1.031	9.804	7.278	74	50-150	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

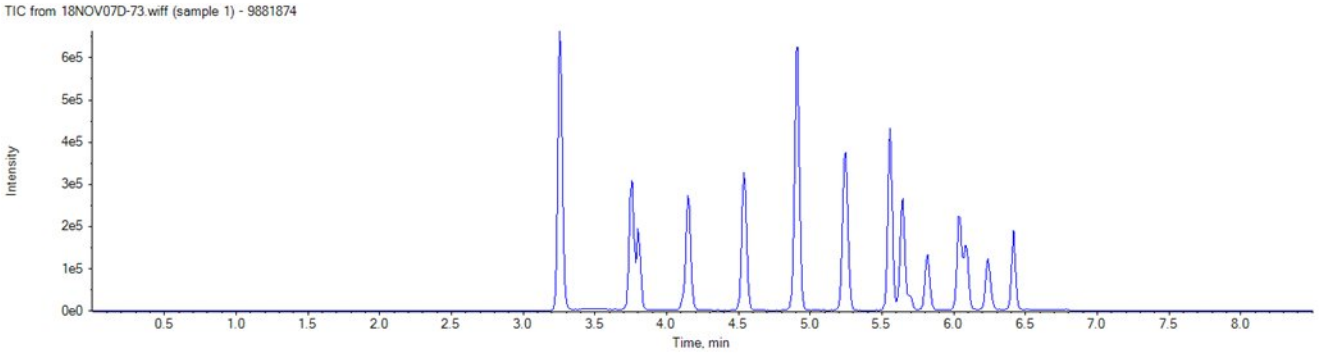
Analyte Quantitation Peak Table

Sample Name: 9881874 **Instrument Name:** LM27631 **File Name:** 18NOV07D-73.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.02000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	373935.1	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	621586.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	303836.6	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	483481.5	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	841976.2	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	256035.9	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	447678.8	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	582445.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	75844.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	250758.7	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	59791.5	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	516339.0	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	516339.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	357980.6	N/A	

Total Ion Chromatogram

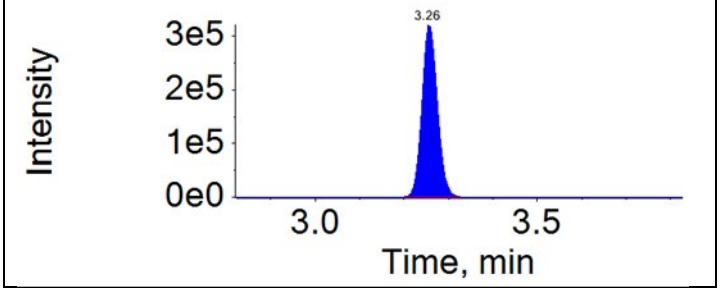


APPROVED
By MCD at 5:15 pm, 11/8/18

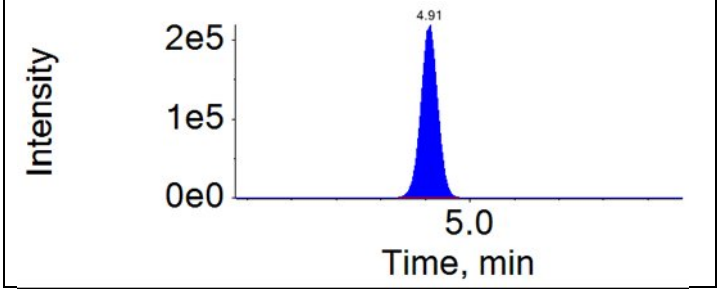
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

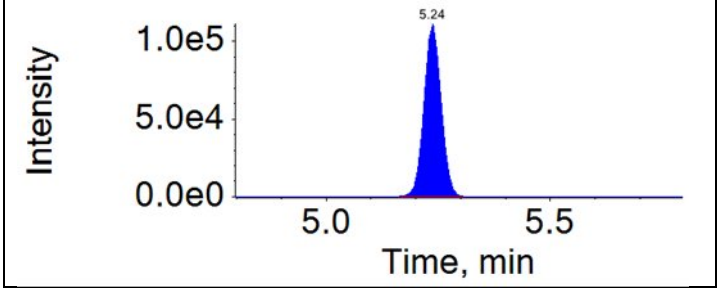
Injection Standard: 13C3-PFBA
216.0 / 172.0



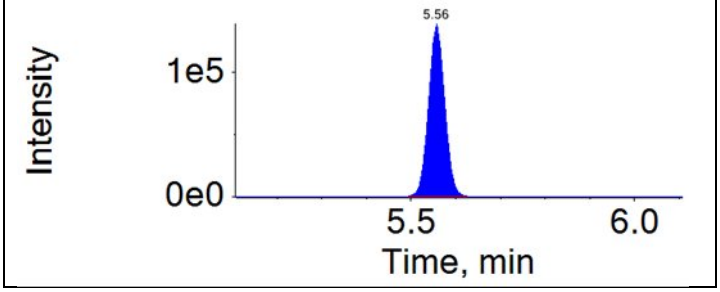
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



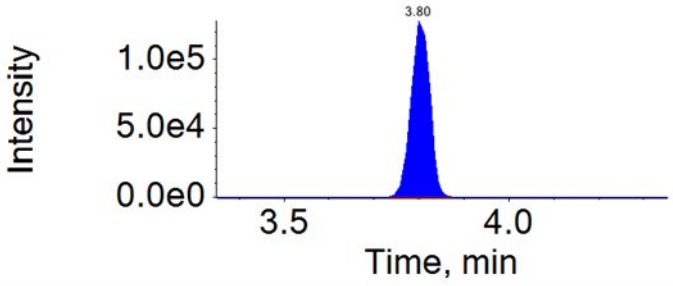
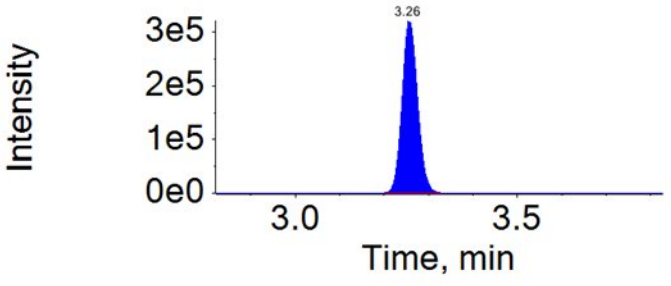
Injection Standard: 13C2-PFDA
515.0 / 470.0

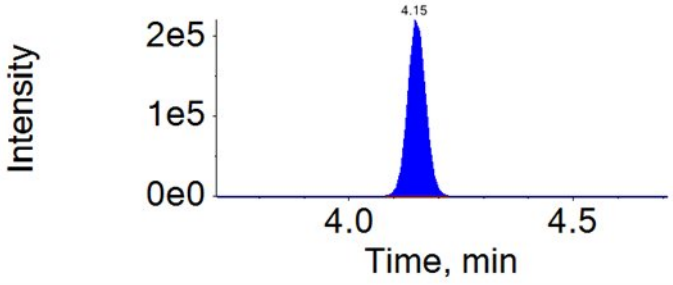
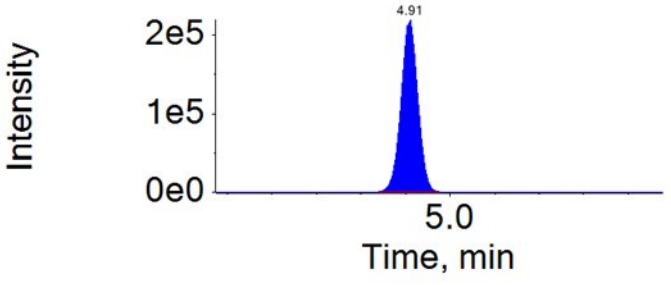


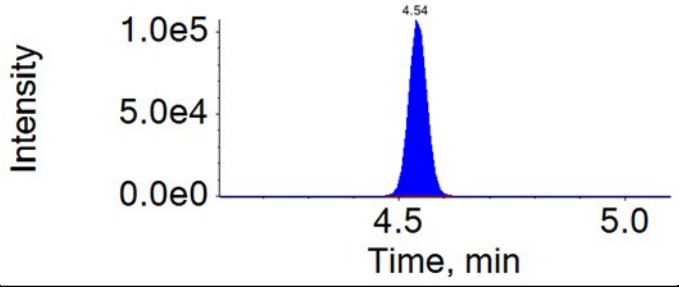
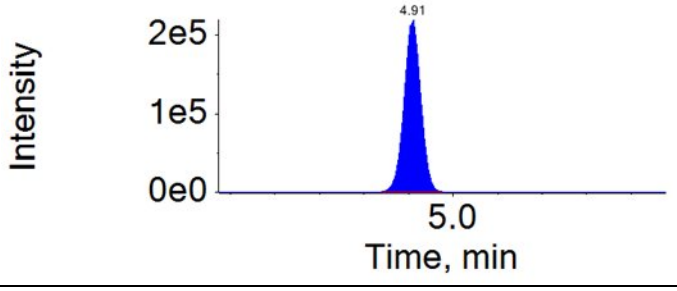
APPROVED
By MCD at 5:15 pm, 11/8/18

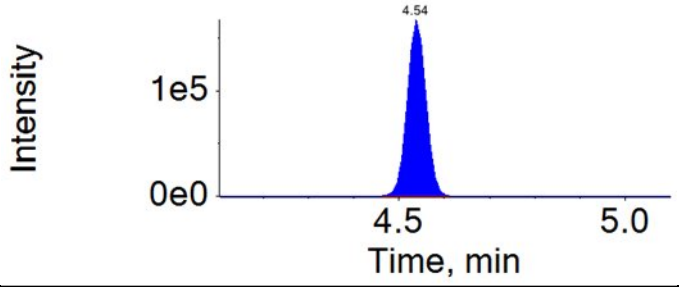
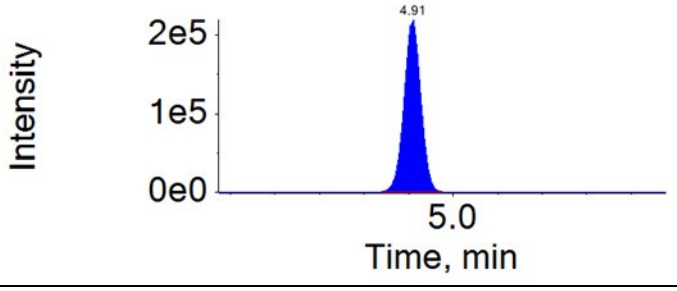
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

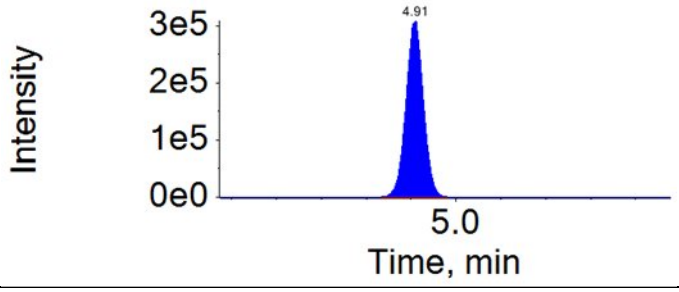
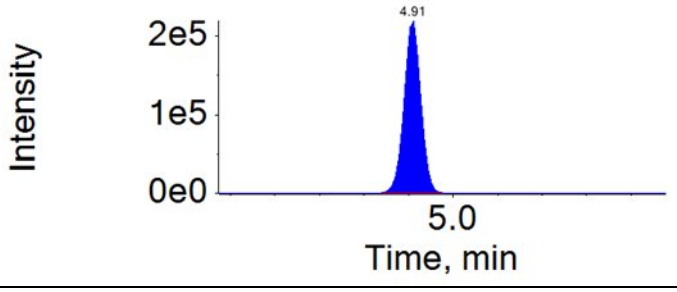
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0
	

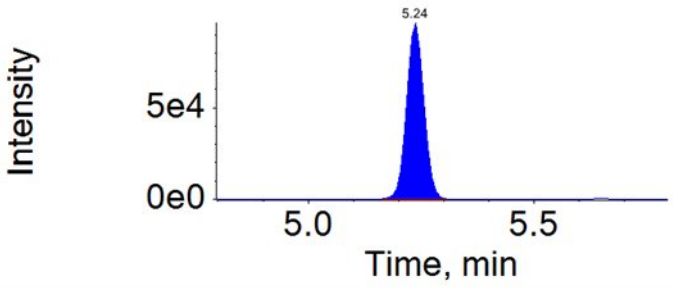
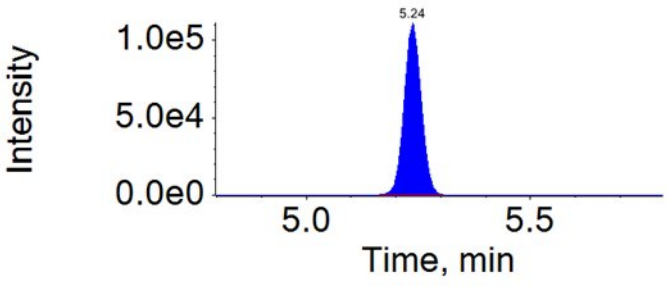
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

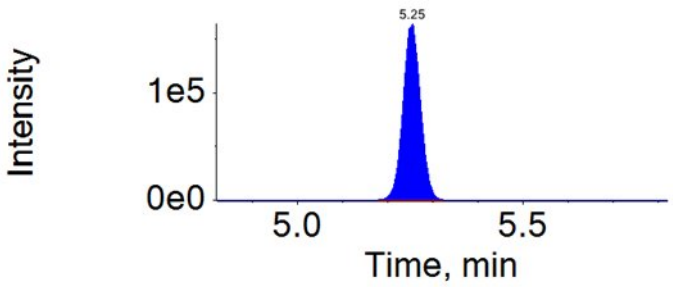
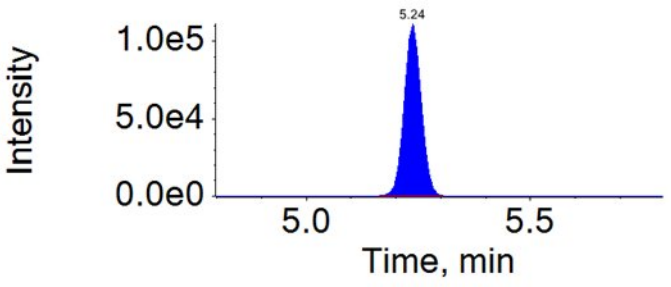
APPROVED
By MCD at 5:15 pm, 11/8/18

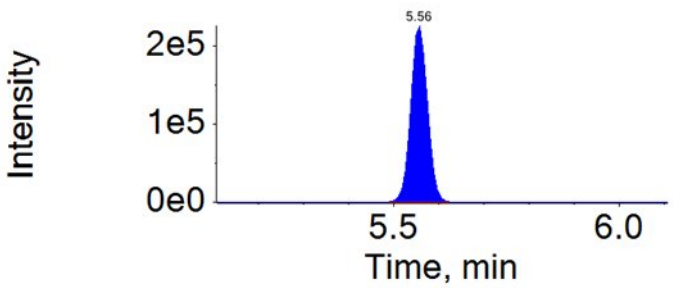
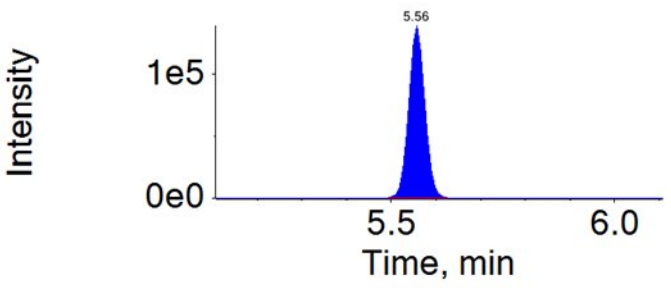
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

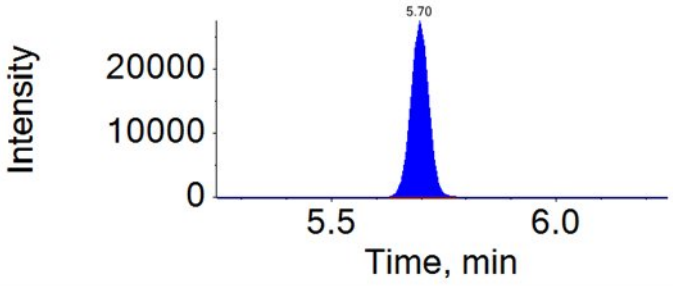
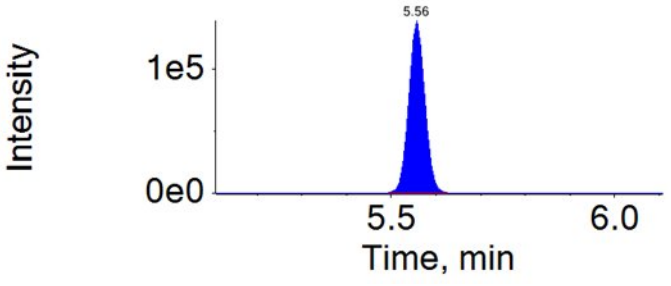
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

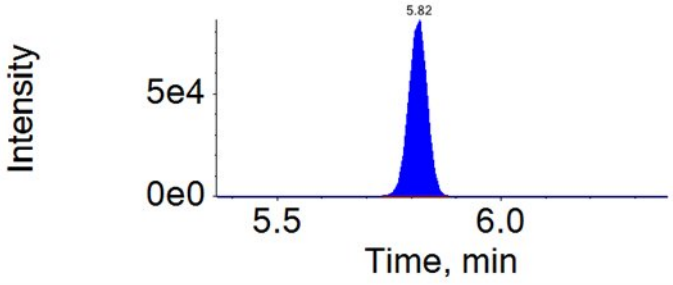
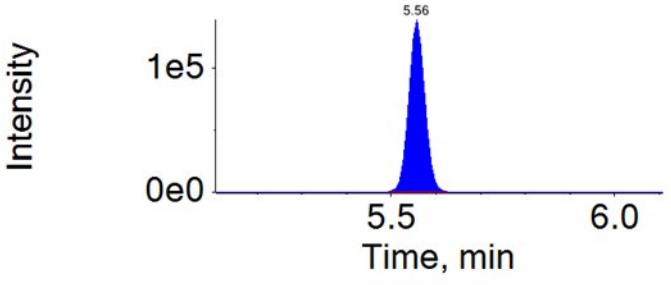
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

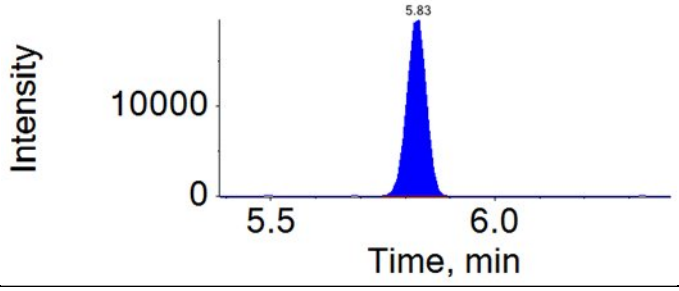
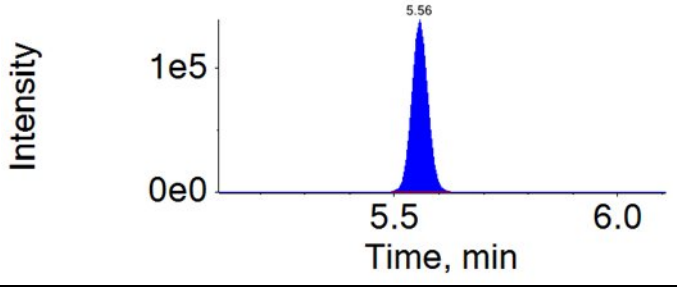
APPROVED
By MCD at 5:15 pm, 11/8/18

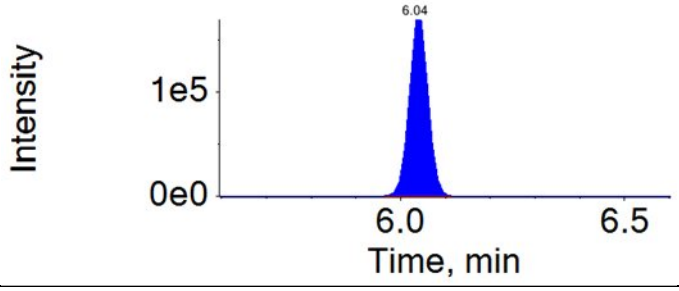
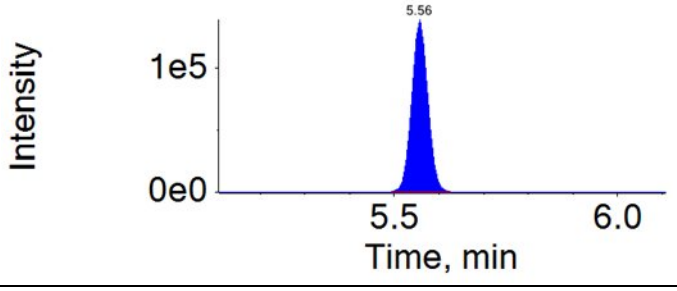
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

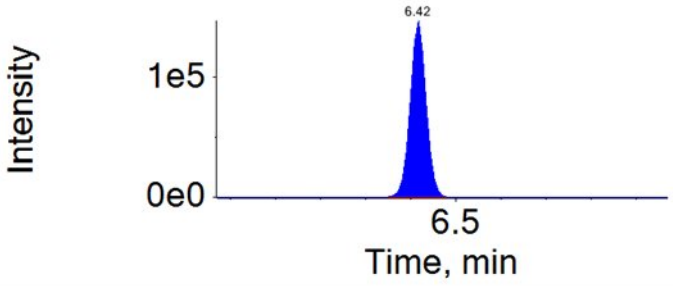
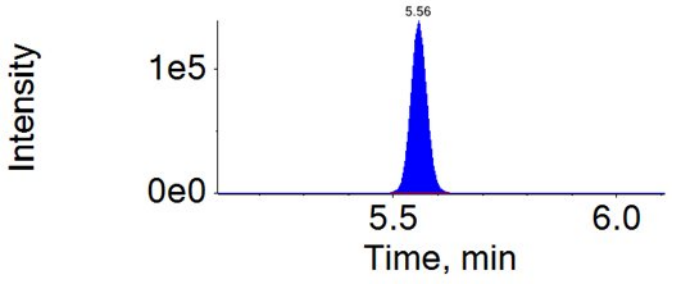
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

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: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

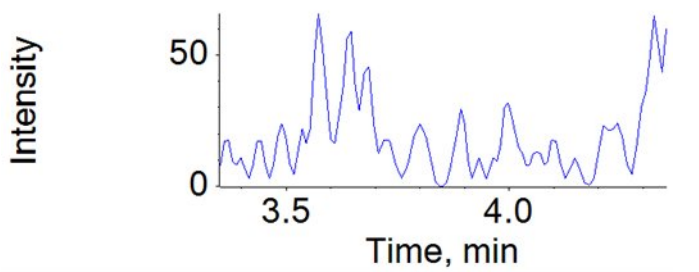
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

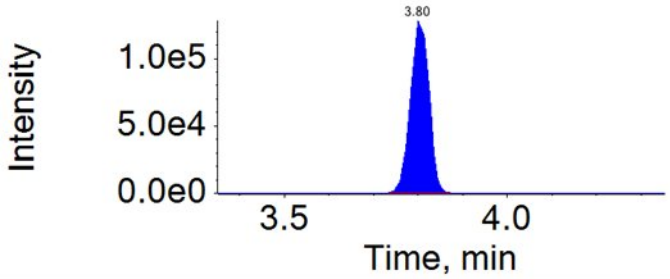
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

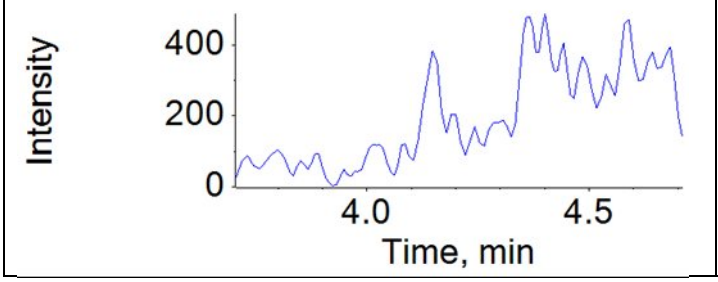
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

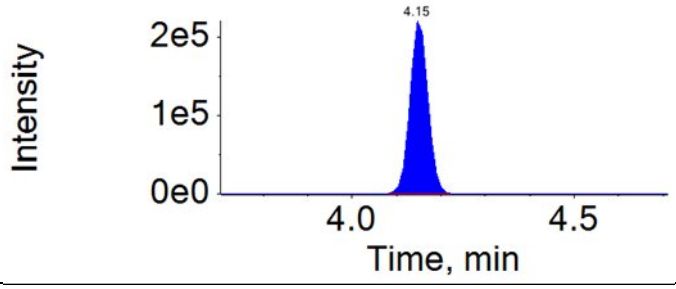
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



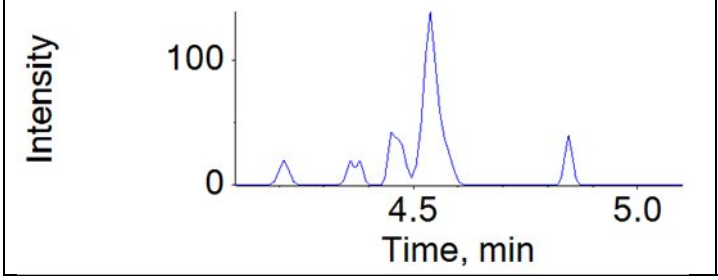


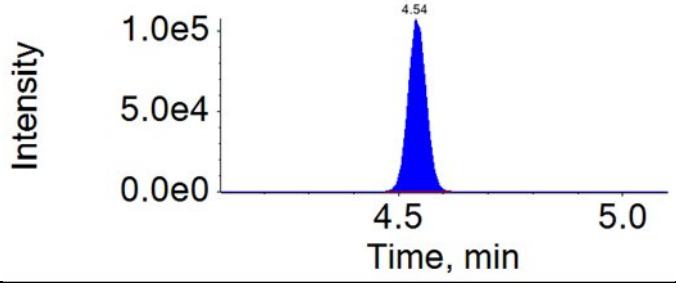
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



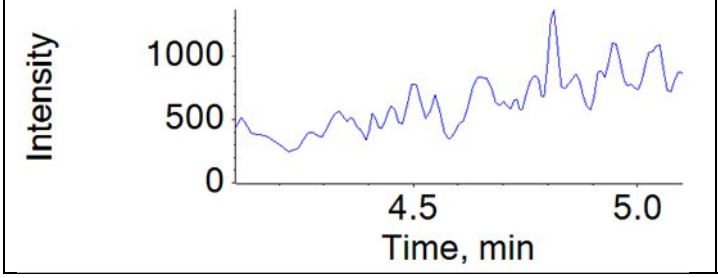


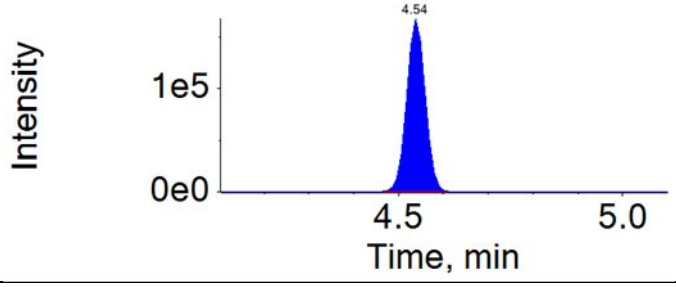
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



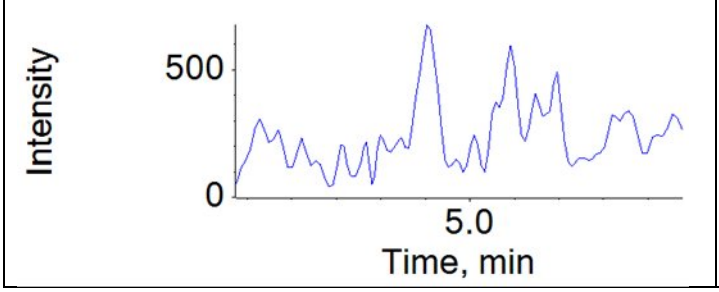


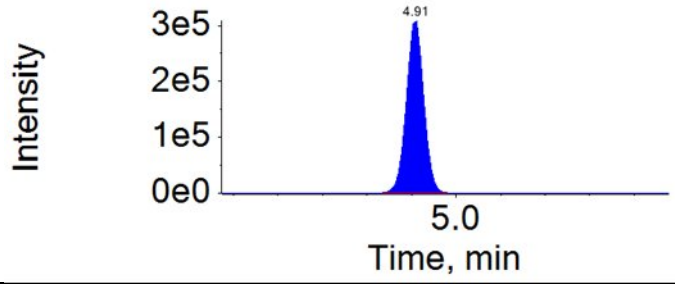
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

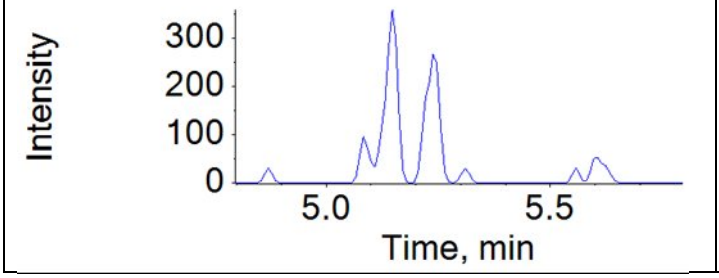
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

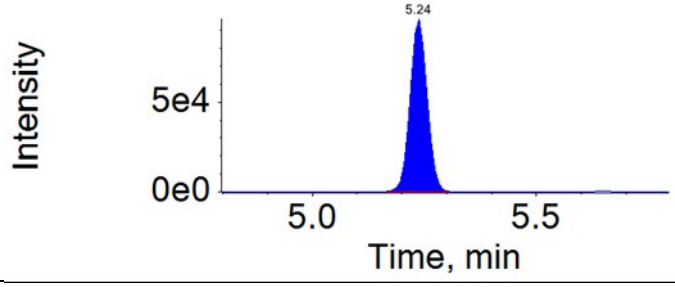
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



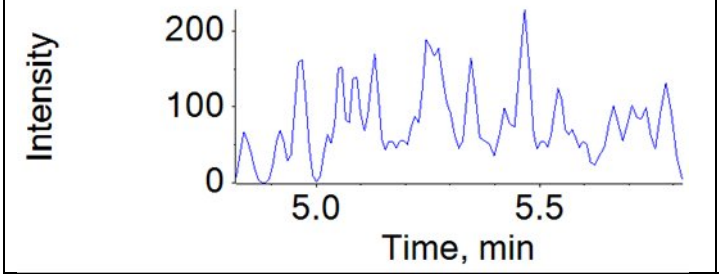


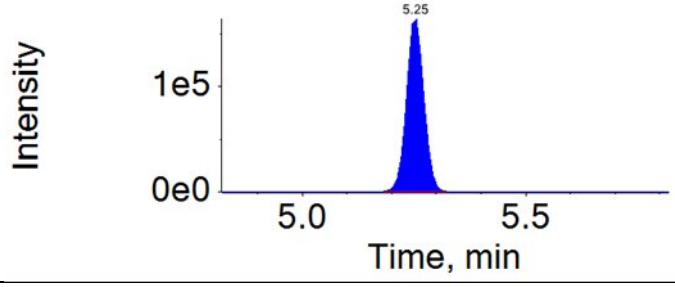
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



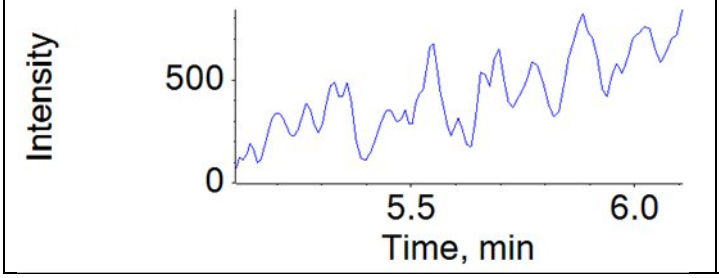


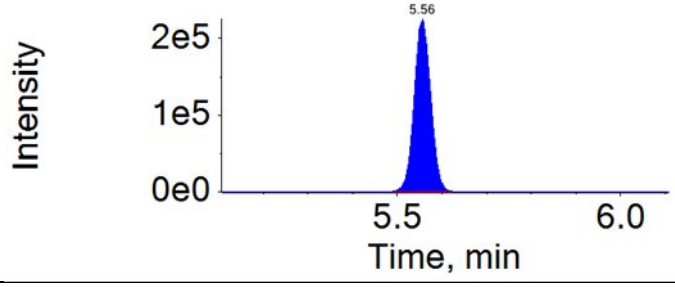
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





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



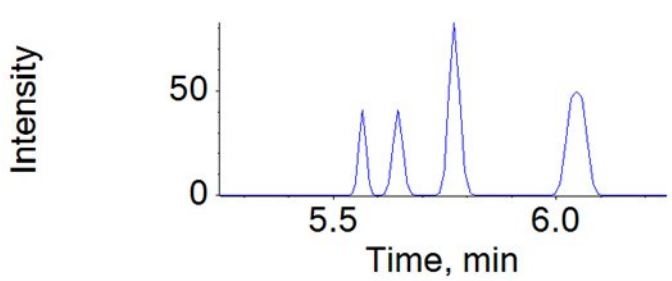


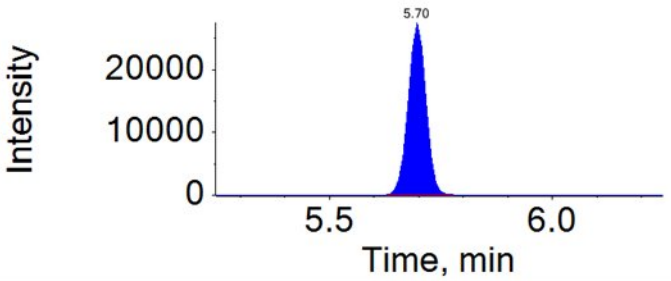
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

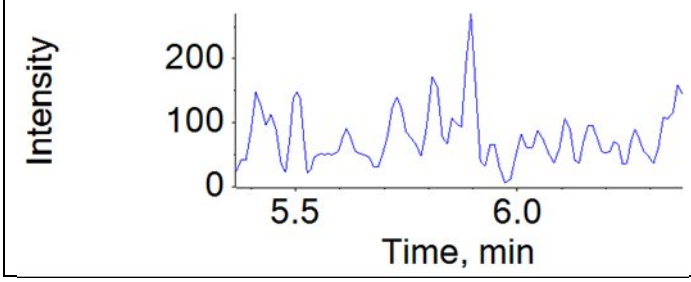
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QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

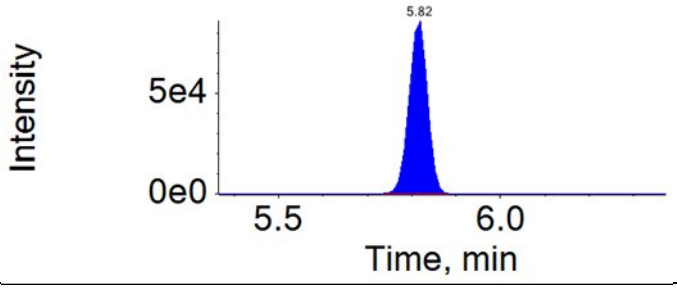
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



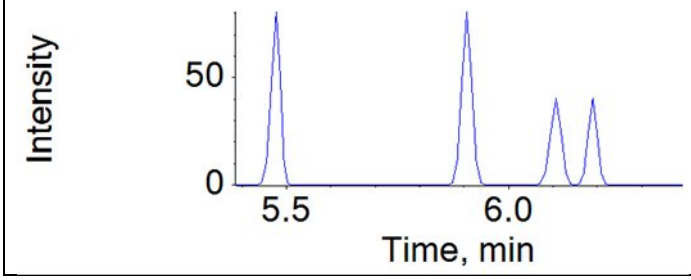


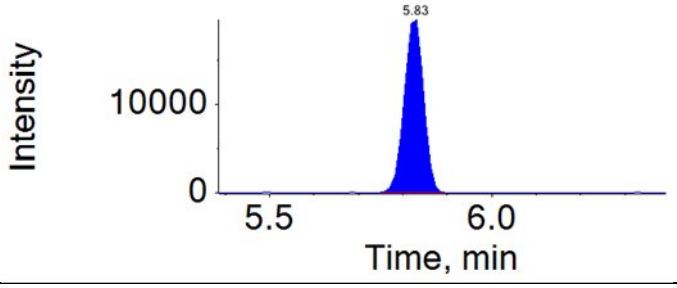
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0



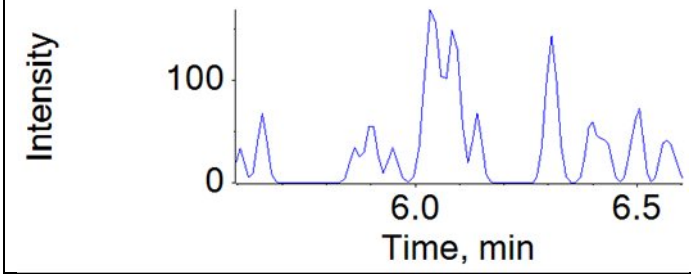


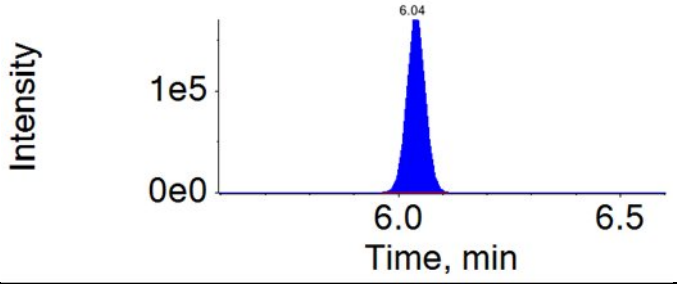
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0





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



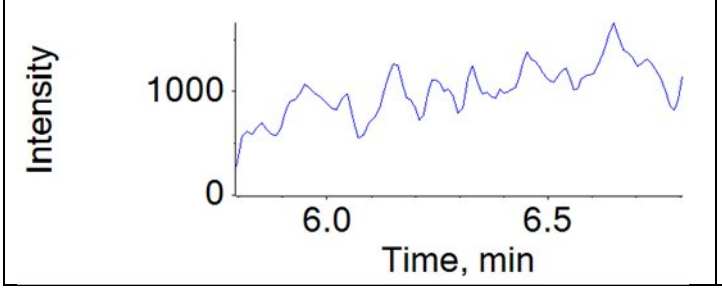


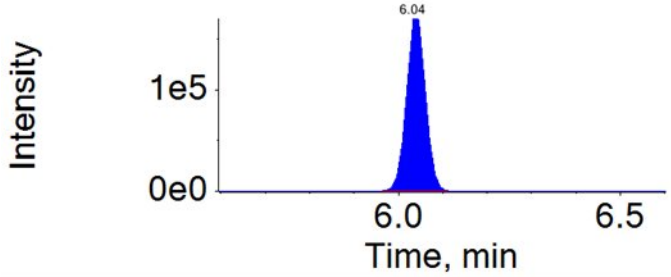
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

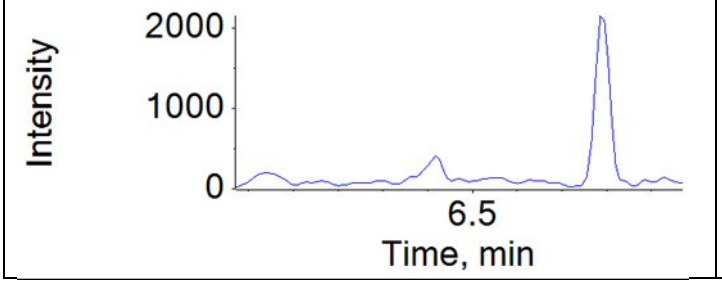
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

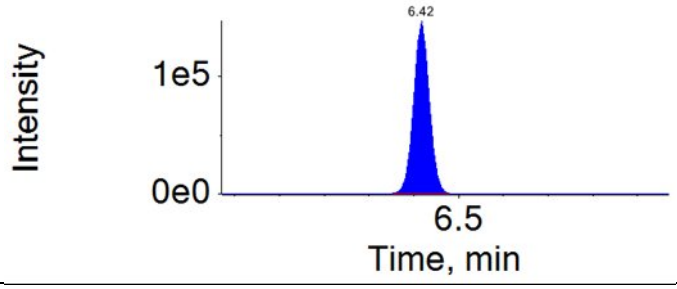
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0





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





APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Ion Ratio Report

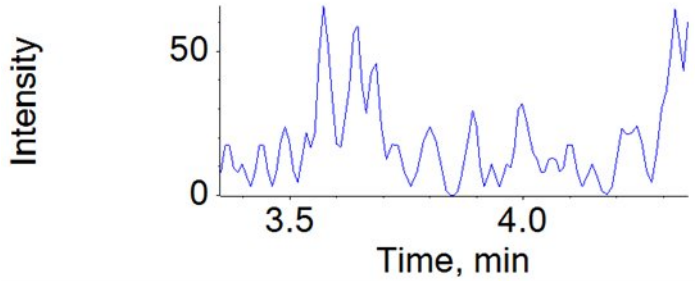
Sample Name: 9881874 **Instrument Name:** LM27631 **File Name:** 18NOV07D-73.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	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	
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	
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	
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	

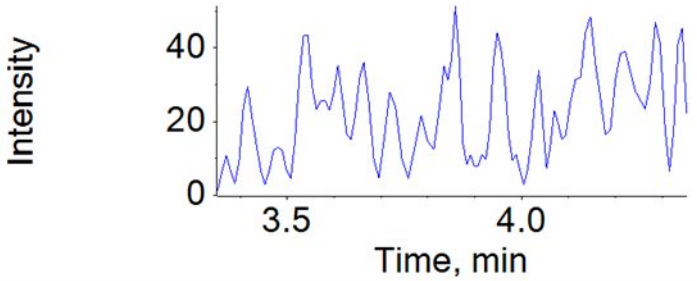
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

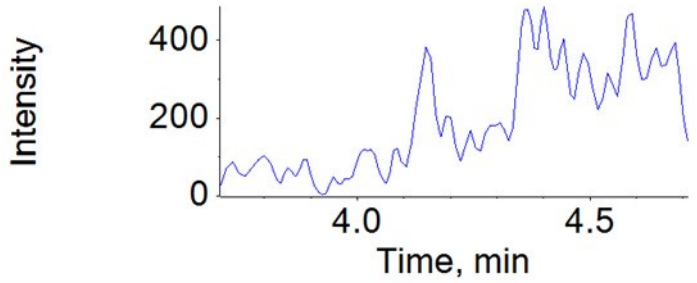
Component: PFBS
Primary Mass: 299.0 / 80.0



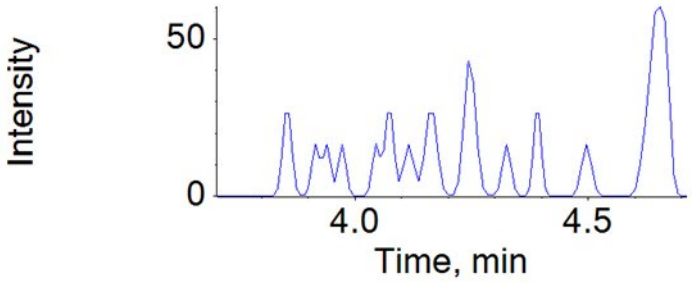
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



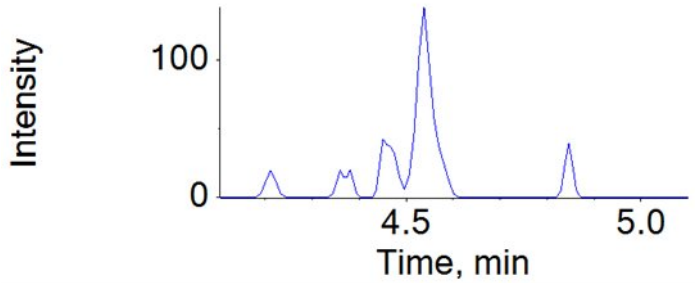
Component: PFHxA
Primary Mass: 313.0 / 269.0



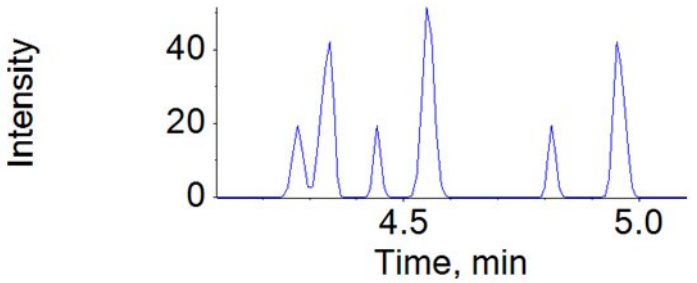
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



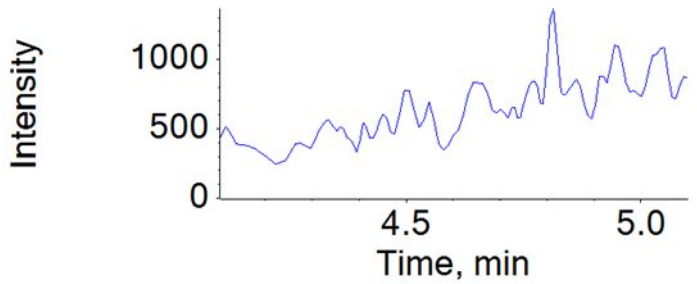
Component: PFHxS
Primary Mass: 399.0 / 80.0



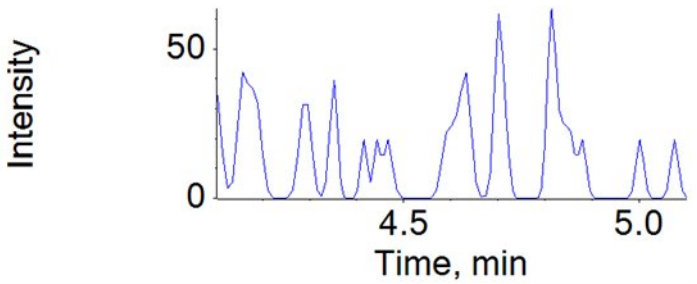
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



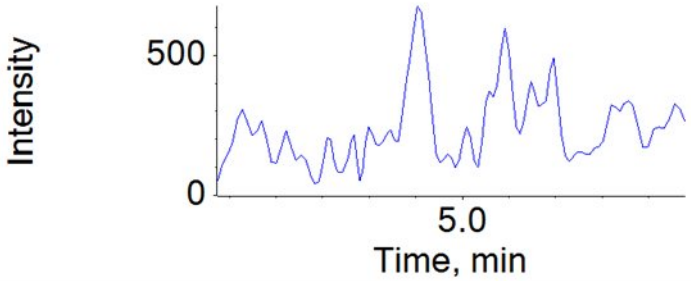
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



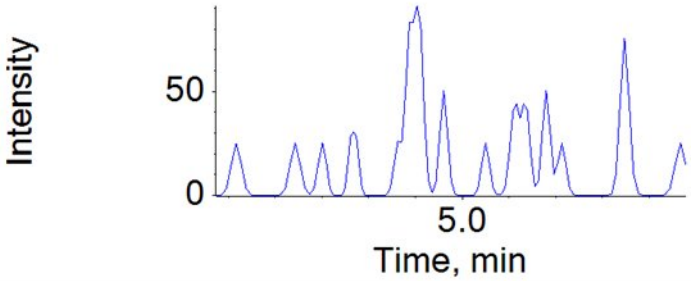
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By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

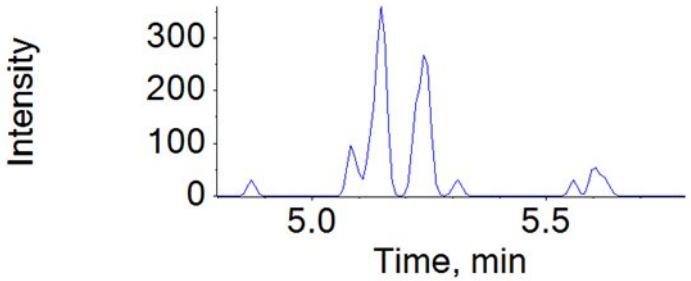
Component: PFOA
Primary Mass: 413.0 / 369.0



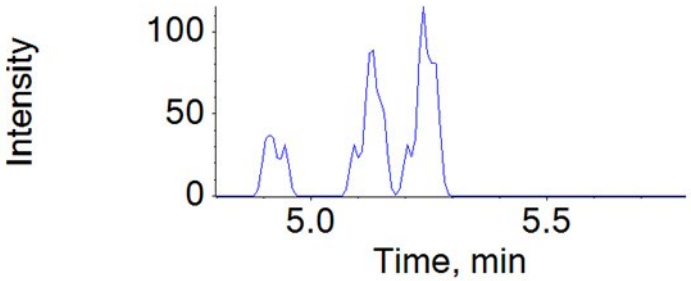
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



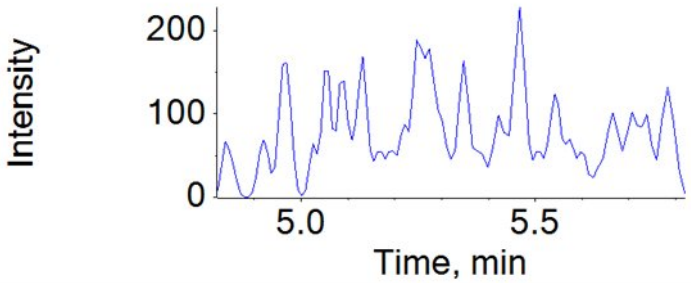
Component: PFOS
Primary Mass: 499.0 / 80.0



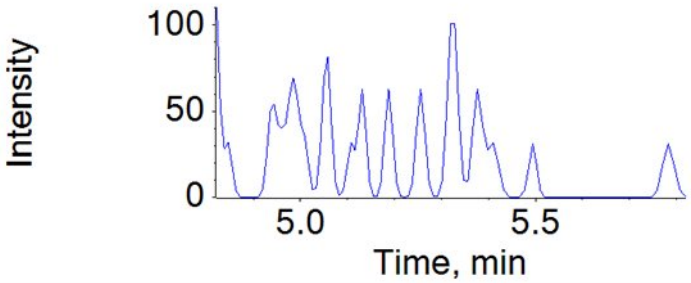
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



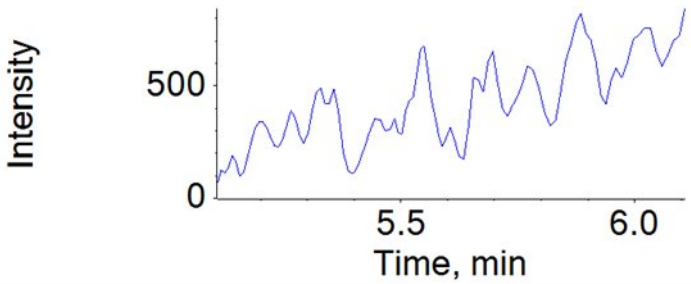
Component: PFNA
Primary Mass: 463.0 / 419.0



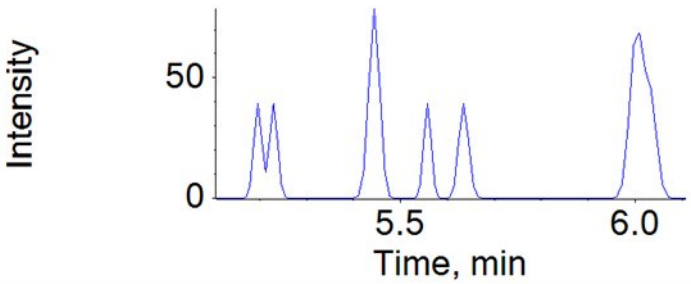
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



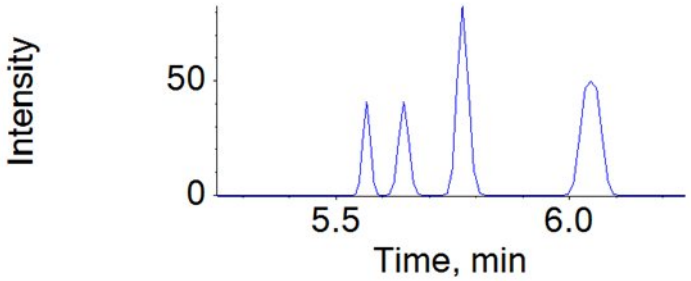
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



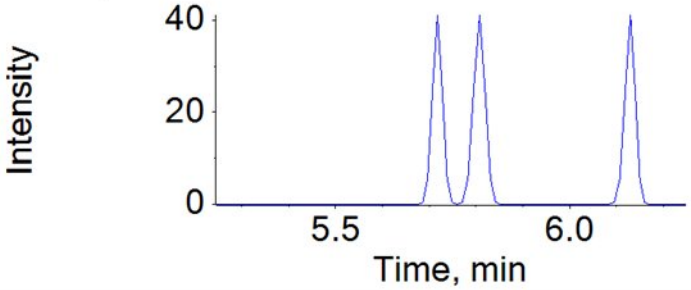
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

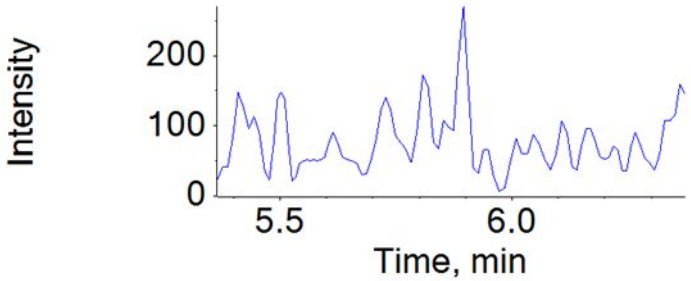
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



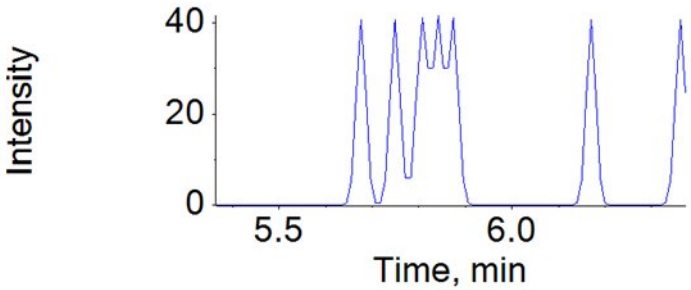
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



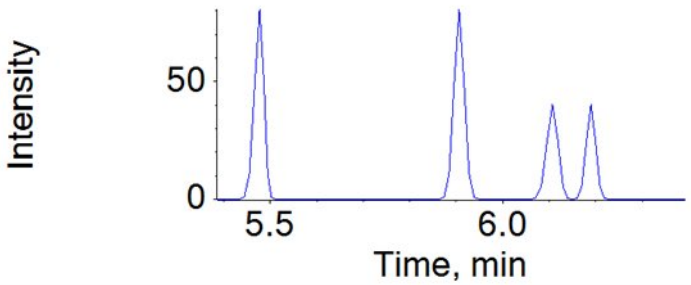
Component: PFUnDA
Primary Mass: 563.0 / 519.0



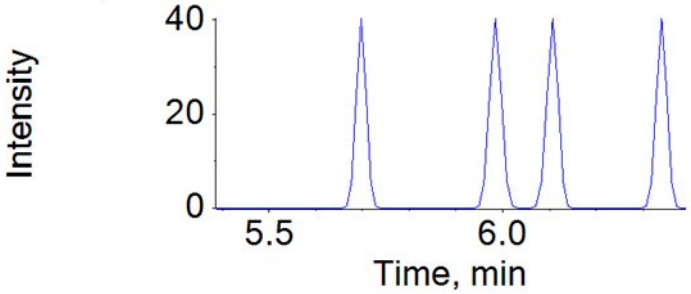
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Secondary Mass: 563.0 / 169.0



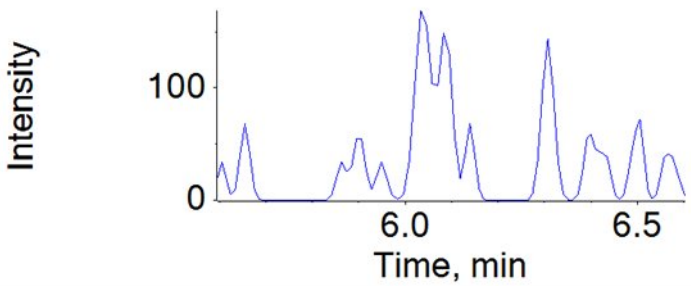
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



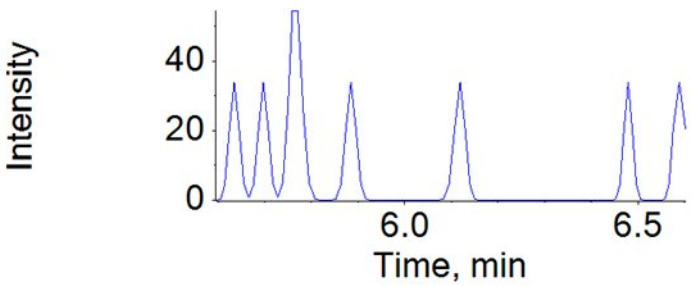
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



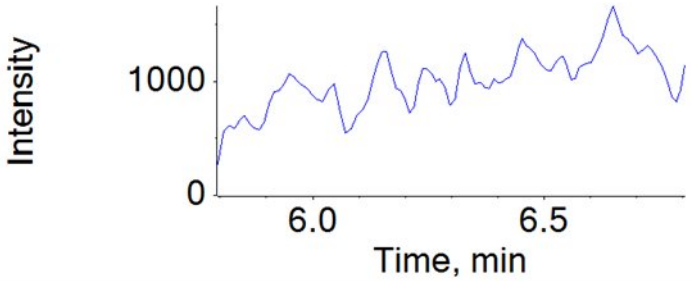
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



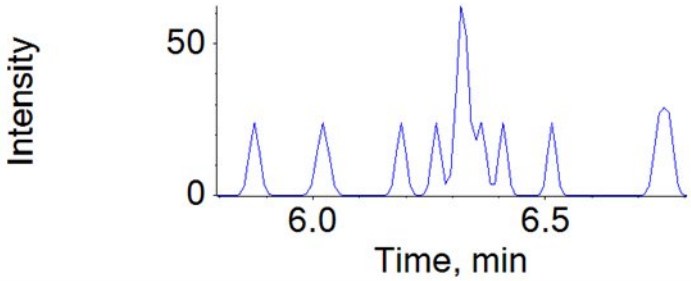
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

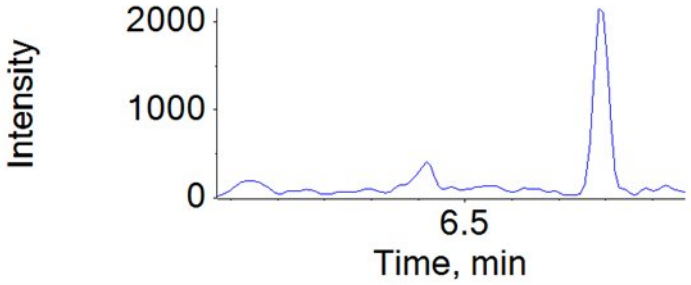
Component: PFTrDA
Primary Mass: 663.0 / 619.0



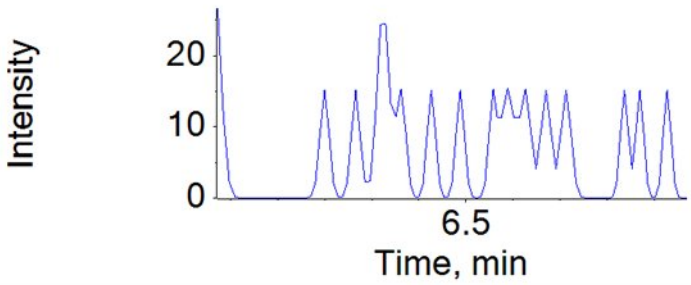
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Standards Data

PFAS by LC/MS/MS

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18NOV07DCAL-09.wiff	MDL	N/A	11/7/2018 9:30:56 AM
18NOV07DCAL-10.wiff	CAL1	N/A	11/7/2018 9:39:56 AM
18NOV07DCAL-11.wiff	CAL2	N/A	11/7/2018 9:48:56 AM
18NOV07DCAL-12.wiff	CAL3	N/A	11/7/2018 9:57:56 AM
18NOV07DCAL-13.wiff	CAL4	N/A	11/7/2018 10:06:59 AM
18NOV07DCAL-14.wiff	CAL5	N/A	11/7/2018 10:15:59 AM
18NOV07DCAL-15.wiff	CAL6	N/A	11/7/2018 10:24:59 AM
18NOV07DCAL-16.wiff	CAL7	N/A	11/7/2018 10:33:59 AM
18NOV07DCAL-17.wiff	Instrument Blank	N/A	11/7/2018 10:42:59 AM
18NOV07DCAL-18.wiff	ICV	N/A	11/7/2018 10:51:59 AM
18NOV07DCAL-19.wiff	L+B CAL3	N/A	11/7/2018 11:00:59 AM
18NOV07DCAL-20.wiff	CCV1_CAL3	N/A	11/7/2018 11:09:59 AM
18NOV07D-01.wiff	solvent	N/A	11/7/2018 11:20:42 AM
18NOV07D-02.wiff	Tape Test A	18310020	11/7/2018 11:29:44 AM
18NOV07D-03.wiff	Tape Test B	18310020	11/7/2018 11:38:44 AM
18NOV07D-04.wiff	solvent	N/A	11/7/2018 11:47:44 AM
18NOV07D-05.wiff	CCV1_ISC_CAL2	N/A	11/7/2018 11:56:44 AM
18NOV07D-06.wiff	INBLK	N/A	11/7/2018 12:05:44 PM
18NOV07D-07.wiff	BLK308002	18308002	11/7/2018 12:14:47 PM
18NOV07D-08.wiff	LCS308002	18308002	11/7/2018 12:23:47 PM
18NOV07D-09.wiff	LCSDA	18308002	11/7/2018 12:32:47 PM
18NOV07D-10.wiff	9878747	18308002	11/7/2018 12:41:47 PM
18NOV07D-11.wiff	9878748	18308002	11/7/2018 12:50:47 PM
18NOV07D-12.wiff	CCV2_CAL3	N/A	11/7/2018 12:59:48 PM
18NOV07D-13.wiff	solvent	N/A	11/7/2018 1:08:51 PM
18NOV07D-14.wiff	BLK309005	18309005	11/7/2018 1:17:51 PM
18NOV07D-15.wiff	LCS309005	18309005	11/7/2018 1:26:54 PM
18NOV07D-16.wiff	LCSDA	18309005	11/7/2018 1:35:57 PM
18NOV07D-17.wiff	9881938	18309005	11/7/2018 1:45:00 PM
18NOV07D-18.wiff	9881938MS	18309005	11/7/2018 1:54:00 PM
18NOV07D-19.wiff	9881939	18309005	11/7/2018 2:03:00 PM
18NOV07D-20.wiff	9881940	18309005	11/7/2018 2:12:00 PM
18NOV07D-21.wiff	9881941	18309005	11/7/2018 2:21:00 PM
18NOV07D-22.wiff	9881943	18309005	11/7/2018 2:30:00 PM
18NOV07D-23.wiff	9881944	18309005	11/7/2018 2:39:00 PM
18NOV07D-24.wiff	CCV3_CAL4	N/A	11/7/2018 2:48:00 PM
18NOV07D-25.wiff	9881945	18309005	11/7/2018 2:57:00 PM
18NOV07D-26.wiff	9881946	18309005	11/7/2018 3:06:00 PM
18NOV07D-27.wiff	9881949	18309005	11/7/2018 3:15:00 PM
18NOV07D-28.wiff	9881950	18309005	11/7/2018 3:24:03 PM
18NOV07D-29.wiff	9881951	18309005	11/7/2018 3:33:06 PM
18NOV07D-30.wiff	9881952	18309005	11/7/2018 3:42:06 PM
18NOV07D-31.wiff	9881955	18309005	11/7/2018 3:51:06 PM
18NOV07D-32.wiff	9881956	18309005	11/7/2018 4:00:09 PM
18NOV07D-33.wiff	9881957	18309005	11/7/2018 4:09:12 PM
18NOV07D-34.wiff	9881958	18309005	11/7/2018 4:18:15 PM
18NOV07D-35.wiff	CCV4_ISC_CAL2	N/A	11/7/2018 4:27:15 PM
18NOV07D-36.wiff	9881961	18309005	11/7/2018 4:36:15 PM
18NOV07D-37.wiff	9881962	18309005	11/7/2018 4:45:15 PM
18NOV07D-38.wiff	solvent	N/A	11/7/2018 4:54:18 PM
18NOV07D-39.wiff	BLK309011	18309011	11/7/2018 5:03:21 PM
18NOV07D-40.wiff	LCS309011	18309011	11/7/2018 5:12:21 PM
18NOV07D-41.wiff	9881869	18309011	11/7/2018 5:21:21 PM
18NOV07D-42.wiff	9881870	18309011	11/7/2018 5:30:21 PM
18NOV07D-43.wiff	9881871BKG	18309011	11/7/2018 5:39:21 PM
18NOV07D-44.wiff	9881872MS	18309011	11/7/2018 5:48:24 PM
18NOV07D-45.wiff	9881873MSD	18309011	11/7/2018 5:57:24 PM

APPROVED
By MCD at 7:15 pm, 11/8/18

Instrument Name: LM27631

18NOV07D-46.wiff	9881874	18309011	11/7/2018 6:06:27 PM
18NOV07D-47.wiff	CCV5_CAL3	N/A	11/7/2018 6:15:30 PM
18NOV07D-48.wiff	9881931	18309011	11/7/2018 6:24:30 PM
18NOV07D-49.wiff	9881936	18309011	11/7/2018 6:33:33 PM
18NOV07D-50.wiff	9881937	18309011	11/7/2018 6:42:36 PM
18NOV07D-51.wiff	CCV6_CAL4	N/A	11/7/2018 6:51:39 PM
18NOV07D-52.wiff	9881945	18309005	11/7/2018 7:03:46 PM
18NOV07D-53.wiff	9881946	18309005	11/7/2018 7:12:48 PM
18NOV07D-54.wiff	9881949	18309005	11/7/2018 7:21:51 PM
18NOV07D-55.wiff	9881950	18309005	11/7/2018 7:30:51 PM
18NOV07D-56.wiff	9881951	18309005	11/7/2018 7:39:51 PM
18NOV07D-57.wiff	9881952	18309005	11/7/2018 7:48:54 PM
18NOV07D-58.wiff	9881955	18309005	11/7/2018 7:57:57 PM
18NOV07D-59.wiff	9881956	18309005	11/7/2018 8:07:00 PM
18NOV07D-60.wiff	9881957	18309005	11/7/2018 8:16:03 PM
18NOV07D-61.wiff	9881958	18309005	11/7/2018 8:25:06 PM
18NOV07D-62.wiff	CCV7_ISC_CAL2	N/A	11/7/2018 8:34:09 PM
18NOV07D-63.wiff	9881961	18309005	11/7/2018 8:43:09 PM
18NOV07D-64.wiff	9881962	18309005	11/7/2018 8:52:09 PM
18NOV07D-65.wiff	solvent	N/A	11/7/2018 9:01:09 PM
18NOV07D-66.wiff	BLK309011	18309011	11/7/2018 9:10:12 PM
18NOV07D-67.wiff	LCS309011	18309011	11/7/2018 9:19:12 PM
18NOV07D-68.wiff	9881869	18309011	11/7/2018 9:28:12 PM
18NOV07D-69.wiff	9881870	18309011	11/7/2018 9:37:12 PM
18NOV07D-70.wiff	9881871BKG	18309011	11/7/2018 9:46:15 PM
18NOV07D-71.wiff	9881872MS	18309011	11/7/2018 9:55:15 PM
18NOV07D-72.wiff	9881873MSD	18309011	11/7/2018 10:04:15 PM
18NOV07D-73.wiff	9881874	18309011	11/7/2018 10:13:15 PM
18NOV07D-74.wiff	CCV8_CAL3	N/A	11/7/2018 10:22:18 PM
18NOV07D-75.wiff	BLK310004	18310004	11/7/2018 10:31:18 PM
18NOV07D-76.wiff	LCS310004	18310004	11/7/2018 10:40:18 PM
18NOV07D-77.wiff	9881888BKG	18310004	11/7/2018 10:49:21 PM
18NOV07D-78.wiff	9881891	18310004	11/7/2018 10:58:21 PM
18NOV07D-79.wiff	9881892	18310004	11/7/2018 11:07:24 PM
18NOV07D-80.wiff	9881895	18310004	11/7/2018 11:16:24 PM
18NOV07D-81.wiff	9881896	18310004	11/7/2018 11:25:27 PM
18NOV07D-82.wiff	9881897	18310004	11/7/2018 11:34:27 PM
18NOV07D-83.wiff	9881898	18310004	11/7/2018 11:43:27 PM
18NOV07D-84.wiff	9881901	18310004	11/7/2018 11:52:27 PM
18NOV07D-85.wiff	CCV9_ISC_CAL2	N/A	11/8/2018 12:01:27 AM
18NOV07D-86.wiff	Instrument Blank	N/A	11/8/2018 12:10:27 AM
18NOV07D-87.wiff	9881889MS	18310004	11/8/2018 12:19:30 AM
18NOV07D-88.wiff	9881890MSD	18310004	11/8/2018 12:28:30 AM
18NOV07D-89.wiff	solvent	N/A	11/8/2018 12:37:30 AM
18NOV07D-90.wiff	BLK310002	18310002	11/8/2018 12:46:33 AM
18NOV07D-91.wiff	LCS310002	18310002	11/8/2018 12:55:33 AM
18NOV07D-92.wiff	LCSDA	18310002	11/8/2018 1:04:36 AM
18NOV07D-93.wiff	9881534	18310002	11/8/2018 1:13:36 AM
18NOV07D-94.wiff	9881535	18310002	11/8/2018 1:22:36 AM
18NOV07D-95.wiff	9881579	18310002	11/8/2018 1:31:36 AM
18NOV07D-96.wiff	9881580	18310002	11/8/2018 1:40:36 AM
18NOV07D-97.wiff	9881925	18310002	11/8/2018 1:49:36 AM
18NOV07D-98.wiff	CCV10_CAL3	N/A	11/8/2018 1:58:36 AM
18NOV07D-99.wiff	9881942	18310002	11/8/2018 2:07:36 AM
18NOV07D-100.wiff	9881979	18310002	11/8/2018 2:16:36 AM
18NOV07D-101.wiff	9881980	18310002	11/8/2018 2:25:36 AM
18NOV07D-102.wiff	CCV11_CAL4	N/A	11/8/2018 2:34:36 AM
18NOV07D-103.wiff	solvent	N/A	11/8/2018 10:32:10 AM

Instrument Name: LM27631

18NOV07D-104.wiff	solvent	N/A	11/8/2018 10:41:10 AM
18NOV07D-105.wiff	solvent	N/A	11/8/2018 10:50:13 AM

20 mM Ammonium Acetate in H2O: 782411021833A
20 mM Ammonium Acetate in 0.5% H2O\Methanol: 782411021833B

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample File Name	Acquisition Date	Sample ID	Sample Name
18NOV07DCAL-10.wiff	11/7/2018 9:39:56 AM	CALMOD11833G	CAL1
18NOV07DCAL-11.wiff	11/7/2018 9:48:56 AM	CALMOD21833F	CAL2
18NOV07DCAL-12.wiff	11/7/2018 9:57:56 AM	CALMOD31833F	CAL3
18NOV07DCAL-13.wiff	11/7/2018 10:06:59 AM	CALMOD41833F	CAL4
18NOV07DCAL-14.wiff	11/7/2018 10:15:59 AM	CALMOD51833F	CAL5
18NOV07DCAL-15.wiff	11/7/2018 10:24:59 AM	CALMOD61833E	CAL6
18NOV07DCAL-16.wiff	11/7/2018 10:33:59 AM	CALMOD71833E	CAL7

CAL3 Injection Standard Areas

Sample Name	Injection Std Name	Injection Std Area
CAL3	13C3-PFBA	730410.6
CAL3	13C2-PFOA	524423.6
CAL3	13C4-PFOS	274061.7
CAL3	13C2-PFDA	311442.1

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 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	1.018	0.931	0.905	0.934	0.936	0.881	0.816	6	20		0.997	
PFPeA	0.983	0.897	0.863	0.883	0.914	0.858	0.814	6	20		0.998	
PFBS	1.158	0.984	0.907	0.979	0.951	0.960	0.893	8	20		0.999	
4:2-FTS	1.777	1.830	1.827	1.860	1.869	1.731	1.702	3	20		0.999	
PFHxA	1.369	1.233	1.246	1.275	1.253	1.109	N/A	6	20		0.996	
PFPeS	0.454	0.467	0.444	0.498	0.474	0.471	0.470	3	20		1.000	
PFHxS	0.955	0.955	0.893	0.948	0.948	0.935	0.929	2	20		1.000	
PFHpA	1.634	1.603	1.590	1.563	1.579	1.432	N/A	4	20		0.998	
6:2-FTS	1.464	2.292	2.080	2.004	2.131	1.864	1.866	13	20		0.998	
PFHpS	0.984	0.904	0.893	0.946	0.924	0.891	0.903	3	20		1.000	
PFOA	0.969	0.972	0.946	0.995	0.956	0.913	0.852	5	20		0.998	
PFOS	0.998	0.997	0.938	0.958	0.930	0.927	0.914	3	20		1.000	
PFNA	1.571	1.383	1.459	1.439	1.491	1.379	1.276	6	20		0.997	
PFNS	0.553	0.609	0.611	0.650	0.603	0.625	0.588	5	20		0.999	
PFDA	0.980	0.945	0.957	0.980	1.004	0.925	0.875	4	20		0.998	
8:2-FTS	2.603	2.513	2.112	2.184	2.222	2.072	N/A	9	20		0.999	
PFOSA	0.896	0.979	0.964	0.988	0.831	0.967	0.917	6	20		0.998	
NMeFOSAA	0.867	1.180	0.991	1.053	1.044	0.948	0.962	9	20		0.999	
PFDS	0.528	0.545	0.492	0.534	0.504	0.495	0.500	4	20		1.000	
PFUnDA	1.982	1.865	1.891	1.818	1.849	1.776	1.696	5	20		0.999	
NEtFOSAA	1.063	1.102	1.103	1.149	1.294	1.132	1.156	6	20		0.998	
PFDoDA	1.032	1.006	0.944	0.916	0.972	0.902	N/A	5	20		0.999	
10:2-FTS	1.769	1.760	1.607	1.411	1.601	1.578	1.513	7	20		0.999	
NMePFOSAE	1.362	1.238	1.132	1.225	1.231	1.175	1.053	7	20		0.996	
NMePFOSA	0.899	1.015	0.938	0.855	0.985	0.914	0.866	6	20		0.998	
PFDoS	0.247	0.249	0.266	0.257	0.245	0.243	0.249	3	20		1.000	
NEtPFOSAE	1.848	1.807	1.624	1.689	1.741	1.603	1.488	7	20		0.997	
NEtPFOSA	1.082	0.962	0.983	1.069	1.170	1.145	1.133	7	20		1.000	
PFTrDA	0.992	0.824	0.844	0.816	0.844	0.766	N/A	8	20		0.998	
PFTeDA	0.989	0.821	0.895	0.892	0.889	0.857	0.837	6	20		0.999	
PFHxDA	0.475	0.422	0.418	0.420	0.425	0.395	0.400	6	20		0.999	
PFODA	0.385	0.357	0.356	0.356	0.370	0.340	0.348	4	20		0.999	

APPROVED
By JPT at 2:53 pm, 11/7/18

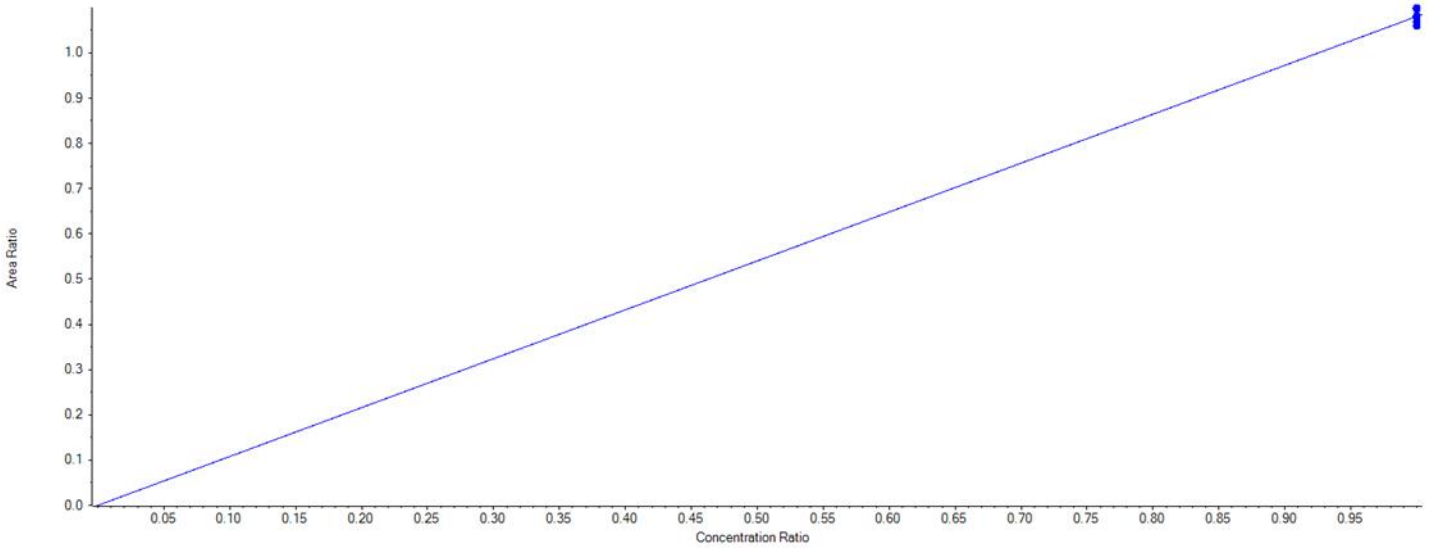
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFBA

y = 1.08045 x (std. dev. = 0.01457) (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	794718.9	750779.984	True	5.00	1.059	3.27	1.000	5.000	4.899	-2	30	
CAL2	782732.8	723209.911	True	5.00	1.082	3.27	1.000	5.000	5.009	0	30	
CAL3	787180.2	730410.641	True	5.00	1.078	3.27	1.000	5.000	4.987	0	30	
CAL4	771359.1	721806.781	True	5.00	1.069	3.27	1.000	5.000	4.945	-1	30	
CAL5	728925.1	664213.611	True	5.00	1.097	3.27	1.000	5.000	5.079	2	30	
CAL6	647849.6	600246.701	True	5.00	1.079	3.26	1.000	5.000	4.995	0	30	
CAL7	609686.1	554647.432	True	5.00	1.099	3.26	1.000	5.000	5.087	2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

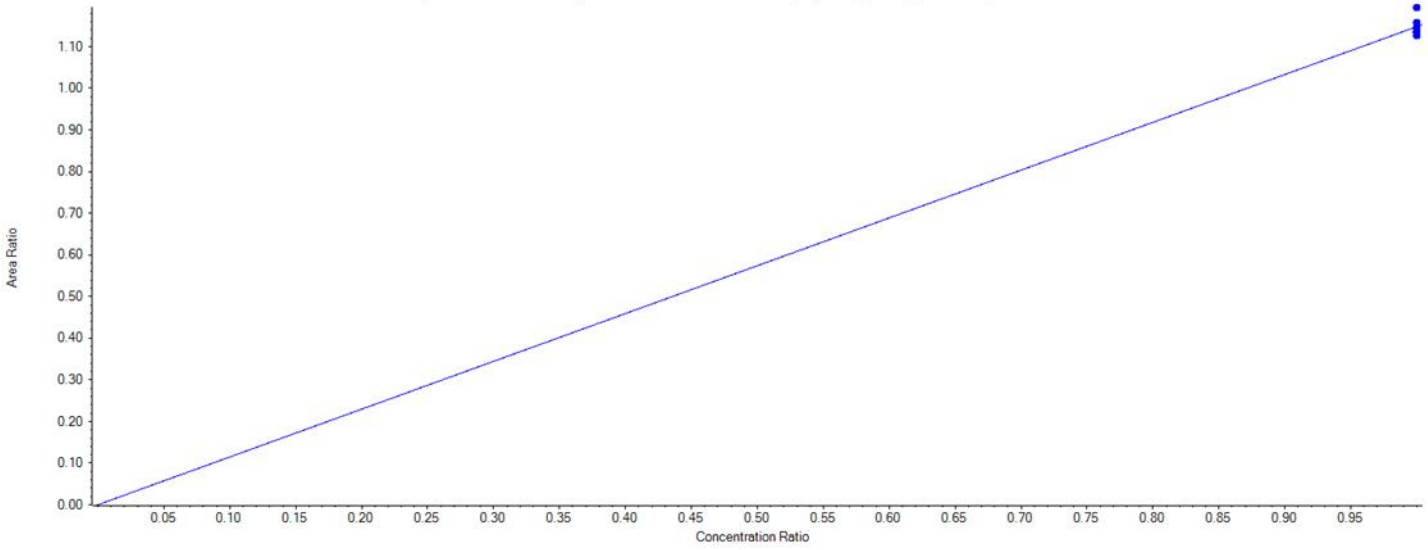
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFPeA

y = 1.14776 x (std. dev. = 0.02271) (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	844850.2	750779.984	True	5.00	1.125	3.77	1.150	5.000	4.902	-2	30	
CAL2	863262.8	723209.911	True	5.00	1.194	3.77	1.150	5.000	5.200	4	30	
CAL3	829978.5	730410.641	True	5.00	1.136	3.77	1.150	5.000	4.950	-1	30	
CAL4	824842.8	721806.781	True	5.00	1.143	3.77	1.150	5.000	4.978	0	30	
CAL5	768958.1	664213.611	True	5.00	1.158	3.77	1.150	5.000	5.043	1	30	
CAL6	687796.7	600246.701	True	5.00	1.146	3.76	1.150	5.000	4.992	0	30	
CAL7	628265.5	554647.432	True	5.00	1.133	3.76	1.150	5.000	4.935	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

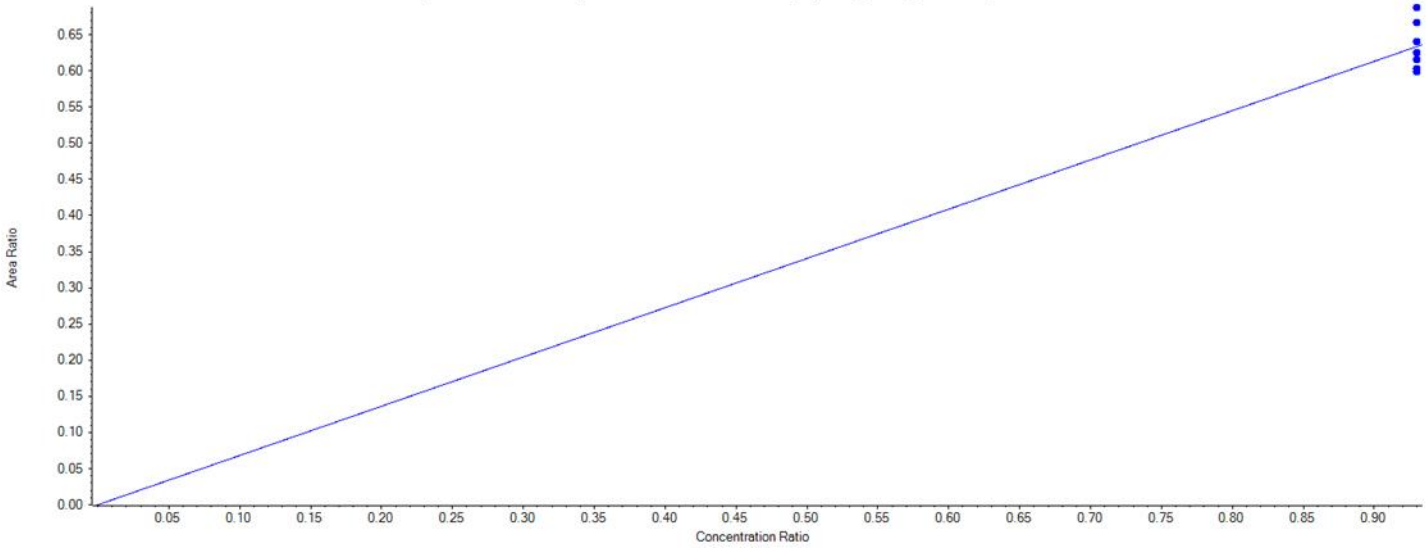
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFBS

y = 0.68128 x (std. dev. = 0.03575) (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	449266.3	750779.984	True	5.00	0.598	3.82	1.170	4.650	4.392	-6	30	
CAL2	444721.3	723209.911	True	5.00	0.615	3.82	1.170	4.650	4.513	-3	30	
CAL3	456815.2	730410.641	True	5.00	0.625	3.82	1.170	4.650	4.590	-1	30	
CAL4	434938.9	721806.781	True	5.00	0.603	3.81	1.170	4.650	4.422	-5	30	
CAL5	442479.7	664213.611	True	5.00	0.666	3.82	1.170	4.650	4.889	5	30	
CAL6	384220.8	600246.701	True	5.00	0.640	3.81	1.170	4.650	4.698	1	30	
CAL7	381345.5	554647.432	True	5.00	0.688	3.81	1.170	4.650	5.046	9	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

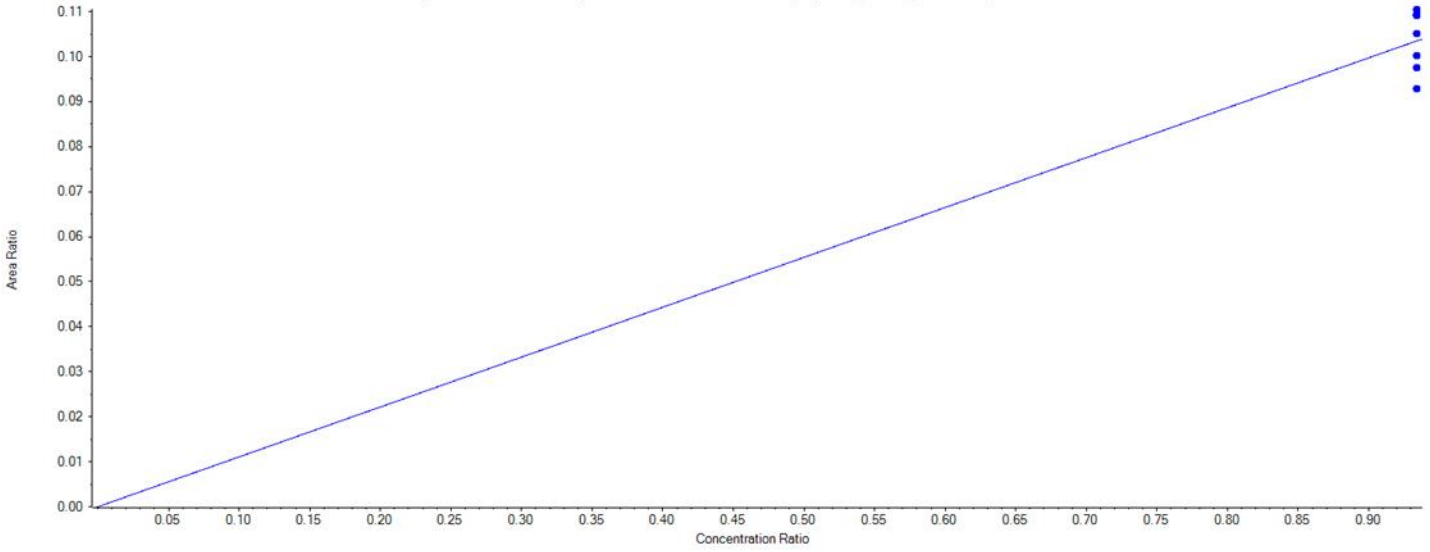
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-4:2-FTS

y = 0.11081 x (std. dev. = 0.00728) (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	58330.9	534171.859	True	5.00	0.109	4.13	0.840	4.670	4.927	6	30	
CAL2	54234.1	516360.932	True	5.00	0.105	4.13	0.840	4.670	4.739	1	30	
CAL3	48706.0	524423.602	True	5.00	0.093	4.13	0.840	4.670	4.191	-10	30	
CAL4	51520.6	528557.819	True	5.00	0.097	4.13	0.840	4.670	4.398	-6	30	
CAL5	48869.9	488019.600	True	5.00	0.100	4.13	0.840	4.670	4.519	-3	30	
CAL6	50041.3	457854.860	True	5.00	0.109	4.12	0.840	4.670	4.932	6	30	
CAL7	46334.2	419465.882	True	5.00	0.110	4.13	0.840	4.670	4.984	7	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

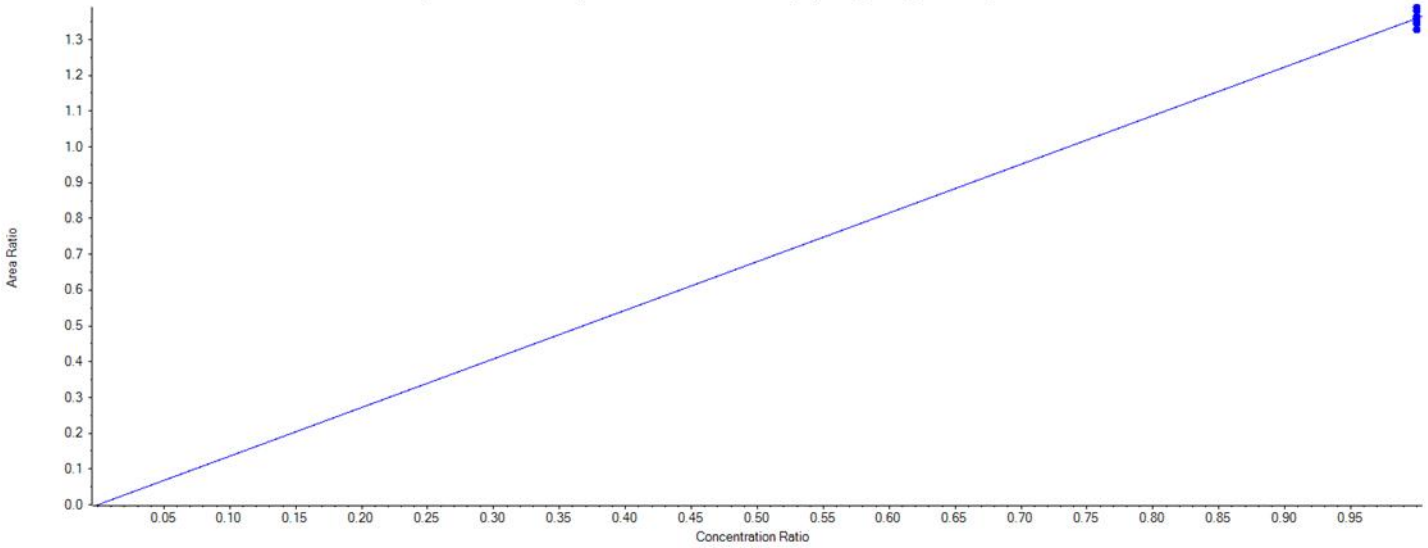
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C5-PFHxA

y = 1.35927 x (std. dev. = 0.02135) (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	725432.0	534171.859	True	5.00	1.358	4.17	0.850	5.000	4.996	0	30	
CAL2	717434.9	516360.932	True	5.00	1.389	4.17	0.850	5.000	5.111	2	30	
CAL3	705369.0	524423.602	True	5.00	1.345	4.17	0.850	5.000	4.948	-1	30	
CAL4	713446.3	528557.819	True	5.00	1.350	4.16	0.850	5.000	4.965	-1	30	
CAL5	674375.4	488019.600	True	5.00	1.382	4.17	0.850	5.000	5.083	2	30	
CAL6	607820.1	457854.860	True	5.00	1.328	4.16	0.850	5.000	4.883	-2	30	
CAL7	571807.5	419465.882	True	5.00	1.363	4.16	0.850	5.000	5.014	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

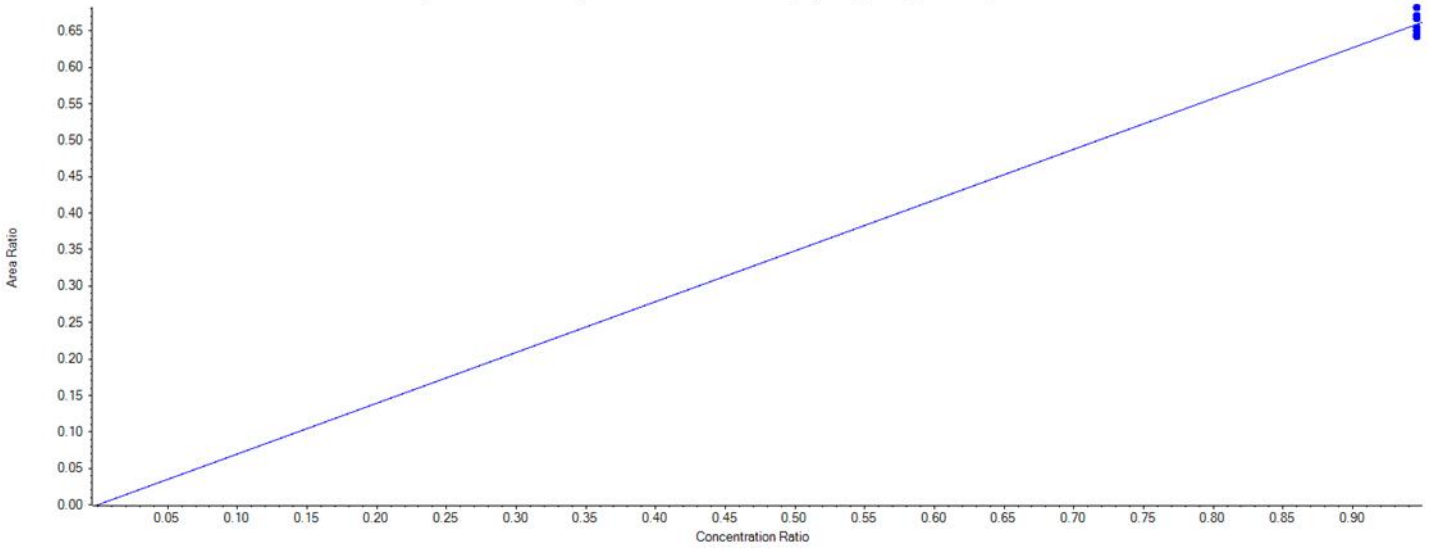
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C3-PFHxS

y = 0.69649 x (std. dev. = 0.01583) (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	358771.3	534171.859	True	5.00	0.672	4.56	0.930	4.730	4.822	2	30	
CAL2	335732.1	516360.932	True	5.00	0.650	4.56	0.920	4.730	4.668	-1	30	
CAL3	343139.5	524423.602	True	5.00	0.654	4.56	0.930	4.730	4.697	-1	30	
CAL4	339090.5	528557.819	True	5.00	0.642	4.55	0.930	4.730	4.606	-3	30	
CAL5	332808.5	488019.600	True	5.00	0.682	4.55	0.920	4.730	4.896	4	30	
CAL6	295466.2	457854.860	True	5.00	0.645	4.55	0.920	4.730	4.633	-2	30	
CAL7	279859.6	419465.882	True	5.00	0.667	4.55	0.930	4.730	4.790	1	30	

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By JPT at 2:53 pm, 11/7/18

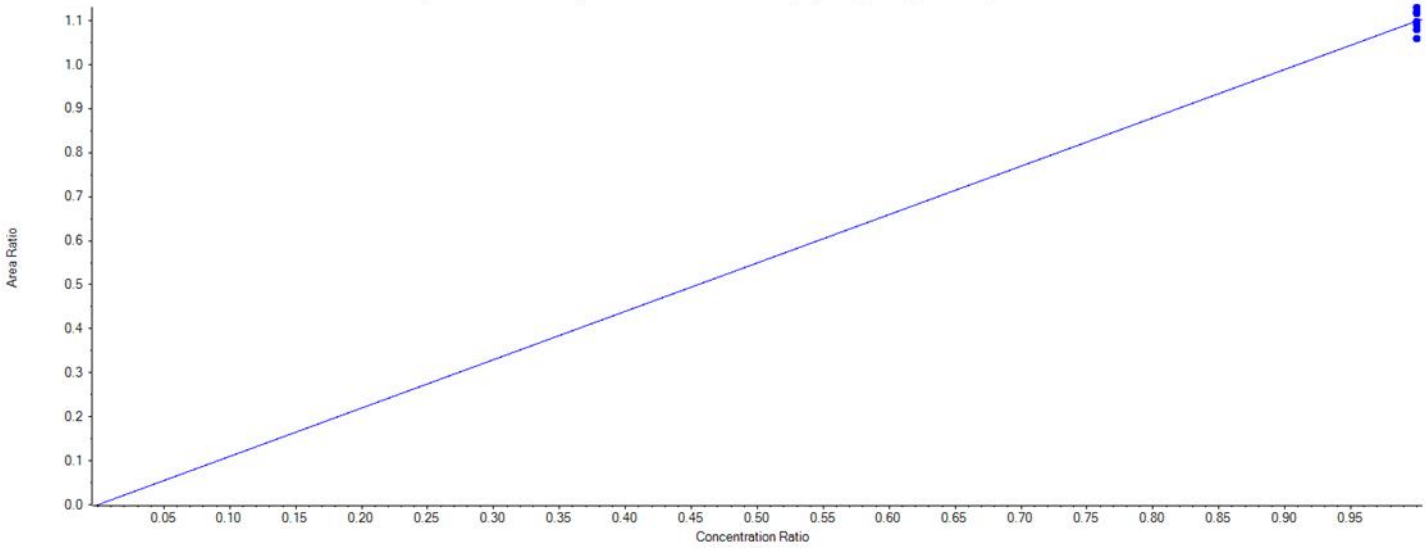
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C4-PFHpA

y = 1.09911 x (std. dev. = 0.02508) (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	586580.3	534171.859	True	5.00	1.098	4.56	0.930	5.000	4.995	0	30	
CAL2	583342.8	516360.932	True	5.00	1.130	4.55	0.920	5.000	5.139	3	30	
CAL3	566495.6	524423.602	True	5.00	1.080	4.56	0.930	5.000	4.914	-2	30	
CAL4	592497.9	528557.819	True	5.00	1.121	4.55	0.920	5.000	5.099	2	30	
CAL5	544681.1	488019.600	True	5.00	1.116	4.55	0.920	5.000	5.077	2	30	
CAL6	484763.2	457854.860	True	5.00	1.059	4.55	0.920	5.000	4.816	-4	30	
CAL7	457160.4	419465.882	True	5.00	1.090	4.55	0.920	5.000	4.958	-1	30	

APPROVED
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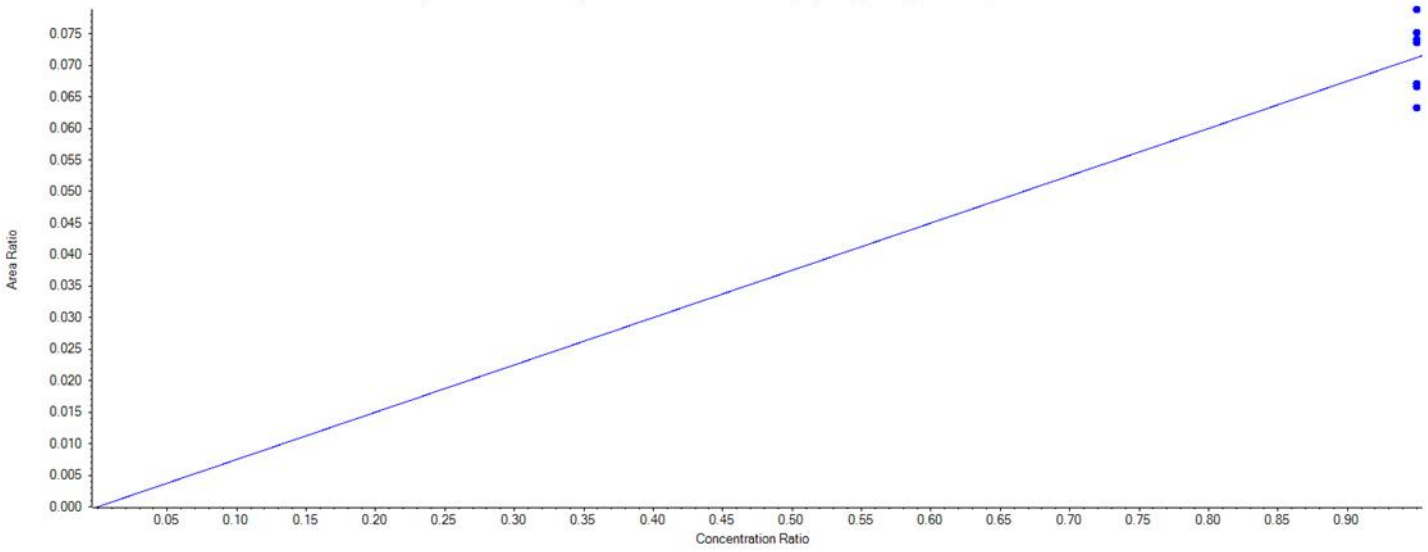
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-6:2-FTS

y = 0.07498 x (std. dev. = 0.00592) (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	42112.8	534171.859	True	5.00	0.079	4.91	1.000	4.750	5.257	11	30	
CAL2	38849.6	516360.932	True	5.00	0.075	4.91	1.000	4.750	5.017	6	30	
CAL3	38605.5	524423.602	True	5.00	0.074	4.91	1.000	4.750	4.909	3	30	
CAL4	39121.7	528557.819	True	5.00	0.074	4.91	1.000	4.750	4.936	4	30	
CAL5	32735.6	488019.600	True	5.00	0.067	4.91	1.000	4.750	4.473	-6	30	
CAL6	30466.8	457854.860	True	5.00	0.067	4.90	1.000	4.750	4.437	-7	30	
CAL7	26549.1	419465.882	True	5.00	0.063	4.91	1.000	4.750	4.221	-11	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

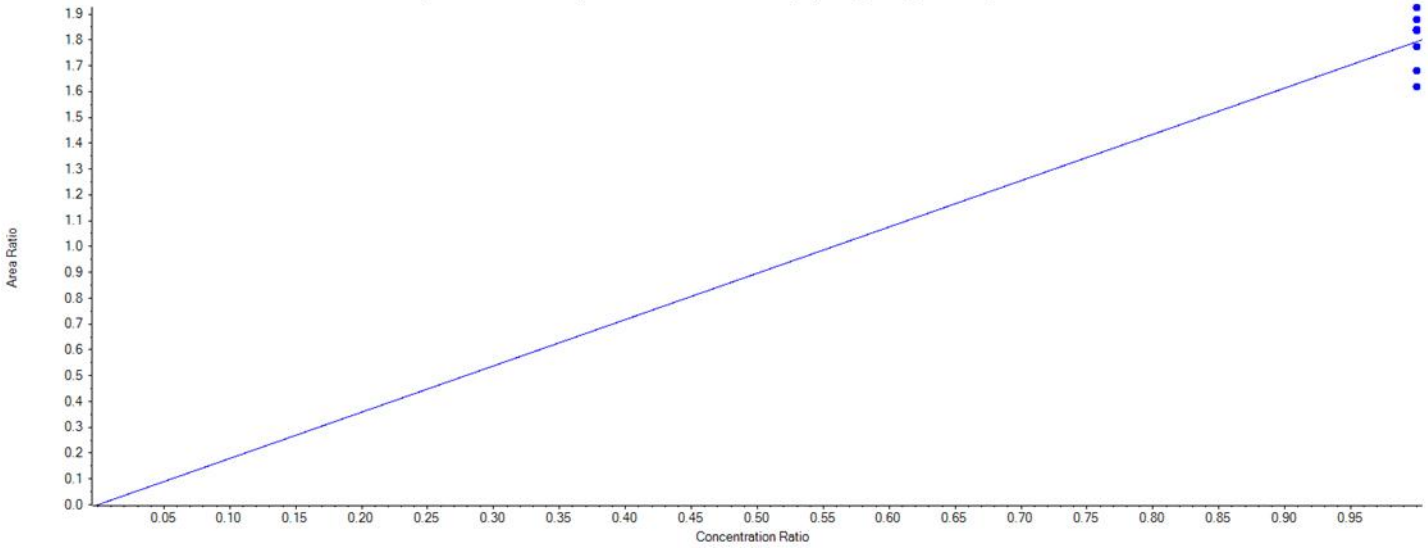
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOA

y = 1.79299 x (std. dev. = 0.10993) (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	1028414.9	534171.859	True	5.00	1.925	4.93	1.000	5.000	5.369	7	30	
CAL2	970523.2	516360.932	True	5.00	1.880	4.92	1.000	5.000	5.241	5	30	
CAL3	964414.6	524423.602	True	5.00	1.839	4.93	1.000	5.000	5.128	3	30	
CAL4	937287.5	528557.819	True	5.00	1.773	4.92	1.000	5.000	4.945	-1	30	
CAL5	895692.2	488019.600	True	5.00	1.835	4.92	1.000	5.000	5.118	2	30	
CAL6	769164.4	457854.860	True	5.00	1.680	4.92	1.000	5.000	4.685	-6	30	
CAL7	678914.6	419465.882	True	5.00	1.619	4.92	1.000	5.000	4.513	-10	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

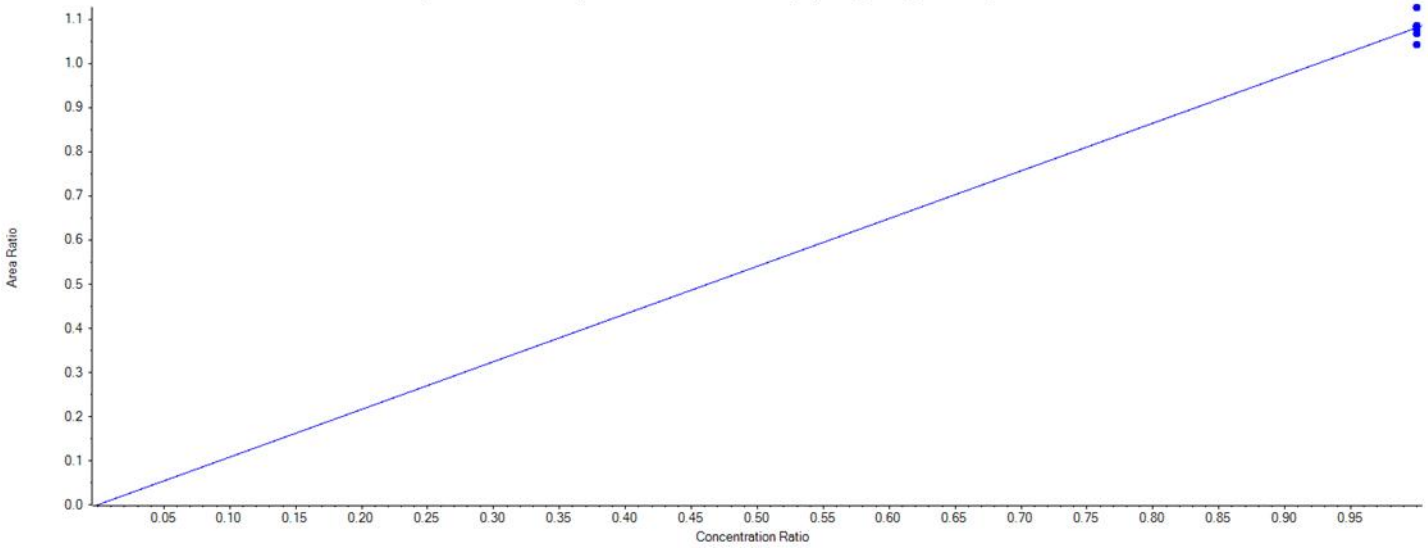
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOS

y = 1.08099 x (std. dev. = 0.02540) (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	307224.3	272674.740	True	4.78	1.127	5.25	1.000	4.780	4.982	4	30	
CAL2	286174.8	263756.990	True	4.78	1.085	5.25	1.000	4.780	4.798	0	30	
CAL3	297259.7	274061.672	True	4.78	1.085	5.25	1.000	4.780	4.796	0	30	
CAL4	291941.6	270733.913	True	4.78	1.078	5.25	1.000	4.780	4.768	0	30	
CAL5	297995.6	275029.173	True	4.78	1.084	5.25	1.000	4.780	4.791	0	30	
CAL6	268369.0	251499.907	True	4.78	1.067	5.24	1.000	4.780	4.718	-1	30	
CAL7	264295.9	253720.801	True	4.78	1.042	5.24	1.000	4.780	4.606	-4	30	

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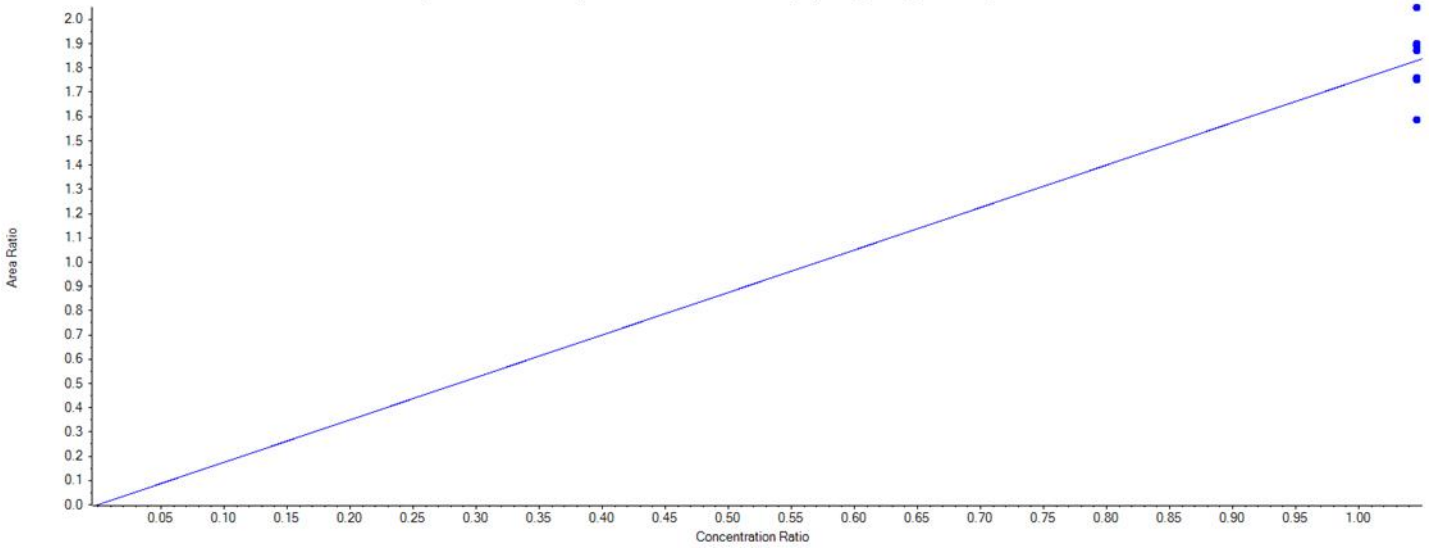
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C9-PFNA

y = 1.74992 x (std. dev. = 0.13964) (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	518118.7	272674.740	True	4.78	1.900	5.27	1.000	5.000	5.190	4	30	
CAL2	540435.4	263756.990	True	4.78	2.049	5.27	1.000	5.000	5.597	12	30	
CAL3	513116.0	274061.672	True	4.78	1.872	5.27	1.000	5.000	5.114	2	30	
CAL4	512147.4	270733.913	True	4.78	1.892	5.26	1.000	5.000	5.167	3	30	
CAL5	484419.3	275029.173	True	4.78	1.761	5.27	1.000	5.000	4.811	-4	30	
CAL6	440319.0	251499.907	True	4.78	1.751	5.26	1.000	5.000	4.782	-4	30	
CAL7	402916.7	253720.801	True	4.78	1.588	5.26	1.000	5.000	4.338	-13	30	

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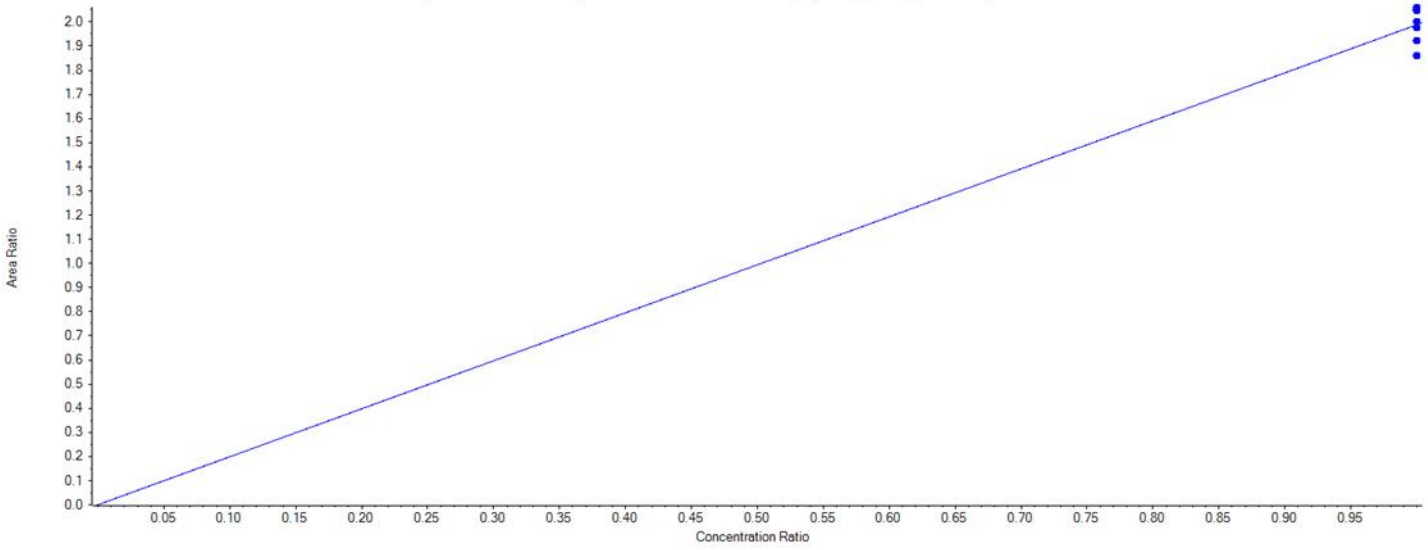
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DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C6-PFDA

y = 1.98822 x (std. dev. = 0.07436) (weighting: None)



Extraction Standard Calibration Verification

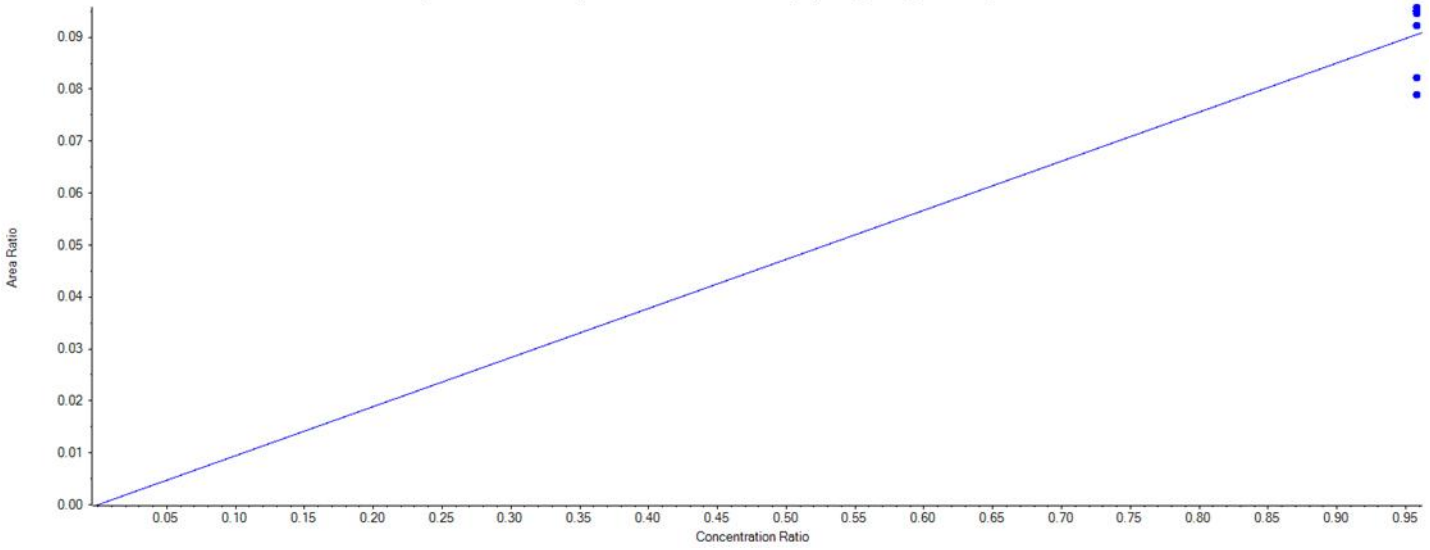
Sample Name	E13C6-PFDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	651348.0	338833.714	True	5.00	1.922	5.57	1.000	5.000	4.834	-3	30	
CAL2	661423.8	334958.441	True	5.00	1.975	5.57	1.000	5.000	4.966	-1	30	
CAL3	639022.8	311442.089	True	5.00	2.052	5.57	1.000	5.000	5.160	3	30	
CAL4	656868.3	320985.487	True	5.00	2.046	5.56	1.000	5.000	5.146	3	30	
CAL5	598009.7	298912.145	True	5.00	2.001	5.57	1.000	5.000	5.031	1	30	
CAL6	536626.2	260528.967	True	5.00	2.060	5.56	1.000	5.000	5.180	4	30	
CAL7	480927.9	258292.235	True	5.00	1.862	5.56	1.000	5.000	4.682	-6	30	

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-8:2-FTS

y = 0.09449 x (std. dev. = 0.00729) (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	26730.2	338833.714	True	5.00	0.079	5.57	1.000	4.790	4.174	-13	30	
CAL2	27523.0	334958.441	True	5.00	0.082	5.57	1.000	4.790	4.348	-9	30	
CAL3	29468.3	311442.089	True	5.00	0.095	5.57	1.000	4.790	5.007	5	30	
CAL4	30500.3	320985.487	True	5.00	0.095	5.57	1.000	4.790	5.028	5	30	
CAL5	27554.0	298912.145	True	5.00	0.092	5.57	1.000	4.790	4.878	2	30	
CAL6	24938.2	260528.967	True	5.00	0.096	5.56	1.000	4.790	5.065	6	30	
CAL7	24555.7	258292.235	True	5.00	0.095	5.57	1.000	4.790	5.031	5	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

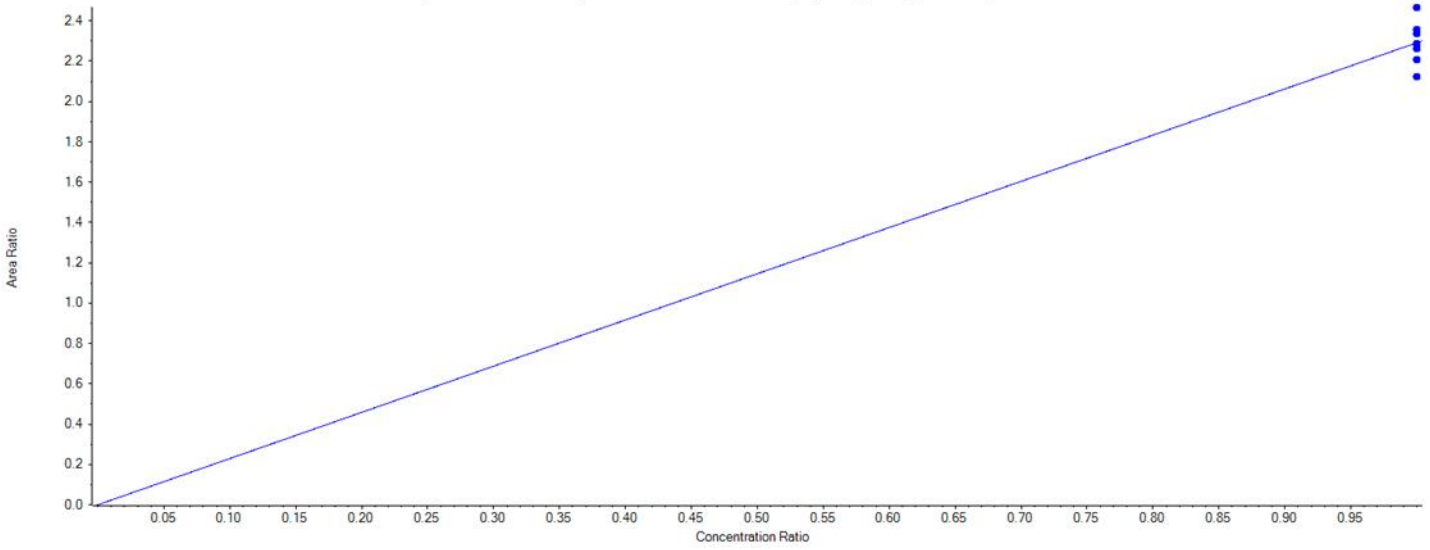
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DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C8-PFOSA

y = 2.29132 x (std. dev. = 0.11051) (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	774962.8	338833.714	True	5.00	2.287	5.64	1.010	5.000	4.991	0	30	
CAL2	711032.2	334958.441	True	5.00	2.123	5.64	1.010	5.000	4.632	-7	30	
CAL3	704745.5	311442.089	True	5.00	2.263	5.64	1.010	5.000	4.938	-1	30	
CAL4	708330.5	320985.487	True	5.00	2.207	5.64	1.010	5.000	4.815	-4	30	
CAL5	737038.5	298912.145	True	5.00	2.466	5.64	1.010	5.000	5.381	8	30	
CAL6	614406.4	260528.967	True	5.00	2.358	5.64	1.010	5.000	5.146	3	30	
CAL7	603296.1	258292.235	True	5.00	2.336	5.64	1.010	5.000	5.097	2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

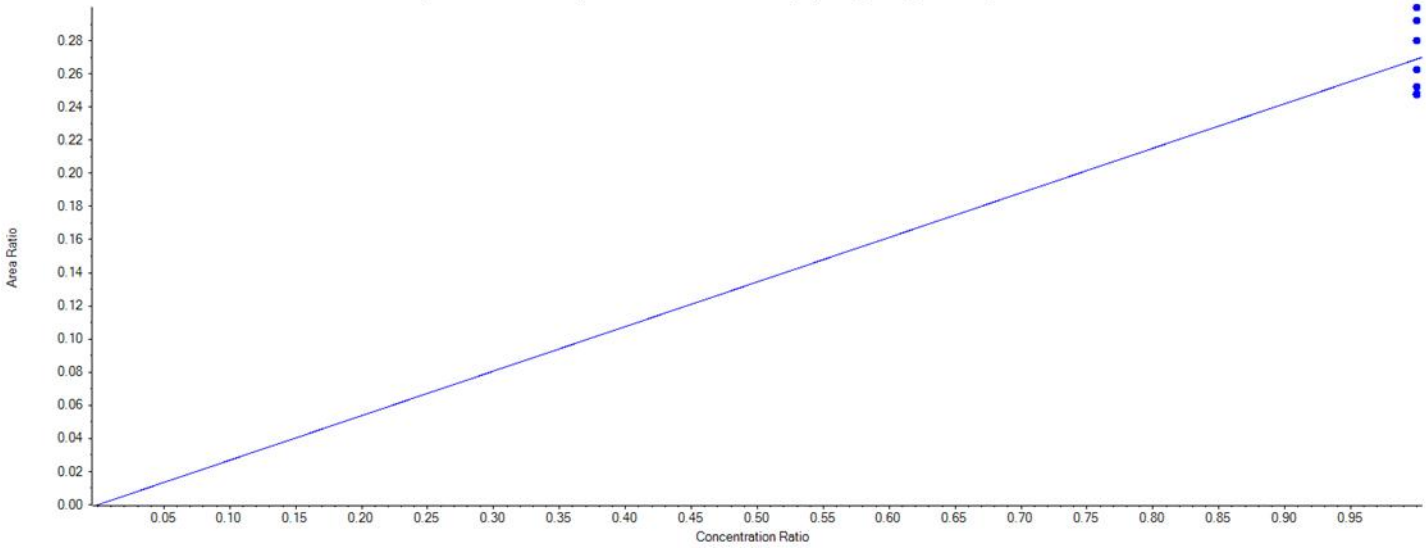
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMeFOSAA

y = 0.26888 x (std. dev. = 0.02181) (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	94967.0	338833.714	True	5.00	0.280	5.71	1.030	5.000	5.212	4	30	
CAL2	83112.2	334958.441	True	5.00	0.248	5.71	1.020	5.000	4.614	-8	30	
CAL3	81763.3	311442.089	True	5.00	0.263	5.71	1.030	5.000	4.882	-2	30	
CAL4	80900.1	320985.487	True	5.00	0.252	5.70	1.030	5.000	4.687	-6	30	
CAL5	73896.1	298912.145	True	5.00	0.247	5.71	1.020	5.000	4.597	-8	30	
CAL6	78158.0	260528.967	True	5.00	0.300	5.70	1.020	5.000	5.579	12	30	
CAL7	75408.7	258292.235	True	5.00	0.292	5.70	1.020	5.000	5.429	9	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

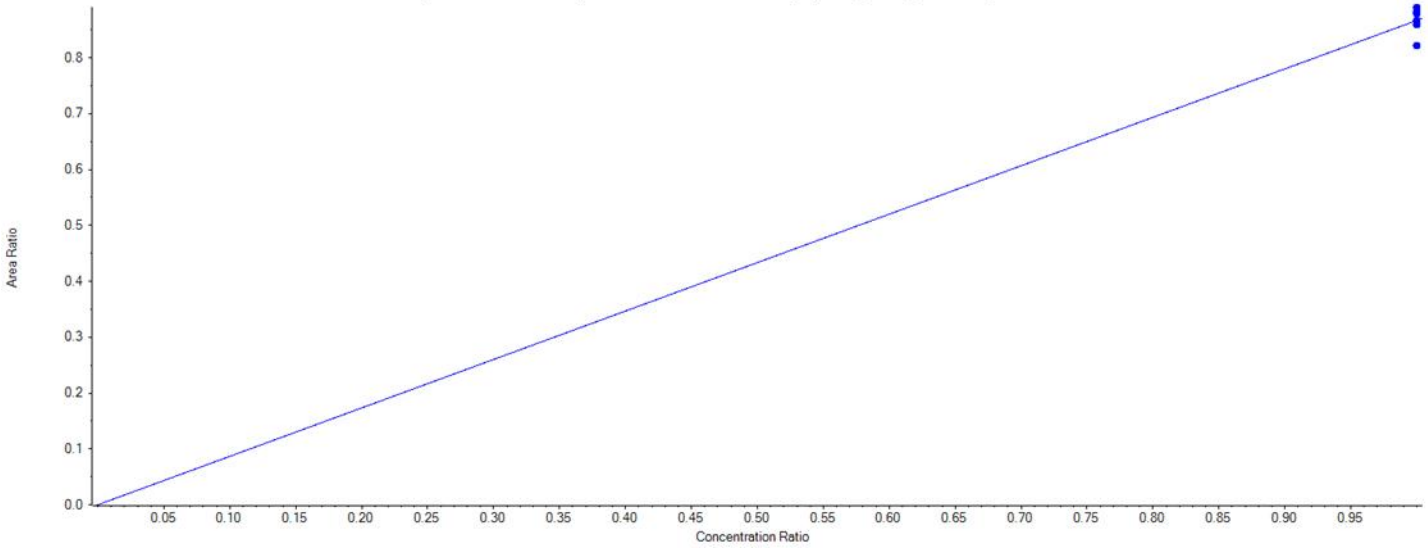
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C7-PFUnDA

y = 0.86673 x (std. dev. = 0.02232) (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	293658.7	338833.714	True	5.00	0.867	5.83	1.050	5.000	5.000	0	30	
CAL2	289985.1	334958.441	True	5.00	0.866	5.83	1.050	5.000	4.994	0	30	
CAL3	277115.5	311442.089	True	5.00	0.890	5.83	1.050	5.000	5.133	3	30	
CAL4	275977.2	320985.487	True	5.00	0.860	5.83	1.050	5.000	4.960	-1	30	
CAL5	263924.7	298912.145	True	5.00	0.883	5.83	1.050	5.000	5.094	2	30	
CAL6	229237.1	260528.967	True	5.00	0.880	5.82	1.050	5.000	5.076	2	30	
CAL7	212399.8	258292.235	True	5.00	0.822	5.82	1.050	5.000	4.744	-5	30	

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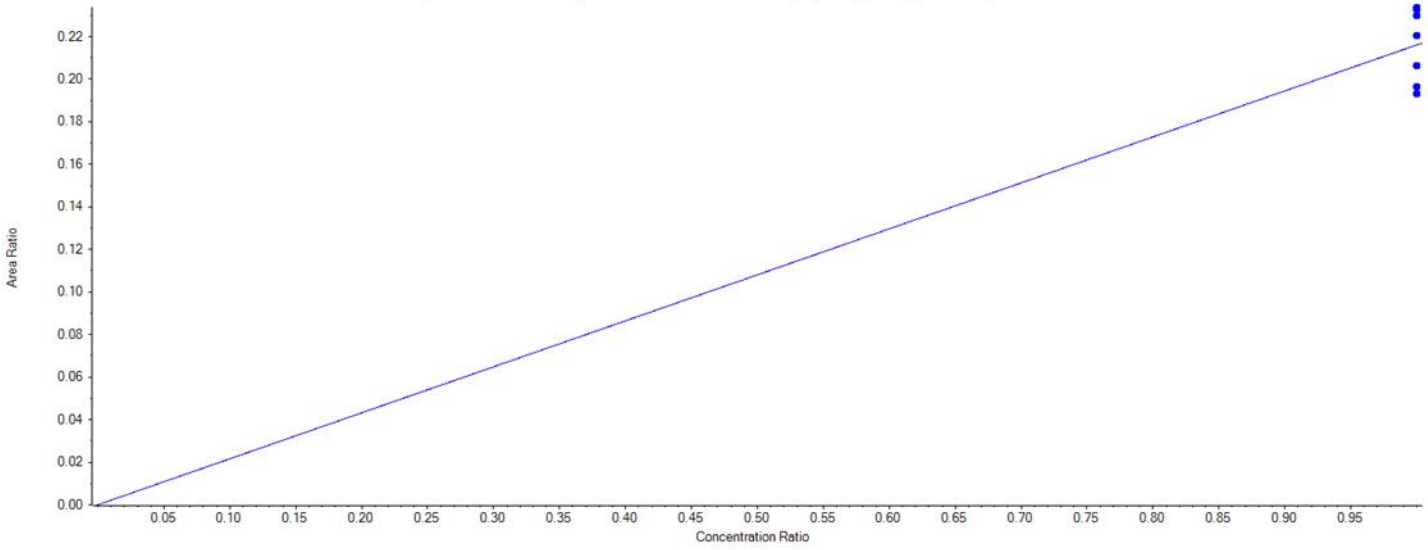
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtFOSAA

y = 0.21606 x (std. dev. = 0.01730) (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	77938.3	338833.714	True	5.00	0.230	5.84	1.050	5.000	5.323	6	30	
CAL2	65815.9	334958.441	True	5.00	0.196	5.84	1.050	5.000	4.547	-9	30	
CAL3	72755.7	311442.089	True	5.00	0.234	5.84	1.050	5.000	5.406	8	30	
CAL4	66162.4	320985.487	True	5.00	0.206	5.84	1.050	5.000	4.770	-5	30	
CAL5	57745.7	298912.145	True	5.00	0.193	5.84	1.050	5.000	4.471	-11	30	
CAL6	60556.6	260528.967	True	5.00	0.232	5.83	1.050	5.000	5.379	8	30	
CAL7	56963.1	258292.235	True	5.00	0.221	5.84	1.050	5.000	5.104	2	30	

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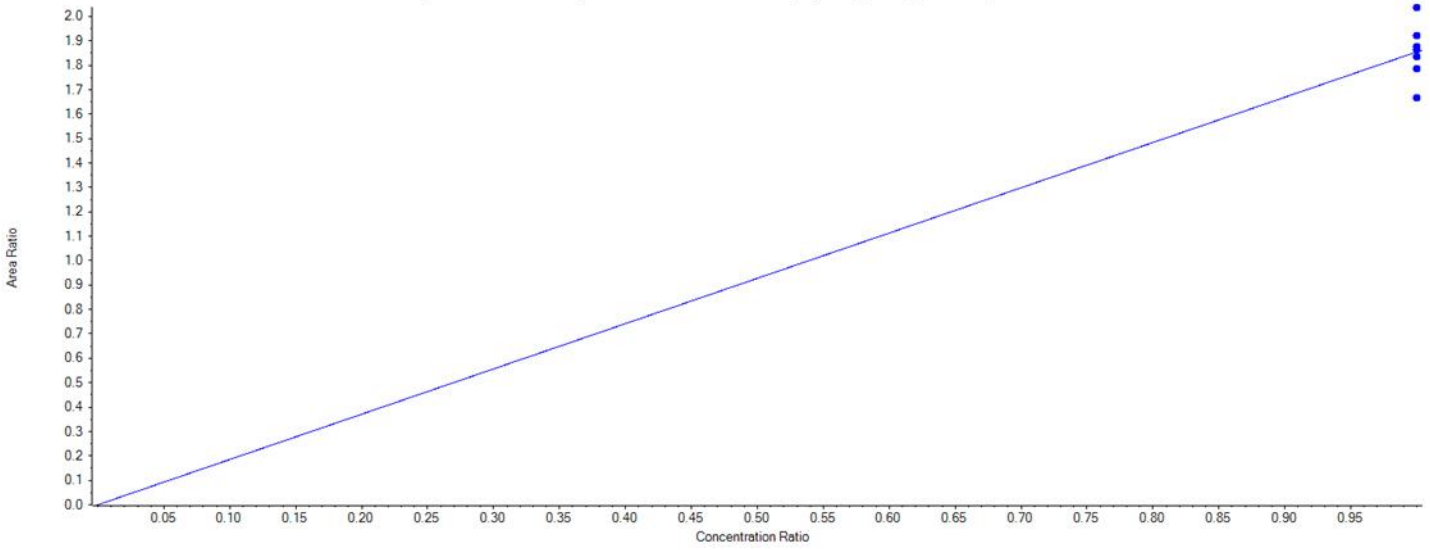
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFDoDA

y = 1.85471 x (std. dev. = 0.11432) (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	564794.9	338833.714	True	5.00	1.667	6.06	1.090	5.000	4.494	-10	30	
CAL2	597616.3	334958.441	True	5.00	1.784	6.06	1.090	5.000	4.810	-4	30	
CAL3	584631.5	311442.089	True	5.00	1.877	6.06	1.090	5.000	5.061	1	30	
CAL4	598287.4	320985.487	True	5.00	1.864	6.05	1.090	5.000	5.025	0	30	
CAL5	548536.0	298912.145	True	5.00	1.835	6.06	1.090	5.000	4.947	-1	30	
CAL6	500065.3	260528.967	True	5.00	1.919	6.05	1.090	5.000	5.174	3	30	
CAL7	525971.8	258292.235	True	5.00	2.036	6.05	1.090	5.000	5.490	10	30	

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By JPT at 2:53 pm, 11/7/18

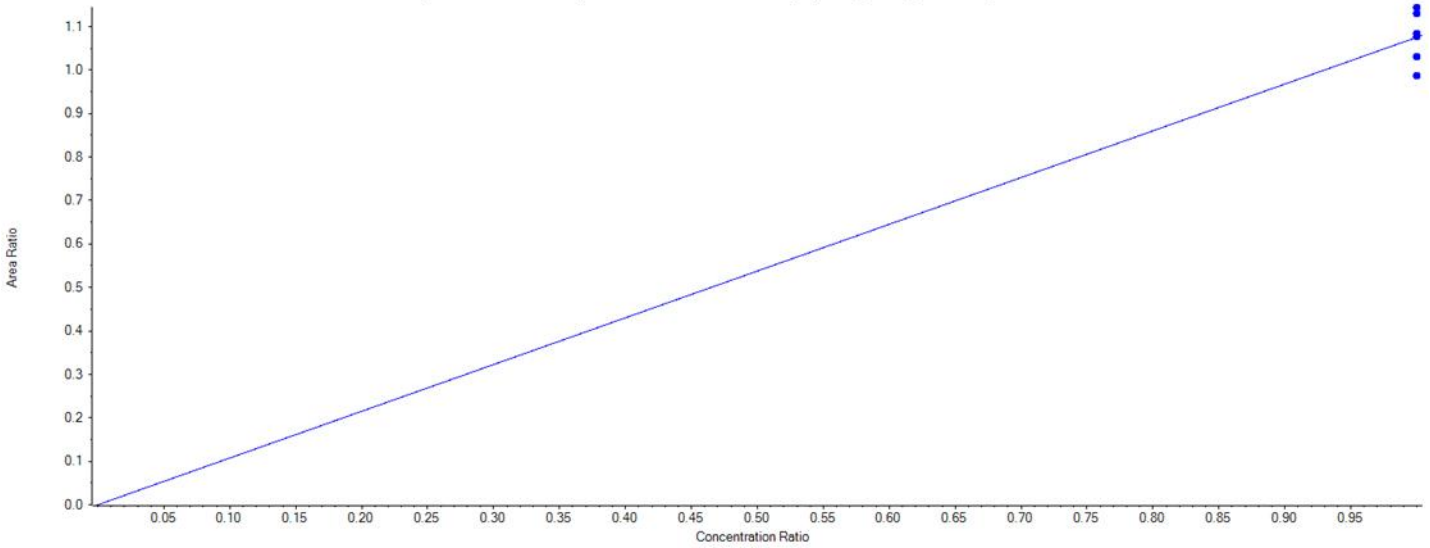
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed7-NMePFOSAE

y = 1.07520 x (std. dev. = 0.05435) (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	366847.7	338833.714	True	5.00	1.083	6.09	1.090	5.000	5.035	1	30	
CAL2	330298.6	334958.441	True	5.00	0.986	6.09	1.090	5.000	4.586	-8	30	
CAL3	335206.8	311442.089	True	5.00	1.076	6.09	1.090	5.000	5.005	0	30	
CAL4	330968.7	320985.487	True	5.00	1.031	6.08	1.090	5.000	4.795	-4	30	
CAL5	321549.5	298912.145	True	5.00	1.076	6.09	1.090	5.000	5.002	0	30	
CAL6	294617.6	260528.967	True	5.00	1.131	6.08	1.090	5.000	5.259	5	30	
CAL7	295395.3	258292.235	True	5.00	1.144	6.08	1.090	5.000	5.318	6	30	

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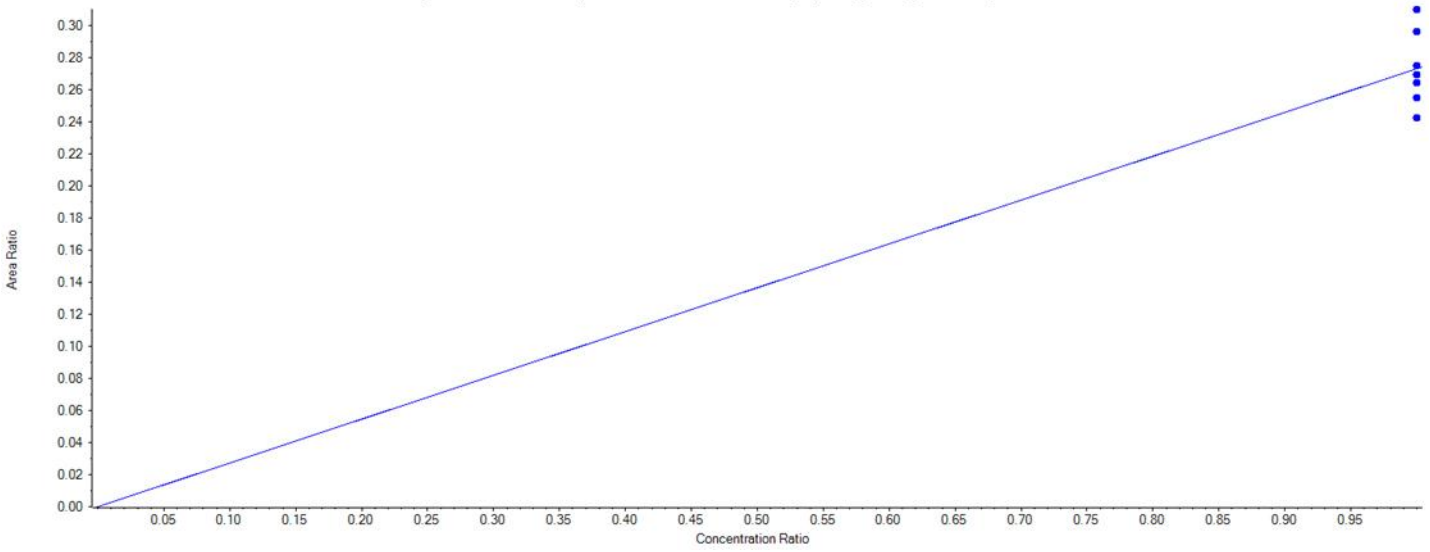
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed3-NMePFOSA

y = 0.27311 x (std. dev. = 0.02323) (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	89511.9	338833.714	True	5.00	0.264	6.10	1.100	5.000	4.836	-3	30	
CAL2	81301.2	334958.441	True	5.00	0.243	6.10	1.100	5.000	4.444	-11	30	
CAL3	79381.7	311442.089	True	5.00	0.255	6.10	1.100	5.000	4.666	-7	30	
CAL4	86399.4	320985.487	True	5.00	0.269	6.10	1.100	5.000	4.928	-1	30	
CAL5	82137.6	298912.145	True	5.00	0.275	6.10	1.100	5.000	5.031	1	30	
CAL6	77146.9	260528.967	True	5.00	0.296	6.09	1.100	5.000	5.421	8	30	
CAL7	80053.2	258292.235	True	5.00	0.310	6.10	1.100	5.000	5.674	13	30	

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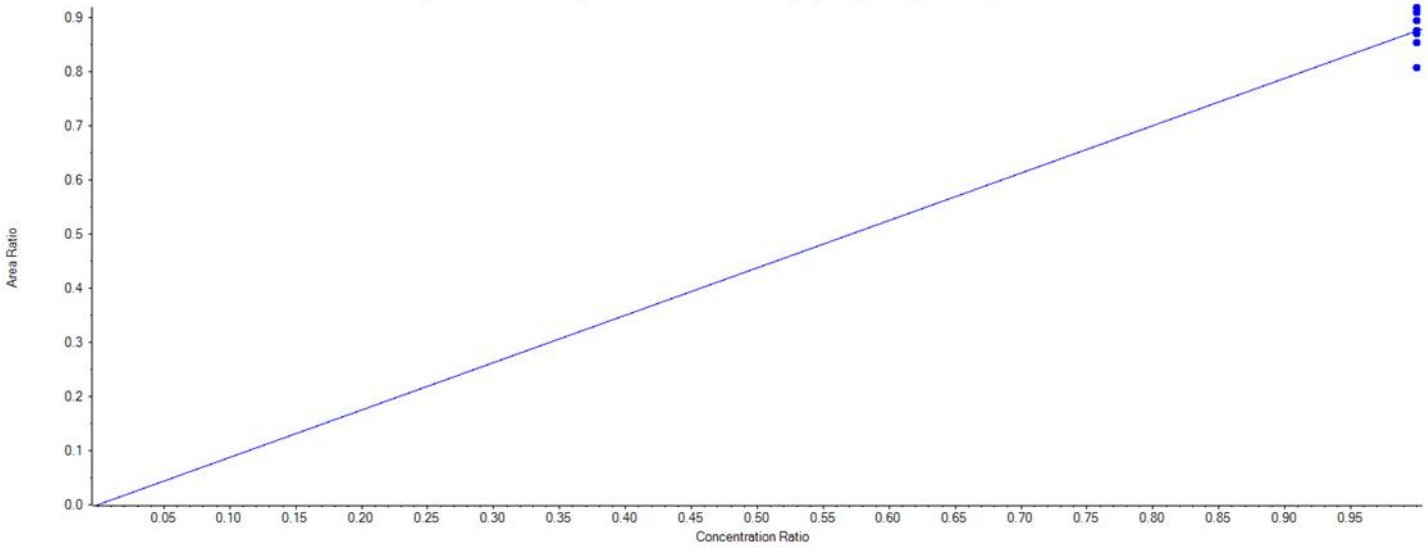
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed9-NEtPFOSAE

y = 0.87553 x (std. dev. = 0.03759) (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	296629.3	338833.714	True	5.00	0.875	6.24	1.120	5.000	5.000	0	30	
CAL2	270607.6	334958.441	True	5.00	0.808	6.24	1.120	5.000	4.614	-8	30	
CAL3	278375.1	311442.089	True	5.00	0.894	6.24	1.120	5.000	5.104	2	30	
CAL4	273909.1	320985.487	True	5.00	0.853	6.24	1.120	5.000	4.873	-3	30	
CAL5	259950.9	298912.145	True	5.00	0.870	6.24	1.120	5.000	4.966	-1	30	
CAL6	239317.0	260528.967	True	5.00	0.919	6.23	1.120	5.000	5.246	5	30	
CAL7	235038.0	258292.235	True	5.00	0.910	6.24	1.120	5.000	5.197	4	30	

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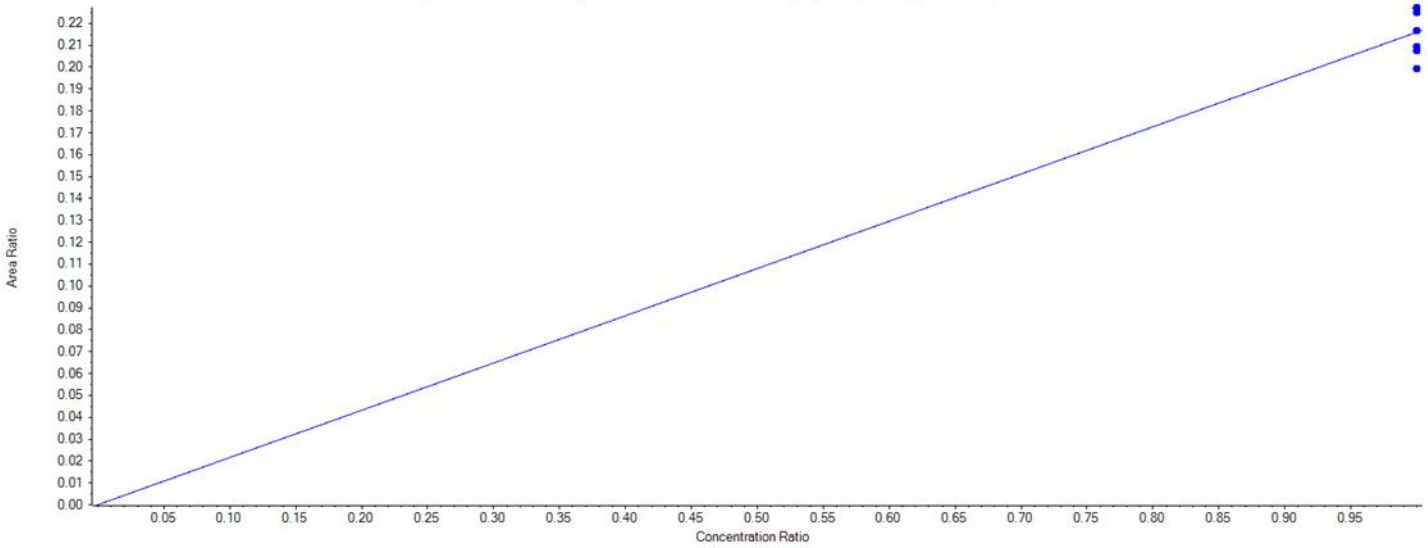
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Ed5-NEtPFOSA

y = 0.21594 x (std. dev. = 0.01096) (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	70926.7	338833.714	True	5.00	0.209	6.26	1.120	5.000	4.847	-3	30	
CAL2	66745.4	334958.441	True	5.00	0.199	6.26	1.120	5.000	4.614	-8	30	
CAL3	67444.3	311442.089	True	5.00	0.217	6.26	1.120	5.000	5.014	0	30	
CAL4	72258.7	320985.487	True	5.00	0.225	6.26	1.120	5.000	5.212	4	30	
CAL5	62005.6	298912.145	True	5.00	0.207	6.26	1.120	5.000	4.803	-4	30	
CAL6	59054.4	260528.967	True	5.00	0.227	6.25	1.120	5.000	5.248	5	30	
CAL7	58686.1	258292.235	True	5.00	0.227	6.26	1.120	5.000	5.261	5	30	

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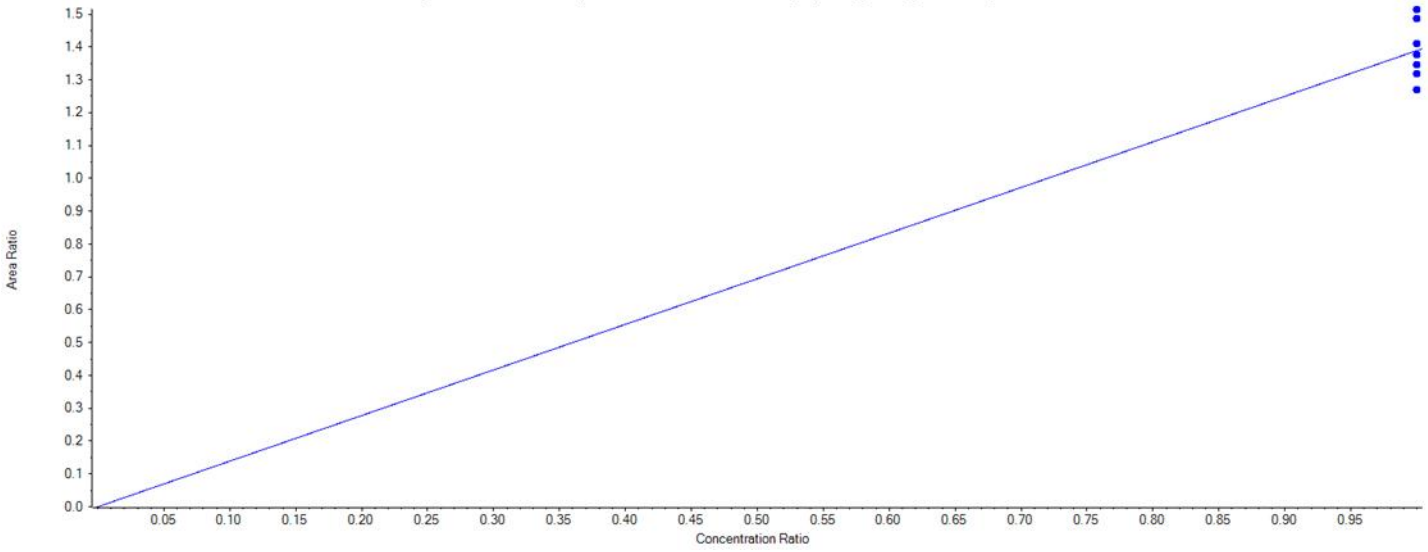
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DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

E13C2-PFTeDA

y = 1.38890 x (std. dev. = 0.08847) (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	430341.3	338833.714	True	5.00	1.270	6.43	1.160	5.000	4.572	-9	30	
CAL2	441206.9	334958.441	True	5.00	1.317	6.43	1.160	5.000	4.742	-5	30	
CAL3	419341.7	311442.089	True	5.00	1.346	6.43	1.160	5.000	4.847	-3	30	
CAL4	441858.1	320985.487	True	5.00	1.377	6.43	1.160	5.000	4.956	-1	30	
CAL5	421798.8	298912.145	True	5.00	1.411	6.43	1.160	5.000	5.080	2	30	
CAL6	394433.9	260528.967	True	5.00	1.514	6.43	1.160	5.000	5.450	9	30	
CAL7	384058.1	258292.235	True	5.00	1.487	6.43	1.160	5.000	5.353	7	30	

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By JPT at 2:53 pm, 11/7/18

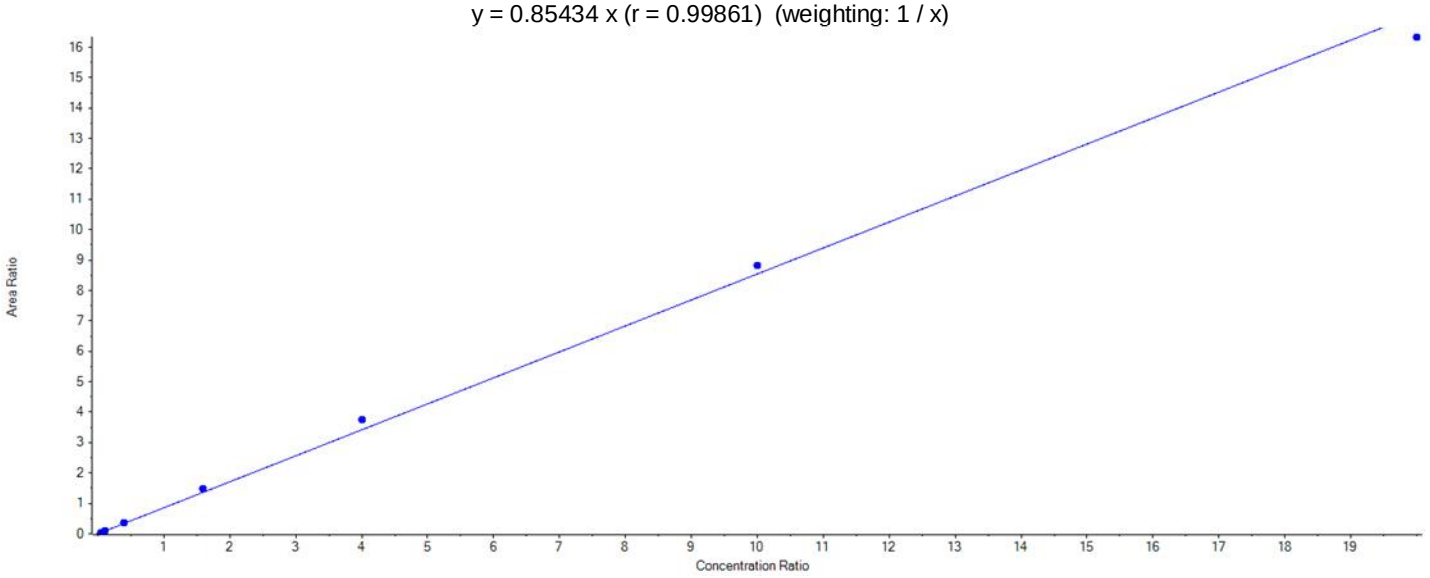
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBA

y = 0.85434 x (r = 0.99861) (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	32354.4	146.4	794718.852	True	5.00	0.041	3.27	1.000	0.200	0.238	19	30	
CAL2	72868.6	212.8	782732.821	True	5.00	0.093	3.27	1.000	0.500	0.545	9	30	
CAL3	285113.3	434.5	787180.244	True	5.00	0.362	3.27	1.000	2.000	2.120	6	30	
CAL4	1152870.9	735.9	771359.129	True	5.00	1.495	3.27	1.000	8.000	8.747	9	30	
CAL5	2730076.0	1045.3	728925.112	True	5.00	3.745	3.27	1.000	20.000	21.919	10	30	
CAL6	5709364.6	1410.1	647849.559	True	5.00	8.813	3.26	1.000	50.000	51.576	3	30	
CAL7	9954520.3	1648.1	609686.139	True	5.00	16.327	3.26	1.000	100.000	95.554	-4	30	

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By JPT at 2:53 pm, 11/7/18

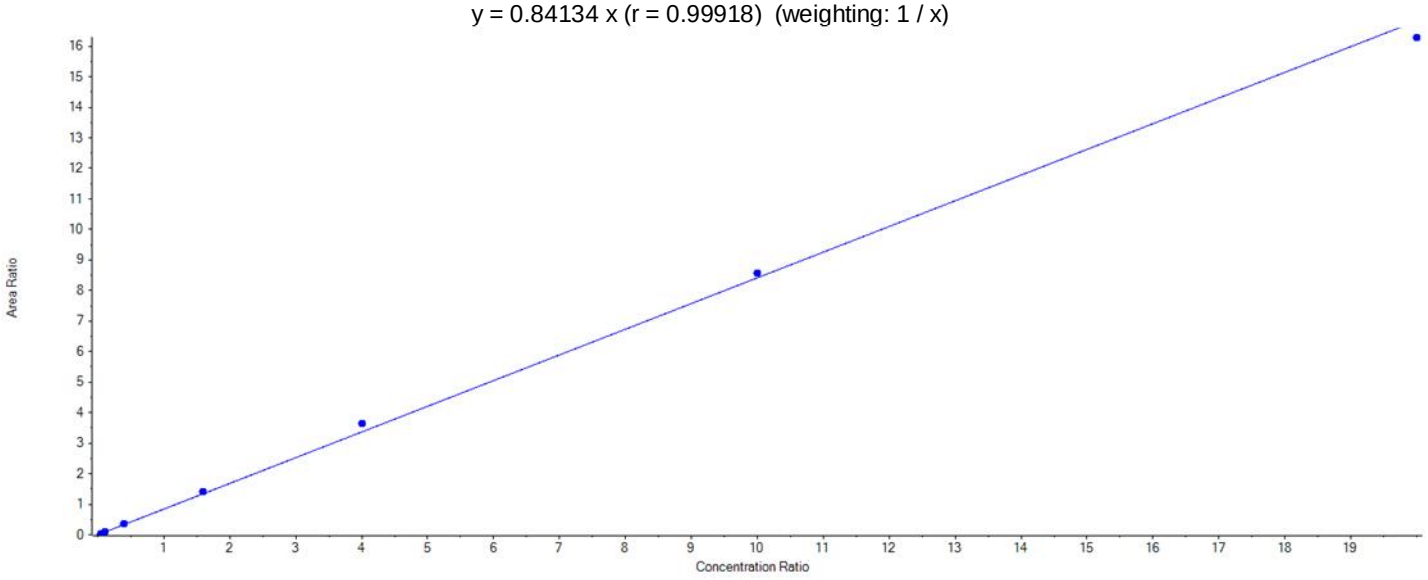
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeA

y = 0.84134 x (r = 0.99918) (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	33205.5	67.0	844850.159	True	5.00	0.039	3.77	1.000	0.200	0.234	17	30	
CAL2	77403.9	97.9	863262.811	True	5.00	0.090	3.77	1.000	0.500	0.533	7	30	
CAL3	286630.7	271.7	829978.484	True	5.00	0.345	3.77	1.000	2.000	2.052	3	30	
CAL4	1165758.7	263.0	824842.795	True	5.00	1.413	3.76	1.000	8.000	8.399	5	30	
CAL5	2812772.2	497.5	768958.133	True	5.00	3.658	3.77	1.000	20.000	21.739	9	30	
CAL6	5899932.2	954.6	687796.699	True	5.00	8.578	3.76	1.000	50.000	50.979	2	30	
CAL7	10229627.8	783.9	628265.483	True	5.00	16.282	3.76	1.000	100.000	96.765	-3	30	

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By JPT at 2:53 pm, 11/7/18

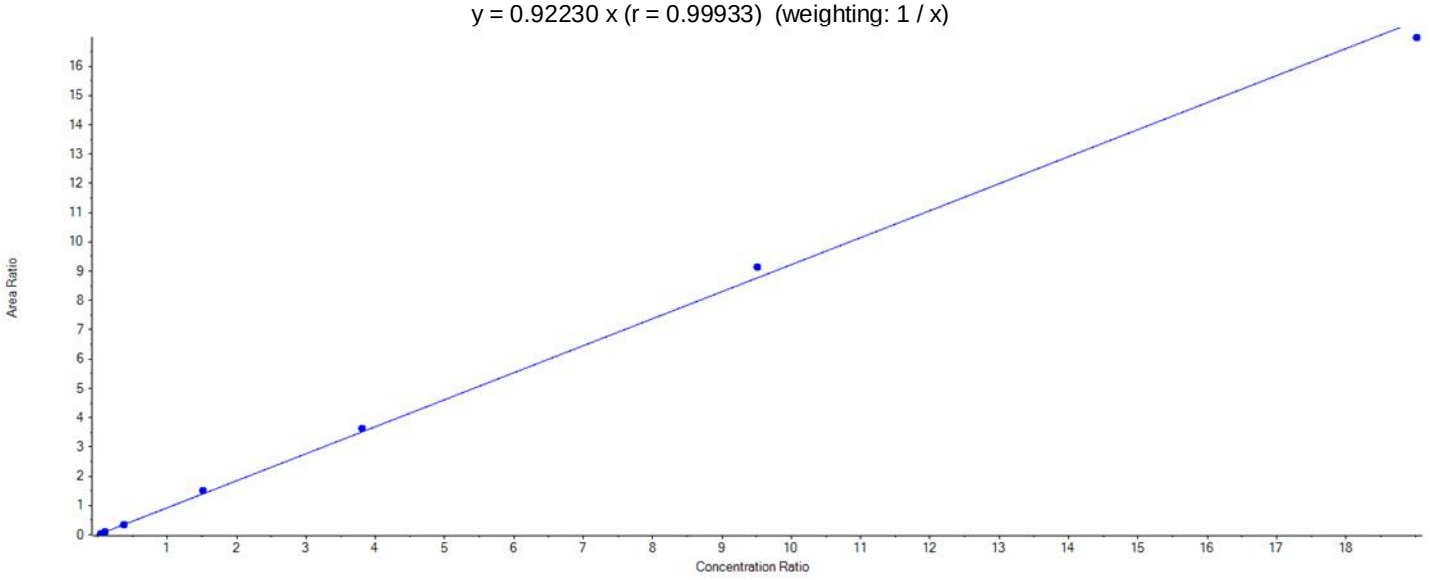
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFBS

y = 0.92230 x (r = 0.99933) (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	19024.1	393.3	449266.276	True	4.65	0.042	3.82	1.000	0.170	0.213	26	30	
CAL2	41415.1	562.8	444721.279	True	4.65	0.093	3.82	1.000	0.440	0.470	7	30	
CAL3	157656.3	933.8	456815.174	True	4.65	0.345	3.82	1.000	1.770	1.740	-2	30	
CAL4	648524.4	1539.0	434938.872	True	4.65	1.491	3.81	1.000	7.080	7.518	6	30	
CAL5	1601296.4	1306.5	442479.717	True	4.65	3.619	3.82	1.000	17.690	18.246	3	30	
CAL6	3508201.1	1595.6	384220.795	True	4.65	9.131	3.81	1.000	44.220	46.035	4	30	
CAL7	6474525.0	1528.4	381345.498	True	4.65	16.978	3.81	1.000	88.450	85.599	-3	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

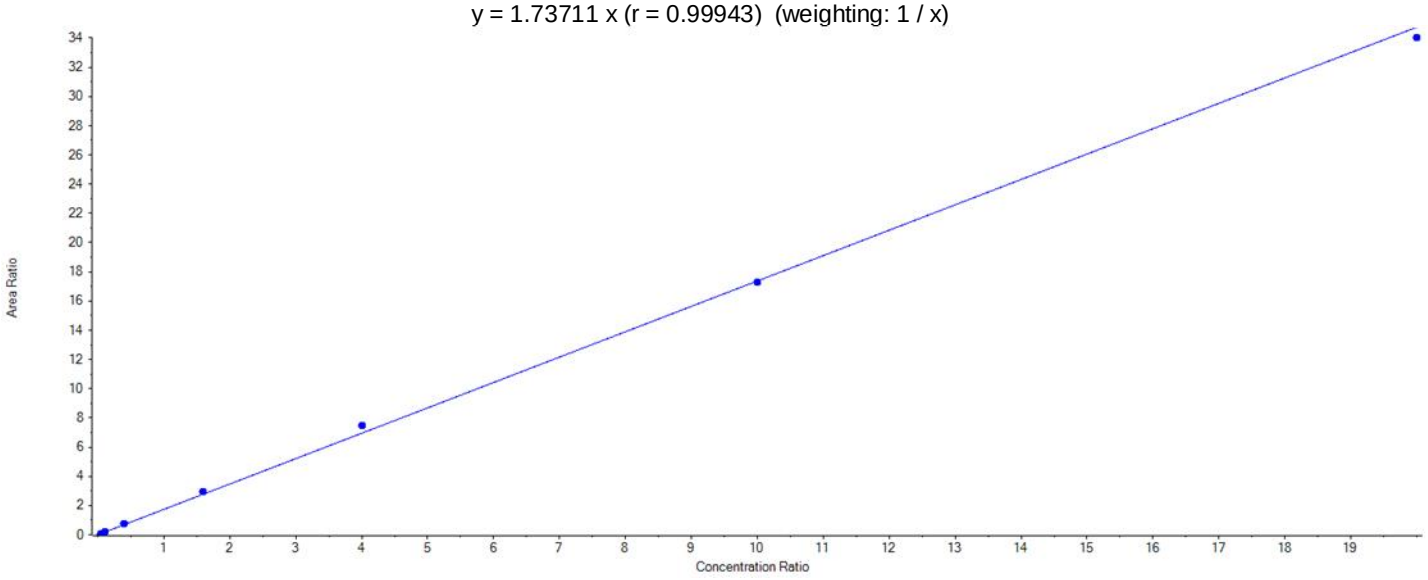
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

4:2-FTS

y = 1.73711 x (r = 0.99943) (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	4145.4	132.5	58330.929	True	4.67	0.071	4.13	1.000	0.187	0.191	2	30	
CAL2	9924.9	268.5	54234.136	True	4.67	0.183	4.13	1.000	0.467	0.492	5	30	
CAL3	35586.2	540.9	48706.042	True	4.67	0.731	4.14	1.000	1.868	1.964	5	30	
CAL4	153295.4	973.4	51520.627	True	4.67	2.975	4.13	1.000	7.472	7.999	7	30	
CAL5	365423.8	1181.5	48869.851	True	4.67	7.477	4.13	1.000	18.680	20.102	8	30	
CAL6	866263.6	1274.7	50041.324	True	4.67	17.311	4.12	1.000	46.700	46.538	0	30	
CAL7	1576786.3	1225.2	46334.175	True	4.67	34.031	4.13	1.000	93.400	91.487	-2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

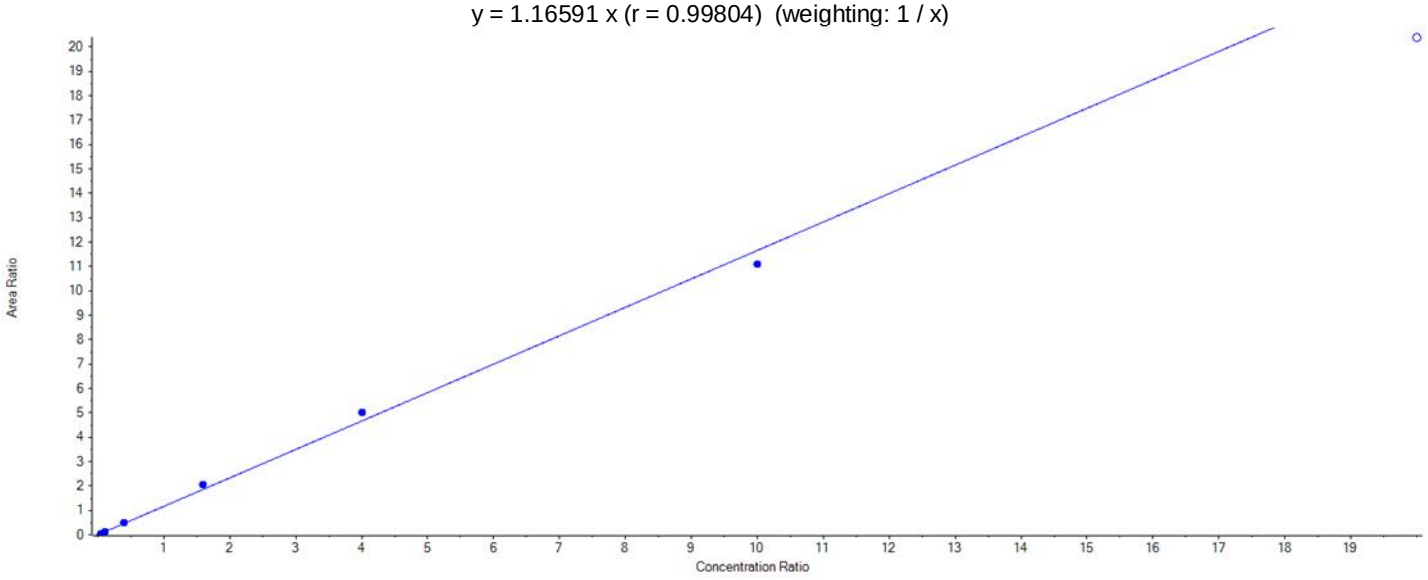
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxA

y = 1.16591 x (r = 0.99804) (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	39732.2	173.4	725432.031	True	5.00	0.055	4.17	1.000	0.200	0.235	17	30	
CAL2	88469.9	273.6	717434.931	True	5.00	0.123	4.17	1.000	0.500	0.529	6	30	
CAL3	351503.9	491.3	705369.014	True	5.00	0.498	4.17	1.000	2.000	2.137	7	30	
CAL4	1455862.5	897.7	713446.262	True	5.00	2.041	4.16	1.000	8.000	8.751	9	30	
CAL5	3380716.3	1094.5	674375.429	True	5.00	5.013	4.16	1.000	20.000	21.499	7	30	
CAL6	6739327.9	1094.4	607820.088	True	5.00	11.088	4.16	1.000	50.000	47.549	-5	30	
CAL7	11658104.6	1005.0	571807.508	False	5.00	20.388	4.16	1.000	100.000	87.434	-13	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

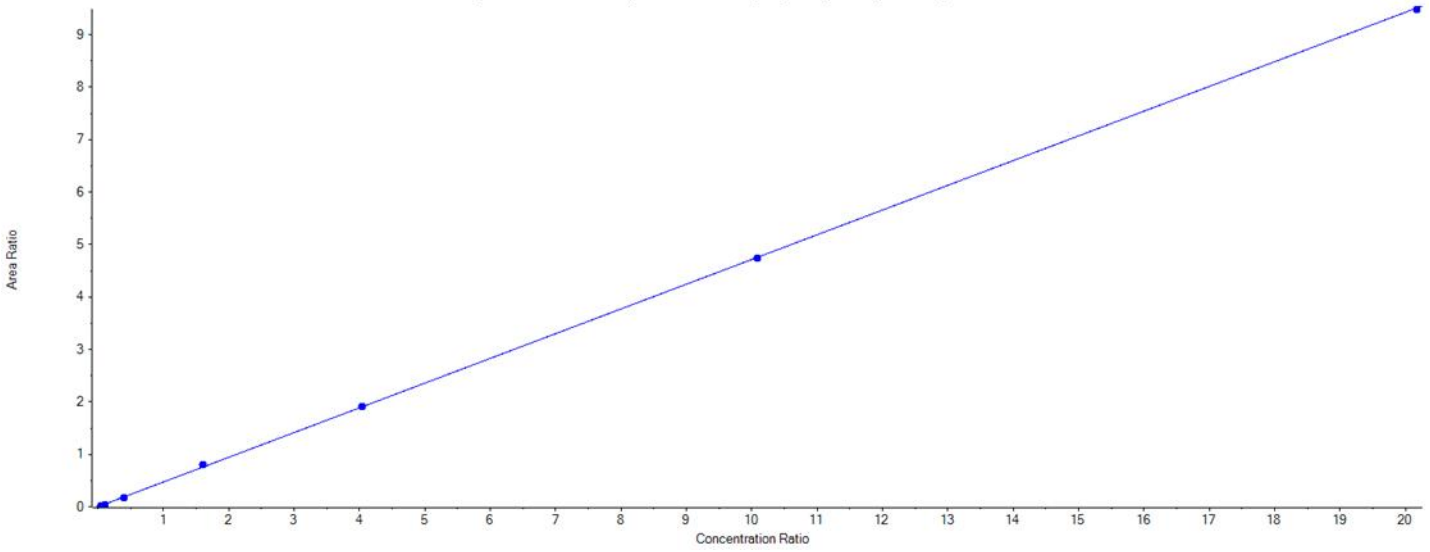
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFPeS

y = 0.47146 x (r = 0.99990) (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	8335.4	274.6	449266.276	True	4.65	0.019	4.18	1.100	0.190	0.183	-4	30	
CAL2	20956.8	449.7	444721.279	True	4.65	0.047	4.19	1.100	0.469	0.465	-1	30	
CAL3	82090.1	729.5	456815.174	True	4.65	0.180	4.19	1.100	1.880	1.772	-6	30	
CAL4	349358.3	1303.9	434938.872	True	4.65	0.803	4.18	1.100	7.500	7.922	6	30	
CAL5	845636.3	1195.3	442479.717	True	4.65	1.911	4.18	1.100	18.760	18.849	0	30	
CAL6	1823355.9	1852.0	384220.795	True	4.65	4.746	4.18	1.100	46.900	46.806	0	30	
CAL7	3615170.2	1352.9	381345.498	True	4.65	9.480	4.18	1.100	93.800	93.501	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

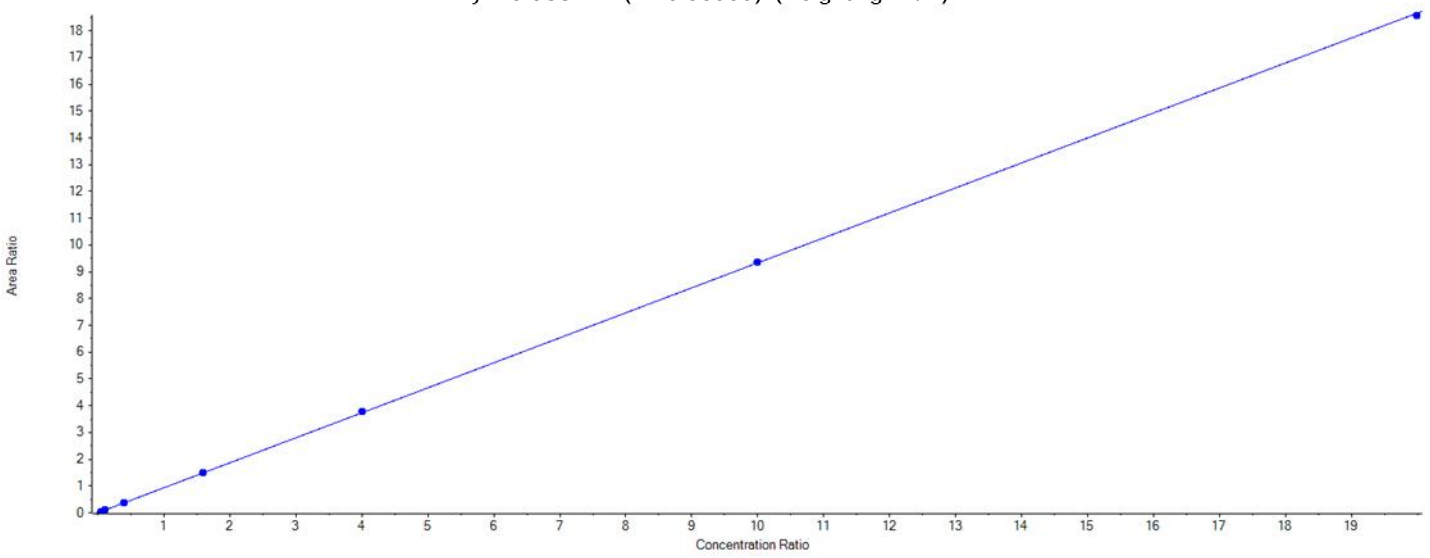
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxS

y = 0.93317 x (r = 0.99996) (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	13762.6	1166.5	358771.251	True	4.73	0.038	4.56	1.000	0.190	0.194	2	30	
CAL2	32061.0	6549.5	335732.100	True	4.73	0.095	4.56	1.000	0.473	0.484	2	30	
CAL3	122477.7	1994.1	343139.549	True	4.73	0.357	4.56	1.000	1.890	1.809	-4	30	
CAL4	513536.6	3164.6	339090.468	True	4.73	1.514	4.55	1.000	7.560	7.676	2	30	
CAL5	1261633.0	4348.9	332808.457	True	4.73	3.791	4.55	1.000	18.910	19.215	2	30	
CAL6	2760712.8	3934.3	295466.243	True	4.73	9.344	4.55	1.000	47.280	47.360	0	30	
CAL7	5196245.3	3688.8	279859.575	True	4.73	18.567	4.55	1.000	94.550	94.113	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

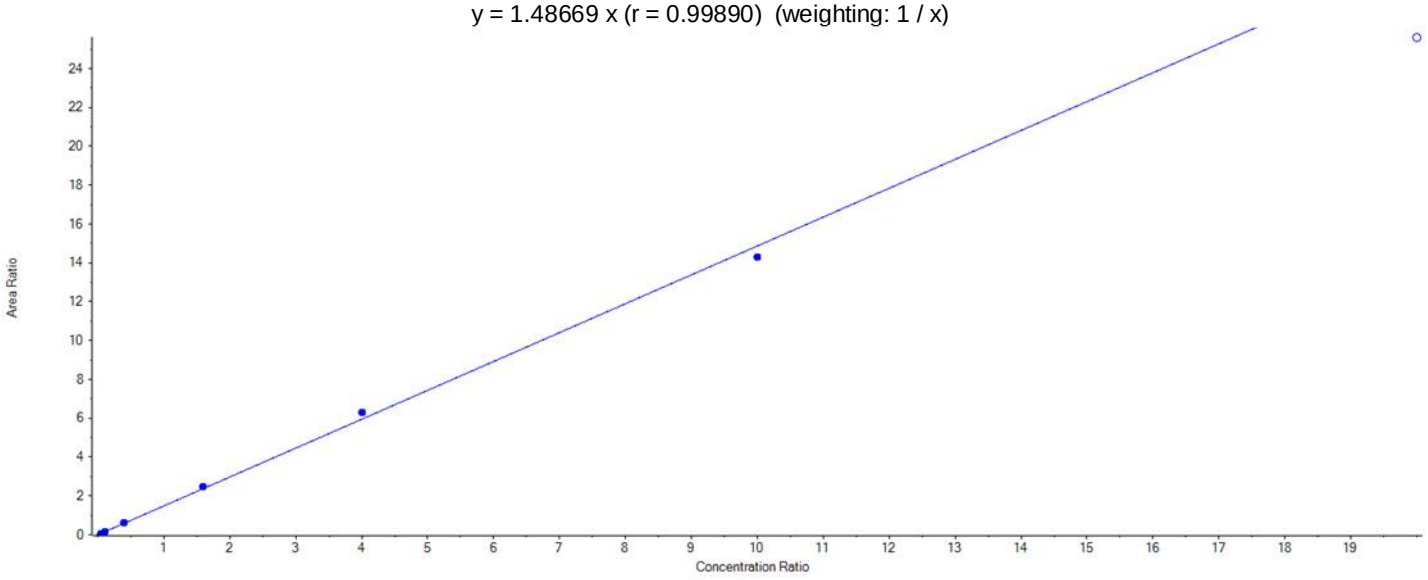
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpA

y = 1.48669 x (r = 0.99890) (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	38331.9	115.7	586580.259	True	5.00	0.065	4.55	1.000	0.200	0.220	10	30	
CAL2	93502.9	220.2	583342.783	True	5.00	0.160	4.56	1.000	0.500	0.539	8	30	
CAL3	360280.4	493.2	566495.562	True	5.00	0.636	4.56	1.000	2.000	2.139	7	30	
CAL4	1481489.5	591.4	592497.863	True	5.00	2.500	4.55	1.000	8.000	8.409	5	30	
CAL5	3440372.8	967.5	544681.071	True	5.00	6.316	4.55	1.000	20.000	21.243	6	30	
CAL6	6940304.7	1231.7	484763.199	True	5.00	14.317	4.55	1.000	50.000	48.150	-4	30	
CAL7	11701142.2	1512.0	457160.435	False	5.00	25.595	4.55	1.000	100.000	86.081	-14	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

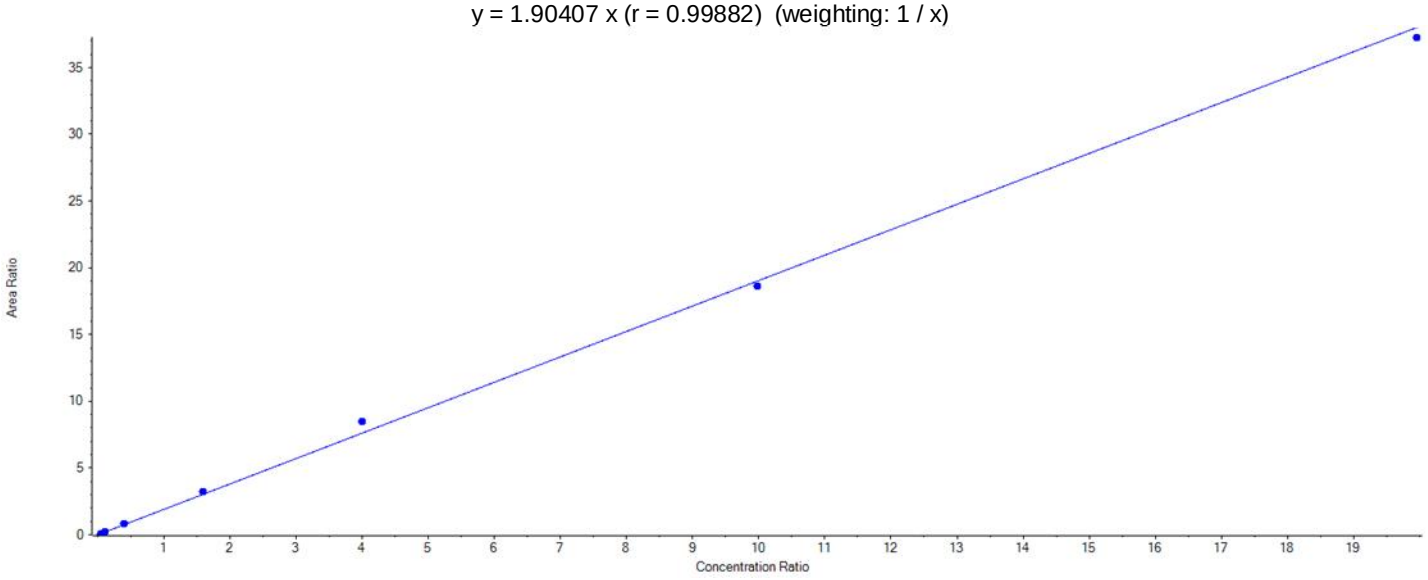
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

6:2-FTS

y = 1.90407 x (r = 0.99882) (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	2460.6	100.5	42112.811	True	4.75	0.058	4.91	1.000	0.190	0.146	-23	30	
CAL2	8883.8	317.6	38849.605	True	4.75	0.229	4.91	1.000	0.474	0.570	20	30	
CAL3	32056.4	598.2	38605.475	True	4.75	0.830	4.92	1.000	1.896	2.071	9	30	
CAL4	125170.2	897.1	39121.731	True	4.75	3.200	4.91	1.000	7.584	7.982	5	30	
CAL5	278493.0	1000.7	32735.591	True	4.75	8.507	4.91	1.000	18.960	21.223	12	30	
CAL6	566692.8	797.2	30466.848	True	4.75	18.600	4.90	1.000	47.400	46.401	-2	30	
CAL7	988785.9	901.9	26549.079	True	4.75	37.244	4.90	1.000	94.800	92.910	-2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

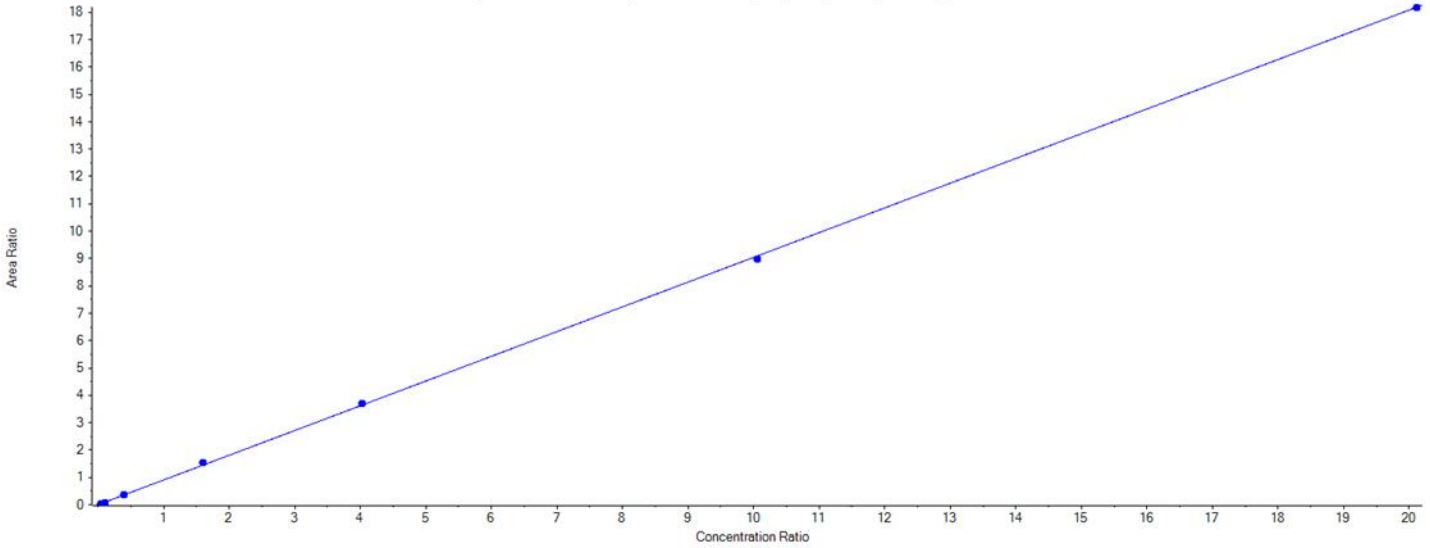
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHpS

y = 0.90410 x (r = 0.99989) (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	14183.4	333.2	358771.251	True	4.73	0.040	4.91	1.080	0.190	0.207	9	30	
CAL2	30553.2	575.9	335732.100	True	4.73	0.091	4.92	1.080	0.476	0.476	0	30	
CAL3	123126.9	881.8	343139.549	True	4.73	0.359	4.92	1.080	1.900	1.877	-1	30	
CAL4	516333.1	1178.7	339090.468	True	4.73	1.523	4.91	1.080	7.610	7.966	5	30	
CAL5	1236603.7	1092.5	332808.457	True	4.73	3.716	4.92	1.080	19.030	19.439	2	30	
CAL6	2648512.9	1087.8	295466.243	True	4.73	8.964	4.91	1.080	47.580	46.896	-1	30	
CAL7	5085803.6	1089.6	279859.575	True	4.73	18.173	4.91	1.080	95.150	95.074	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

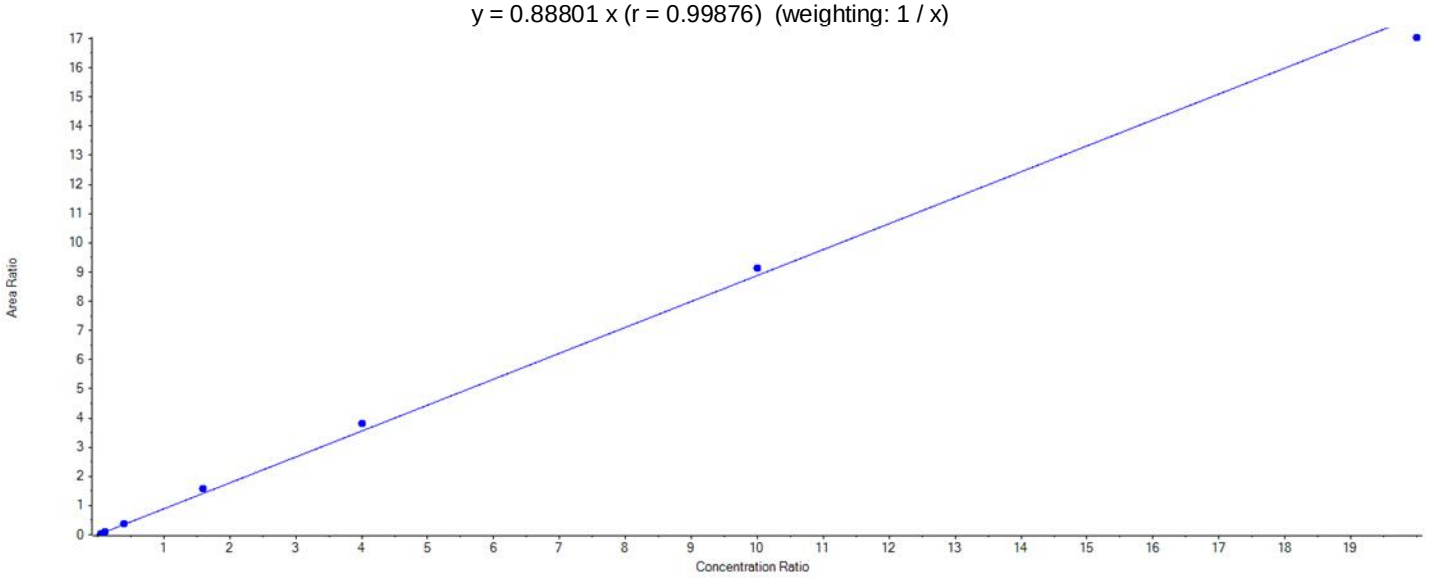
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOA

y = 0.88801 x (r = 0.99876) (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	39843.5	233.7	1028414.921	True	5.00	0.039	4.93	1.000	0.200	0.218	9	30	
CAL2	94348.1	430.7	970523.191	True	5.00	0.097	4.93	1.000	0.500	0.547	9	30	
CAL3	364943.1	791.6	964414.633	True	5.00	0.378	4.93	1.000	2.000	2.131	7	30	
CAL4	1491946.3	1207.0	937287.469	True	5.00	1.592	4.92	1.000	8.000	8.963	12	30	
CAL5	3425279.8	1901.2	895692.173	True	5.00	3.824	4.92	1.000	20.000	21.532	8	30	
CAL6	7023921.1	2522.0	769164.416	True	5.00	9.132	4.92	1.000	50.000	51.417	3	30	
CAL7	11562348.7	2334.2	678914.551	True	5.00	17.031	4.92	1.000	100.000	95.892	-4	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

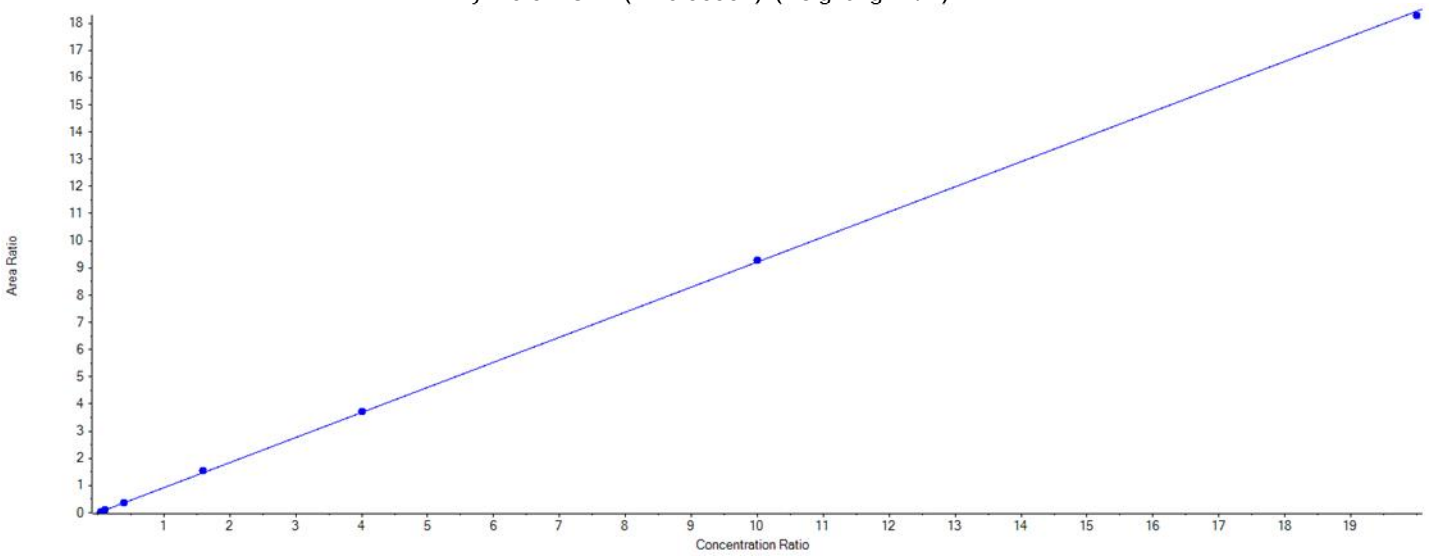
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOS

y = 0.92182 x (r = 0.99994) (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	12181.7	1599.7	307224.329	True	4.78	0.040	5.25	1.000	0.190	0.206	8	30	
CAL2	28529.2	1301.4	286174.783	True	4.78	0.100	5.25	1.000	0.478	0.517	8	30	
CAL3	111397.7	2913.4	297259.750	True	4.78	0.375	5.25	1.000	1.910	1.943	2	30	
CAL4	447769.0	1957.6	291941.558	True	4.78	1.534	5.25	1.000	7.650	7.953	4	30	
CAL5	1108359.9	3249.6	297995.609	True	4.78	3.719	5.25	1.000	19.120	19.287	1	30	
CAL6	2487687.4	4656.8	268368.993	True	4.78	9.270	5.24	1.000	47.800	48.067	1	30	
CAL7	4830627.6	3150.6	264295.900	True	4.78	18.277	5.25	1.000	95.600	94.776	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

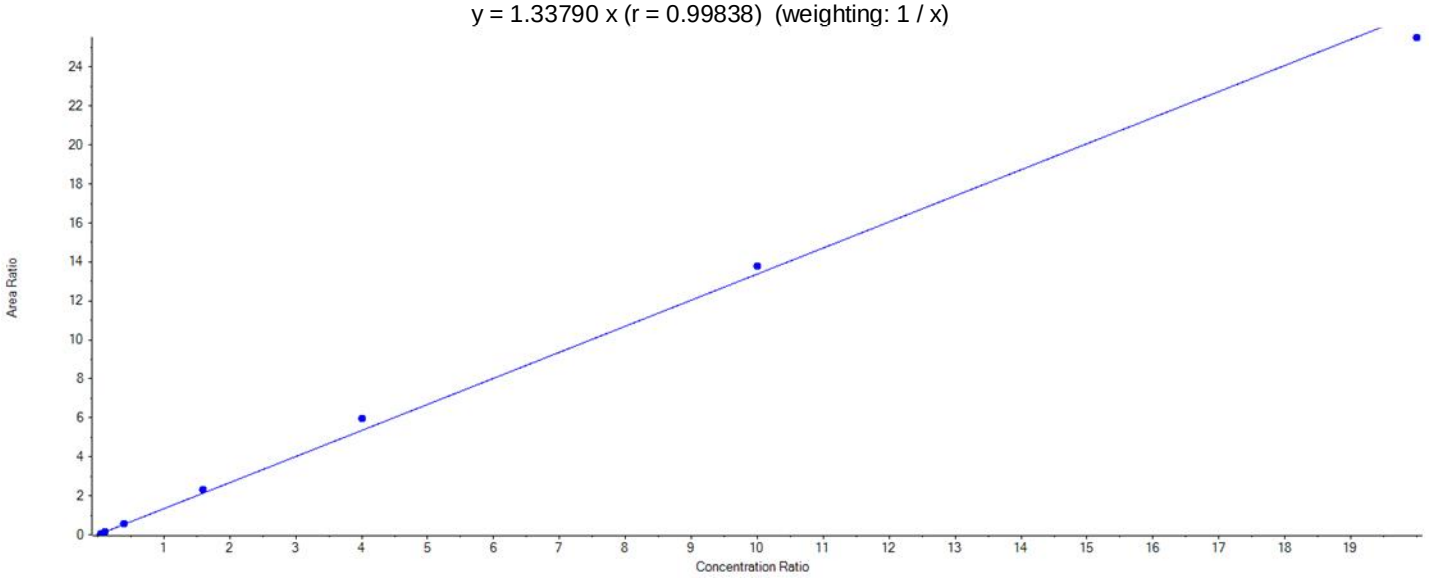
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNA

y = 1.33790 x (r = 0.99838) (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	32563.3	212.6	518118.657	True	5.00	0.063	5.27	1.000	0.200	0.235	17	30	
CAL2	74743.9	385.8	540435.380	True	5.00	0.138	5.27	1.000	0.500	0.517	3	30	
CAL3	299530.4	891.6	513115.984	True	5.00	0.584	5.27	1.000	2.000	2.182	9	30	
CAL4	1179151.8	1096.7	512147.381	True	5.00	2.302	5.27	1.000	8.000	8.604	8	30	
CAL5	2889454.7	1462.7	484419.266	True	5.00	5.965	5.27	1.000	20.000	22.292	11	30	
CAL6	6070259.1	1061.5	440319.007	True	5.00	13.786	5.26	1.000	50.000	51.521	3	30	
CAL7	10279837.9	1111.6	402916.669	True	5.00	25.514	5.27	1.000	100.000	95.349	-5	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

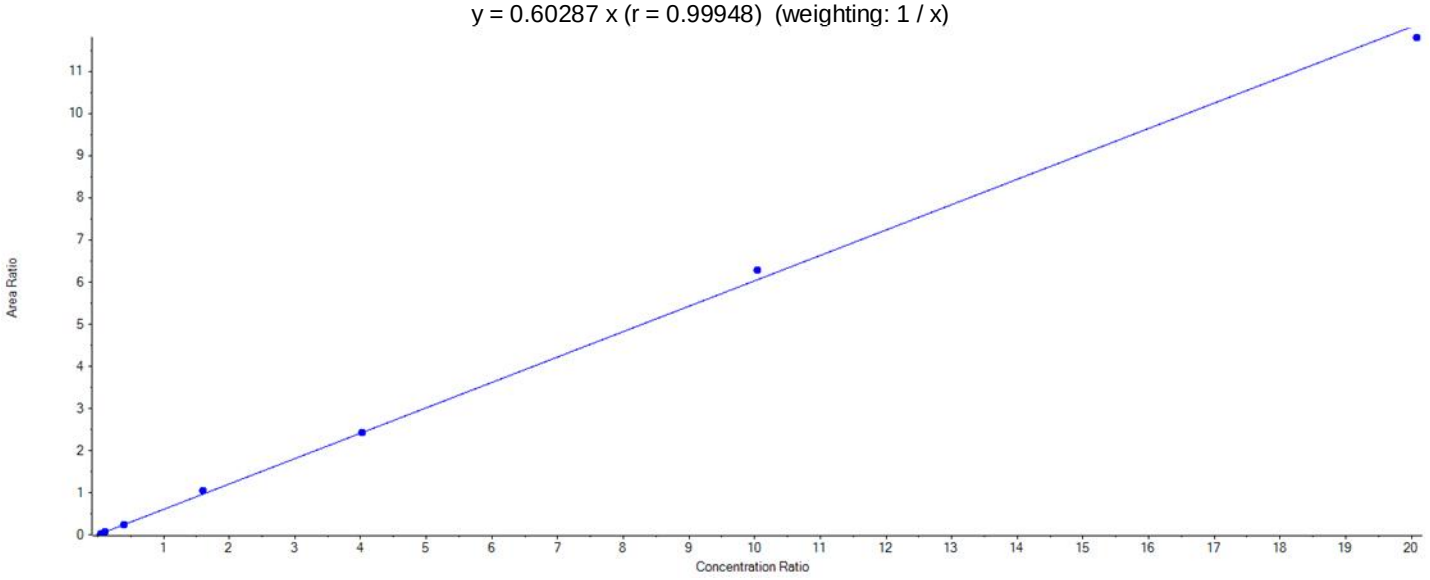
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFNS

y = 0.60287 x (r = 0.99948) (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	6748.5	139.2	307224.329	True	4.78	0.022	5.55	1.060	0.190	0.174	-8	30	
CAL2	17507.8	298.5	286174.783	True	4.78	0.061	5.55	1.060	0.480	0.485	1	30	
CAL3	72940.0	700.2	297259.750	True	4.78	0.245	5.55	1.060	1.920	1.946	1	30	
CAL4	305013.7	830.3	291941.558	True	4.78	1.045	5.54	1.060	7.680	8.284	8	30	
CAL5	722178.3	1119.3	297995.609	True	4.78	2.423	5.54	1.060	19.200	19.215	0	30	
CAL6	1684601.2	897.8	268368.993	True	4.78	6.277	5.54	1.060	48.000	49.770	4	30	
CAL7	3119908.2	856.2	264295.900	True	4.78	11.805	5.54	1.060	96.000	93.596	-3	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

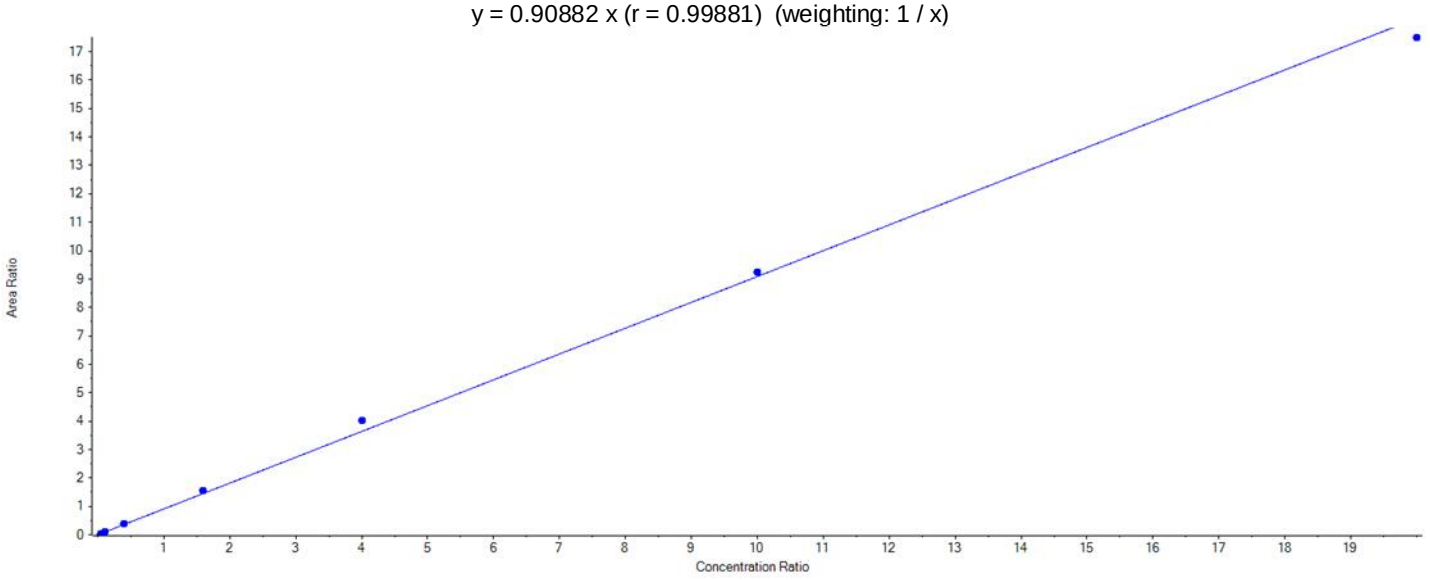
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDA

y = 0.90882 x (r = 0.99881) (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	25530.0	80.6	651347.959	True	5.00	0.039	5.57	1.000	0.200	0.216	8	30	
CAL2	62530.6	137.6	661423.810	True	5.00	0.095	5.57	1.000	0.500	0.520	4	30	
CAL3	244693.9	357.4	639022.779	True	5.00	0.383	5.57	1.000	2.000	2.107	5	30	
CAL4	1029893.8	556.8	656868.302	True	5.00	1.568	5.56	1.000	8.000	8.626	8	30	
CAL5	2401274.2	683.6	598009.725	True	5.00	4.015	5.57	1.000	20.000	22.091	10	30	
CAL6	4962332.7	791.5	536626.204	True	5.00	9.247	5.56	1.000	50.000	50.875	2	30	
CAL7	8415098.4	928.9	480927.883	True	5.00	17.498	5.56	1.000	100.000	96.265	-4	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

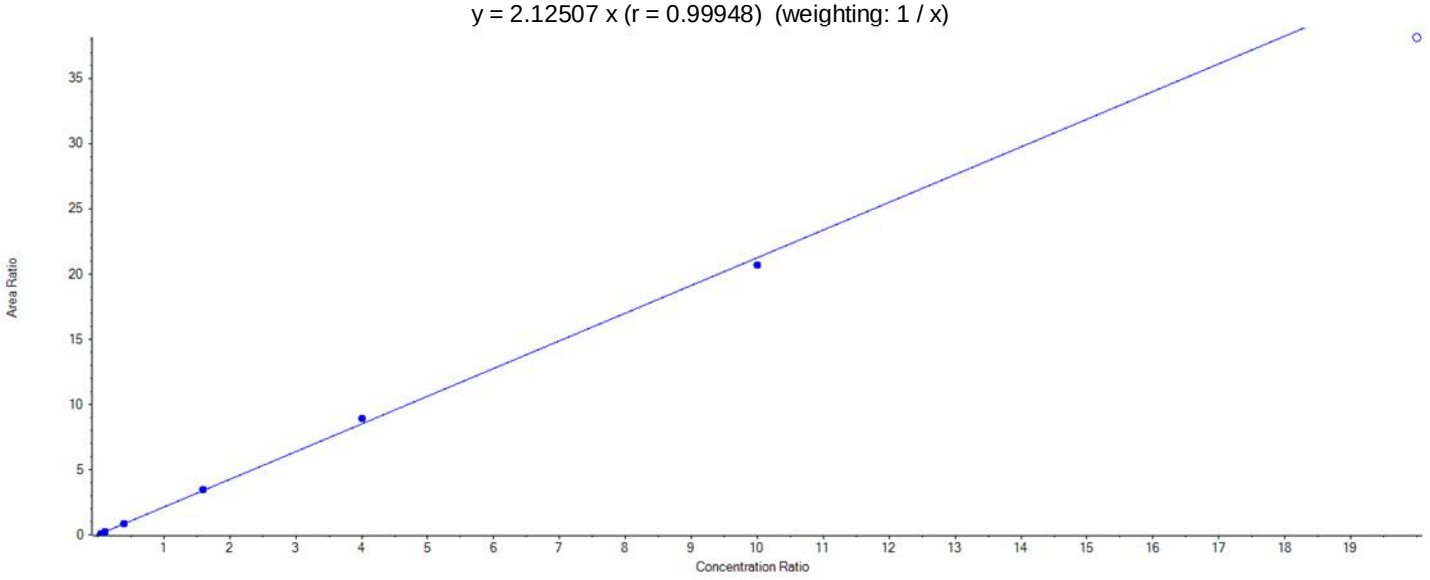
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

8:2-FTS

y = 2.12507 x (r = 0.99948) (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	2783.3	121.0	26730.160	True	4.79	0.104	5.58	1.000	0.192	0.235	22	30	
CAL2	6917.6	207.6	27523.013	True	4.79	0.251	5.57	1.000	0.479	0.567	18	30	
CAL3	24892.6	1018.5	29468.270	True	4.79	0.845	5.57	1.000	1.916	1.904	-1	30	
CAL4	106591.3	873.6	30500.264	True	4.79	3.495	5.57	1.000	7.664	7.877	3	30	
CAL5	244867.6	996.2	27553.973	True	4.79	8.887	5.57	1.000	19.160	20.031	5	30	
CAL6	516640.5	1051.6	24938.159	True	4.79	20.717	5.56	1.000	47.900	46.697	-3	30	
CAL7	936483.2	582.0	24555.696	False	4.79	38.137	5.57	1.000	95.800	85.963	-10	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

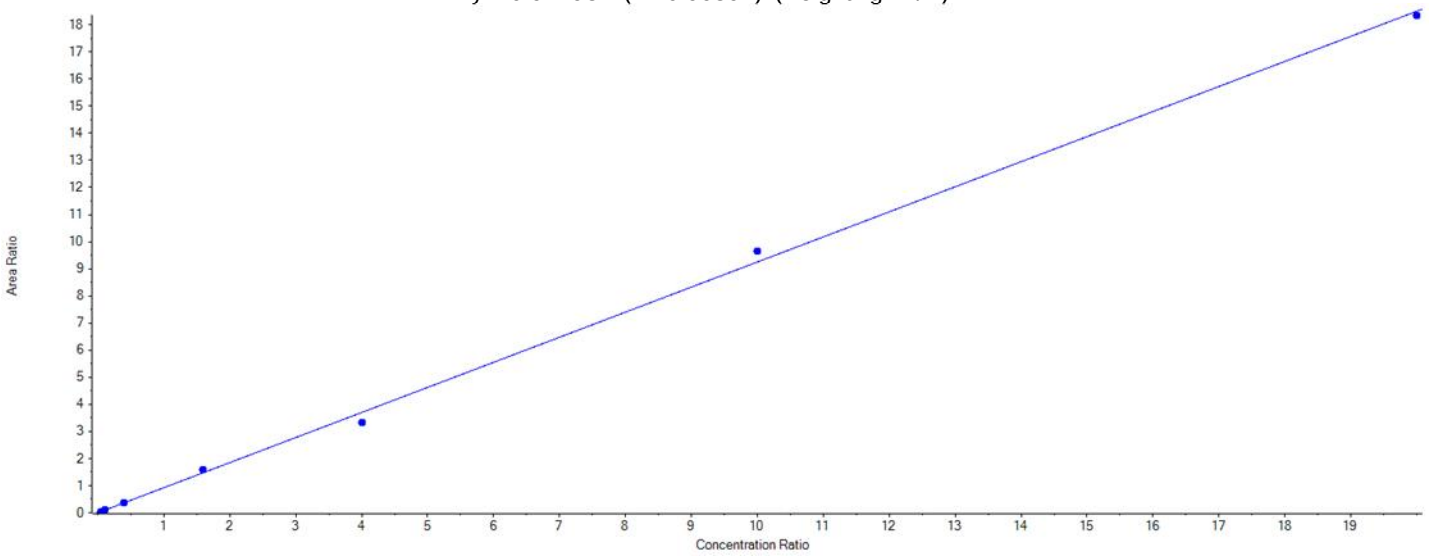
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFOSA

y = 0.92498 x (r = 0.99897) (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	27779.6	365.6	774962.773	True	5.00	0.036	5.64	1.000	0.200	0.194	-3	30	
CAL2	69586.0	485.9	711032.158	True	5.00	0.098	5.64	1.000	0.500	0.529	6	30	
CAL3	271753.2	606.8	704745.507	True	5.00	0.386	5.64	1.000	2.000	2.084	4	30	
CAL4	1119770.1	706.4	708330.461	True	5.00	1.581	5.64	1.000	8.000	8.545	7	30	
CAL5	2448684.3	761.3	737038.484	True	5.00	3.322	5.64	1.000	20.000	17.959	-10	30	
CAL6	5938541.7	607.4	614406.373	True	5.00	9.665	5.64	1.000	50.000	52.247	4	30	
CAL7	11064835.5	659.2	603296.116	True	5.00	18.341	5.64	1.000	100.000	99.141	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

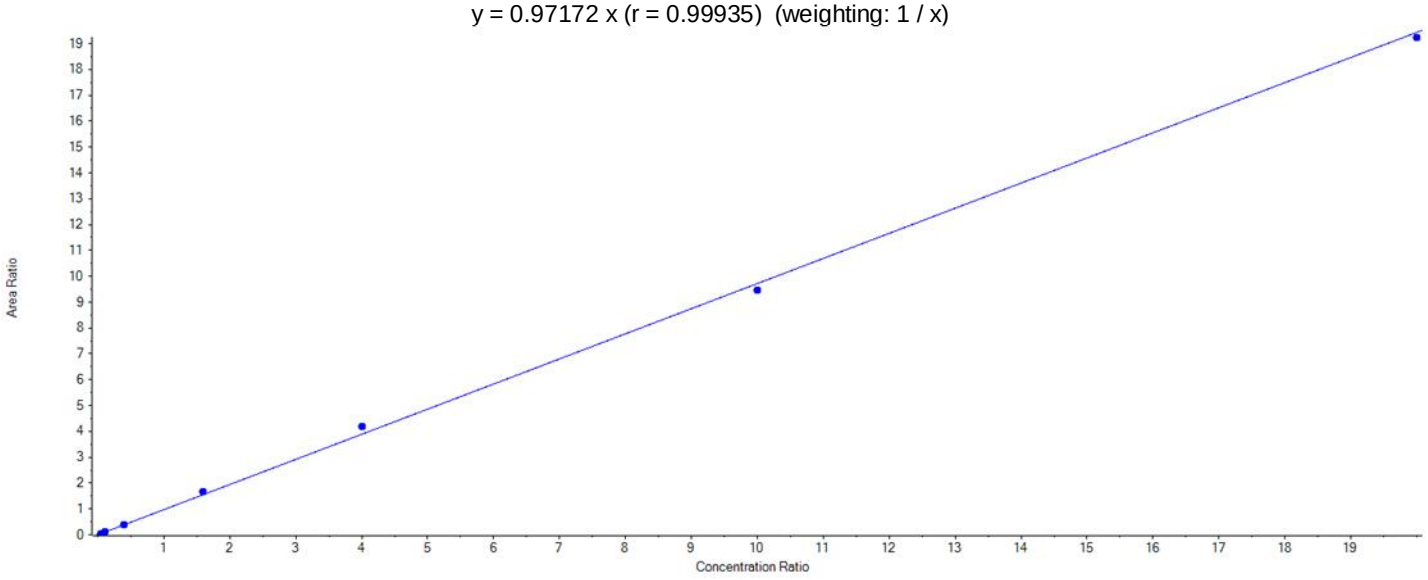
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NMeFOSAA

y = 0.97172 x (r = 0.99935) (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	3293.8	523.5	94966.986	True	5.00	0.035	5.71	1.000	0.200	0.178	-11	30	
CAL2	9807.4	1757.7	83112.192	True	5.00	0.118	5.71	1.000	0.500	0.607	21	30	
CAL3	32400.4	714.3	81763.338	True	5.00	0.396	5.71	1.000	2.000	2.039	2	30	
CAL4	136316.9	1055.9	80900.105	True	5.00	1.685	5.71	1.000	8.000	8.670	8	30	
CAL5	308507.7	1864.0	73896.081	True	5.00	4.175	5.71	1.000	20.000	21.482	7	30	
CAL6	740651.6	2592.1	78157.968	True	5.00	9.476	5.70	1.000	50.000	48.760	-2	30	
CAL7	1450331.2	3029.7	75408.724	True	5.00	19.233	5.70	1.000	100.000	98.963	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

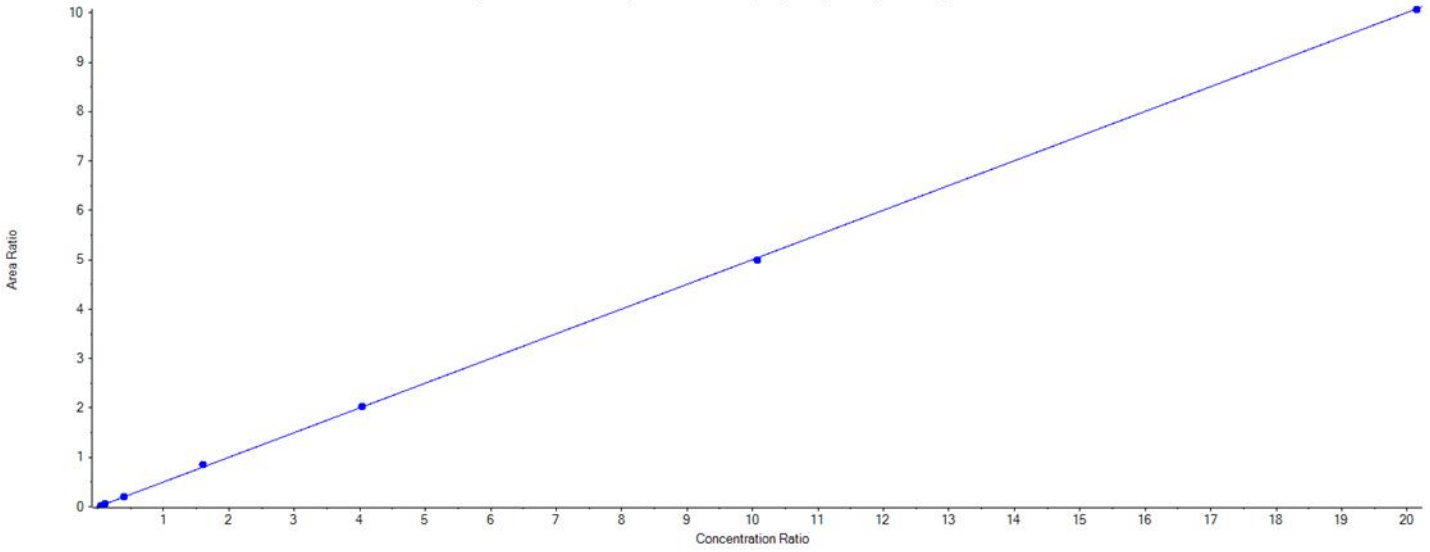
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDS

y = 0.50039 x (r = 0.99988) (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	6453.6	144.3	307224.329	True	4.78	0.021	5.80	1.100	0.190	0.201	6	30	
CAL2	15726.3	346.3	286174.783	True	4.78	0.055	5.80	1.110	0.482	0.525	9	30	
CAL3	59073.9	499.2	297259.750	True	4.78	0.199	5.80	1.100	1.930	1.898	-2	30	
CAL4	250911.0	762.1	291941.558	True	4.78	0.859	5.80	1.110	7.700	8.210	7	30	
CAL5	605559.3	1144.8	297995.609	True	4.78	2.032	5.80	1.110	19.260	19.412	1	30	
CAL6	1337416.6	1228.3	268368.993	True	4.78	4.983	5.79	1.110	48.150	47.605	-1	30	
CAL7	2660525.2	1099.2	264295.900	True	4.78	10.066	5.80	1.110	96.300	96.161	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

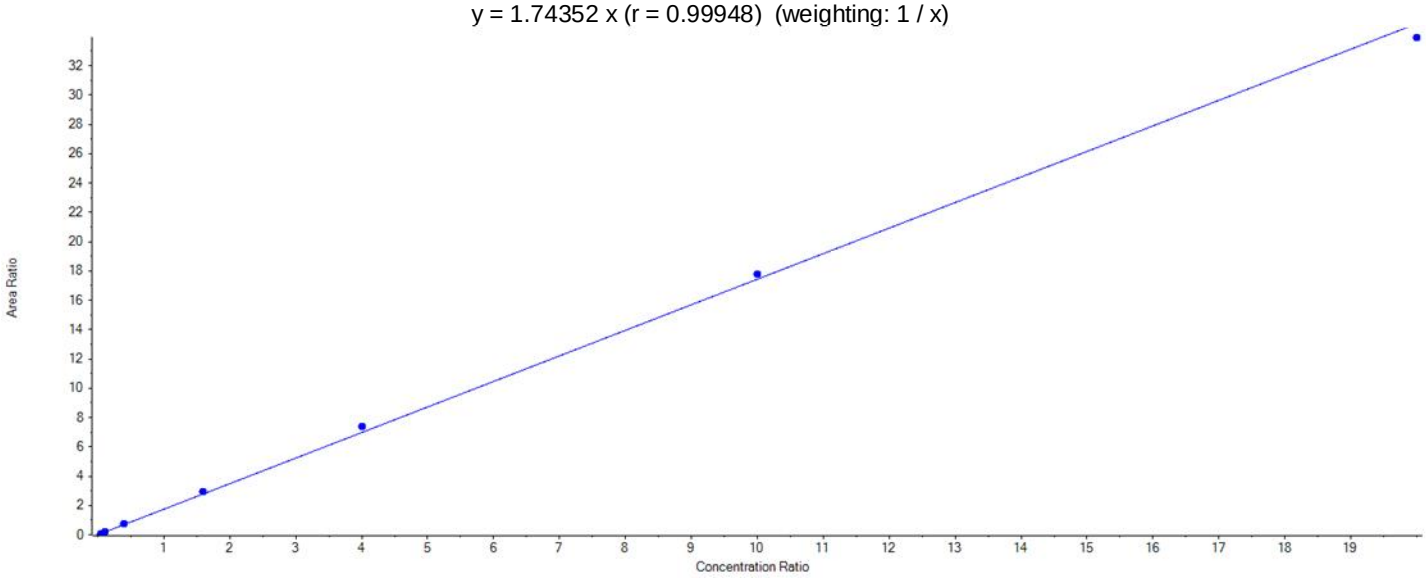
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFUnDA

y = 1.74352 x (r = 0.99948) (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	23275.5	123.3	293658.674	True	5.00	0.079	5.83	1.000	0.200	0.227	14	30	
CAL2	54085.5	306.2	289985.074	True	5.00	0.187	5.83	1.000	0.500	0.535	7	30	
CAL3	209644.8	492.6	277115.542	True	5.00	0.757	5.83	1.000	2.000	2.170	8	30	
CAL4	802732.3	974.7	275977.201	True	5.00	2.909	5.83	1.000	8.000	8.341	4	30	
CAL5	1952356.4	1160.8	263924.687	True	5.00	7.397	5.83	1.000	20.000	21.214	6	30	
CAL6	4071590.3	1109.0	229237.069	True	5.00	17.761	5.82	1.000	50.000	50.936	2	30	
CAL7	7204782.9	1154.1	212399.757	True	5.00	33.921	5.82	1.000	100.000	97.277	-3	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

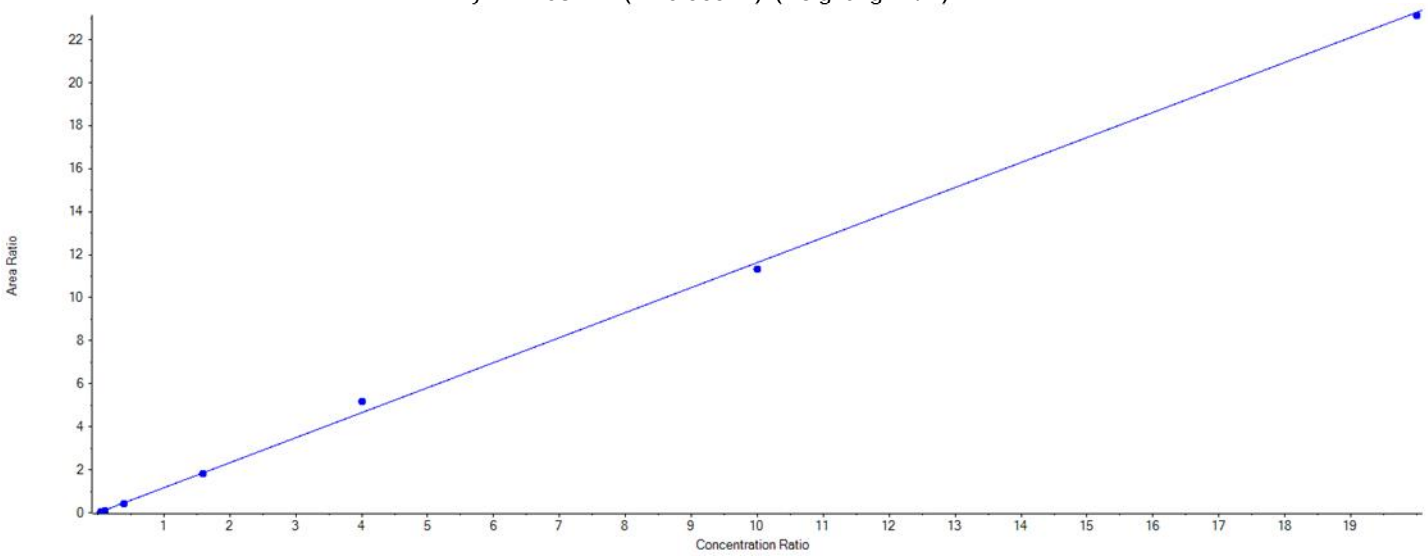
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtFOSAA

y = 1.16344 x (r = 0.99914) (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	3313.0	102.1	77938.309	True	5.00	0.043	5.84	1.000	0.200	0.183	-9	30	
CAL2	7253.7	357.6	65815.920	True	5.00	0.110	5.84	1.000	0.500	0.474	-5	30	
CAL3	32100.8	3488.9	72755.747	True	5.00	0.441	5.85	1.000	2.000	1.896	-5	30	
CAL4	121615.1	1770.9	66162.445	True	5.00	1.838	5.84	1.000	8.000	7.900	-1	30	
CAL5	298834.2	3536.0	57745.714	True	5.00	5.175	5.85	1.000	20.000	22.240	11	30	
CAL6	685447.7	2450.9	60556.615	True	5.00	11.319	5.84	1.000	50.000	48.645	-3	30	
CAL7	1317020.6	2554.3	56963.053	True	5.00	23.121	5.84	1.000	100.000	99.363	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

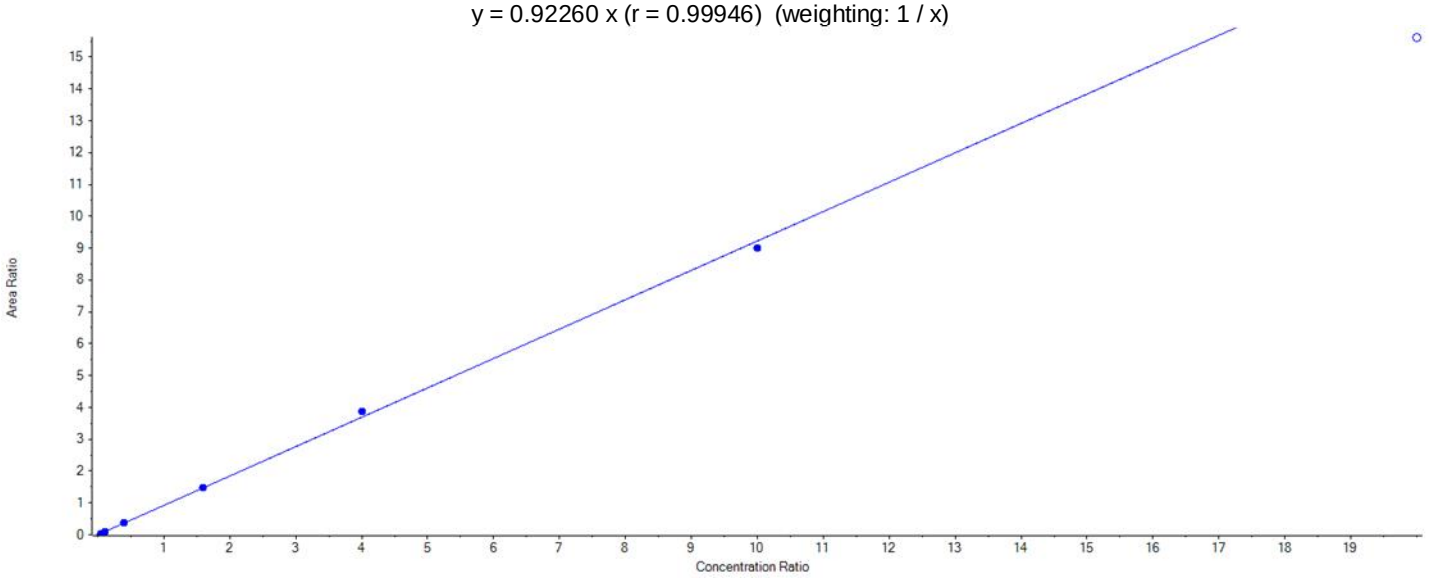
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoDA

y = 0.92260 x (r = 0.99946) (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	23314.2	211.1	564794.852	True	5.00	0.041	6.06	1.000	0.200	0.224	12	30	
CAL2	60098.0	579.3	597616.302	True	5.00	0.101	6.06	1.000	0.500	0.545	9	30	
CAL3	220663.6	750.3	584631.538	True	5.00	0.377	6.06	1.000	2.000	2.046	2	30	
CAL4	877242.2	1049.4	598287.433	True	5.00	1.466	6.05	1.000	8.000	7.946	-1	30	
CAL5	2132260.7	1239.0	548536.046	True	5.00	3.887	6.06	1.000	20.000	21.067	5	30	
CAL6	4509578.7	1127.0	500065.276	True	5.00	9.018	6.05	1.000	50.000	48.873	-2	30	
CAL7	8211828.8	1159.6	525971.755	False	5.00	15.613	6.05	1.000	100.000	84.613	-15	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

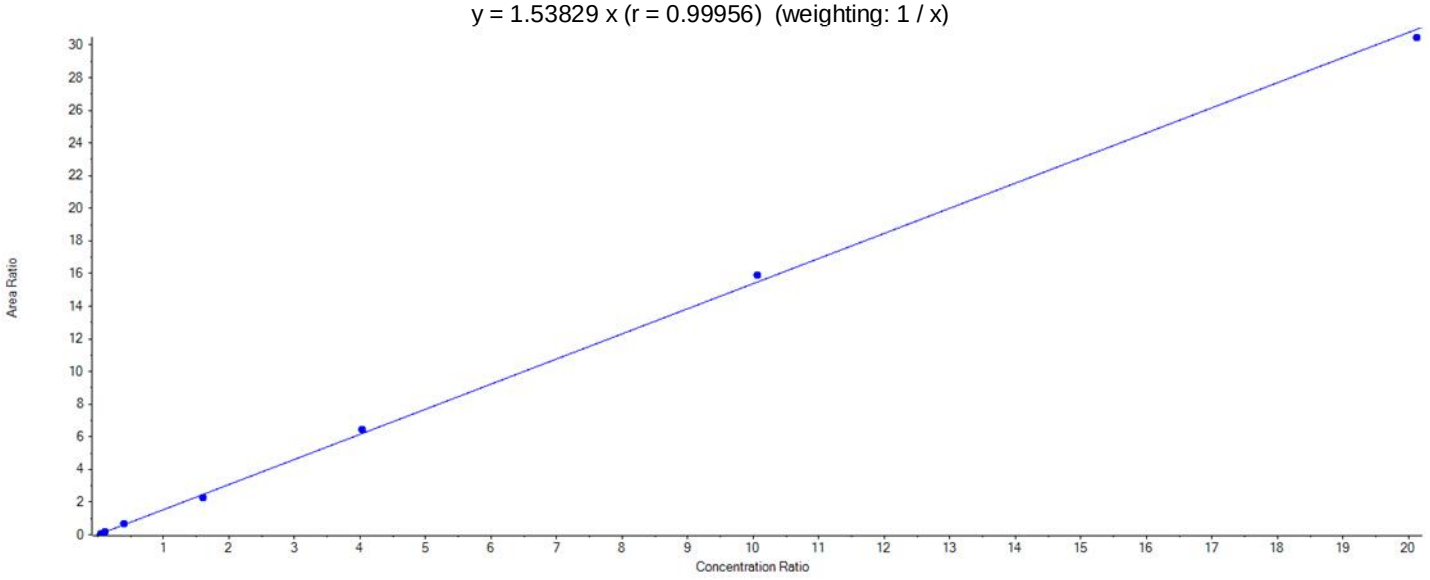
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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

10:2-FTS

y = 1.53829 x (r = 0.99956) (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	1903.7	172.7	26730.160	True	4.79	0.071	6.07	1.090	0.193	0.222	15	30	
CAL2	4874.3	125.8	27523.013	True	4.79	0.177	6.07	1.090	0.482	0.551	14	30	
CAL3	19060.5	262.9	29468.270	True	4.79	0.647	6.07	1.090	1.928	2.014	4	30	
CAL4	69275.8	544.3	30500.264	True	4.79	2.271	6.07	1.090	7.712	7.073	-8	30	
CAL5	177607.5	693.3	27553.973	True	4.79	6.446	6.07	1.090	19.280	20.071	4	30	
CAL6	395929.8	1104.6	24938.159	True	4.79	15.876	6.07	1.090	48.200	49.437	3	30	
CAL7	747804.5	1151.9	24555.696	True	4.79	30.453	6.07	1.090	96.400	94.827	-2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

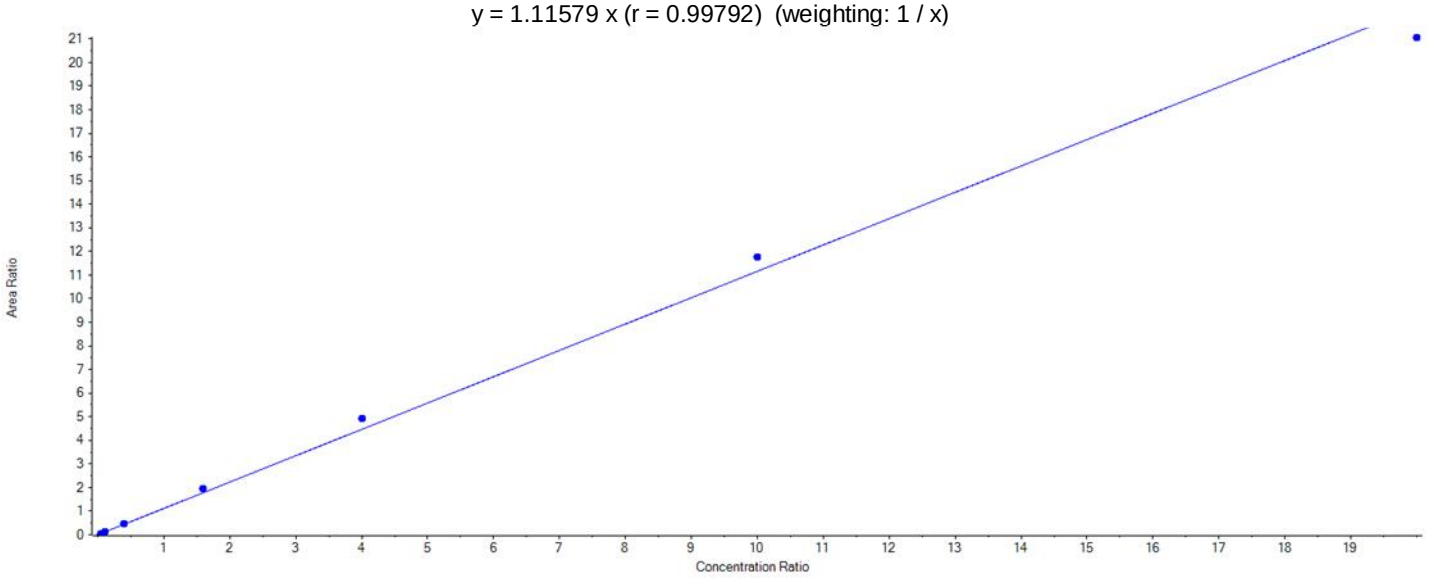
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSAE

y = 1.11579 x (r = 0.99792) (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	19989.4	87.7	366847.670	True	5.00	0.054	6.10	1.000	0.200	0.244	22	30	
CAL2	40902.1	140.8	330298.603	True	5.00	0.124	6.10	1.000	0.500	0.555	11	30	
CAL3	151795.0	297.4	335206.816	True	5.00	0.453	6.10	1.000	2.000	2.029	1	30	
CAL4	648523.4	496.3	330968.748	True	5.00	1.959	6.09	1.000	8.000	8.781	10	30	
CAL5	1583085.5	689.6	321549.477	True	5.00	4.923	6.10	1.000	20.000	22.062	10	30	
CAL6	3462215.2	801.3	294617.585	True	5.00	11.752	6.09	1.000	50.000	52.660	5	30	
CAL7	6220772.1	824.6	295395.339	True	5.00	21.059	6.09	1.000	100.000	94.369	-6	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

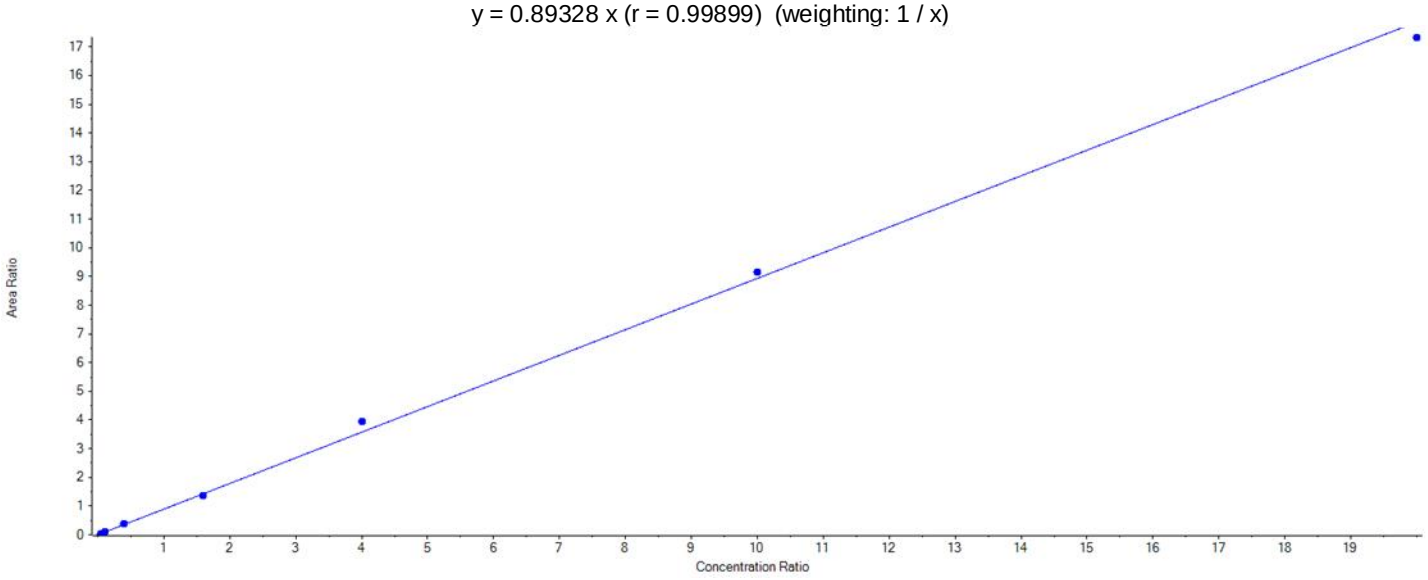
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NMePFOSA

y = 0.89328 x (r = 0.99899) (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	3218.9	123.4	89511.926	True	5.00	0.036	6.10	1.000	0.200	0.201	1	30	
CAL2	8251.9	123.5	81301.239	True	5.00	0.101	6.10	1.000	0.500	0.568	14	30	
CAL3	29797.4	354.6	79381.682	True	5.00	0.375	6.10	1.000	2.000	2.101	5	30	
CAL4	118194.2	528.2	86399.425	True	5.00	1.368	6.10	1.000	8.000	7.657	-4	30	
CAL5	323567.0	708.0	82137.635	True	5.00	3.939	6.10	1.000	20.000	22.050	10	30	
CAL6	705149.2	546.6	77146.949	True	5.00	9.140	6.10	1.000	50.000	51.162	2	30	
CAL7	1386738.5	563.9	80053.250	True	5.00	17.323	6.10	1.000	100.000	96.961	-3	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

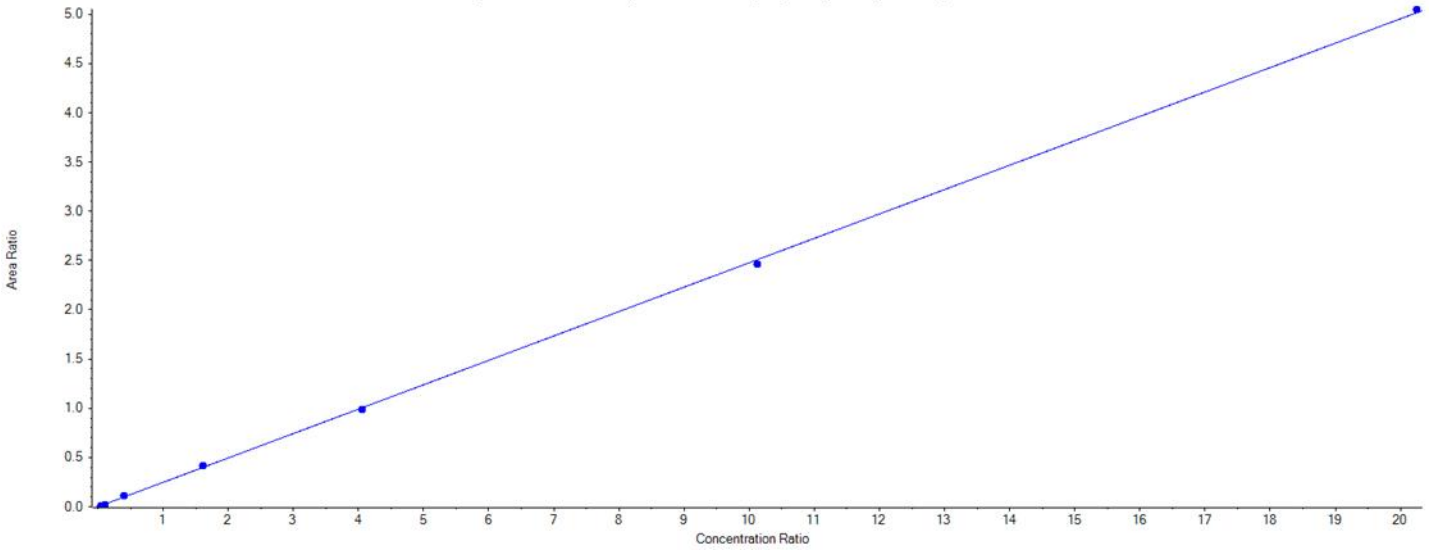
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFDoS

y = 0.24766 x (r = 0.99988) (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	3016.1	142.5	307224.329	True	4.78	0.010	6.22	1.190	0.190	0.189	0	30	
CAL2	7227.2	251.5	286174.783	True	4.78	0.025	6.23	1.190	0.484	0.487	1	30	
CAL3	32096.3	376.5	297259.750	True	4.78	0.108	6.22	1.190	1.940	2.084	7	30	
CAL4	121590.1	703.3	291941.558	True	4.78	0.416	6.22	1.190	7.740	8.039	4	30	
CAL5	295383.8	738.2	297995.609	True	4.78	0.991	6.22	1.190	19.360	19.132	-1	30	
CAL6	661528.1	1015.3	268368.993	True	4.78	2.465	6.22	1.190	48.400	47.576	-2	30	
CAL7	1333847.1	1122.7	264295.900	True	4.78	5.047	6.22	1.190	96.800	97.407	1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

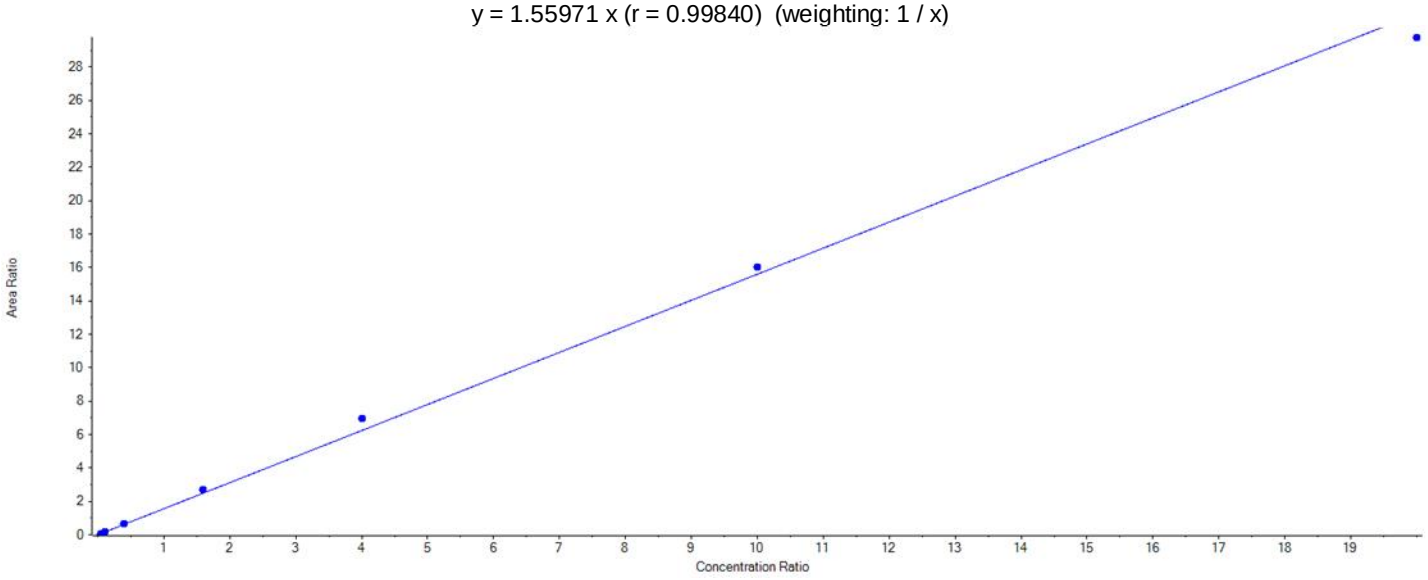
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSAE

y = 1.55971 x (r = 0.99840) (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	21922.0	86.9	296629.265	True	5.00	0.074	6.25	1.000	0.200	0.237	18	30	
CAL2	48905.8	147.7	270607.582	True	5.00	0.181	6.25	1.000	0.500	0.579	16	30	
CAL3	180884.6	310.2	278375.126	True	5.00	0.650	6.25	1.000	2.000	2.083	4	30	
CAL4	740427.4	562.5	273909.084	True	5.00	2.703	6.25	1.000	8.000	8.666	8	30	
CAL5	1810587.6	560.5	259950.874	True	5.00	6.965	6.25	1.000	20.000	22.328	12	30	
CAL6	3836850.8	823.2	239316.963	True	5.00	16.033	6.25	1.000	50.000	51.396	3	30	
CAL7	6995371.5	738.3	235038.050	True	5.00	29.763	6.25	1.000	100.000	95.411	-5	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

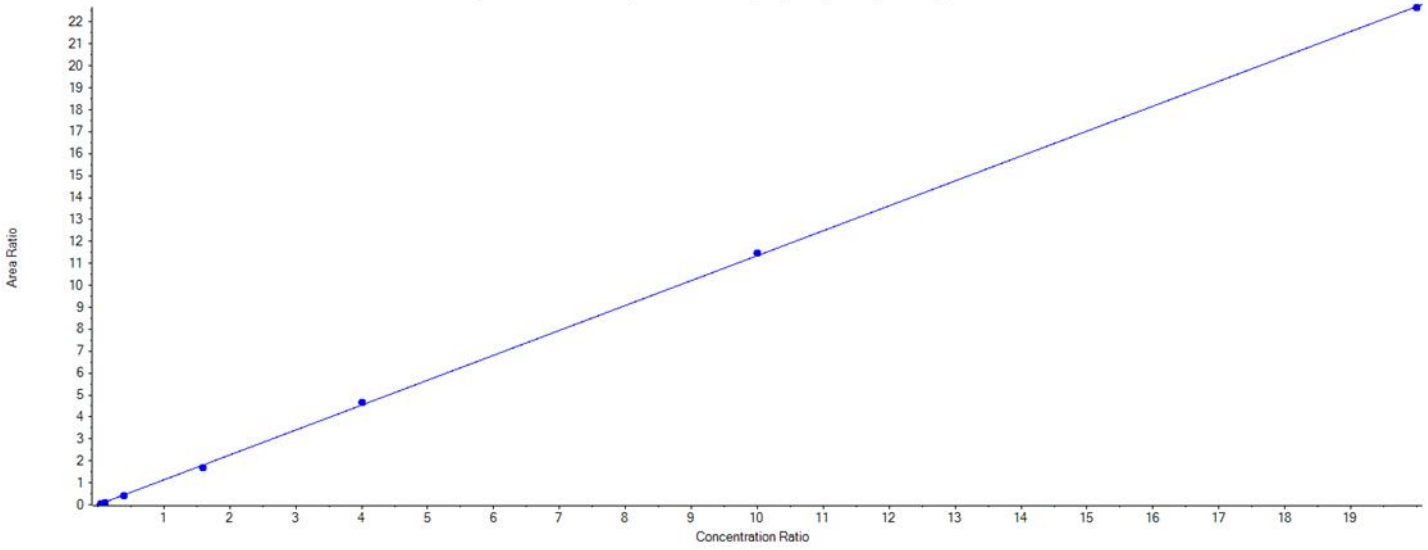
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

NEtPFOSA

y = 1.13527 x (r = 0.99977) (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	3068.5	69.6	70926.726	True	5.00	0.043	6.26	1.000	0.200	0.191	-5	30	
CAL2	6419.4	198.8	66745.434	True	5.00	0.096	6.26	1.000	0.500	0.424	-15	30	
CAL3	26524.6	267.9	67444.318	True	5.00	0.393	6.27	1.000	2.000	1.732	-13	30	
CAL4	123609.2	637.6	72258.683	True	5.00	1.711	6.26	1.000	8.000	7.534	-6	30	
CAL5	290096.1	630.6	62005.585	True	5.00	4.679	6.27	1.000	20.000	20.605	3	30	
CAL6	676107.2	667.5	59054.389	True	5.00	11.449	6.26	1.000	50.000	50.423	1	30	
CAL7	1329706.9	655.7	58686.052	True	5.00	22.658	6.26	1.000	100.000	99.791	0	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

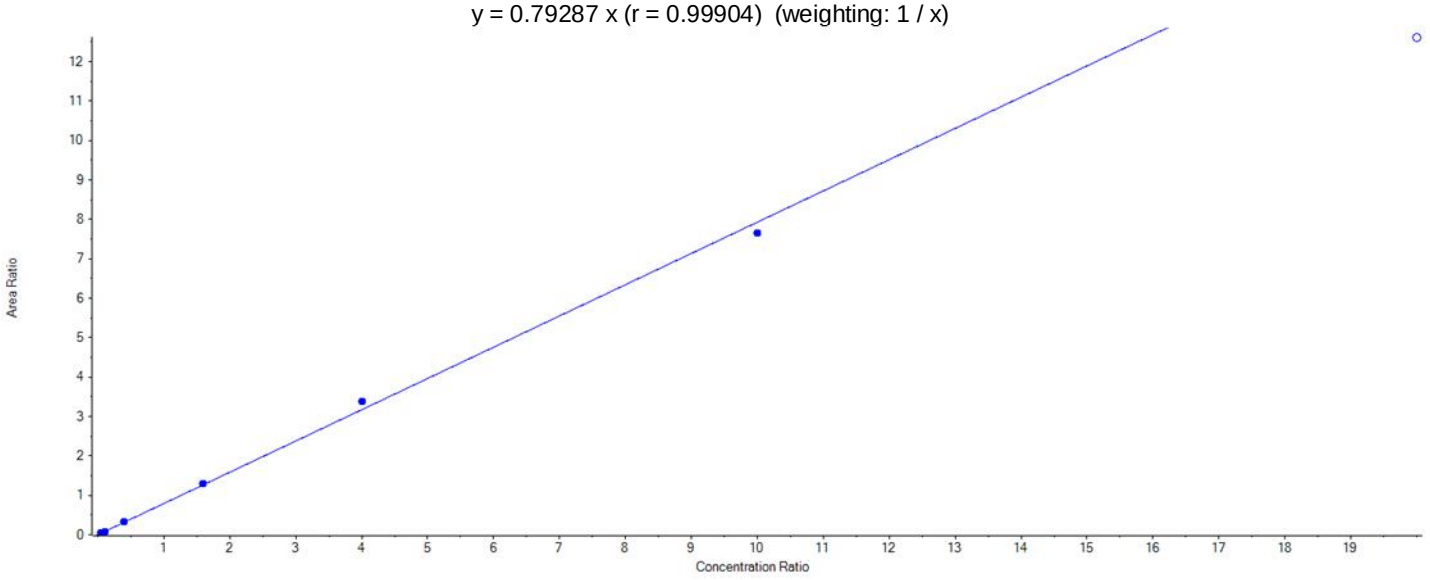
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTrDA

y = 0.79287 x (r = 0.99904) (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	22403.2	67.6	564794.852	True	5.00	0.040	6.25	1.030	0.200	0.250	25	30	
CAL2	49218.5	108.1	597616.302	True	5.00	0.082	6.25	1.030	0.500	0.519	4	30	
CAL3	197290.7	195.6	584631.538	True	5.00	0.337	6.25	1.030	2.000	2.128	6	30	
CAL4	781283.7	366.6	598287.433	True	5.00	1.306	6.25	1.030	8.000	8.235	3	30	
CAL5	1851055.0	610.7	548536.046	True	5.00	3.375	6.25	1.030	20.000	21.280	6	30	
CAL6	3829048.4	757.6	500065.276	True	5.00	7.657	6.25	1.030	50.000	48.287	-3	30	
CAL7	6633128.3	811.0	525971.755	False	5.00	12.611	6.25	1.030	100.000	79.528	-20	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

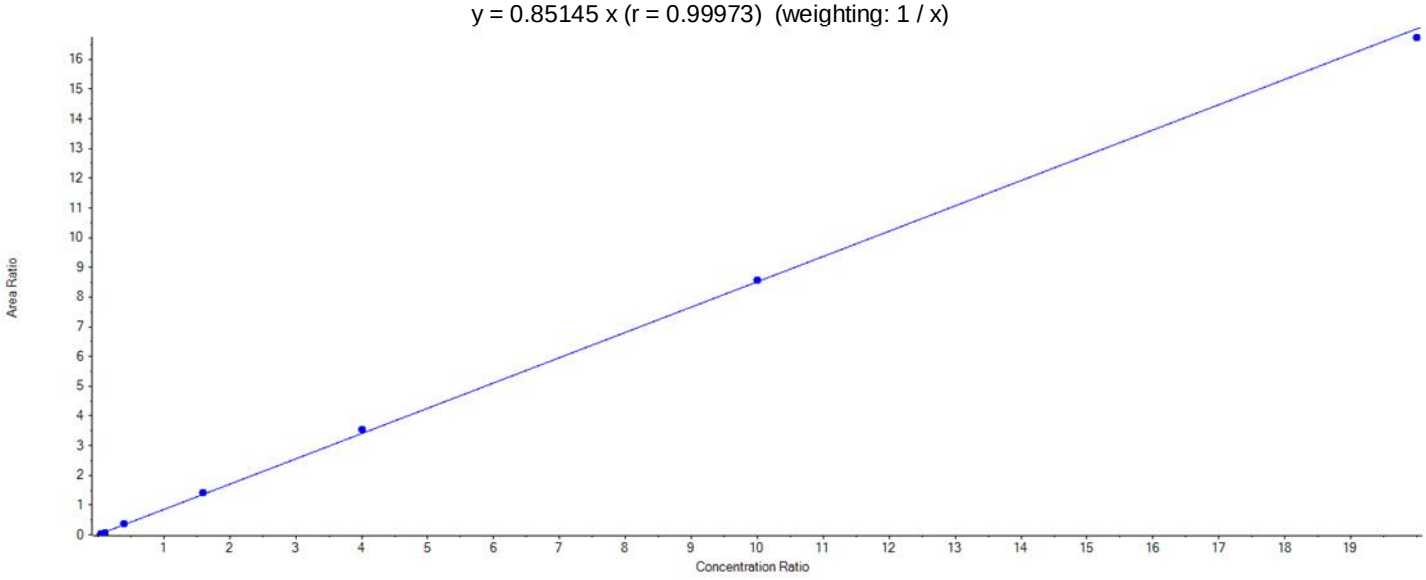
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTeDA

y = 0.85145 x (r = 0.99973) (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	17031.0	49.1	430341.267	True	5.00	0.040	6.43	1.000	0.200	0.232	16	30	
CAL2	36223.2	102.6	441206.866	True	5.00	0.082	6.43	1.000	0.500	0.482	-4	30	
CAL3	150162.8	175.3	419341.711	True	5.00	0.358	6.43	1.000	2.000	2.103	5	30	
CAL4	630801.4	309.8	441858.057	True	5.00	1.428	6.43	1.000	8.000	8.383	5	30	
CAL5	1500655.1	416.1	421798.801	True	5.00	3.558	6.43	1.000	20.000	20.892	4	30	
CAL6	3381511.1	591.7	394433.888	True	5.00	8.573	6.42	1.000	50.000	50.344	1	30	
CAL7	6426587.4	783.6	384058.101	True	5.00	16.733	6.43	1.000	100.000	98.263	-2	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

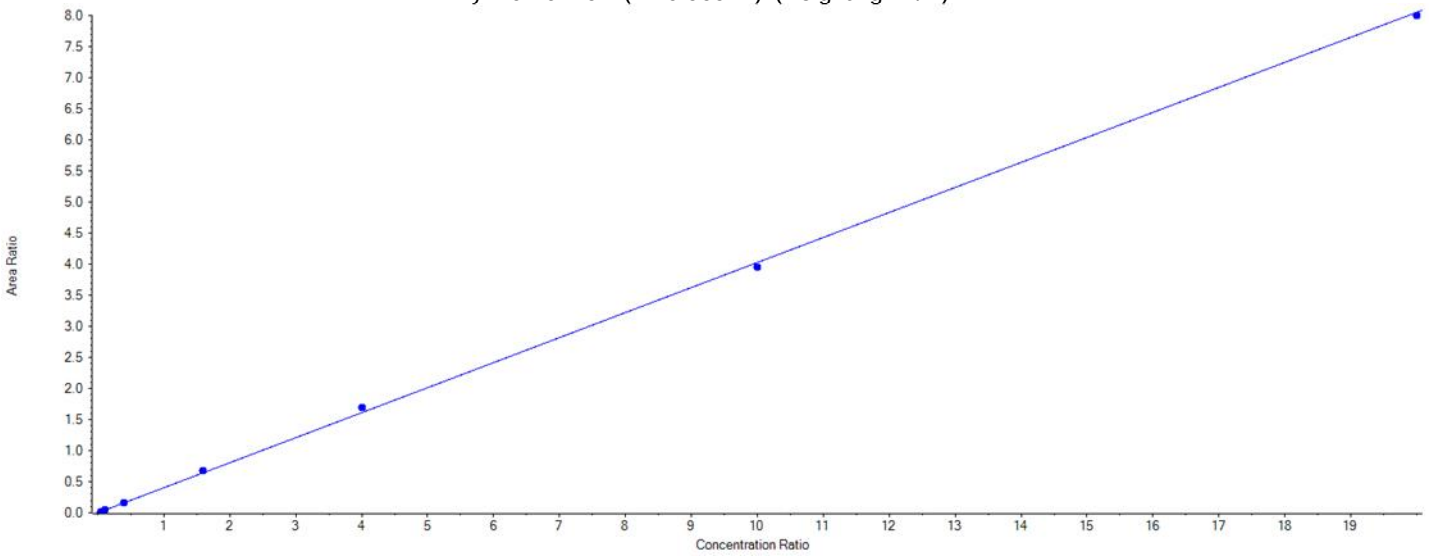
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFHxDA

y = 0.40279 x (r = 0.99974) (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	8175.1	231.4	430341.267	True	5.00	0.019	6.74	1.050	0.200	0.236	18	30	
CAL2	18619.3	372.3	441206.866	True	5.00	0.042	6.74	1.050	0.500	0.524	5	30	
CAL3	70193.5	676.5	419341.711	True	5.00	0.167	6.74	1.050	2.000	2.078	4	30	
CAL4	297242.6	1318.1	441858.057	True	5.00	0.673	6.73	1.050	8.000	8.351	4	30	
CAL5	716467.3	1493.6	421798.801	True	5.00	1.699	6.73	1.050	20.000	21.085	5	30	
CAL6	1559604.6	1330.2	394433.888	True	5.00	3.954	6.73	1.050	50.000	49.083	-2	30	
CAL7	3073572.7	1322.0	384058.101	True	5.00	8.003	6.73	1.050	100.000	99.343	-1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

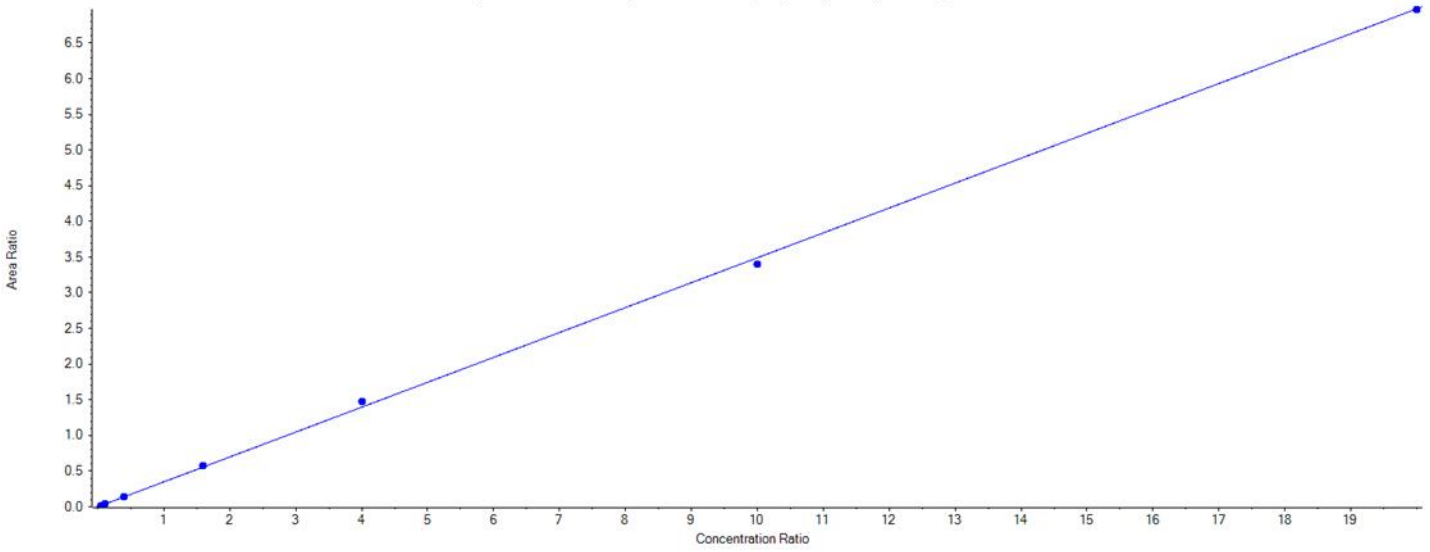
REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFODA

y = 0.34900 x (r = 0.99969) (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	6622.6	295.7	430341.267	True	5.00	0.015	7.00	1.090	0.200	0.220	10	30	
CAL2	15742.1	618.0	441206.866	True	5.00	0.036	7.00	1.090	0.500	0.511	2	30	
CAL3	59736.9	980.9	419341.711	True	5.00	0.142	7.00	1.090	2.000	2.041	2	30	
CAL4	251726.5	1475.1	441858.057	True	5.00	0.570	7.00	1.090	8.000	8.162	2	30	
CAL5	624697.0	1672.6	421798.801	True	5.00	1.481	7.00	1.090	20.000	21.218	6	30	
CAL6	1340733.9	1995.4	394433.888	True	5.00	3.399	6.99	1.090	50.000	48.698	-3	30	
CAL7	2676698.5	2398.9	384058.101	True	5.00	6.970	6.99	1.090	100.000	99.849	0	30	

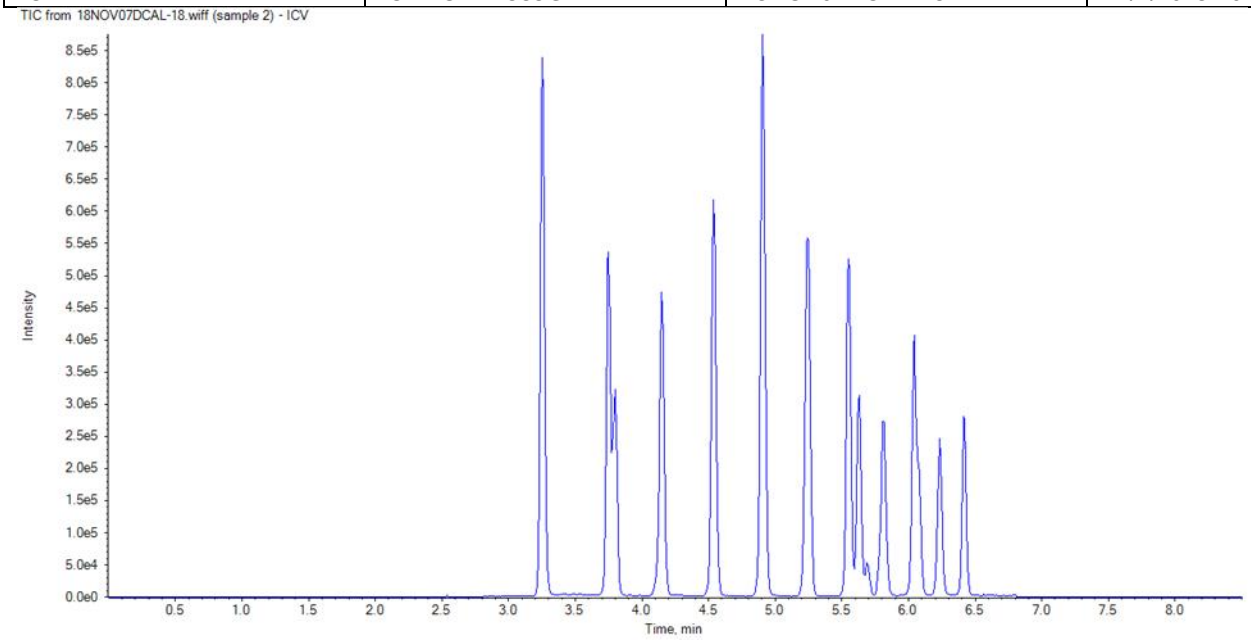
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18NOV07DCAL-18.wiff	11/7/2018 10:51:59 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	748799.9	730410.6	2.5	50	
13C2-PFOA	5.000	501855.0	524423.6	-4.3	50	
13C4-PFOS	4.780	265586.7	274061.7	-3.1	50	
13C2-PFDA	5.000	309656.0	311442.1	-0.6	50	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18NOV07DCAL-18.wiff	11/7/2018 10:51:59 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	307777.1	13C4-PFBA	809267.460	5.00	0.380	3.25	1.00	2.000	2.226	11	30	
PFPeA	325574.9	13C5-PFPeA	881218.236	5.00	0.369	3.75	1.00	2.000	2.196	10	30	
PFBS	159719.5	13C3-PFBS	459507.471	4.65	0.348	3.80	1.00	1.770	1.752	-1	30	
4:2-FTS	N/A	13C2-4:2-FTS	53451.954	4.67	N/A	N/A	N/A	0.000	N/A		30	
PFHxA	397434.6	13C5-PFHxA	721013.613	5.00	0.551	4.15	1.00	2.000	2.364	18	30	
PFPeS	N/A	13C3-PFBS	459507.471	4.65	N/A	N/A	N/A	0.000	N/A		30	
PFHxS	126635.3	13C3-PFHxS	351165.975	4.73	0.361	4.54	1.00	1.890	1.828	-3	30	
PFHpA	390197.1	13C4-PFHpA	564695.352	5.00	0.691	4.54	1.00	2.000	2.324	16	30	
6:2-FTS	N/A	13C2-6:2-FTS	37550.072	4.75	N/A	N/A	N/A	0.000	N/A		30	
PFHpS	126812.1	13C3-PFHxS	351165.975	4.73	0.361	4.90	1.08	1.900	1.889	-1	30	
PFOA	387215.1	13C8-PFOA	985027.092	5.00	0.393	4.91	1.00	2.000	2.213	11	30	
PFOS	114911.8	13C8-PFOS	289450.121	4.78	0.397	5.23	1.00	1.910	2.059	8	30	
PFNA	329644.4	13C9-PFNA	531663.026	5.00	0.620	5.25	1.00	2.000	2.317	16	30	
PFNS	N/A	13C8-PFOS	289450.121	4.78	N/A	N/A	N/A	0.000	N/A		30	
PFDA	262760.0	13C6-PFDA	669137.111	5.00	0.393	5.55	1.00	2.000	2.160	8	30	
8:2-FTS	N/A	13C2-8:2-FTS	27983.400	4.79	N/A	N/A	N/A	0.000	N/A		30	
PFOSA	N/A	13C8-PFOSA	741232.186	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMeFOSAA	33916.6	d3-NMeFOSAA	76665.384	5.00	0.442	5.69	1.00	2.000	2.276	14	30	
PFDS	65962.5	13C8-PFOS	289450.121	4.78	0.228	5.79	1.11	1.930	2.177	13	30	
PFUnDA	225137.5	13C7-PFUnDA	292761.511	5.00	0.769	5.81	1.00	2.000	2.205	10	30	
NEtFOSAA	29687.2	d5-NEtFOSAA	78938.706	5.00	0.376	5.83	1.00	2.000	1.616	-19	30	
PFDoDA	232949.2	13C2-PFDoDA	580675.056	5.00	0.401	6.04	1.00	2.000	2.174	9	30	
10:2-FTS	N/A	13C2-8:2-FTS	27983.400	4.79	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSAE	N/A	d7-NMePFOSAE	334001.430	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSA	N/A	d3-NMePFOSA	79719.053	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFDoS	N/A	13C8-PFOS	289450.121	4.78	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSAE	N/A	d9-NEtPFOSAE	293829.693	5.00	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSA	N/A	d5-NEtPFOSA	65412.861	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFTrDA	206908.4	13C2-PFDoDA	580675.056	5.00	0.356	6.24	1.03	2.000	2.247	12	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 **ICAL Name:** 18NOV07DCAL **QMethod Name:** MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM **Acquisition Method:** 18AUG13_3uL.dam

PFTeDA	157975.3	13C2-PFTeDA	427601.643	5.00	0.369	6.42	1.00	2.000	2.169	8	30	
PFHxDA	N/A	13C2-PFTeDA	427601.643	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFODA	N/A	13C2-PFTeDA	427601.643	5.00	N/A	N/A	N/A	0.000	N/A		30	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL1			**Data File:**		18NOV07DCAL-10.wiff
Sample ID:	CALMOD11833G			**Acquis Date:**		2018-11-07T09:39:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	3			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	750780.0	730410.6	3	50	
13C2-PFOA	5.0	534171.9	524423.6	2	50	
13C4-PFOS	4.8	272674.7	274061.7	-1	50	
13C2-PFDA	5.0	338833.7	311442.1	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	794718.9	13C3-PFBA	750780.0	1.059	5.000	4.899	98	70-130	
E13C5-PFPeA	844850.2	13C3-PFBA	750780.0	1.125	5.000	4.902	98	70-130	
E13C3-PFBS	449266.3	13C3-PFBA	750780.0	0.598	4.650	4.392	94	70-130	
E13C2-4:2-FTS	58330.9	13C2-PFOA	534171.9	0.109	4.670	4.927	106	70-130	
E13C5-PFHxA	725432.0	13C2-PFOA	534171.9	1.358	5.000	4.996	100	70-130	
E13C3-PFHxS	358771.3	13C2-PFOA	534171.9	0.672	4.730	4.822	102	70-130	
E13C4-PFHpA	586580.3	13C2-PFOA	534171.9	1.098	5.000	4.995	100	70-130	
E13C2-6:2-FTS	42112.8	13C2-PFOA	534171.9	0.079	4.750	5.257	111	70-130	
E13C8-PFOA	1028414.9	13C2-PFOA	534171.9	1.925	5.000	5.369	107	70-130	
E13C8-PFOS	307224.3	13C4-PFOS	272674.7	1.127	4.780	4.982	104	70-130	
E13C9-PFNA	518118.7	13C4-PFOS	272674.7	1.900	5.000	5.190	104	70-130	
E13C6-PFDA	651348.0	13C2-PFDA	338833.7	1.922	5.000	4.834	97	70-130	
E13C2-8:2-FTS	26730.2	13C2-PFDA	338833.7	0.079	4.790	4.174	87	70-130	
E13C8-PFOSA	774962.8	13C2-PFDA	338833.7	2.287	5.000	4.991	100	70-130	
Ed3-NMeFOSAA	94967.0	13C2-PFDA	338833.7	0.280	5.000	5.212	104	70-130	
E13C7-PFUnDA	293658.7	13C2-PFDA	338833.7	0.867	5.000	5.000	100	70-130	
Ed5-NEtFOSAA	77938.3	13C2-PFDA	338833.7	0.230	5.000	5.323	106	70-130	
E13C2-PFDoDA	564794.9	13C2-PFDA	338833.7	1.667	5.000	4.494	90	70-130	
Ed7-NMePFOSAE	366847.7	13C2-PFDA	338833.7	1.083	5.000	5.035	101	70-130	
Ed3-NMePFOSA	89511.9	13C2-PFDA	338833.7	0.264	5.000	4.836	97	70-130	
Ed9-NEtPFOSAE	296629.3	13C2-PFDA	338833.7	0.875	5.000	5.000	100	70-130	
Ed5-NEtPFOSA	70926.7	13C2-PFDA	338833.7	0.209	5.000	4.847	97	70-130	
E13C2-PFTeDA	430341.3	13C2-PFDA	338833.7	1.270	5.000	4.572	91	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

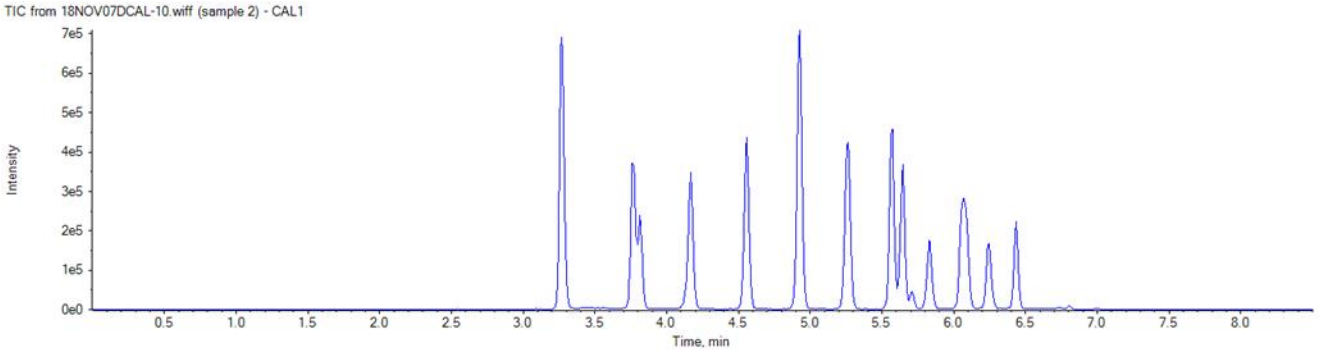
Analyte Quantitation Peak Table

Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	32354.4		A	13C4-PFBA	3.27	794718.9	0.041	0.238
PFPeA	3.77	1.000	33205.5		A	13C5-PFPeA	3.77	844850.2	0.039	0.234
PFBS	3.82	1.000	19024.1		A	13C3-PFBS	3.82	449266.3	0.042	0.213
4:2-FTS	4.13	1.000	4145.4		M	13C2-4:2-FTS	4.13	58330.9	0.071	0.191
PFHxA	4.17	1.000	39732.2		A	13C5-PFHxA	4.17	725432.0	0.055	0.235
PFPeS	4.18	1.100	8335.4		A	13C3-PFBS	3.82	449266.3	0.019	0.183
PFHxS	4.56	1.000	13762.6		M	13C3-PFHxS	4.56	358771.3	0.038	0.194
PFHpA	4.55	1.000	38331.9		M	13C4-PFHpA	4.56	586580.3	0.065	0.220
6:2-FTS	4.91	1.000	2460.6		A	13C2-6:2-FTS	4.91	42112.8	0.058	0.146
PFHpS	4.91	1.080	14183.4		M	13C3-PFHxS	4.56	358771.3	0.040	0.207
PFOA	4.93	1.000	39843.5		A	13C8-PFOA	4.93	1028414.9	0.039	0.218
PFOS	5.25	1.000	12181.7		A	13C8-PFOS	5.25	307224.3	0.040	0.206
PFNA	5.27	1.000	32563.3		M	13C9-PFNA	5.27	518118.7	0.063	0.235
PFNS	5.55	1.060	6748.5		A	13C8-PFOS	5.25	307224.3	0.022	0.174
PFDA	5.57	1.000	25530.0		A	13C6-PFDA	5.57	651348.0	0.039	0.216
8:2-FTS	5.58	1.000	2783.3		M	13C2-8:2-FTS	5.57	26730.2	0.104	0.235
PFOSA	5.64	1.000	27779.6		A	13C8-PFOSA	5.64	774962.8	0.036	0.194
NMeFOSAA	5.71	1.000	3293.8		M	d3-NMeFOSAA	5.71	94967.0	0.035	0.178
PFDS	5.80	1.100	6453.6		A	13C8-PFOS	5.25	307224.3	0.021	0.201
PFUnDA	5.83	1.000	23275.5		M	13C7-PFUnDA	5.83	293658.7	0.079	0.227
NEtFOSAA	5.84	1.000	3313.0		A	d5-NEtFOSAA	5.84	77938.3	0.043	0.183
PFDoDA	6.06	1.000	23314.2		M	13C2-PFDoDA	6.06	564794.9	0.041	0.224
10:2-FTS	6.07	1.090	1903.7		A	13C2-8:2-FTS	5.57	26730.2	0.071	0.222
NMePFOSAE	6.10	1.000	19989.4		A	d7-NMePFOSAE	6.09	366847.7	0.054	0.244
NMePFOSA	6.10	1.000	3218.9		M	d3-NMePFOSA	6.10	89511.9	0.036	0.201
PFDoS	6.22	1.190	3016.1		M	13C8-PFOS	5.25	307224.3	0.010	0.189
NEtPFOSAE	6.25	1.000	21922.0		A	d9-NEtPFOSAE	6.24	296629.3	0.074	0.237
NEtPFOSA	6.26	1.000	3068.5		M	d5-NEtPFOSA	6.26	70926.7	0.043	0.191
PFTrDA	6.25	1.030	22403.2		A	13C2-PFDoDA	6.06	564794.9	0.040	0.250
PFTeDA	6.43	1.000	17031.0		A	13C2-PFTeDA	6.43	430341.3	0.040	0.232
PFHxDA	6.74	1.050	8175.1		A	13C2-PFTeDA	6.43	430341.3	0.019	0.236
PFODA	7.00	1.090	6622.6		A	13C2-PFTeDA	6.43	430341.3	0.015	0.220

Total Ion Chromatogram

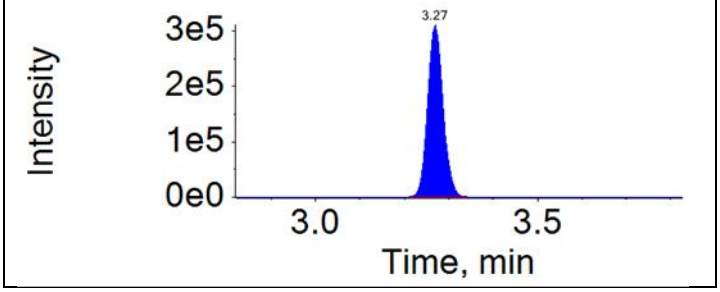


APPROVED
By JPT at 2:53 pm, 11/7/18

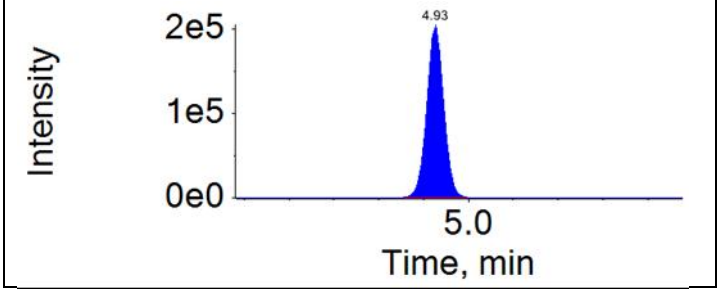
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

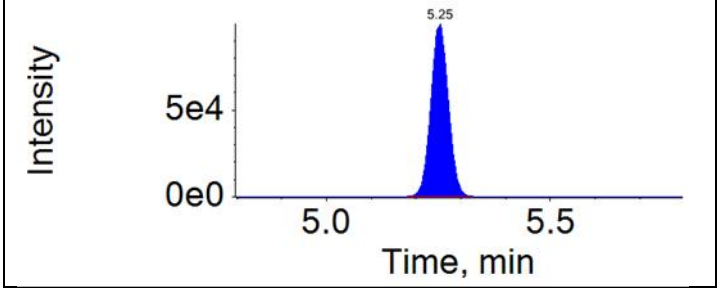
Injection Standard: 13C3-PFBA
216.0 / 172.0



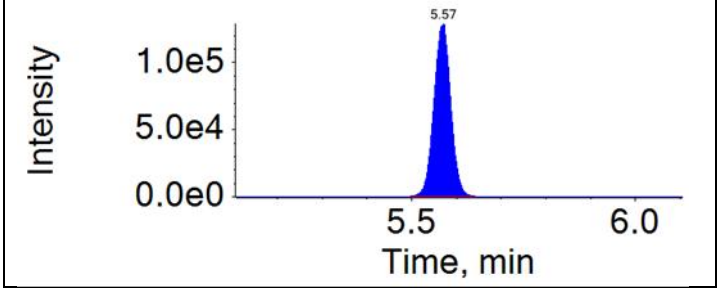
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



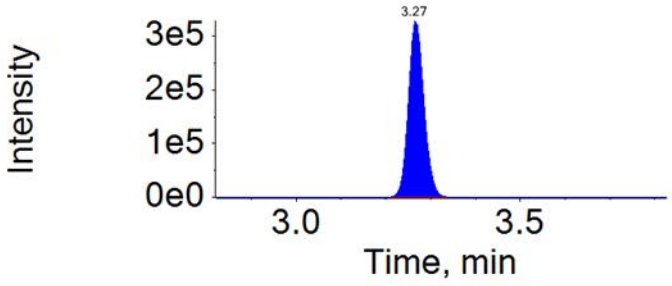
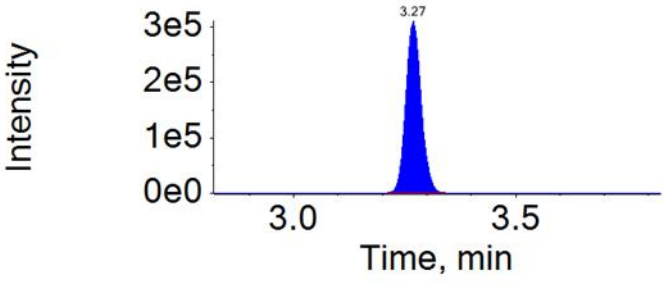
Injection Standard: 13C2-PFDA
515.0 / 470.0

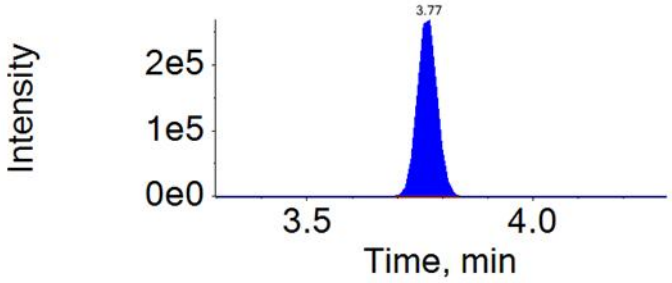
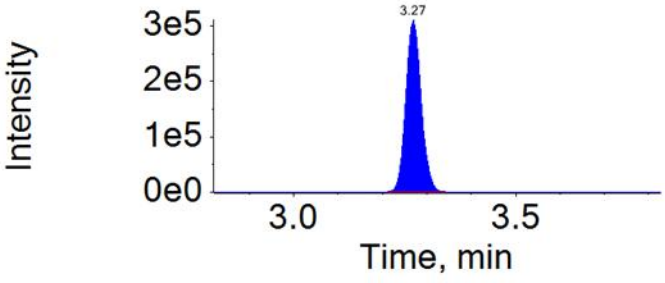


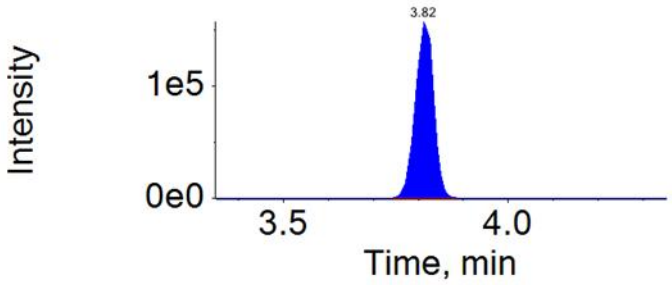
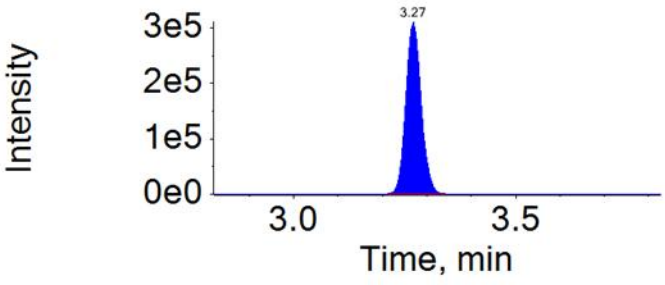
APPROVED
By JPT at 2:53 pm, 11/7/18

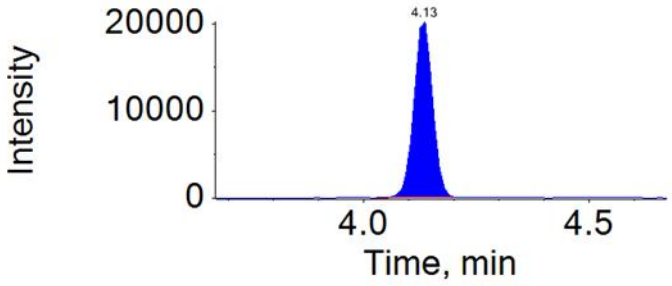
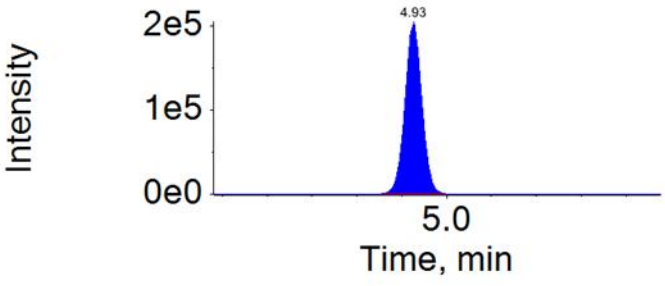
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

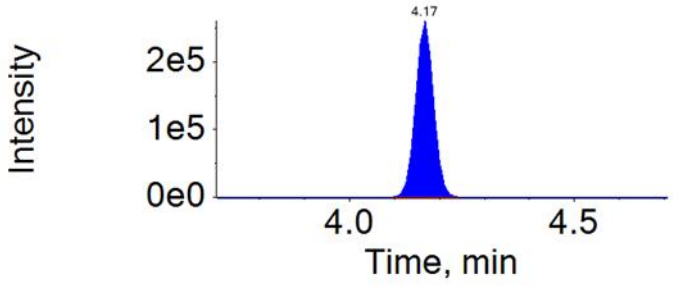
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

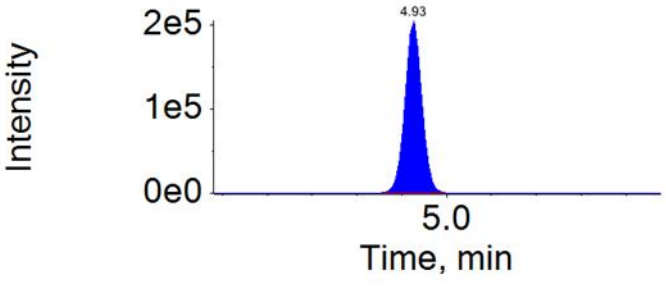
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

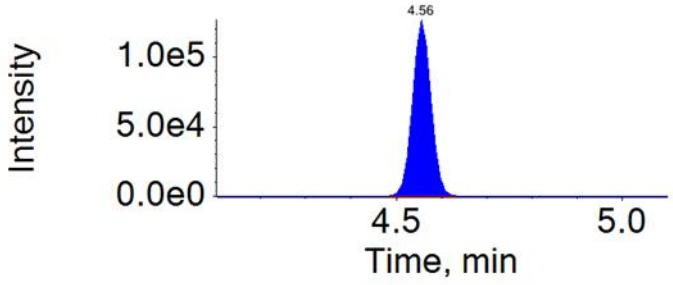
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

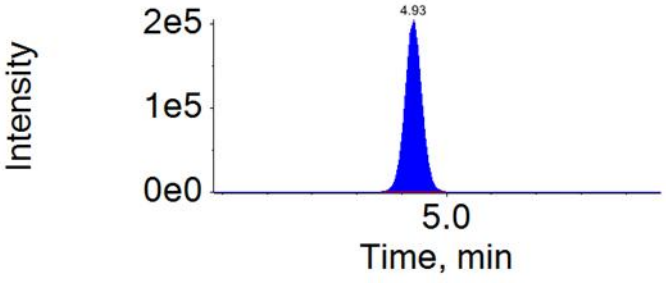
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



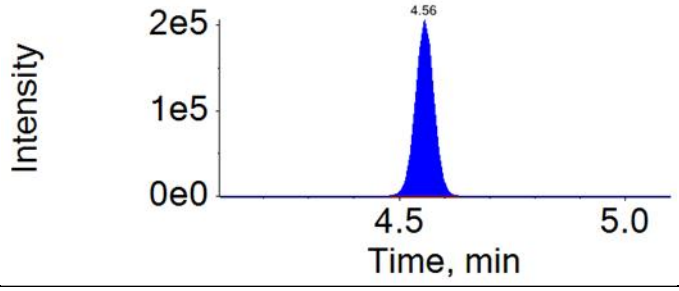


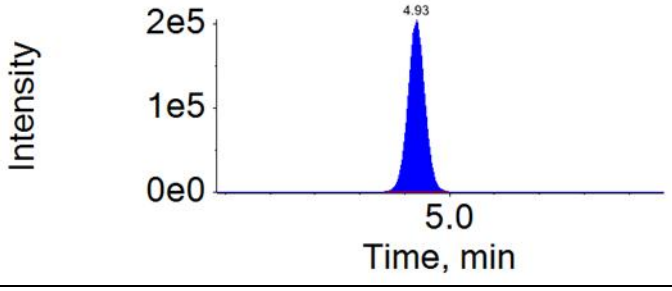
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



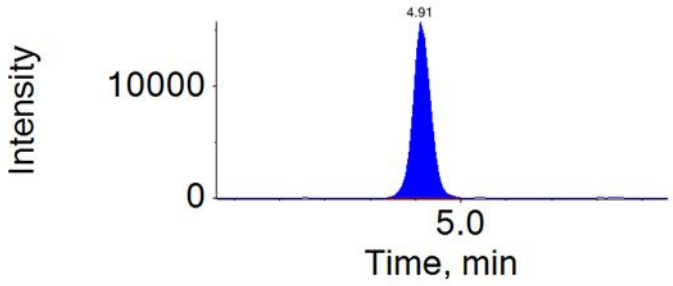


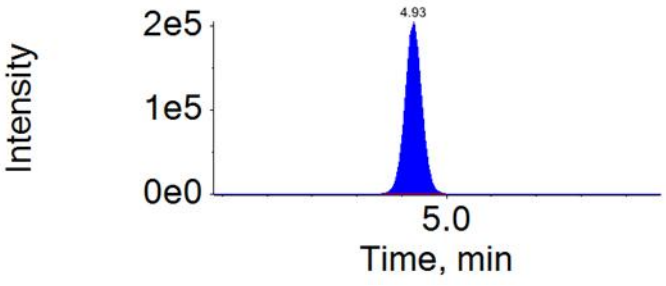
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

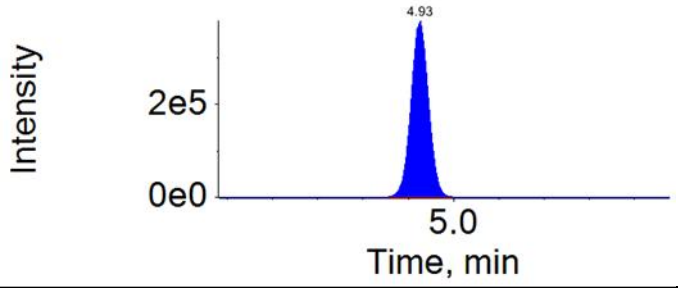
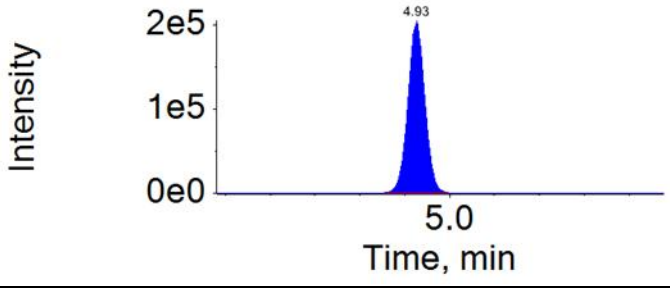


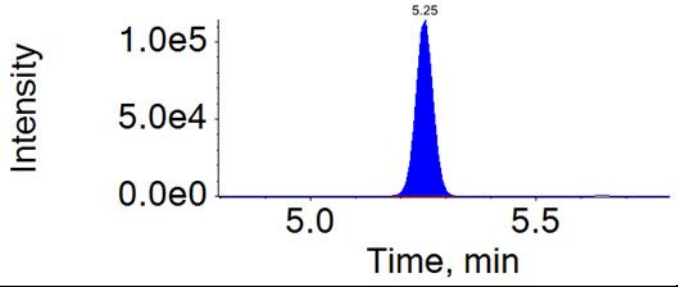
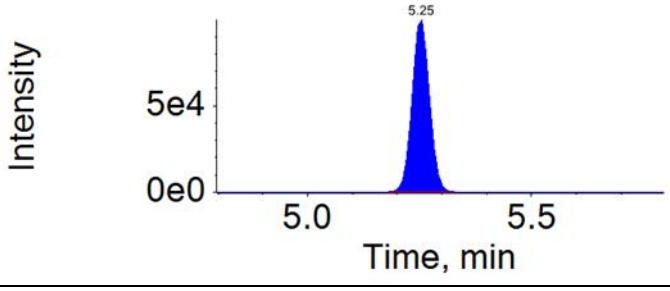


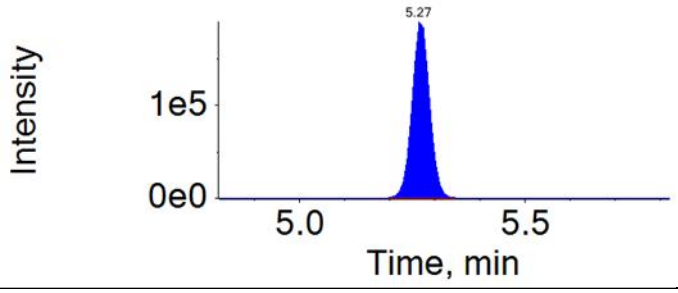
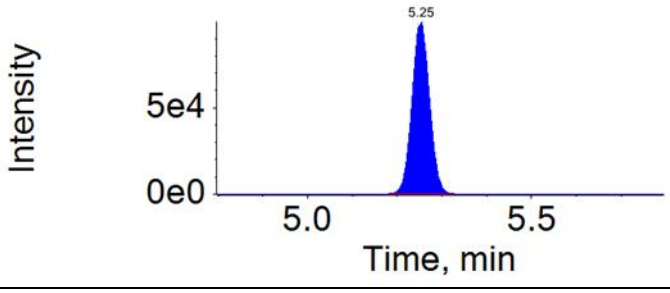
APPROVED
By JPT at 2:53 pm, 11/7/18

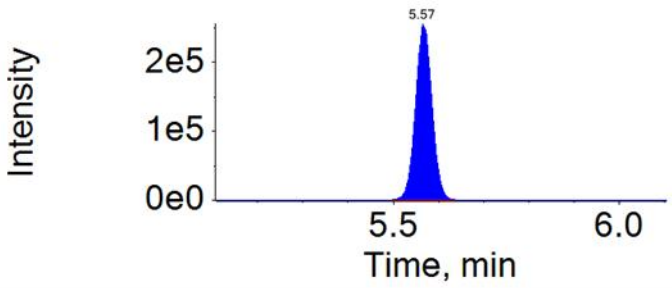
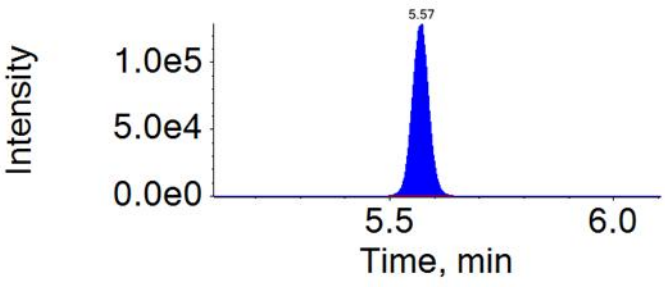
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

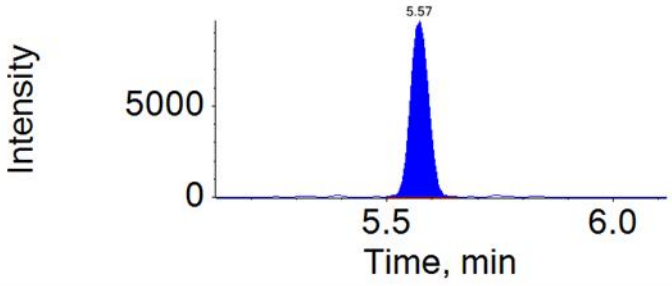
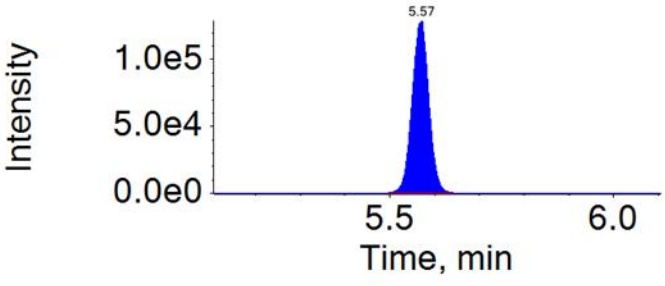
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

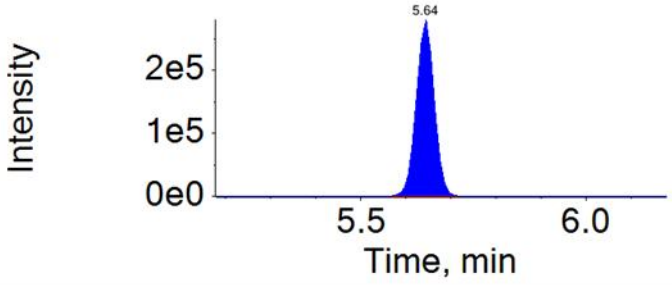
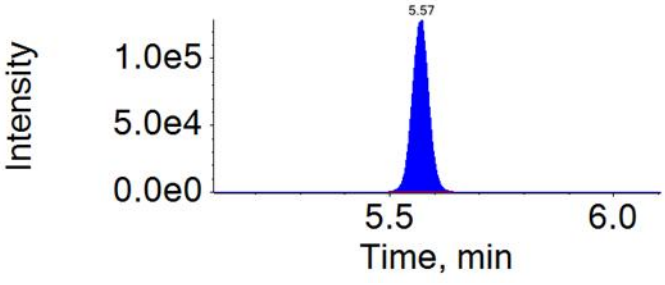
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

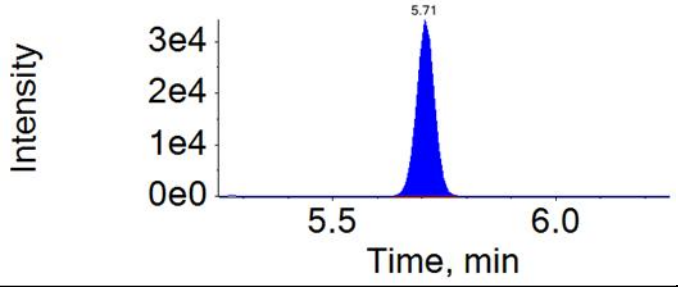
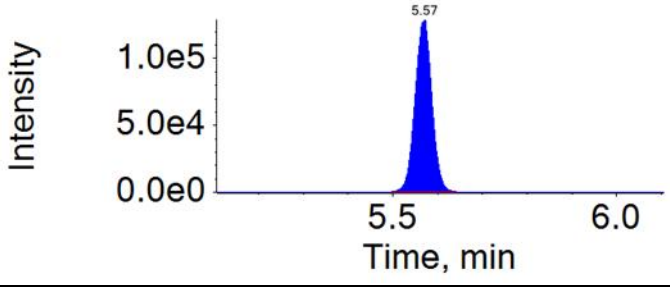
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

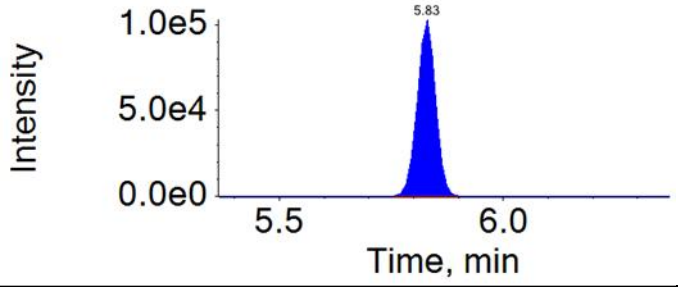
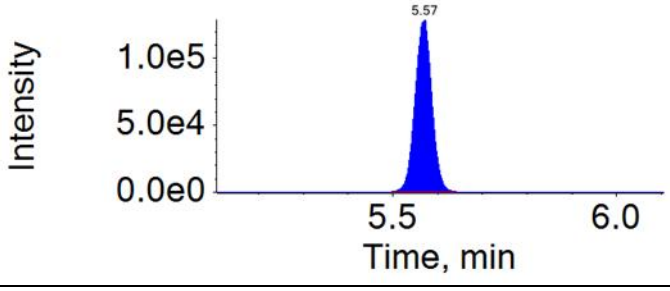
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

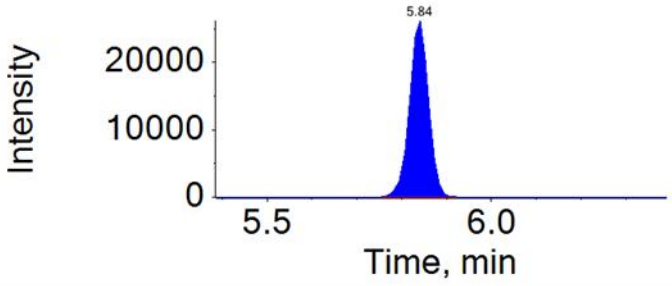
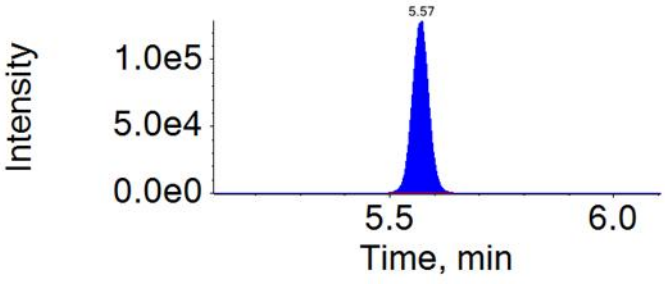
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

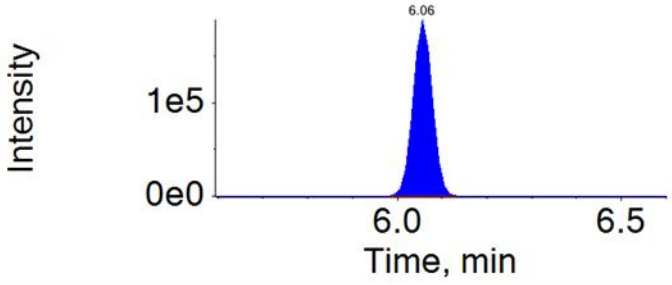
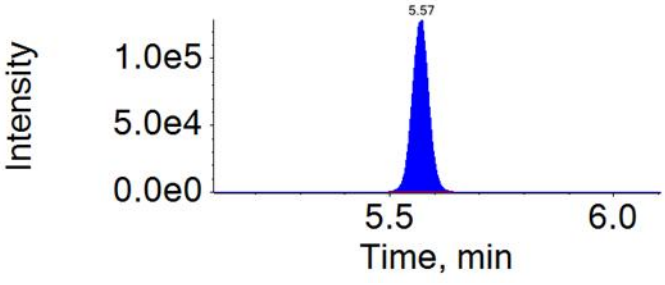
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

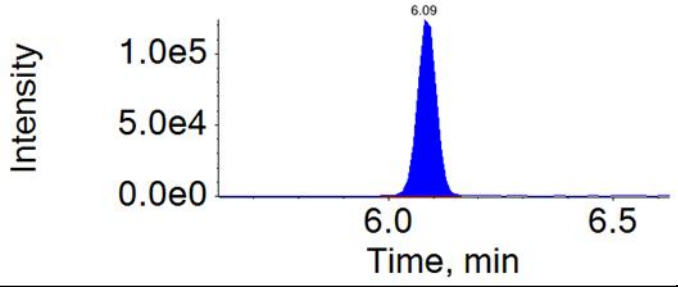
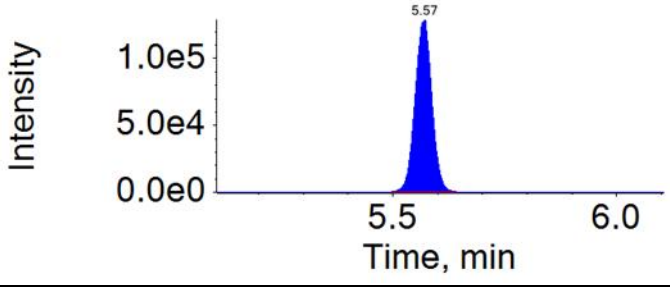
APPROVED
By JPT at 2:53 pm, 11/7/18

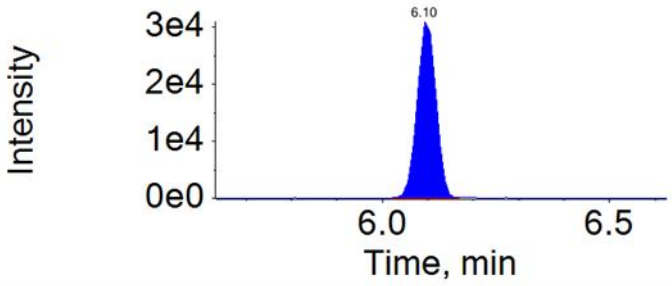
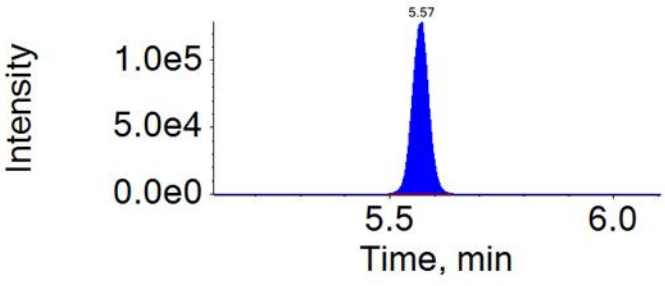
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

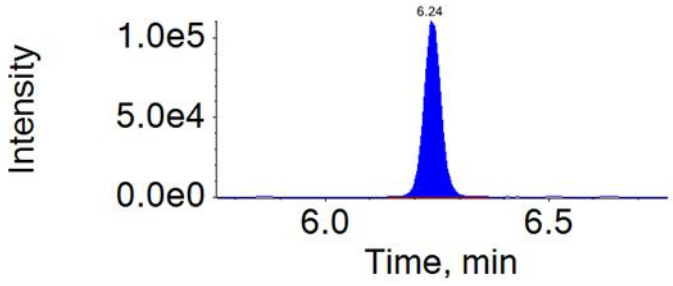
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

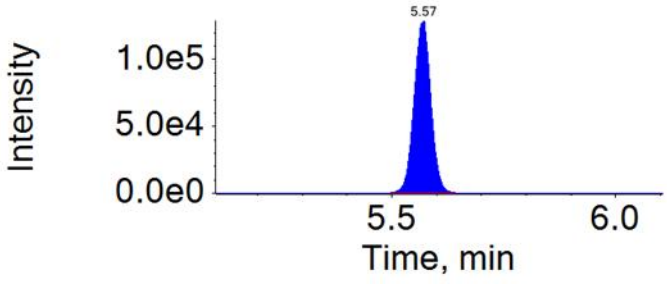
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

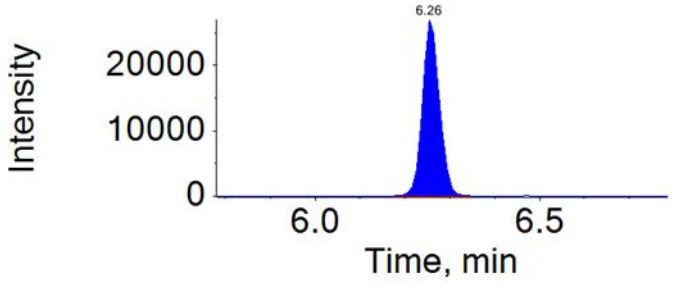
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

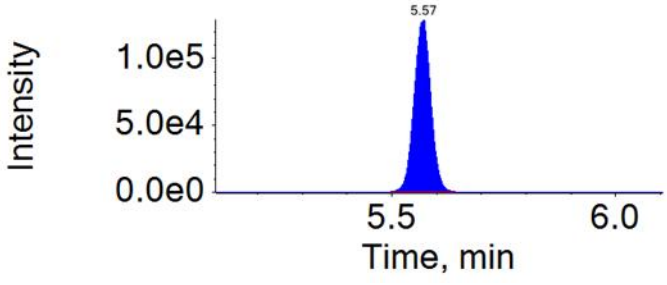
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



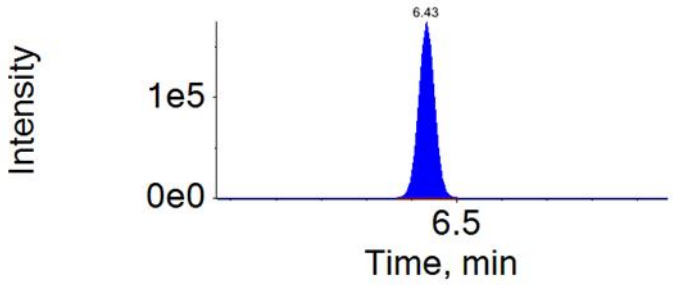


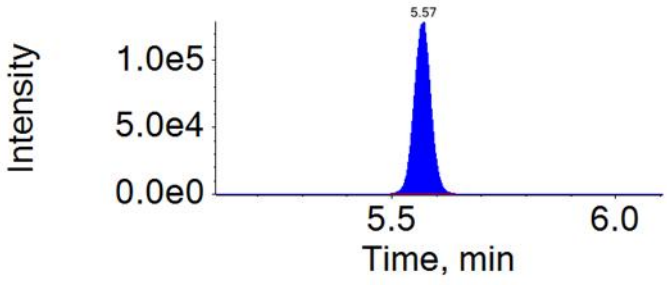
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



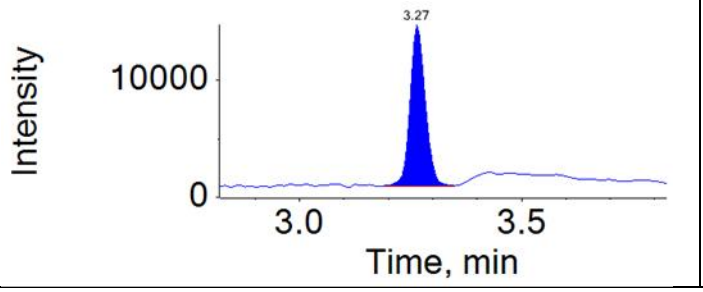


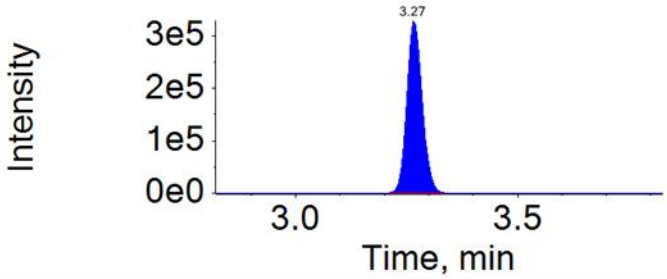
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

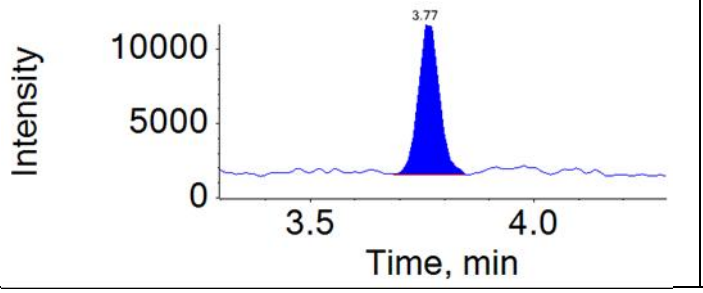
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

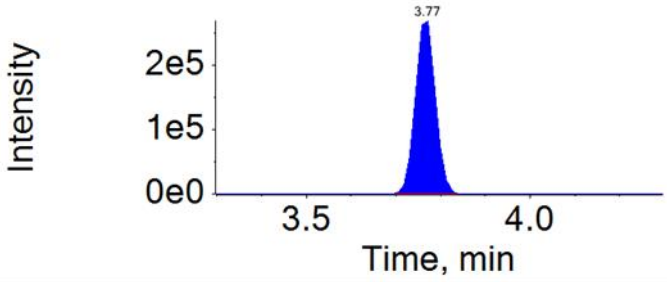
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



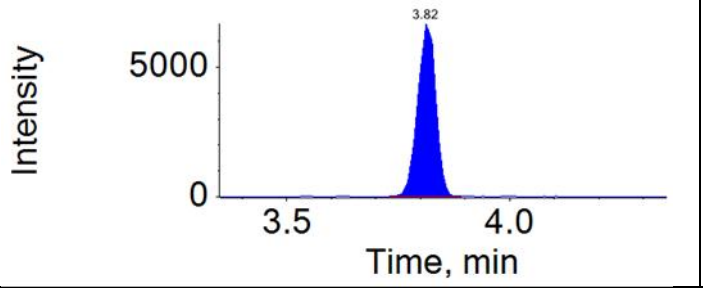


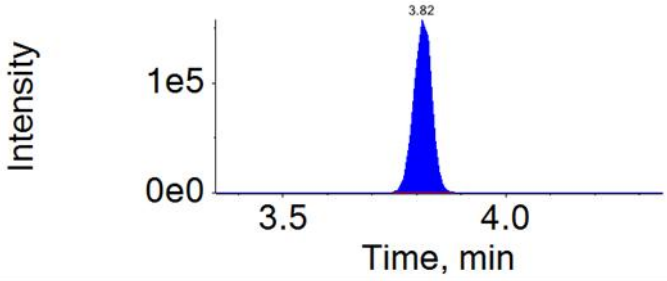
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



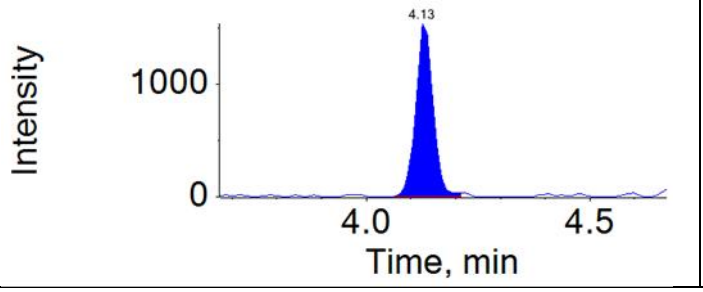


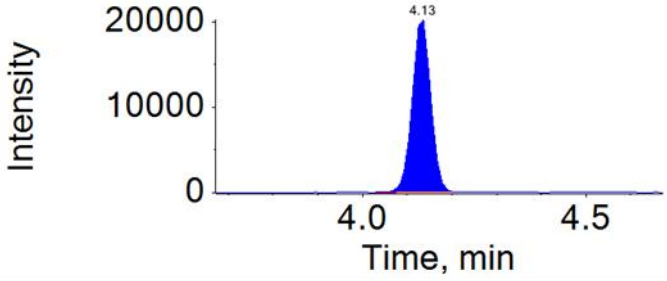
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

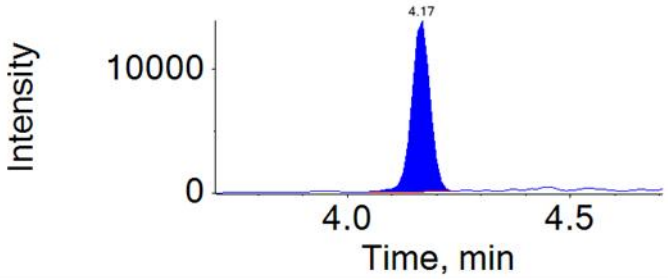
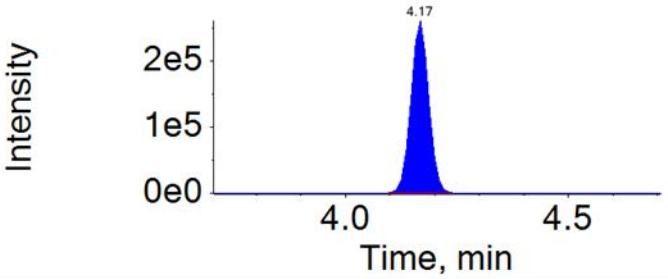


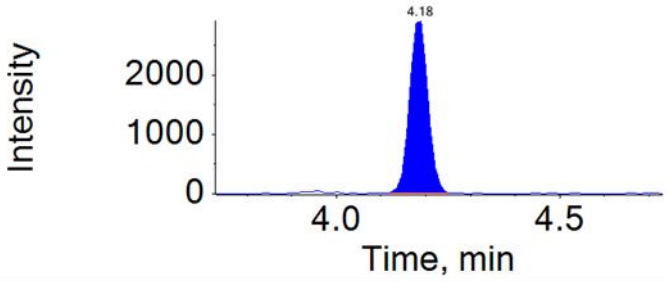
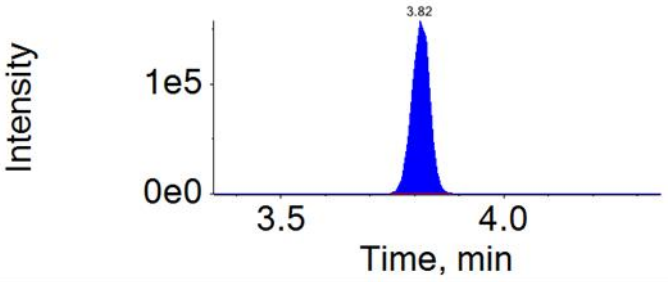


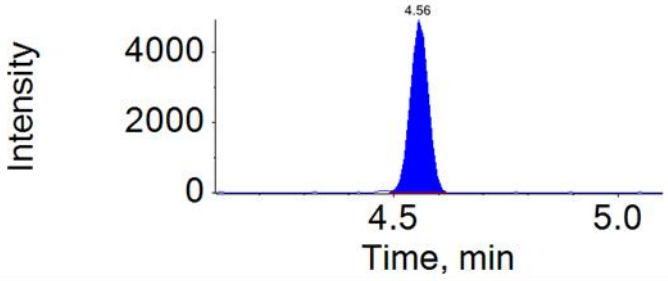
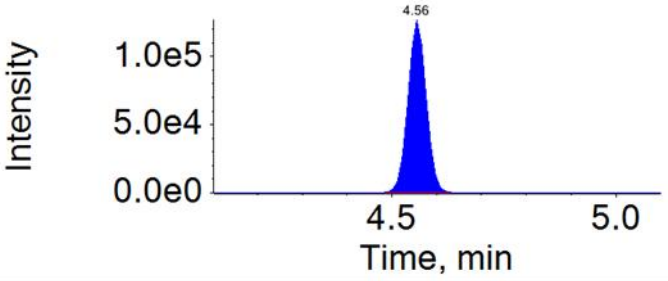
APPROVED
By JPT at 2:53 pm, 11/7/18

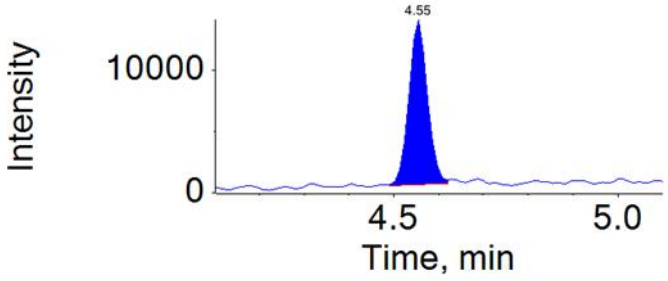
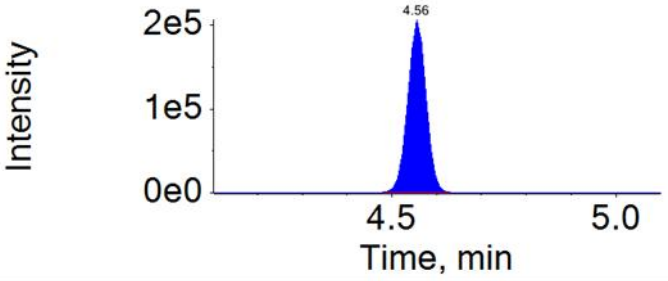
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

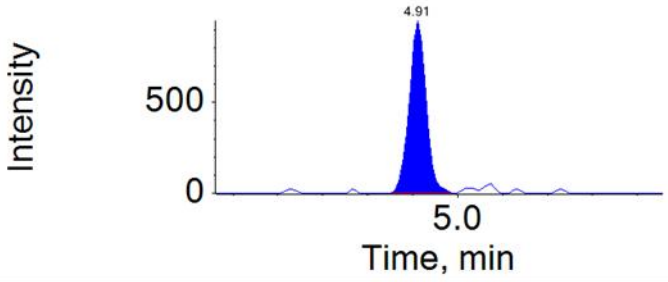
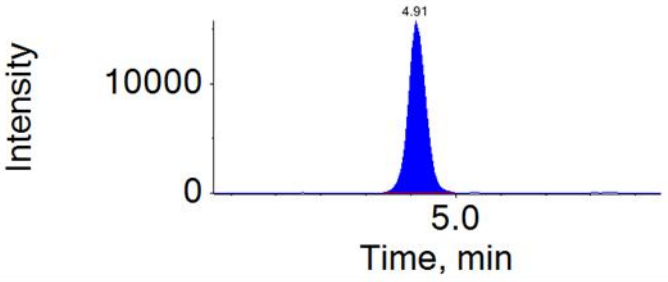
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

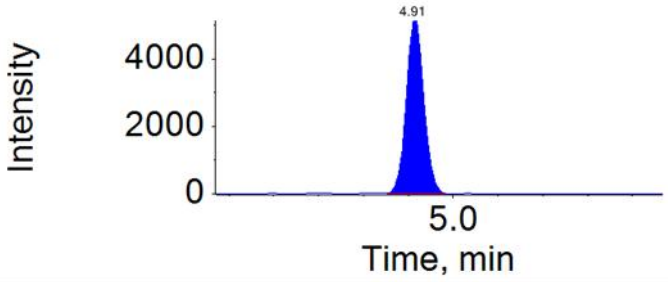
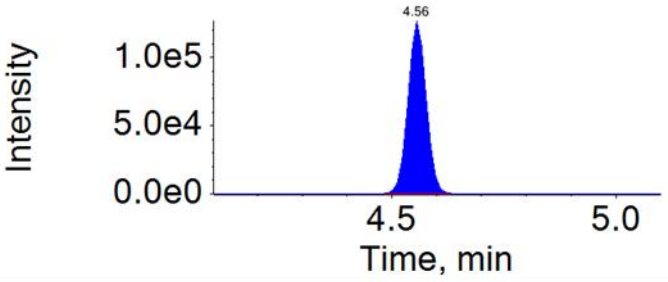
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

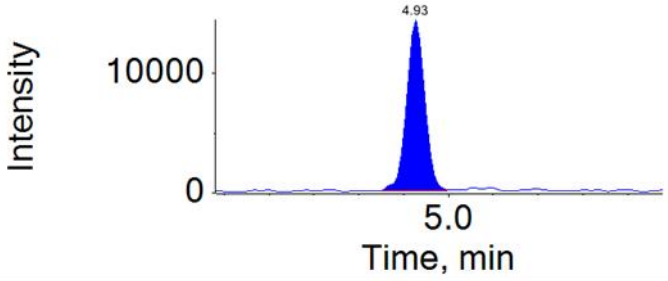
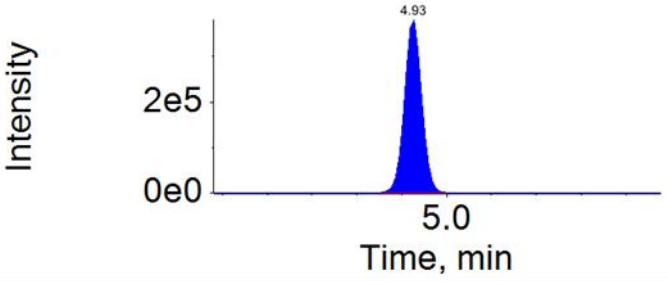
APPROVED
By JPT at 2:53 pm, 11/7/18

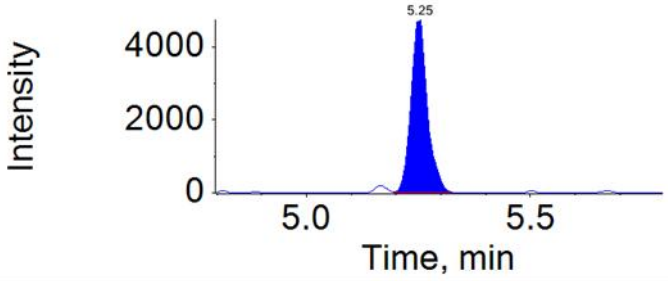
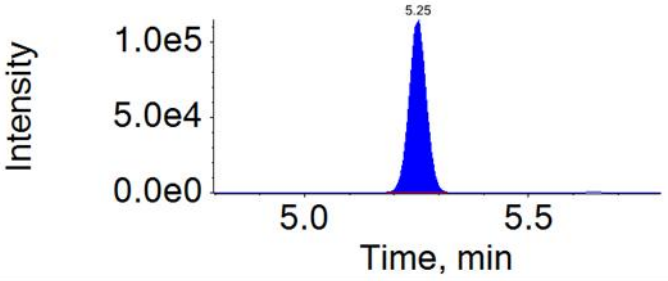
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

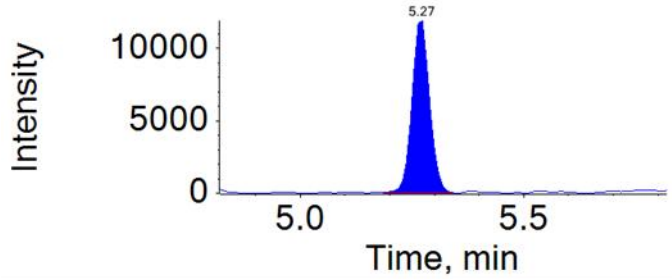
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

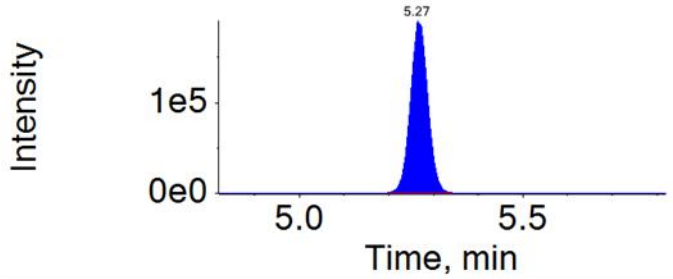
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

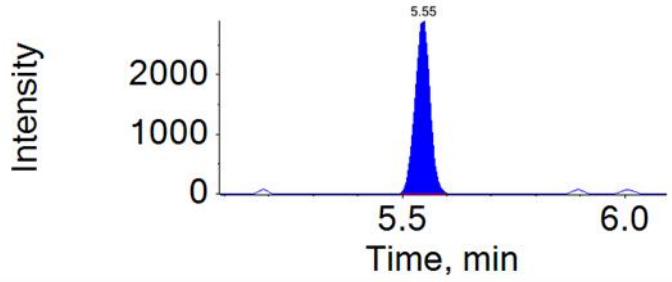
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

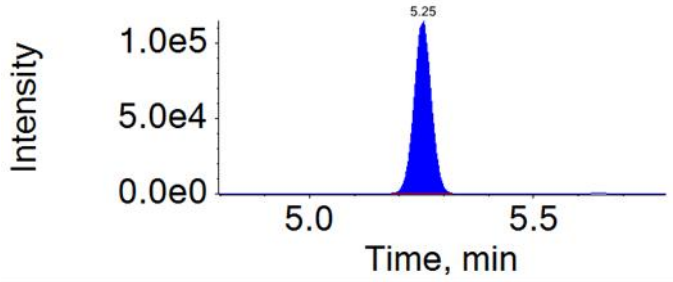
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



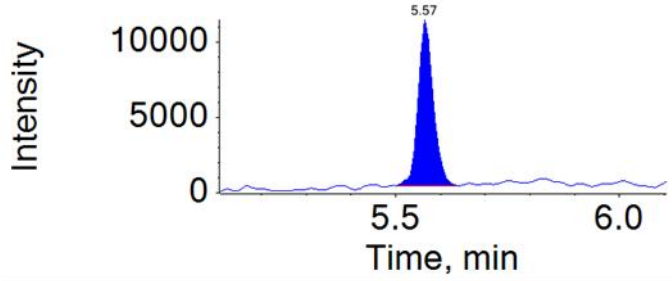


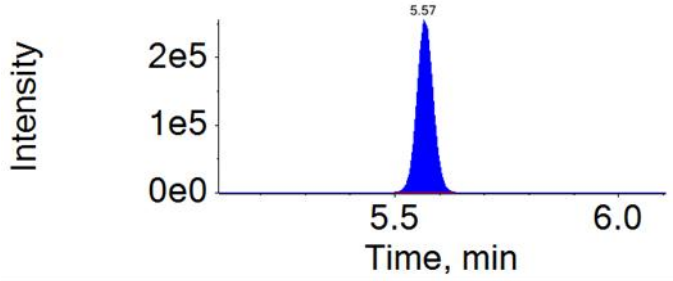
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



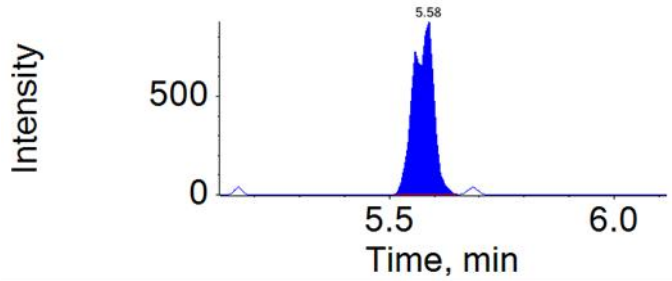


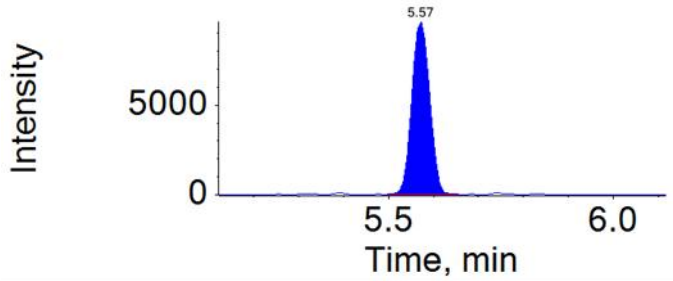
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

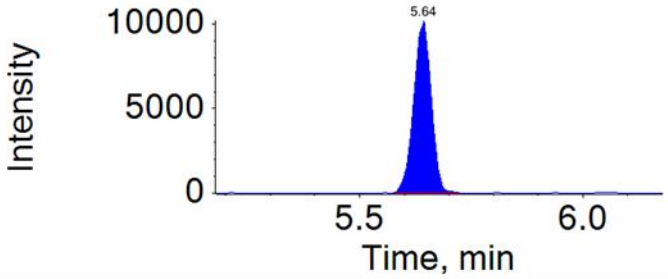
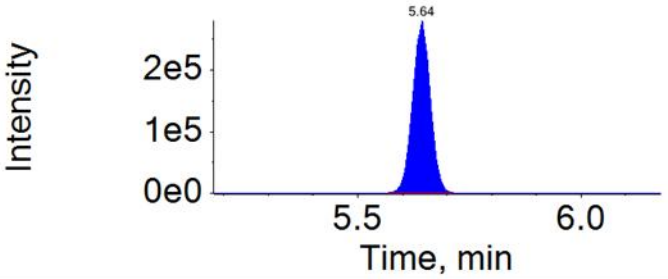


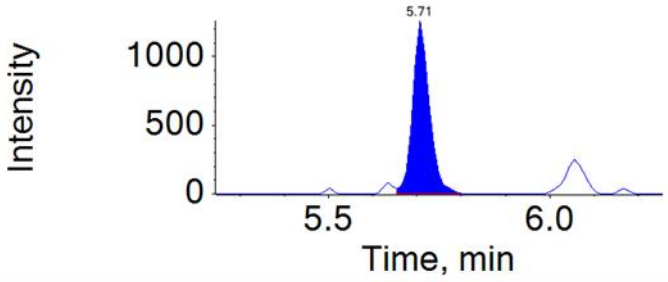
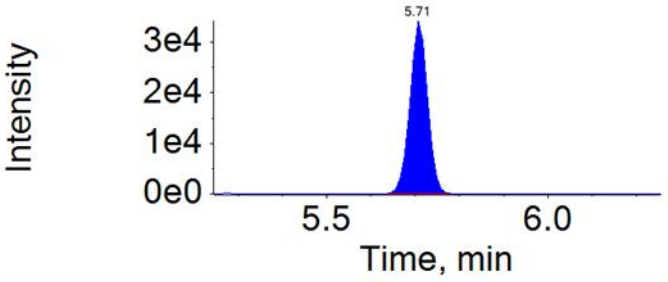


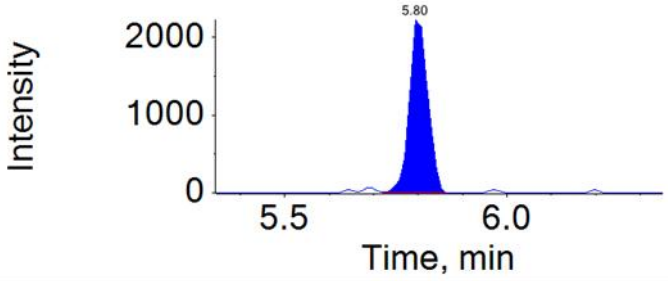
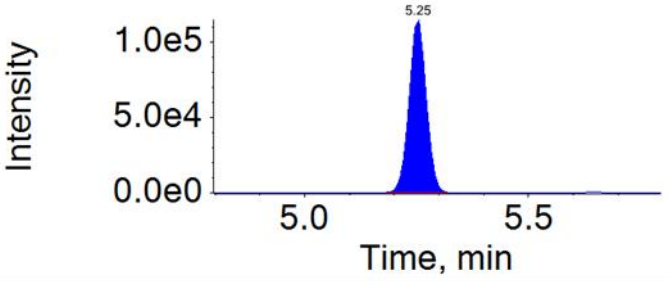
APPROVED
By JPT at 2:53 pm, 11/7/18

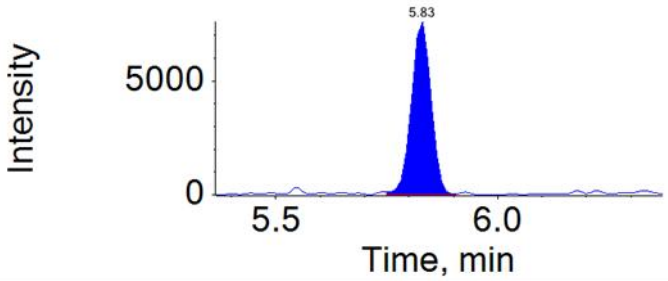
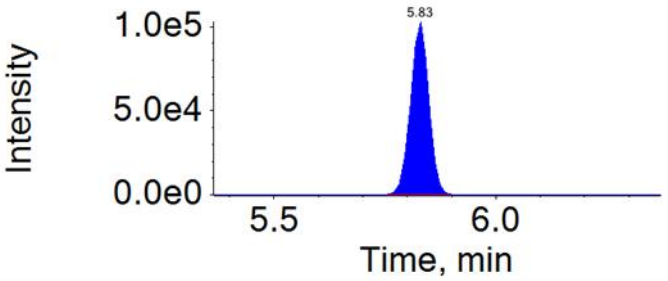
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

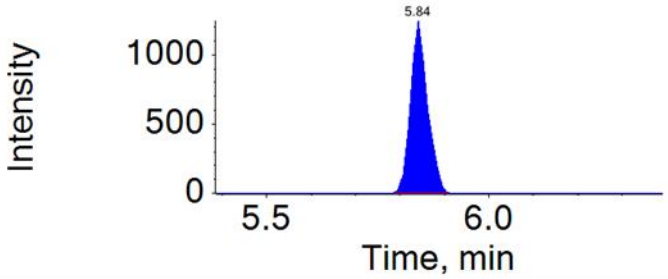
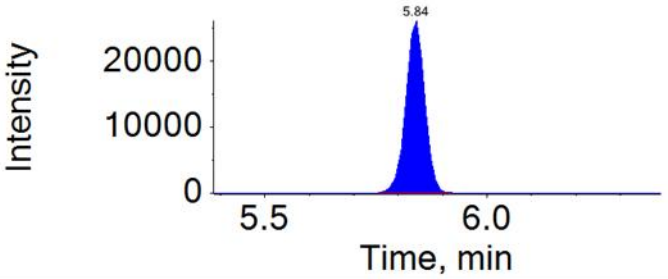
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

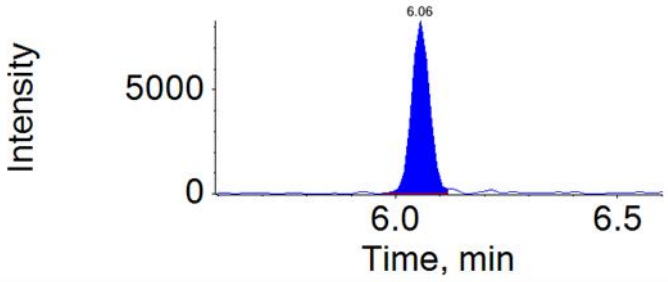
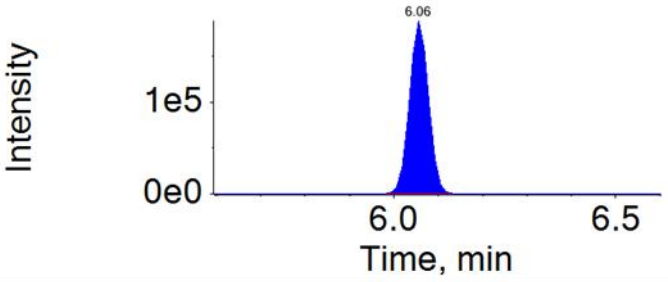
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

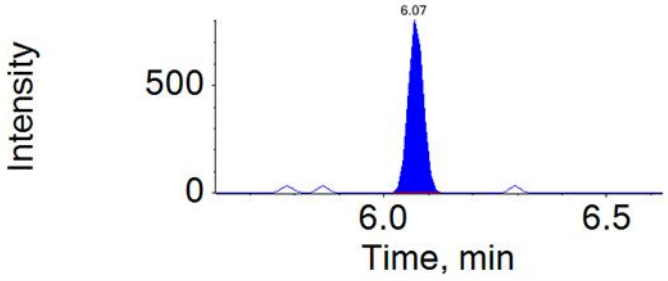
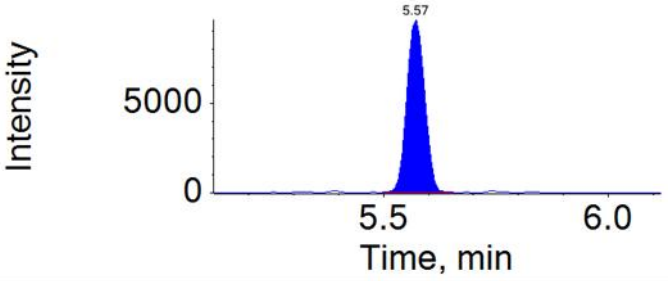
APPROVED
By JPT at 2:53 pm, 11/7/18

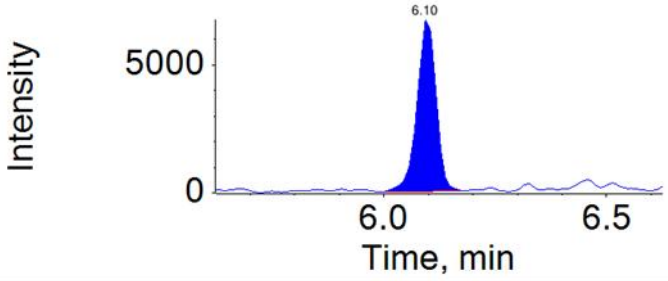
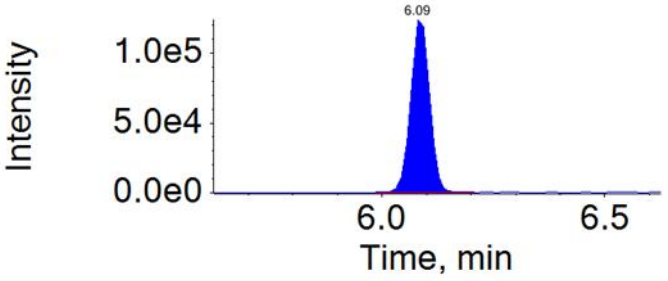
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

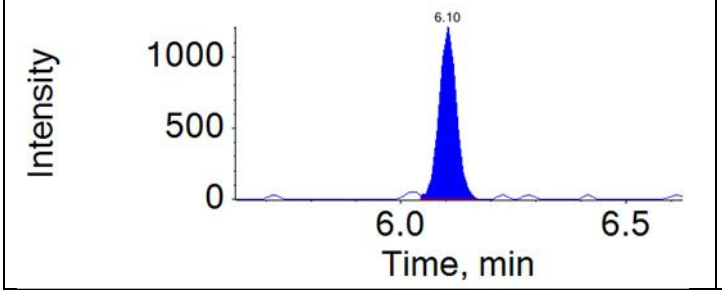
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

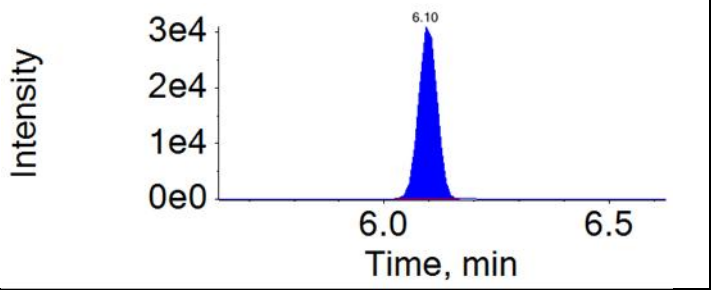
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

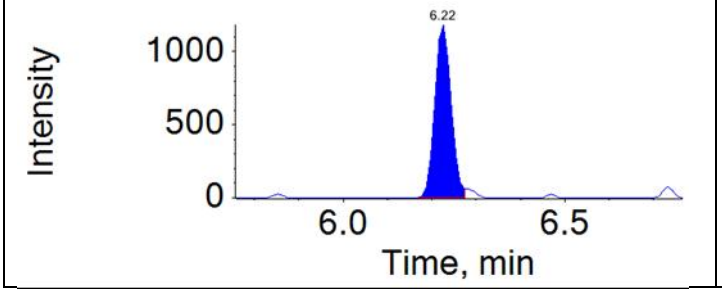
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

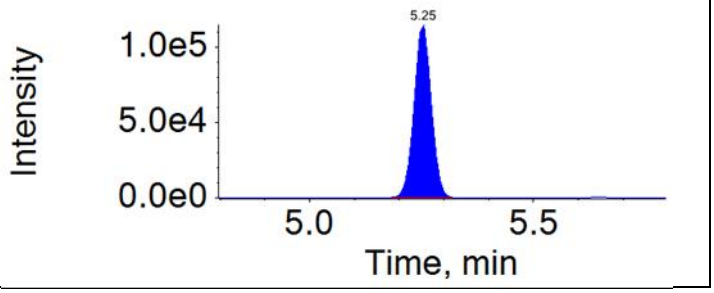
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



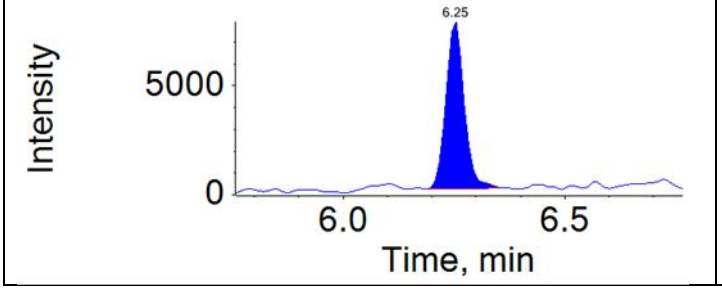


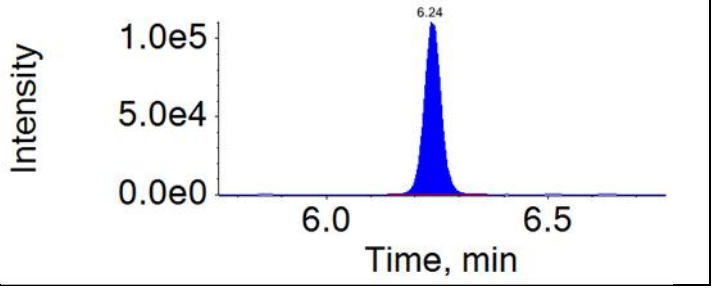
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



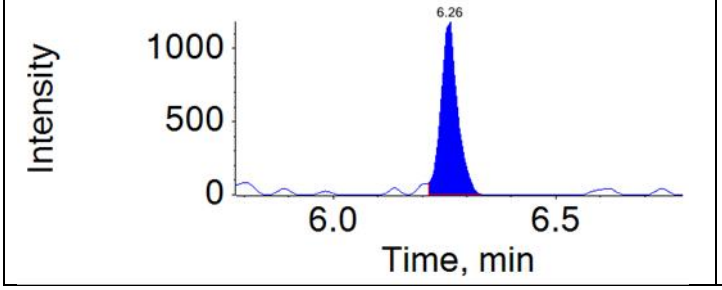


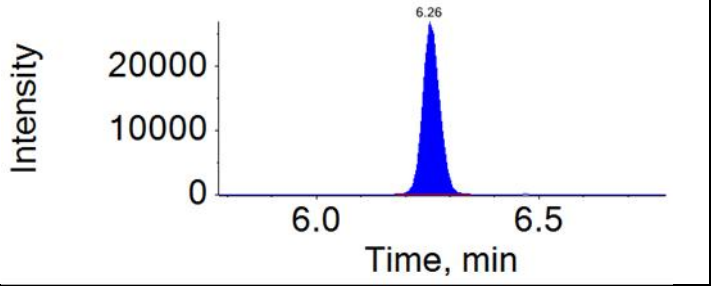
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

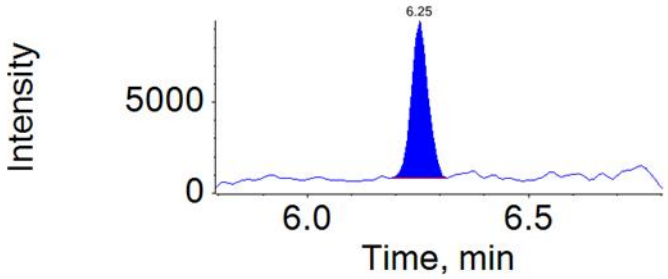
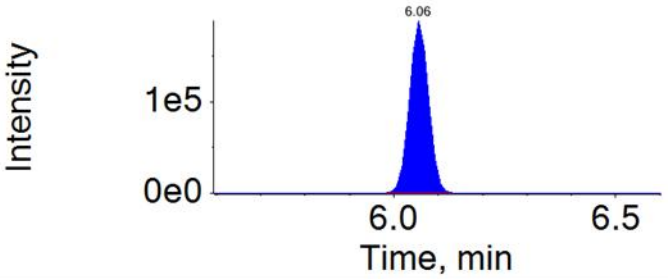


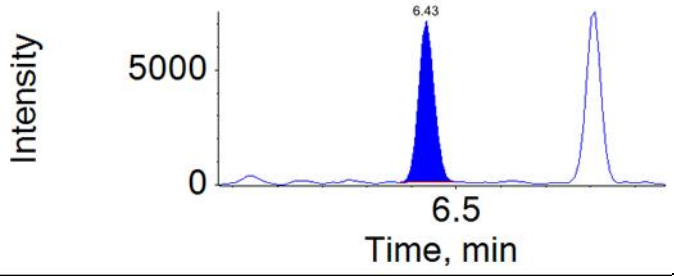
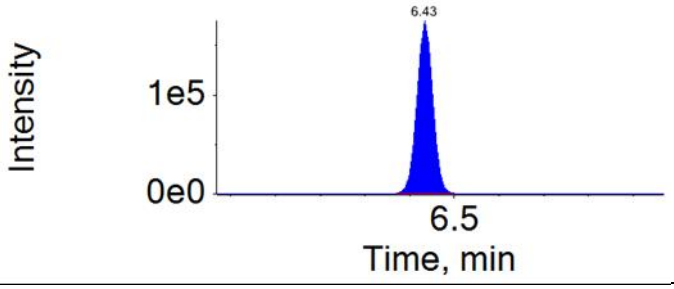


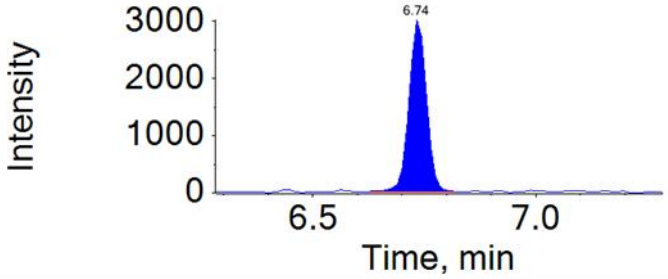
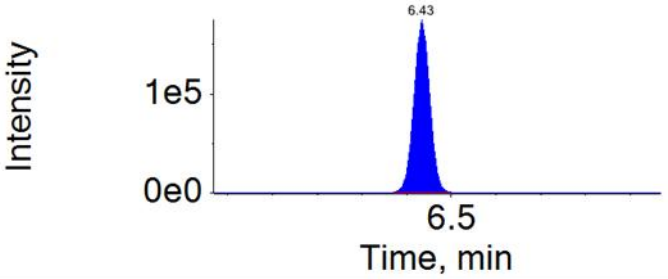
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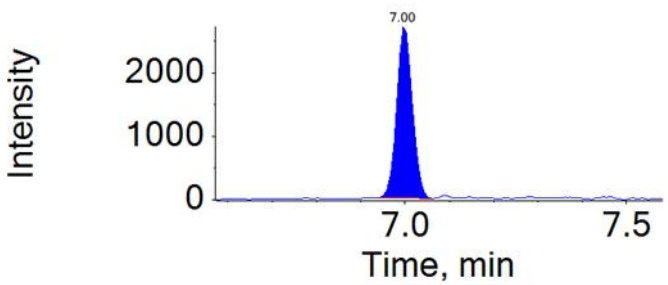
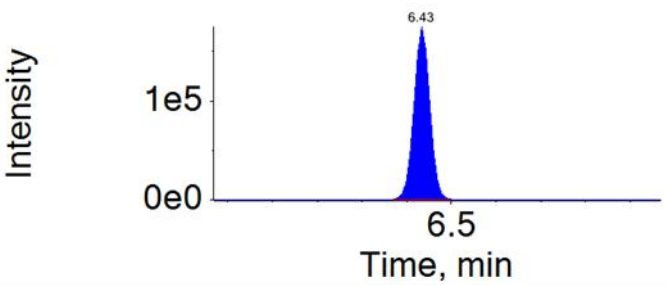
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By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

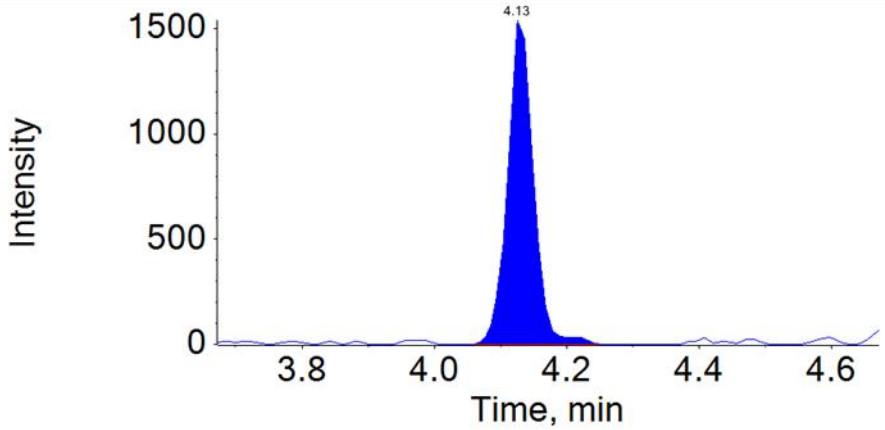
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0
	

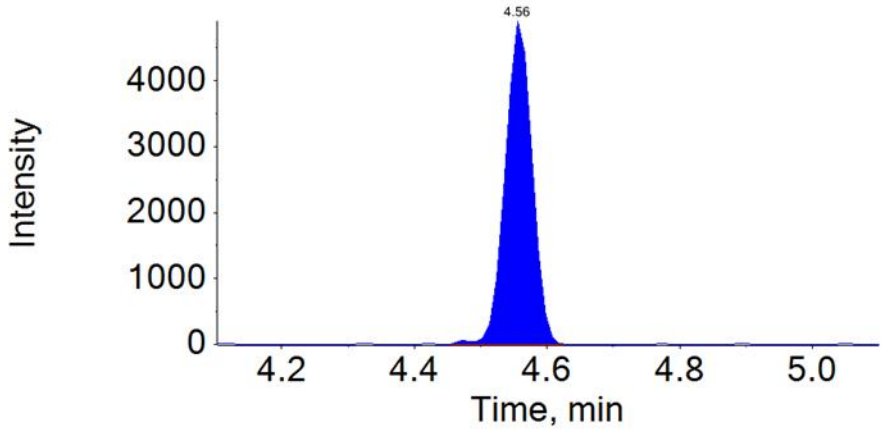
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

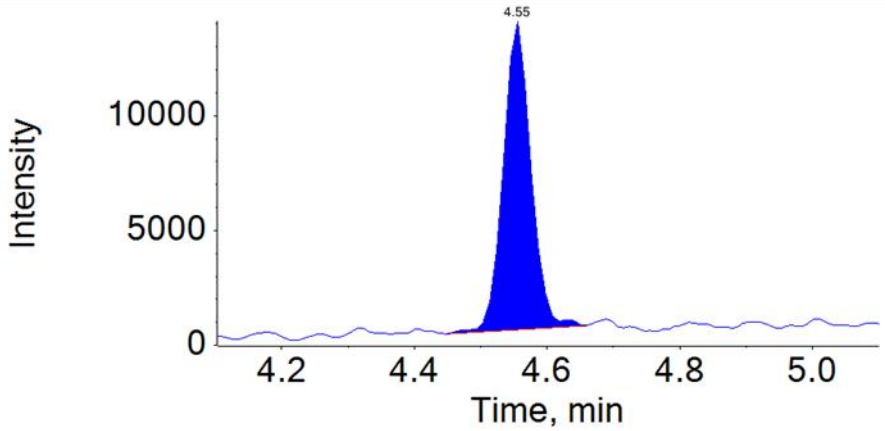
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By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name: 4:2-FTS **RT (min.):** 4.13 **Peak Area:** 4195.6 **Mass Range:** 327.0 / 307.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

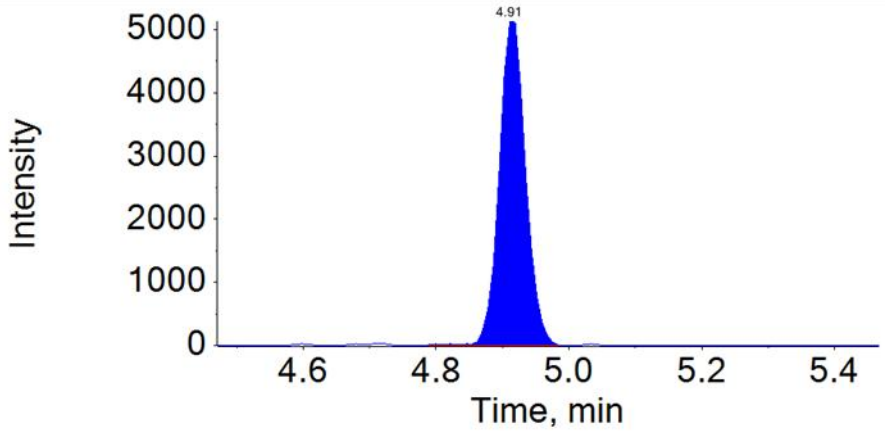
Component Name: PFHxS **RT (min.):** 4.56 **Peak Area:** 13860.4 **Mass Range:** 399.0 / 80.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

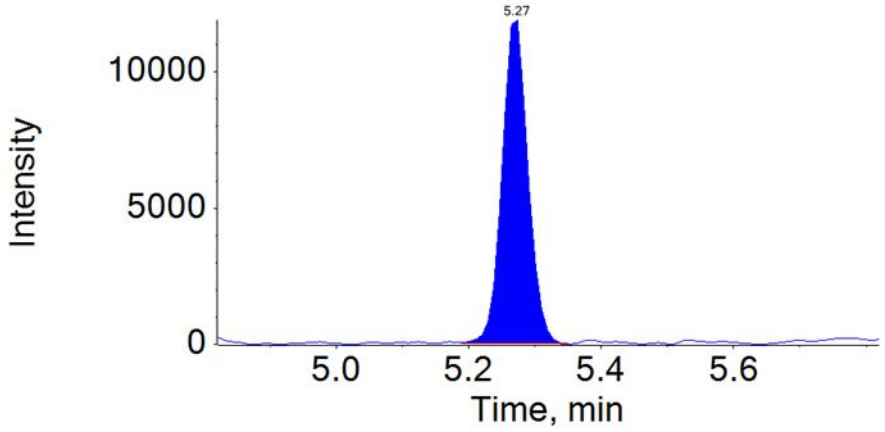
Component Name: PFHpA **RT (min.):** 4.55 **Peak Area:** 38996.9 **Mass Range:** 363.0 / 319.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

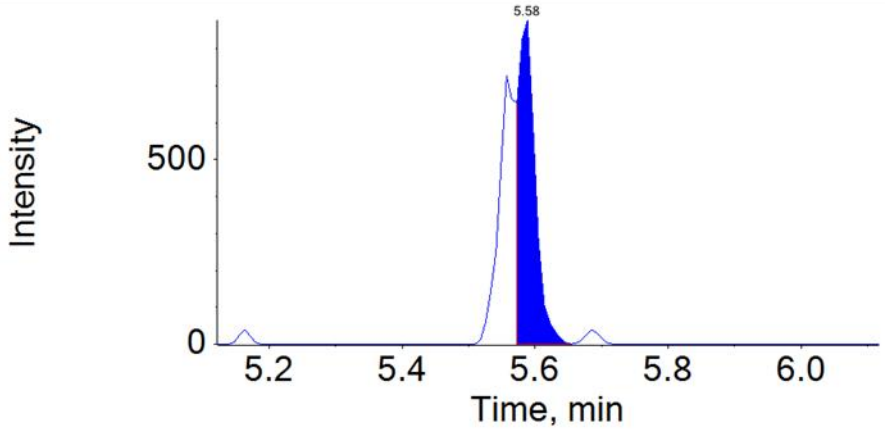
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name: PFHpS **RT (min.):** 4.91 **Peak Area:** 14266.0 **Mass Range:** 449.0 / 80.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

Component Name: PFNA **RT (min.):** 5.27 **Peak Area:** 32355.6 **Mass Range:** 463.0 / 419.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

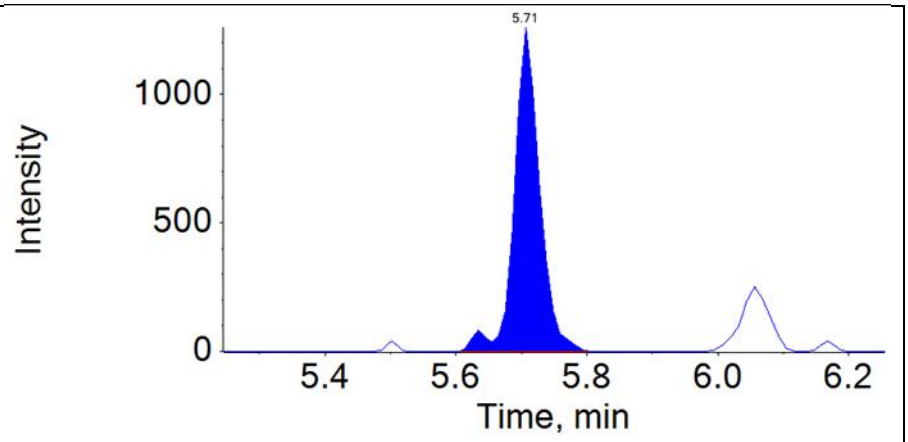
Component Name: 8:2-FTS **RT (min.):** 5.58 **Peak Area:** 1513.1 **Mass Range:** 527.0 / 507.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

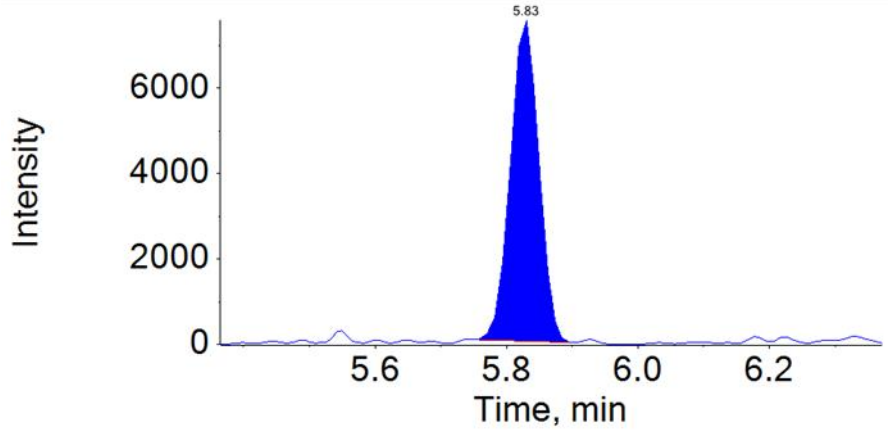
Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
3425.3
Mass Range:
570.0 / 419.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



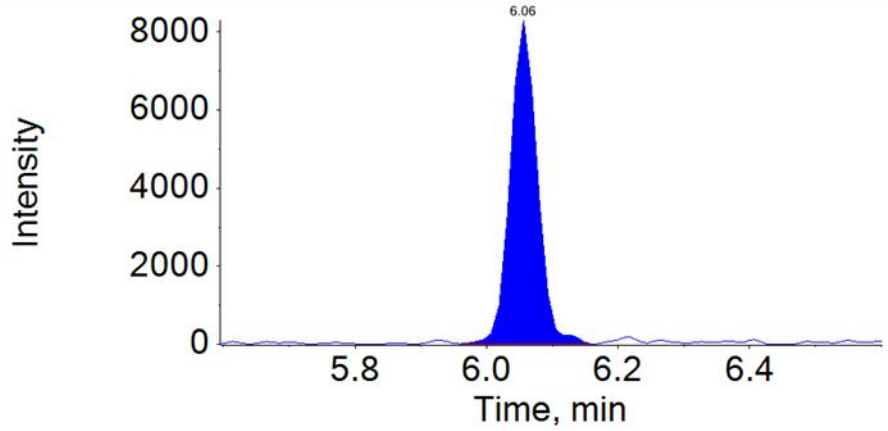
Integration Comment: incorrect integration

Component Name:
PFUnDA
RT (min.):
5.83
Peak Area:
22631.3
Mass Range:
563.0 / 519.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
PFDoDA
RT (min.):
6.06
Peak Area:
23623.5
Mass Range:
613.0 / 569.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1

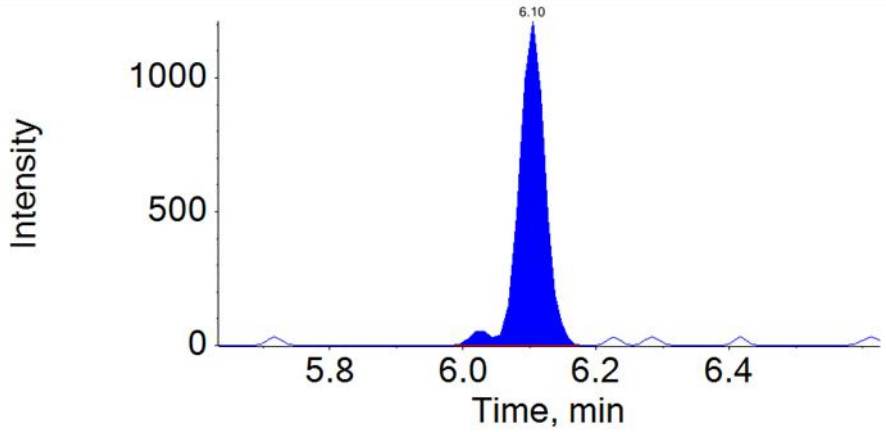


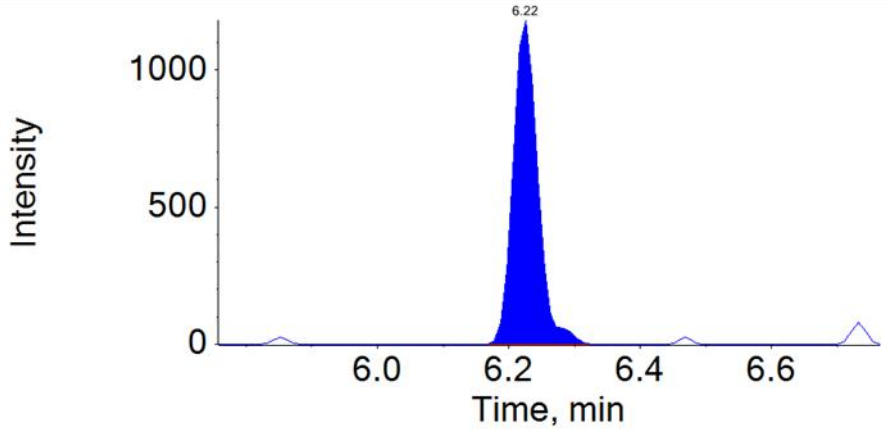
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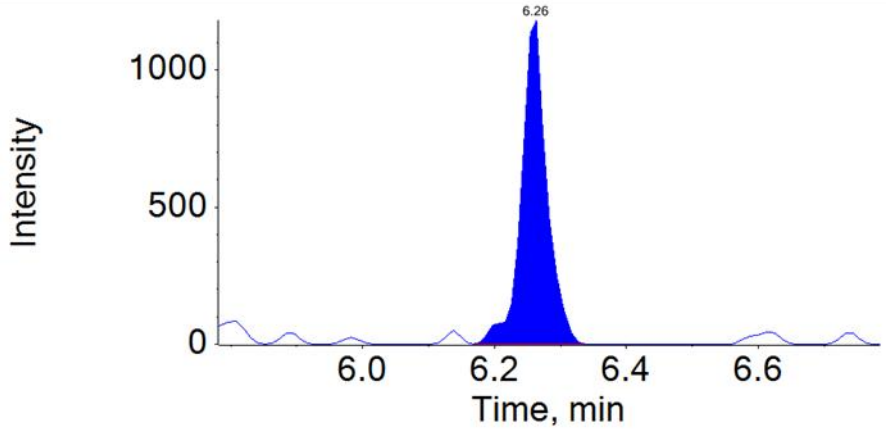
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Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name: NMePFOSA **RT (min.):** 6.10 **Peak Area:** 3327.7 **Mass Range:** 512.0 / 169.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

Component Name: PFDoS **RT (min.):** 6.22 **Peak Area:** 3114.4 **Mass Range:** 699.0 / 80.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

Component Name: NEtPFOSA **RT (min.):** 6.26 **Peak Area:** 3185.1 **Mass Range:** 526.0 / 169.0 **File Name:** 18NOV07DCAL-10.wiff **Sample Name:** CAL1	 **Integration Comment:** incorrect integration

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By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

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Ion Ratio Report

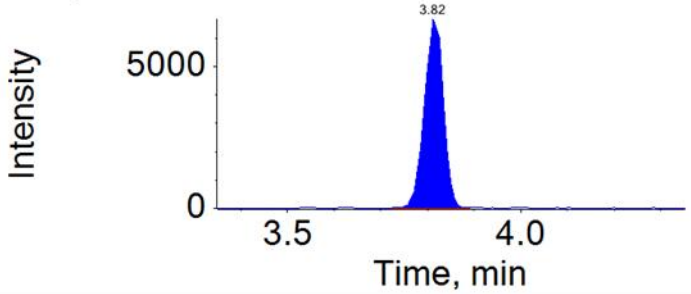
Sample Name: CAL1 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-10.wiff

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	19024.1	A	1.0000	1.0000			
PFBS_2	3.82	1.00	5667.0	A	0.3576	0.2979	-17	50	
4:2-FTS	4.13	1.00	4145.4	M	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	3113.1	A	0.6359	0.7510	18	50	
PFHxA	4.17	1.00	39732.2	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	426.0	A	0.0115	0.0107	-7	50	
PFPeS	4.18	1.10	8335.4	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	4437.8	A	0.5384	0.5324	-1	50	
PFHxS	4.56	1.00	13762.6	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	4694.9	A	0.3569	0.3411	-4	50	
PFHpA	4.55	1.00	38331.9	M	1.0000	1.0000			
PFHpA_2	4.56	1.00	2299.9	A	0.0577	0.0600	4	50	
6:2-FTS	4.91	1.00	2460.6	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	2419.1	A	0.6752	0.9832	46	50	
PFHpS	4.91	1.08	14183.4	M	1.0000	1.0000			
PFHpS_2	4.92	1.08	4803.7	A	0.3950	0.3387	-14	50	
PFOA	4.93	1.00	39843.5	A	1.0000	1.0000			
PFOA_2	4.92	1.00	2905.3	A	0.0635	0.0729	15	50	
PFOS	5.25	1.00	12181.7	A	1.0000	1.0000			
PFOS_2	5.25	1.00	4968.4	A	0.3494	0.4079	17	50	
PFNA	5.27	1.00	32563.3	M	1.0000	1.0000			
PFNA_2	5.29	1.00	475.0	A	0.0207	0.0146	-29	50	
PFNS	5.55	1.06	6748.5	A	1.0000	1.0000			
PFNS_2	5.55	1.06	3646.4	A	0.4890	0.5403	10	50	
PFDA	5.57	1.00	25530.0	A	1.0000	1.0000			
PFDA_2	5.55	1.00	33.4	A	0.0057	0.0013	-77	50	OOS
8:2-FTS	5.58	1.00	2783.3	M	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	2168.5	A	0.6169	0.7791	26	50	
NMeFOSAA	5.71	1.00	3293.8	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	644.8	A	0.2206	0.1958	-11	50	
PFDS	5.80	1.10	6453.6	A	1.0000	1.0000			
PFDS_2	5.82	1.11	1756.6	A	0.4648	0.2722	-41	50	
PFUnDA	5.83	1.00	23275.5	M	1.0000	1.0000			
PFUnDA_2	N/A	N/A	N/A	A	0.0031	N/A		50	
NEtFOSAA	5.84	1.00	3313.0	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	1807.4	A	0.6082	0.5455	-10	50	
PFDoDA	6.06	1.00	23314.2	M	1.0000	1.0000			
PFDoDA_2	6.06	1.00	62.7	A	0.0109	0.0027	-75	50	OOS
10:2-FTS	6.07	1.09	1903.7	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	1472.7	A	0.7082	0.7736	9	50	
PFTrDA	6.25	1.03	22403.2	A	1.0000	1.0000			
PFTrDA_2	6.26	1.03	178.7	A	0.0096	0.0080	-17	50	
PFTeDA	6.43	1.00	17031.0	A	1.0000	1.0000			
PFTeDA_2	6.48	1.01	40.0	A	0.0055	0.0023	-58	50	OOS
PFHxDA	6.74	1.05	8175.1	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	437.4	A	0.0596	0.0535	-10	50	
PFODA	7.00	1.09	6622.6	A	1.0000	1.0000			
PFODA_2	6.99	1.09	171.3	A	0.0257	0.0259	1	50	

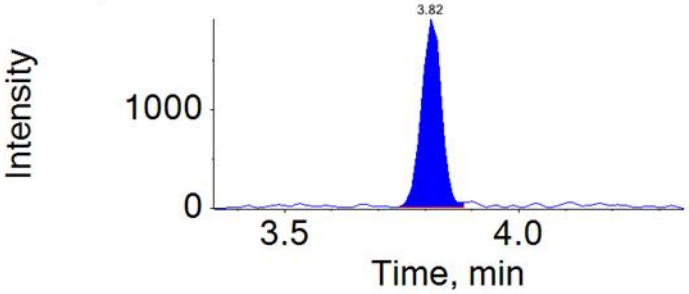
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By umar at 5:23 pm, 11/9/18

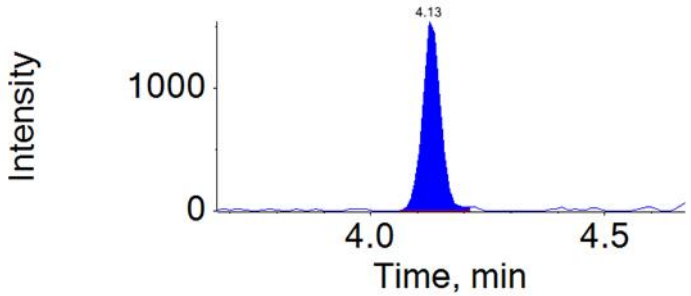
Component: PFBS
Primary Mass: 299.0 / 80.0



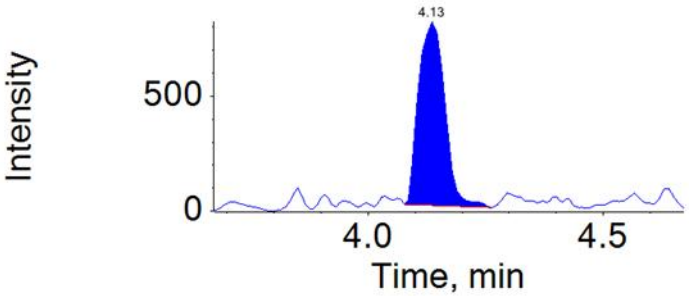
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



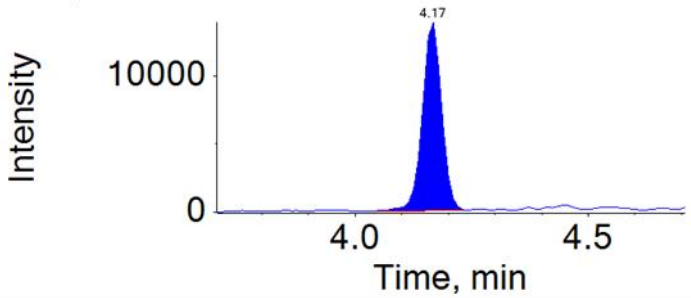
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



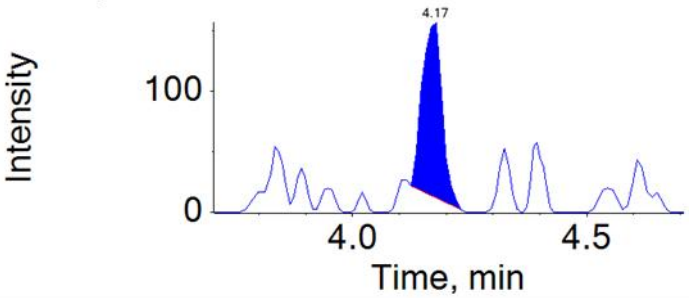
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



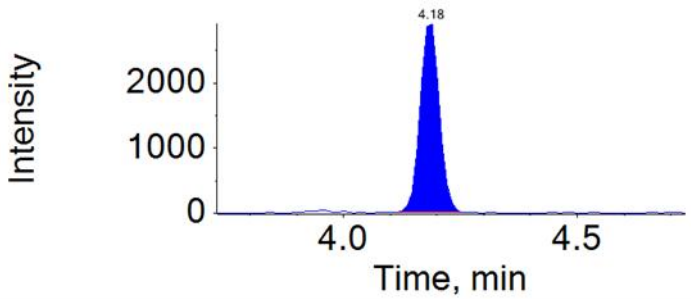
Component: PFHxA
Primary Mass: 313.0 / 269.0



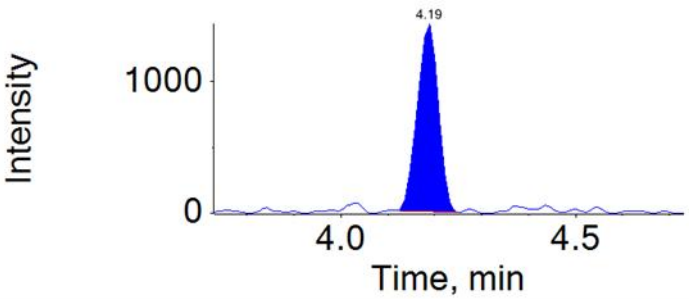
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



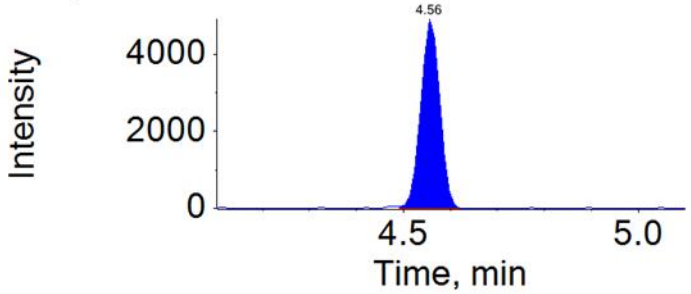
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Secondary Mass: 349.0 / 99.0



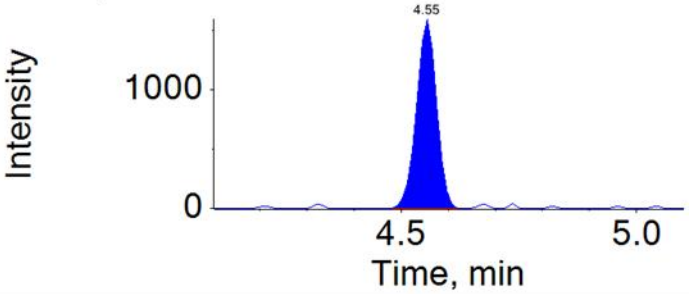
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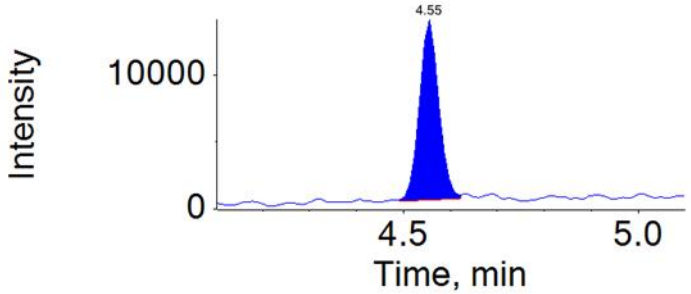
Component: PFHxS
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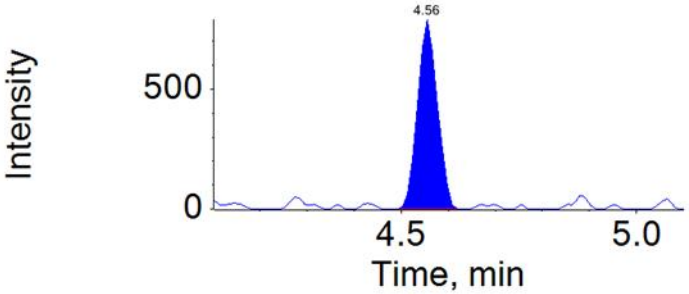
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Secondary Mass: 399.0 / 99.0



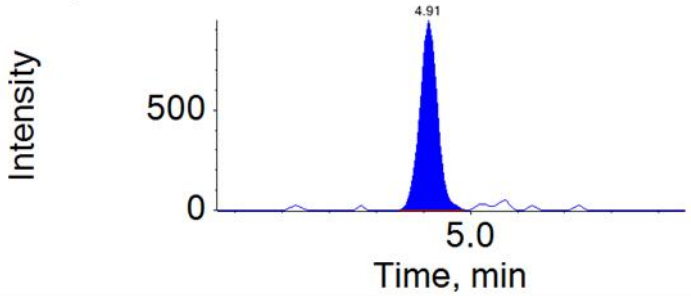
Component: PFHpA
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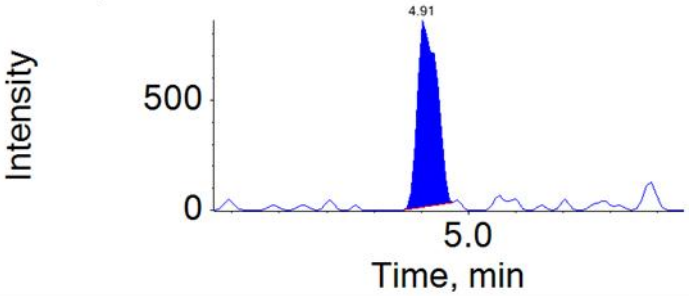
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



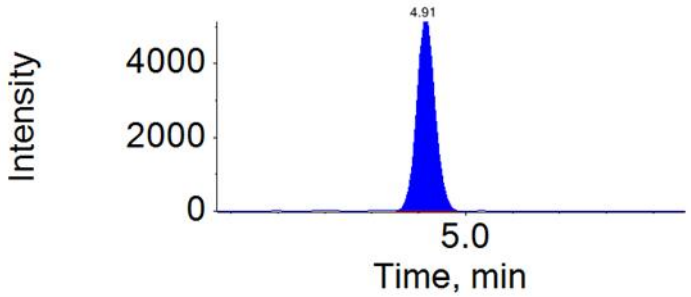
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



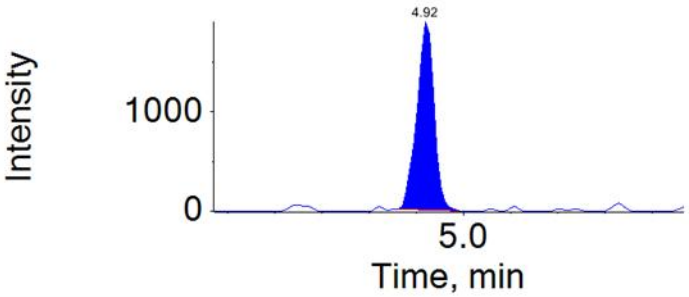
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



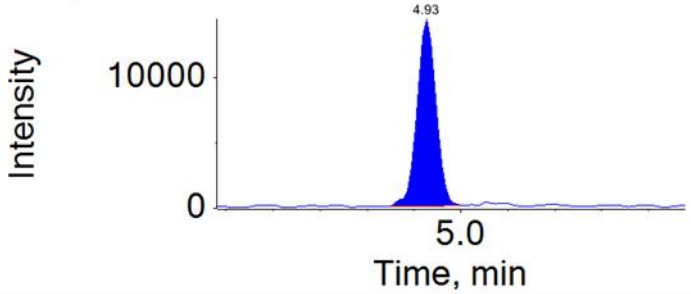
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



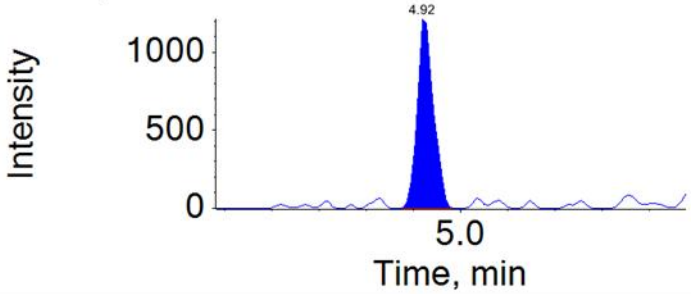
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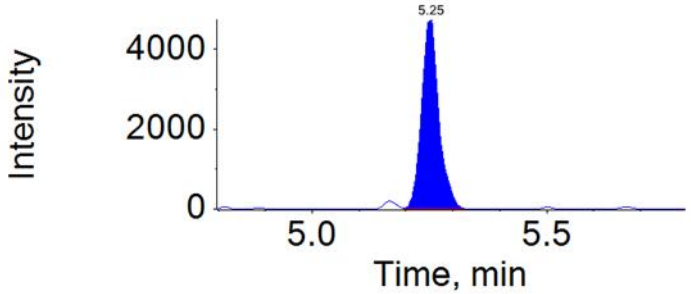
Component: PFOA
Primary Mass: 413.0 / 369.0



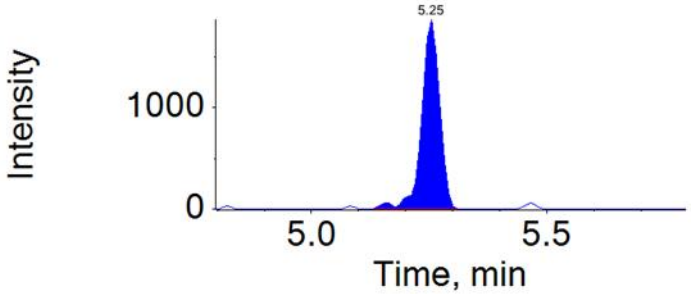
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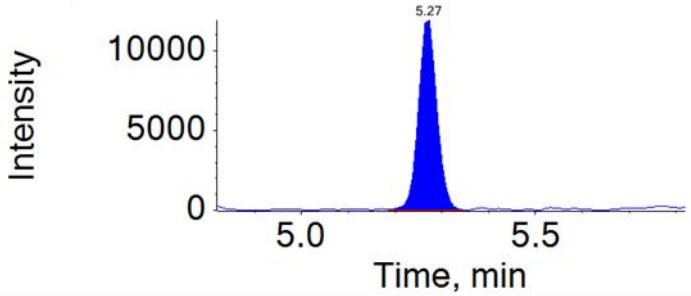
Component: PFOS
Primary Mass: 499.0 / 80.0



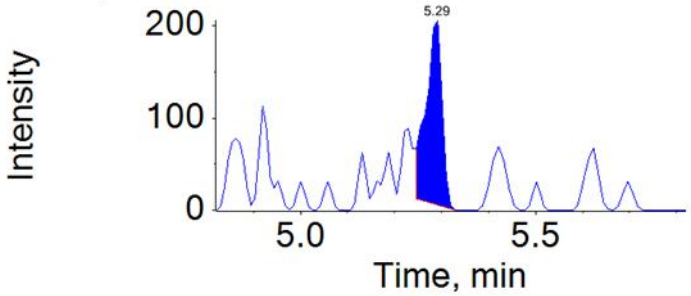
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Secondary Mass: 499.0 / 99.0



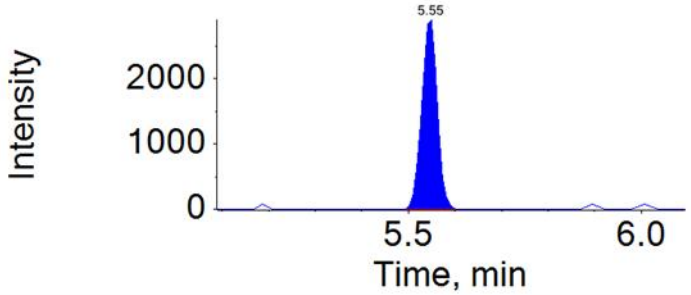
Component: PFNA
Primary Mass: 463.0 / 419.0



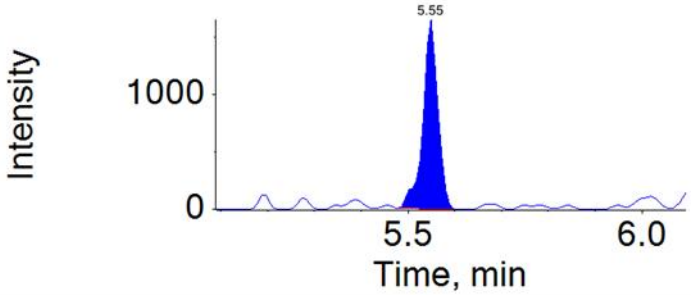
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



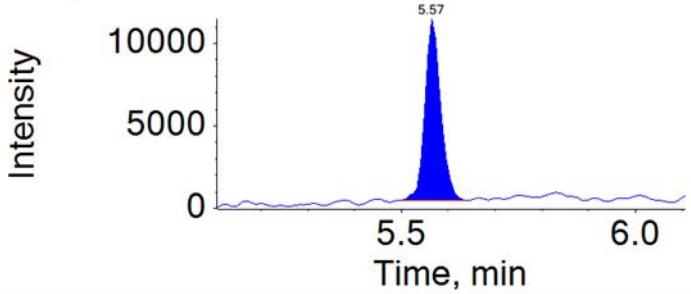
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



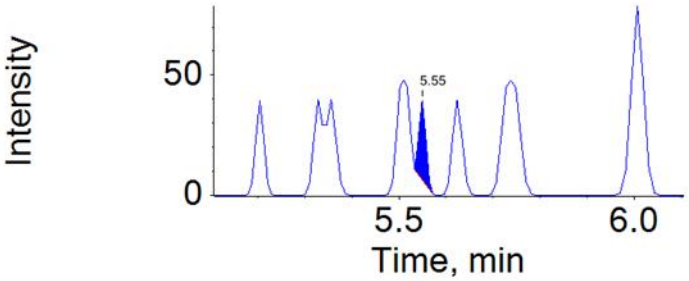
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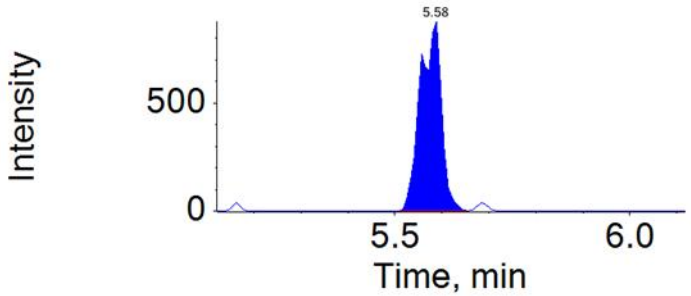
Component: PFDA
Primary Mass: 513.0 / 469.0



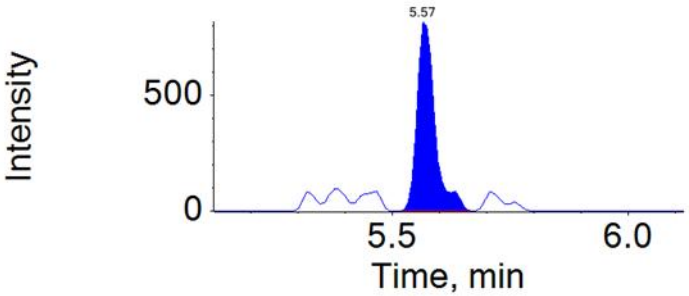
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



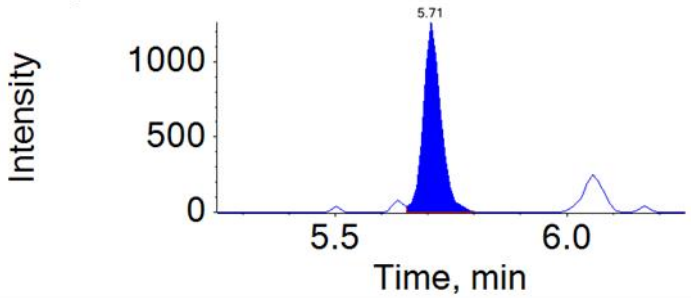
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



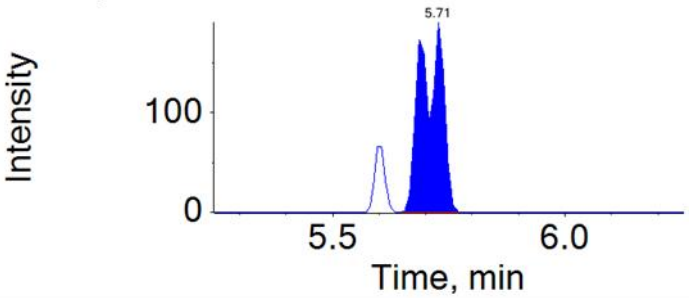
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



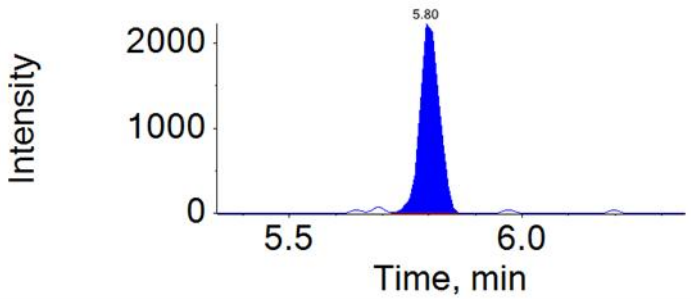
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



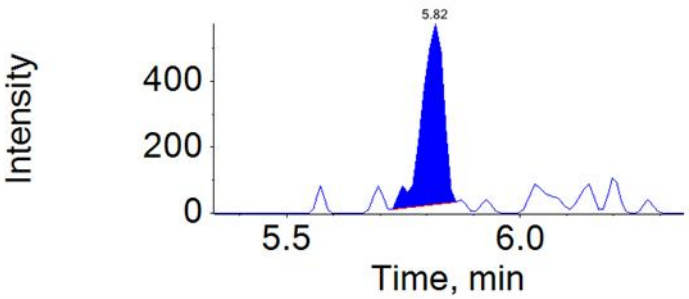
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



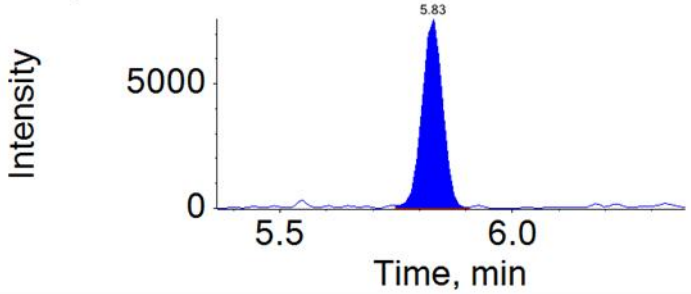
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



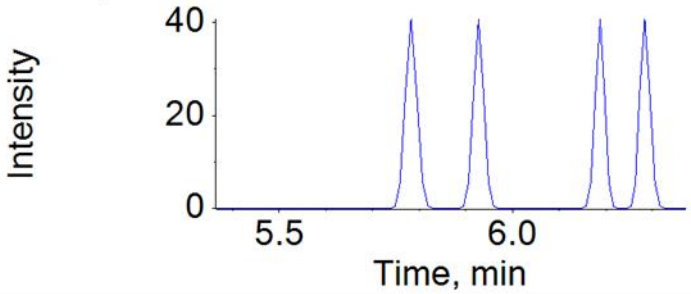
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

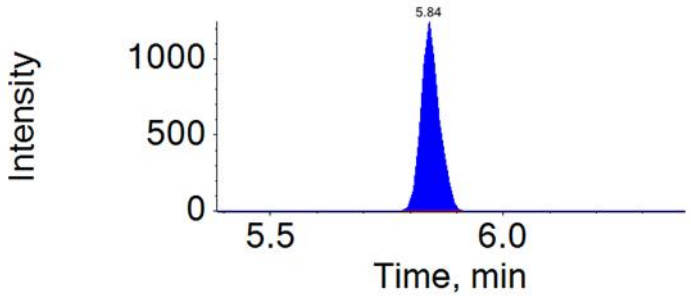
Component: PFUnDA
Primary Mass: 563.0 / 519.0



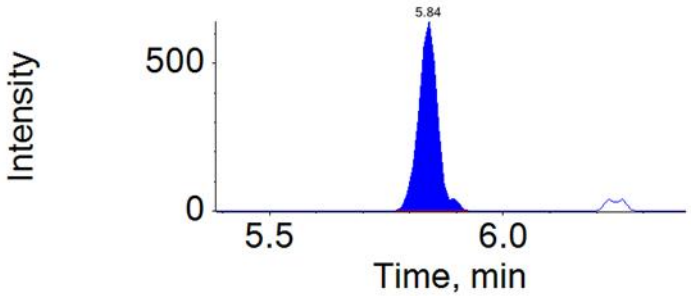
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



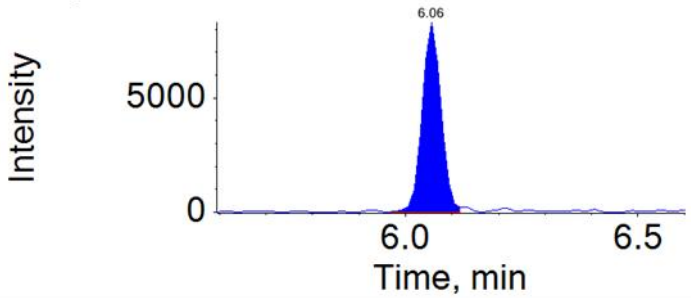
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



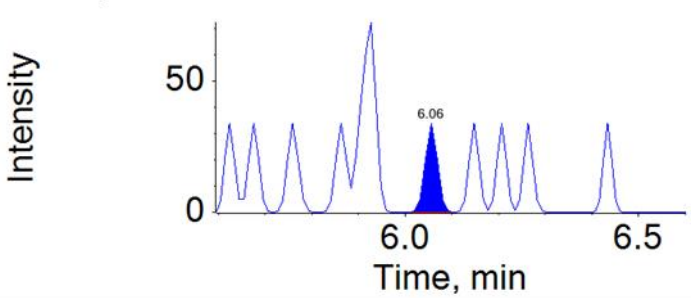
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



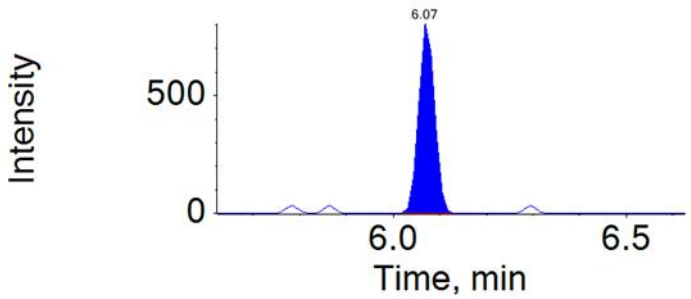
Component: PFDoDA
Primary Mass: 613.0 / 569.0



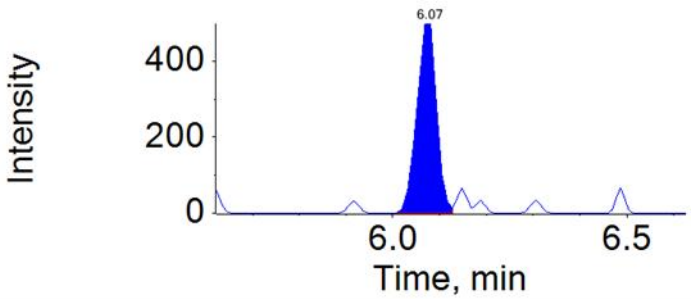
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



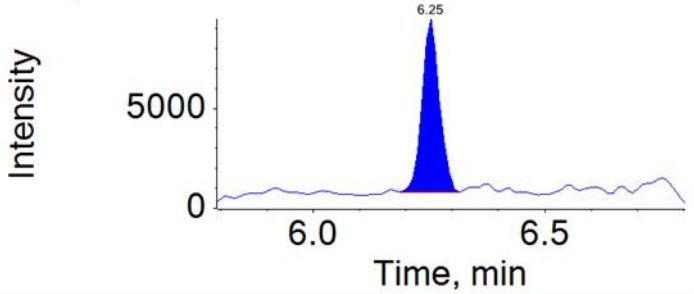
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



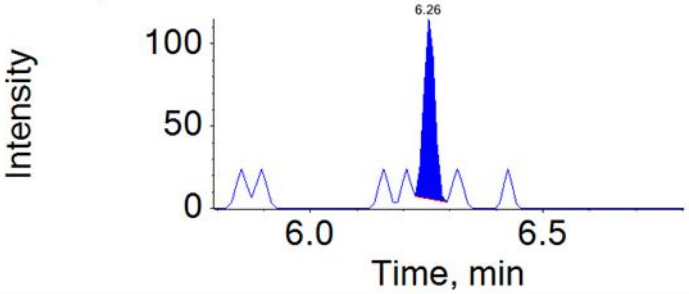
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

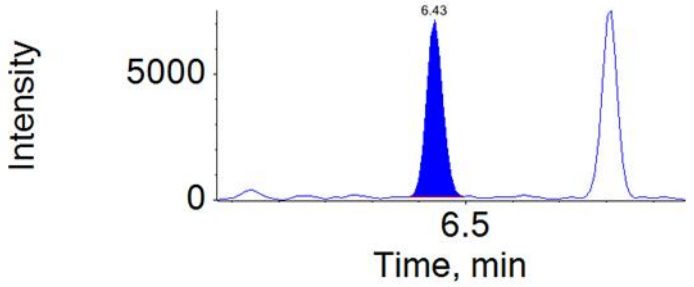
Component: PFTrDA
Primary Mass: 663.0 / 619.0



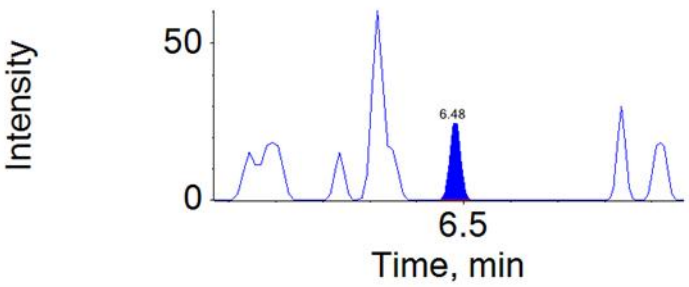
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



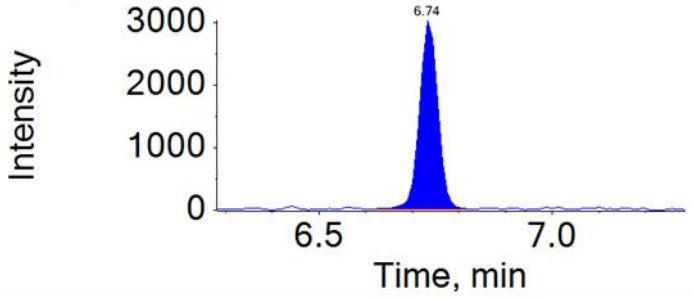
Component: PFTeDA
Primary Mass: 713.0 / 669.0



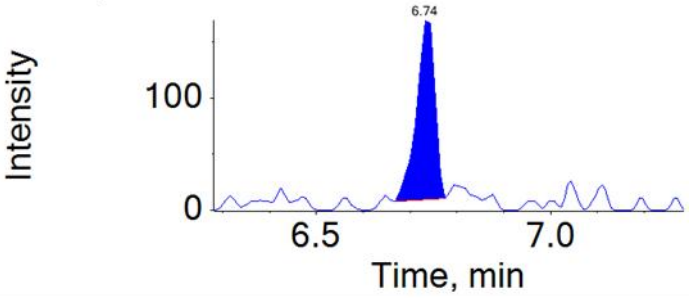
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



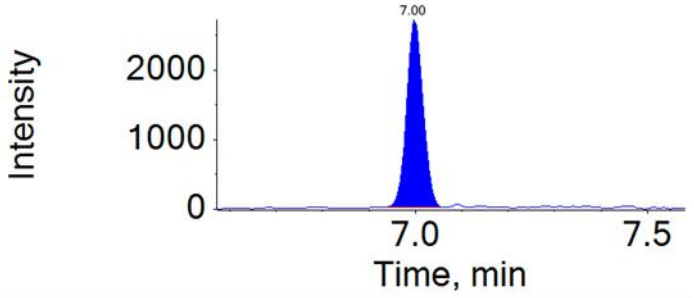
Component: PFHxDA
Primary Mass: 813.0 / 769.0



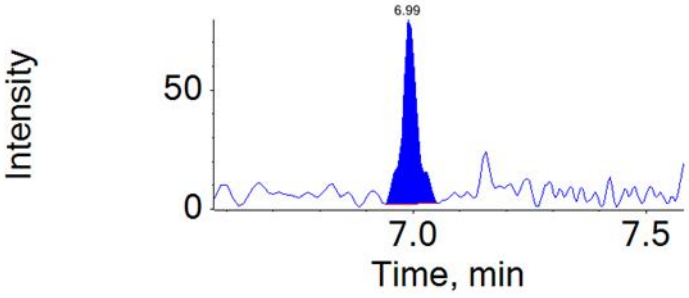
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL2			**Data File:**		18NOV07DCAL-11.wiff
Sample ID:	CALMOD21833F			**Acquis Date:**		2018-11-07T09:48:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	723209.9	730410.6	-1	50	
13C2-PFOA	5.0	516360.9	524423.6	-2	50	
13C4-PFOS	4.8	263757.0	274061.7	-4	50	
13C2-PFDA	5.0	334958.4	311442.1	8	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	782732.8	13C3-PFBA	723209.9	1.082	5.000	5.009	100	70-130	
E13C5-PFPeA	863262.8	13C3-PFBA	723209.9	1.194	5.000	5.200	104	70-130	
E13C3-PFBS	444721.3	13C3-PFBA	723209.9	0.615	4.650	4.513	97	70-130	
E13C2-4:2-FTS	54234.1	13C2-PFOA	516360.9	0.105	4.670	4.739	101	70-130	
E13C5-PFHxA	717434.9	13C2-PFOA	516360.9	1.389	5.000	5.111	102	70-130	
E13C3-PFHxS	335732.1	13C2-PFOA	516360.9	0.650	4.730	4.668	99	70-130	
E13C4-PFHpA	583342.8	13C2-PFOA	516360.9	1.130	5.000	5.139	103	70-130	
E13C2-6:2-FTS	38849.6	13C2-PFOA	516360.9	0.075	4.750	5.017	106	70-130	
E13C8-PFOA	970523.2	13C2-PFOA	516360.9	1.880	5.000	5.241	105	70-130	
E13C8-PFOS	286174.8	13C4-PFOS	263757.0	1.085	4.780	4.798	100	70-130	
E13C9-PFNA	540435.4	13C4-PFOS	263757.0	2.049	5.000	5.597	112	70-130	
E13C6-PFDA	661423.8	13C2-PFDA	334958.4	1.975	5.000	4.966	99	70-130	
E13C2-8:2-FTS	27523.0	13C2-PFDA	334958.4	0.082	4.790	4.348	91	70-130	
E13C8-PFOSA	711032.2	13C2-PFDA	334958.4	2.123	5.000	4.632	93	70-130	
Ed3-NMeFOSAA	83112.2	13C2-PFDA	334958.4	0.248	5.000	4.614	92	70-130	
E13C7-PFUnDA	289985.1	13C2-PFDA	334958.4	0.866	5.000	4.994	100	70-130	
Ed5-NEtFOSAA	65815.9	13C2-PFDA	334958.4	0.196	5.000	4.547	91	70-130	
E13C2-PFDoDA	597616.3	13C2-PFDA	334958.4	1.784	5.000	4.810	96	70-130	
Ed7-NMePFOSAE	330298.6	13C2-PFDA	334958.4	0.986	5.000	4.586	92	70-130	
Ed3-NMePFOSA	81301.2	13C2-PFDA	334958.4	0.243	5.000	4.444	89	70-130	
Ed9-NEtPFOSAE	270607.6	13C2-PFDA	334958.4	0.808	5.000	4.614	92	70-130	
Ed5-NEtPFOSA	66745.4	13C2-PFDA	334958.4	0.199	5.000	4.614	92	70-130	
E13C2-PFTeDA	441206.9	13C2-PFDA	334958.4	1.317	5.000	4.742	95	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

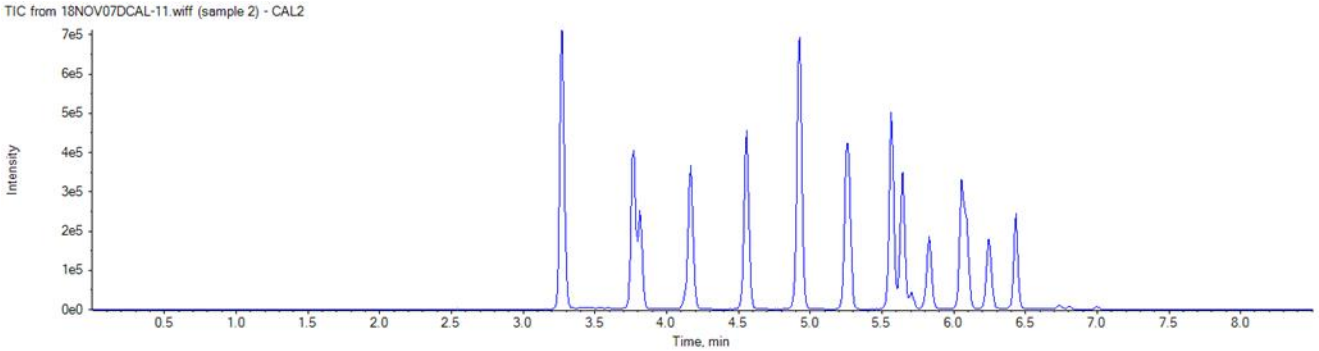
Analyte Quantitation Peak Table

Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.27	1.000	72868.6		A	13C4-PFBA	3.27	782732.8	0.093	0.545
PFPeA	3.77	1.000	77403.9		A	13C5-PFPeA	3.77	863262.8	0.090	0.533
PFBS	3.82	1.000	41415.1		A	13C3-PFBS	3.82	444721.3	0.093	0.470
4:2-FTS	4.13	1.000	9924.9		M	13C2-4:2-FTS	4.13	54234.1	0.183	0.492
PFHxA	4.17	1.000	88469.9		A	13C5-PFHxA	4.17	717434.9	0.123	0.529
PFPeS	4.19	1.100	20956.8		A	13C3-PFBS	3.82	444721.3	0.047	0.465
PFHxS	4.56	1.000	32061.0		M	13C3-PFHxS	4.56	335732.1	0.095	0.484
PFHpA	4.56	1.000	93502.9		A	13C4-PFHpA	4.55	583342.8	0.160	0.539
6:2-FTS	4.91	1.000	8883.8		A	13C2-6:2-FTS	4.91	38849.6	0.229	0.570
PFHpS	4.92	1.080	30553.2		A	13C3-PFHxS	4.56	335732.1	0.091	0.476
PFOA	4.93	1.000	94348.1		A	13C8-PFOA	4.92	970523.2	0.097	0.547
PFOS	5.25	1.000	28529.2		M	13C8-PFOS	5.25	286174.8	0.100	0.517
PFNA	5.27	1.000	74743.9		A	13C9-PFNA	5.27	540435.4	0.138	0.517
PFNS	5.55	1.060	17507.8		A	13C8-PFOS	5.25	286174.8	0.061	0.485
PFDA	5.57	1.000	62530.6		A	13C6-PFDA	5.57	661423.8	0.095	0.520
8:2-FTS	5.57	1.000	6917.6		A	13C2-8:2-FTS	5.57	27523.0	0.251	0.567
PFOSA	5.64	1.000	69586.0		A	13C8-PFOSA	5.64	711032.2	0.098	0.529
NMeFOSAA	5.71	1.000	9807.4		A	d3-NMeFOSAA	5.71	83112.2	0.118	0.607
PFDS	5.80	1.110	15726.3		A	13C8-PFOS	5.25	286174.8	0.055	0.525
PFUnDA	5.83	1.000	54085.5		A	13C7-PFUnDA	5.83	289985.1	0.187	0.535
NEtFOSAA	5.84	1.000	7253.7		A	d5-NEtFOSAA	5.84	65815.9	0.110	0.474
PFDoDA	6.06	1.000	60098.0		A	13C2-PFDoDA	6.06	597616.3	0.101	0.545
10:2-FTS	6.07	1.090	4874.3		A	13C2-8:2-FTS	5.57	27523.0	0.177	0.551
NMePFOSAE	6.10	1.000	40902.1		A	d7-NMePFOSAE	6.09	330298.6	0.124	0.555
NMePFOSA	6.10	1.000	8251.9		A	d3-NMePFOSA	6.10	81301.2	0.101	0.568
PFDoS	6.23	1.190	7227.2		A	13C8-PFOS	5.25	286174.8	0.025	0.487
NEtPFOSAE	6.25	1.000	48905.8		A	d9-NEtPFOSAE	6.24	270607.6	0.181	0.579
NEtPFOSA	6.26	1.000	6419.4		A	d5-NEtPFOSA	6.26	66745.4	0.096	0.424
PFTrDA	6.25	1.030	49218.5		A	13C2-PFDoDA	6.06	597616.3	0.082	0.519
PFTeDA	6.43	1.000	36223.2		A	13C2-PFTeDA	6.43	441206.9	0.082	0.482
PFHxDA	6.74	1.050	18619.3		A	13C2-PFTeDA	6.43	441206.9	0.042	0.524
PFODA	7.00	1.090	15742.1		A	13C2-PFTeDA	6.43	441206.9	0.036	0.511

Total Ion Chromatogram

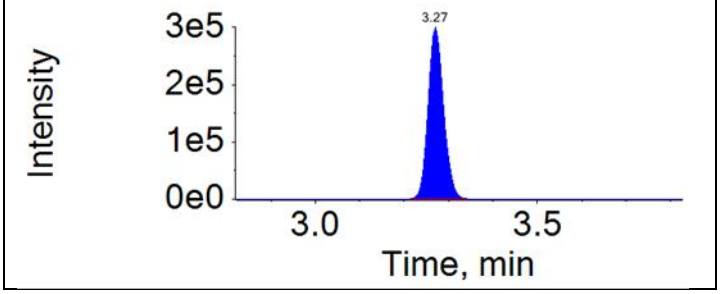


APPROVED
By JPT at 2:53 pm, 11/7/18

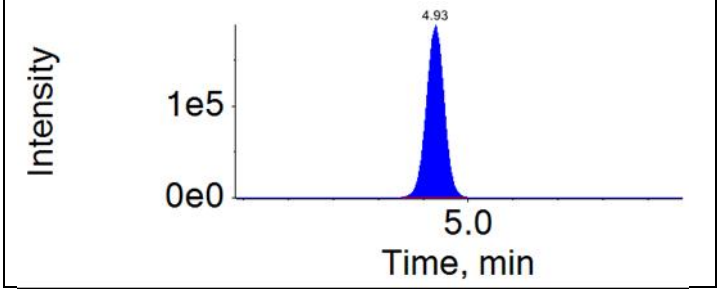
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

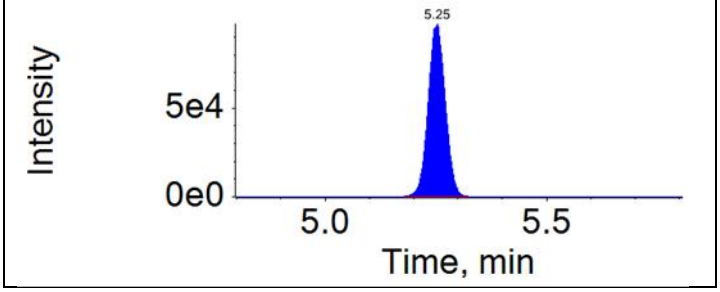
Injection Standard: 13C3-PFBA
216.0 / 172.0



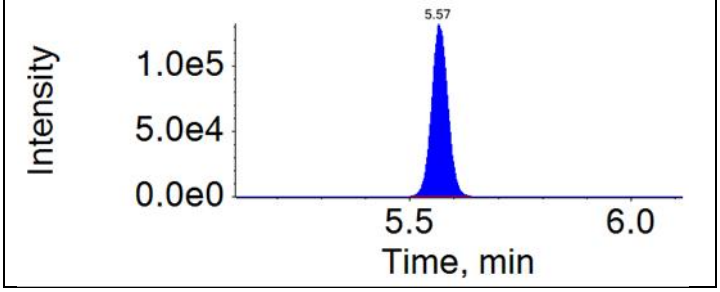
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



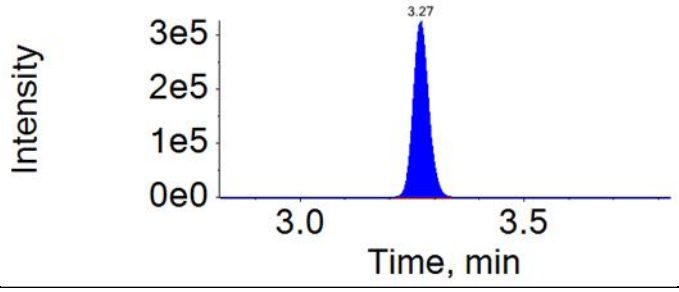
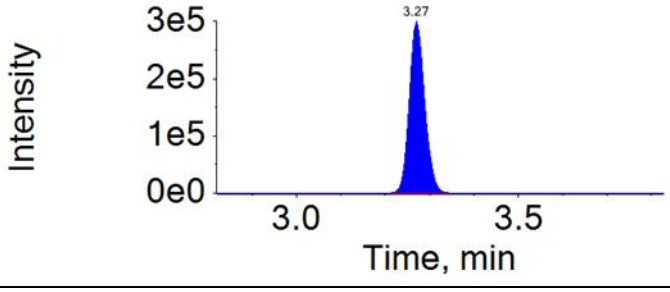
Injection Standard: 13C2-PFDA
515.0 / 470.0

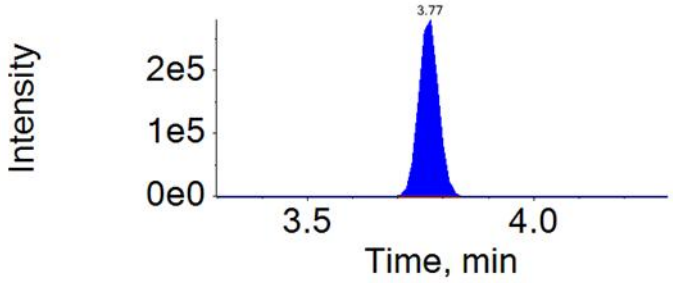
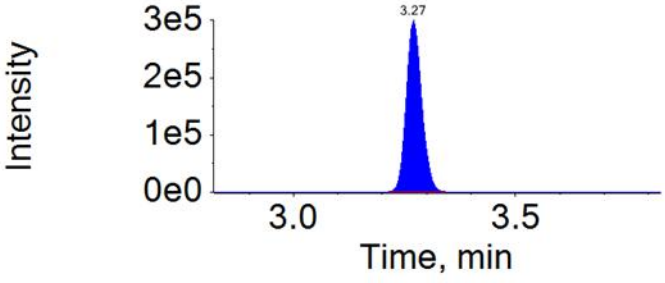


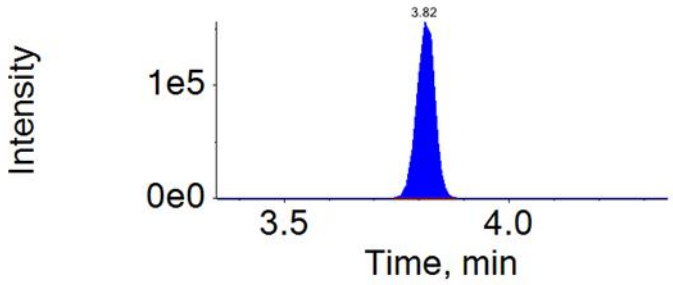
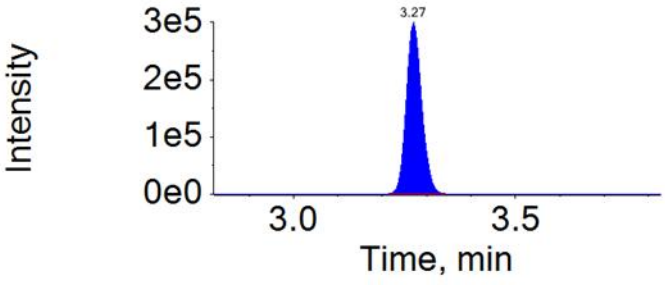
APPROVED
By JPT at 2:53 pm, 11/7/18

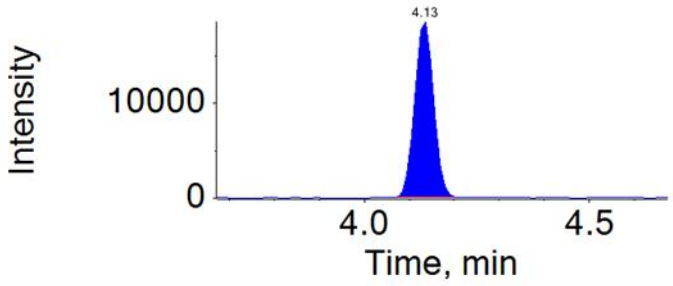
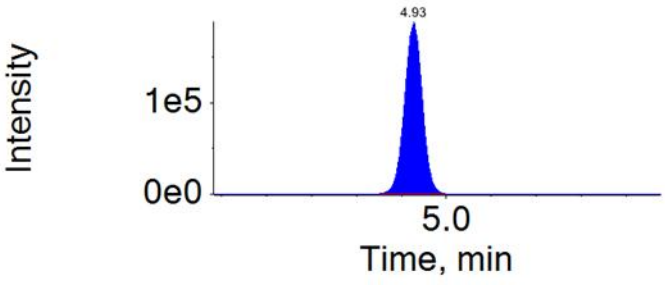
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

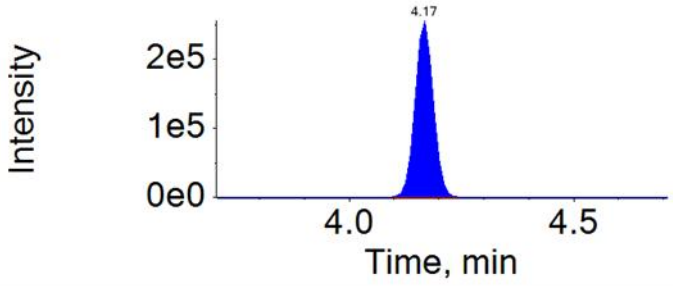
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

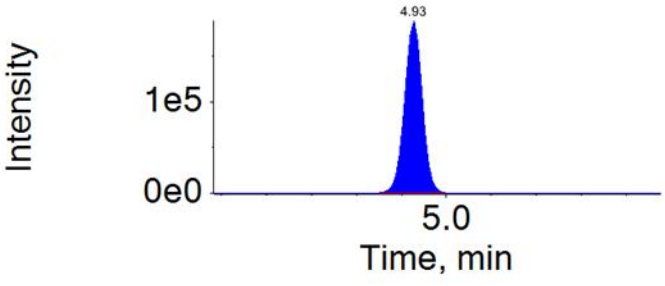
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

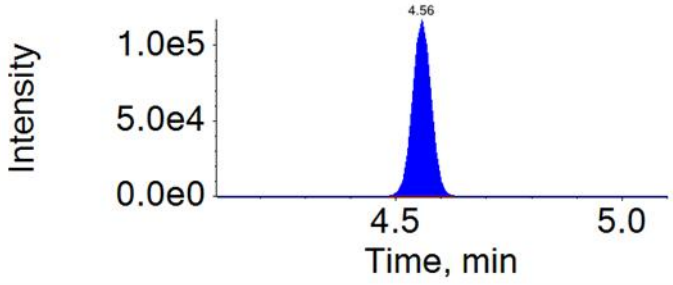
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

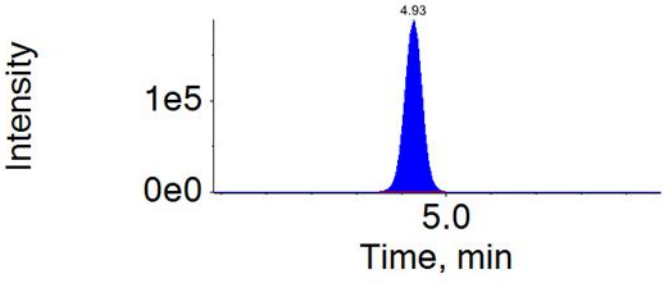
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



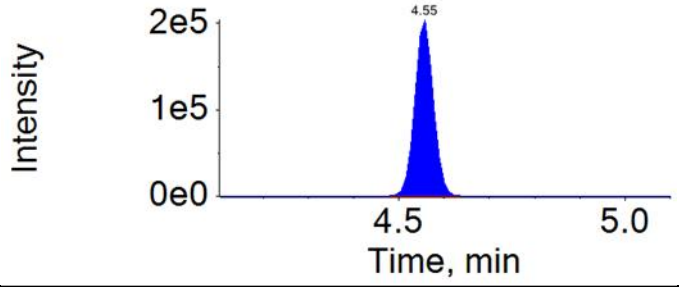


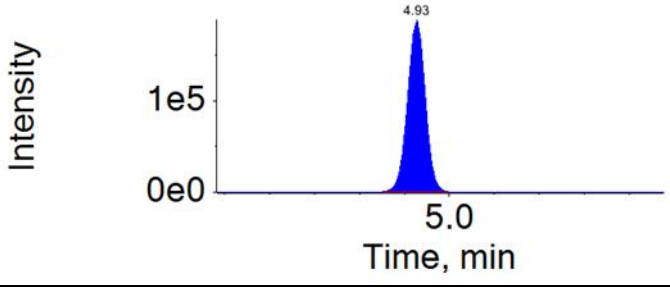
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



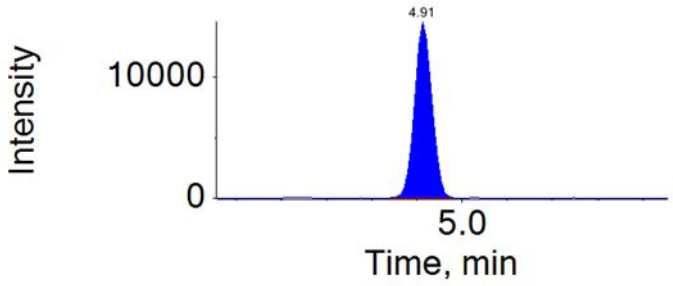


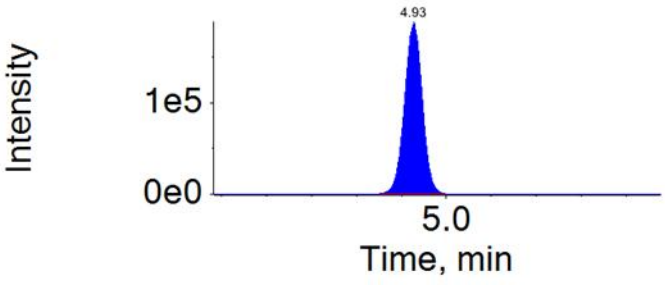
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0



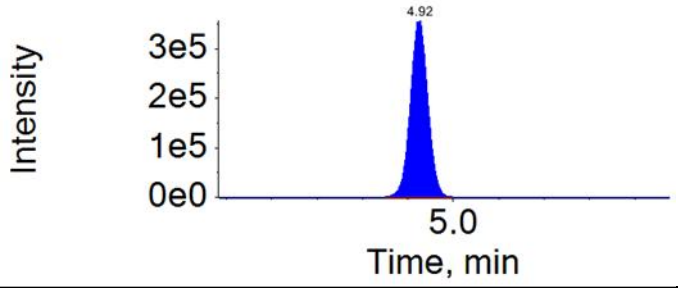
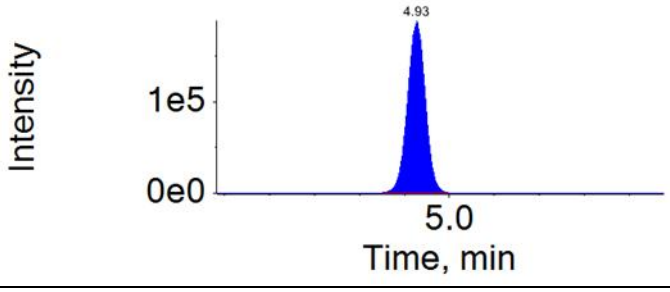


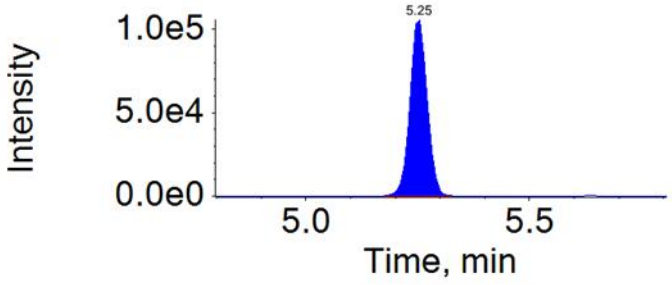
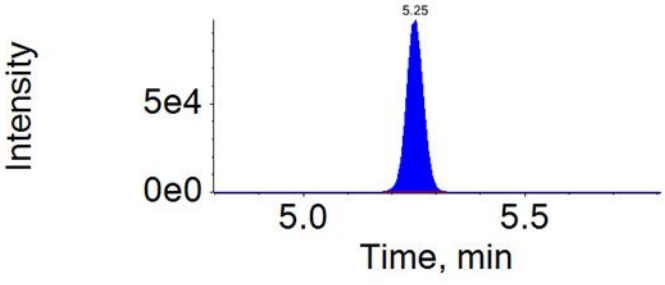
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

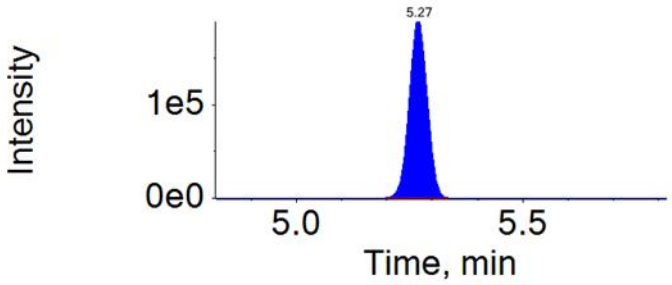
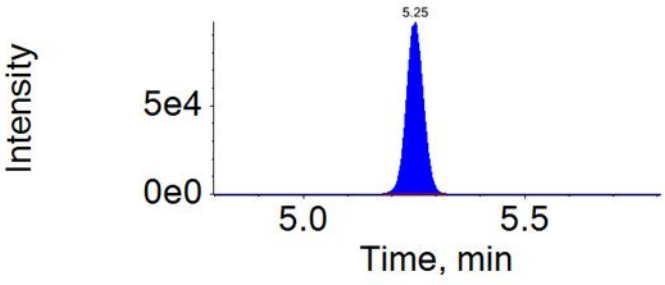


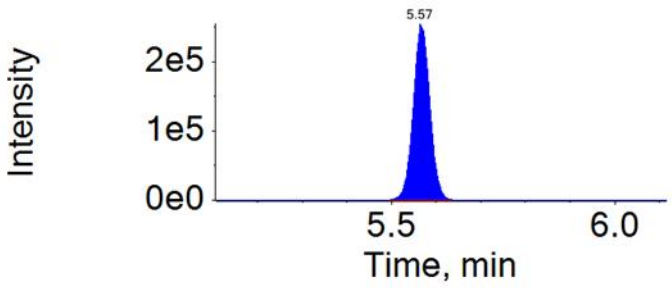
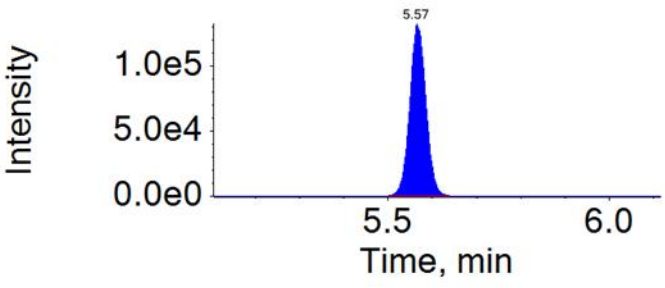


ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

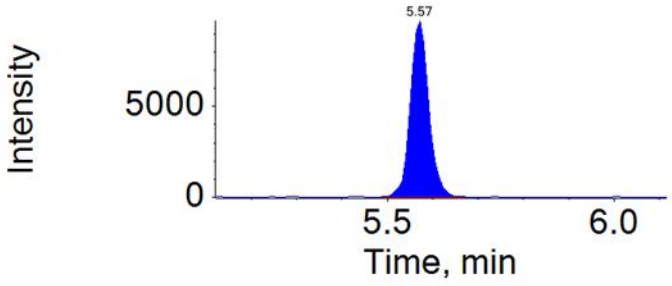
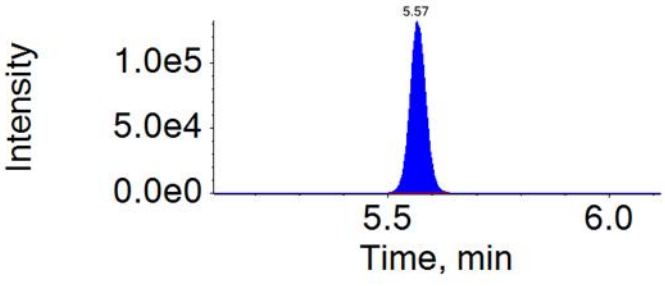
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

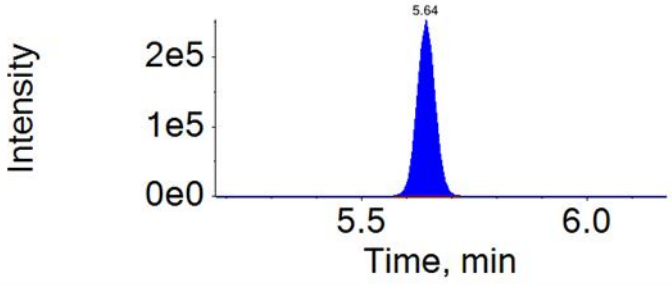
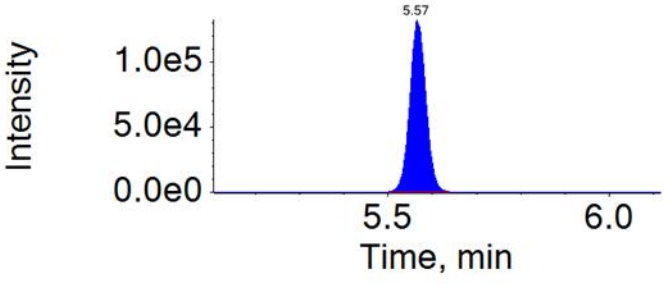
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

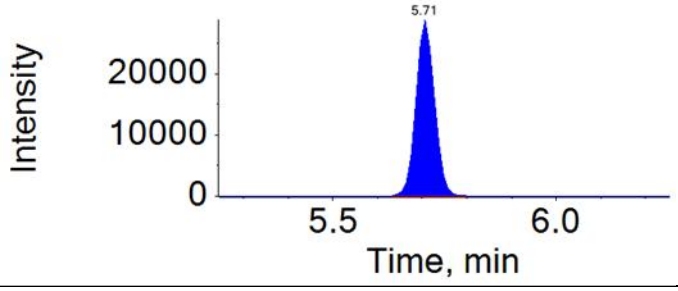
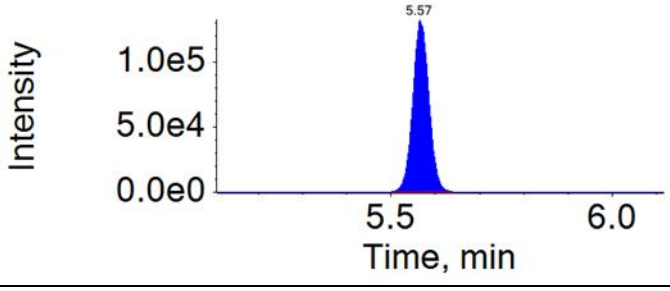
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

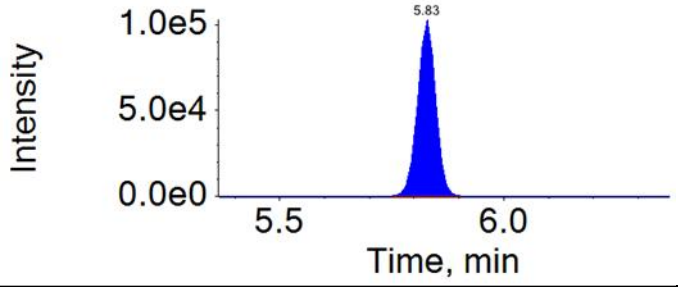
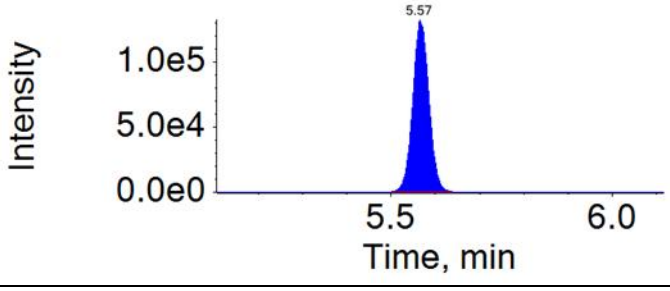
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

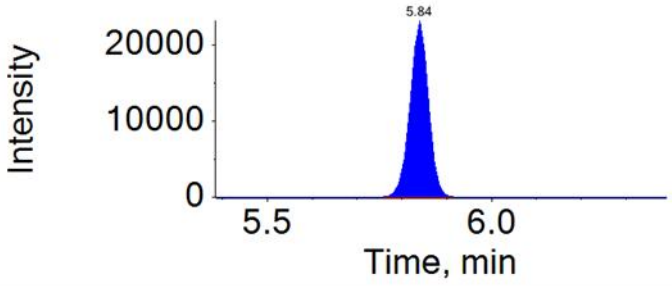
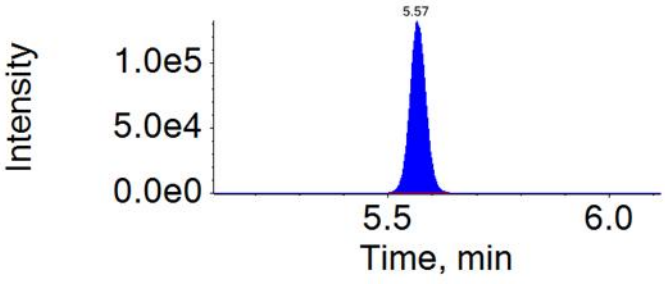
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

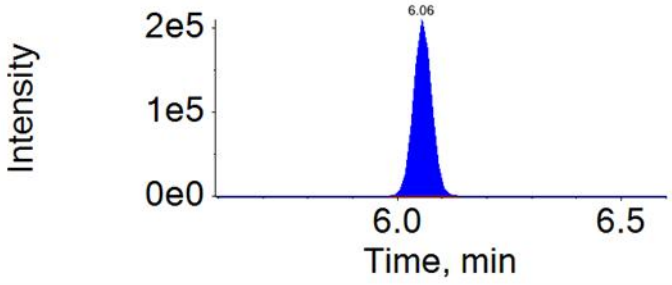
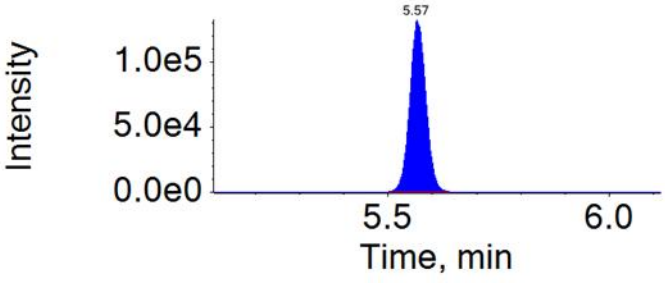
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

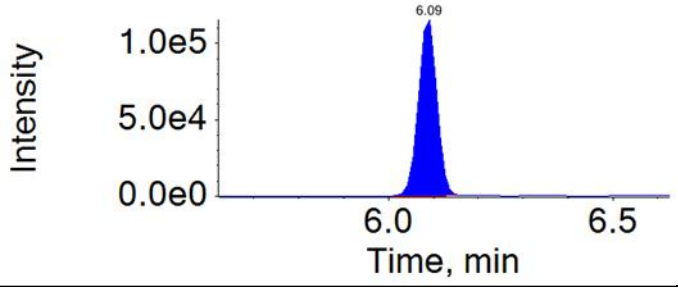
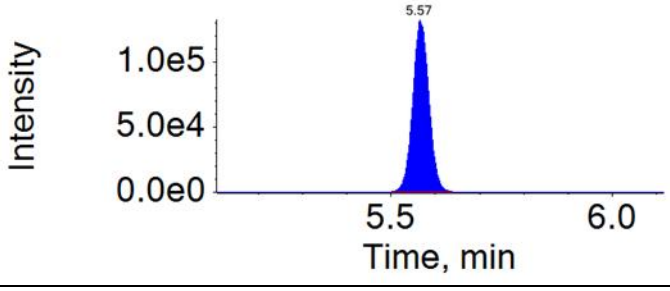
APPROVED
By JPT at 2:53 pm, 11/7/18

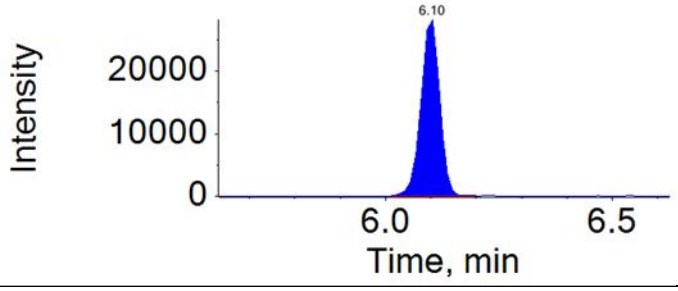
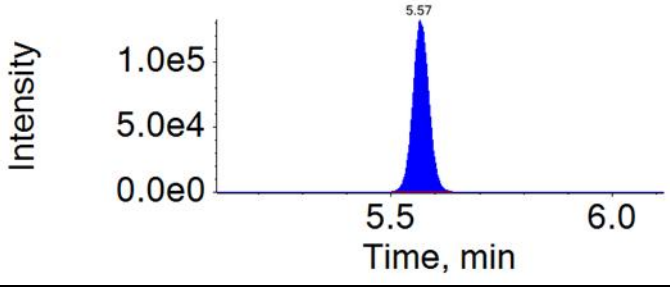
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

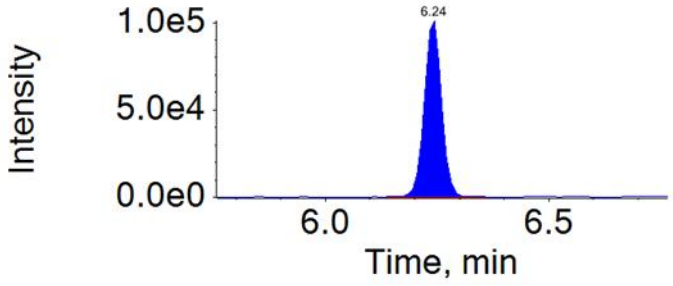
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

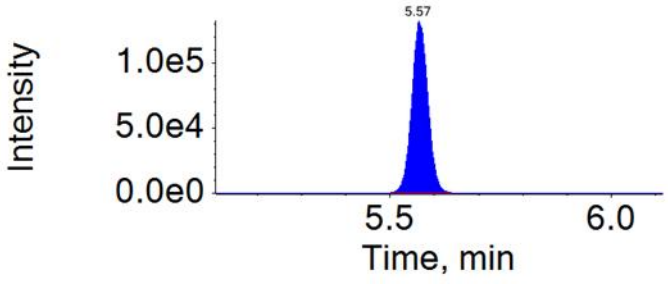
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REVIEWED
By umar at 5:23 pm, 11/9/18

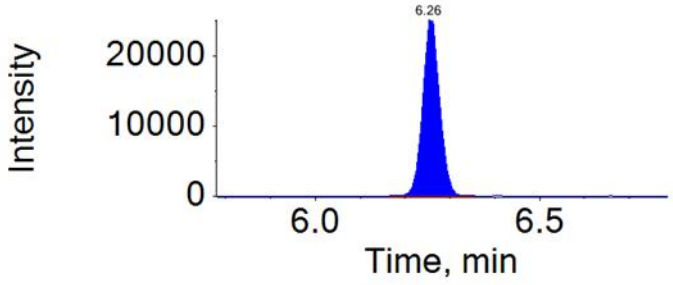
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

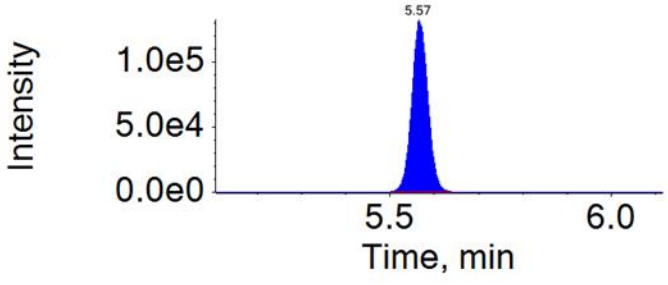
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



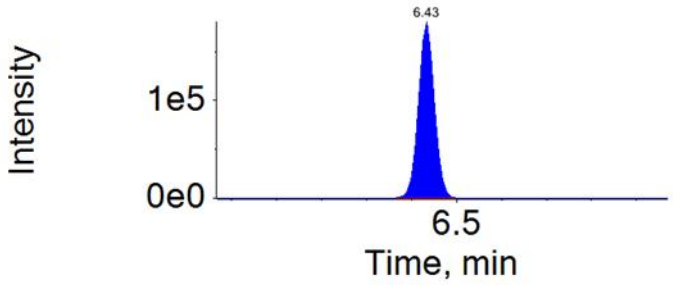


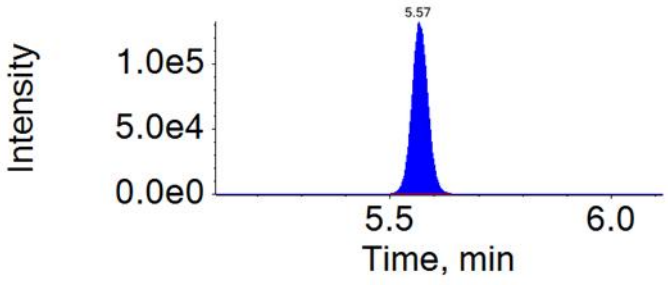
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



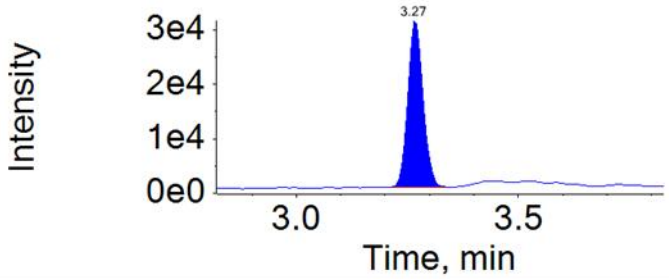


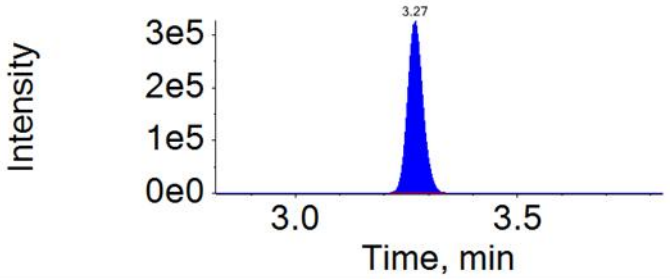
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

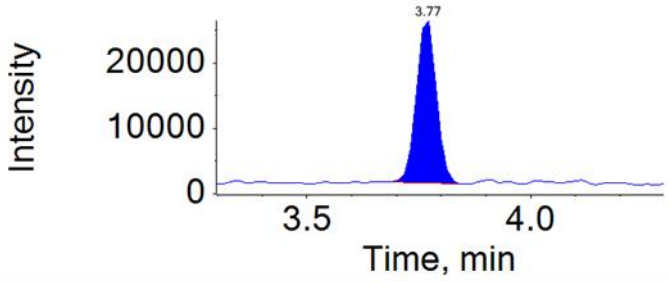
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

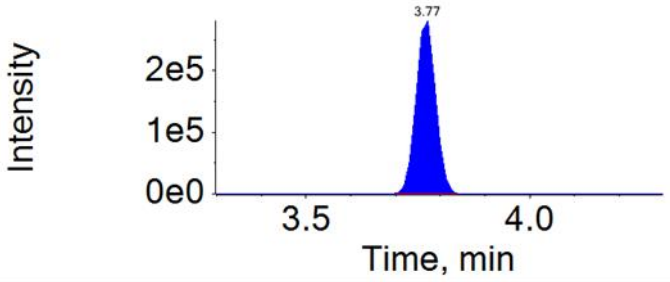
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



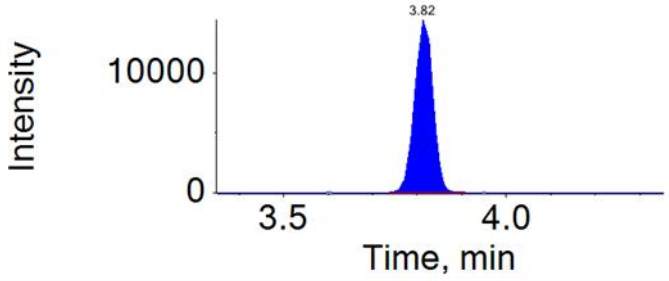


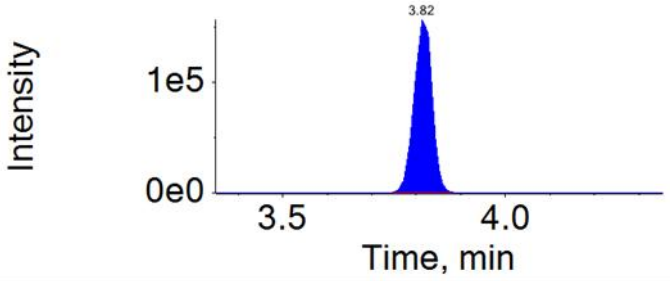
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



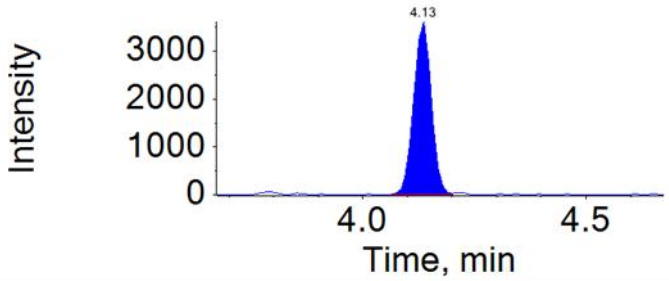


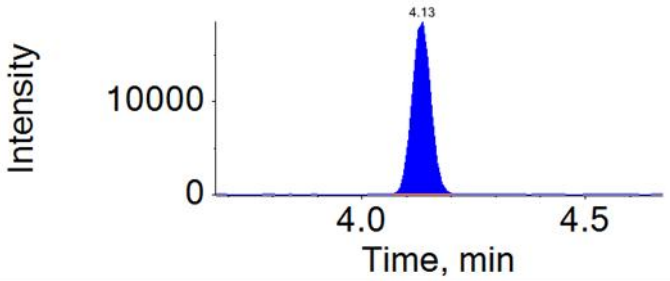
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

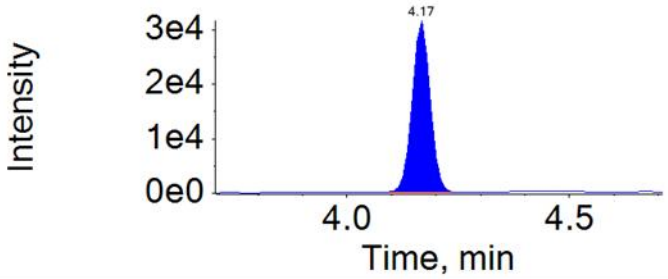
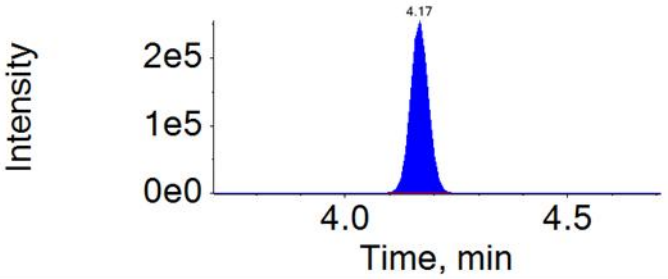


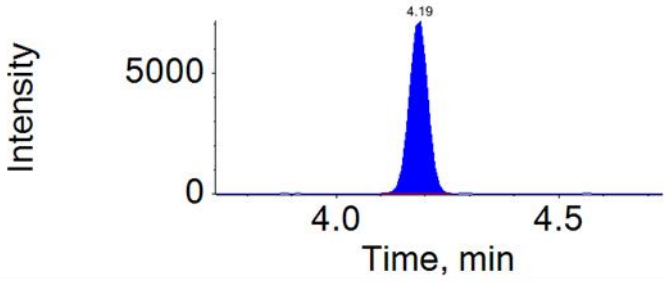
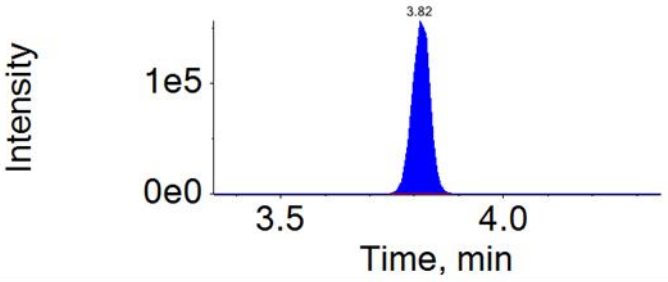


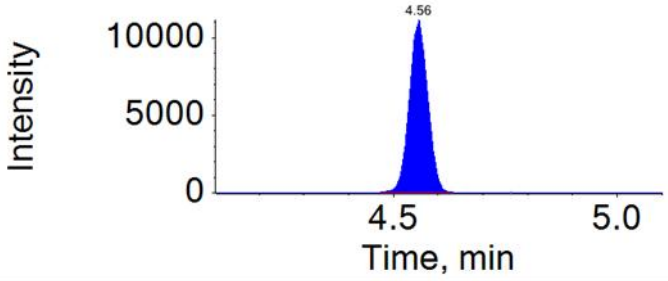
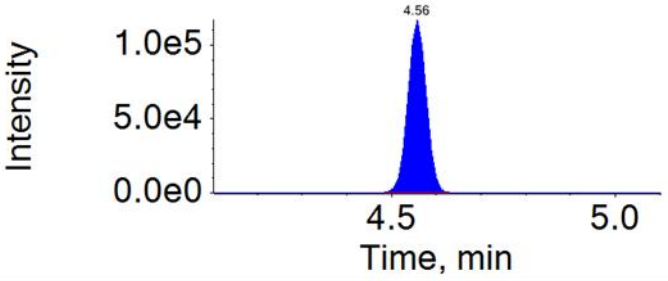
APPROVED
By JPT at 2:53 pm, 11/7/18

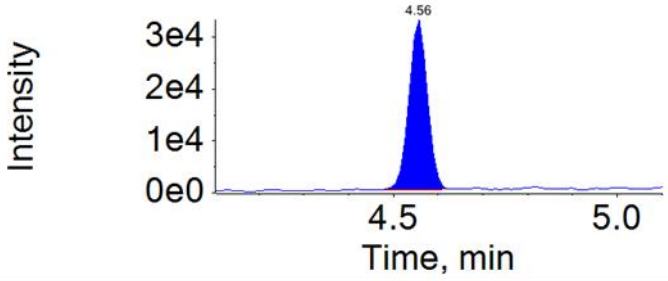
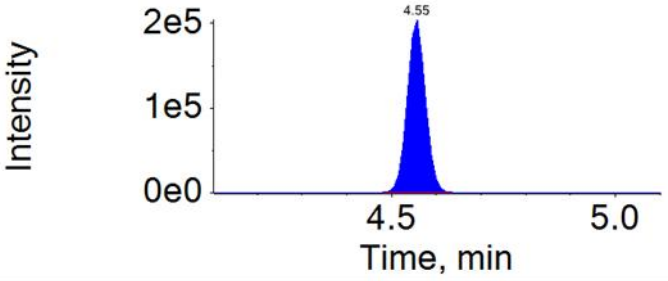
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

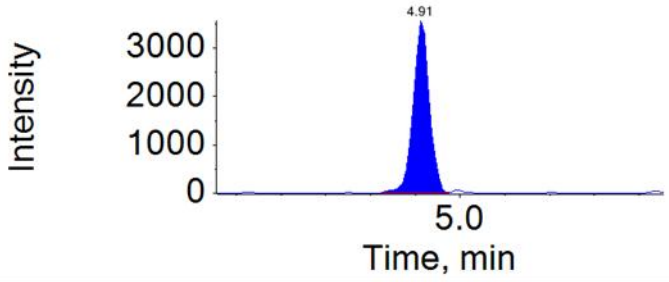
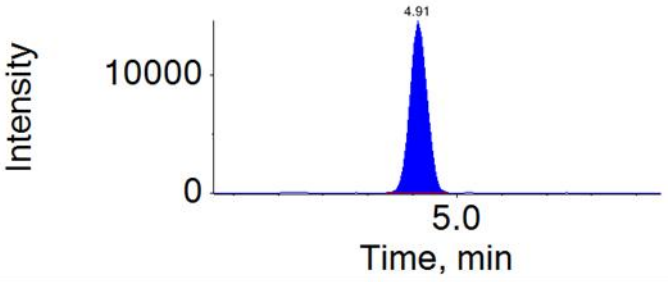
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

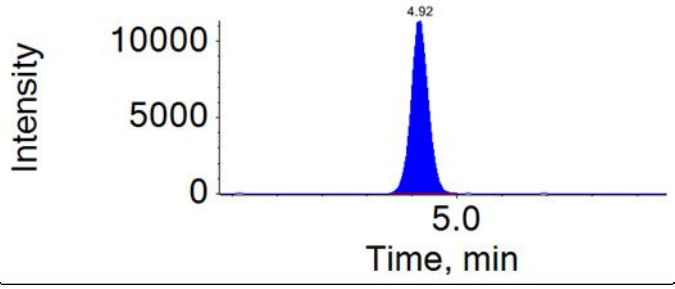
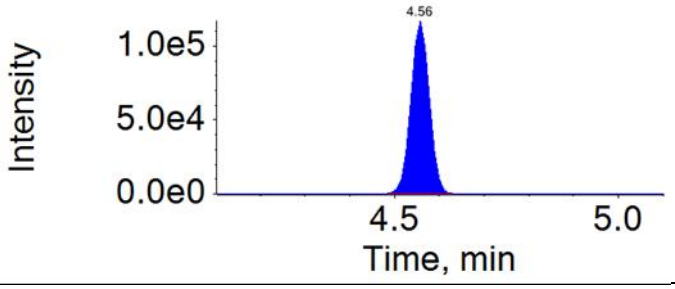
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

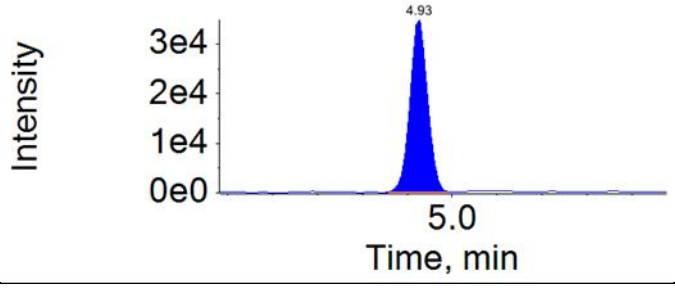
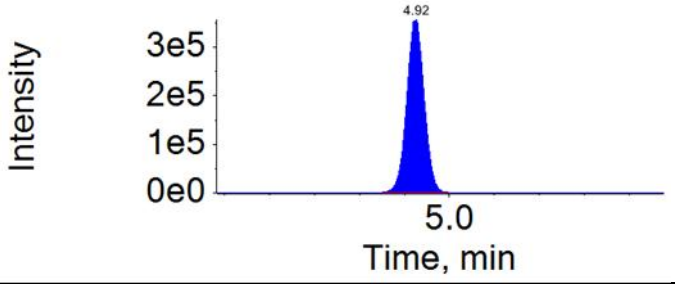
APPROVED
By JPT at 2:53 pm, 11/7/18

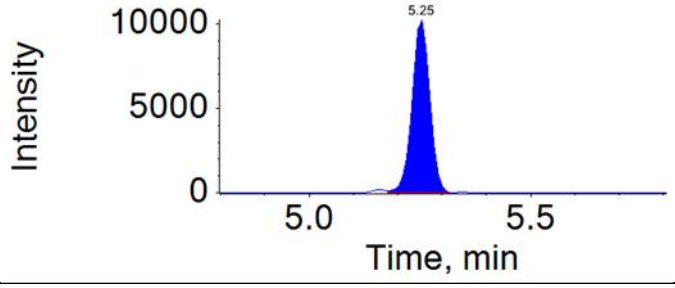
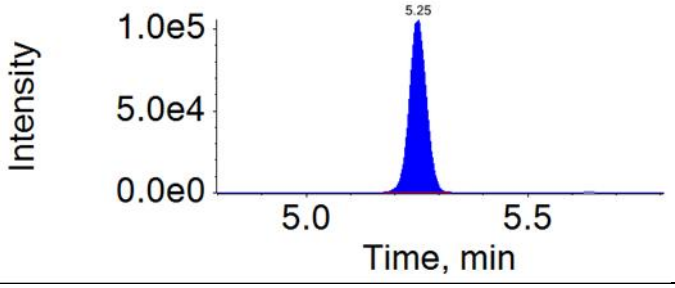
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

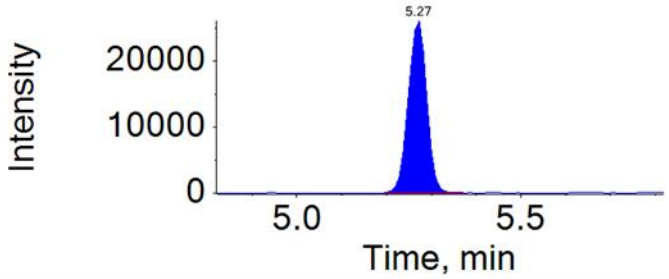
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

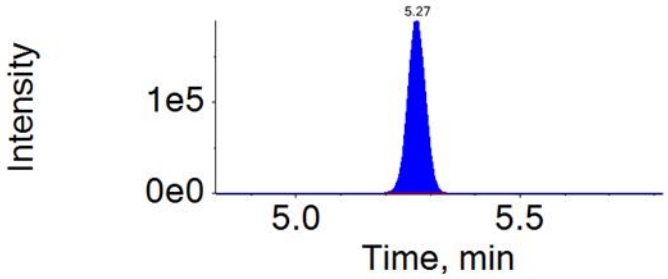
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

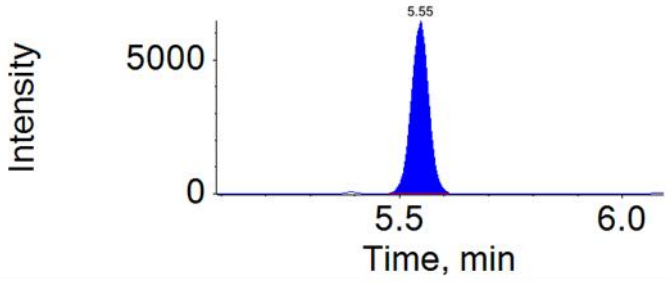
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

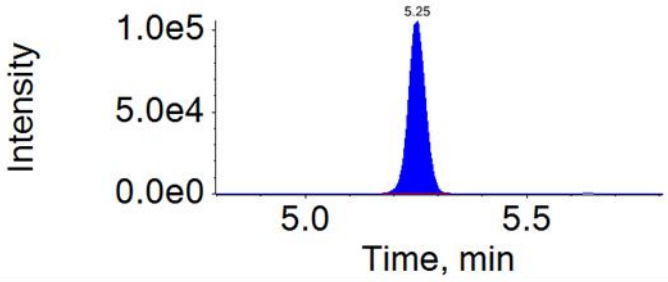
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



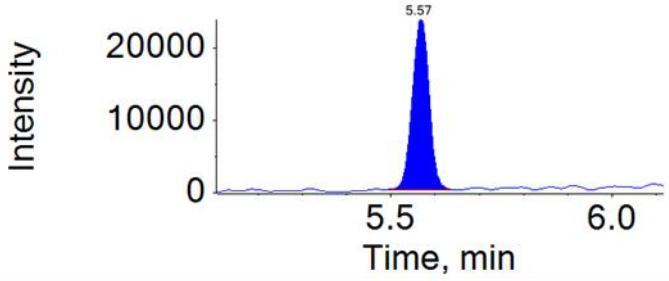


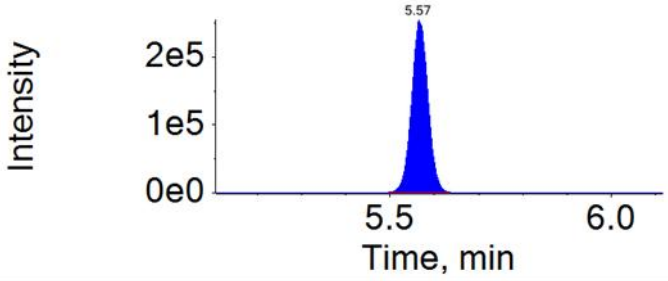
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



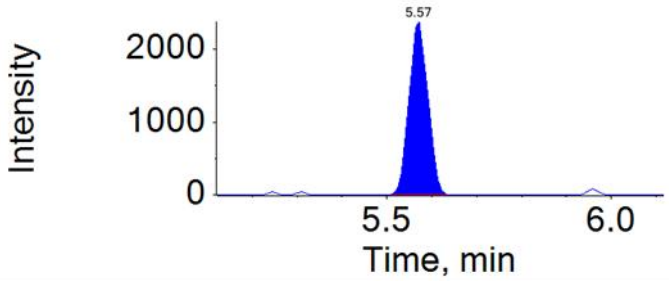


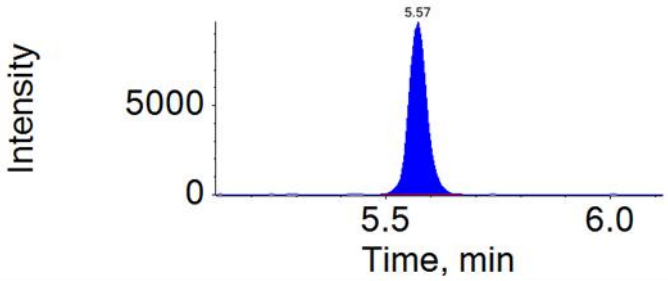
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

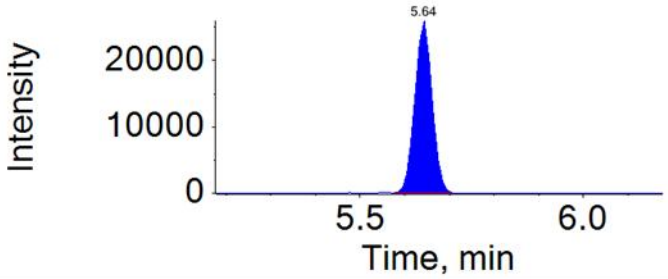
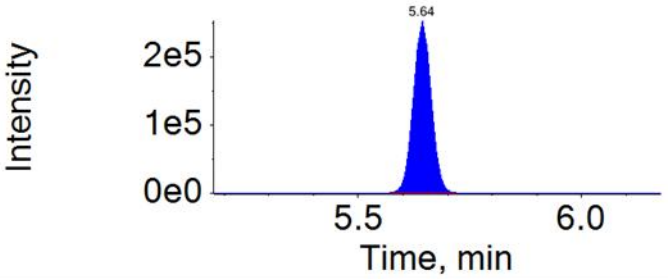


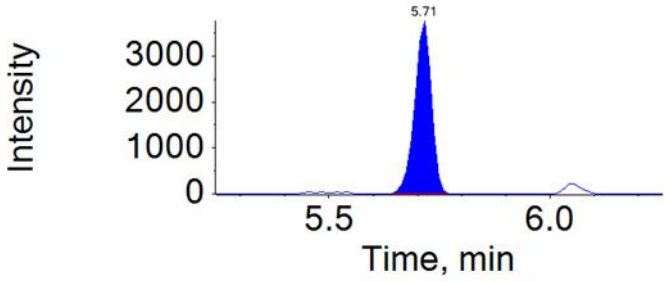
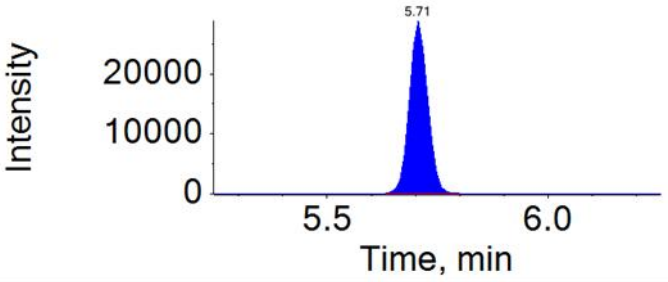


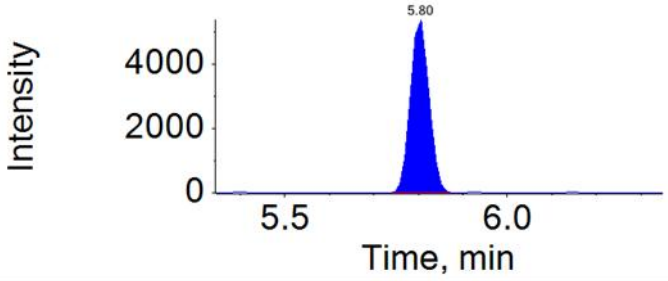
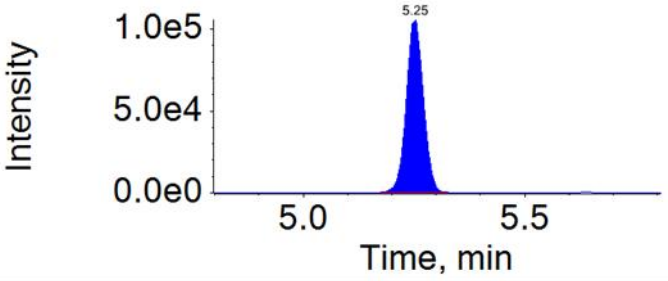
APPROVED
By JPT at 2:53 pm, 11/7/18

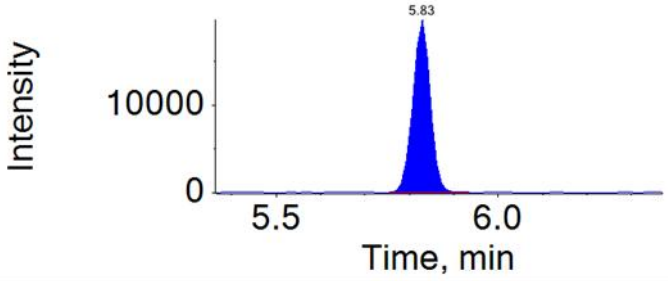
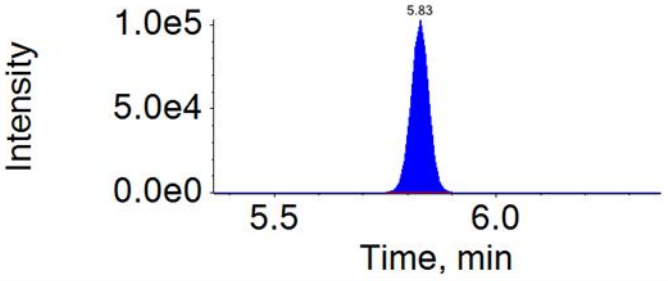
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

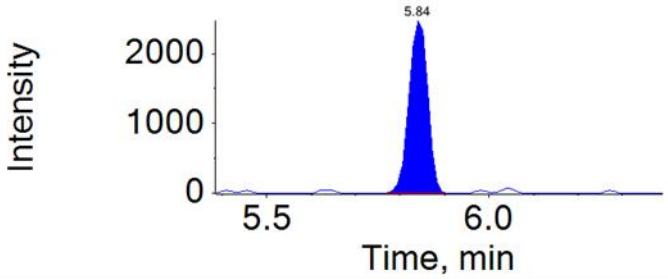
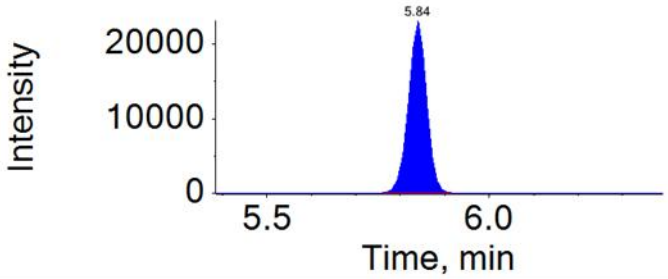
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

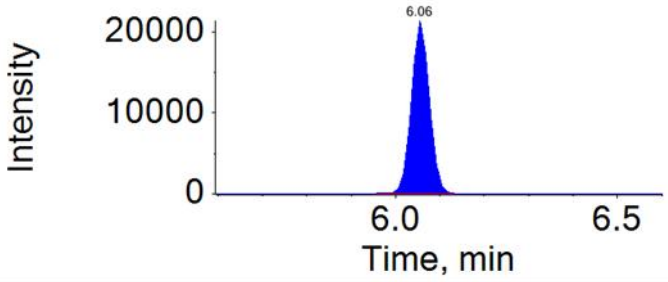
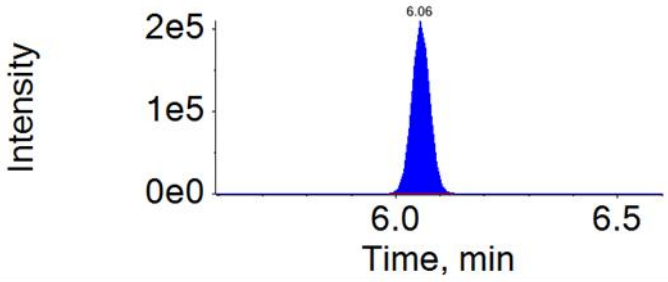
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

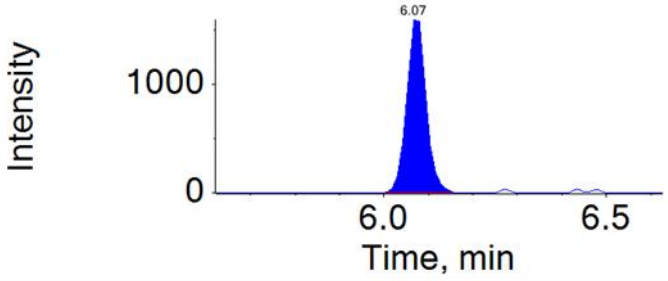
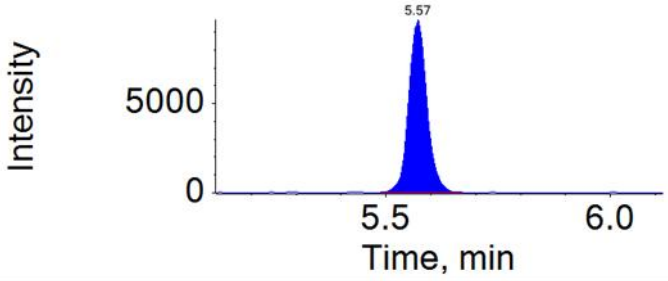
APPROVED
By JPT at 2:53 pm, 11/7/18

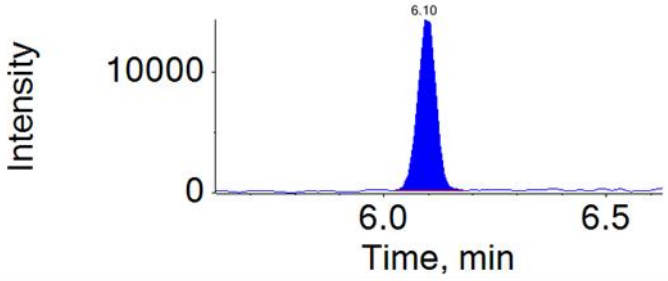
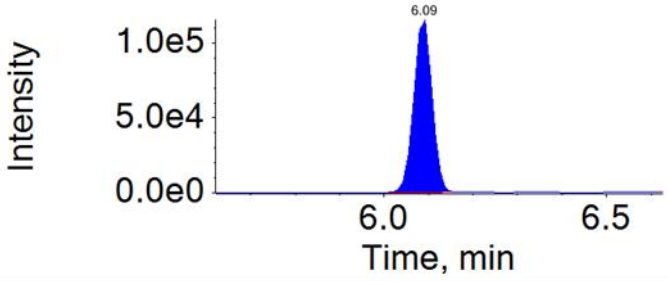
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

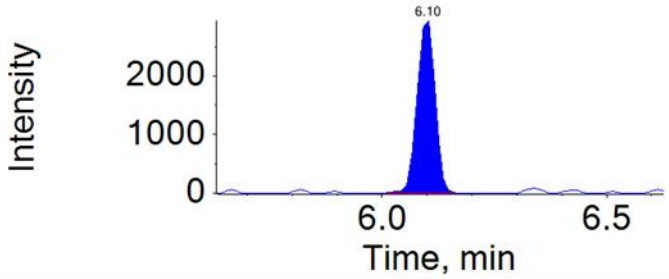
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

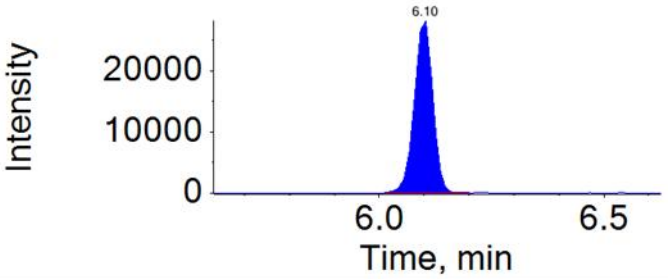
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

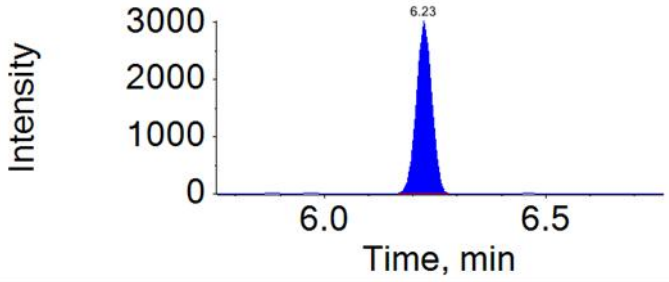
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

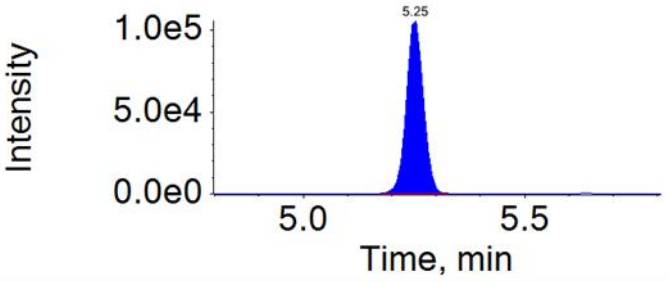
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



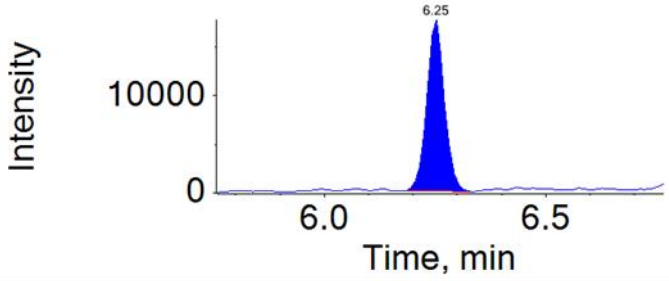


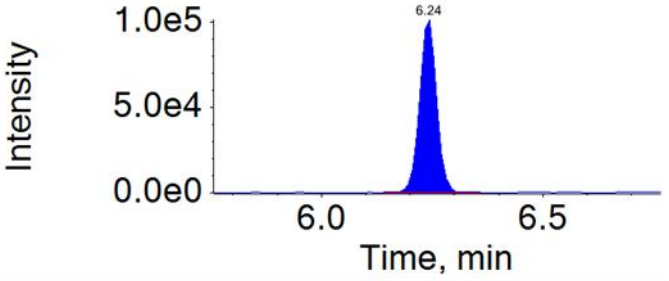
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



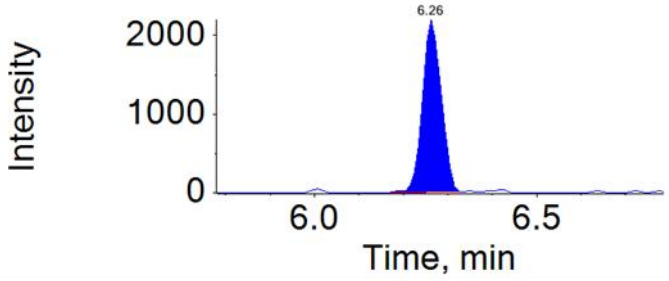


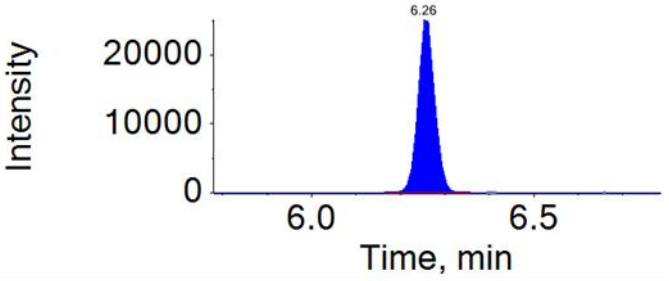
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



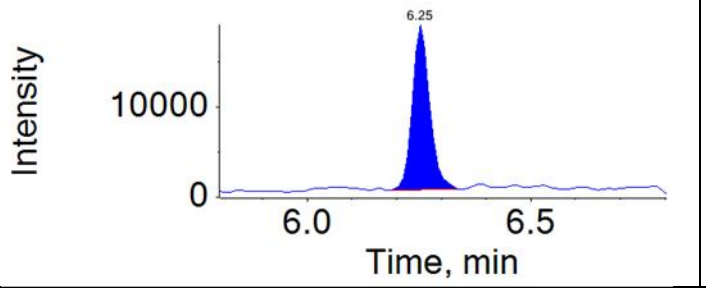


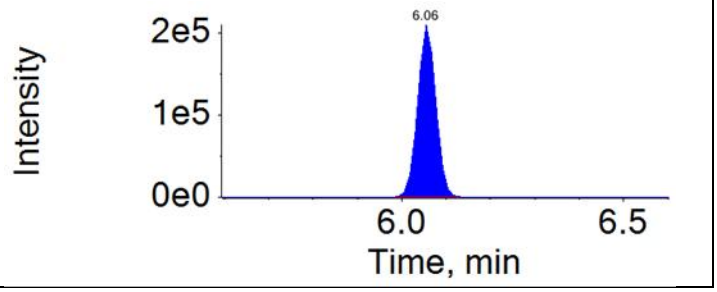
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

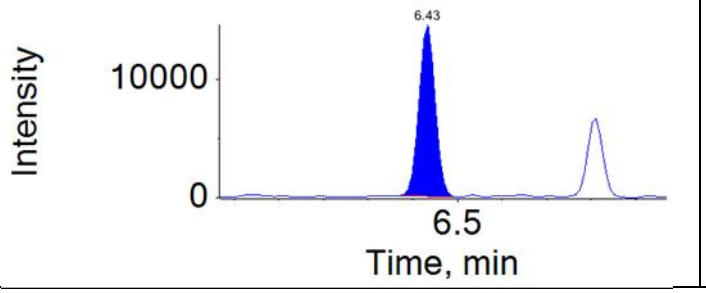
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

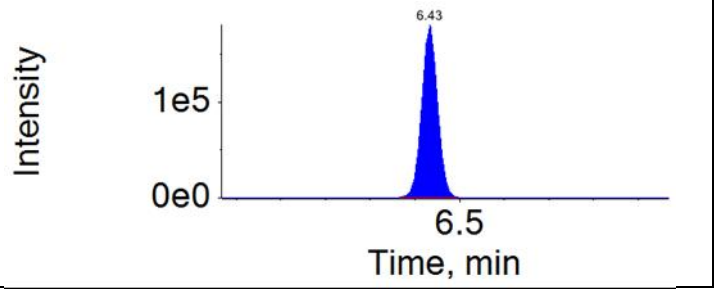
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



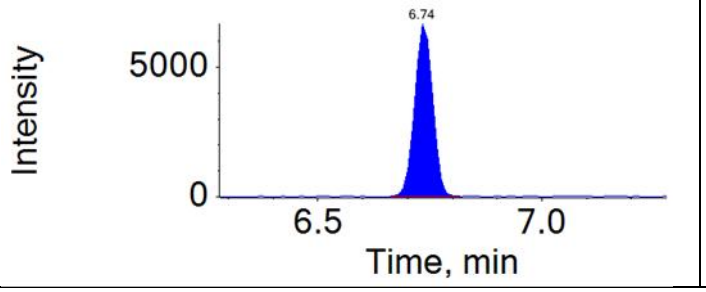


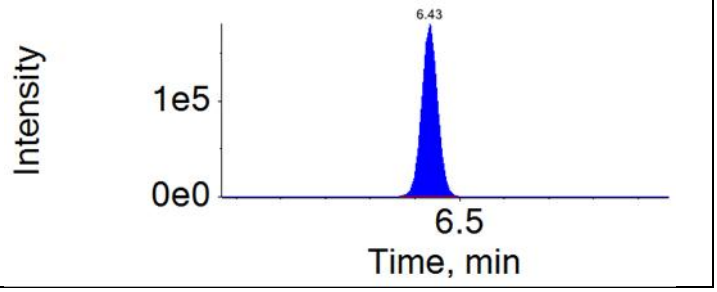
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



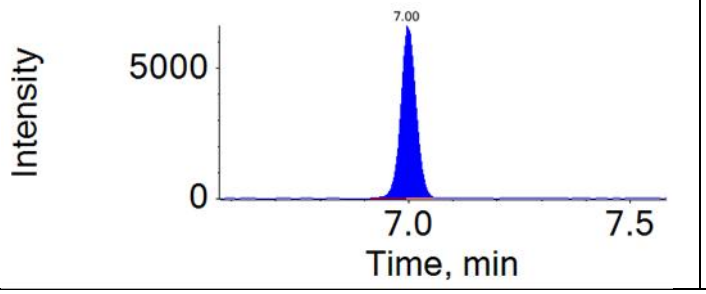


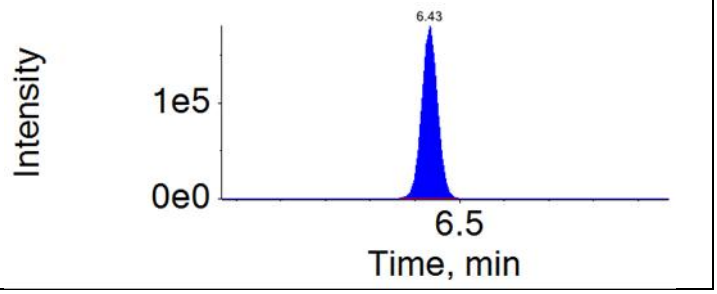
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0



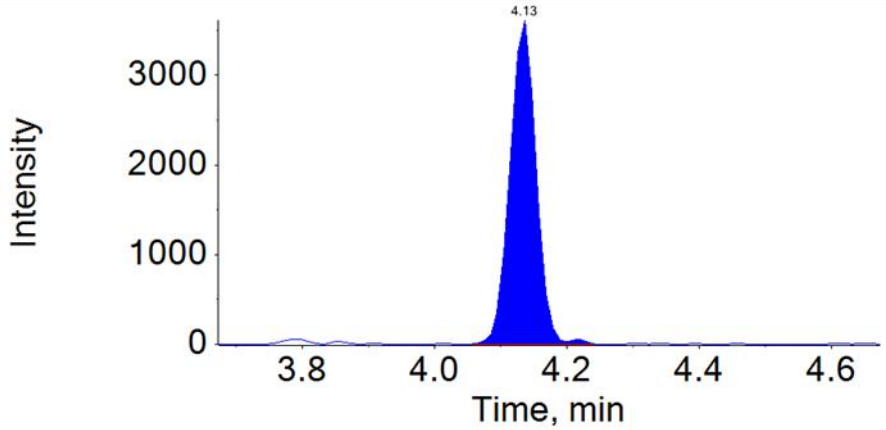


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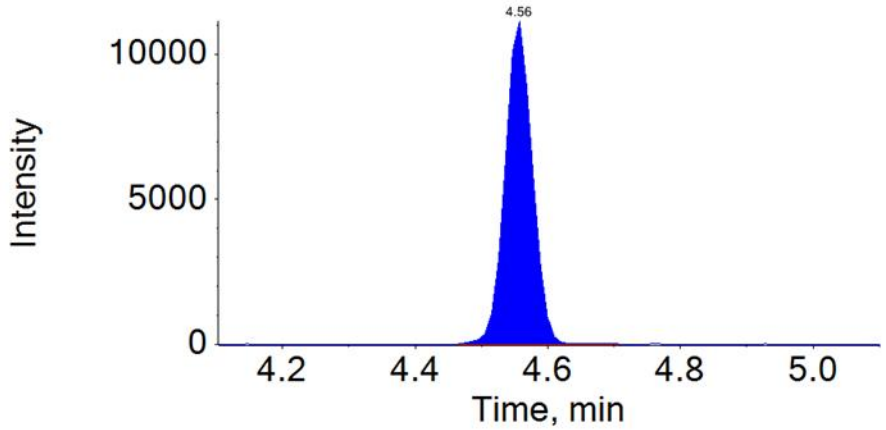
Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
4:2-FTS
RT (min.):
4.13
Peak Area:
10015.5
Mass Range:
327.0 / 307.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



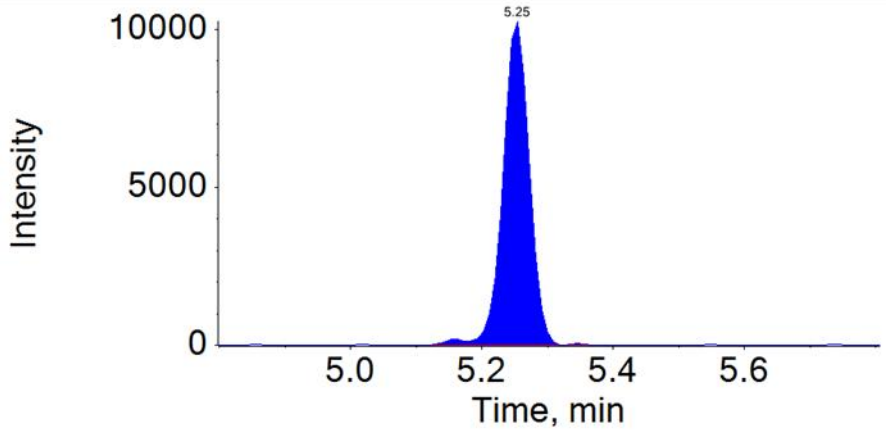
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
32165.6
Mass Range:
399.0 / 80.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
29015.4
Mass Range:
499.0 / 80.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

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By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

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By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

Ion Ratio Report

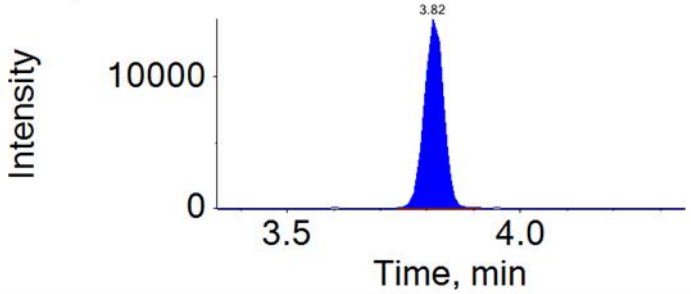
Sample Name: CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-11.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	41415.1	A	1.0000	1.0000			
PFBS_2	3.82	1.00	14355.0	A	0.3576	0.3466	-3	50	
4:2-FTS	4.13	1.00	9924.9	M	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	6720.6	A	0.6359	0.6771	6	50	
PFHxA	4.17	1.00	88469.9	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	1053.3	A	0.0115	0.0119	4	50	
PFPeS	4.19	1.10	20956.8	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	12018.2	A	0.5384	0.5735	7	50	
PFHxS	4.56	1.00	32061.0	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	11356.8	A	0.3569	0.3542	-1	50	
PFHpA	4.56	1.00	93502.9	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	5694.0	A	0.0577	0.0609	6	50	
6:2-FTS	4.91	1.00	8883.8	A	1.0000	1.0000			
6:2-FTS_2	4.92	1.00	4933.5	A	0.6752	0.5553	-18	50	
PFHpS	4.92	1.08	30553.2	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	12511.0	A	0.3950	0.4095	4	50	
PFOA	4.93	1.00	94348.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	6706.8	A	0.0635	0.0711	12	50	
PFOS	5.25	1.00	28529.2	M	1.0000	1.0000			
PFOS_2	5.25	1.00	9986.4	A	0.3494	0.3500	0	50	
PFNA	5.27	1.00	74743.9	A	1.0000	1.0000			
PFNA_2	5.27	1.00	2006.2	A	0.0207	0.0268	30	50	
PFNS	5.55	1.06	17507.8	A	1.0000	1.0000			
PFNS_2	5.54	1.06	9005.6	A	0.4890	0.5144	5	50	
PFDA	5.57	1.00	62530.6	A	1.0000	1.0000			
PFDA_2	5.57	1.00	229.8	A	0.0057	0.0037	-35	50	
8:2-FTS	5.57	1.00	6917.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	4092.7	A	0.6169	0.5916	-4	50	
NMeFOSAA	5.71	1.00	9807.4	A	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	1815.6	A	0.2206	0.1851	-16	50	
PFDS	5.80	1.11	15726.3	A	1.0000	1.0000			
PFDS_2	5.79	1.10	7422.2	A	0.4648	0.4720	2	50	
PFUnDA	5.83	1.00	54085.5	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	55.5	A	0.0031	0.0010	-67	50	OOS
NEtFOSAA	5.84	1.00	7253.7	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	4097.5	A	0.6082	0.5649	-7	50	
PFDoDA	6.06	1.00	60098.0	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	610.7	A	0.0109	0.0102	-7	50	
10:2-FTS	6.07	1.09	4874.3	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	3667.0	A	0.7082	0.7523	6	50	
PFTrDA	6.25	1.03	49218.5	A	1.0000	1.0000			
PFTrDA_2	6.26	1.03	479.8	A	0.0096	0.0097	1	50	
PFTeDA	6.43	1.00	36223.2	A	1.0000	1.0000			
PFTeDA_2	6.44	1.00	219.8	A	0.0055	0.0061	10	50	
PFHxDA	6.74	1.05	18619.3	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	1073.0	A	0.0596	0.0576	-3	50	
PFODA	7.00	1.09	15742.1	A	1.0000	1.0000			
PFODA_2	7.00	1.09	416.9	A	0.0257	0.0265	3	50	

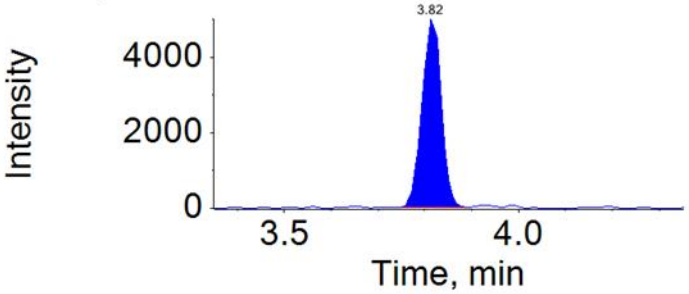
APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

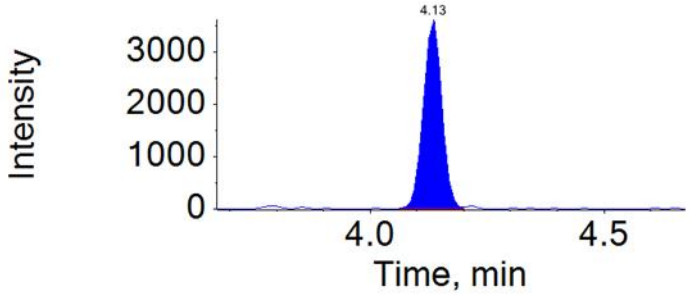
Component: PFBS
Primary Mass: 299.0 / 80.0



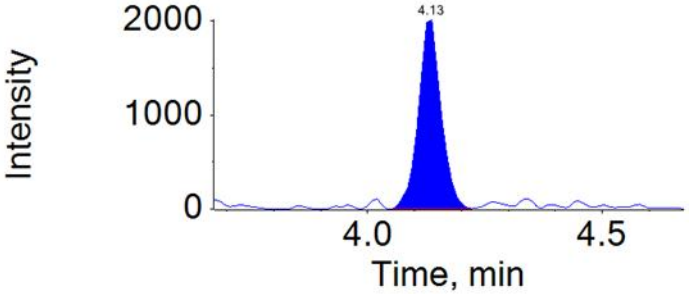
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



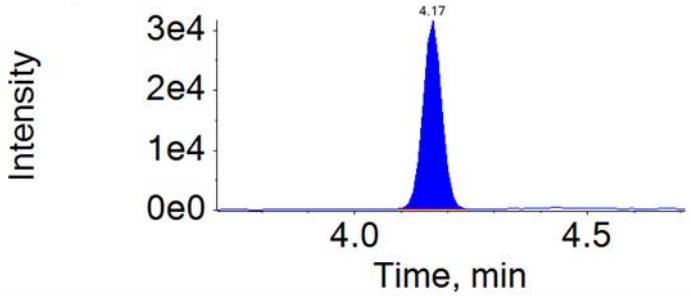
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



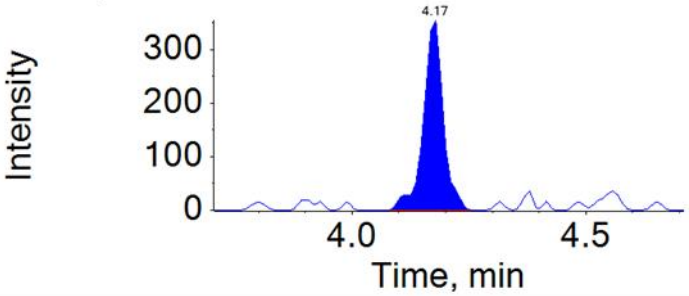
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



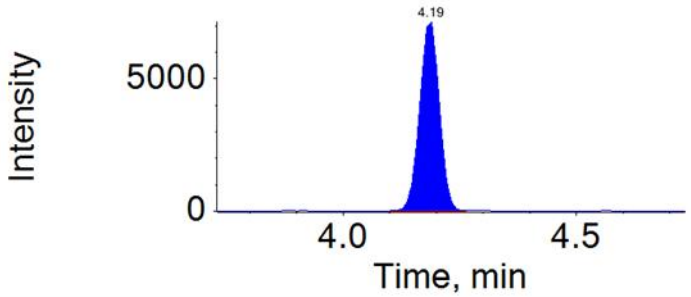
Component: PFHxA
Primary Mass: 313.0 / 269.0



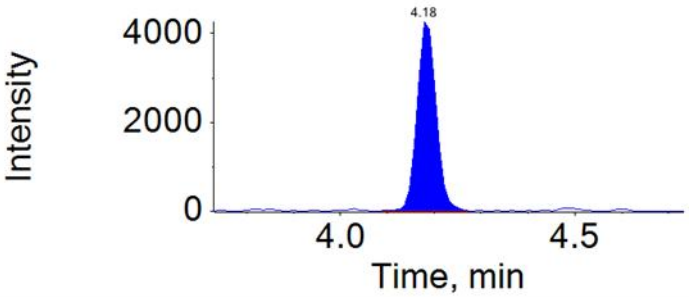
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



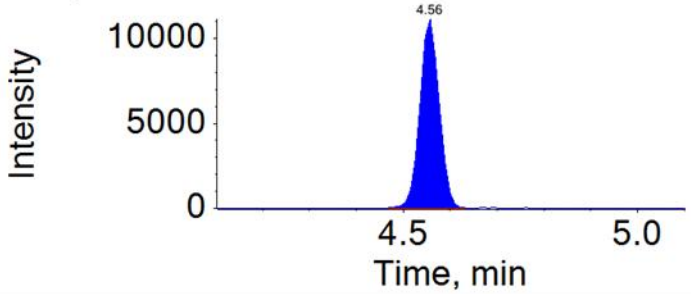
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



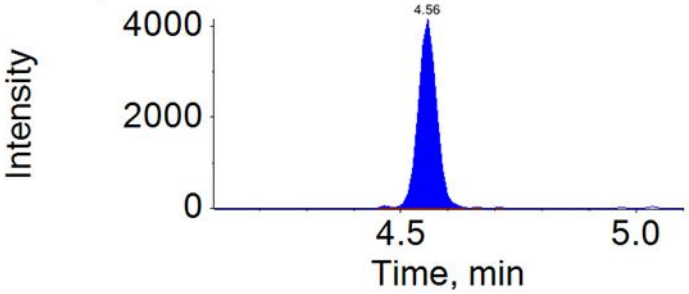
APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

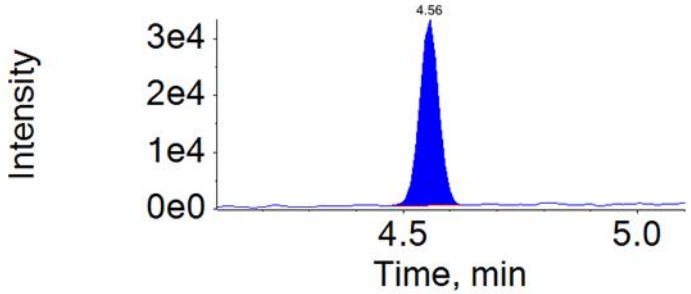
Component: PFHxS
Primary Mass: 399.0 / 80.0



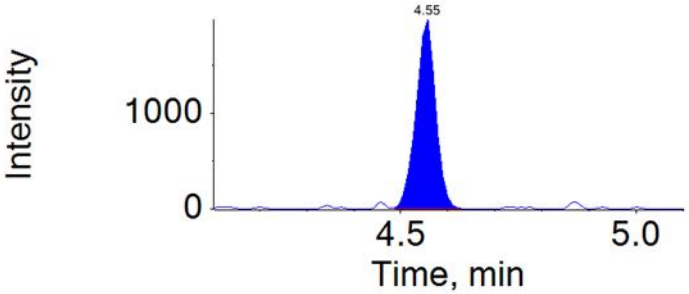
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



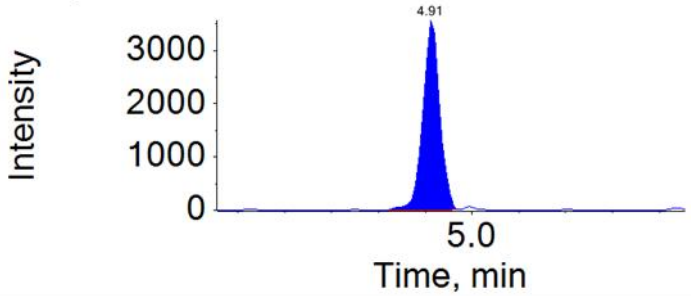
Component: PFHpA
Primary Mass: 363.0 / 319.0



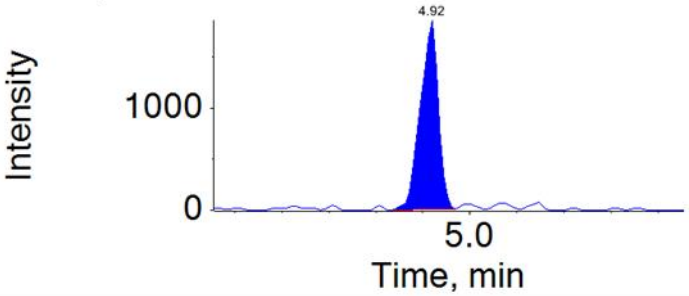
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



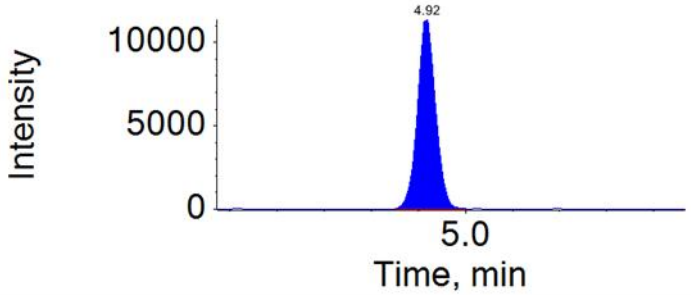
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



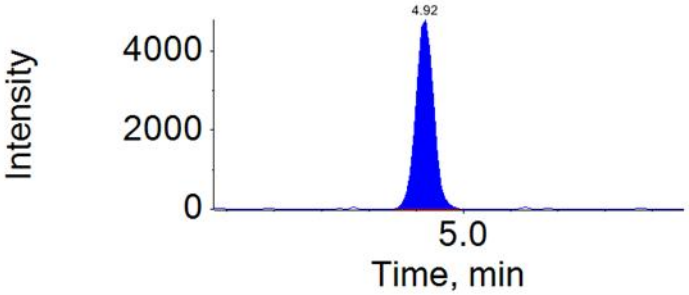
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



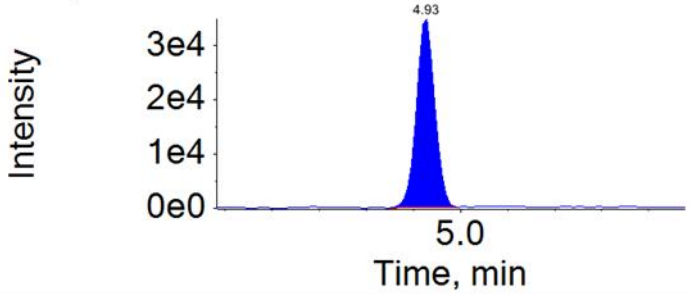
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



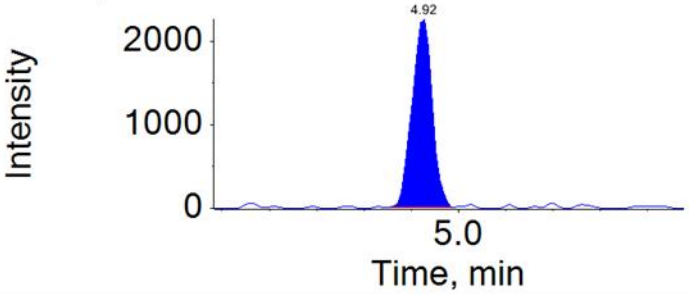
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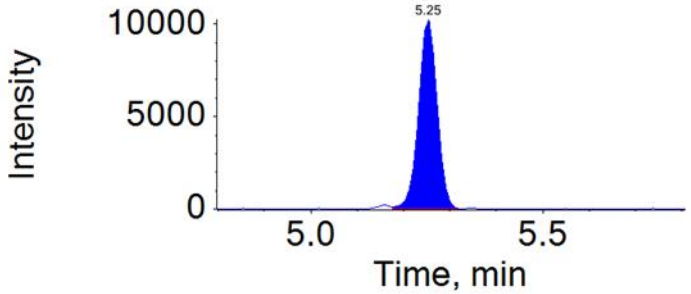
Component: PFOA
Primary Mass: 413.0 / 369.0



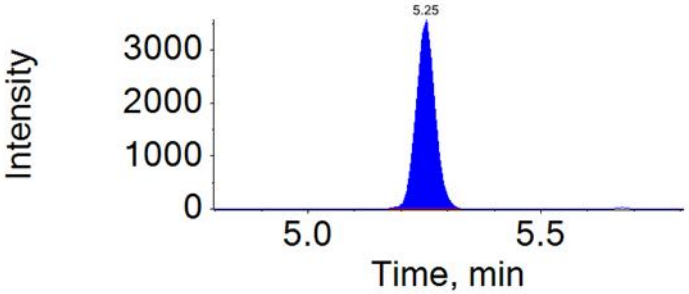
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



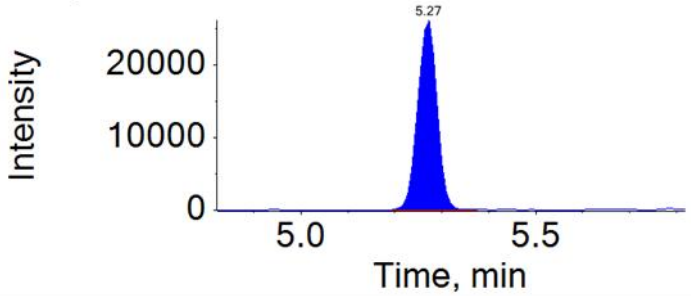
Component: PFOS
Primary Mass: 499.0 / 80.0



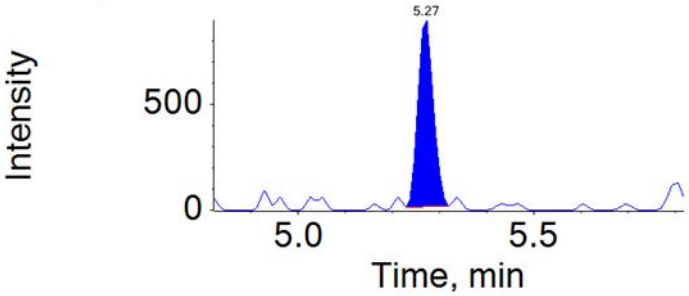
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



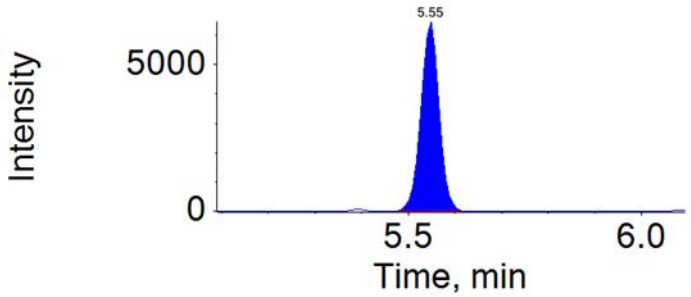
Component: PFNA
Primary Mass: 463.0 / 419.0



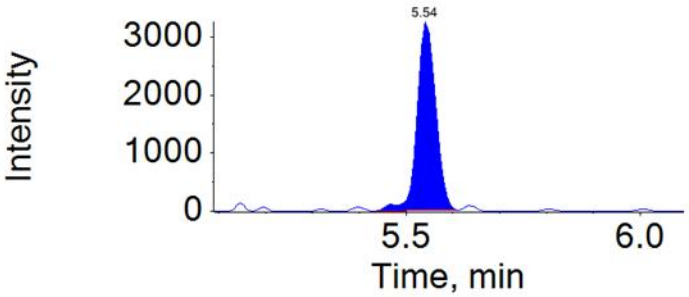
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



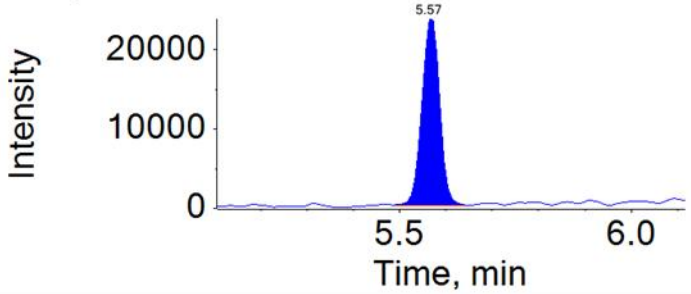
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



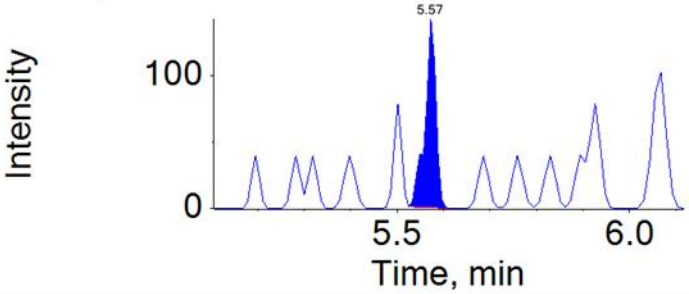
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

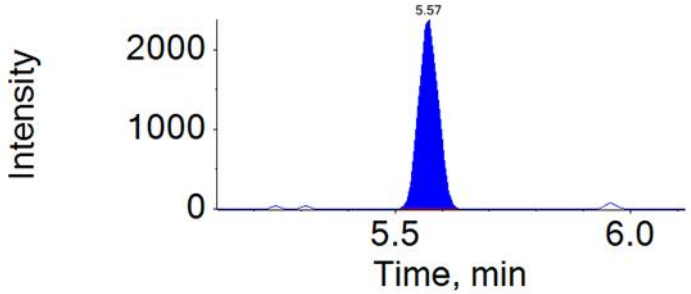
Component: PFDA
Primary Mass: 513.0 / 469.0



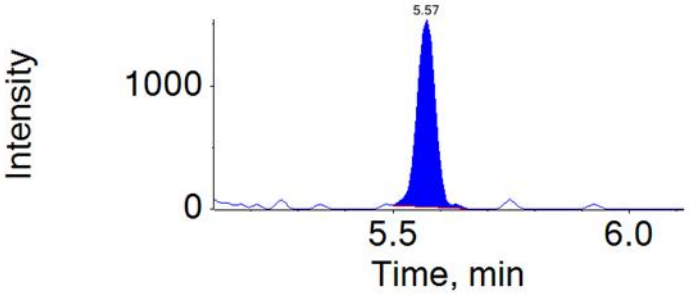
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



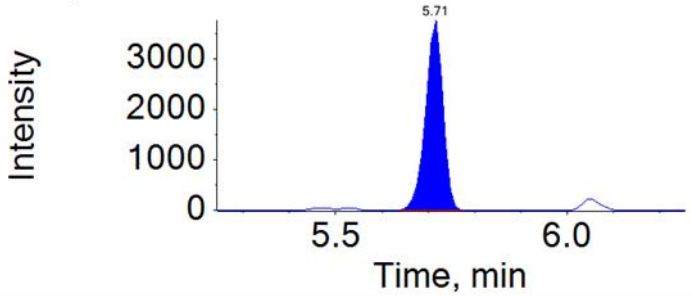
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



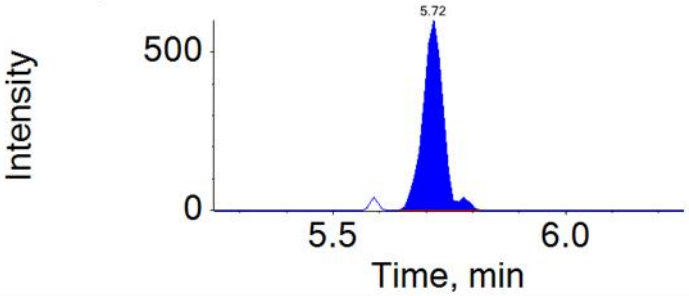
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



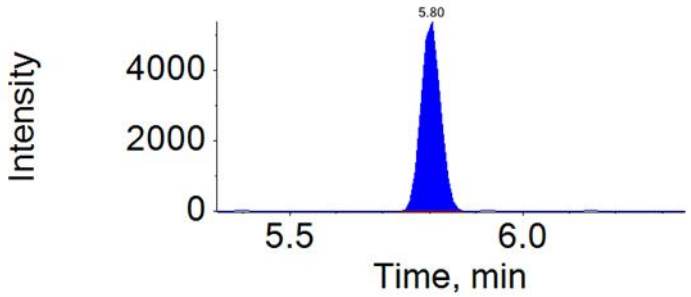
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



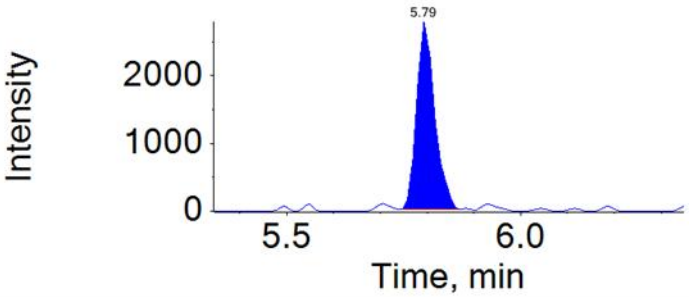
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



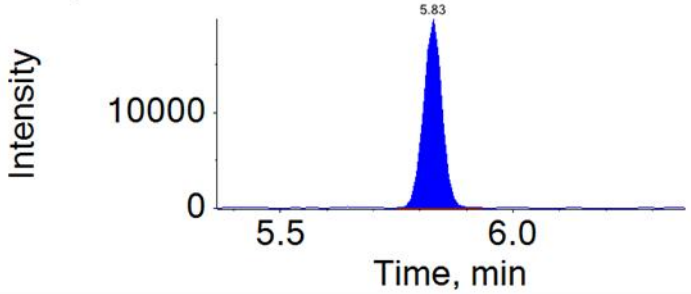
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



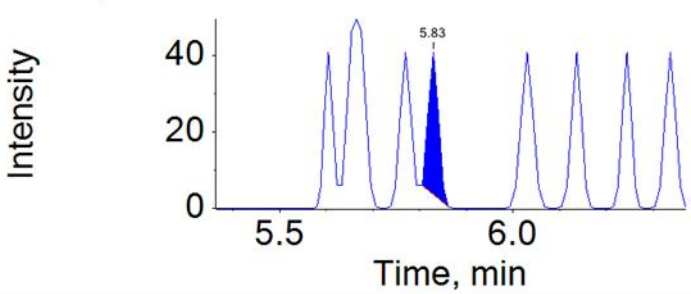
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

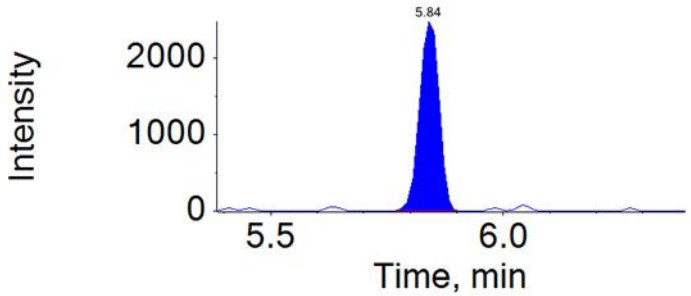
Component: PFUnDA
Primary Mass: 563.0 / 519.0



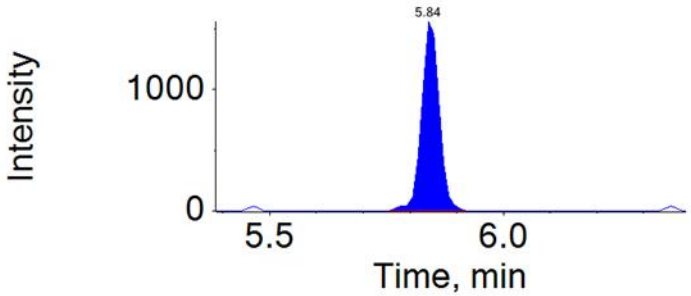
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



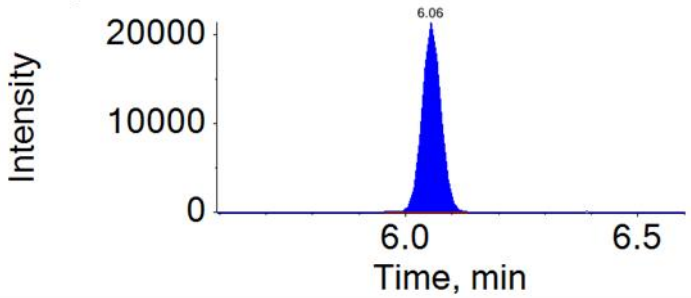
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



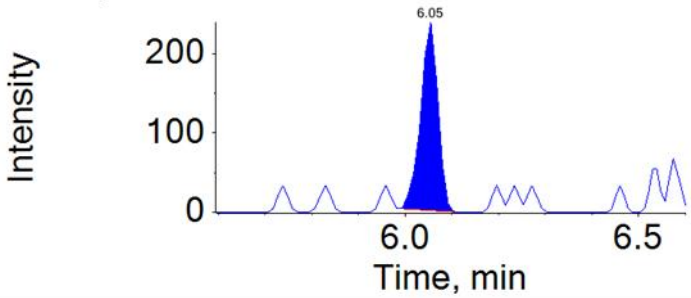
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



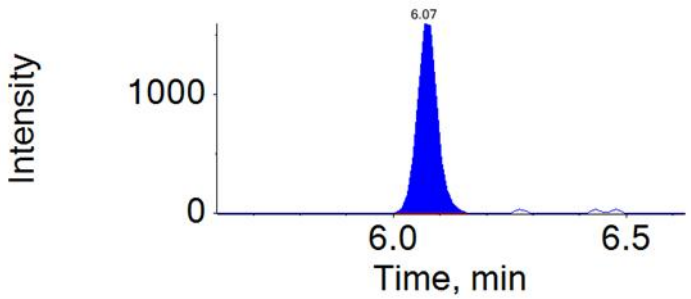
Component: PFDoDA
Primary Mass: 613.0 / 569.0



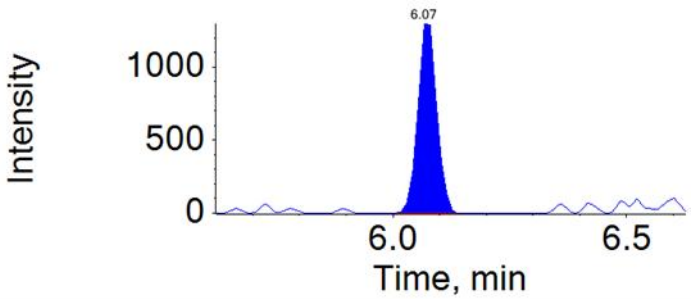
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



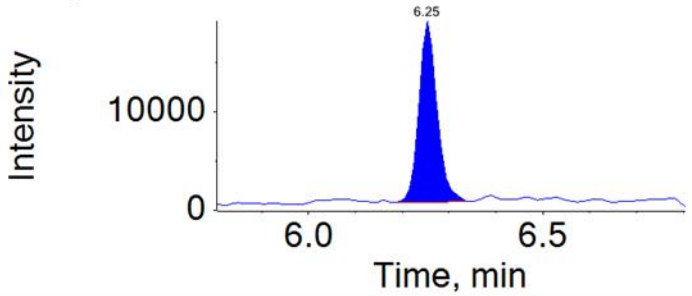
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



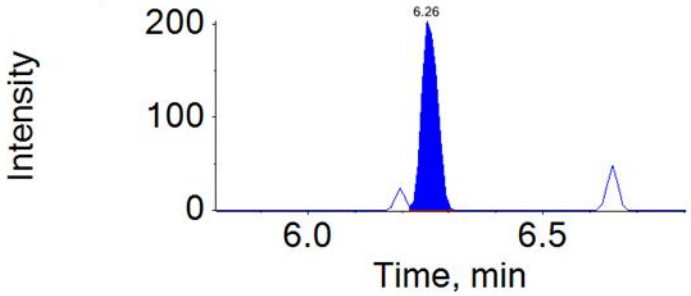
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

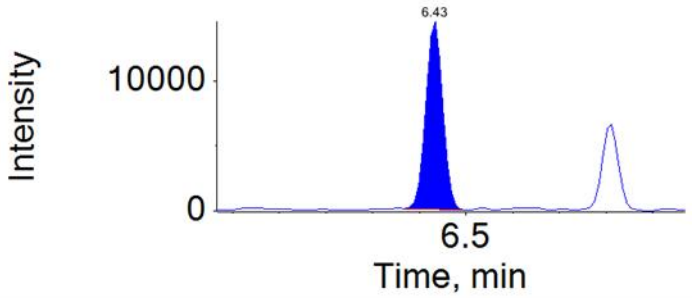
Component: PFTrDA
Primary Mass: 663.0 / 619.0



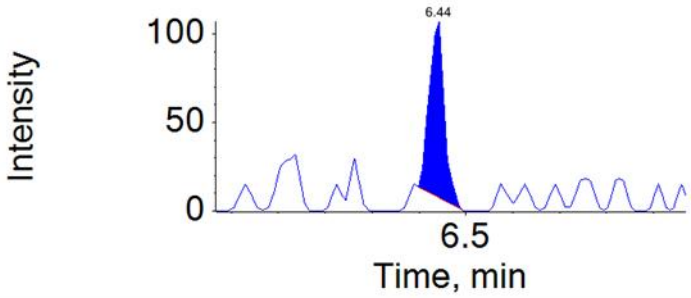
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



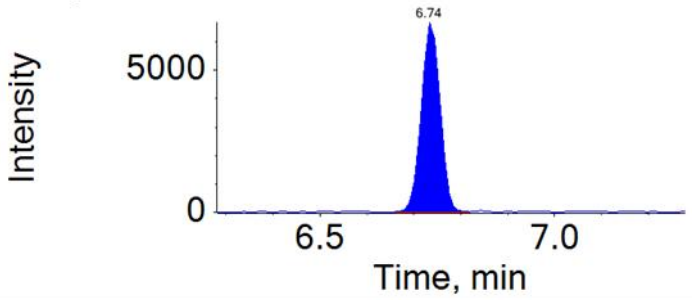
Component: PFTeDA
Primary Mass: 713.0 / 669.0



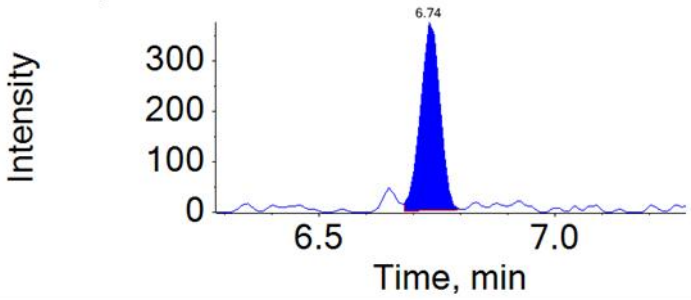
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



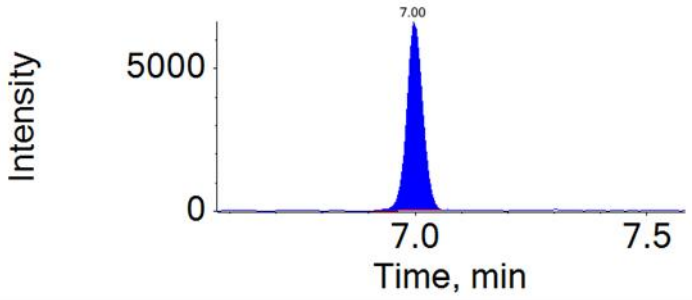
Component: PFHxDA
Primary Mass: 813.0 / 769.0



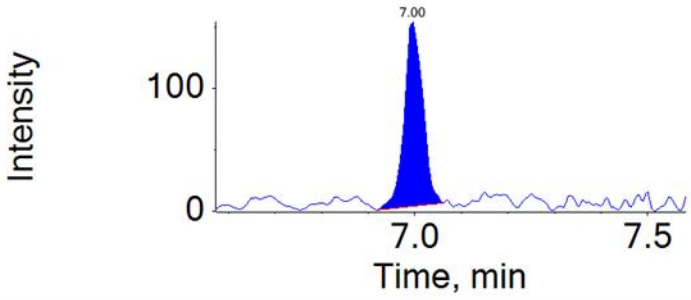
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL3			**Data File:**		18NOV07DCAL-12.wiff
Sample ID:	CALMOD31833F			**Acquis Date:**		2018-11-07T09:57:56
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	730410.6	730410.6	0	50	
13C2-PFOA	5.0	524423.6	524423.6	0	50	
13C4-PFOS	4.8	274061.7	274061.7	0	50	
13C2-PFDA	5.0	311442.1	311442.1	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	787180.2	13C3-PFBA	730410.6	1.078	5.000	4.987	100	70-130	
E13C5-PFPeA	829978.5	13C3-PFBA	730410.6	1.136	5.000	4.950	99	70-130	
E13C3-PFBS	456815.2	13C3-PFBA	730410.6	0.625	4.650	4.590	99	70-130	
E13C2-4:2-FTS	48706.0	13C2-PFOA	524423.6	0.093	4.670	4.191	90	70-130	
E13C5-PFHxA	705369.0	13C2-PFOA	524423.6	1.345	5.000	4.948	99	70-130	
E13C3-PFHxS	343139.5	13C2-PFOA	524423.6	0.654	4.730	4.697	99	70-130	
E13C4-PFHpA	566495.6	13C2-PFOA	524423.6	1.080	5.000	4.914	98	70-130	
E13C2-6:2-FTS	38605.5	13C2-PFOA	524423.6	0.074	4.750	4.909	103	70-130	
E13C8-PFOA	964414.6	13C2-PFOA	524423.6	1.839	5.000	5.128	103	70-130	
E13C8-PFOS	297259.7	13C4-PFOS	274061.7	1.085	4.780	4.796	100	70-130	
E13C9-PFNA	513116.0	13C4-PFOS	274061.7	1.872	5.000	5.114	102	70-130	
E13C6-PFDA	639022.8	13C2-PFDA	311442.1	2.052	5.000	5.160	103	70-130	
E13C2-8:2-FTS	29468.3	13C2-PFDA	311442.1	0.095	4.790	5.007	105	70-130	
E13C8-PFOSA	704745.5	13C2-PFDA	311442.1	2.263	5.000	4.938	99	70-130	
Ed3-NMeFOSAA	81763.3	13C2-PFDA	311442.1	0.263	5.000	4.882	98	70-130	
E13C7-PFUnDA	277115.5	13C2-PFDA	311442.1	0.890	5.000	5.133	103	70-130	
Ed5-NEtFOSAA	72755.7	13C2-PFDA	311442.1	0.234	5.000	5.406	108	70-130	
E13C2-PFDoDA	584631.5	13C2-PFDA	311442.1	1.877	5.000	5.061	101	70-130	
Ed7-NMePFOSAE	335206.8	13C2-PFDA	311442.1	1.076	5.000	5.005	100	70-130	
Ed3-NMePFOSA	79381.7	13C2-PFDA	311442.1	0.255	5.000	4.666	93	70-130	
Ed9-NEtPFOSAE	278375.1	13C2-PFDA	311442.1	0.894	5.000	5.104	102	70-130	
Ed5-NEtPFOSA	67444.3	13C2-PFDA	311442.1	0.217	5.000	5.014	100	70-130	
E13C2-PFTeDA	419341.7	13C2-PFDA	311442.1	1.346	5.000	4.847	97	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

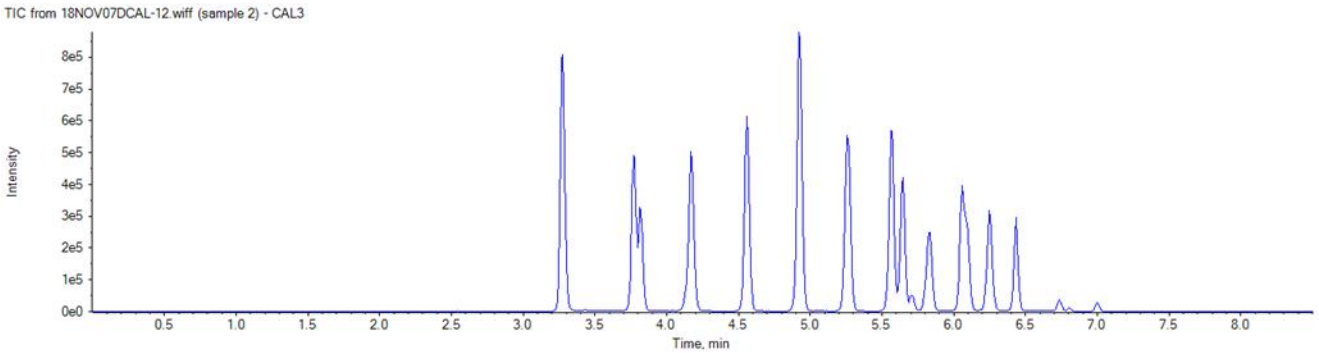
Analyte Quantitation Peak Table

Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.27	1.000	285113.3		A	13C4-PFBA	3.27	787180.2	0.362	2.120
PFPeA	3.77	1.000	286630.7		A	13C5-PFPeA	3.77	829978.5	0.345	2.052
PFBS	3.82	1.000	157656.3		A	13C3-PFBS	3.82	456815.2	0.345	1.740
4:2-FTS	4.14	1.000	35586.2		A	13C2-4:2-FTS	4.13	48706.0	0.731	1.964
PFHxA	4.17	1.000	351503.9		A	13C5-PFHxA	4.17	705369.0	0.498	2.137
PFPeS	4.19	1.100	82090.1		A	13C3-PFBS	3.82	456815.2	0.180	1.772
PFHxS	4.56	1.000	122477.7		A	13C3-PFHxS	4.56	343139.5	0.357	1.809
PFHpA	4.56	1.000	360280.4		A	13C4-PFHpA	4.56	566495.6	0.636	2.139
6:2-FTS	4.92	1.000	32056.4		A	13C2-6:2-FTS	4.91	38605.5	0.830	2.071
PFHpS	4.92	1.080	123126.9		A	13C3-PFHxS	4.56	343139.5	0.359	1.877
PFOA	4.93	1.000	364943.1		A	13C8-PFOA	4.93	964414.6	0.378	2.131
PFOS	5.25	1.000	111397.7		A	13C8-PFOS	5.25	297259.8	0.375	1.943
PFNA	5.27	1.000	299530.4		A	13C9-PFNA	5.27	513116.0	0.584	2.182
PFNS	5.55	1.060	72940.0		A	13C8-PFOS	5.25	297259.8	0.245	1.946
PFDA	5.57	1.000	244693.9		A	13C6-PFDA	5.57	639022.8	0.383	2.107
8:2-FTS	5.57	1.000	24892.6		A	13C2-8:2-FTS	5.57	29468.3	0.845	1.904
PFOSA	5.64	1.000	271753.2		A	13C8-PFOSA	5.64	704745.5	0.386	2.084
NMeFOSAA	5.71	1.000	32400.4		A	d3-NMeFOSAA	5.71	81763.3	0.396	2.039
PFDS	5.80	1.100	59073.9		A	13C8-PFOS	5.25	297259.8	0.199	1.898
PFUnDA	5.83	1.000	209644.8		A	13C7-PFUnDA	5.83	277115.5	0.757	2.170
NEtFOSAA	5.85	1.000	32100.8		A	d5-NEtFOSAA	5.84	72755.7	0.441	1.896
PFDoDA	6.06	1.000	220663.6		A	13C2-PFDoDA	6.06	584631.5	0.377	2.046
10:2-FTS	6.07	1.090	19060.5		A	13C2-8:2-FTS	5.57	29468.3	0.647	2.014
NMePFOSAE	6.10	1.000	151795.0		A	d7-NMePFOSAE	6.09	335206.8	0.453	2.029
NMePFOSA	6.10	1.000	29797.4		A	d3-NMePFOSA	6.10	79381.7	0.375	2.101
PFDoS	6.22	1.190	32096.3		A	13C8-PFOS	5.25	297259.8	0.108	2.084
NEtPFOSAE	6.25	1.000	180884.6		A	d9-NEtPFOSAE	6.24	278375.1	0.650	2.083
NEtPFOSA	6.27	1.000	26524.6		A	d5-NEtPFOSA	6.26	67444.3	0.393	1.732
PFTrDA	6.25	1.030	197290.7		A	13C2-PFDoDA	6.06	584631.5	0.337	2.128
PFTeDA	6.43	1.000	150162.8		A	13C2-PFTeDA	6.43	419341.7	0.358	2.103
PFHxDA	6.74	1.050	70193.5		A	13C2-PFTeDA	6.43	419341.7	0.167	2.078
PFODA	7.00	1.090	59736.9		A	13C2-PFTeDA	6.43	419341.7	0.142	2.041

Total Ion Chromatogram

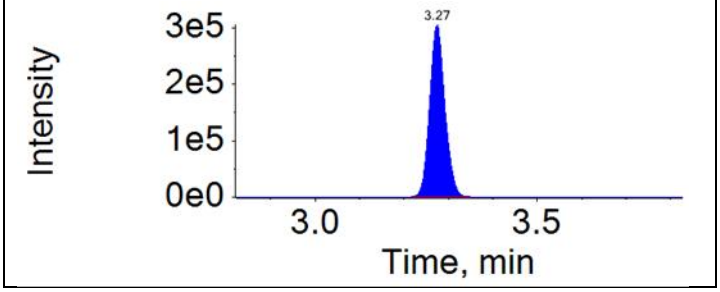


APPROVED
By JPT at 2:53 pm, 11/7/18

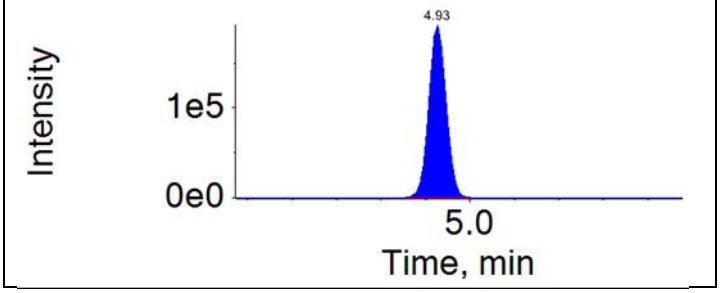
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

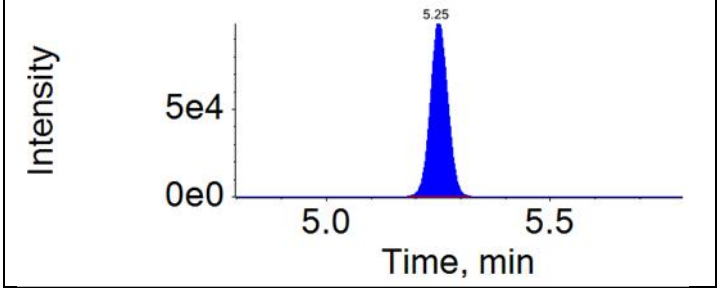
Injection Standard: 13C3-PFBA
216.0 / 172.0



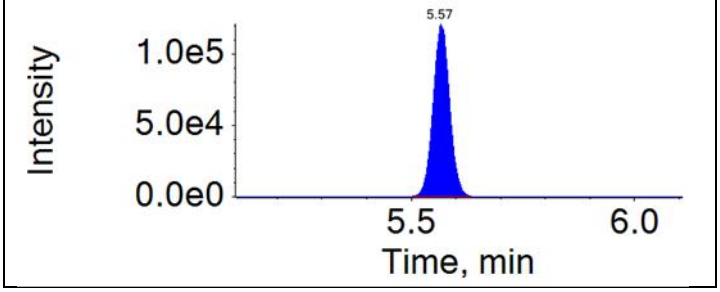
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



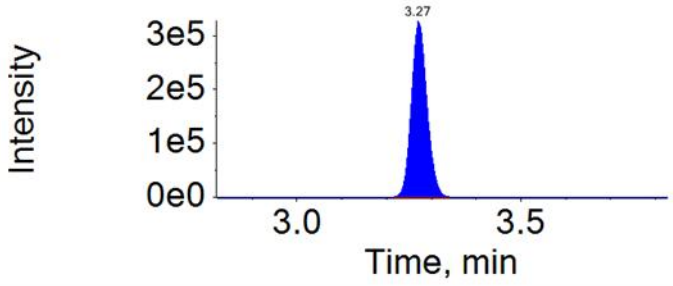
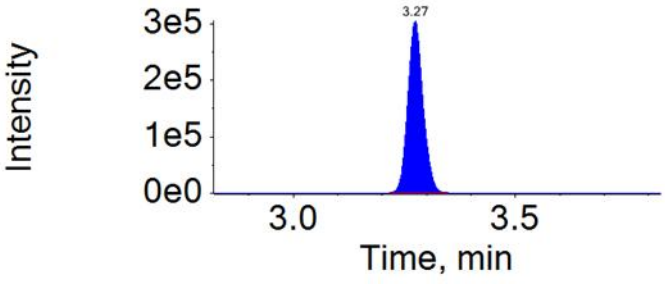
Injection Standard: 13C2-PFDA
515.0 / 470.0

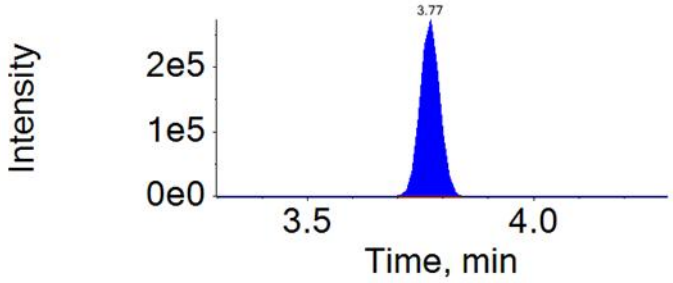
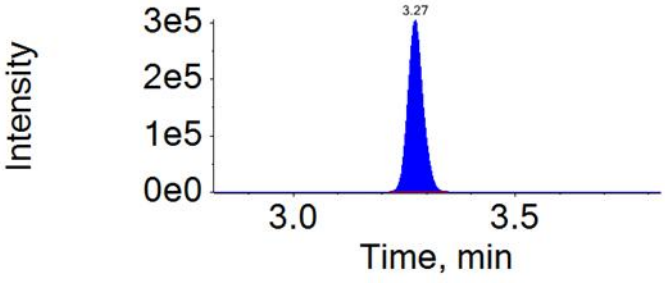


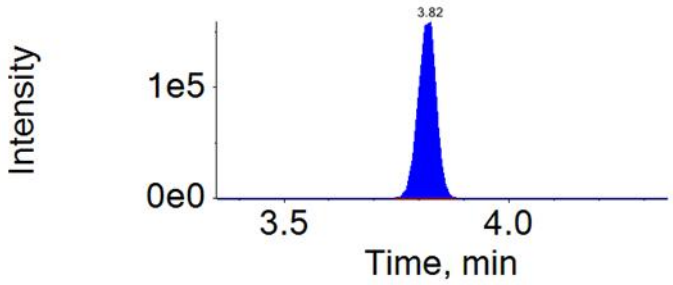
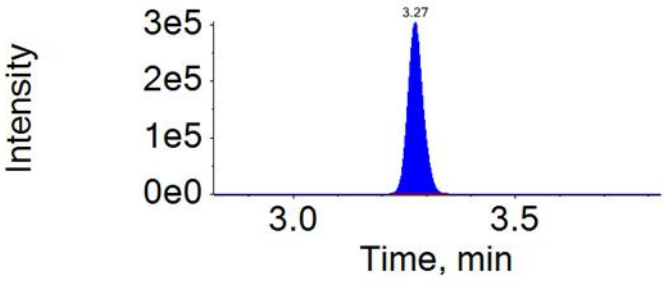
APPROVED
By JPT at 2:53 pm, 11/7/18

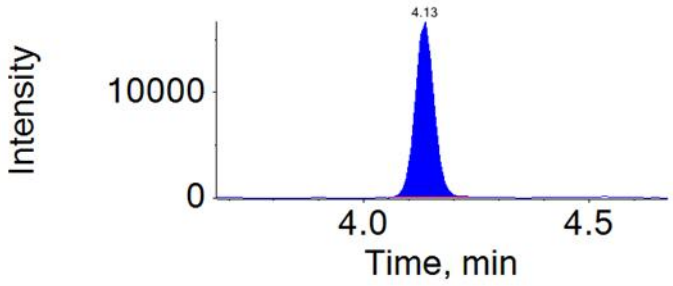
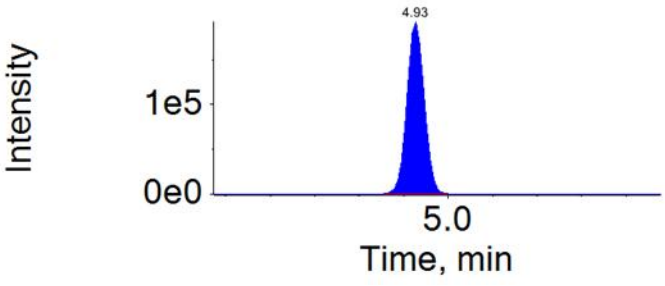
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

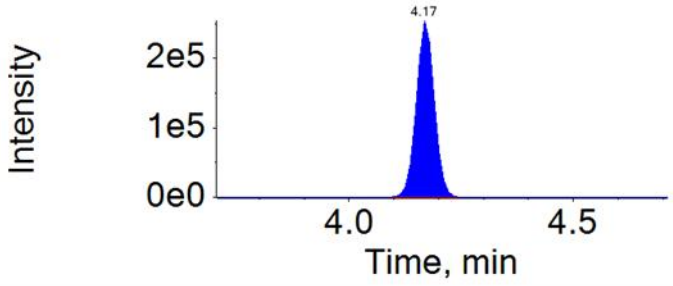
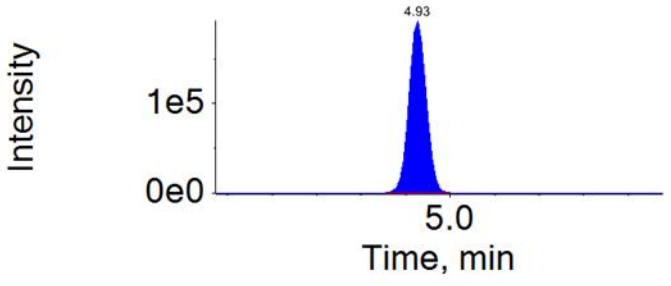
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

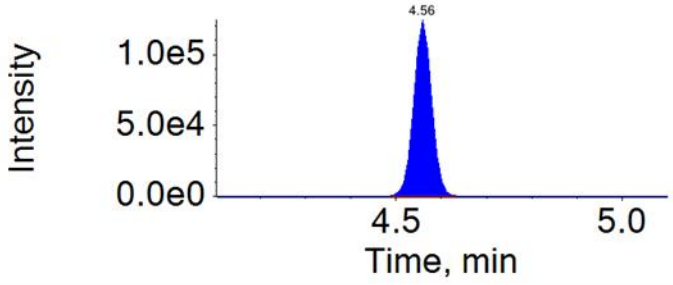
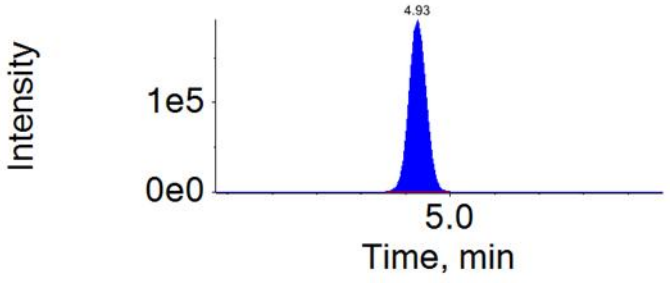
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

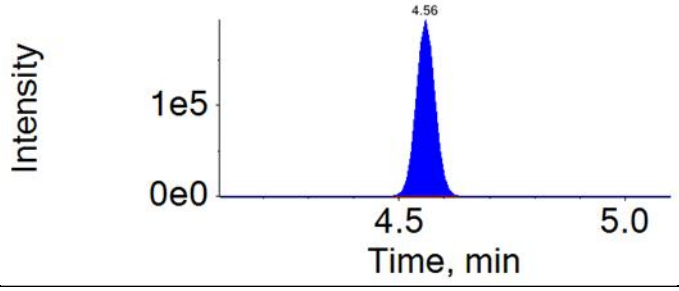
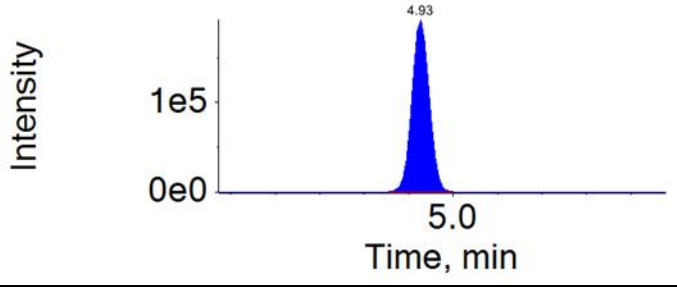
APPROVED
By JPT at 2:53 pm, 11/7/18

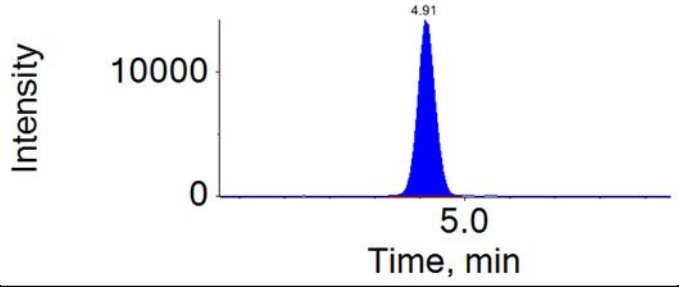
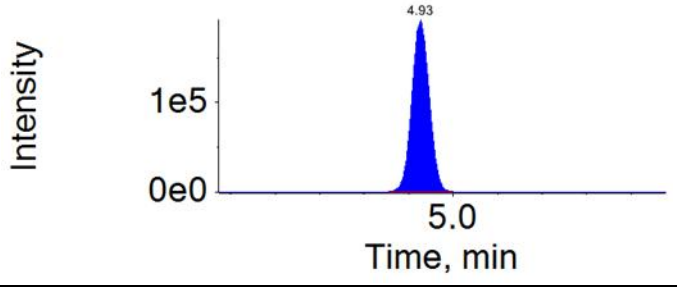
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

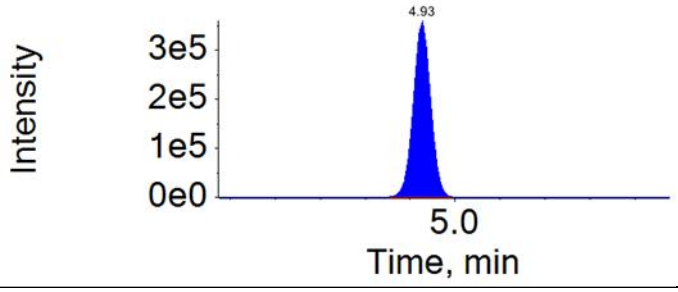
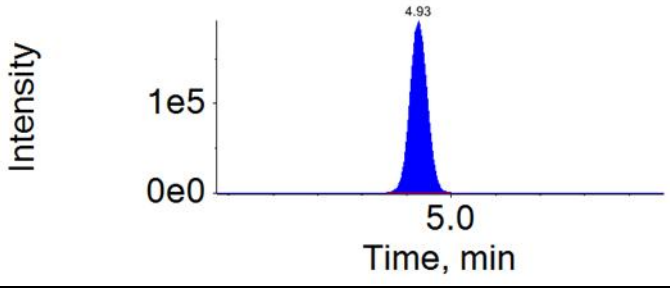
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

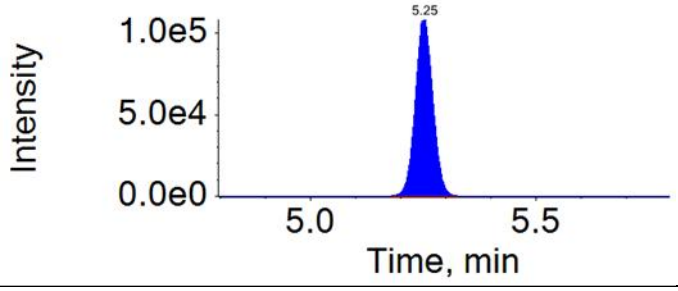
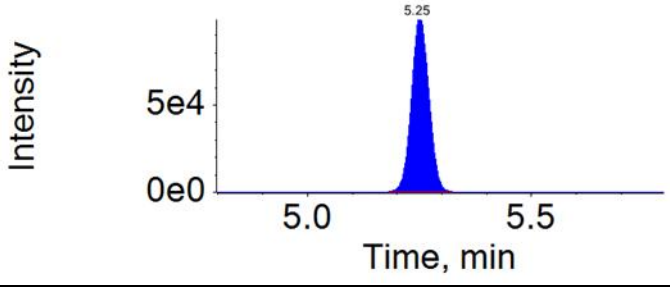
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

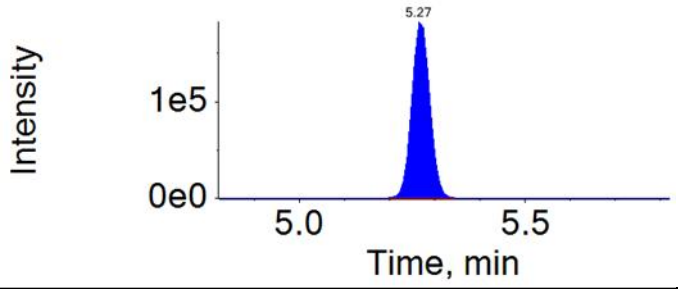
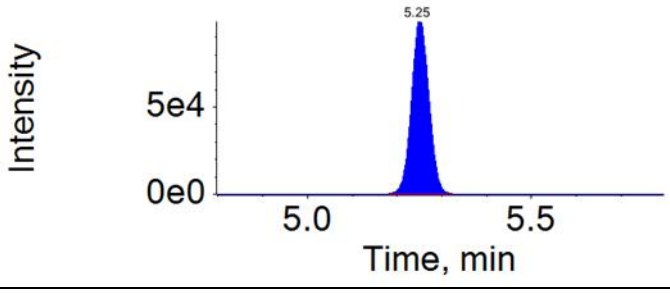
APPROVED
By JPT at 2:53 pm, 11/7/18

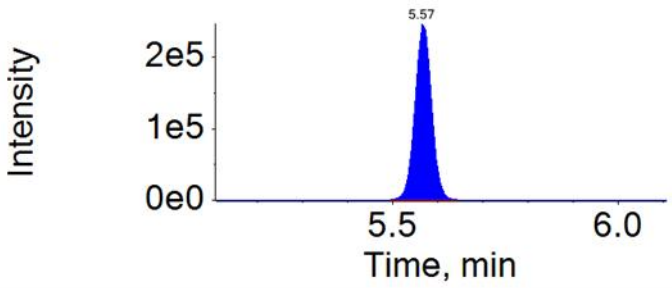
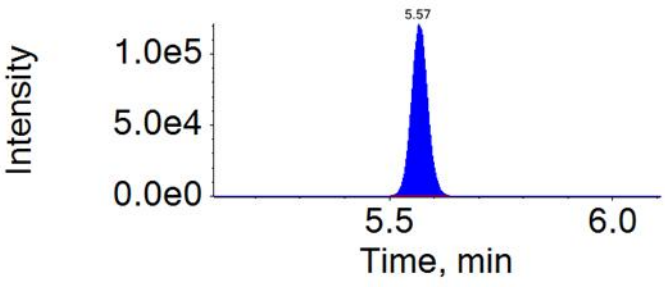
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

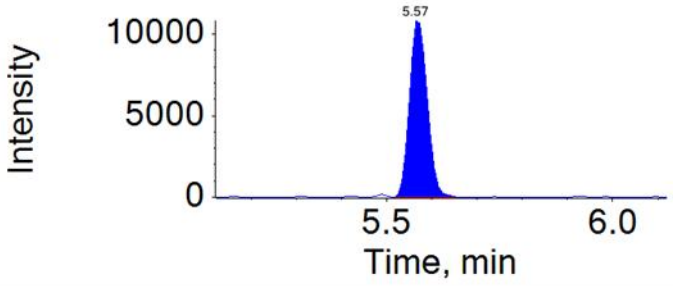
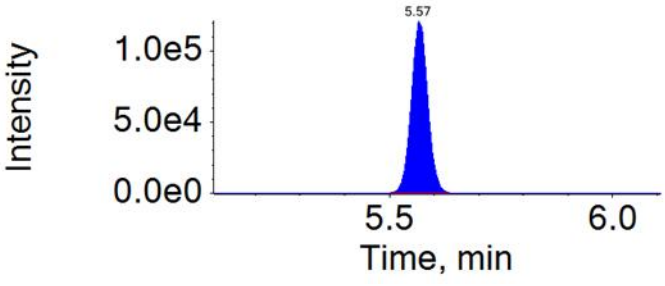
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

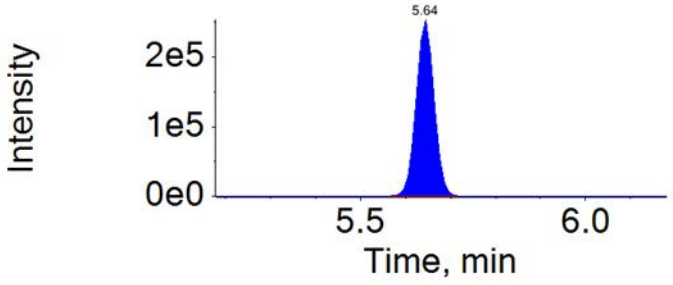
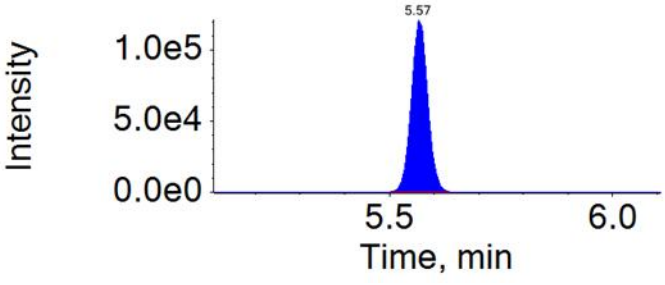
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

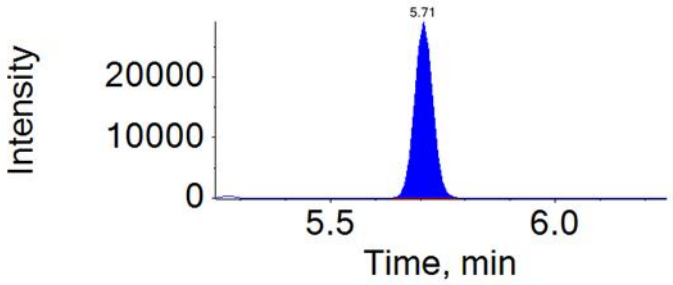
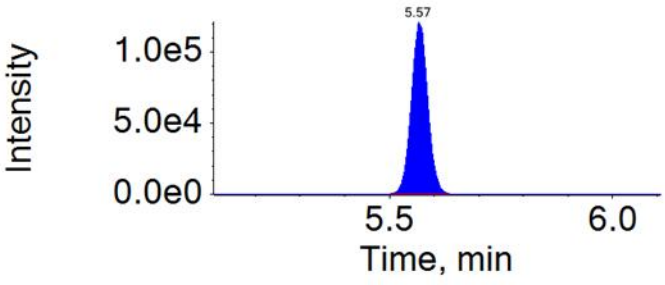
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

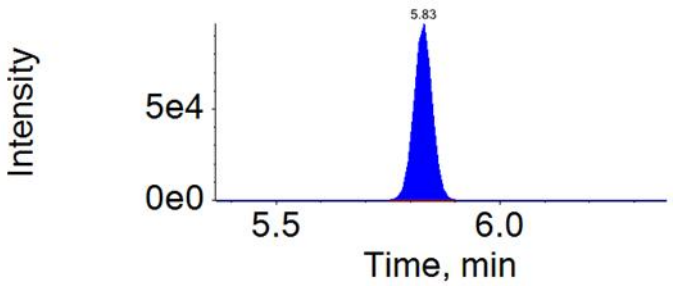
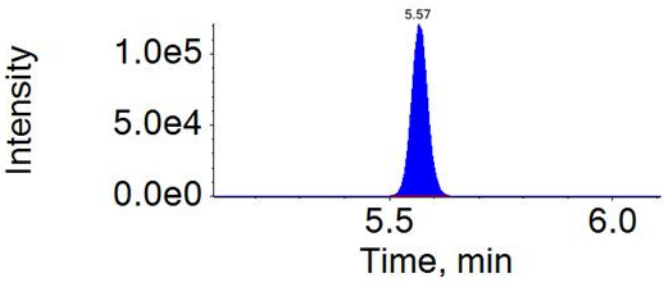
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

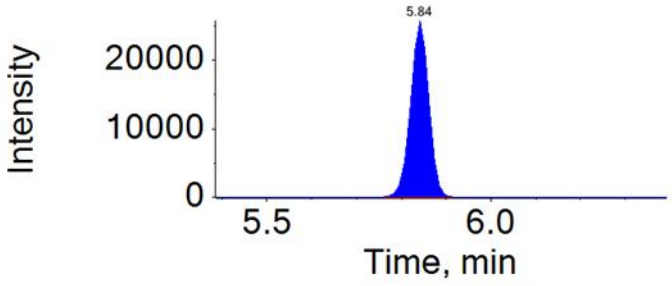
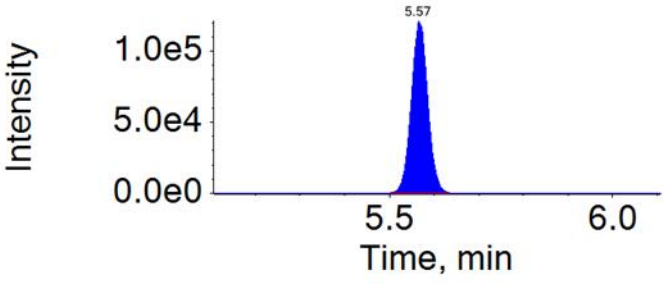
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

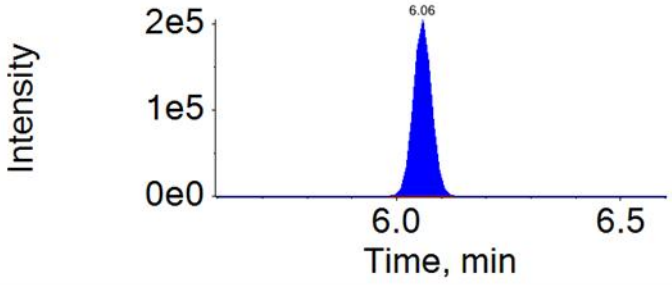
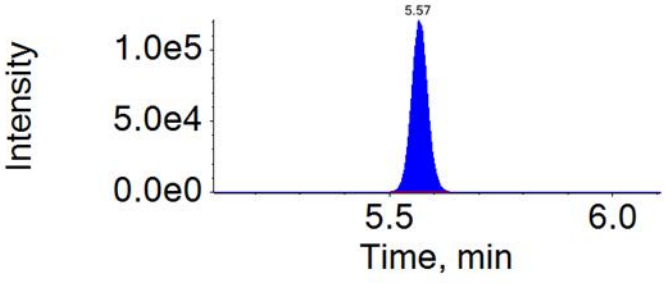
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

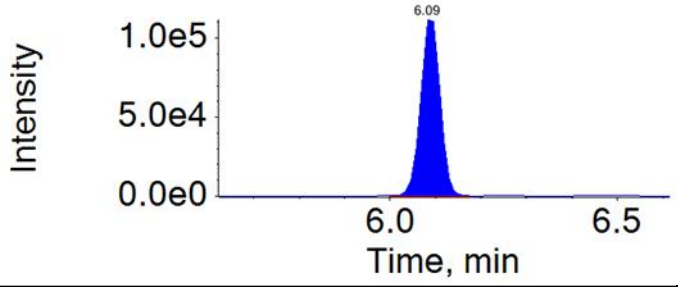
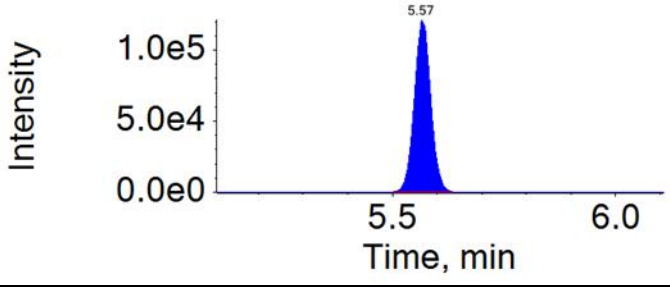
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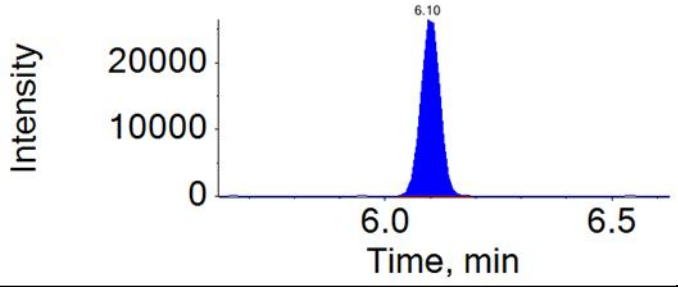
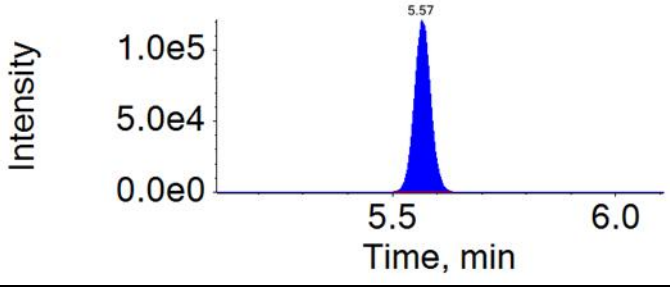
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

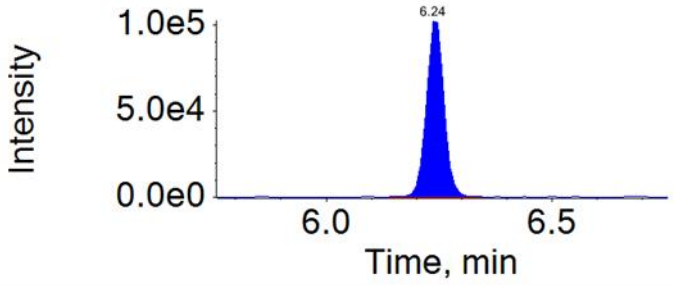
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

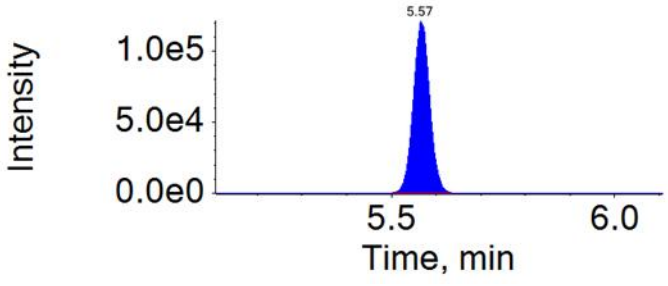
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

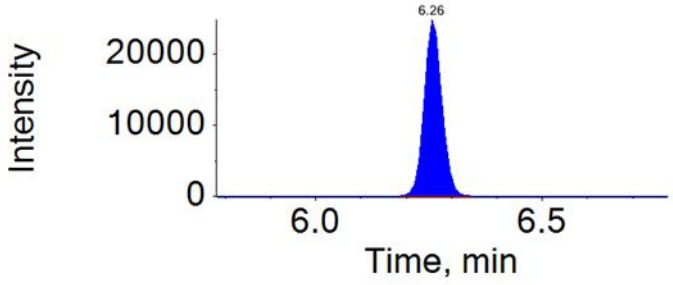
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

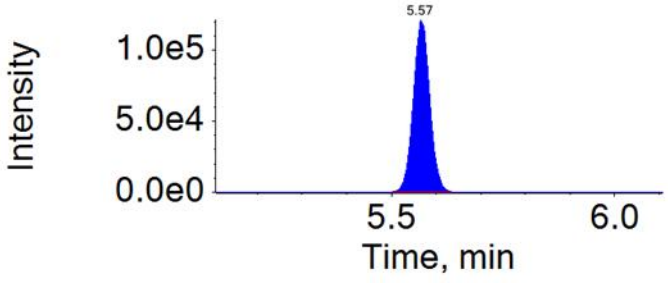
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



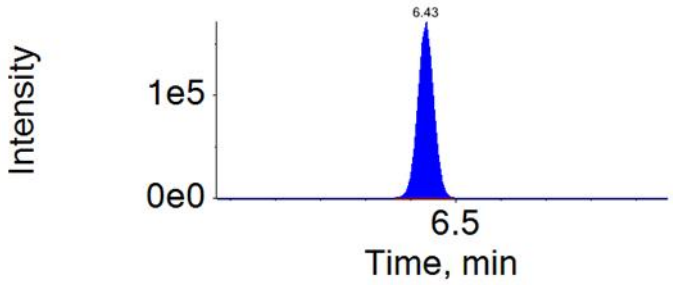


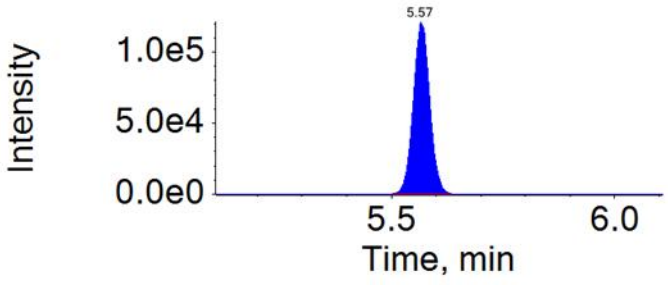
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



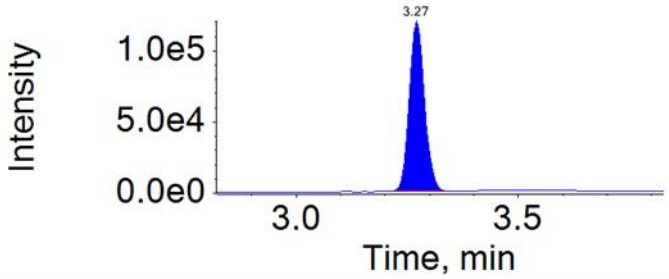


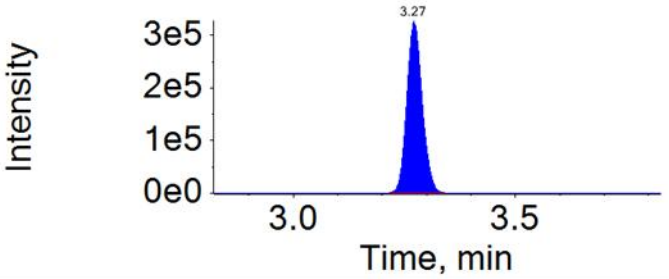
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

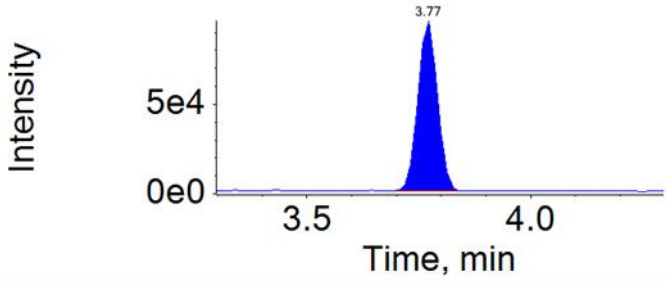
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

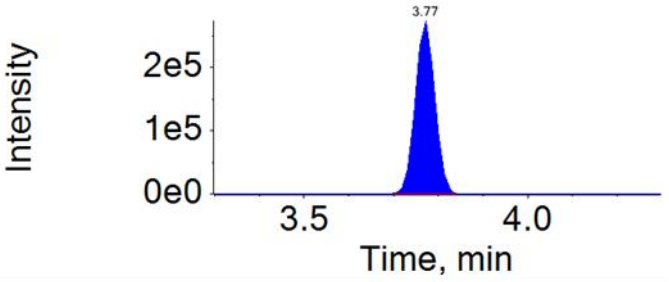
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



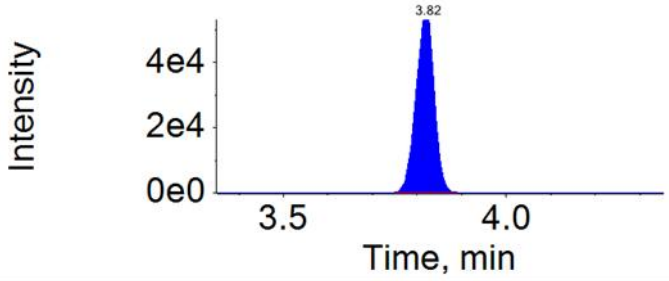


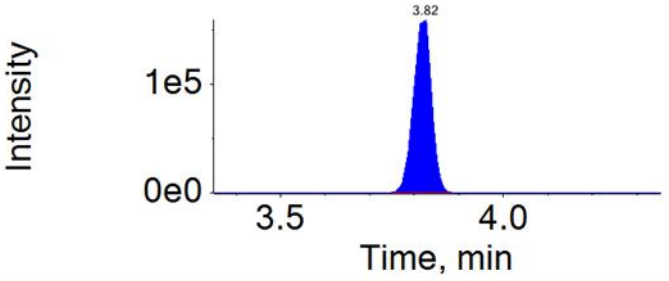
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



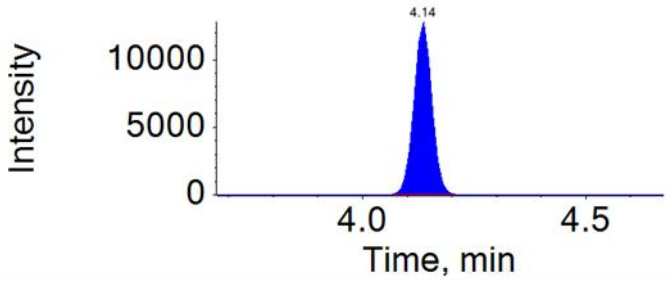


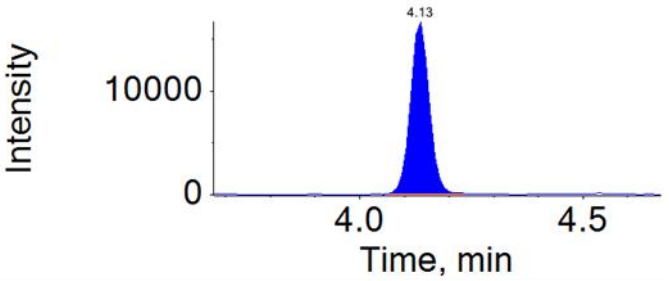
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

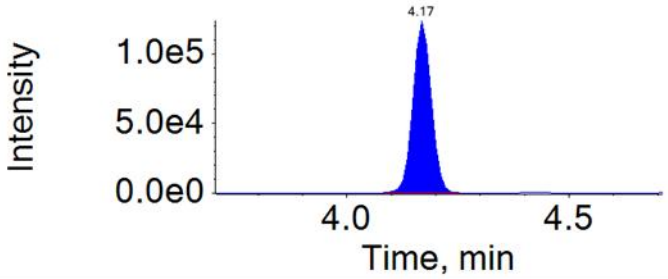
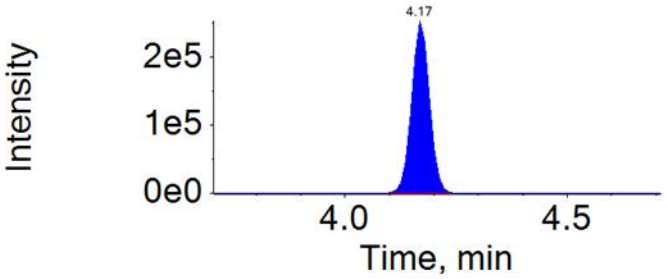


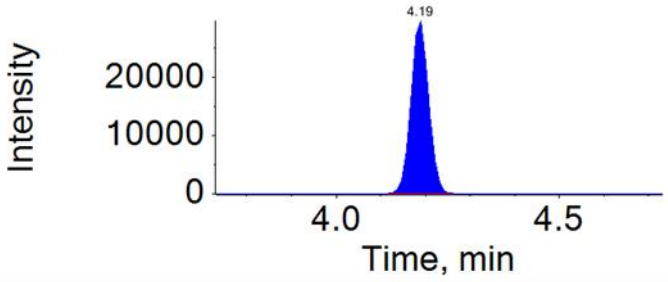
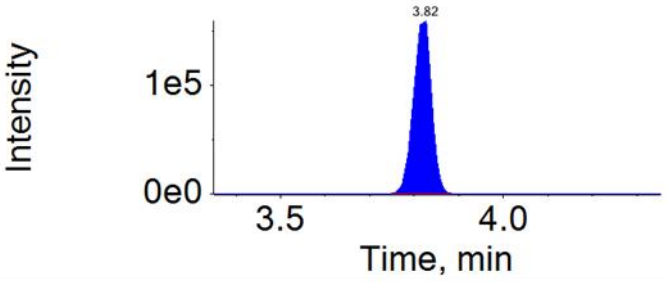


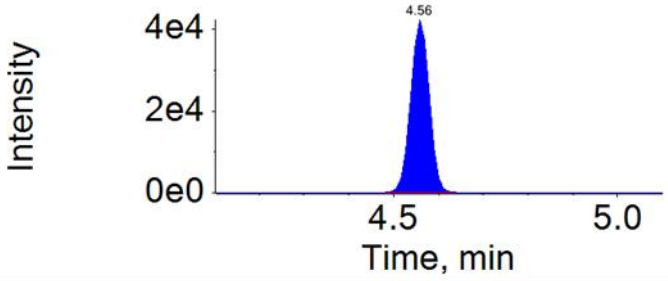
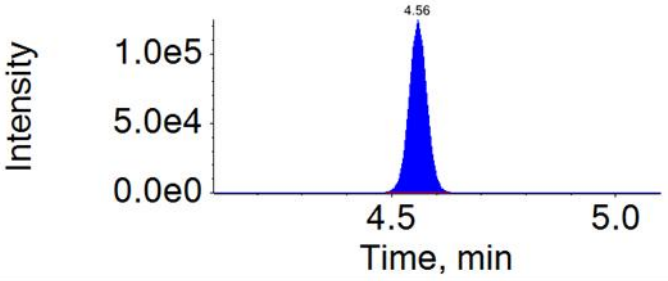
APPROVED
By JPT at 2:53 pm, 11/7/18

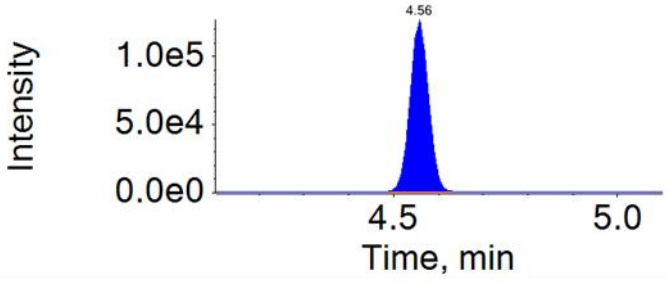
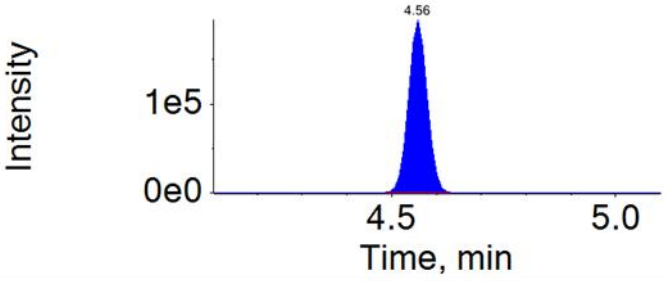
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

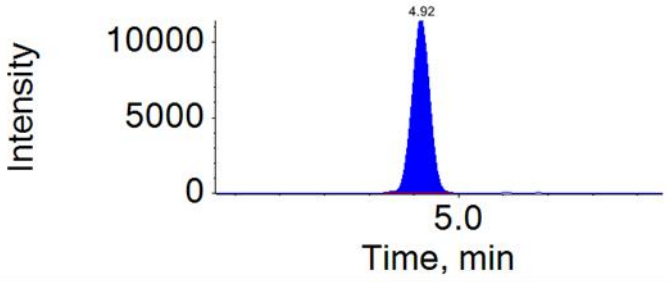
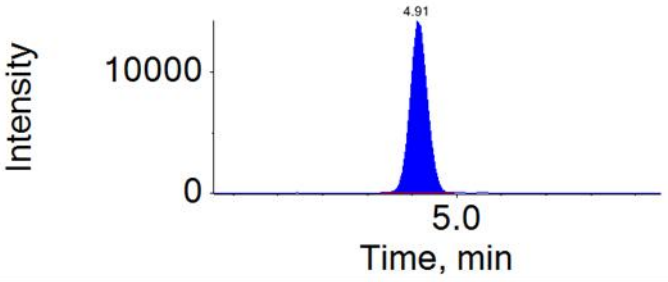
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

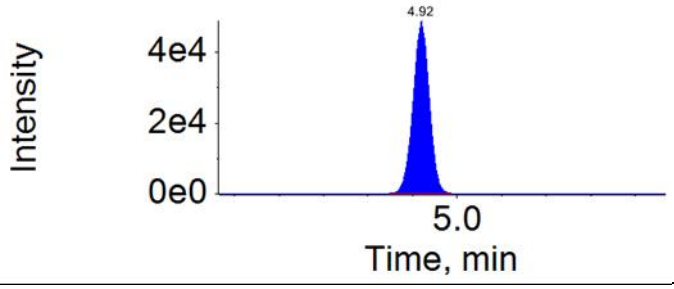
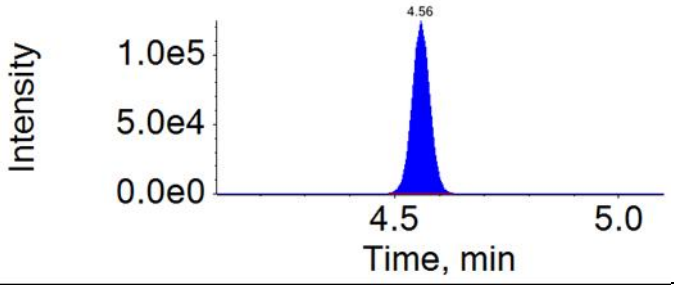
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

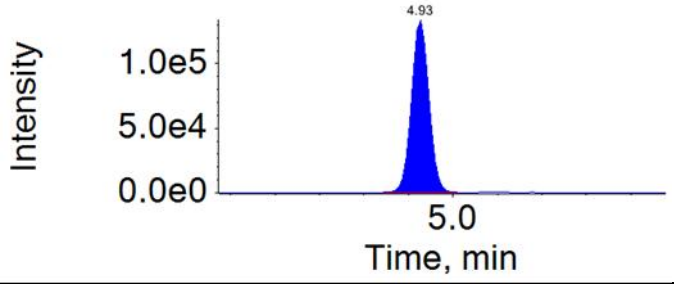
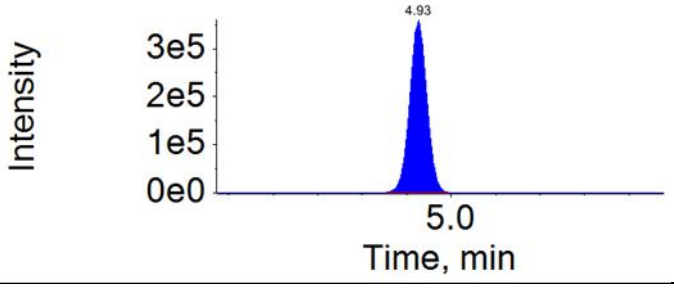
APPROVED
By JPT at 2:53 pm, 11/7/18

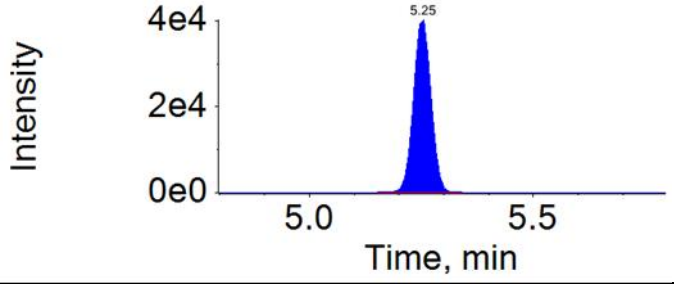
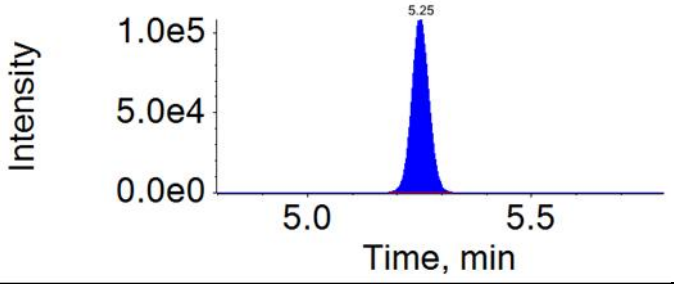
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

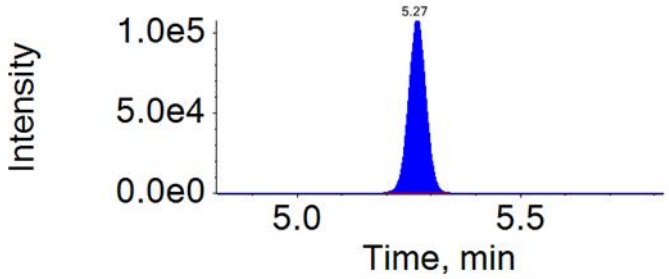
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

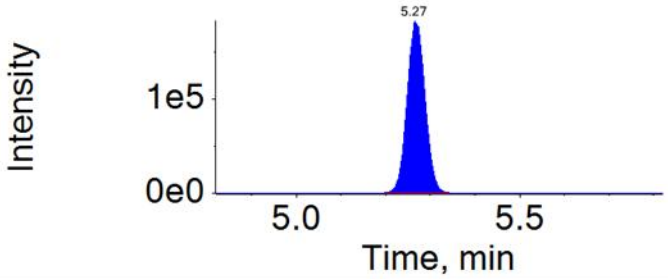
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

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

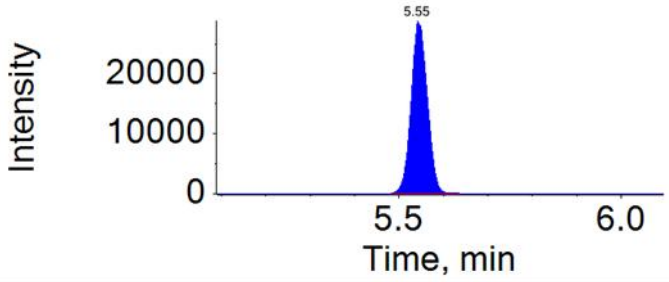
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

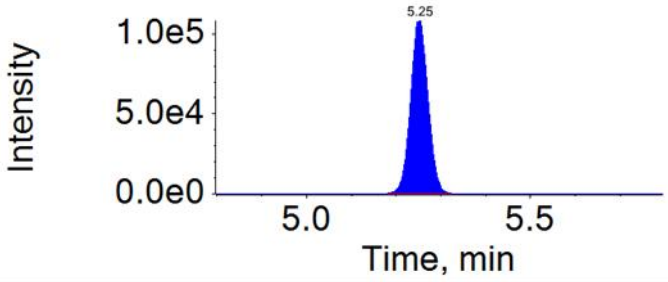
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



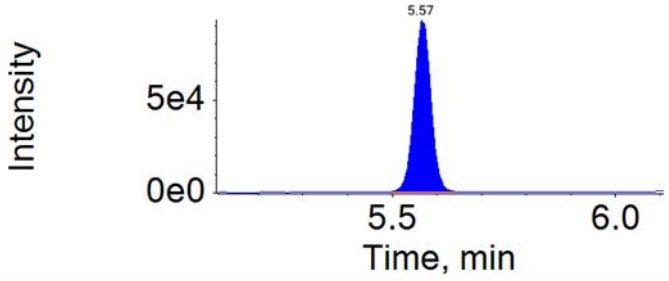


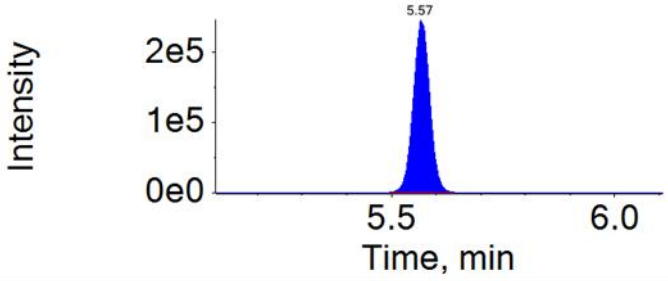
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



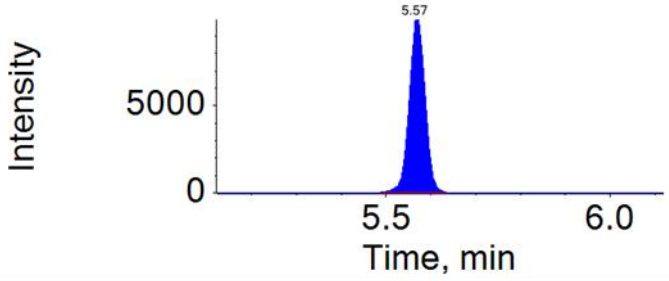


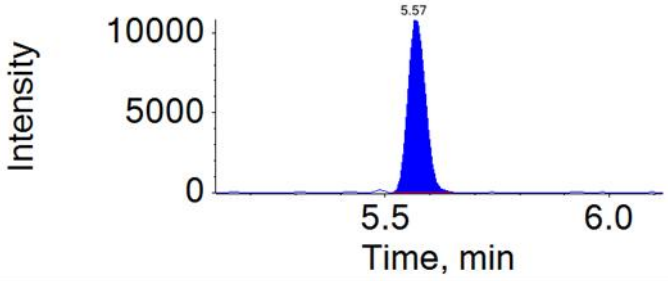
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

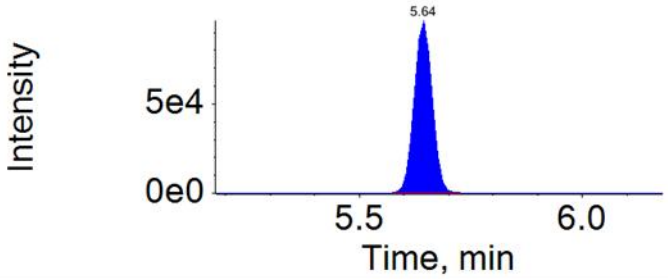
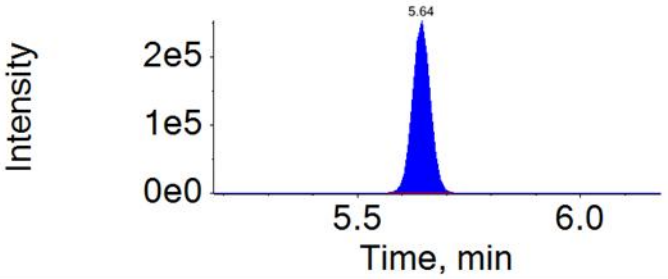


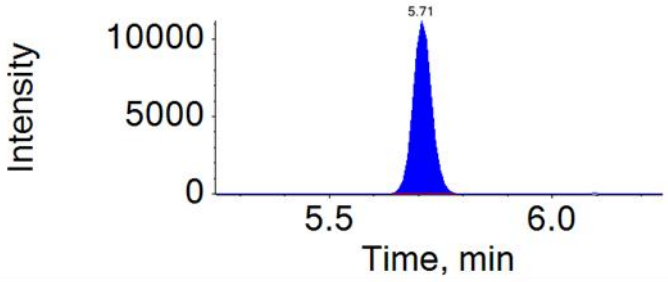
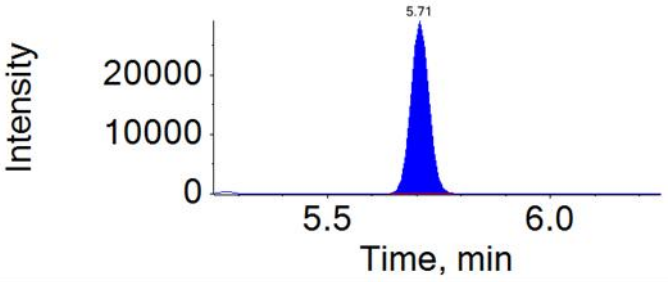


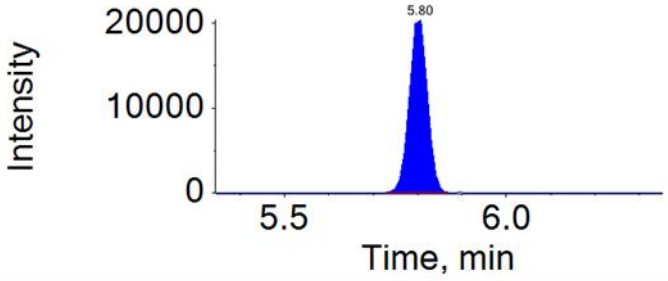
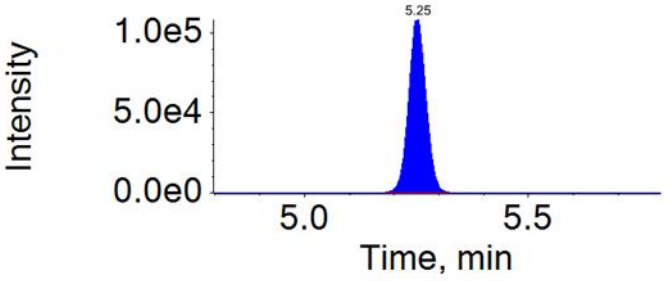
APPROVED
By JPT at 2:53 pm, 11/7/18

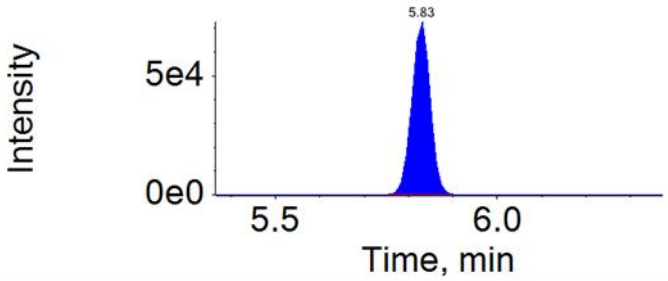
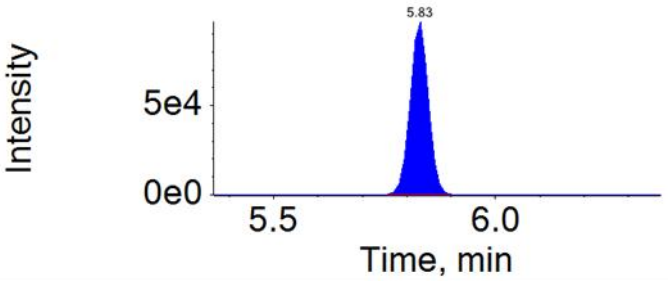
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

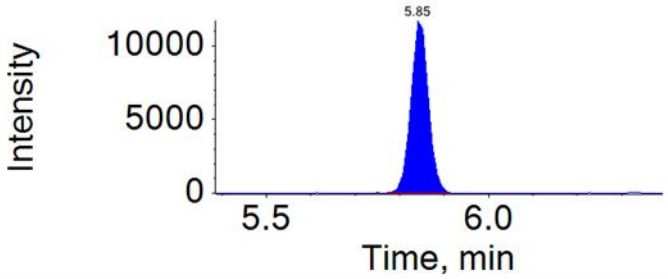
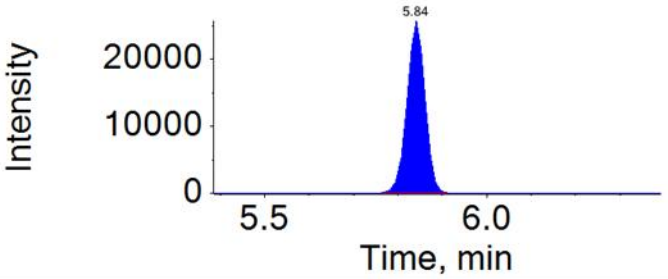
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

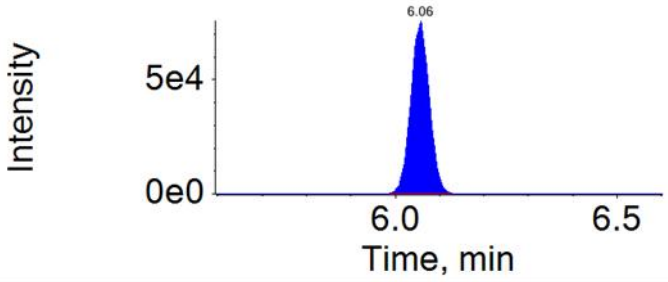
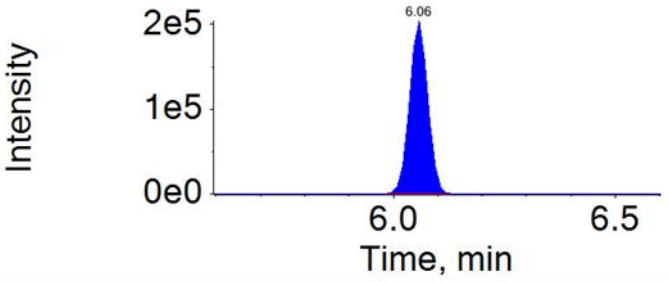
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

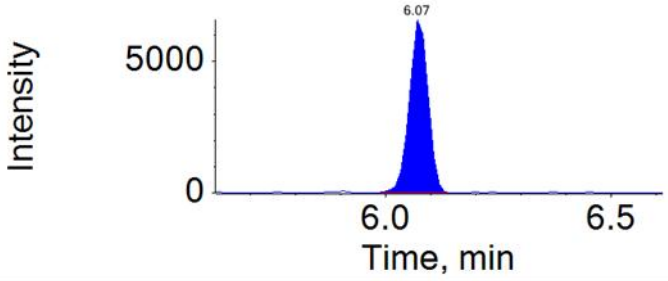
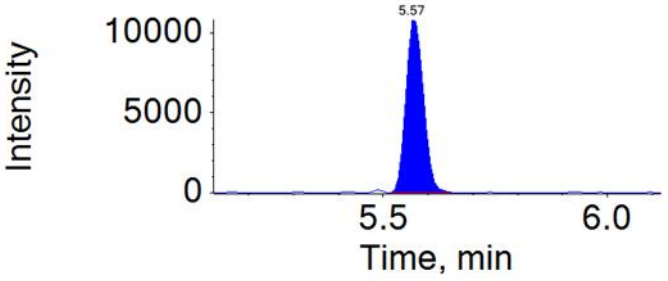
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By JPT at 2:53 pm, 11/7/18

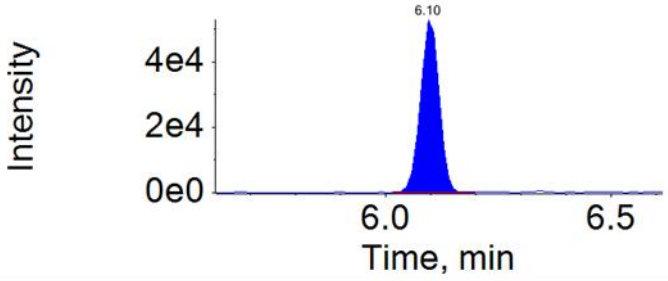
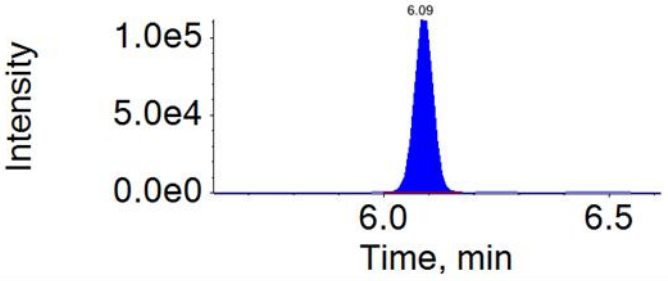
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

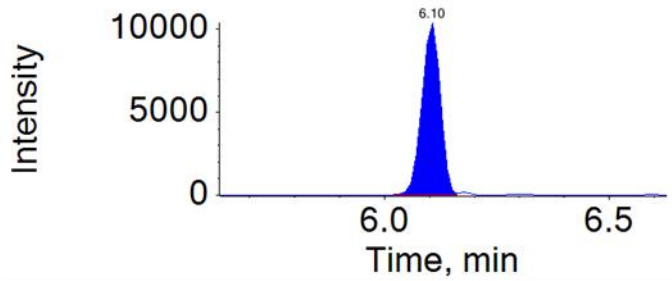
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

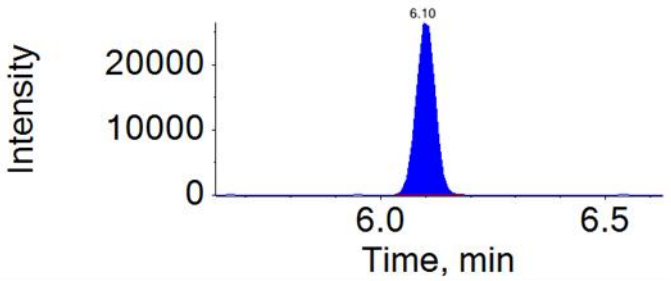
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

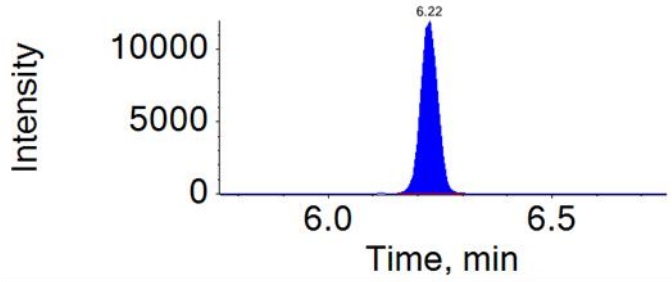
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

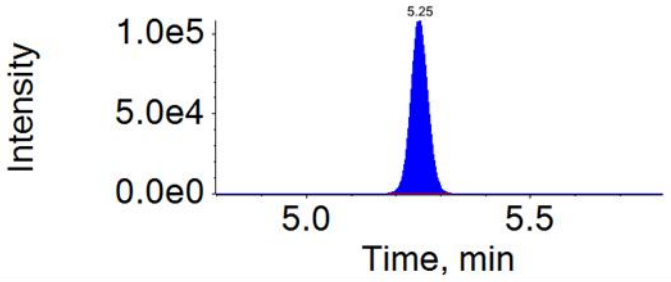
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



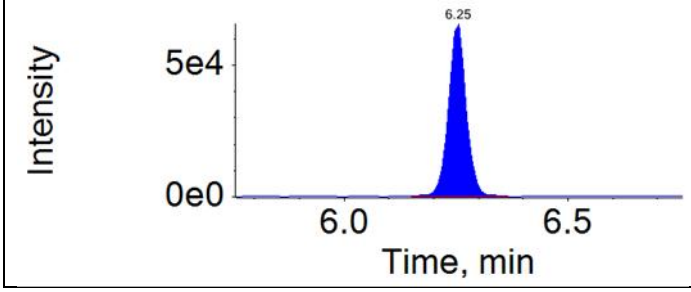


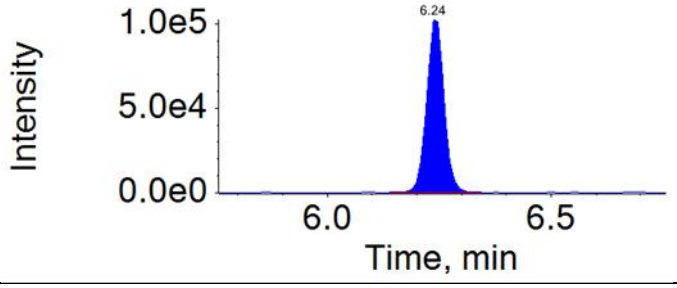
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



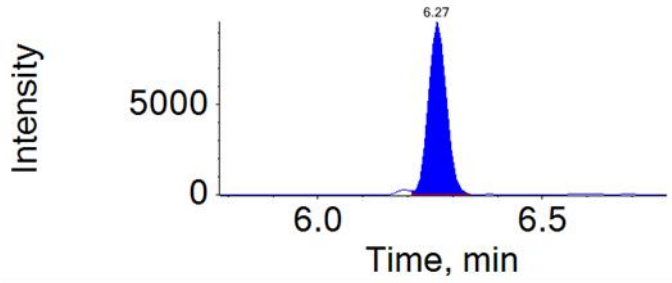


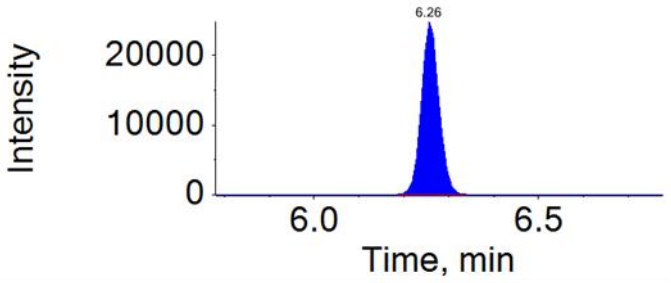
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



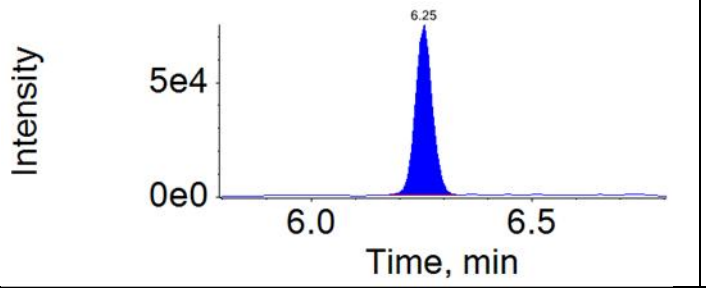


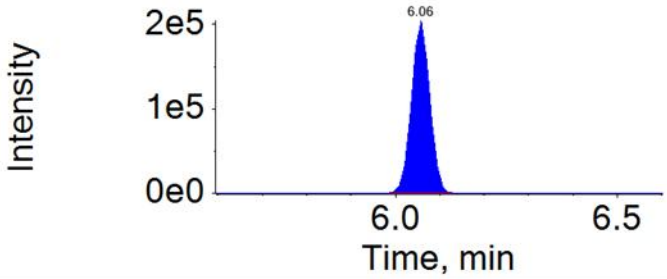
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By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

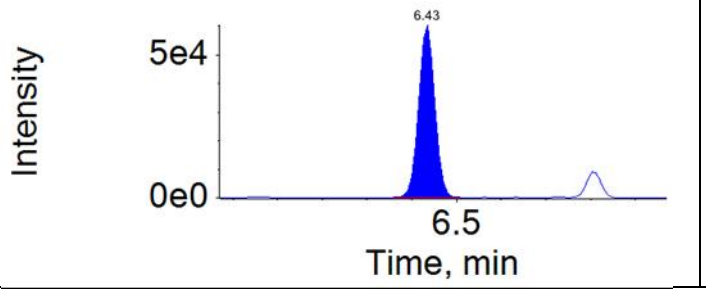
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

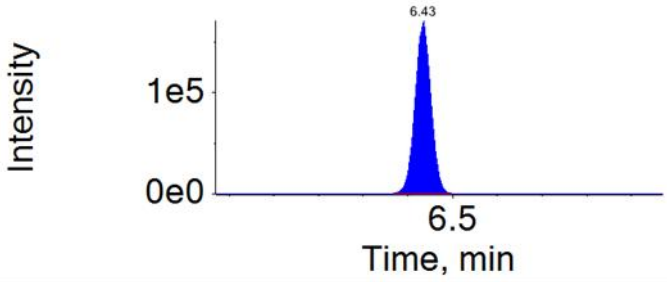
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



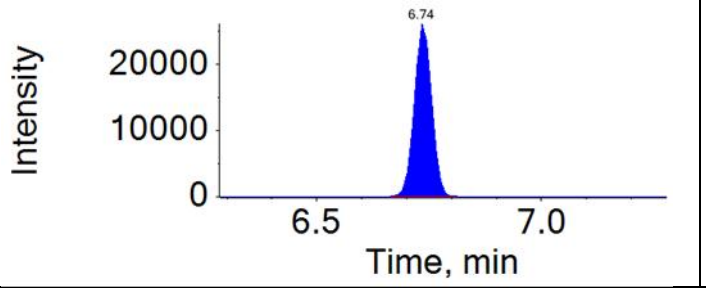


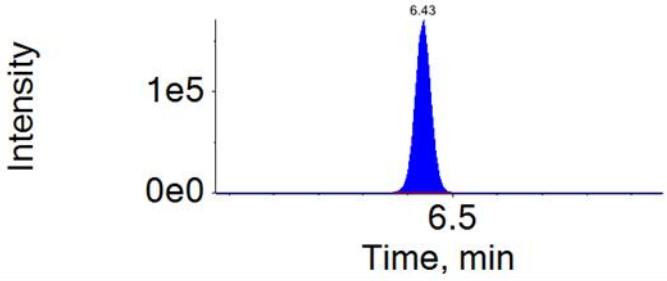
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



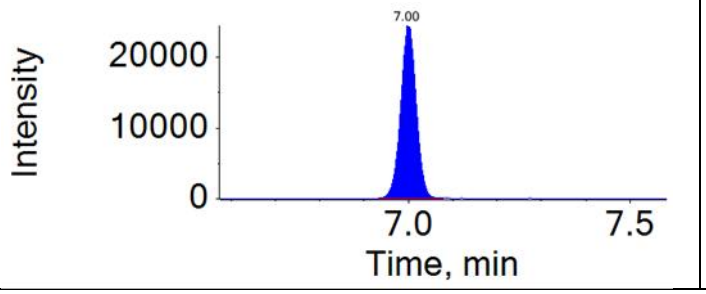


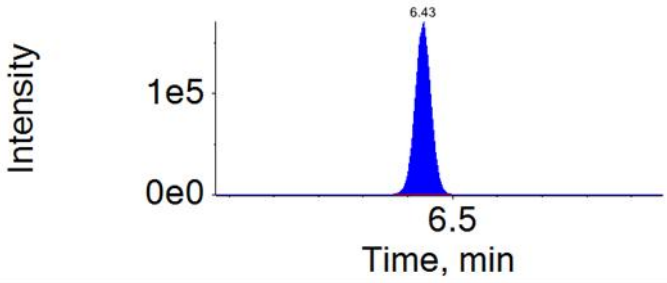
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





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Ion Ratio Report

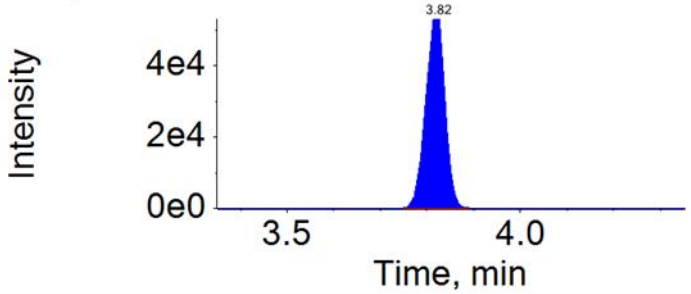
Sample Name: CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-12.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	157656.3	A	1.0000	1.0000			
PFBS_2	3.82	1.00	57942.5	A	0.3576	0.3675	3	50	
4:2-FTS	4.14	1.00	35586.2	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	22248.8	A	0.6359	0.6252	-2	50	
PFHxA	4.17	1.00	351503.9	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	3580.7	A	0.0115	0.0102	-11	50	
PFPeS	4.19	1.10	82090.1	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	44176.0	A	0.5384	0.5381	0	50	
PFHxS	4.56	1.00	122477.7	A	1.0000	1.0000			
PFHxS_2	4.56	1.00	45270.2	A	0.3569	0.3696	4	50	
PFHpA	4.56	1.00	360280.4	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	20898.8	A	0.0577	0.0580	1	50	
6:2-FTS	4.92	1.00	32056.4	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	19790.8	A	0.6752	0.6174	-9	50	
PFHpS	4.92	1.08	123126.9	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	49357.0	A	0.3950	0.4009	1	50	
PFOA	4.93	1.00	364943.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	23223.3	A	0.0635	0.0636	0	50	
PFOS	5.25	1.00	111397.7	A	1.0000	1.0000			
PFOS_2	5.25	1.00	35008.5	A	0.3494	0.3143	-10	50	
PFNA	5.27	1.00	299530.4	A	1.0000	1.0000			
PFNA_2	5.27	1.00	6077.4	A	0.0207	0.0203	-2	50	
PFNS	5.55	1.06	72940.0	A	1.0000	1.0000			
PFNS_2	5.54	1.06	34560.8	A	0.4890	0.4738	-3	50	
PFDA	5.57	1.00	244693.9	A	1.0000	1.0000			
PFDA_2	5.57	1.00	1604.2	A	0.0057	0.0066	16	50	
8:2-FTS	5.57	1.00	24892.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	15231.3	A	0.6169	0.6119	-1	50	
NMeFOSAA	5.71	1.00	32400.4	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	7101.6	A	0.2206	0.2192	-1	50	
PFDS	5.80	1.10	59073.9	A	1.0000	1.0000			
PFDS_2	5.80	1.11	31660.9	A	0.4648	0.5360	15	50	
PFUnDA	5.83	1.00	209644.8	A	1.0000	1.0000			
PFUnDA_2	5.84	1.00	267.4	A	0.0031	0.0013	-59	50	OOS
NEtFOSAA	5.85	1.00	32100.8	A	1.0000	1.0000			
NEtFOSAA_2	5.85	1.00	21563.1	A	0.6082	0.6717	10	50	
PFDoDA	6.06	1.00	220663.6	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	2566.4	A	0.0109	0.0116	6	50	
10:2-FTS	6.07	1.09	19060.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	13428.2	A	0.7082	0.7045	-1	50	
PFTrDA	6.25	1.03	197290.7	A	1.0000	1.0000			
PFTrDA_2	6.26	1.03	2128.7	A	0.0096	0.0108	12	50	
PFTeDA	6.43	1.00	150162.8	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	849.9	A	0.0055	0.0057	2	50	
PFHxDA	6.74	1.05	70193.5	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	4327.4	A	0.0596	0.0616	3	50	
PFODA	7.00	1.09	59736.9	A	1.0000	1.0000			
PFODA_2	7.00	1.09	1504.6	A	0.0257	0.0252	-2	50	

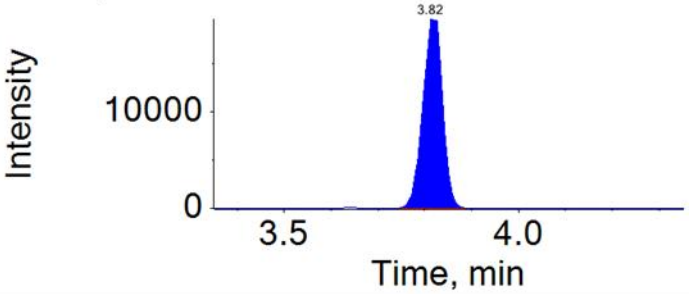
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

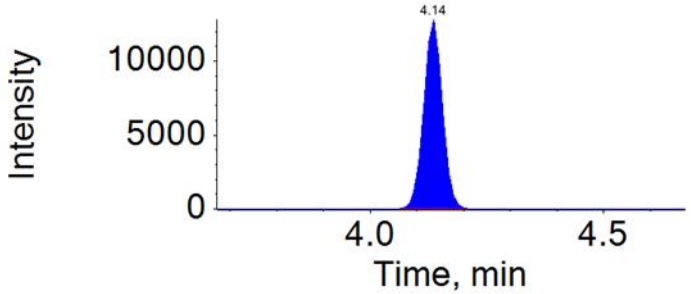
Component: PFBS
Primary Mass: 299.0 / 80.0



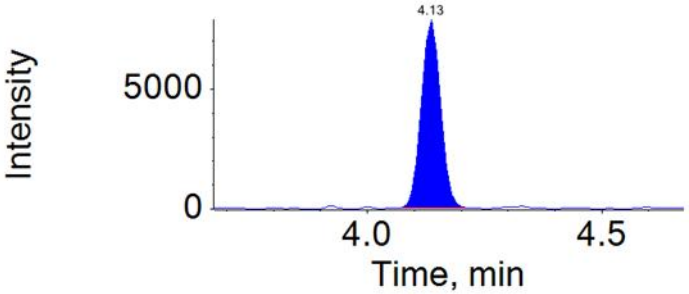
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



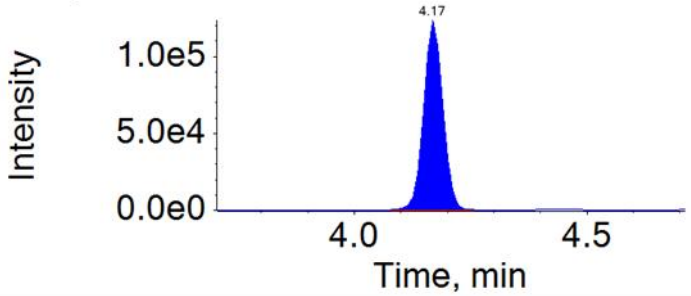
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



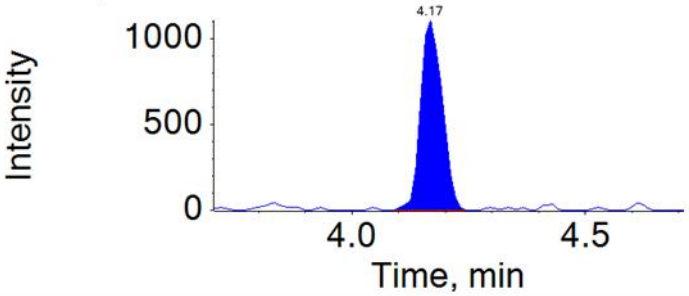
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Secondary Mass: 327.0 / 81.0



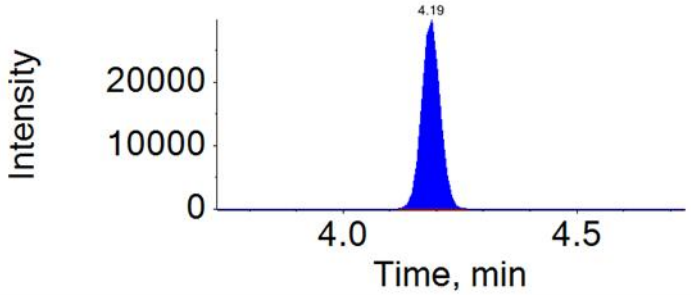
Component: PFHxA
Primary Mass: 313.0 / 269.0



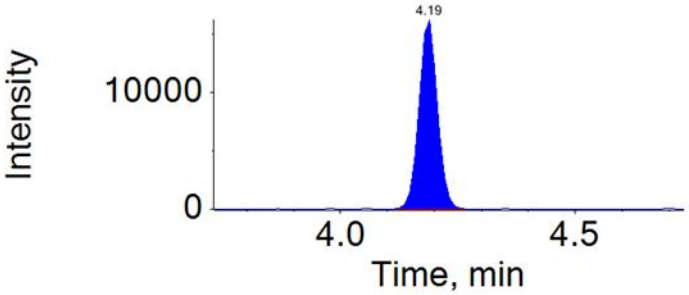
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



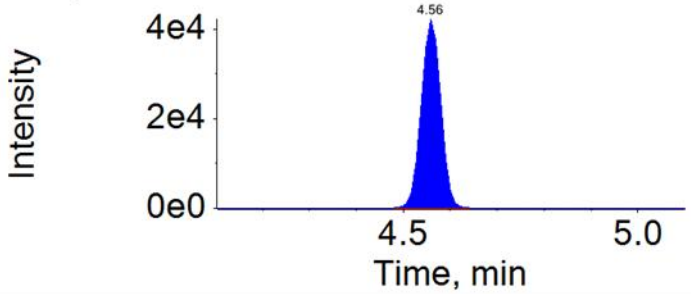
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



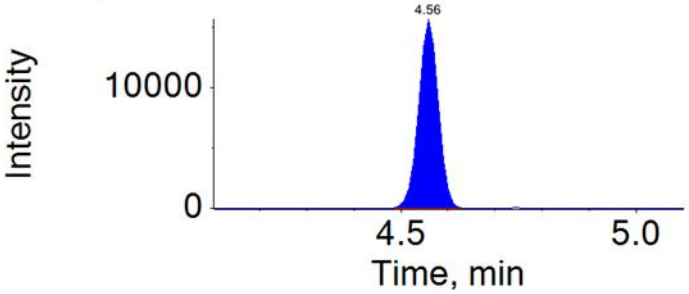
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By umar at 5:23 pm, 11/9/18

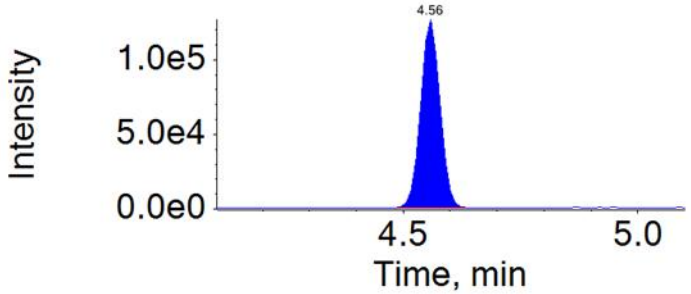
Component: PFHxS
Primary Mass: 399.0 / 80.0



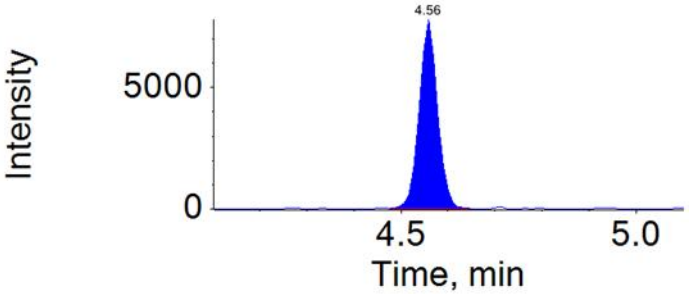
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



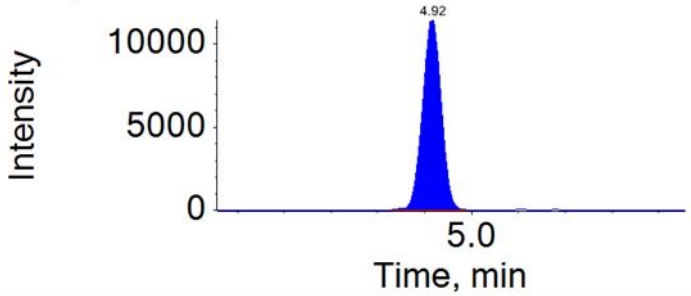
Component: PFHpA
Primary Mass: 363.0 / 319.0



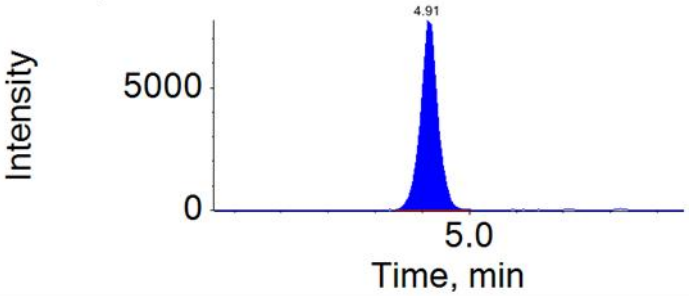
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



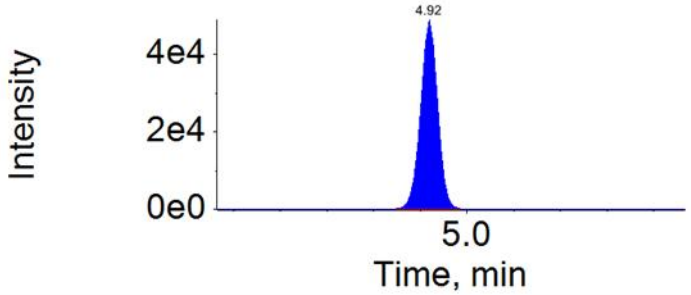
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



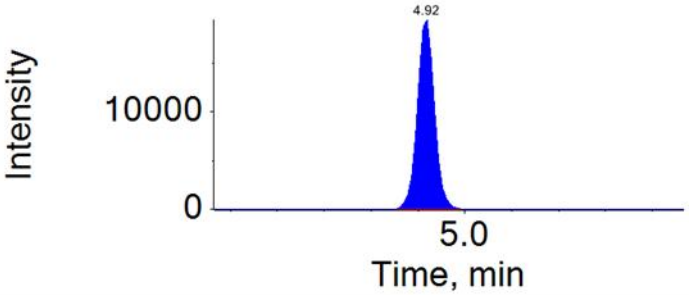
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



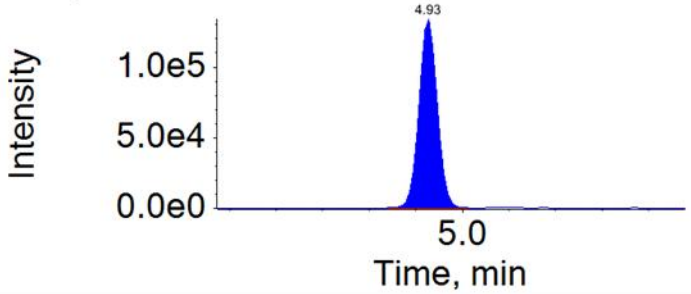
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



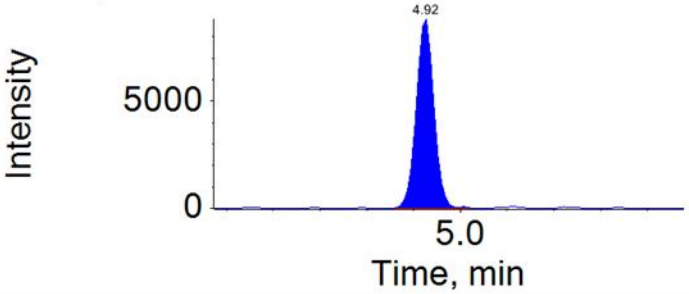
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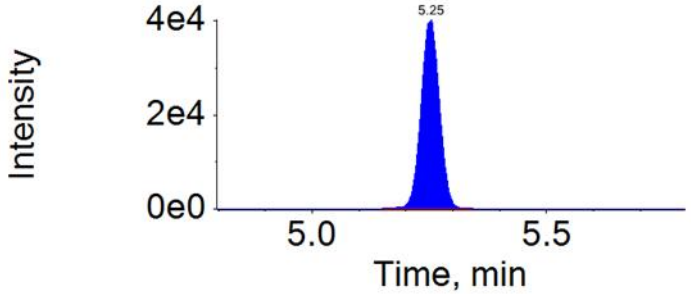
Component: PFOA
Primary Mass: 413.0 / 369.0



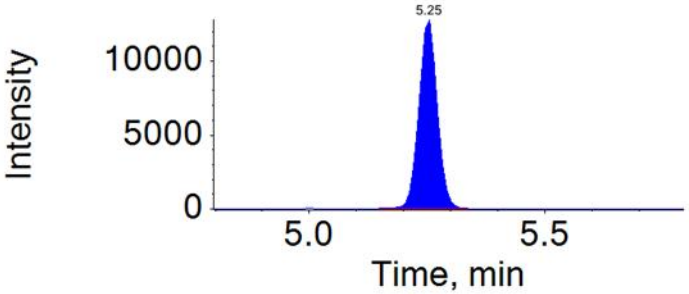
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



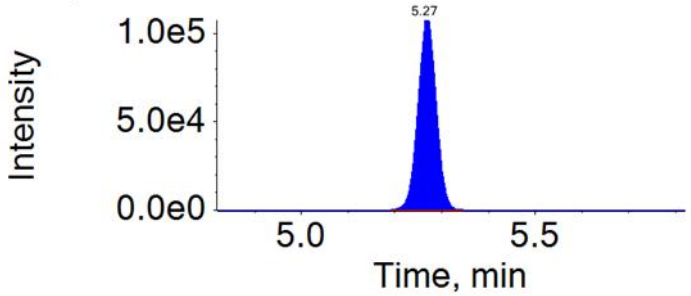
Component: PFOS
Primary Mass: 499.0 / 80.0



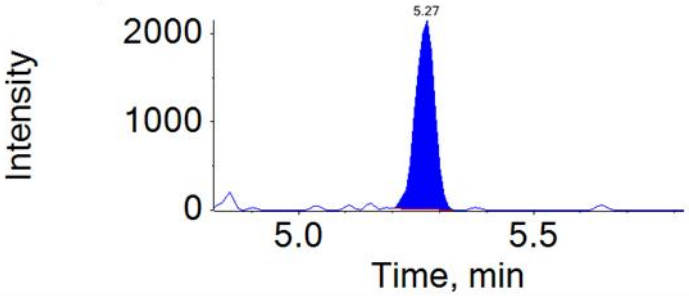
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



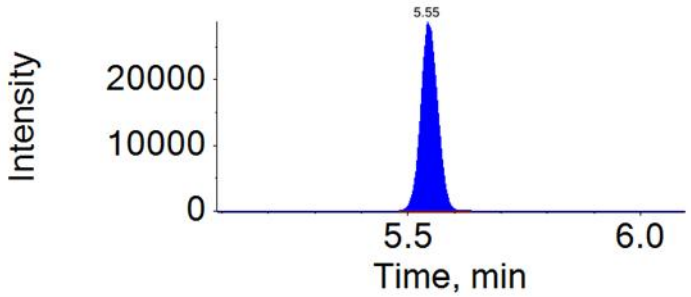
Component: PFNA
Primary Mass: 463.0 / 419.0



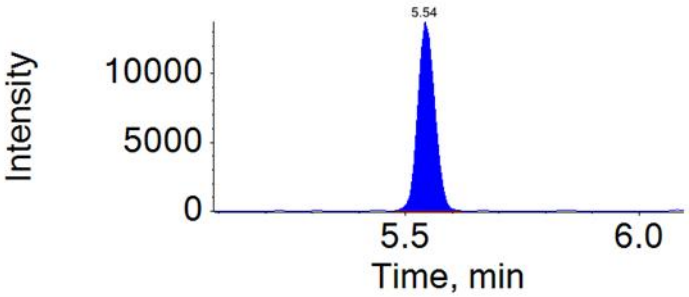
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



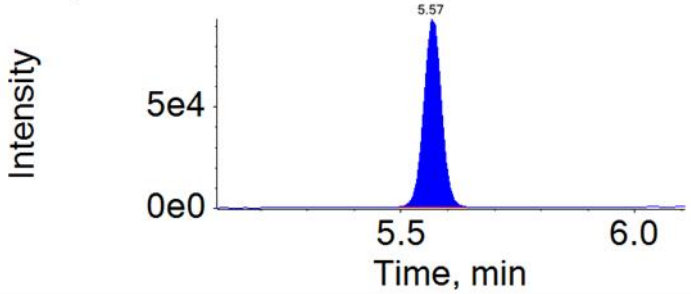
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



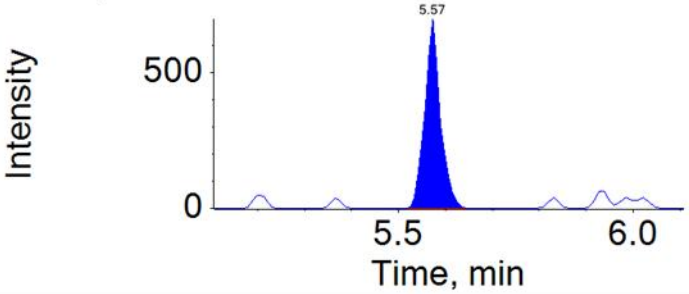
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

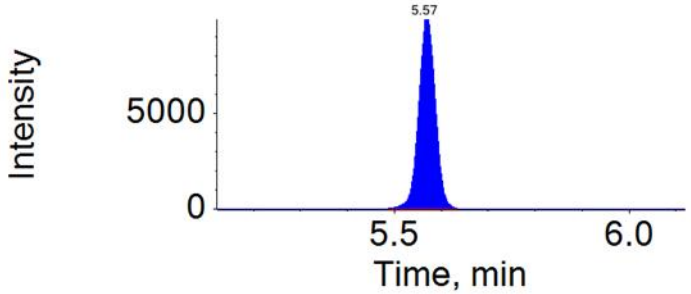
Component: PFDA
Primary Mass: 513.0 / 469.0



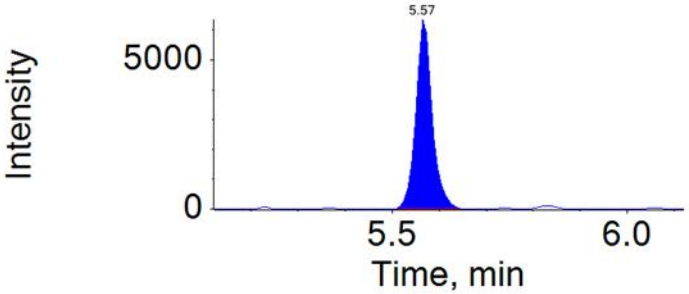
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



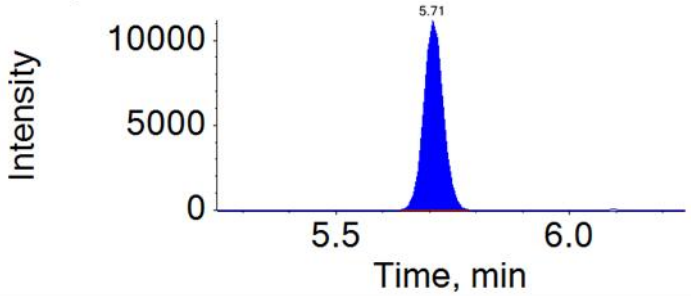
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



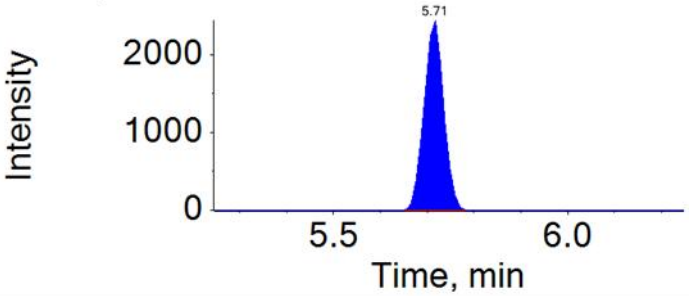
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



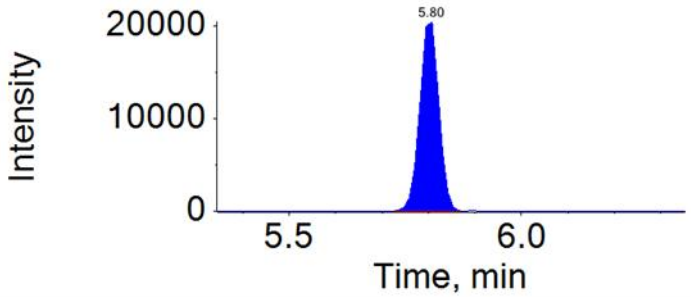
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



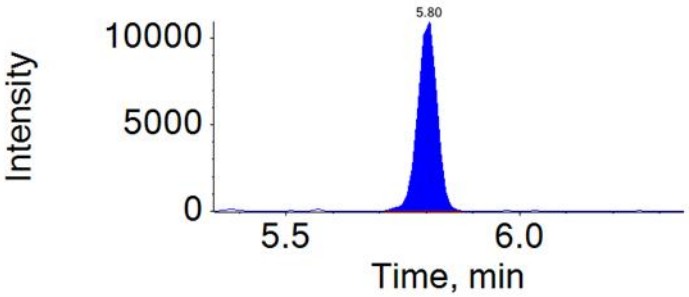
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



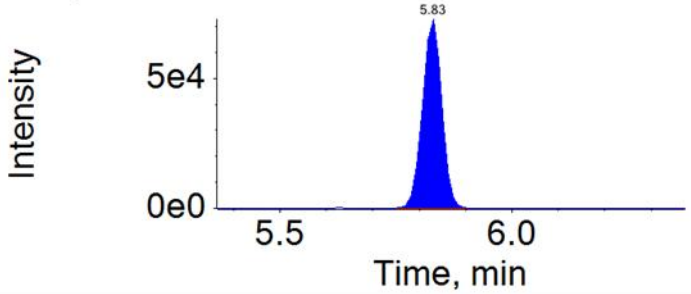
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



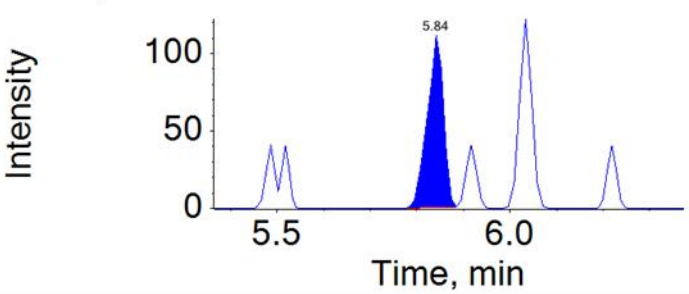
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

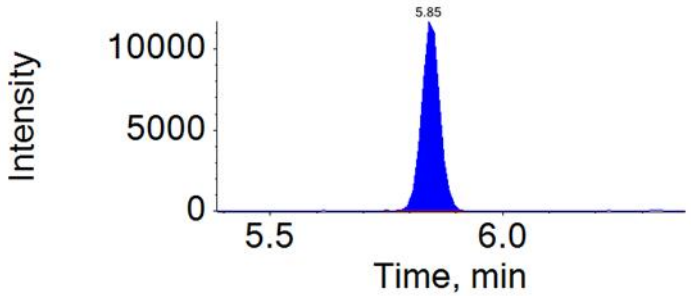
Component: PFUnDA
Primary Mass: 563.0 / 519.0



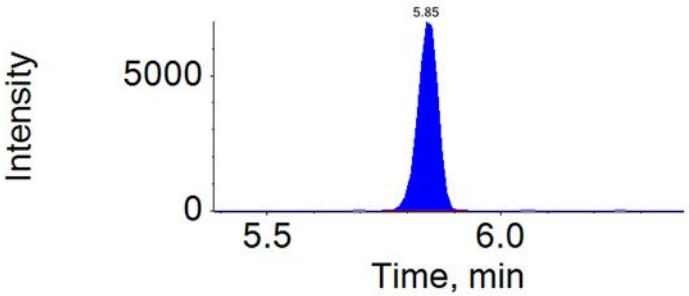
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



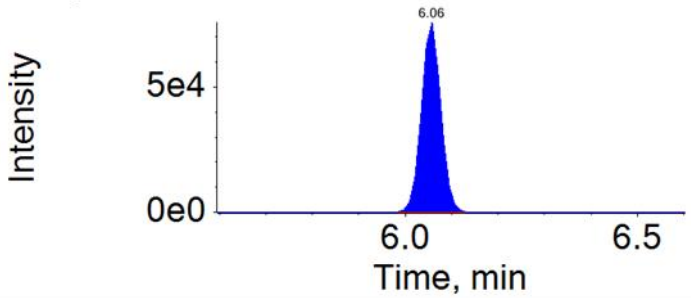
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



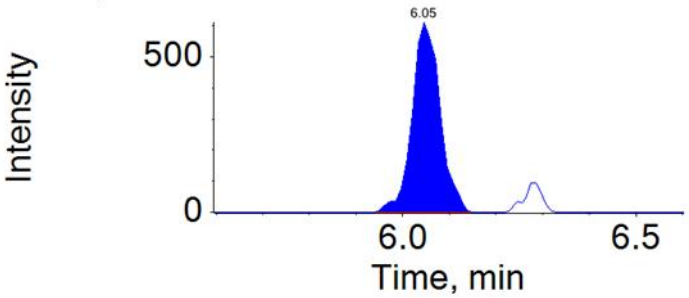
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



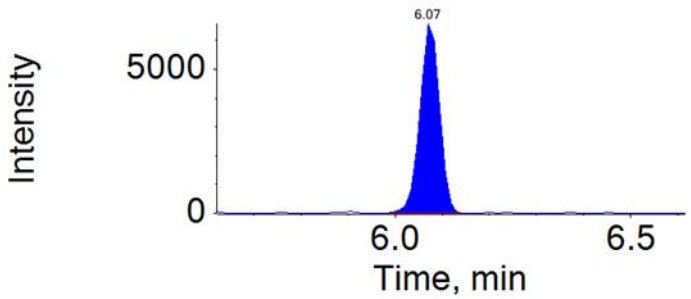
Component: PFDoDA
Primary Mass: 613.0 / 569.0



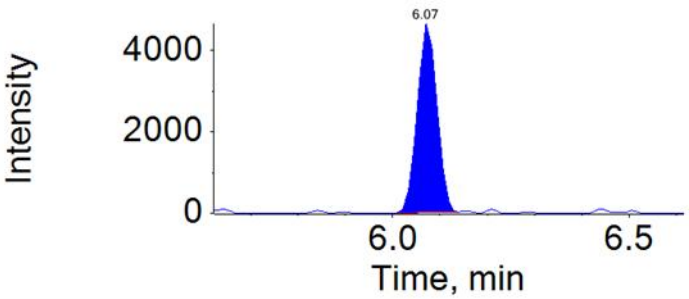
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



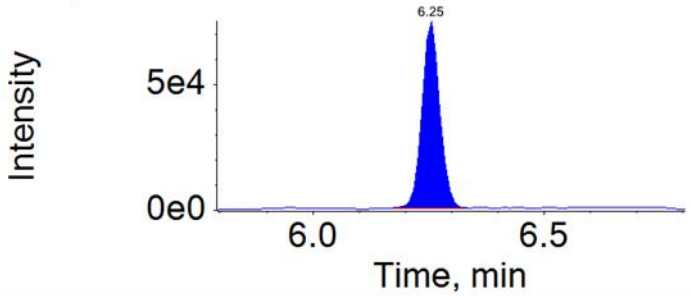
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



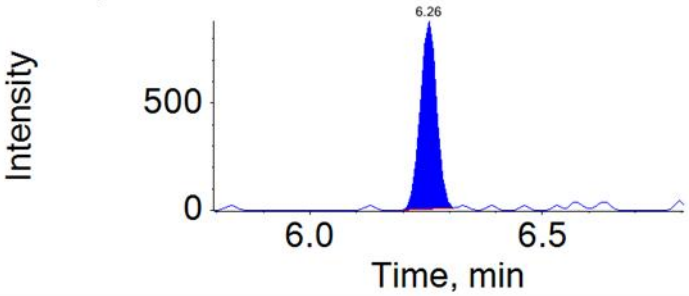
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



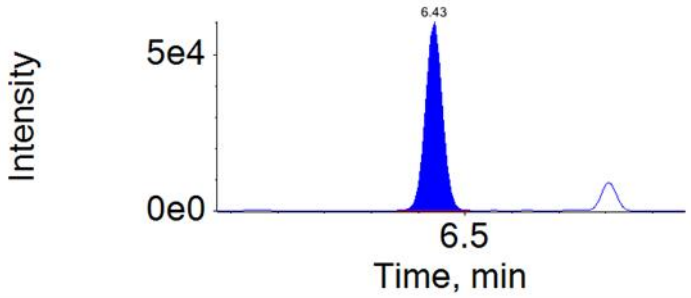
Component: PFTrDA
Primary Mass: 663.0 / 619.0



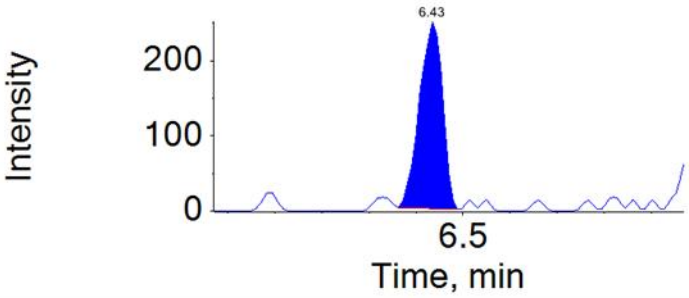
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



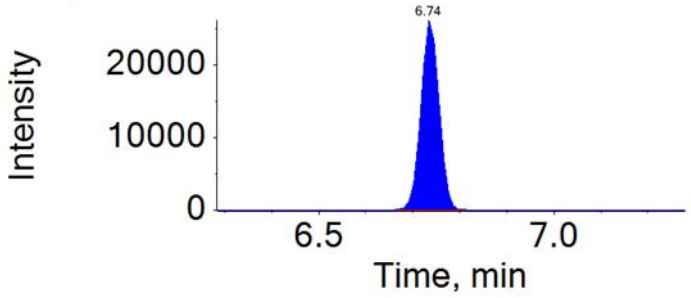
Component: PFTeDA
Primary Mass: 713.0 / 669.0



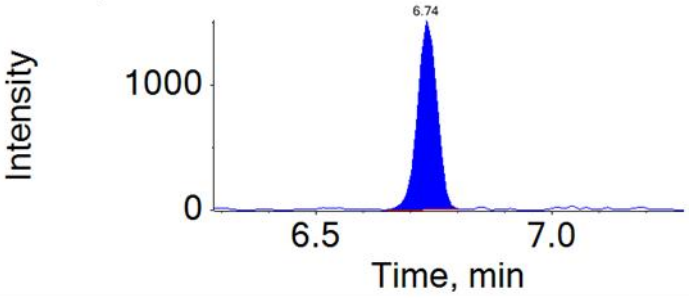
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



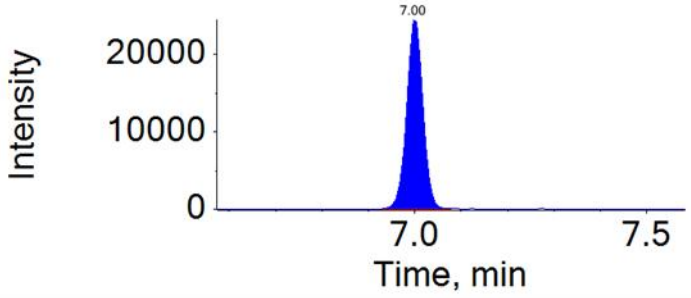
Component: PFHxDA
Primary Mass: 813.0 / 769.0



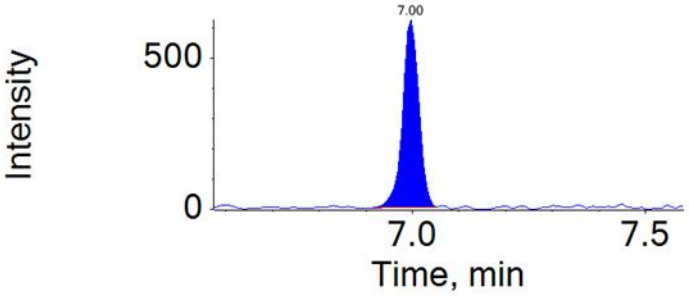
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL4			**Data File:**		18NOV07DCAL-13.wiff
Sample ID:	CALMOD41833F			**Acquis Date:**		2018-11-07T10:06:59
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	6			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	721806.8	730410.6	-1	50	
13C2-PFOA	5.0	528557.8	524423.6	1	50	
13C4-PFOS	4.8	270733.9	274061.7	-1	50	
13C2-PFDA	5.0	320985.5	311442.1	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	771359.1	13C3-PFBA	721806.8	1.069	5.000	4.945	99	70-130	
E13C5-PFPeA	824842.8	13C3-PFBA	721806.8	1.143	5.000	4.978	100	70-130	
E13C3-PFBS	434938.9	13C3-PFBA	721806.8	0.603	4.650	4.422	95	70-130	
E13C2-4:2-FTS	51520.6	13C2-PFOA	528557.8	0.097	4.670	4.398	94	70-130	
E13C5-PFHxA	713446.3	13C2-PFOA	528557.8	1.350	5.000	4.965	99	70-130	
E13C3-PFHxS	339090.5	13C2-PFOA	528557.8	0.642	4.730	4.606	97	70-130	
E13C4-PFHpA	592497.9	13C2-PFOA	528557.8	1.121	5.000	5.099	102	70-130	
E13C2-6:2-FTS	39121.7	13C2-PFOA	528557.8	0.074	4.750	4.936	104	70-130	
E13C8-PFOA	937287.5	13C2-PFOA	528557.8	1.773	5.000	4.945	99	70-130	
E13C8-PFOS	291941.6	13C4-PFOS	270733.9	1.078	4.780	4.768	100	70-130	
E13C9-PFNA	512147.4	13C4-PFOS	270733.9	1.892	5.000	5.167	103	70-130	
E13C6-PFDA	656868.3	13C2-PFDA	320985.5	2.046	5.000	5.146	103	70-130	
E13C2-8:2-FTS	30500.3	13C2-PFDA	320985.5	0.095	4.790	5.028	105	70-130	
E13C8-PFOSA	708330.5	13C2-PFDA	320985.5	2.207	5.000	4.815	96	70-130	
Ed3-NMeFOSAA	80900.1	13C2-PFDA	320985.5	0.252	5.000	4.687	94	70-130	
E13C7-PFUnDA	275977.2	13C2-PFDA	320985.5	0.860	5.000	4.960	99	70-130	
Ed5-NEtFOSAA	66162.4	13C2-PFDA	320985.5	0.206	5.000	4.770	95	70-130	
E13C2-PFDoDA	598287.4	13C2-PFDA	320985.5	1.864	5.000	5.025	100	70-130	
Ed7-NMePFOSAE	330968.7	13C2-PFDA	320985.5	1.031	5.000	4.795	96	70-130	
Ed3-NMePFOSA	86399.4	13C2-PFDA	320985.5	0.269	5.000	4.928	99	70-130	
Ed9-NEtPFOSAE	273909.1	13C2-PFDA	320985.5	0.853	5.000	4.873	97	70-130	
Ed5-NEtPFOSA	72258.7	13C2-PFDA	320985.5	0.225	5.000	5.212	104	70-130	
E13C2-PFTeDA	441858.1	13C2-PFDA	320985.5	1.377	5.000	4.956	99	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

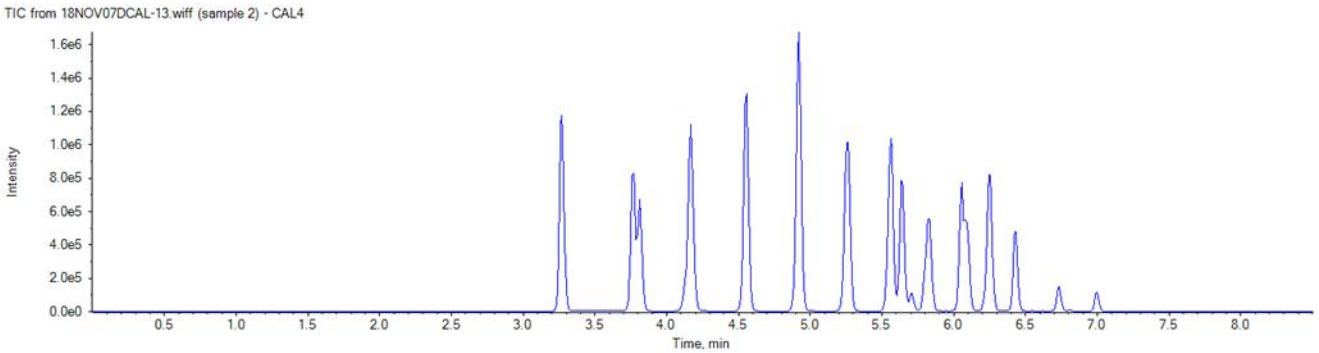
Analyte Quantitation Peak Table

Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.27	1.000	1152870.9		A	13C4-PFBA	3.27	771359.1	1.495	8.747
PFPeA	3.76	1.000	1165758.7		A	13C5-PFPeA	3.77	824842.8	1.413	8.399
PFBS	3.81	1.000	648524.4		A	13C3-PFBS	3.81	434938.9	1.491	7.518
4:2-FTS	4.13	1.000	153295.4		A	13C2-4:2-FTS	4.13	51520.6	2.975	7.999
PFHxA	4.16	1.000	1455862.5		A	13C5-PFHxA	4.16	713446.3	2.041	8.751
PFPeS	4.18	1.100	349358.3		A	13C3-PFBS	3.81	434938.9	0.803	7.922
PFHxS	4.55	1.000	513536.6		A	13C3-PFHxS	4.55	339090.5	1.514	7.676
PFHpA	4.55	1.000	1481489.5		A	13C4-PFHpA	4.55	592497.9	2.500	8.409
6:2-FTS	4.91	1.000	125170.2		A	13C2-6:2-FTS	4.91	39121.7	3.200	7.982
PFHpS	4.91	1.080	516333.1		A	13C3-PFHxS	4.55	339090.5	1.523	7.966
PFOA	4.92	1.000	1491946.3		A	13C8-PFOA	4.92	937287.5	1.592	8.963
PFOS	5.25	1.000	447769.0		A	13C8-PFOS	5.25	291941.6	1.534	7.953
PFNA	5.27	1.000	1179151.8		A	13C9-PFNA	5.26	512147.4	2.302	8.604
PFNS	5.54	1.060	305013.7		A	13C8-PFOS	5.25	291941.6	1.045	8.284
PFDA	5.56	1.000	1029893.8		A	13C6-PFDA	5.56	656868.3	1.568	8.626
8:2-FTS	5.57	1.000	106591.3		A	13C2-8:2-FTS	5.57	30500.3	3.495	7.877
PFOSA	5.64	1.000	1119770.1		A	13C8-PFOSA	5.64	708330.5	1.581	8.545
NMeFOSAA	5.71	1.000	136316.9		A	d3-NMeFOSAA	5.70	80900.1	1.685	8.670
PFDS	5.80	1.110	250911.0		A	13C8-PFOS	5.25	291941.6	0.859	8.210
PFUnDA	5.83	1.000	802732.3		A	13C7-PFUnDA	5.83	275977.2	2.909	8.341
NEtFOSAA	5.84	1.000	121615.1		A	d5-NEtFOSAA	5.84	66162.4	1.838	7.900
PFDoDA	6.05	1.000	877242.2		A	13C2-PFDoDA	6.05	598287.4	1.466	7.946
10:2-FTS	6.07	1.090	69275.8		A	13C2-8:2-FTS	5.57	30500.3	2.271	7.073
NMePFOSAE	6.09	1.000	648523.4		A	d7-NMePFOSAE	6.08	330968.7	1.959	8.781
NMePFOSA	6.10	1.000	118194.2		A	d3-NMePFOSA	6.10	86399.4	1.368	7.657
PFDoS	6.22	1.190	121590.1		A	13C8-PFOS	5.25	291941.6	0.416	8.039
NEtPFOSAE	6.25	1.000	740427.4		A	d9-NEtPFOSAE	6.24	273909.1	2.703	8.666
NEtPFOSA	6.26	1.000	123609.2		A	d5-NEtPFOSA	6.26	72258.7	1.711	7.534
PFTrDA	6.25	1.030	781283.7		A	13C2-PFDoDA	6.05	598287.4	1.306	8.235
PFTeDA	6.43	1.000	630801.4		A	13C2-PFTeDA	6.43	441858.1	1.428	8.383
PFHxDA	6.73	1.050	297242.6		A	13C2-PFTeDA	6.43	441858.1	0.673	8.351
PFODA	7.00	1.090	251726.5		A	13C2-PFTeDA	6.43	441858.1	0.570	8.162

Total Ion Chromatogram

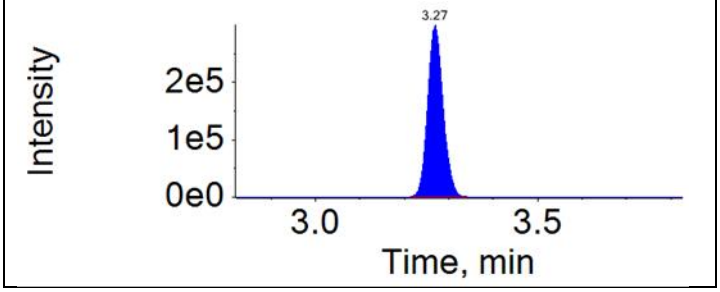


APPROVED
By JPT at 2:53 pm, 11/7/18

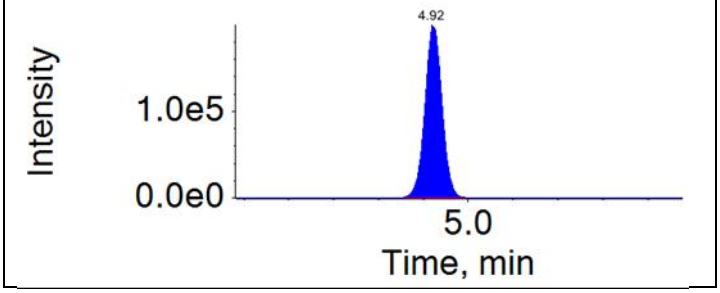
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

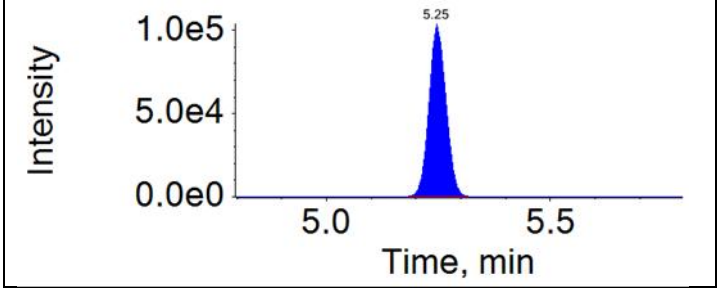
Injection Standard: 13C3-PFBA
216.0 / 172.0



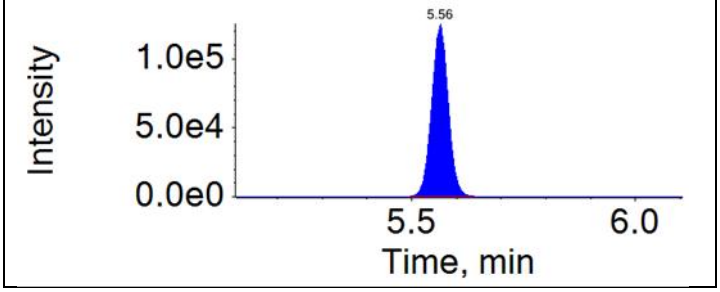
Injection Standard: 13C2-PFOA
415.0 / 370.0



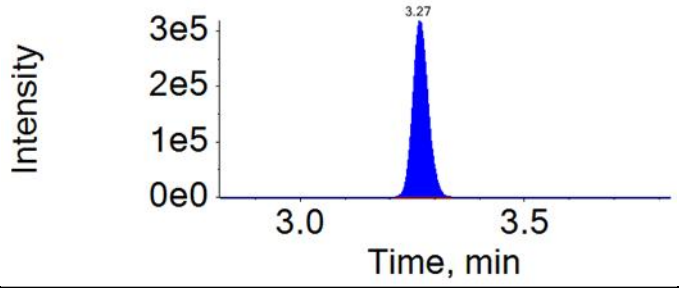
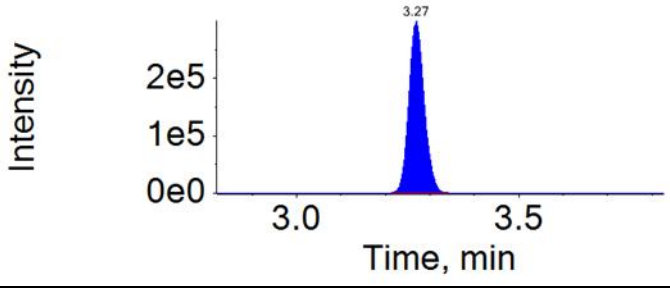
Injection Standard: 13C4-PFOS
503.0 / 80.0

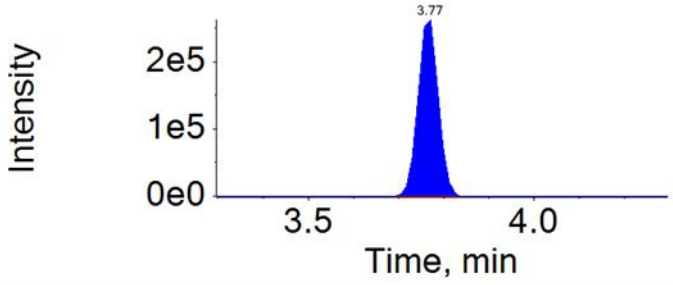
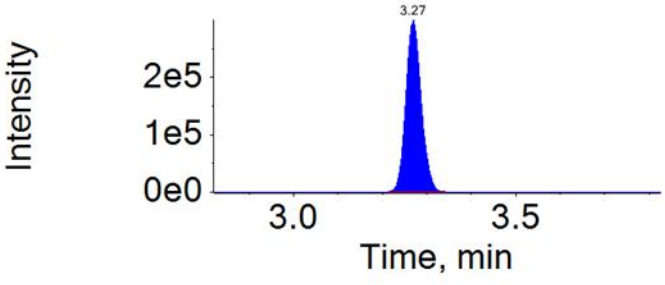


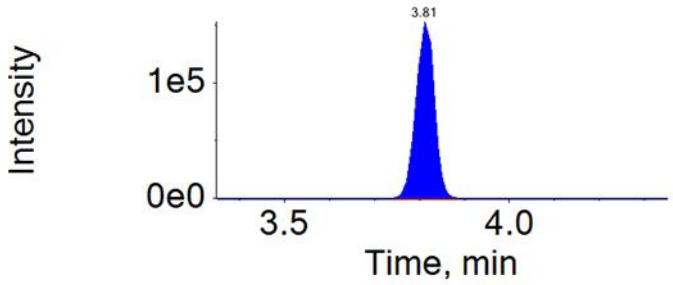
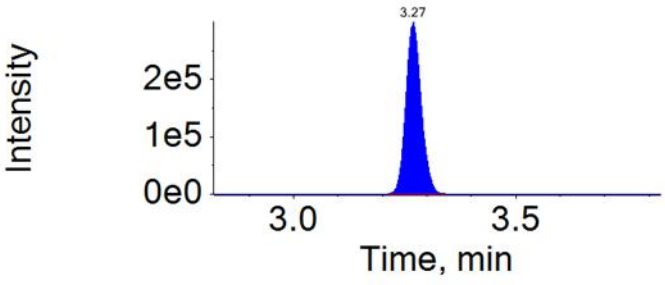
Injection Standard: 13C2-PFDA
515.0 / 470.0

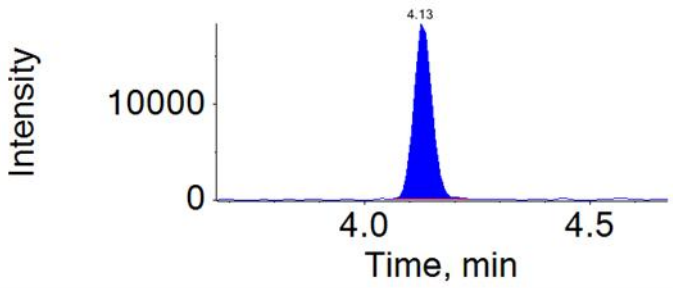
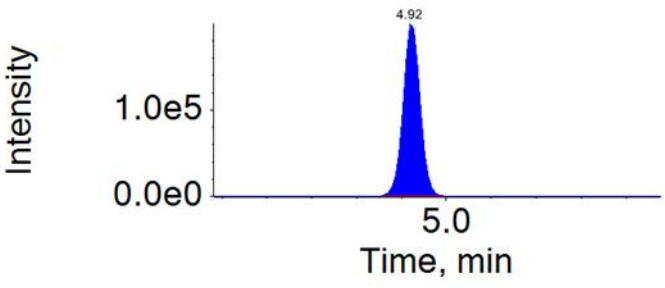


ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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
	

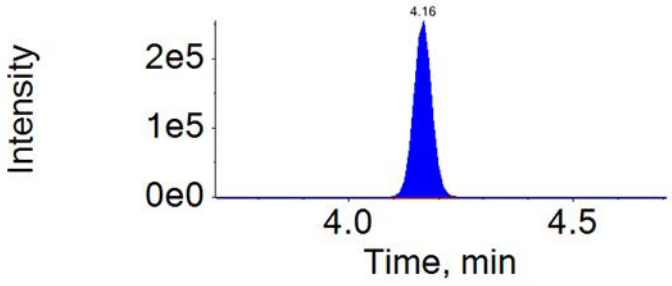
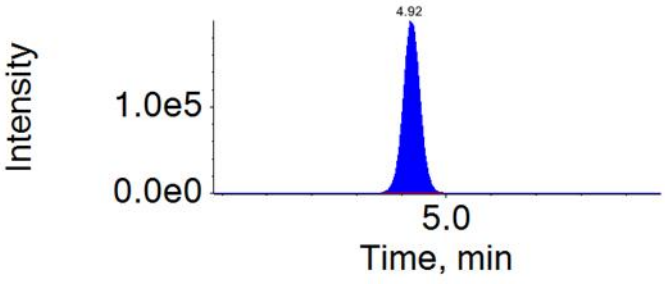
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

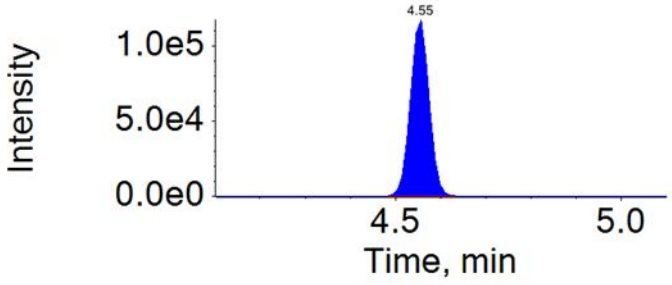
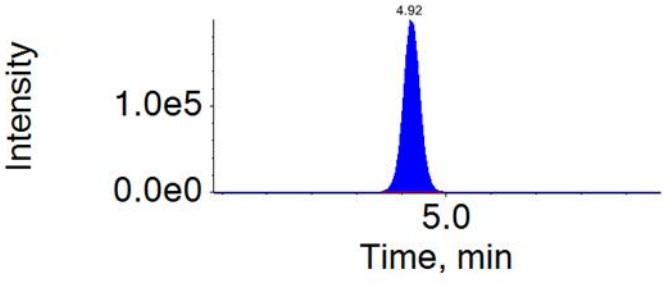
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

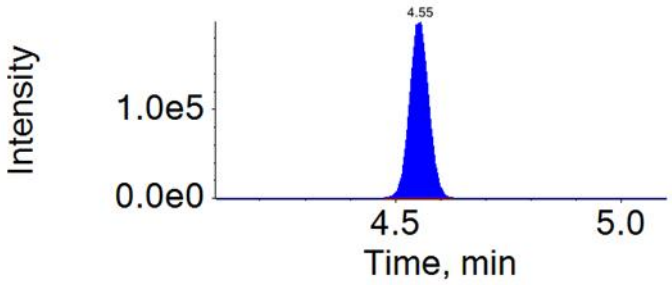
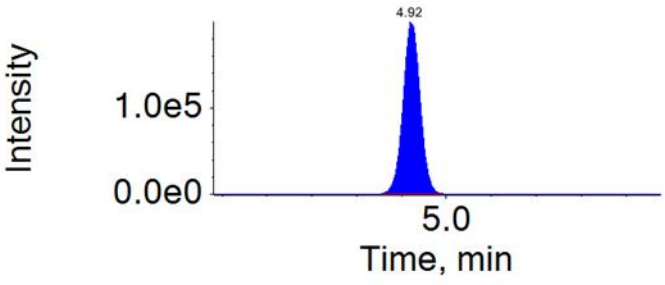
APPROVED
By JPT at 2:53 pm, 11/7/18

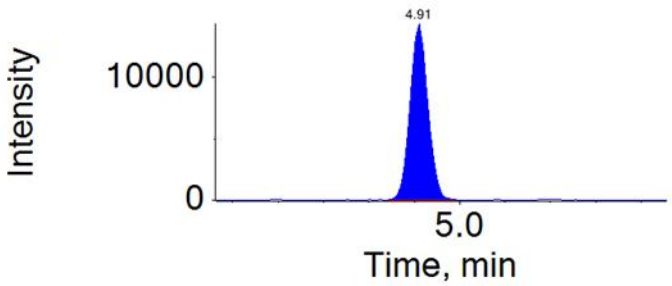
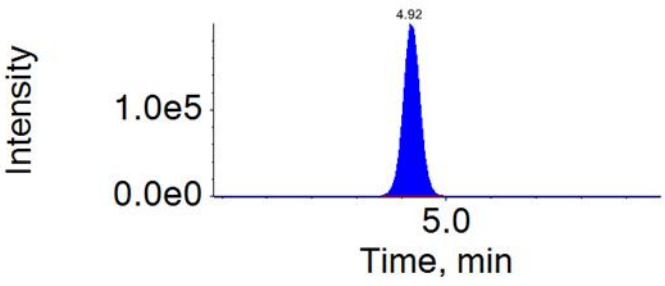
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

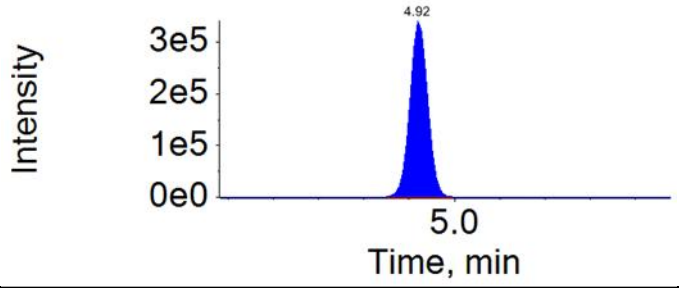
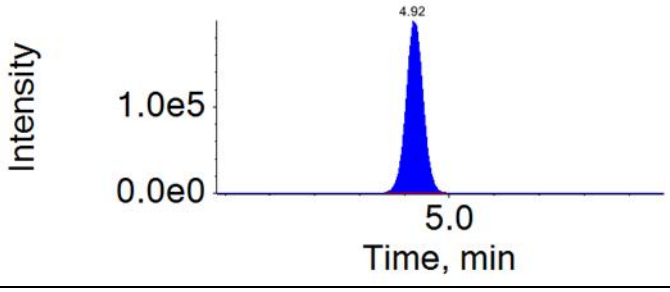
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

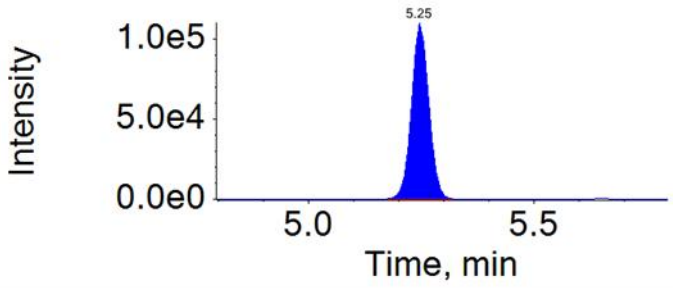
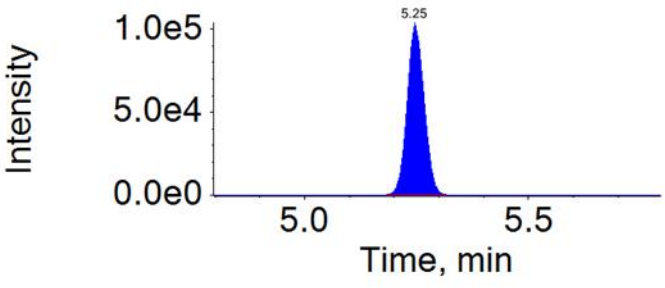
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

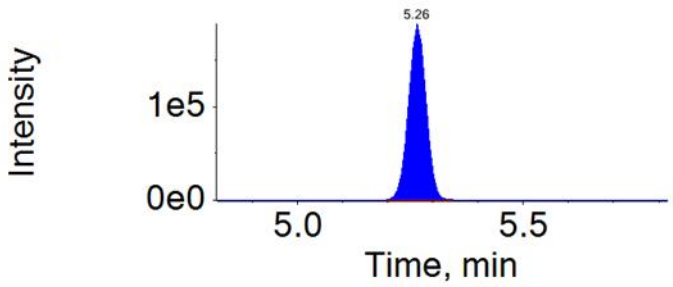
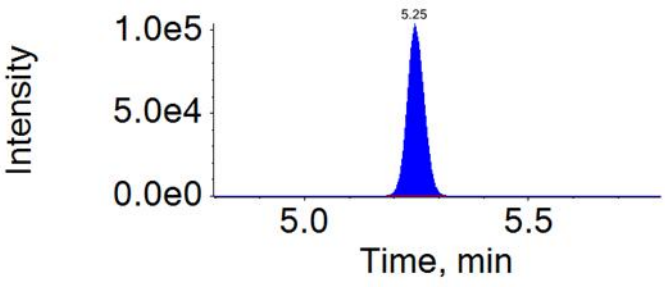
APPROVED
By JPT at 2:53 pm, 11/7/18

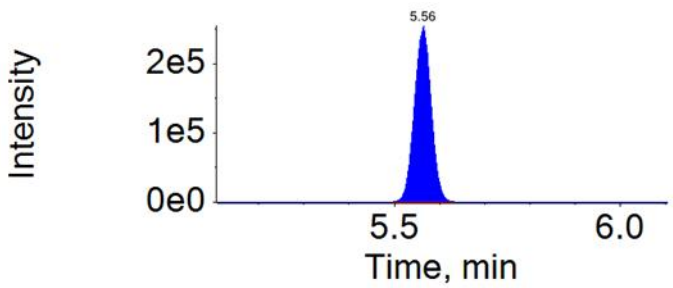
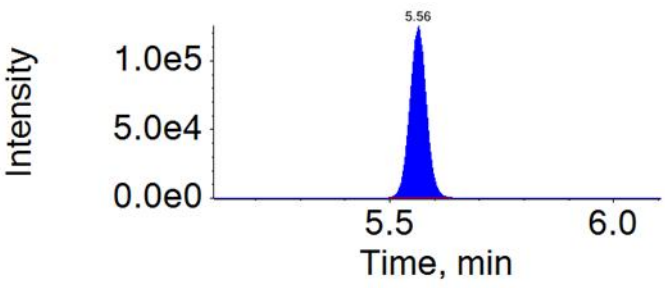
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

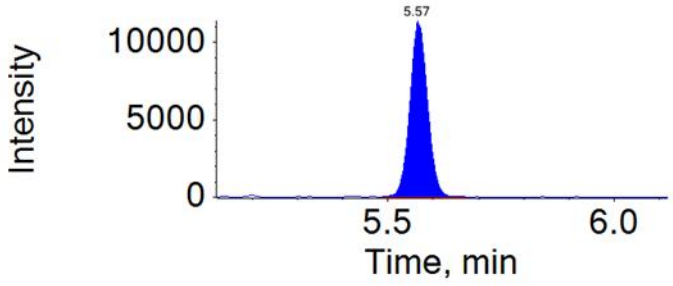
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

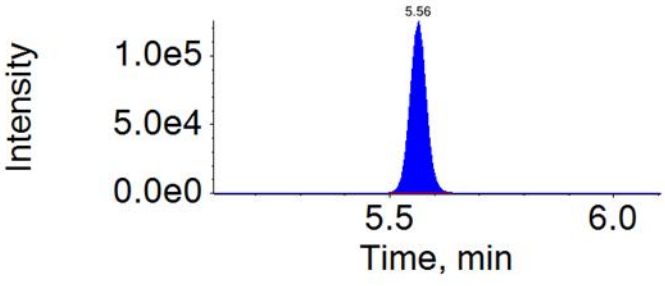
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

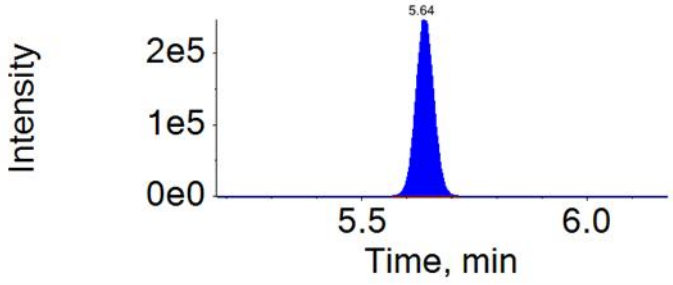
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

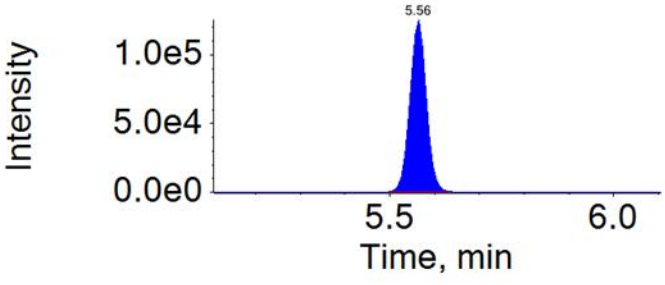
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



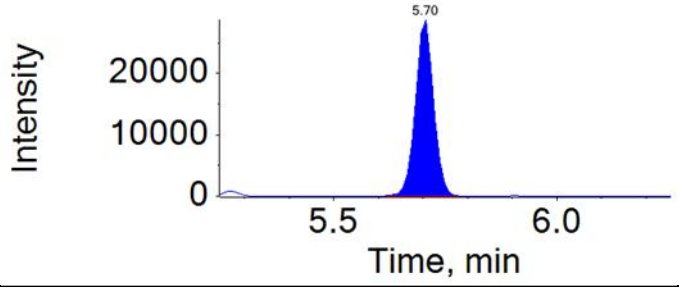


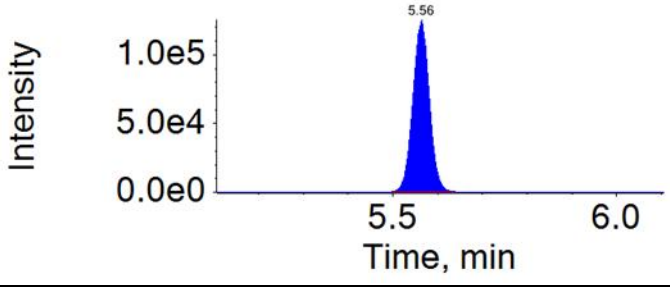
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



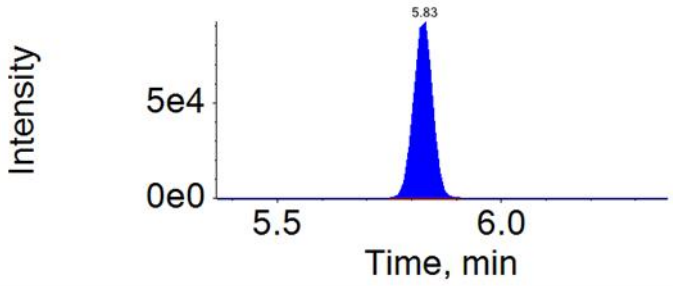


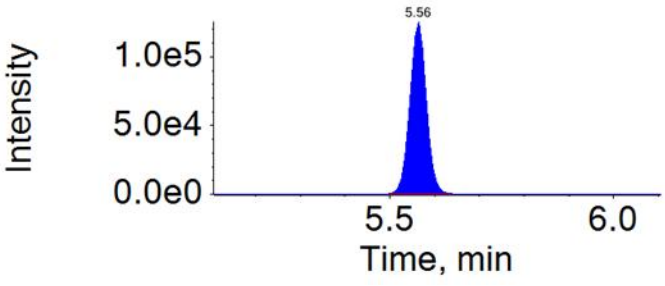
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





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

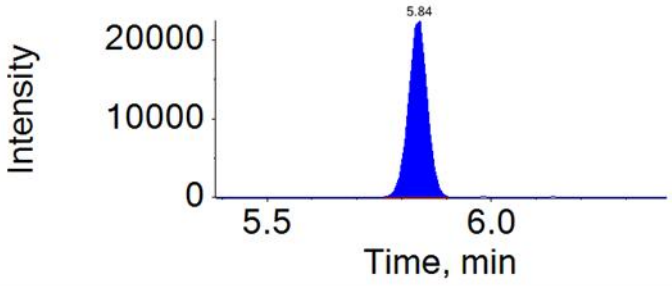
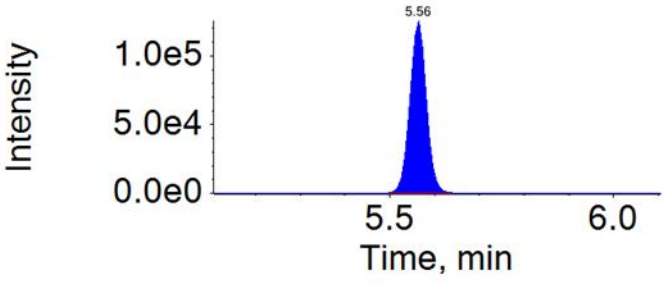


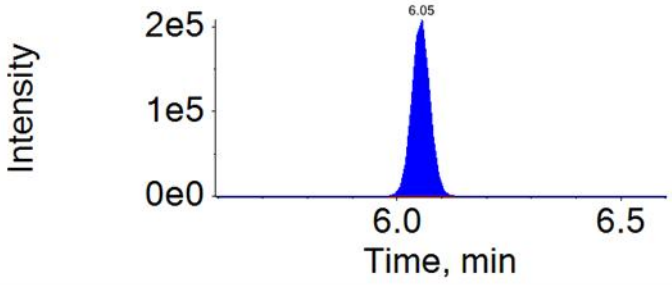
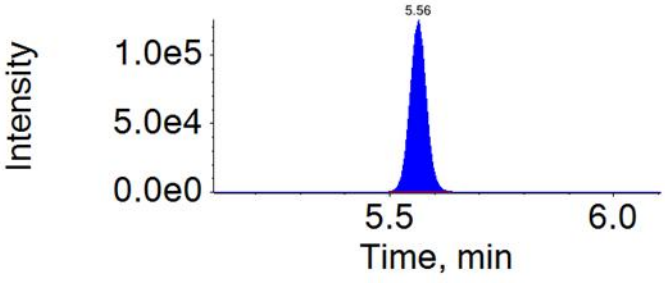


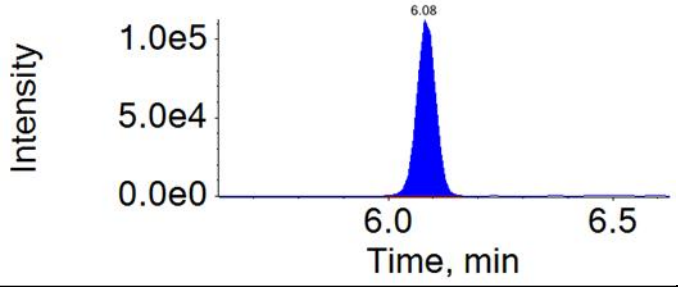
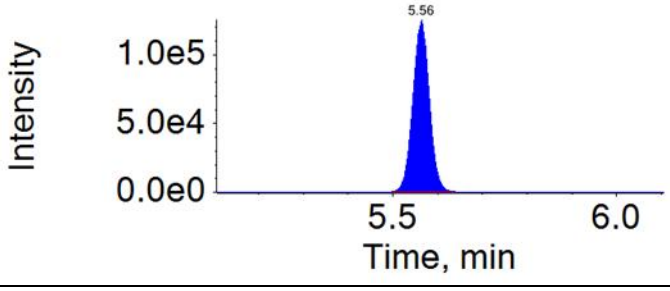
APPROVED
By JPT at 2:53 pm, 11/7/18

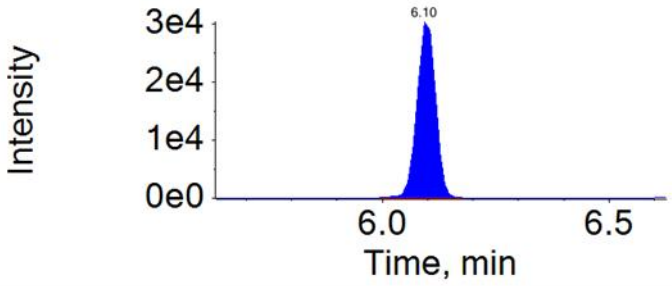
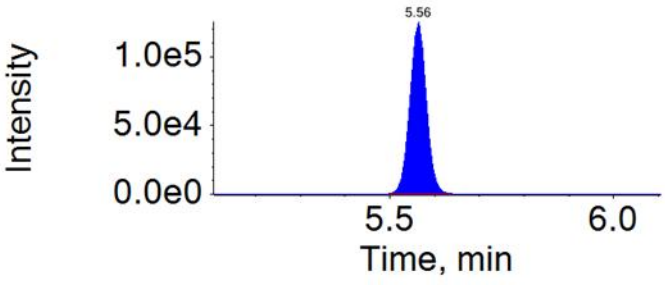
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

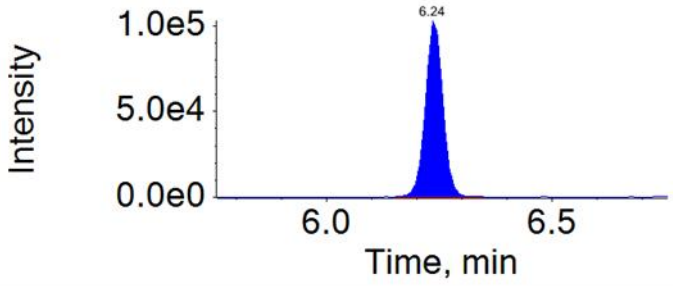
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

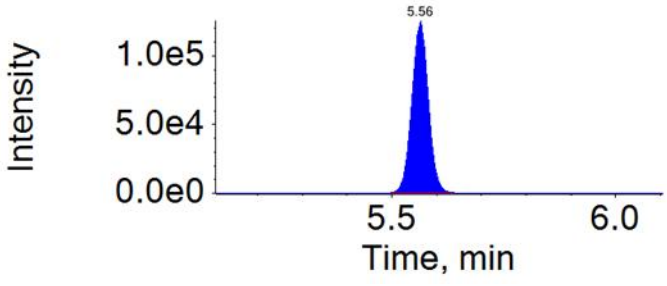
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

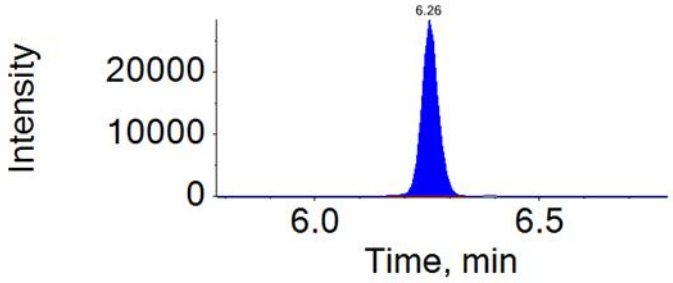
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

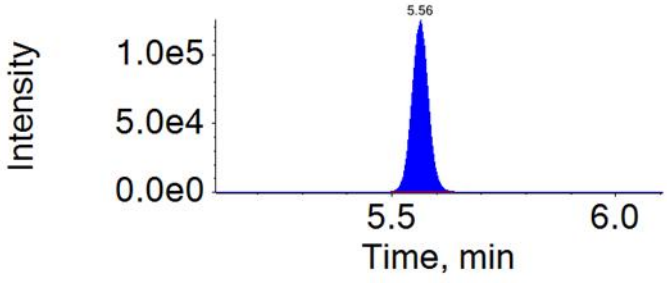
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



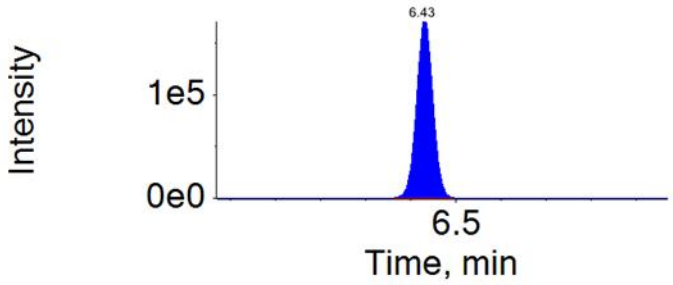


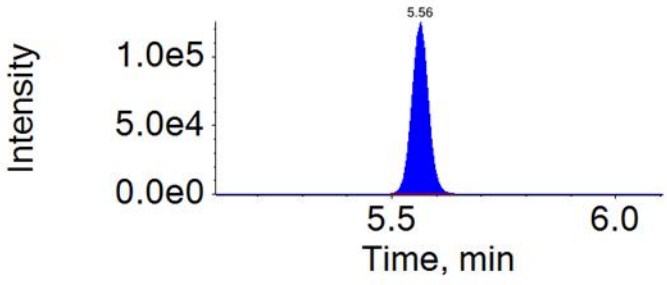
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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

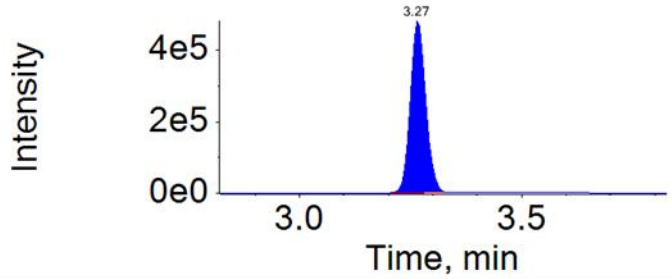
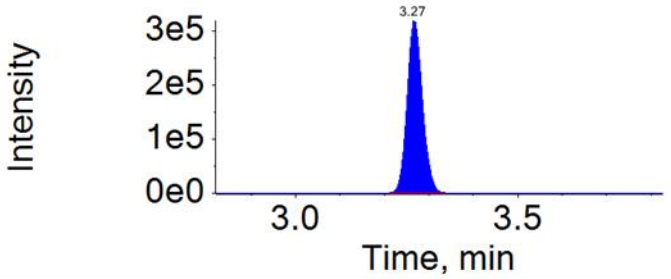


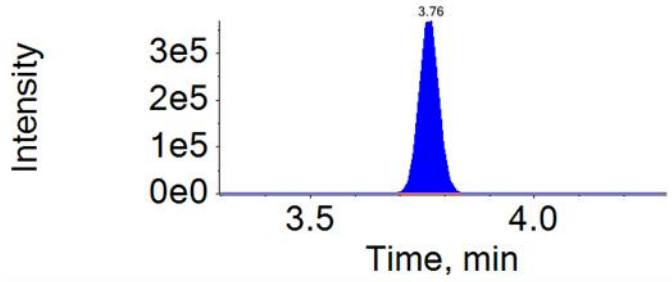
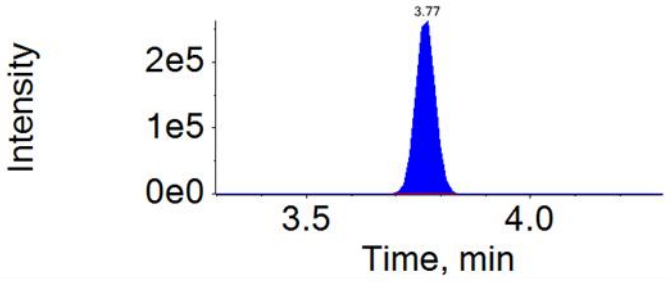


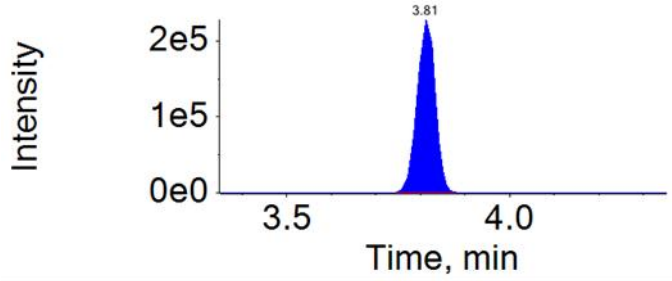
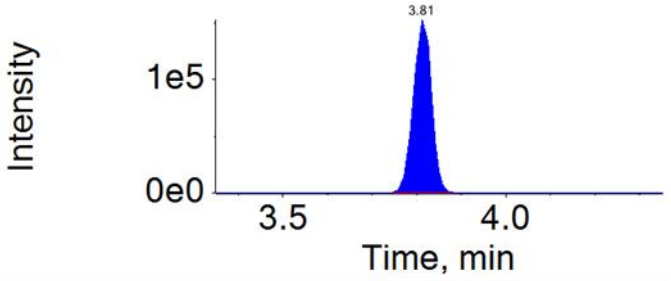
APPROVED
By JPT at 2:53 pm, 11/7/18

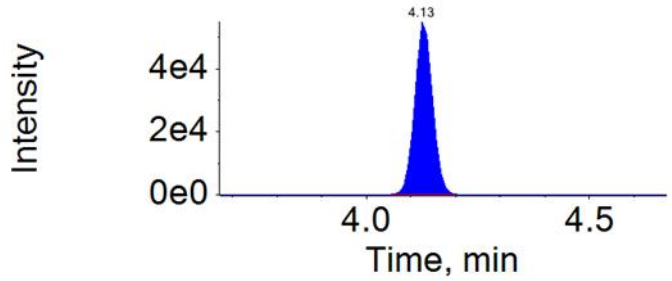
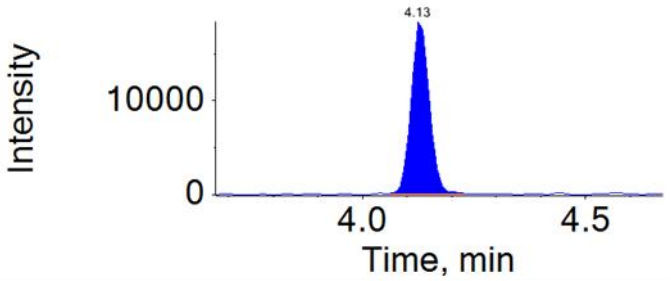
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

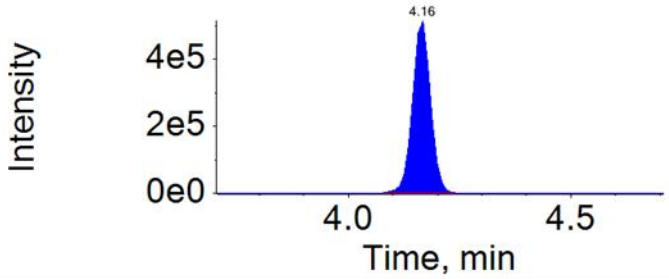
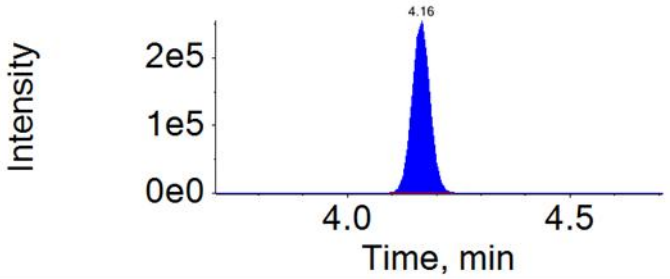
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0
	

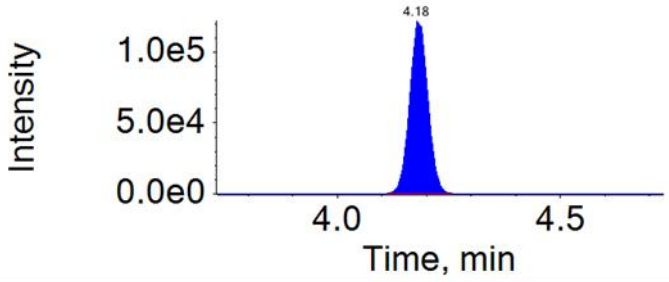
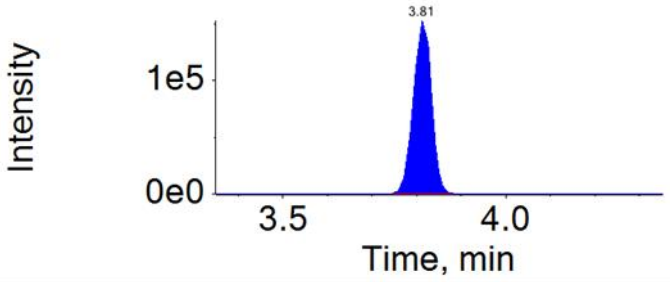
Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0
	

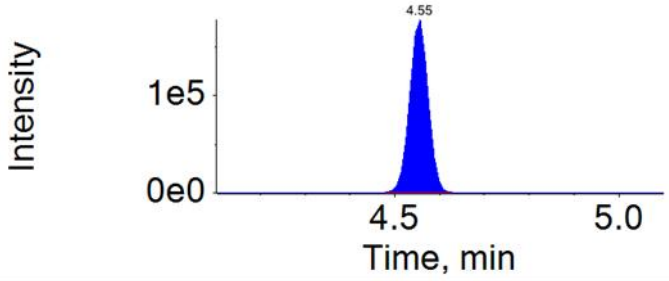
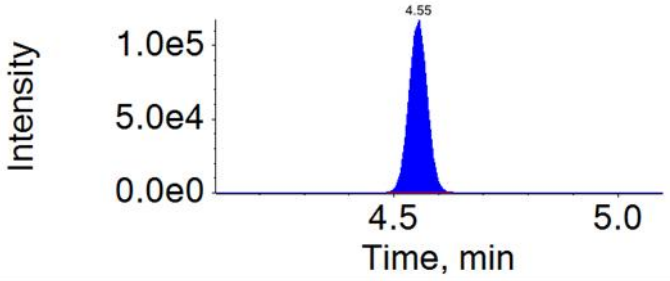
APPROVED
By JPT at 2:53 pm, 11/7/18

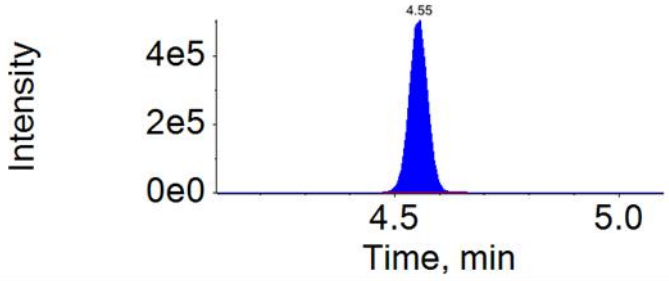
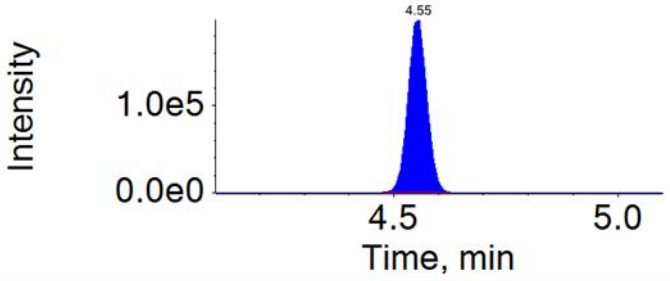
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

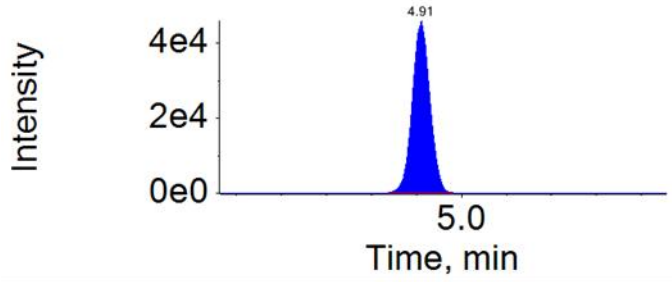
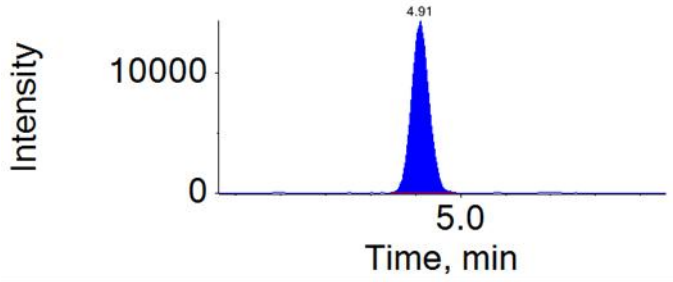
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

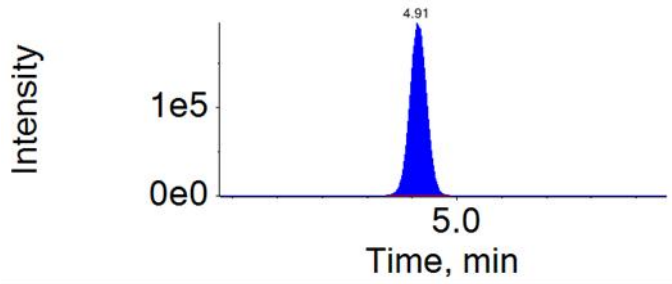
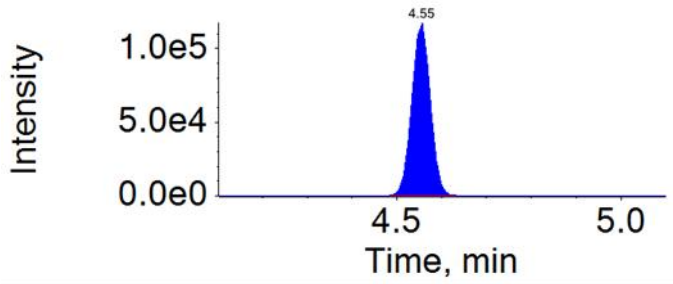
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

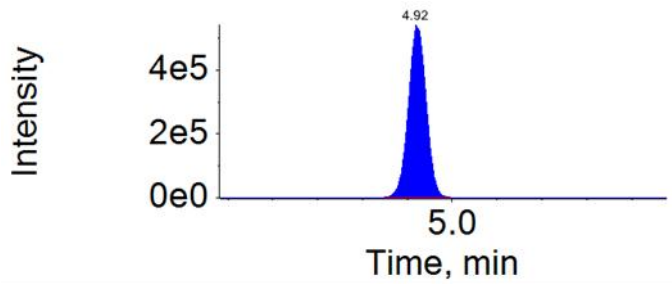
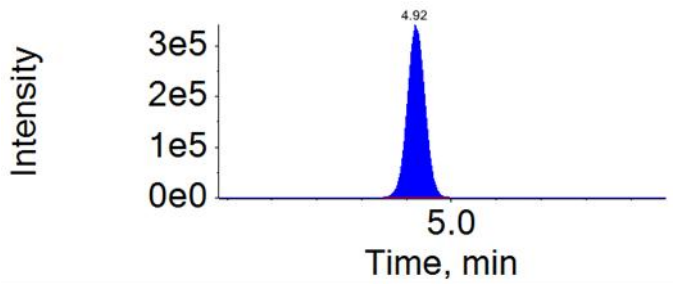
APPROVED
By JPT at 2:53 pm, 11/7/18

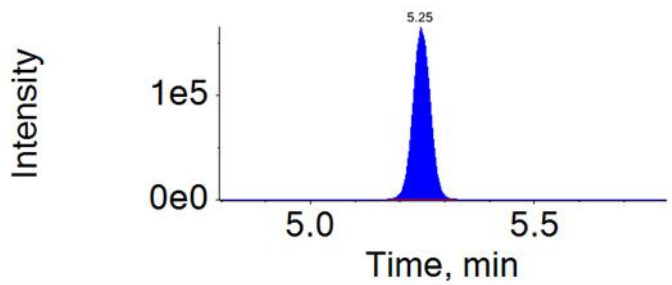
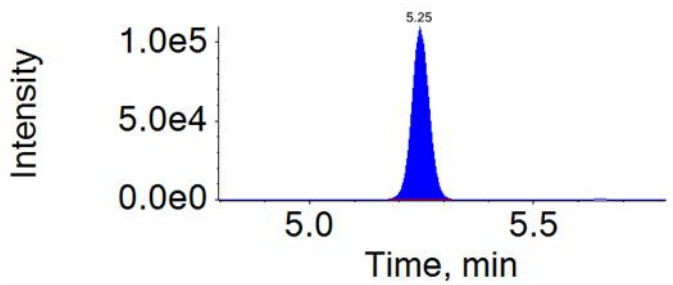
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

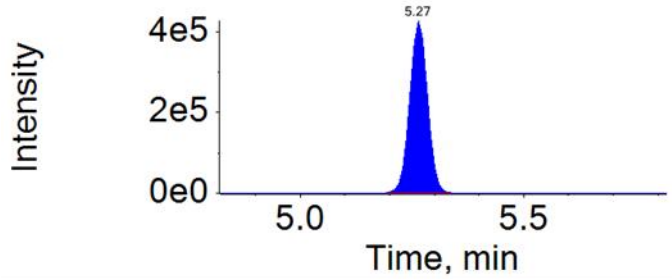
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

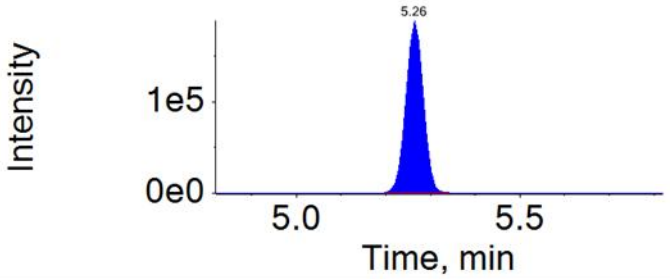
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REVIEWED
By umar at 5:23 pm, 11/9/18

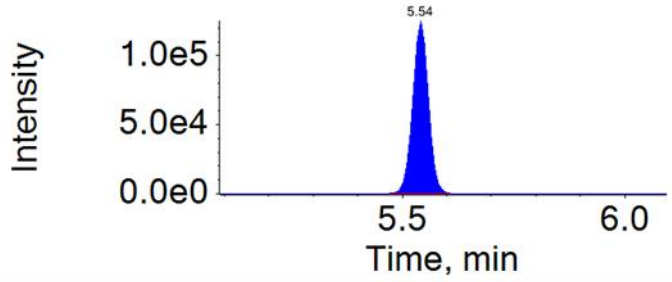
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

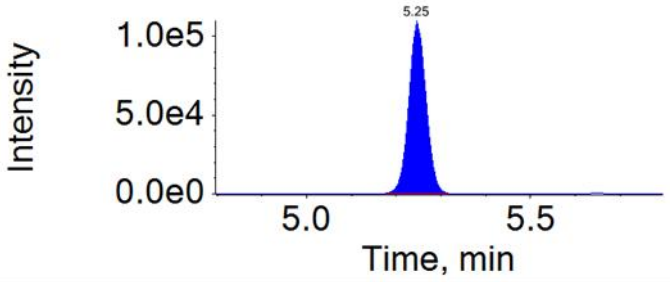
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



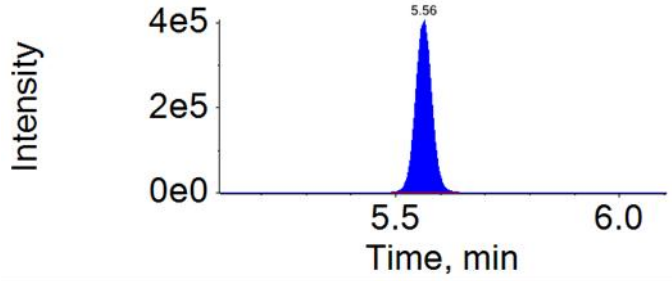


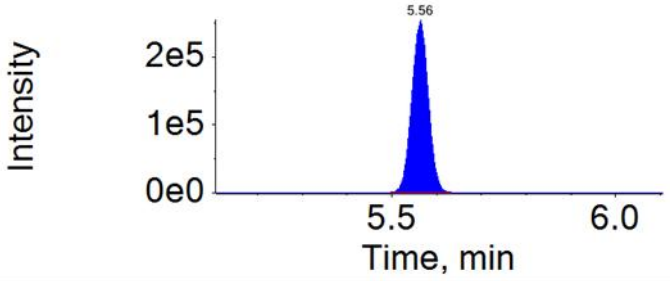
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



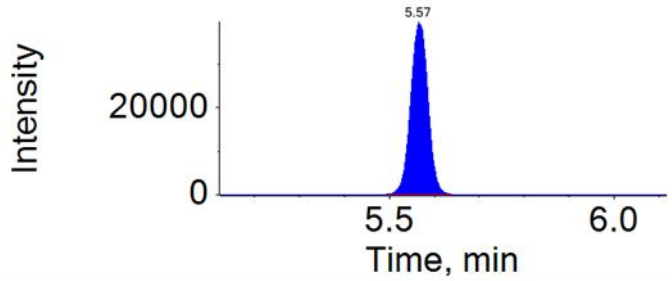


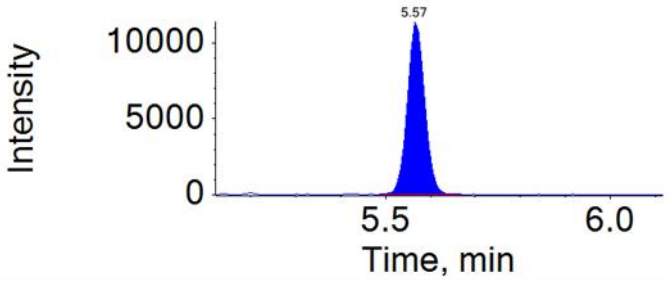
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

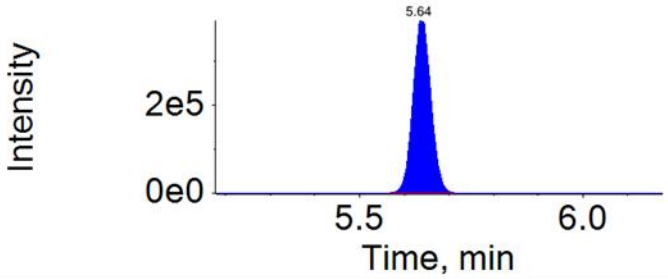
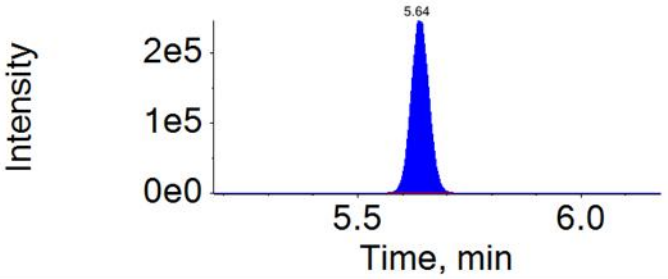


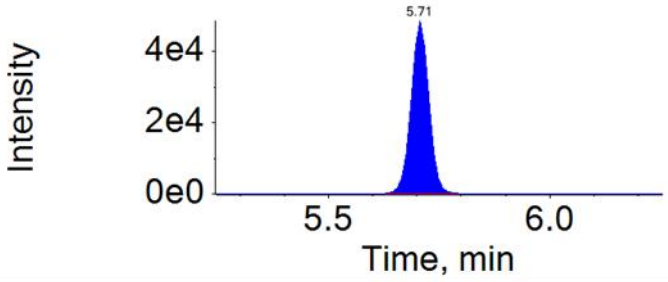
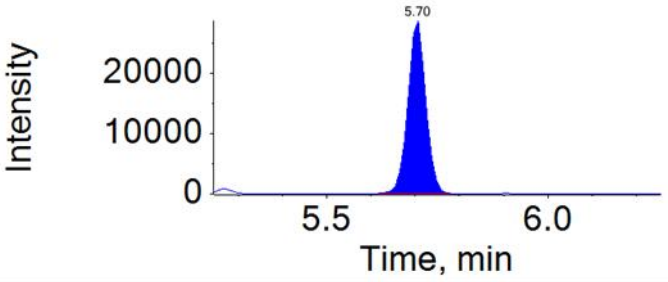


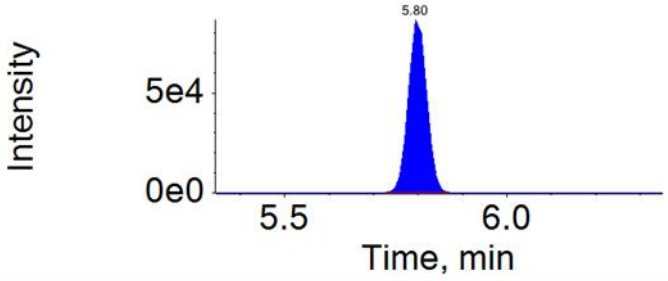
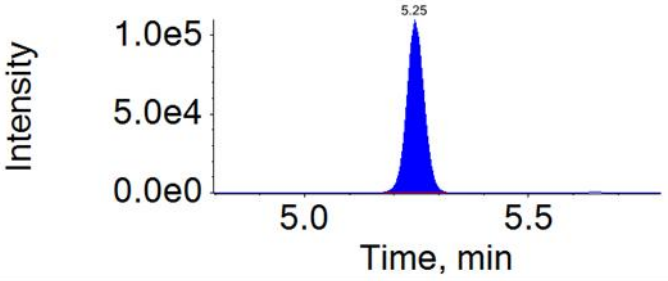
APPROVED
By JPT at 2:53 pm, 11/7/18

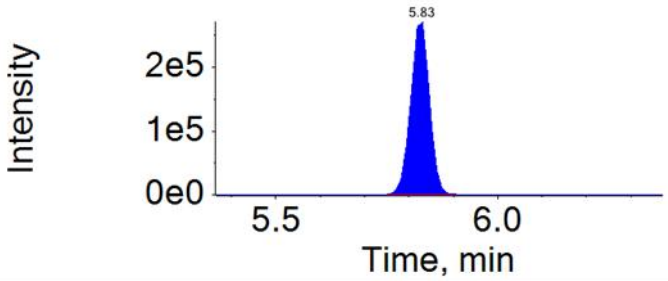
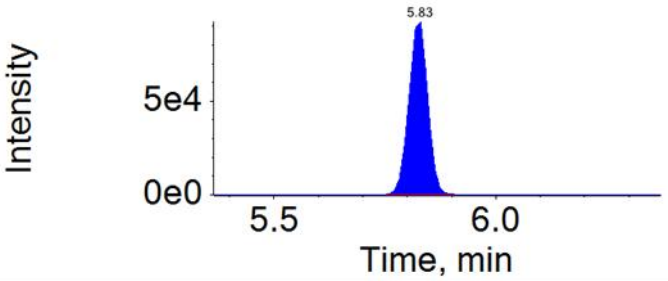
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

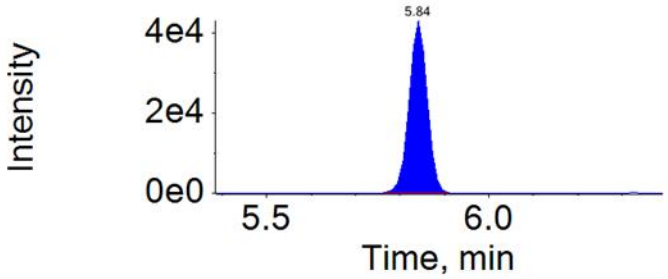
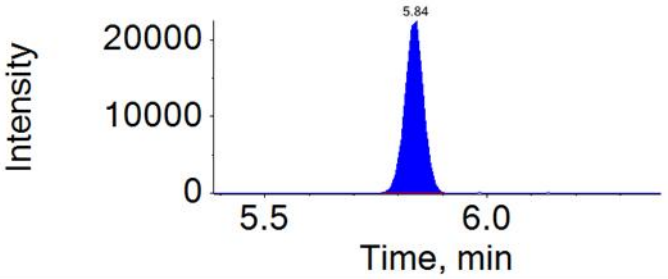
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

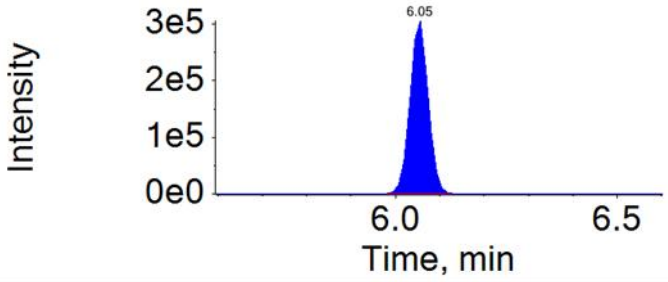
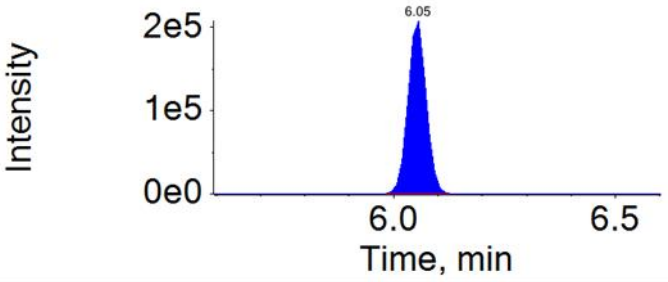
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

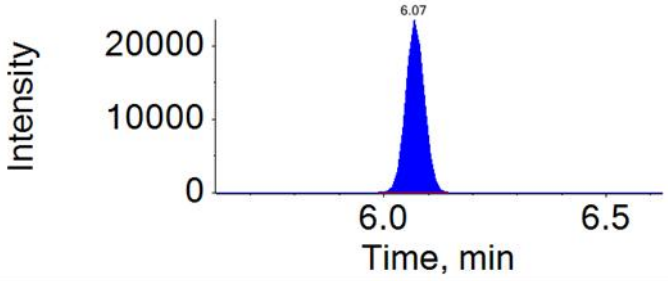
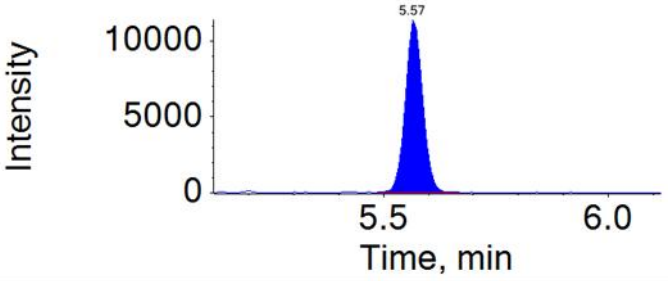
APPROVED
By JPT at 2:53 pm, 11/7/18

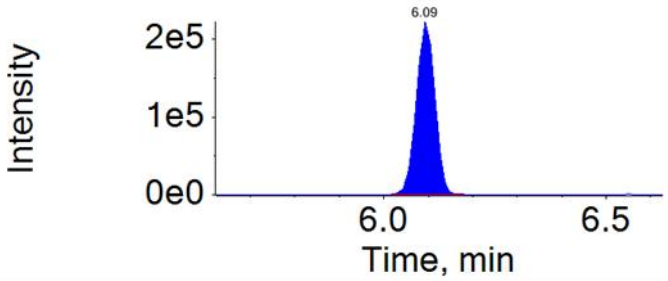
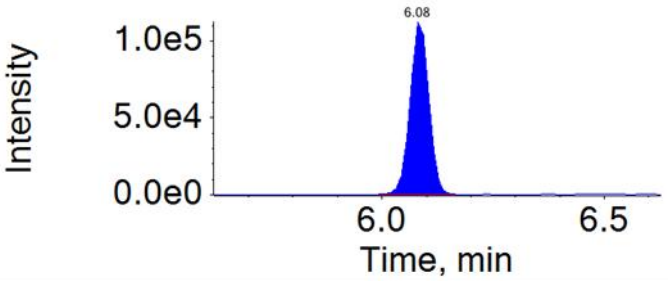
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

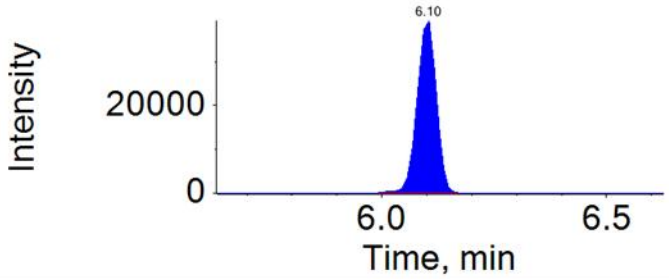
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

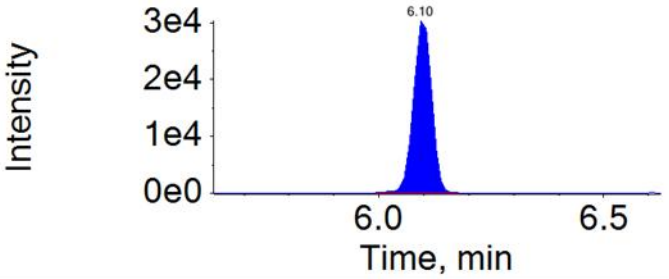
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

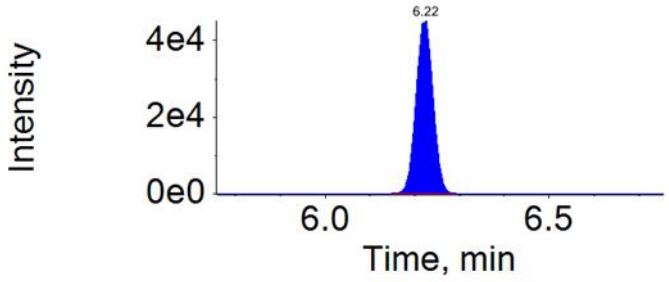
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

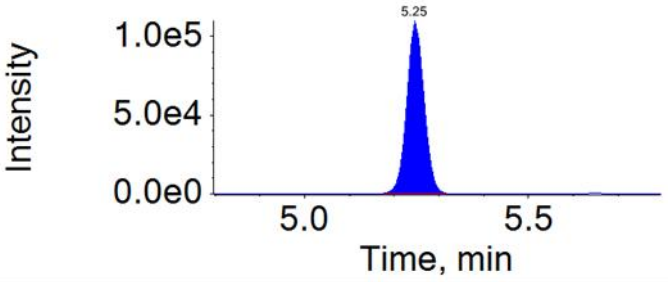
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



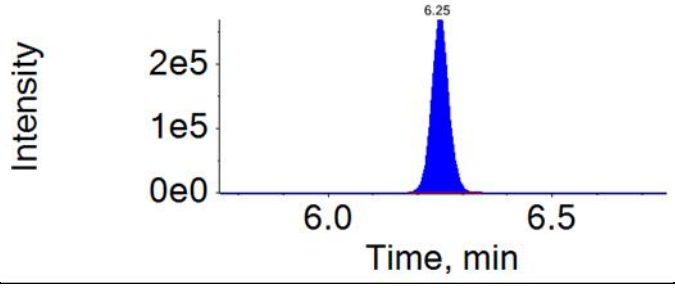


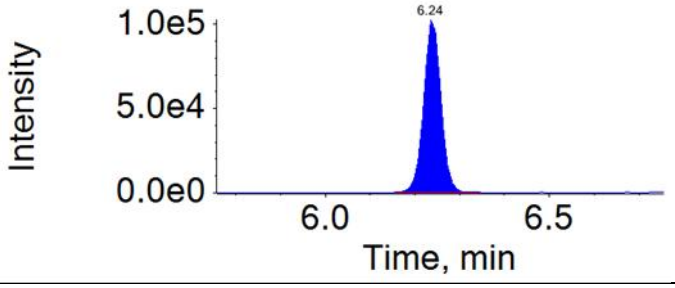
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



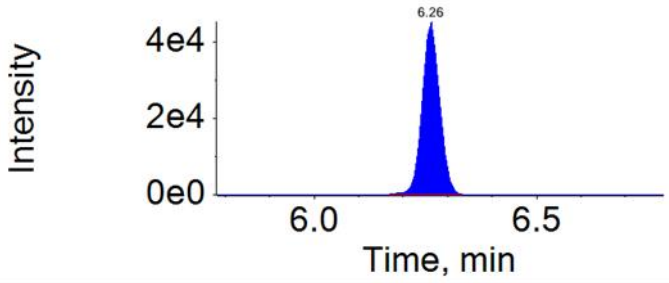


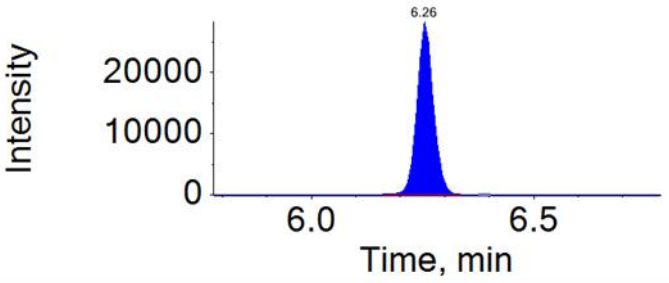
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



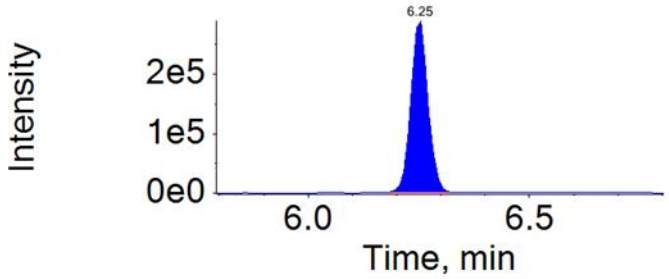


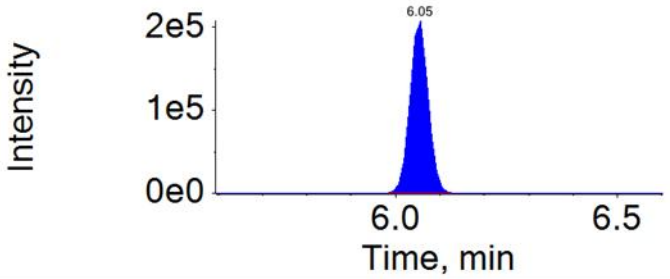
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

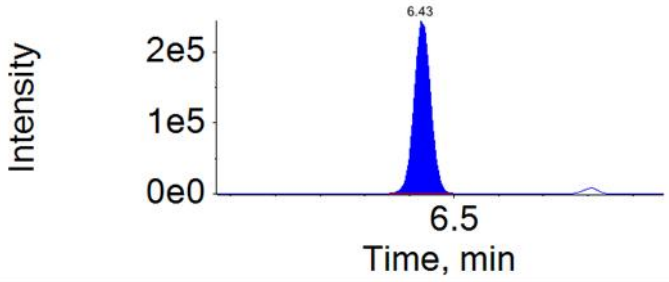
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

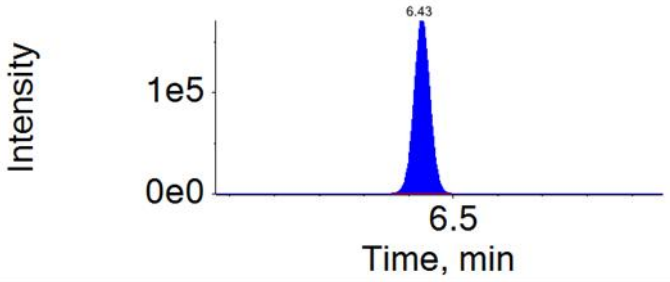
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



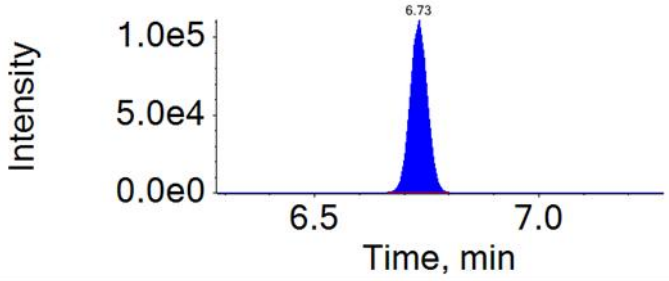


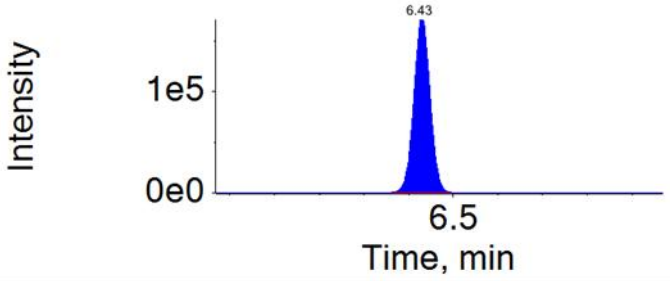
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



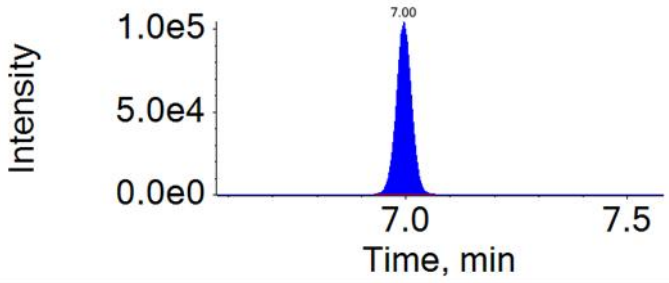


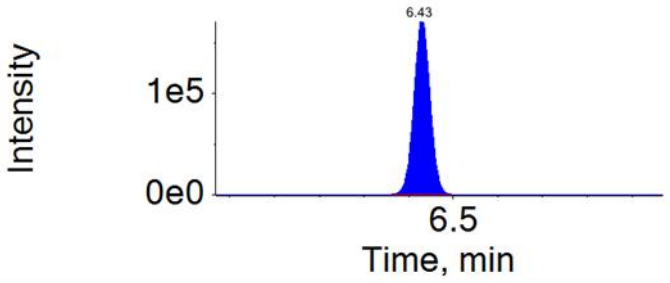
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





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REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

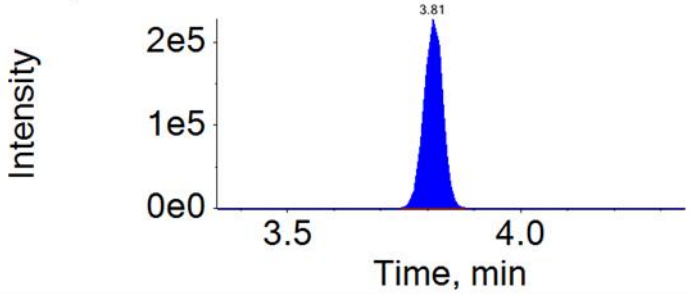
Sample Name: CAL4 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-13.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	648524.4	A	1.0000	1.0000			
PFBS_2	3.81	1.00	251751.9	A	0.3576	0.3882	9	50	
4:2-FTS	4.13	1.00	153295.4	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	92676.3	A	0.6359	0.6046	-5	50	
PFHxA	4.16	1.00	1455862.5	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	17238.3	A	0.0115	0.0118	3	50	
PFPeS	4.18	1.10	349358.3	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	186638.0	A	0.5384	0.5342	-1	50	
PFHxS	4.55	1.00	513536.6	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	191630.2	A	0.3569	0.3732	5	50	
PFHpA	4.55	1.00	1481489.5	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	81361.9	A	0.0577	0.0549	-5	50	
6:2-FTS	4.91	1.00	125170.2	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	79402.5	A	0.6752	0.6344	-6	50	
PFHpS	4.91	1.08	516333.1	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	209566.6	A	0.3950	0.4059	3	50	
PFOA	4.92	1.00	1491946.3	A	1.0000	1.0000			
PFOA_2	4.92	1.00	87116.1	A	0.0635	0.0584	-8	50	
PFOS	5.25	1.00	447769.0	A	1.0000	1.0000			
PFOS_2	5.25	1.00	153925.0	A	0.3494	0.3438	-2	50	
PFNA	5.27	1.00	1179151.8	A	1.0000	1.0000			
PFNA_2	5.26	1.00	25252.4	A	0.0207	0.0214	4	50	
PFNS	5.54	1.06	305013.7	A	1.0000	1.0000			
PFNS_2	5.54	1.06	144136.3	A	0.4890	0.4726	-3	50	
PFDA	5.56	1.00	1029893.8	A	1.0000	1.0000			
PFDA_2	5.56	1.00	7604.6	A	0.0057	0.0074	31	50	
8:2-FTS	5.57	1.00	106591.3	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	64856.7	A	0.6169	0.6085	-1	50	
NMeFOSAA	5.71	1.00	136316.9	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	30839.5	A	0.2206	0.2262	3	50	
PFDS	5.80	1.11	250911.0	A	1.0000	1.0000			
PFDS_2	5.80	1.11	110579.9	A	0.4648	0.4407	-5	50	
PFUnDA	5.83	1.00	802732.3	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	3336.4	A	0.0031	0.0042	32	50	
NEtFOSAA	5.84	1.00	121615.1	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	75878.8	A	0.6082	0.6239	3	50	
PFDoDA	6.05	1.00	877242.2	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	11649.3	A	0.0109	0.0133	21	50	
10:2-FTS	6.07	1.09	69275.8	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	48328.6	A	0.7082	0.6976	-2	50	
PFTrDA	6.25	1.03	781283.7	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	8100.4	A	0.0096	0.0104	8	50	
PFTeDA	6.43	1.00	630801.4	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	3863.1	A	0.0055	0.0061	11	50	
PFHxDA	6.73	1.05	297242.6	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	17318.1	A	0.0596	0.0583	-2	50	
PFODA	7.00	1.09	251726.5	A	1.0000	1.0000			
PFODA_2	6.99	1.09	6453.4	A	0.0257	0.0256	0	50	

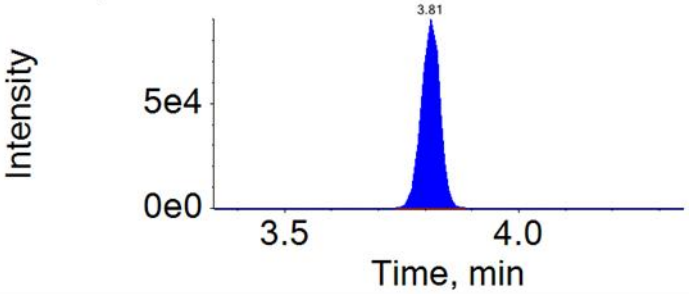
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

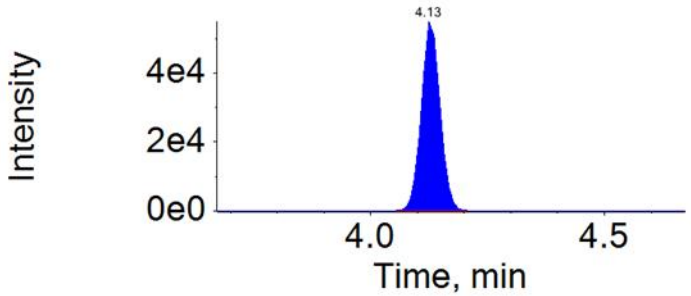
Component: PFBS
Primary Mass: 299.0 / 80.0



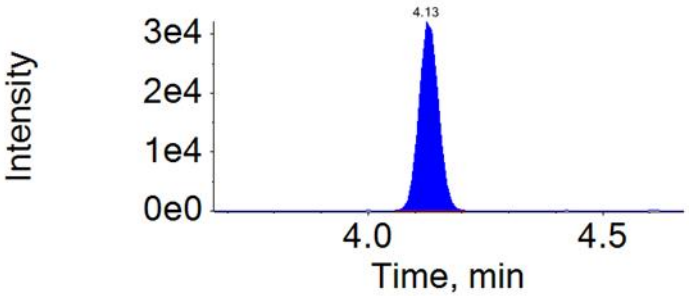
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



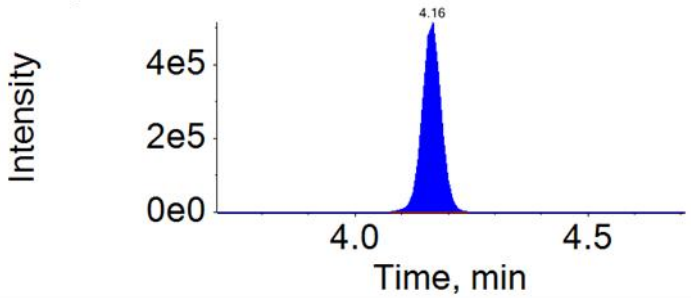
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



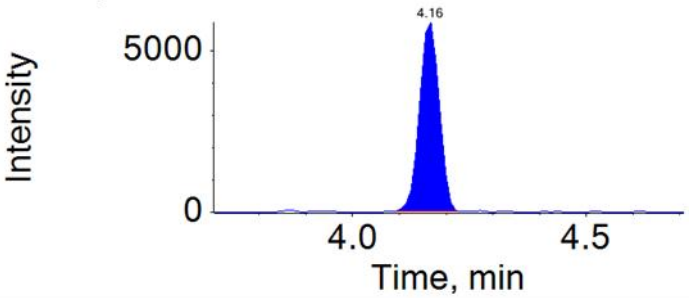
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



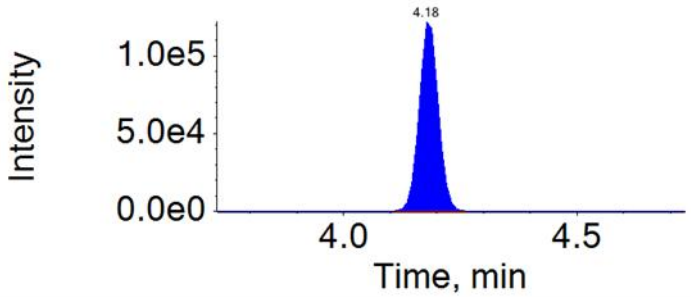
Component: PFHxA
Primary Mass: 313.0 / 269.0



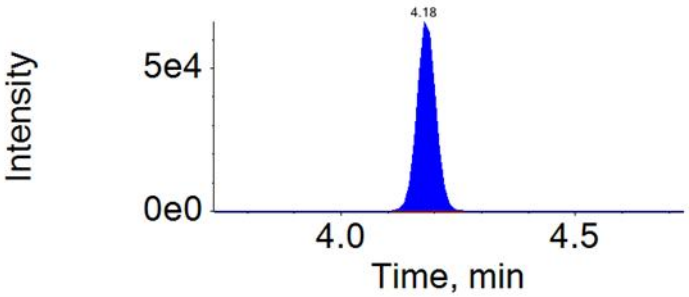
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



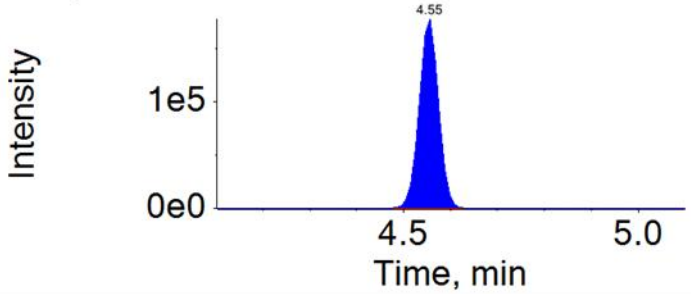
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



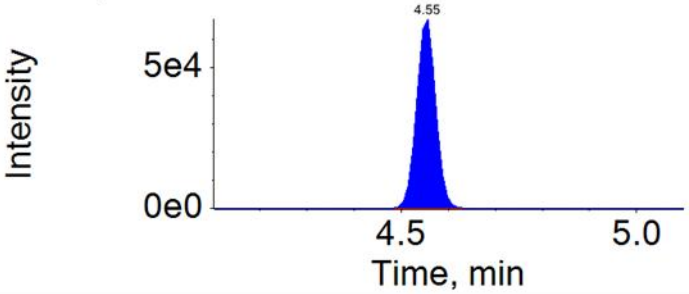
APPROVED
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REVIEWED
By umar at 5:23 pm, 11/9/18

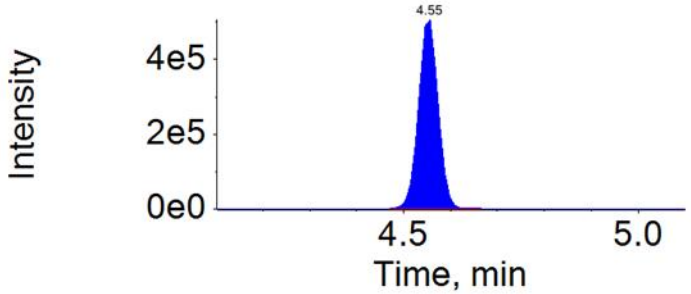
Component: PFHxS
Primary Mass: 399.0 / 80.0



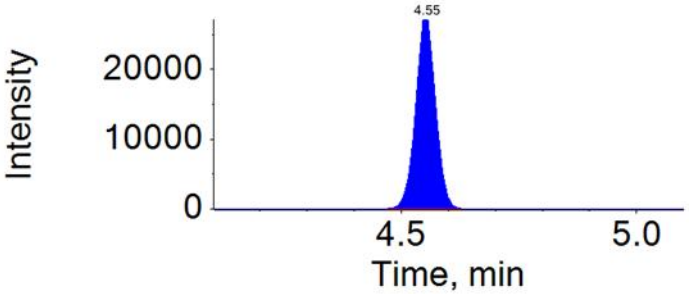
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



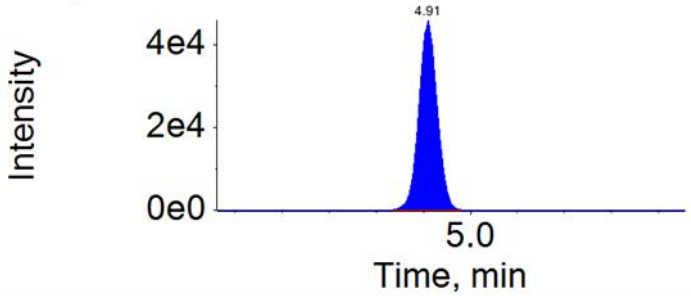
Component: PFHpA
Primary Mass: 363.0 / 319.0



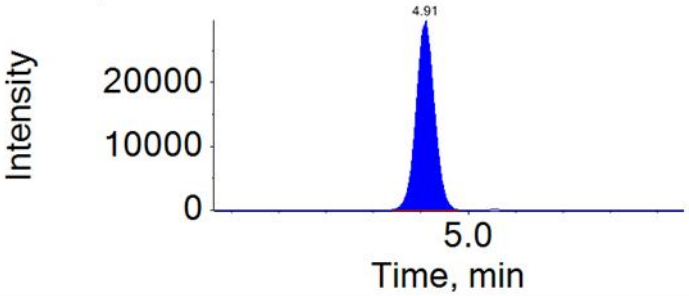
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



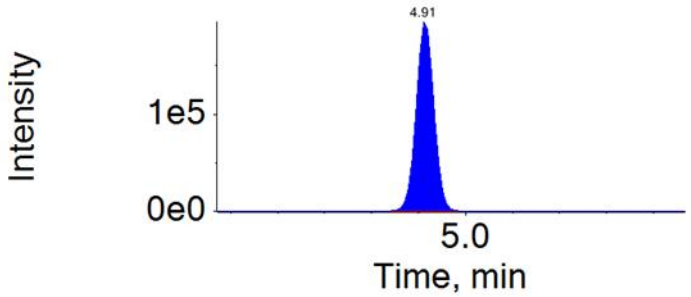
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



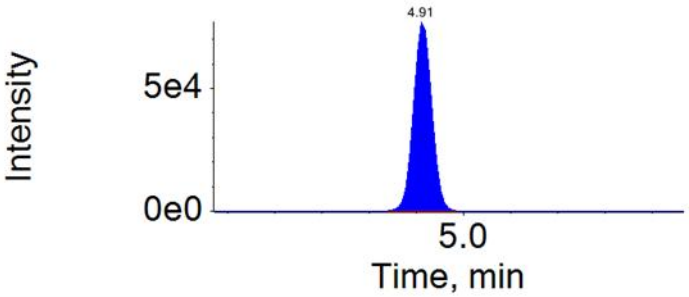
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



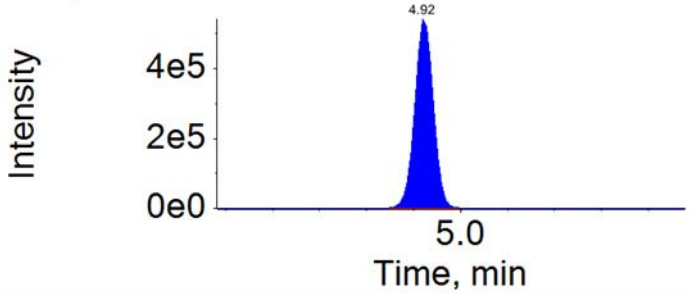
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



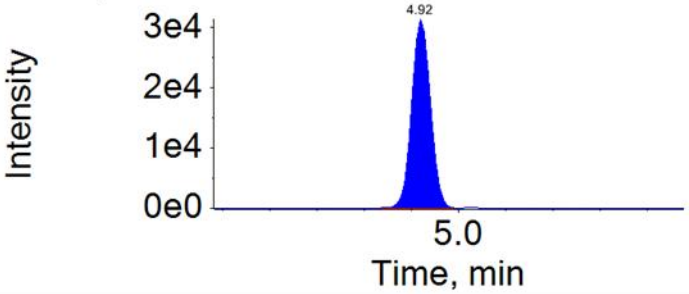
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

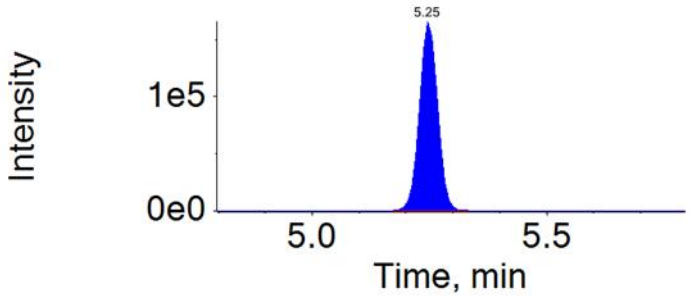
Component: PFOA
Primary Mass: 413.0 / 369.0



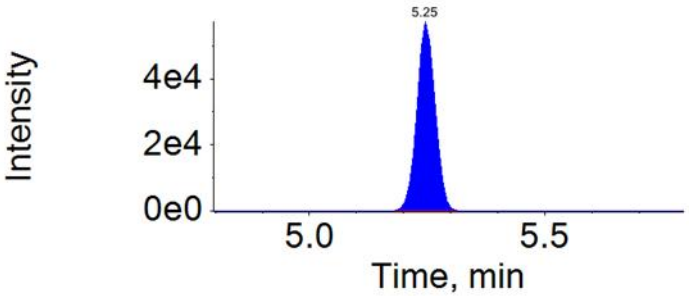
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



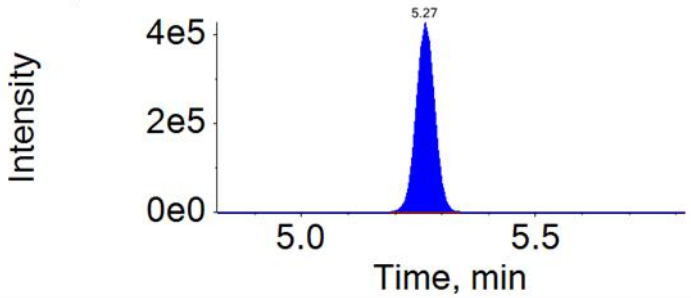
Component: PFOS
Primary Mass: 499.0 / 80.0



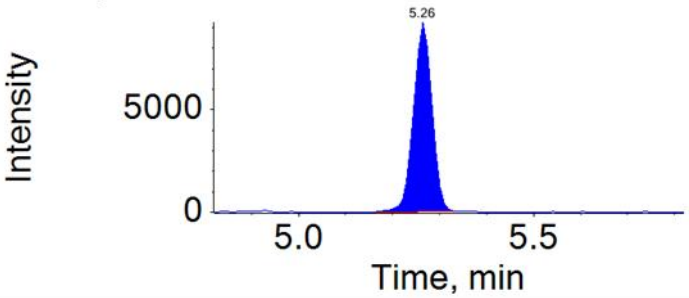
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



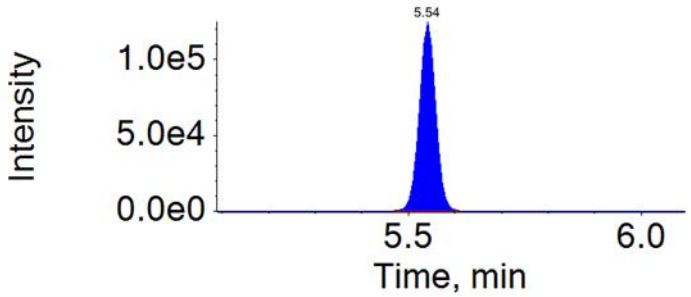
Component: PFNA
Primary Mass: 463.0 / 419.0



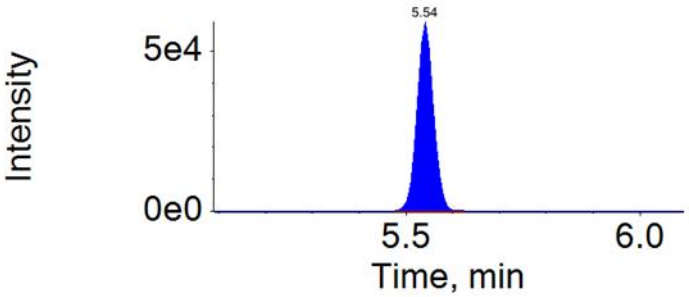
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



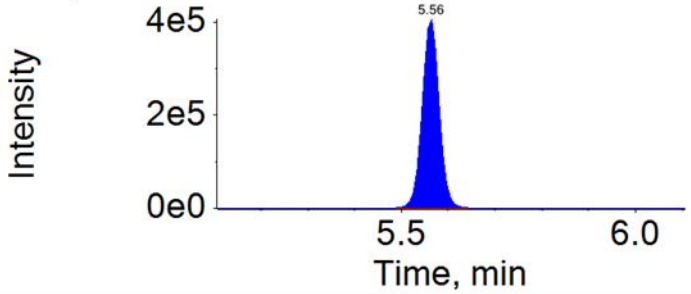
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



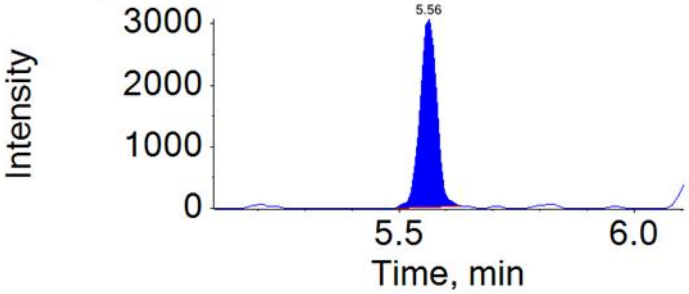
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

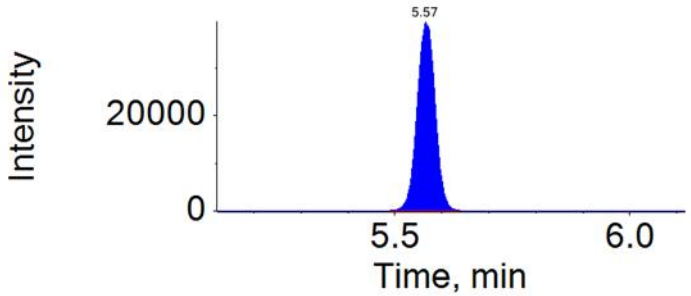
Component: PFDA
Primary Mass: 513.0 / 469.0



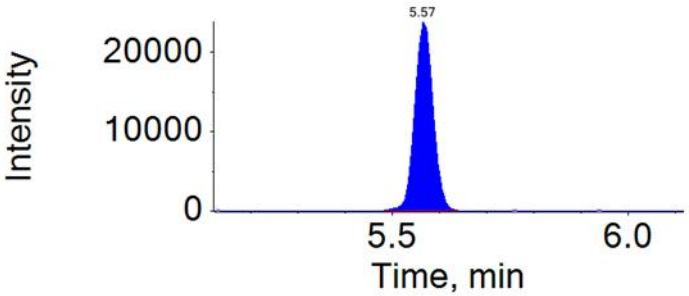
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



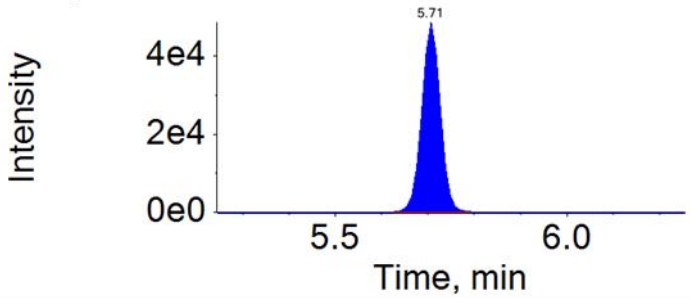
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



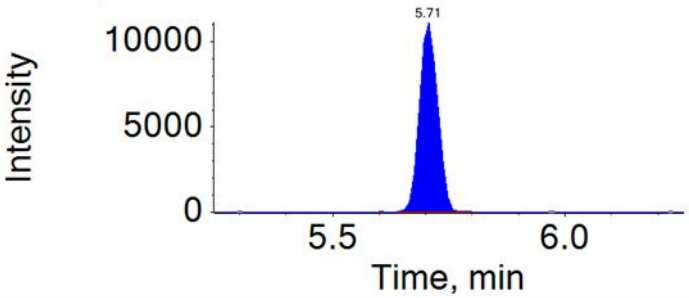
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



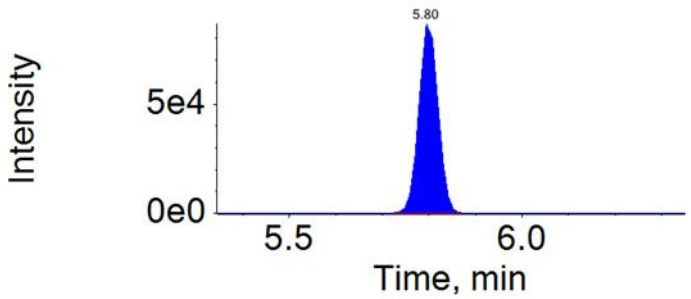
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



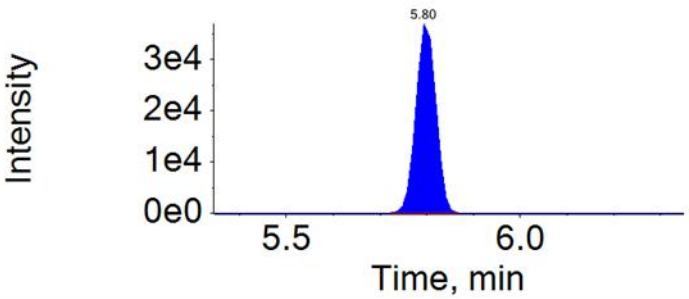
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



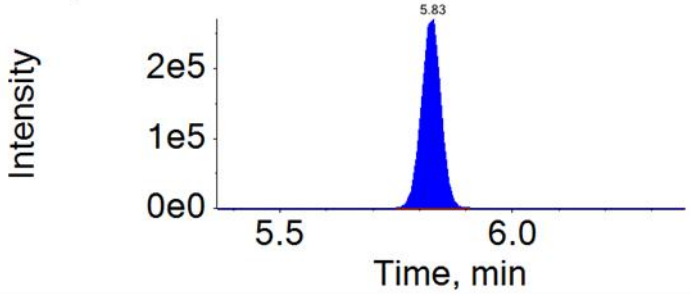
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Secondary Mass: 599.0 / 99.0



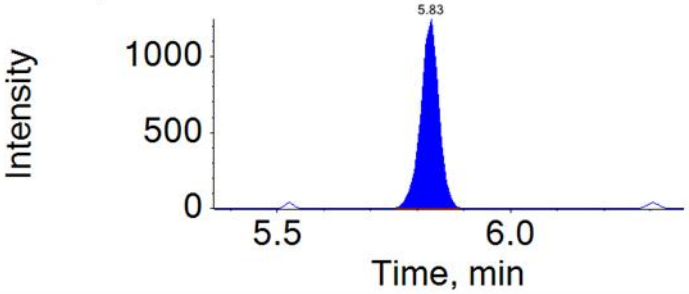
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

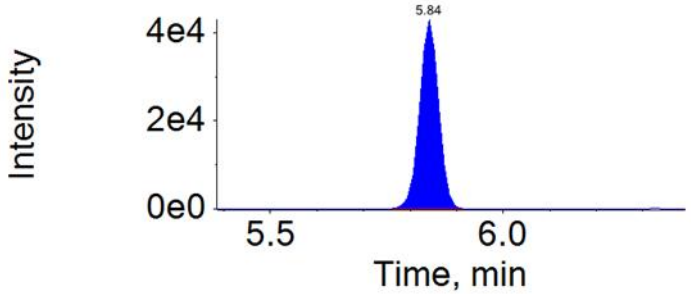
Component: PFUnDA
Primary Mass: 563.0 / 519.0



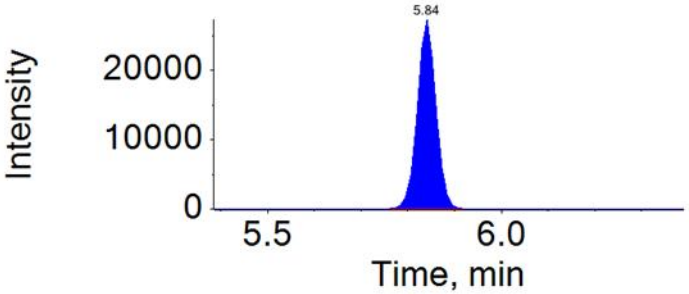
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



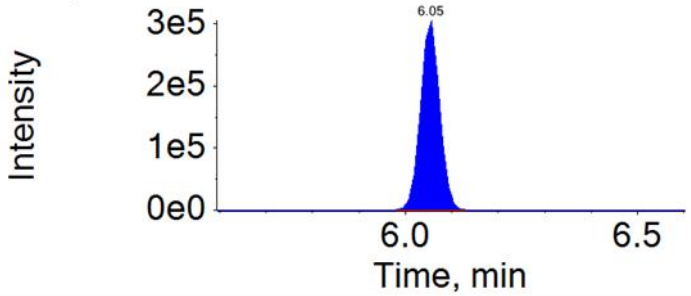
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



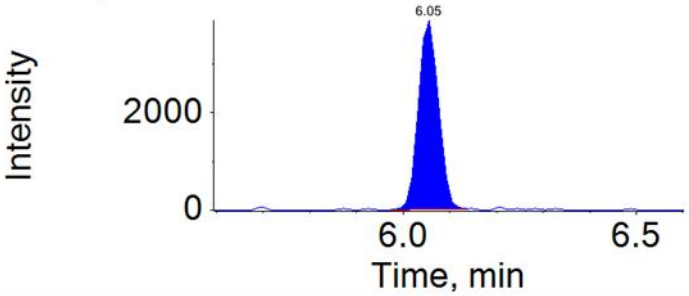
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



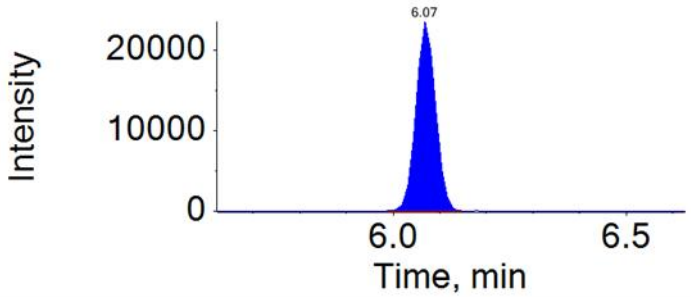
Component: PFDoDA
Primary Mass: 613.0 / 569.0



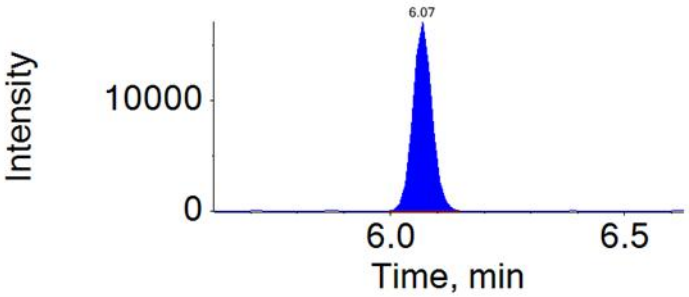
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



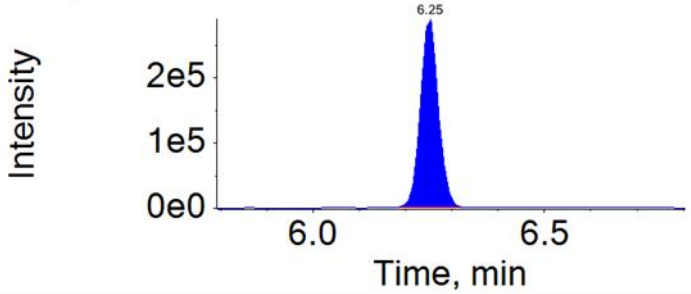
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



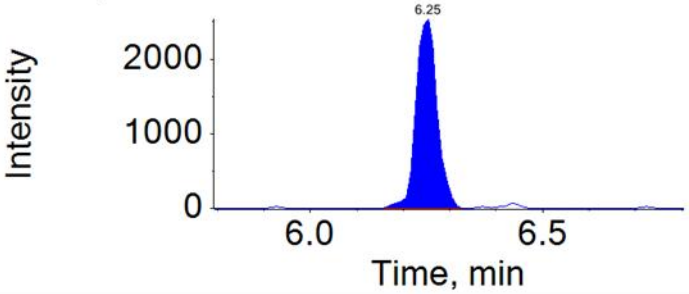
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

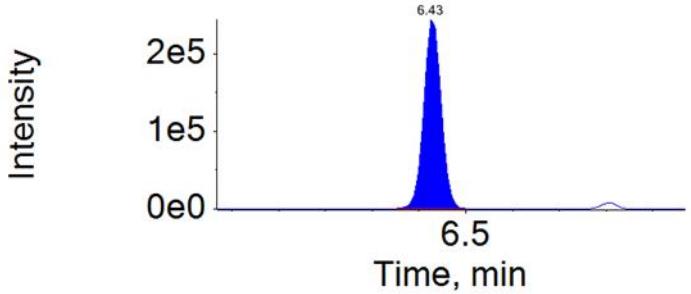
Component: PFTrDA
Primary Mass: 663.0 / 619.0



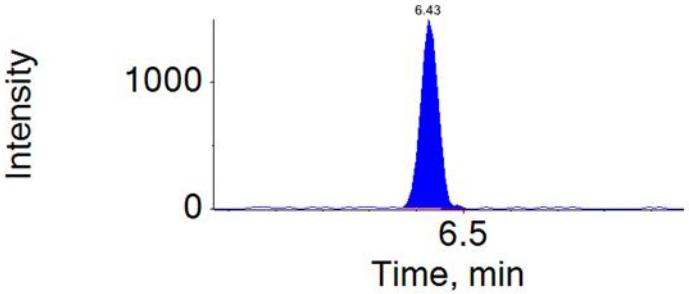
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



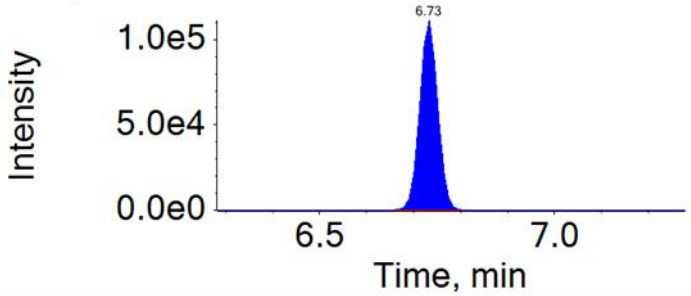
Component: PFTeDA
Primary Mass: 713.0 / 669.0



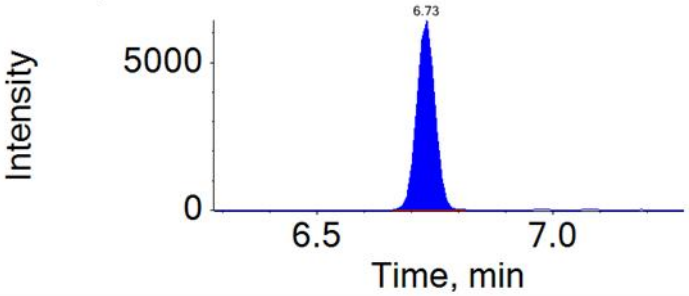
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



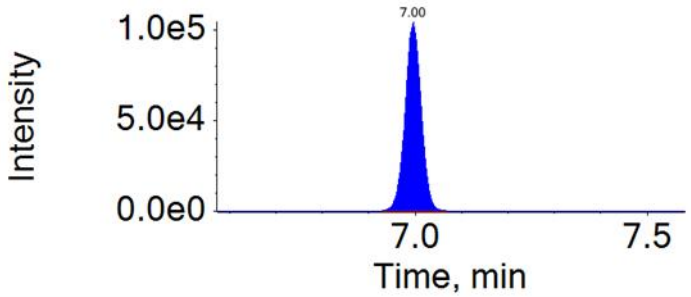
Component: PFHxDA
Primary Mass: 813.0 / 769.0



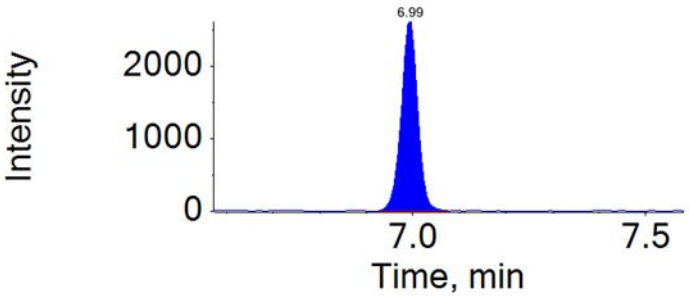
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL5			**Data File:**		18NOV07DCAL-14.wiff
Sample ID:	CALMOD51833F			**Acquis Date:**		2018-11-07T10:15:59
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	7			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	664213.6	730410.6	-9	50	
13C2-PFOA	5.0	488019.6	524423.6	-7	50	
13C4-PFOS	4.8	275029.2	274061.7	0	50	
13C2-PFDA	5.0	298912.1	311442.1	-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	728925.1	13C3-PFBA	664213.6	1.097	5.000	5.079	102	70-130	
E13C5-PFPeA	768958.1	13C3-PFBA	664213.6	1.158	5.000	5.043	101	70-130	
E13C3-PFBS	442479.7	13C3-PFBA	664213.6	0.666	4.650	4.889	105	70-130	
E13C2-4:2-FTS	48869.9	13C2-PFOA	488019.6	0.100	4.670	4.519	97	70-130	
E13C5-PFHxA	674375.4	13C2-PFOA	488019.6	1.382	5.000	5.083	102	70-130	
E13C3-PFHxS	332808.5	13C2-PFOA	488019.6	0.682	4.730	4.896	104	70-130	
E13C4-PFHpA	544681.1	13C2-PFOA	488019.6	1.116	5.000	5.077	102	70-130	
E13C2-6:2-FTS	32735.6	13C2-PFOA	488019.6	0.067	4.750	4.473	94	70-130	
E13C8-PFOA	895692.2	13C2-PFOA	488019.6	1.835	5.000	5.118	102	70-130	
E13C8-PFOS	297995.6	13C4-PFOS	275029.2	1.084	4.780	4.791	100	70-130	
E13C9-PFNA	484419.3	13C4-PFOS	275029.2	1.761	5.000	4.811	96	70-130	
E13C6-PFDA	598009.7	13C2-PFDA	298912.1	2.001	5.000	5.031	101	70-130	
E13C2-8:2-FTS	27554.0	13C2-PFDA	298912.1	0.092	4.790	4.878	102	70-130	
E13C8-PFOSA	737038.5	13C2-PFDA	298912.1	2.466	5.000	5.381	108	70-130	
Ed3-NMeFOSAA	73896.1	13C2-PFDA	298912.1	0.247	5.000	4.597	92	70-130	
E13C7-PFUnDA	263924.7	13C2-PFDA	298912.1	0.883	5.000	5.094	102	70-130	
Ed5-NEtFOSAA	57745.7	13C2-PFDA	298912.1	0.193	5.000	4.471	89	70-130	
E13C2-PFDoDA	548536.0	13C2-PFDA	298912.1	1.835	5.000	4.947	99	70-130	
Ed7-NMePFOSAE	321549.5	13C2-PFDA	298912.1	1.076	5.000	5.002	100	70-130	
Ed3-NMePFOSA	82137.6	13C2-PFDA	298912.1	0.275	5.000	5.031	101	70-130	
Ed9-NEtPFOSAE	259950.9	13C2-PFDA	298912.1	0.870	5.000	4.966	99	70-130	
Ed5-NEtPFOSA	62005.6	13C2-PFDA	298912.1	0.207	5.000	4.803	96	70-130	
E13C2-PFTeDA	421798.8	13C2-PFDA	298912.1	1.411	5.000	5.080	102	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

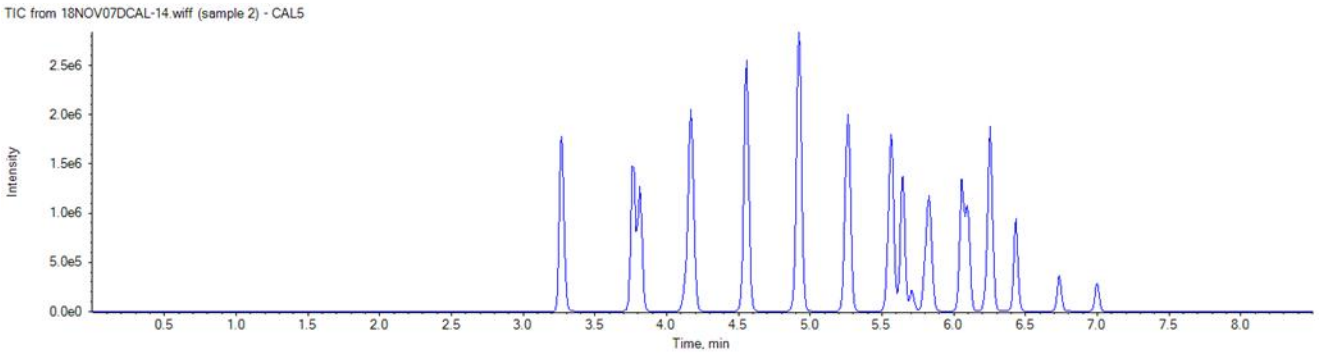
Analyte Quantitation Peak Table

Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.27	1.000	2730076.0		A	13C4-PFBA	3.27	728925.1	3.745	21.919
PFPeA	3.77	1.000	2812772.2		A	13C5-PFPeA	3.77	768958.1	3.658	21.739
PFBS	3.82	1.000	1601296.4		A	13C3-PFBS	3.82	442479.7	3.619	18.246
4:2-FTS	4.13	1.000	365423.8		A	13C2-4:2-FTS	4.13	48869.9	7.477	20.102
PFHxA	4.16	1.000	3380716.3		A	13C5-PFHxA	4.17	674375.4	5.013	21.499
PFPeS	4.18	1.100	845636.3		A	13C3-PFBS	3.82	442479.7	1.911	18.849
PFHxS	4.55	1.000	1261633.0		A	13C3-PFHxS	4.55	332808.5	3.791	19.215
PFHpA	4.55	1.000	3440372.8		A	13C4-PFHpA	4.55	544681.1	6.316	21.243
6:2-FTS	4.91	1.000	278493.0		A	13C2-6:2-FTS	4.91	32735.6	8.507	21.223
PFHpS	4.92	1.080	1236603.7		A	13C3-PFHxS	4.55	332808.5	3.716	19.439
PFOA	4.92	1.000	3425279.8		A	13C8-PFOA	4.92	895692.2	3.824	21.532
PFOS	5.25	1.000	1108359.9		A	13C8-PFOS	5.25	297995.6	3.719	19.287
PFNA	5.27	1.000	2889454.7		A	13C9-PFNA	5.27	484419.3	5.965	22.292
PFNS	5.54	1.060	722178.3		A	13C8-PFOS	5.25	297995.6	2.423	19.215
PFDA	5.57	1.000	2401274.2		A	13C6-PFDA	5.57	598009.7	4.015	22.091
8:2-FTS	5.57	1.000	244867.6		A	13C2-8:2-FTS	5.57	27554.0	8.887	20.031
PFOSA	5.64	1.000	2448684.3		A	13C8-PFOSA	5.64	737038.5	3.322	17.959
NMeFOSAA	5.71	1.000	308507.7		A	d3-NMeFOSAA	5.71	73896.1	4.175	21.482
PFDS	5.80	1.110	605559.3		A	13C8-PFOS	5.25	297995.6	2.032	19.412
PFUnDA	5.83	1.000	1952356.4		A	13C7-PFUnDA	5.83	263924.7	7.397	21.214
NEtFOSAA	5.85	1.000	298834.2		A	d5-NEtFOSAA	5.84	57745.7	5.175	22.240
PFDoDA	6.06	1.000	2132260.7		A	13C2-PFDoDA	6.06	548536.0	3.887	21.067
10:2-FTS	6.07	1.090	177607.5		A	13C2-8:2-FTS	5.57	27554.0	6.446	20.071
NMePFOSAE	6.10	1.000	1583085.5		A	d7-NMePFOSAE	6.09	321549.5	4.923	22.062
NMePFOSA	6.10	1.000	323567.0		A	d3-NMePFOSA	6.10	82137.6	3.939	22.050
PFDoS	6.22	1.190	295383.8		A	13C8-PFOS	5.25	297995.6	0.991	19.132
NEtPFOSAE	6.25	1.000	1810587.6		A	d9-NEtPFOSAE	6.24	259950.9	6.965	22.328
NEtPFOSA	6.27	1.000	290096.1		A	d5-NEtPFOSA	6.26	62005.6	4.679	20.605
PFTrDA	6.25	1.030	1851055.0		A	13C2-PFDoDA	6.06	548536.0	3.375	21.280
PFTeDA	6.43	1.000	1500655.1		A	13C2-PFTeDA	6.43	421798.8	3.558	20.892
PFHxDA	6.73	1.050	716467.3		A	13C2-PFTeDA	6.43	421798.8	1.699	21.085
PFODA	7.00	1.090	624697.0		A	13C2-PFTeDA	6.43	421798.8	1.481	21.218

Total Ion Chromatogram

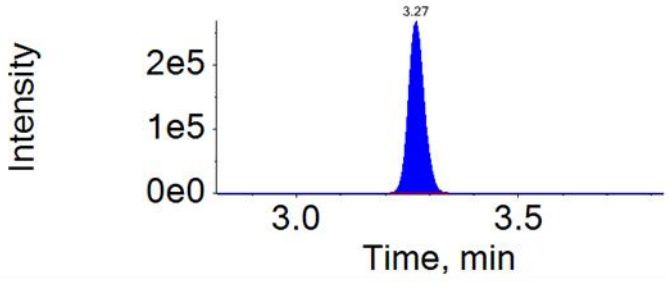


APPROVED
By JPT at 2:53 pm, 11/7/18

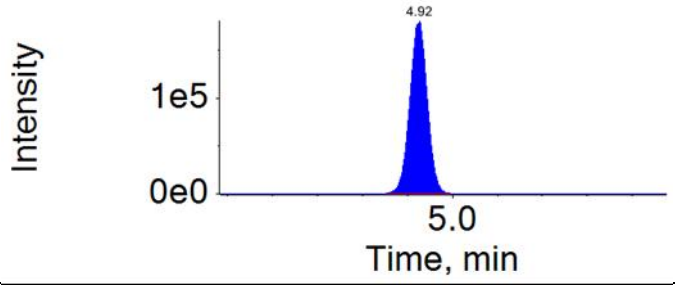
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

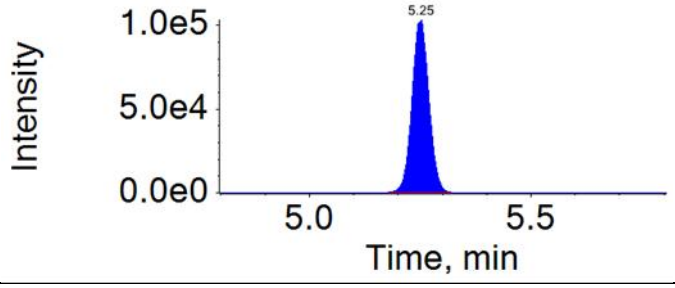
Injection Standard: 13C3-PFBA
216.0 / 172.0



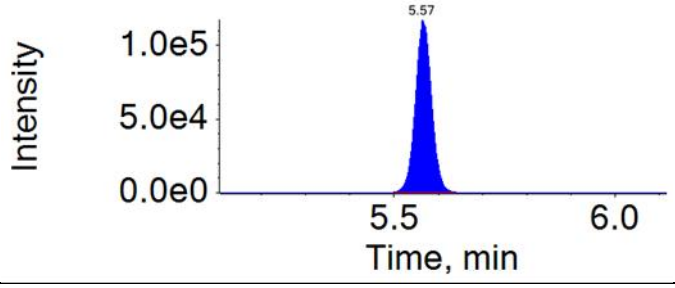
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



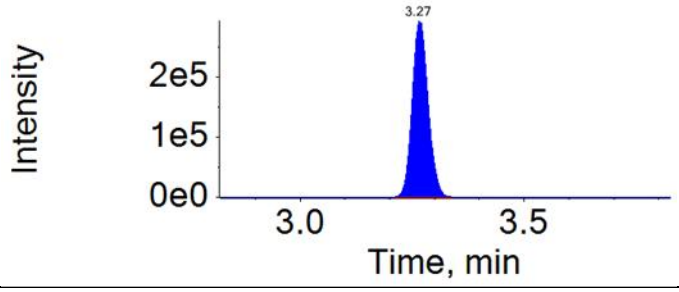
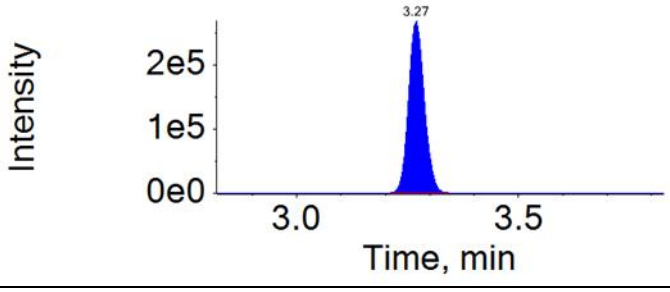
Injection Standard: 13C2-PFDA
515.0 / 470.0

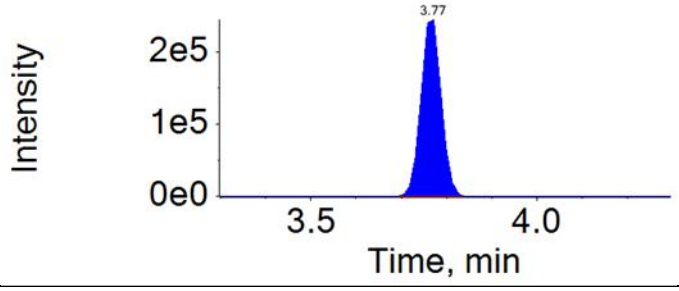
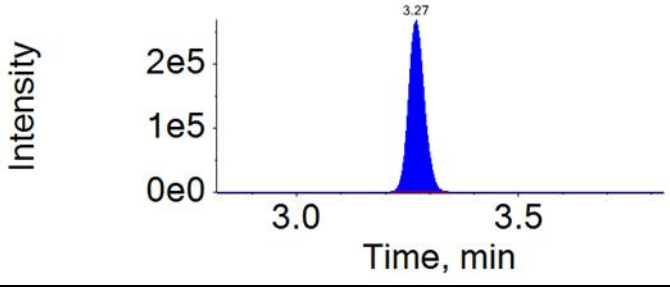


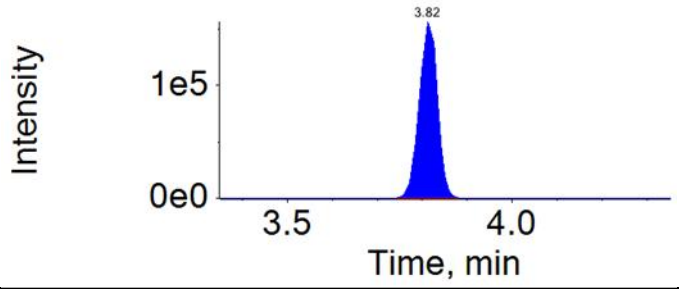
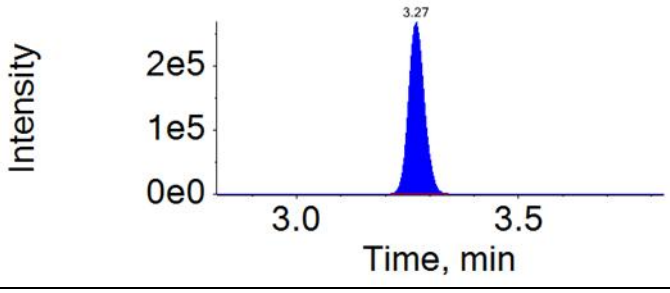
APPROVED
By JPT at 2:53 pm, 11/7/18

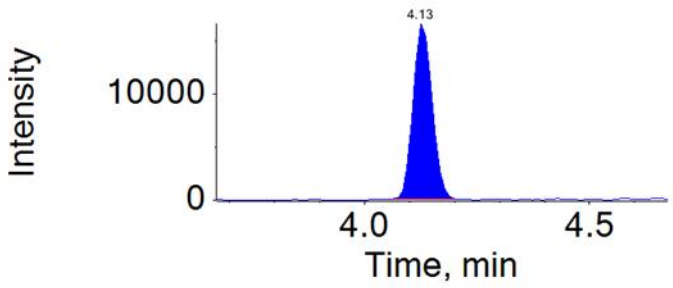
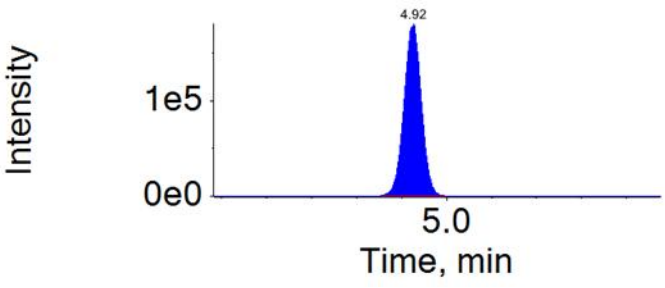
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

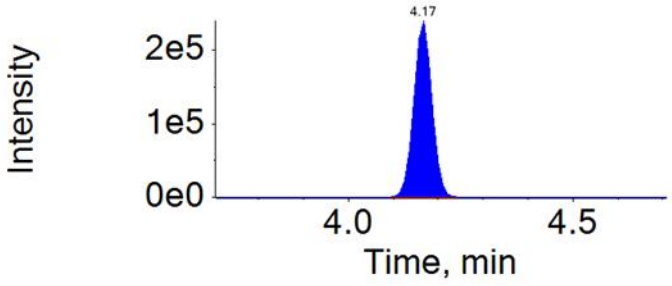
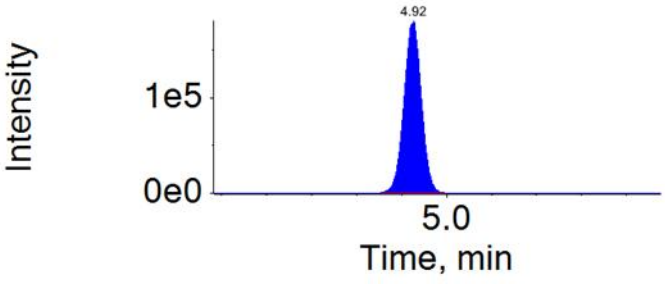
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

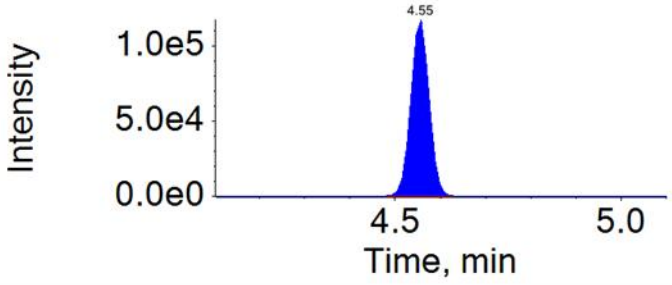
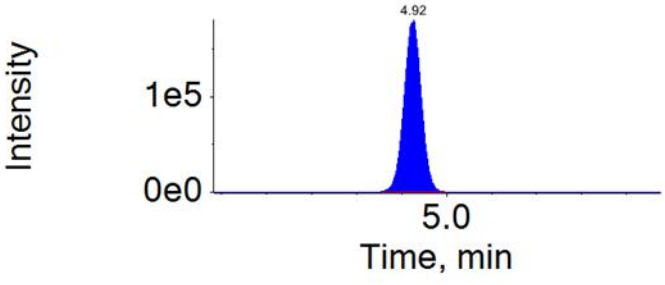
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

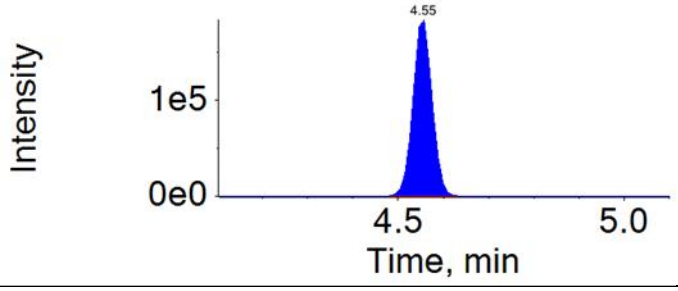
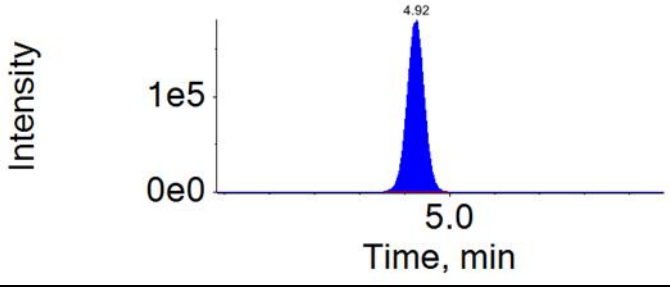
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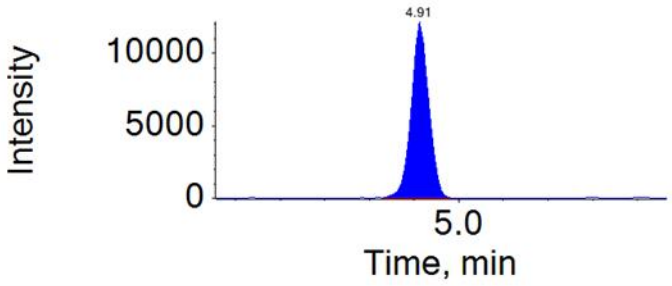
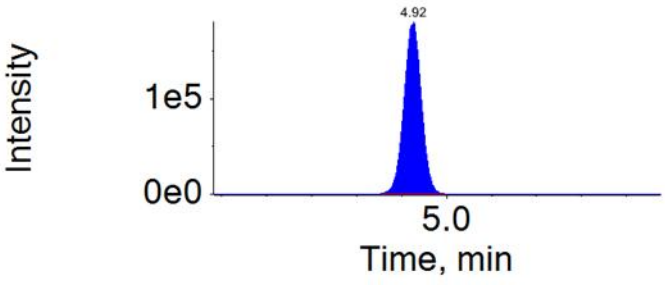
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

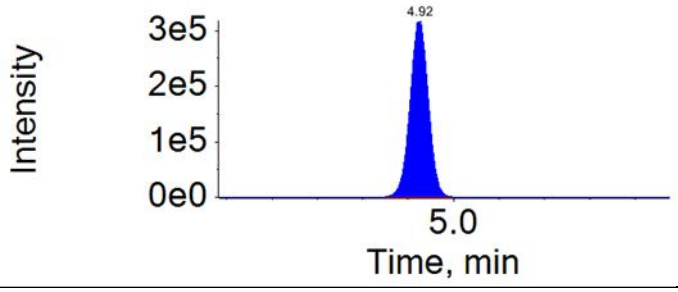
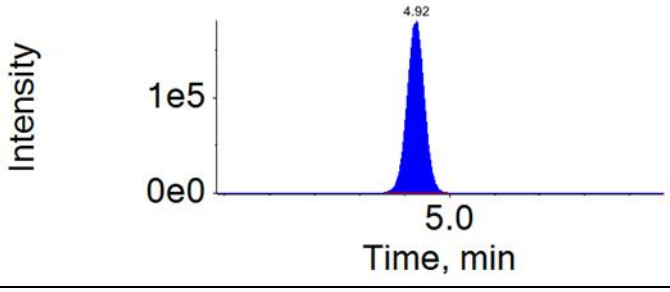
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

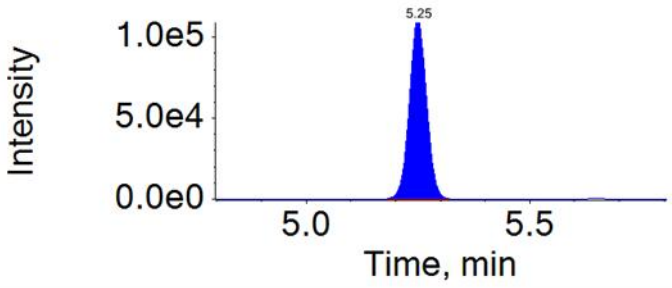
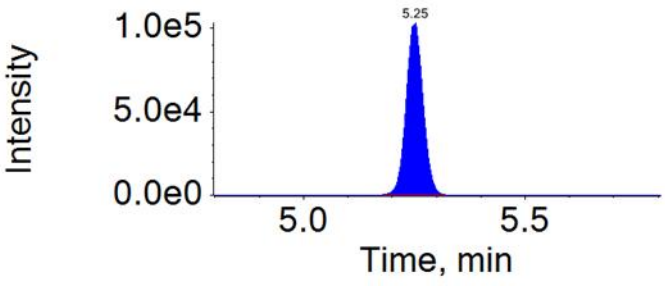
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

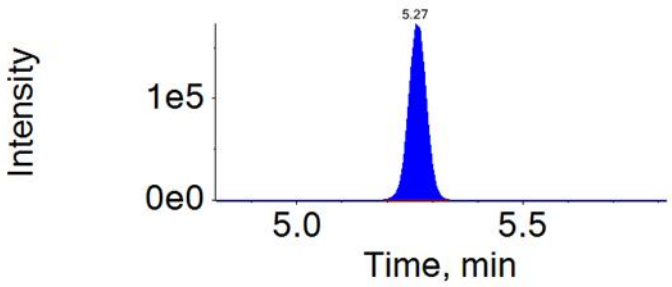
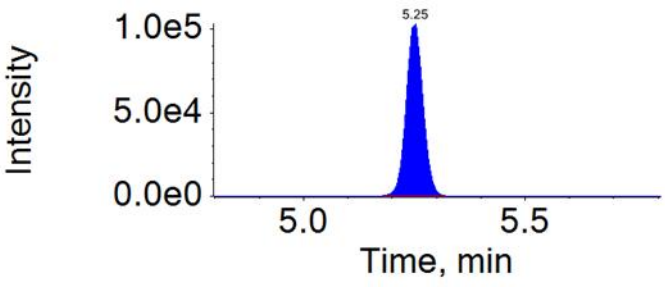
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By JPT at 2:53 pm, 11/7/18

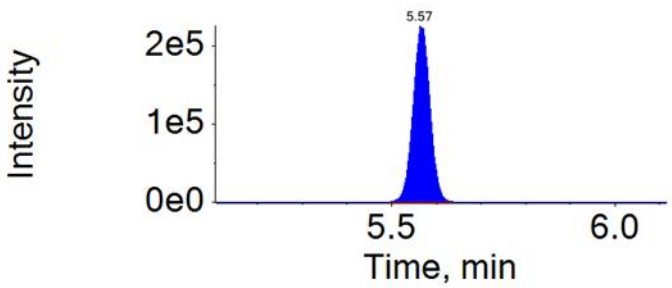
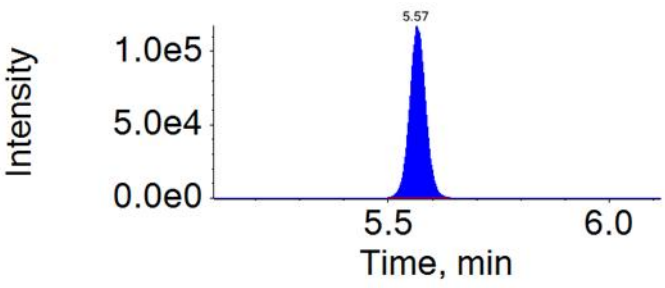
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

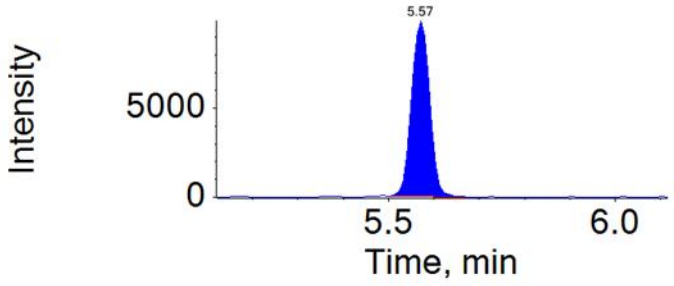
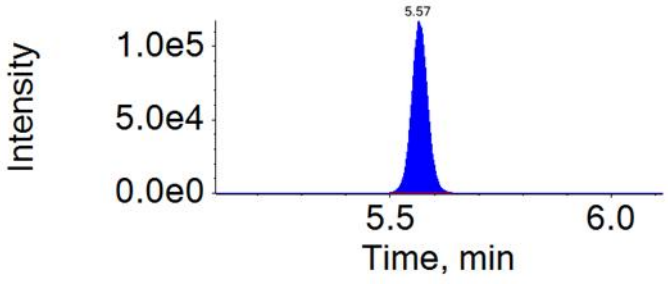
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

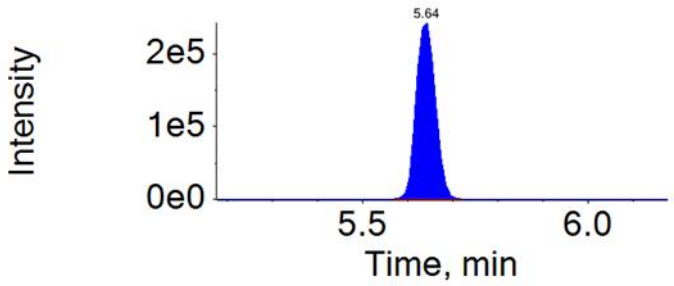
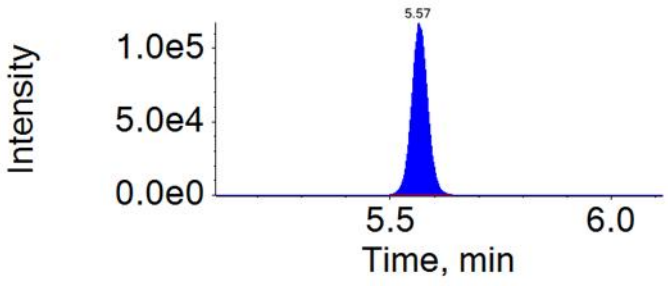
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

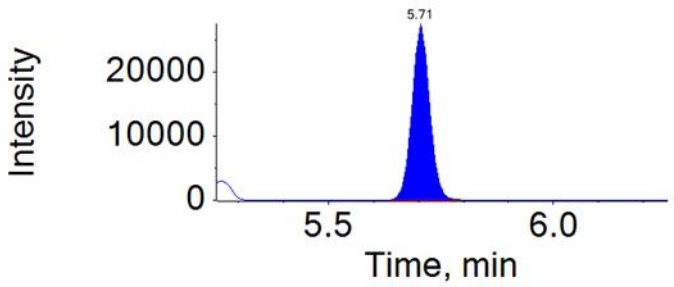
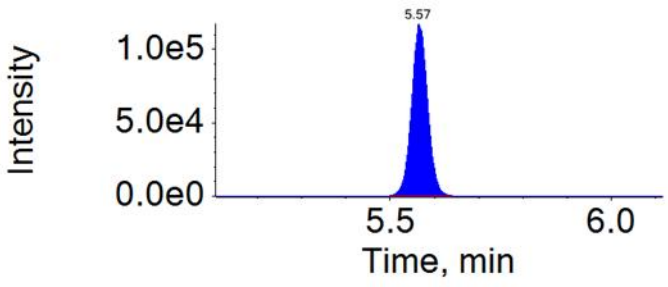
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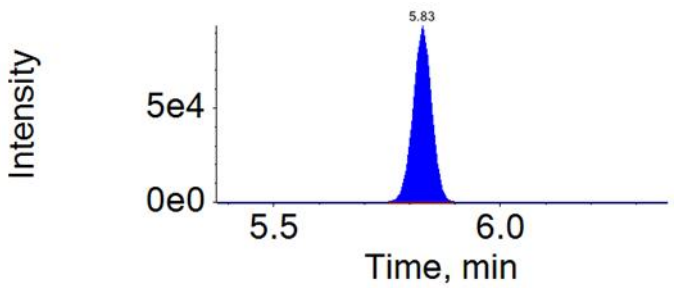
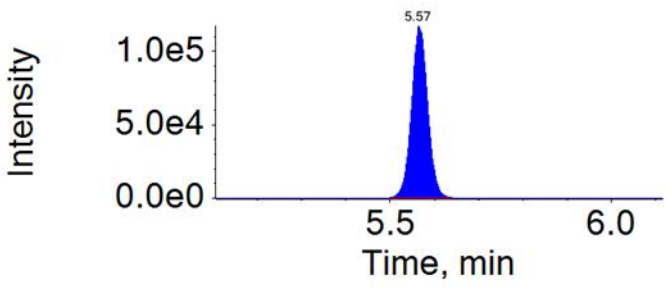
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

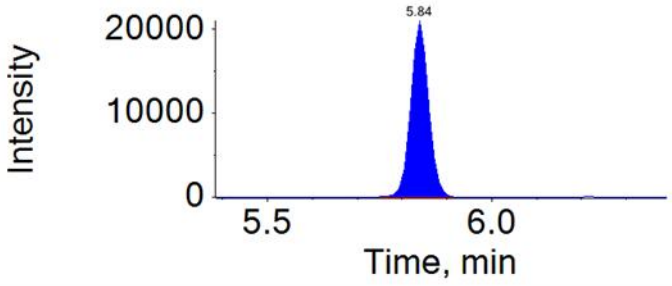
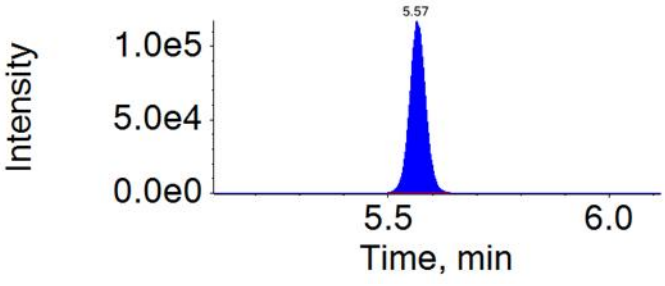
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

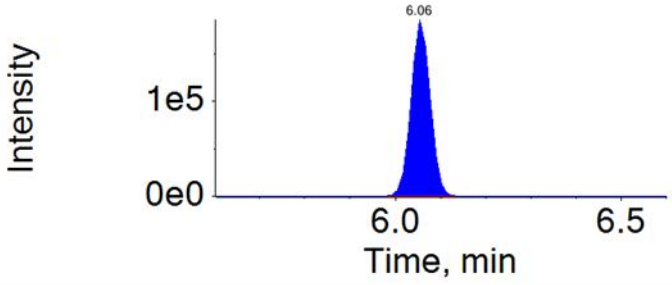
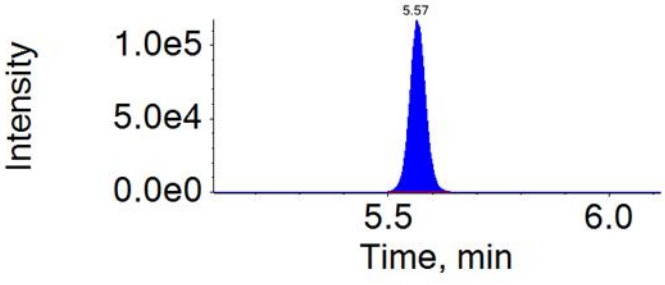
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

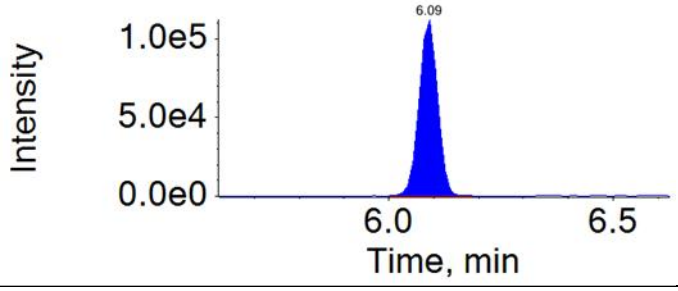
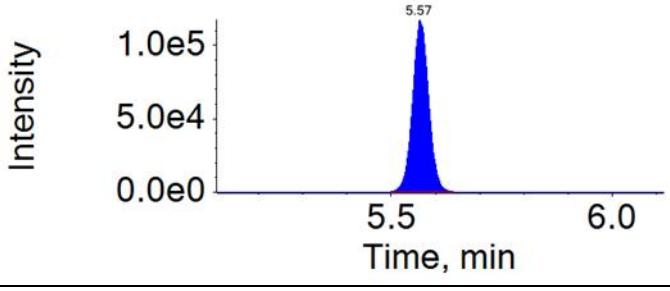
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

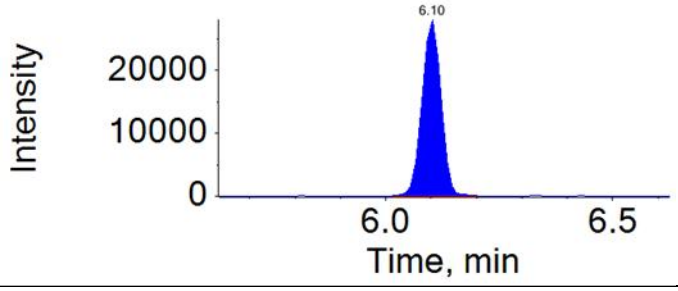
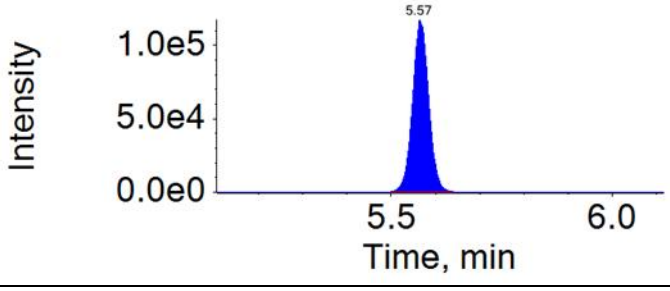
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

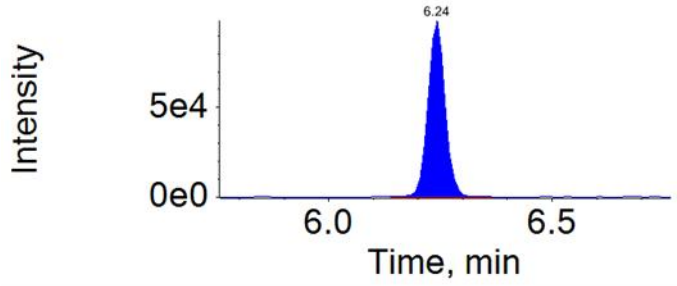
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

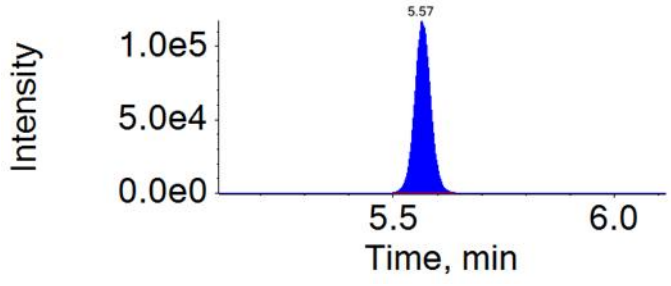
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

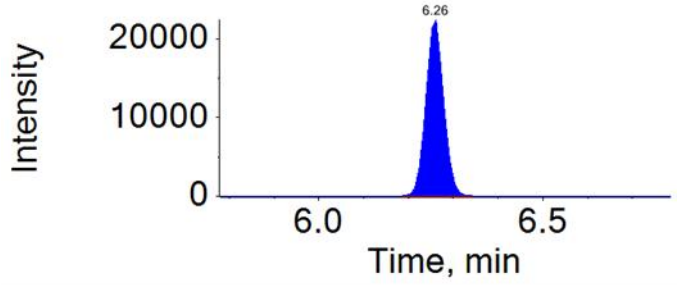
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

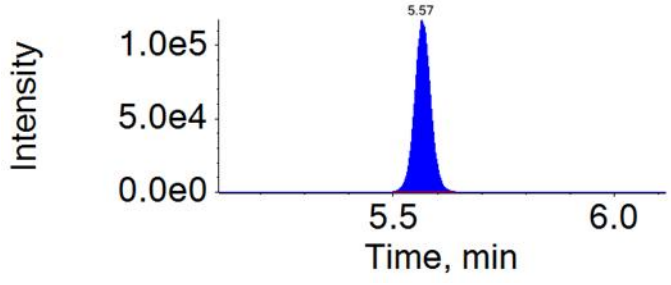
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



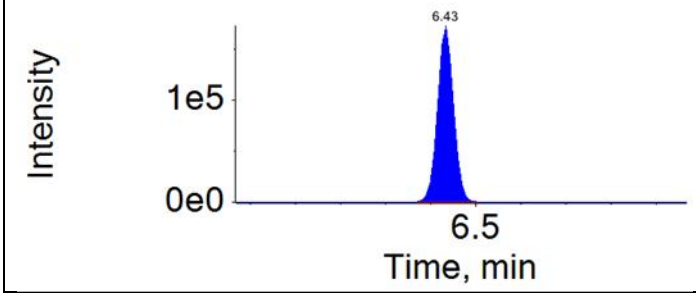


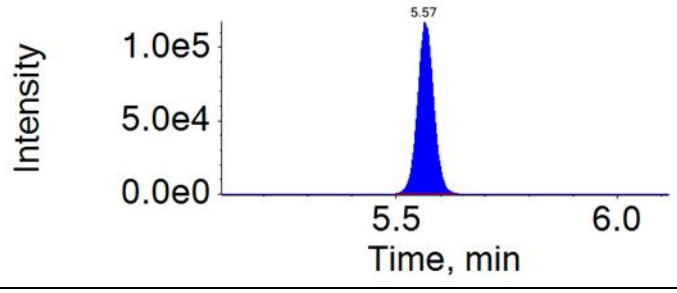
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



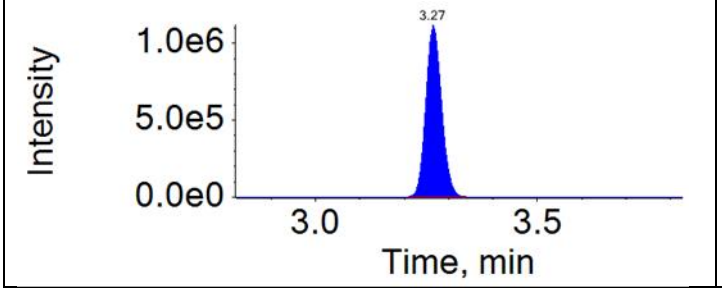


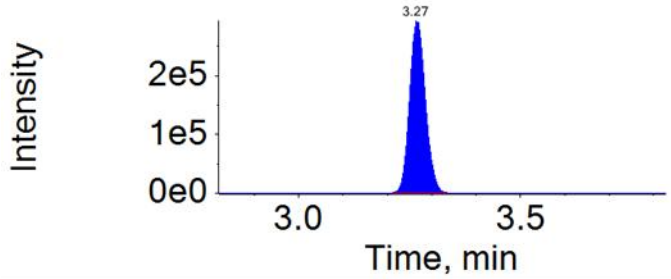
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

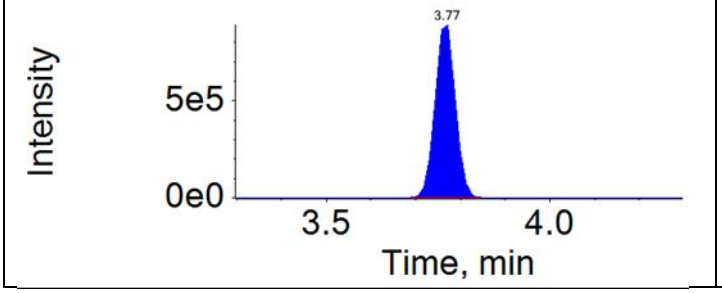
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

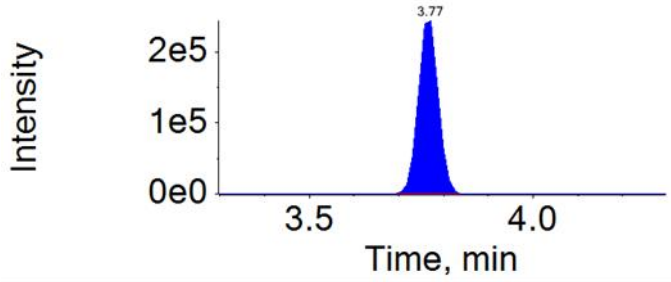
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



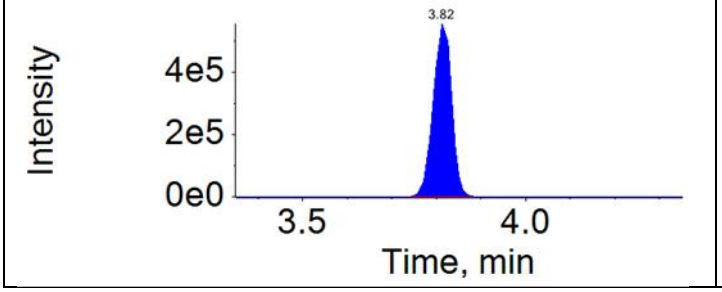


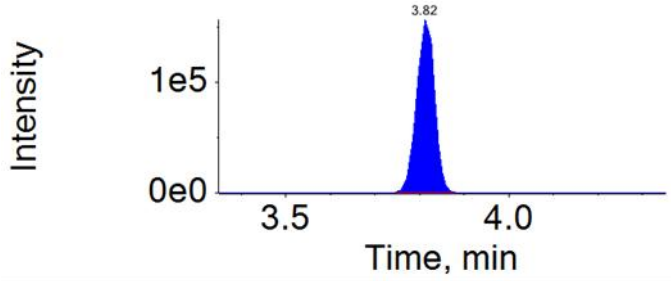
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



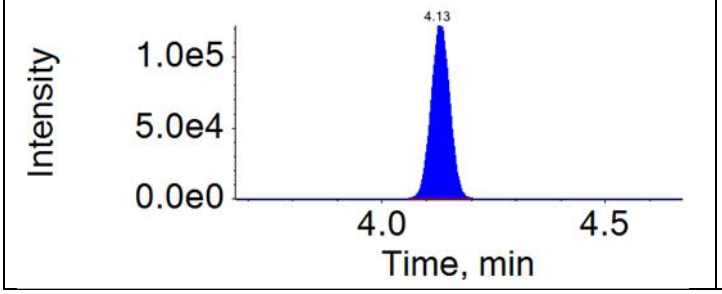


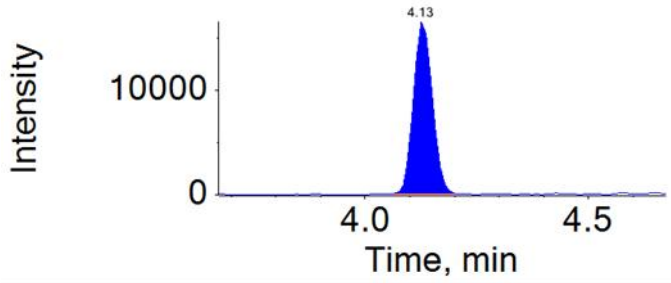
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

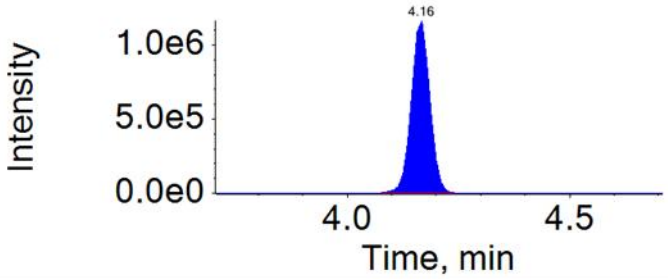
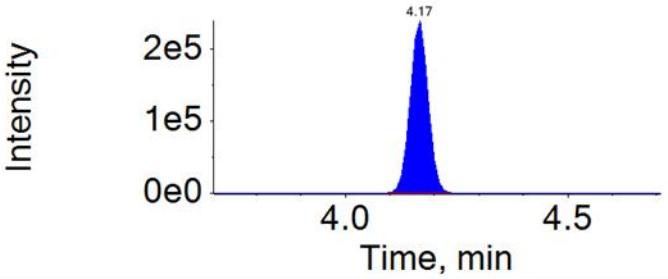


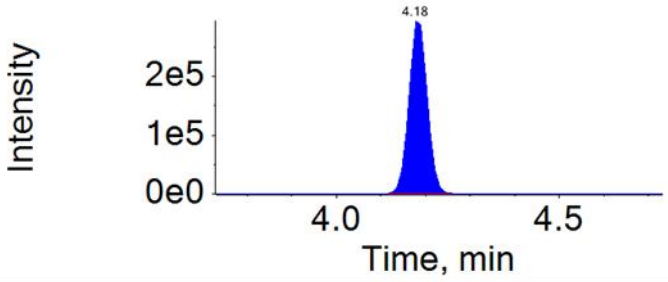
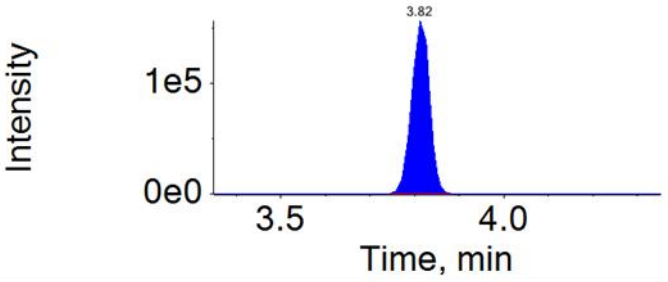


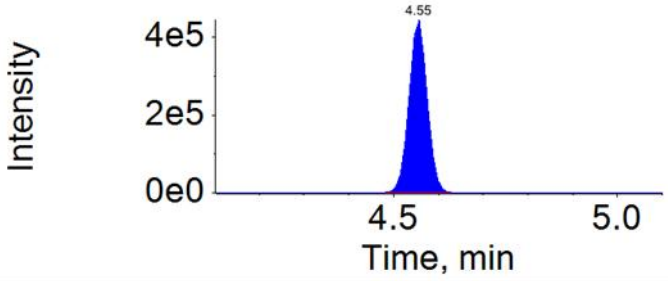
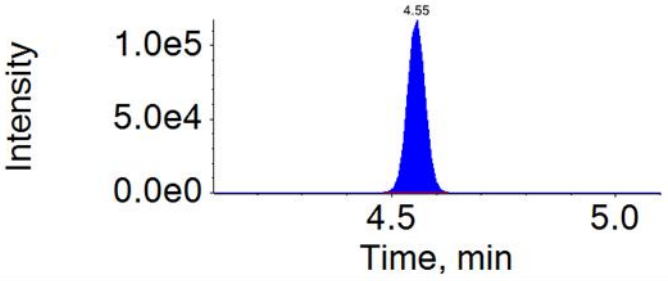
APPROVED
By JPT at 2:53 pm, 11/7/18

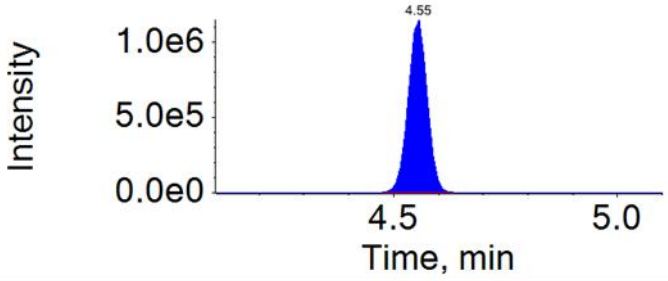
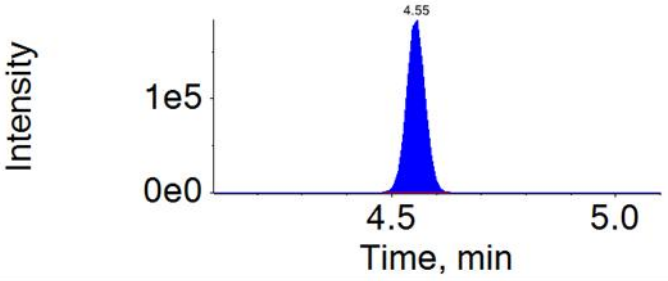
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

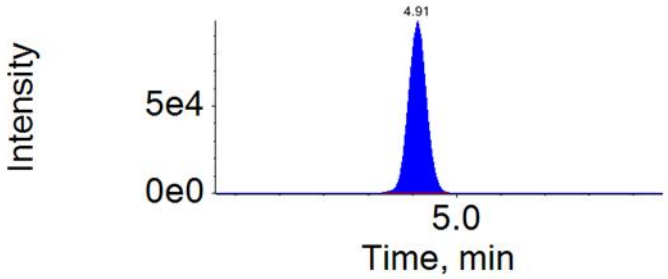
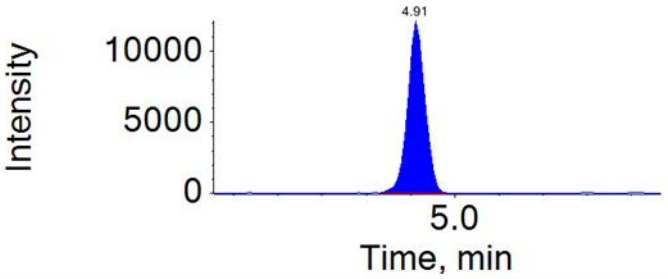
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

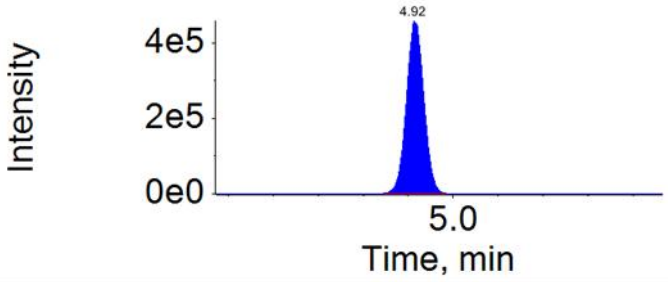
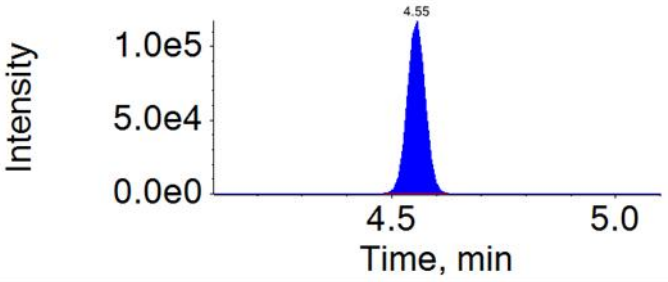
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

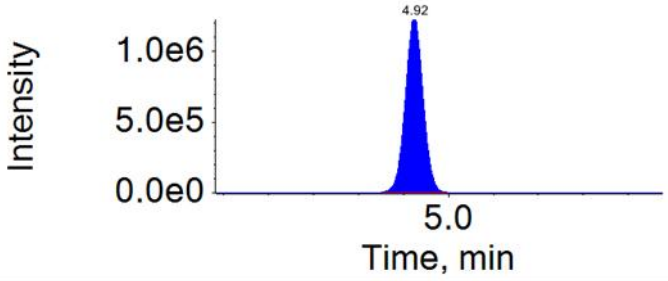
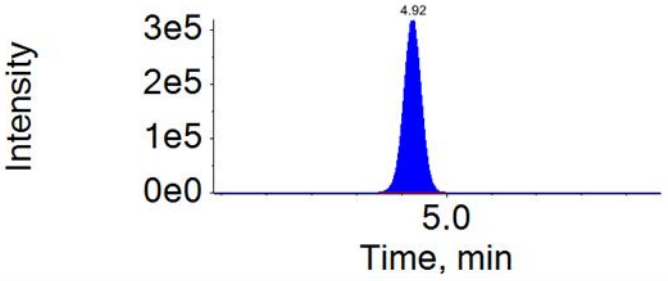
APPROVED
By JPT at 2:53 pm, 11/7/18

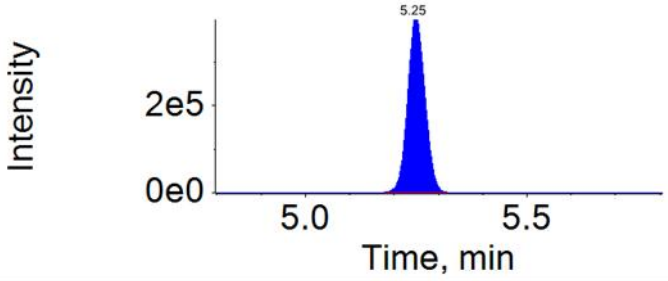
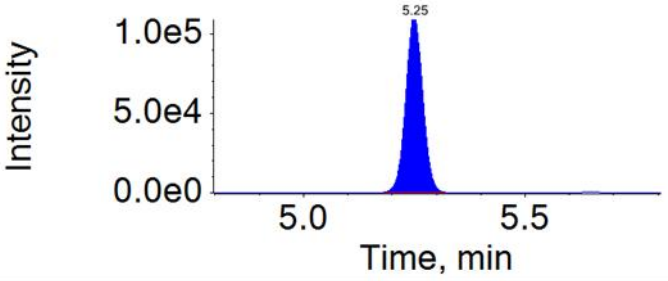
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

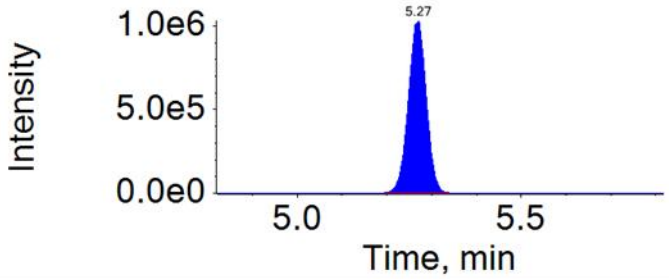
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

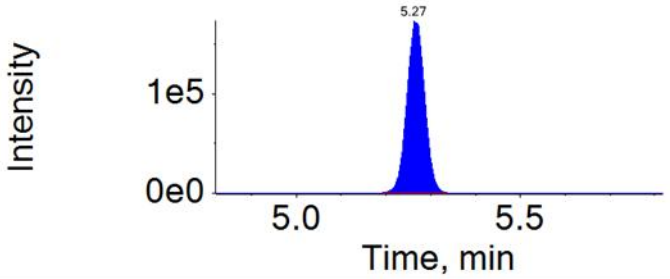
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

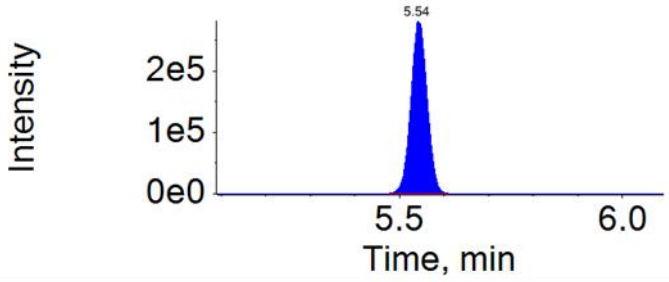
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

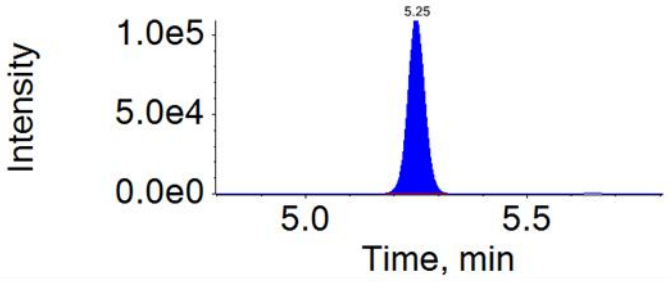
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



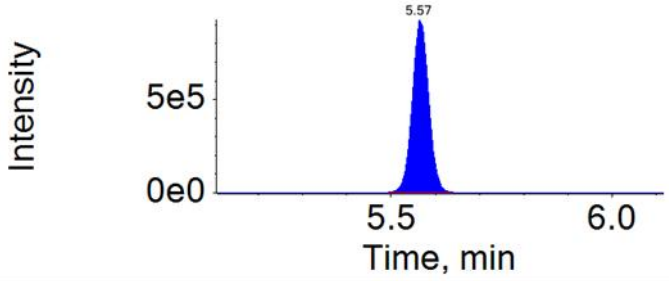


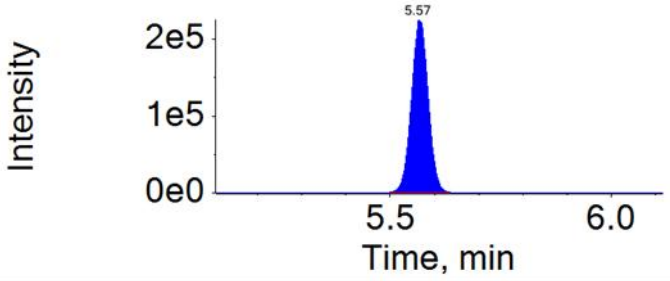
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



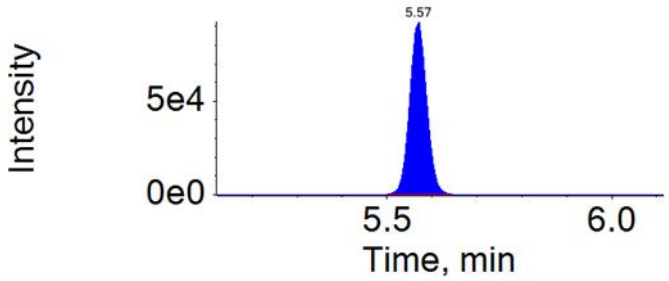


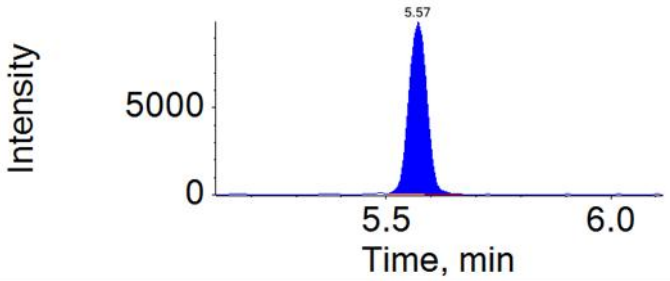
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

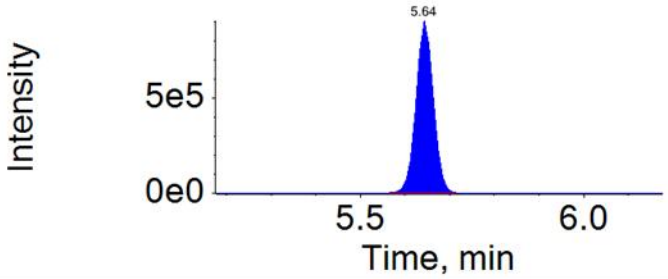
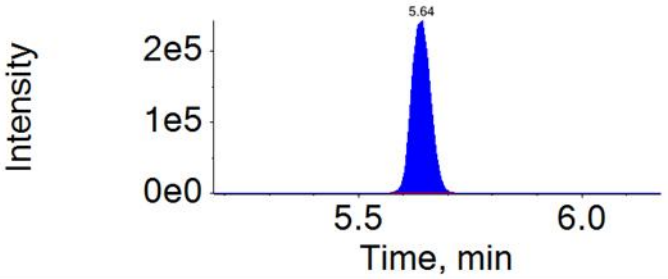


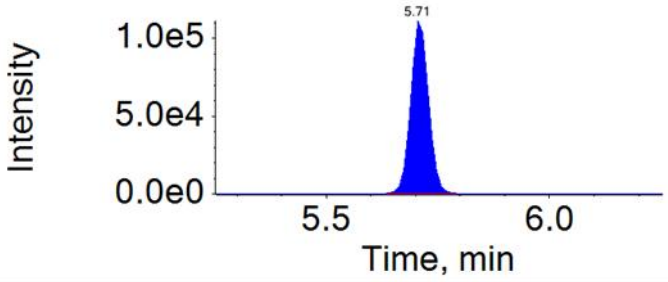
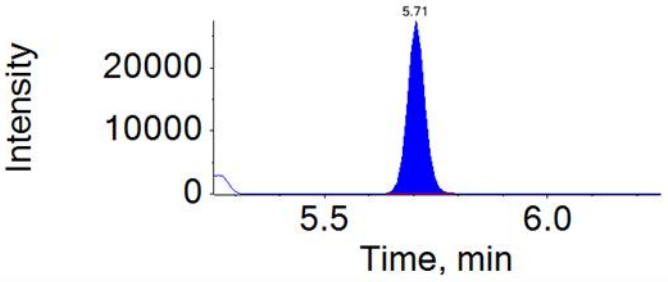


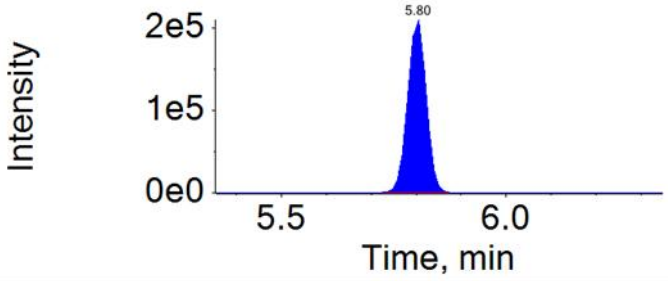
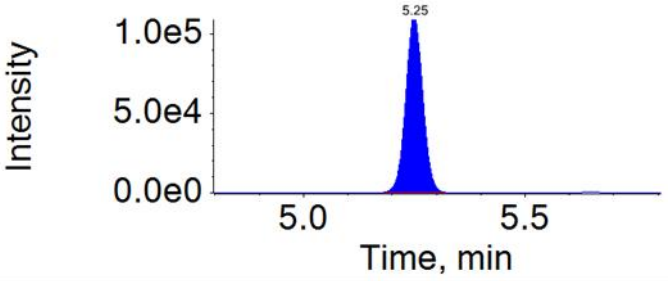
APPROVED
By JPT at 2:53 pm, 11/7/18

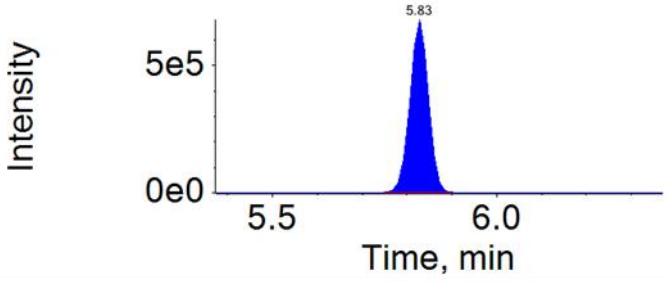
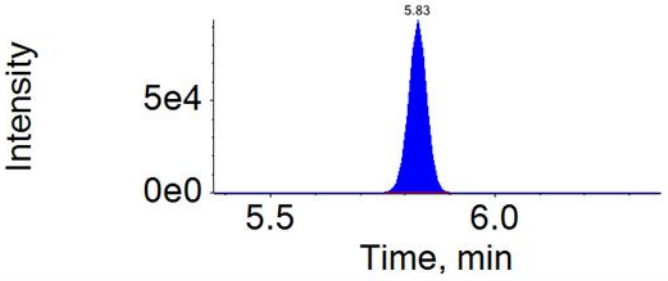
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

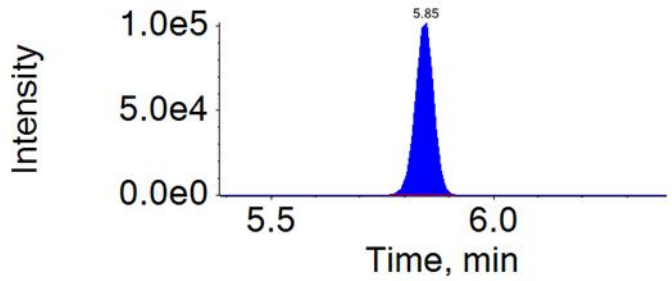
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

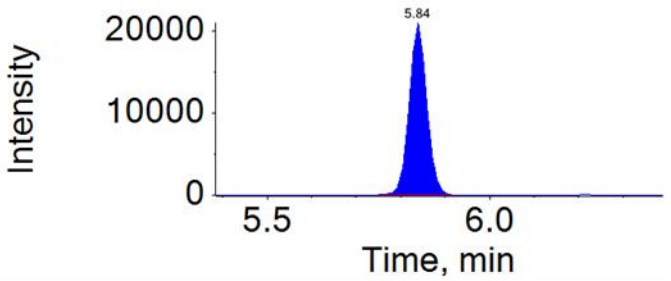
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

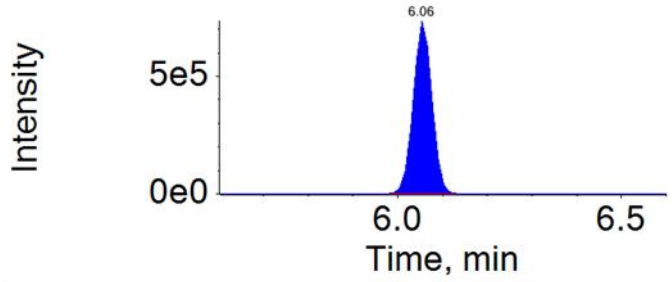
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

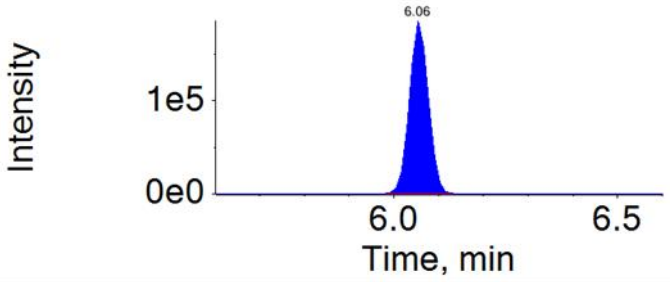
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



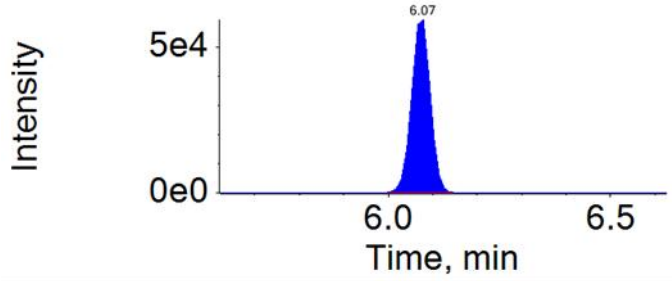


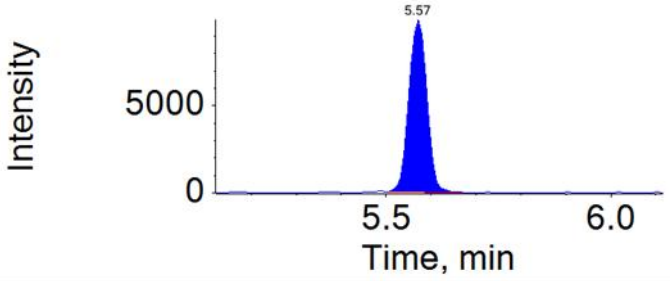
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



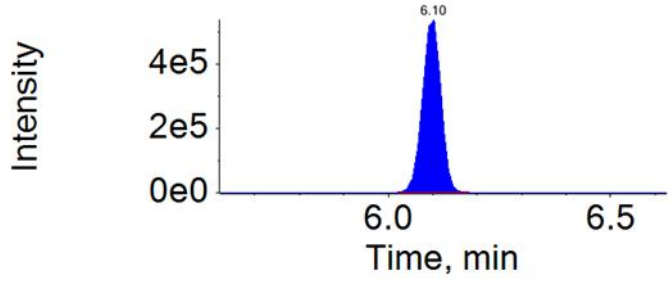


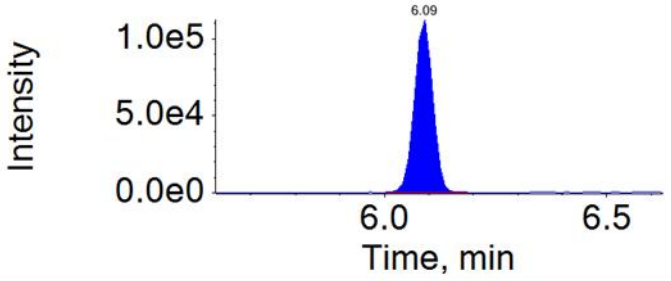
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



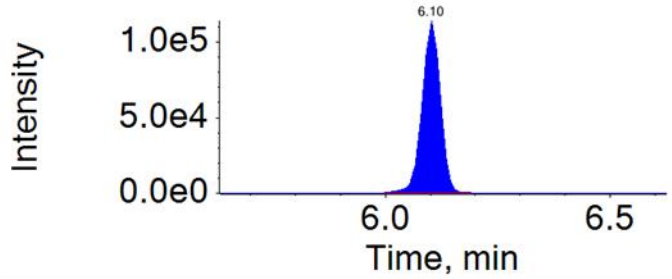


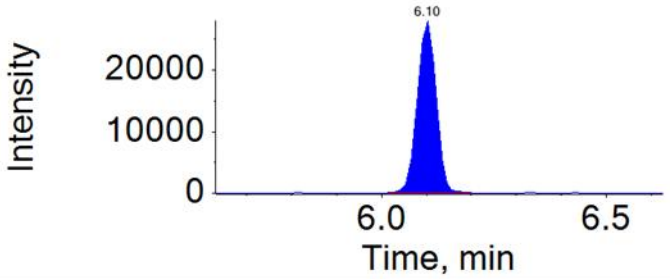
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

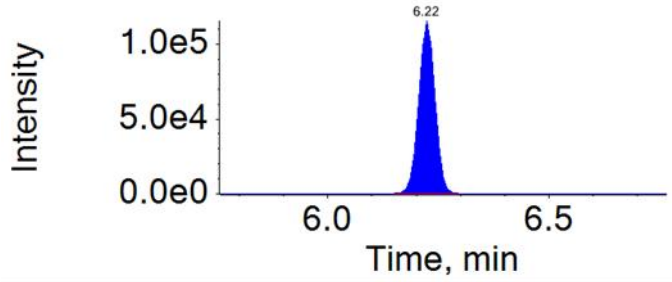
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

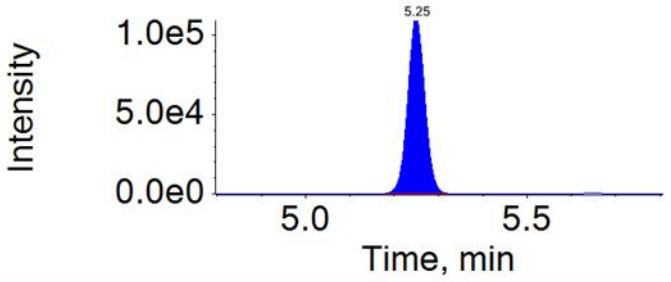
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



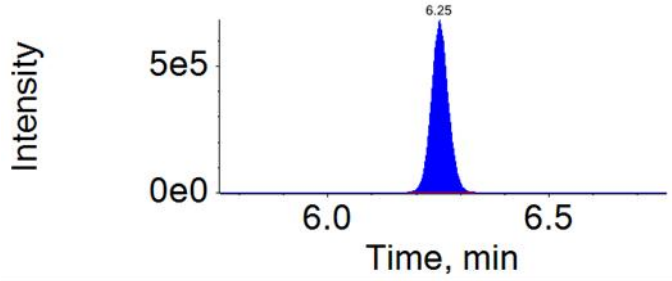


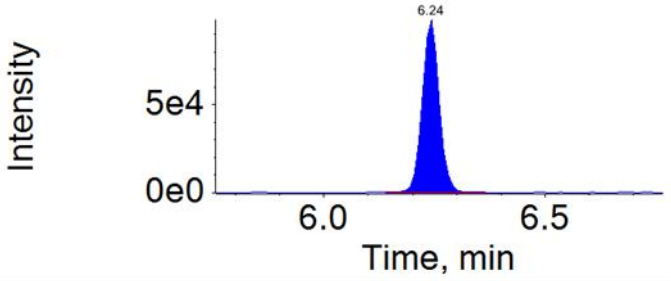
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



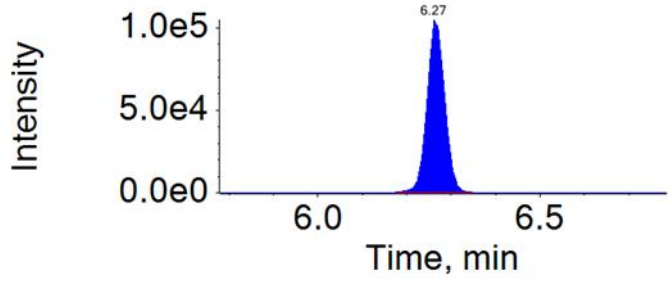


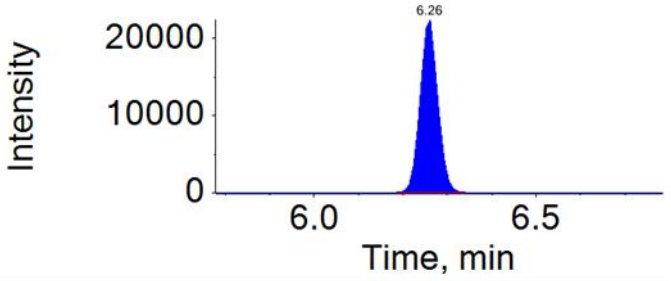
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



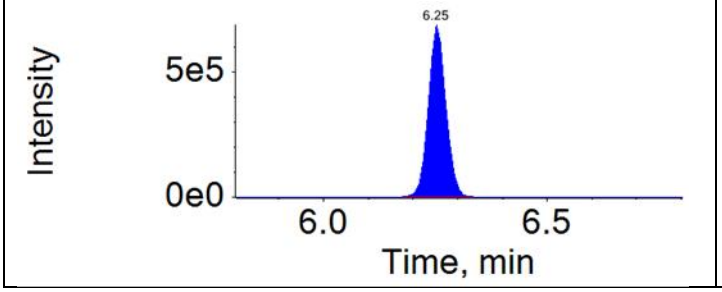


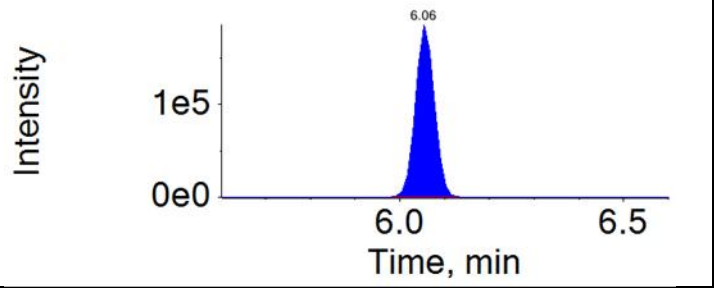
APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

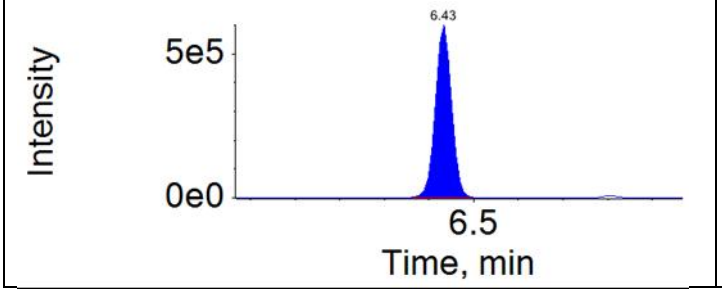
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

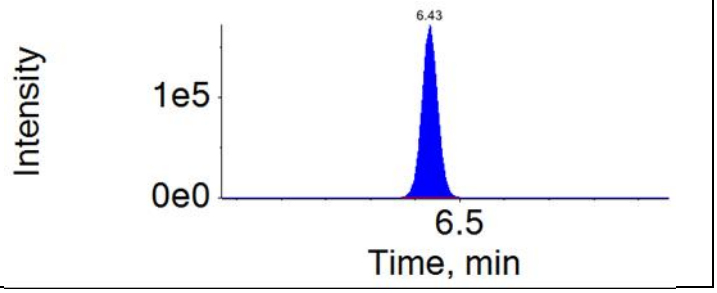
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



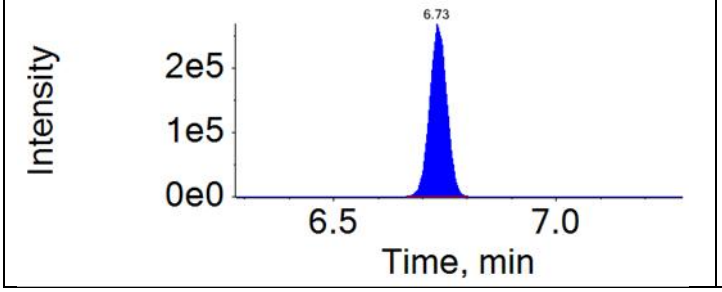


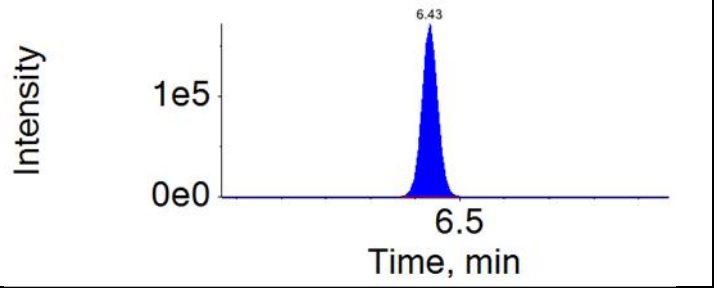
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



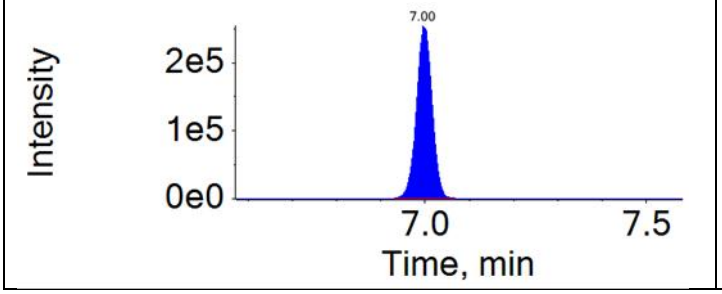


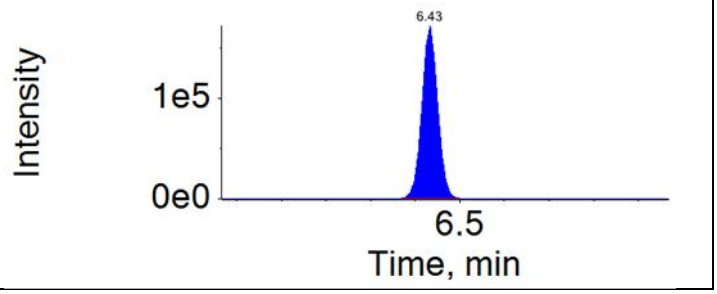
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





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By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

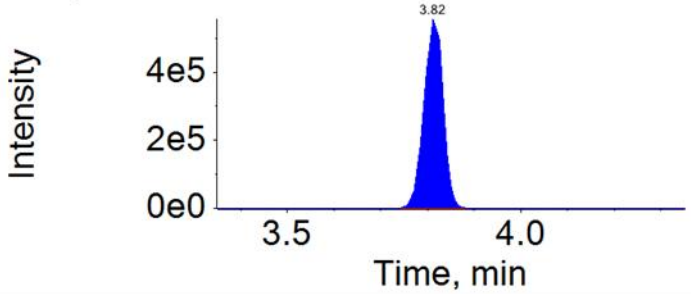
Sample Name: CAL5 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-14.wiff

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	1601296.4	A	1.0000	1.0000			
PFBS_2	3.81	1.00	589199.3	A	0.3576	0.3680	3	50	
4:2-FTS	4.13	1.00	365423.8	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	215025.0	A	0.6359	0.5884	-7	50	
PFHxA	4.16	1.00	3380716.3	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	39429.8	A	0.0115	0.0117	2	50	
PFPeS	4.18	1.10	845636.3	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	449010.4	A	0.5384	0.5310	-1	50	
PFHxS	4.55	1.00	1261633.0	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	452452.3	A	0.3569	0.3586	0	50	
PFHpA	4.55	1.00	3440372.8	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	189560.1	A	0.0577	0.0551	-4	50	
6:2-FTS	4.91	1.00	278493.0	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	181363.3	A	0.6752	0.6512	-4	50	
PFHpS	4.92	1.08	1236603.7	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	499368.1	A	0.3950	0.4038	2	50	
PFOA	4.92	1.00	3425279.8	A	1.0000	1.0000			
PFOA_2	4.92	1.00	194621.3	A	0.0635	0.0568	-10	50	
PFOS	5.25	1.00	1108359.9	A	1.0000	1.0000			
PFOS_2	5.25	1.00	389460.8	A	0.3494	0.3514	1	50	
PFNA	5.27	1.00	2889454.7	A	1.0000	1.0000			
PFNA_2	5.27	1.00	55493.0	A	0.0207	0.0192	-7	50	
PFNS	5.54	1.06	722178.3	A	1.0000	1.0000			
PFNS_2	5.54	1.06	336998.4	A	0.4890	0.4666	-5	50	
PFDA	5.57	1.00	2401274.2	A	1.0000	1.0000			
PFDA_2	5.57	1.00	16983.6	A	0.0057	0.0071	25	50	
8:2-FTS	5.57	1.00	244867.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	133528.0	A	0.6169	0.5453	-12	50	
NMeFOSAA	5.71	1.00	308507.7	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	75576.5	A	0.2206	0.2450	11	50	
PFDS	5.80	1.11	605559.3	A	1.0000	1.0000			
PFDS_2	5.80	1.11	310462.1	A	0.4648	0.5127	10	50	
PFUnDA	5.83	1.00	1952356.4	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	9988.0	A	0.0031	0.0051	62	50	OOS
NEtFOSAA	5.85	1.00	298834.2	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	185748.9	A	0.6082	0.6216	2	50	
PFDoDA	6.06	1.00	2132260.7	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	26780.3	A	0.0109	0.0126	15	50	
10:2-FTS	6.07	1.09	177607.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	115093.0	A	0.7082	0.6480	-9	50	
PFTrDA	6.25	1.03	1851055.0	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	17056.8	A	0.0096	0.0092	-4	50	
PFTeDA	6.43	1.00	1500655.1	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	8887.6	A	0.0055	0.0059	7	50	
PFHxDA	6.73	1.05	716467.3	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	43825.8	A	0.0596	0.0612	3	50	
PFODA	7.00	1.09	624697.0	A	1.0000	1.0000			
PFODA_2	7.00	1.09	15544.4	A	0.0257	0.0249	-3	50	

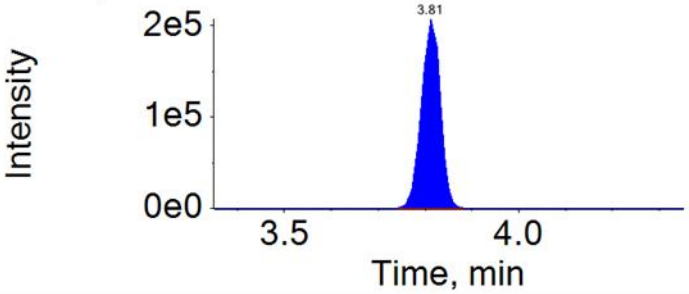
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

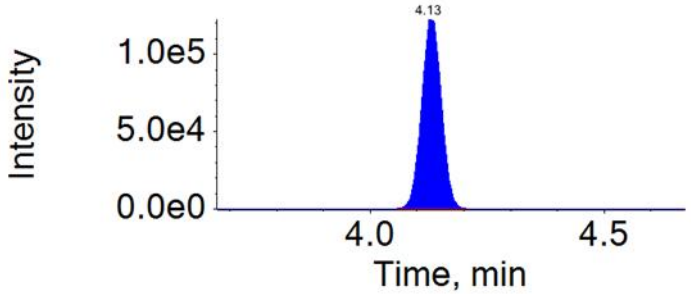
Component: PFBS
Primary Mass: 299.0 / 80.0



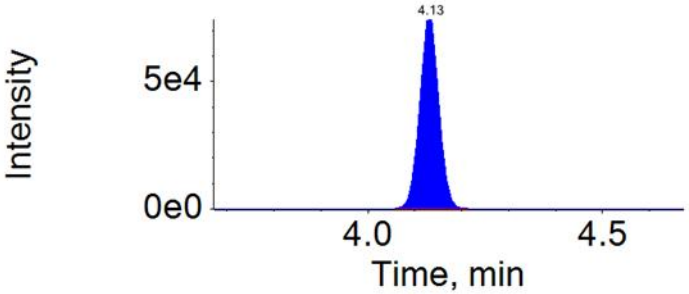
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



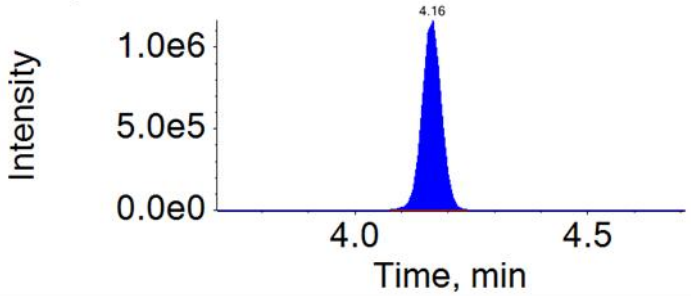
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



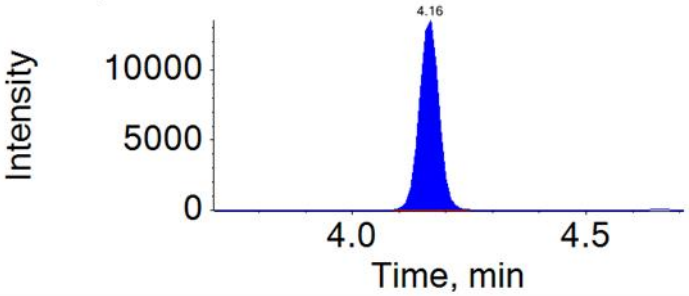
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



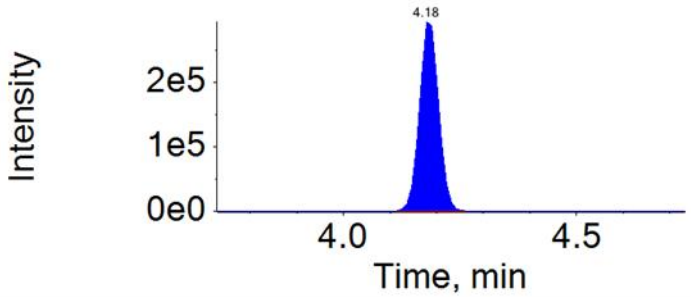
Component: PFHxA
Primary Mass: 313.0 / 269.0



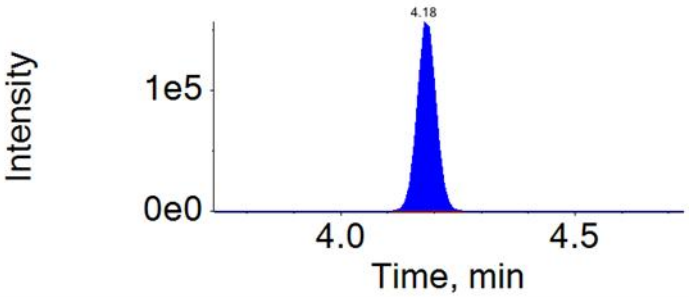
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



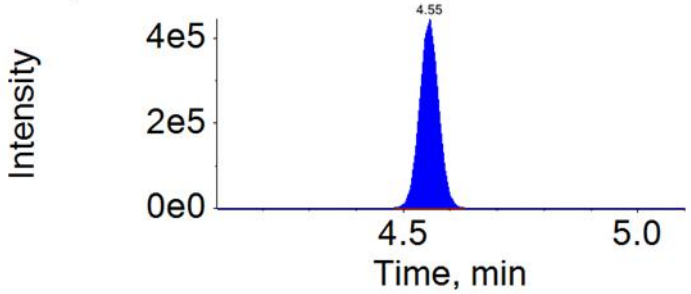
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



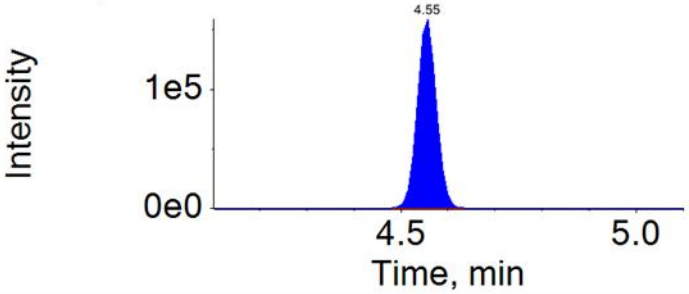
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

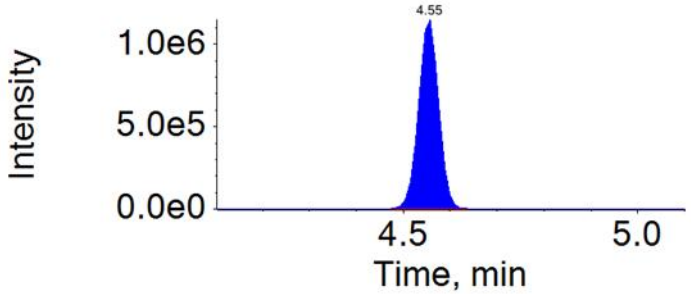
Component: PFHxS
Primary Mass: 399.0 / 80.0



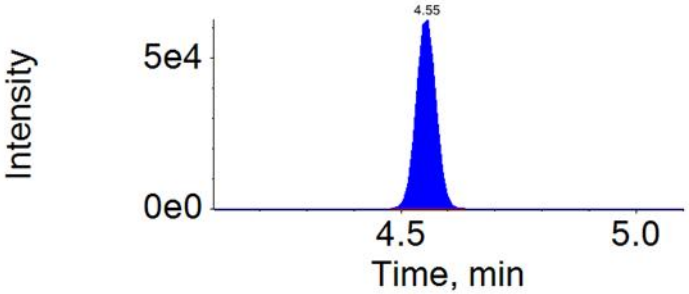
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



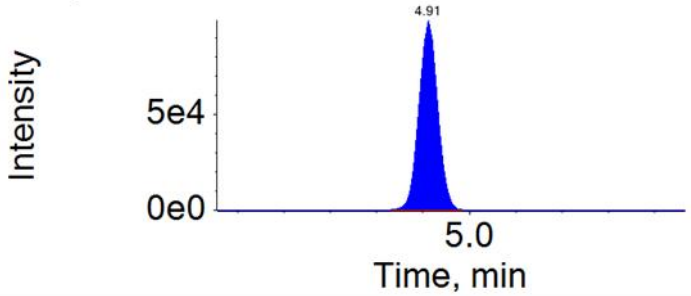
Component: PFHpA
Primary Mass: 363.0 / 319.0



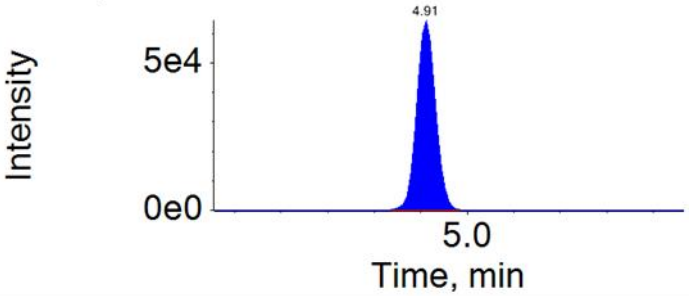
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



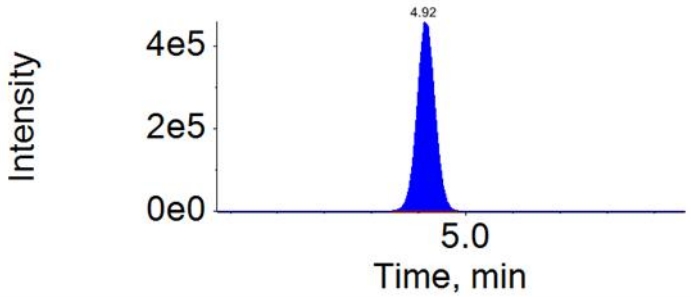
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



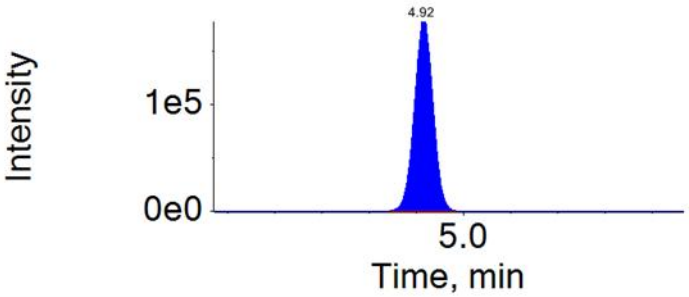
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



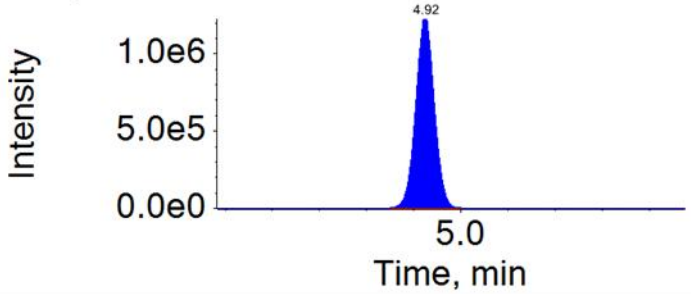
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



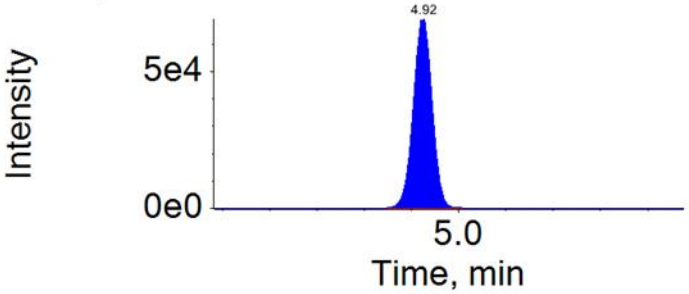
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

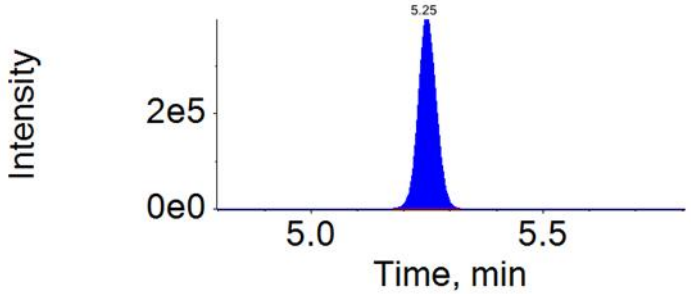
Component: PFOA
Primary Mass: 413.0 / 369.0



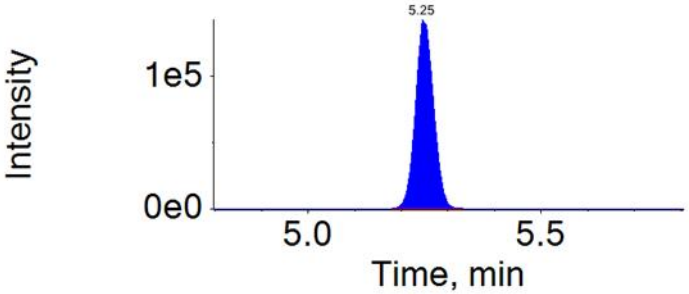
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



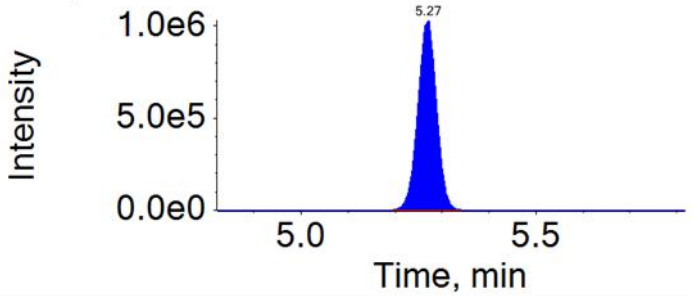
Component: PFOS
Primary Mass: 499.0 / 80.0



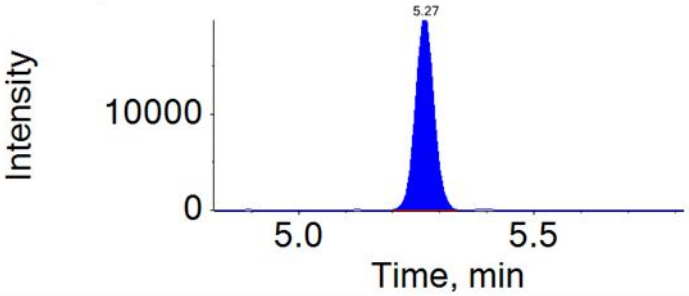
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



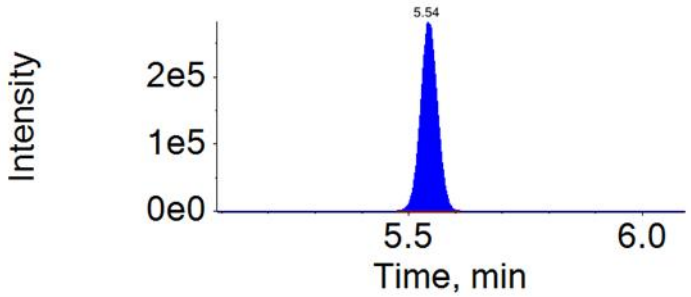
Component: PFNA
Primary Mass: 463.0 / 419.0



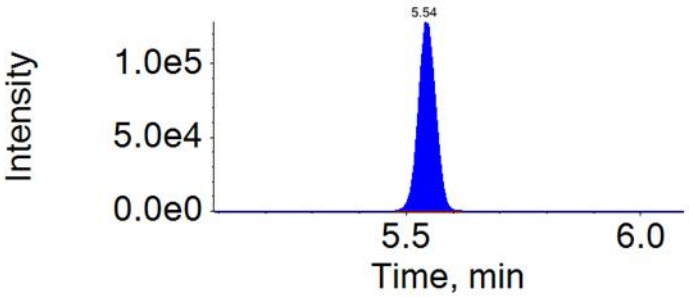
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



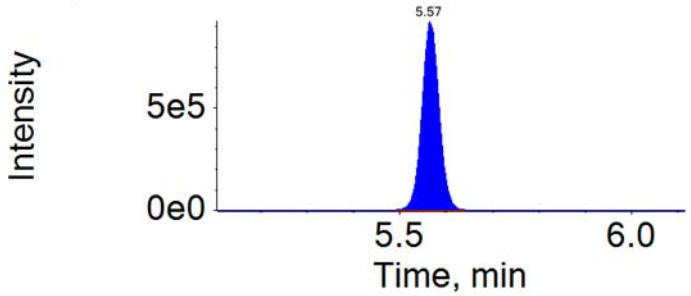
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



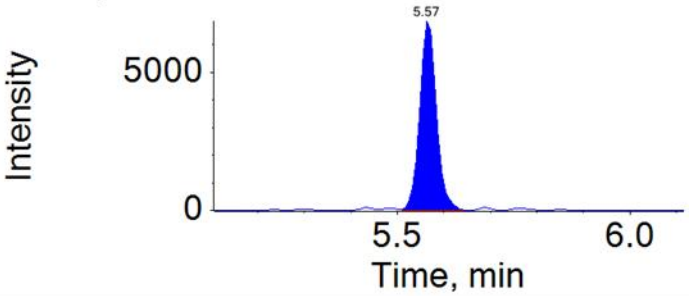
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

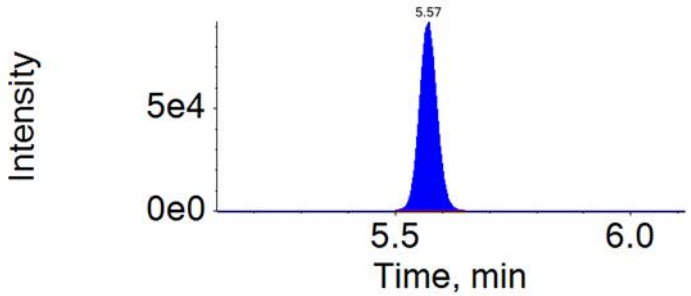
Component: PFDA
Primary Mass: 513.0 / 469.0



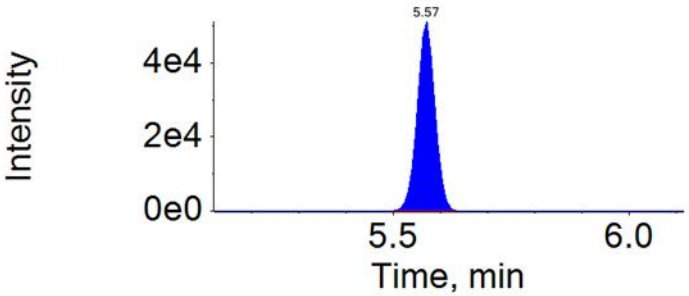
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



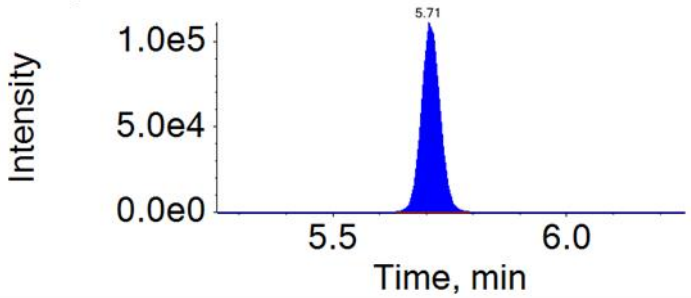
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



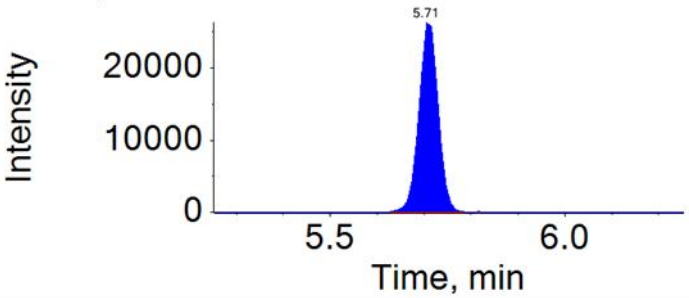
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



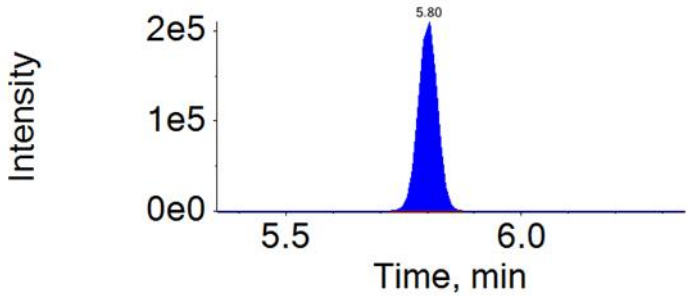
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



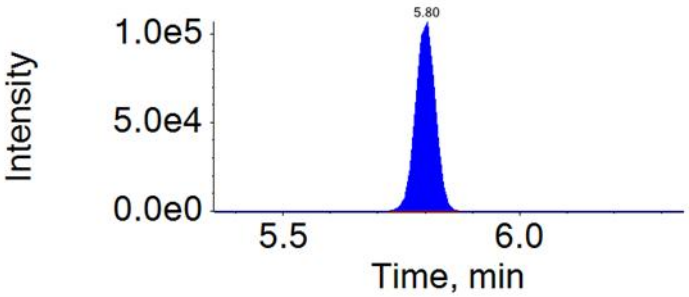
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



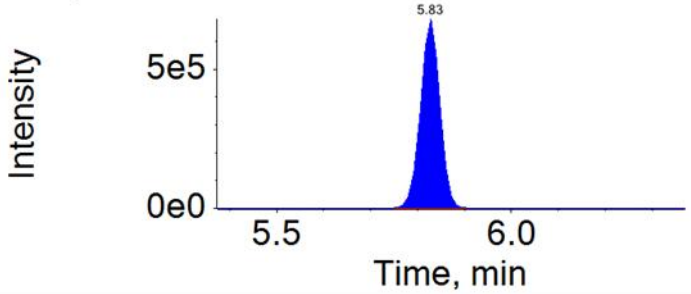
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Secondary Mass: 599.0 / 99.0



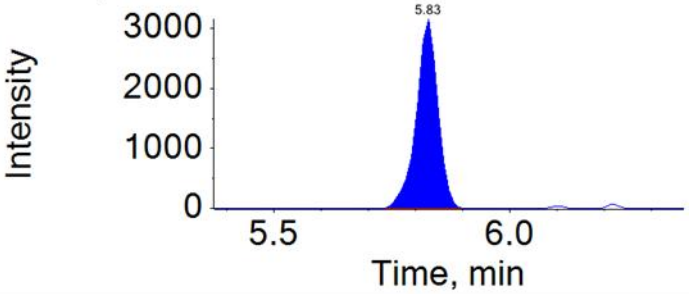
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

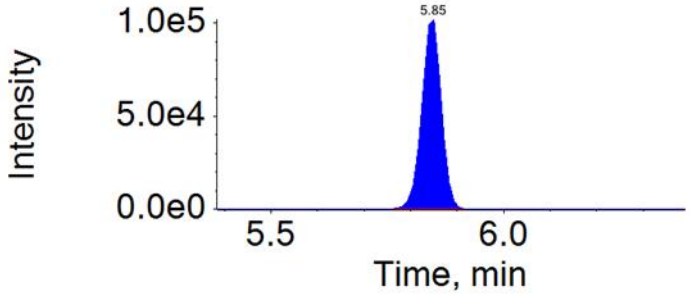
Component: PFUnDA
Primary Mass: 563.0 / 519.0



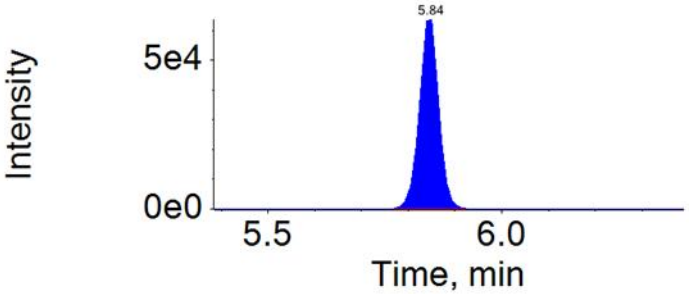
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Secondary Mass: 563.0 / 169.0



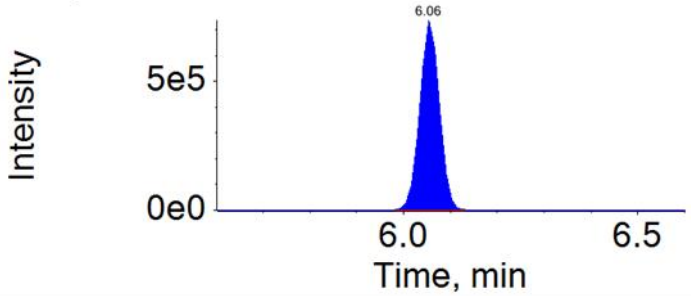
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



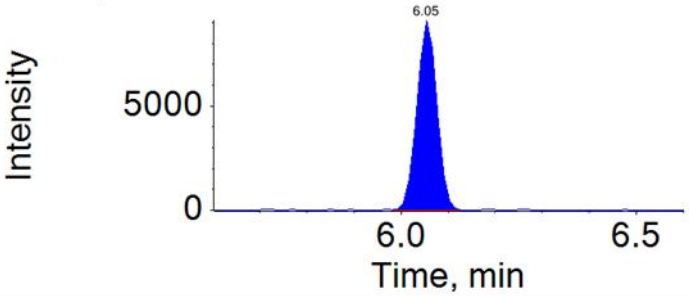
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



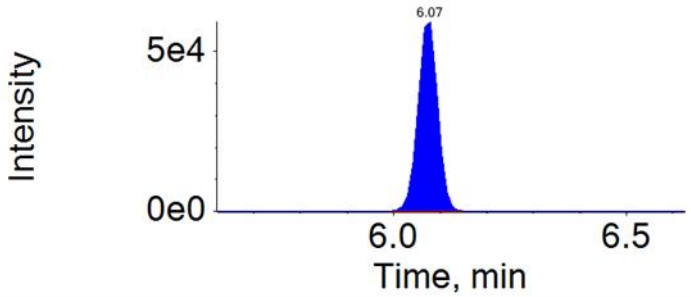
Component: PFDoDA
Primary Mass: 613.0 / 569.0



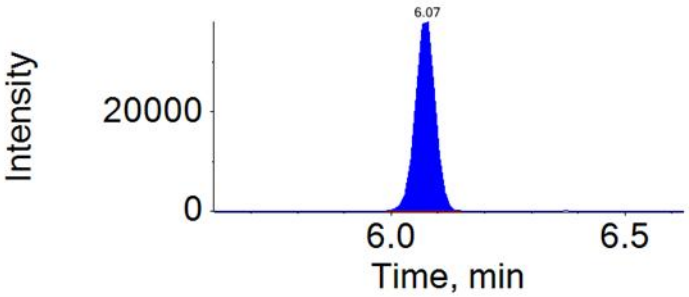
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



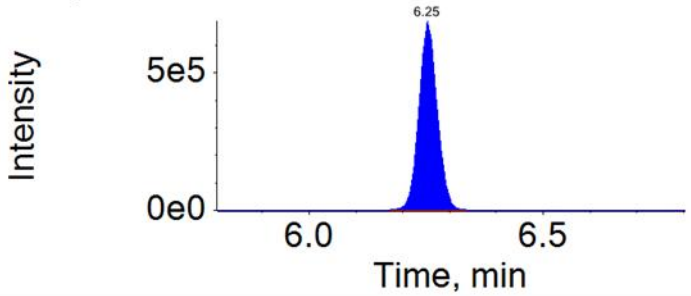
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



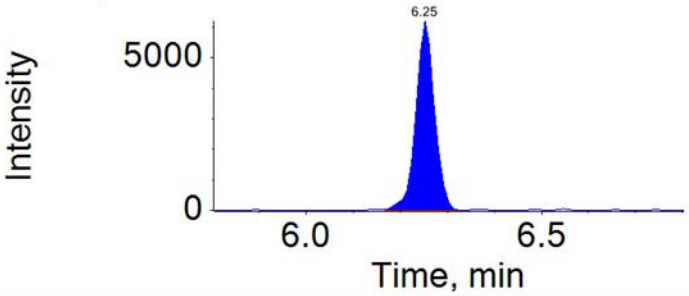
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

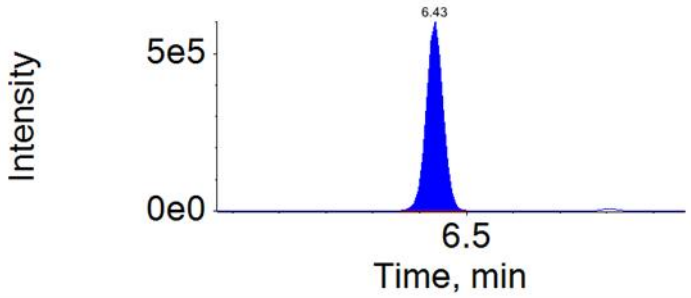
Component: PFTrDA
Primary Mass: 663.0 / 619.0



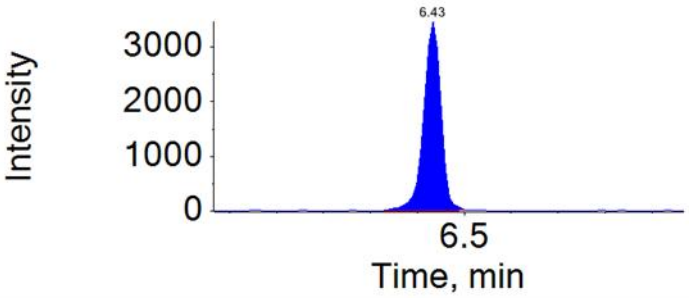
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



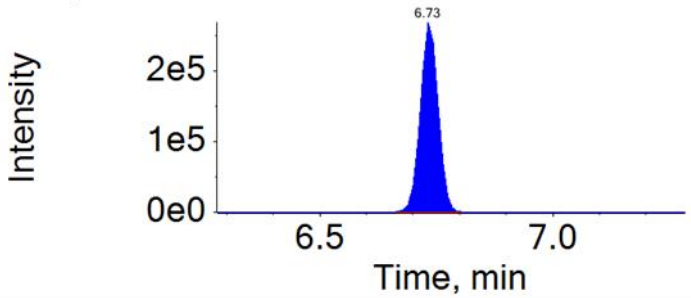
Component: PFTeDA
Primary Mass: 713.0 / 669.0



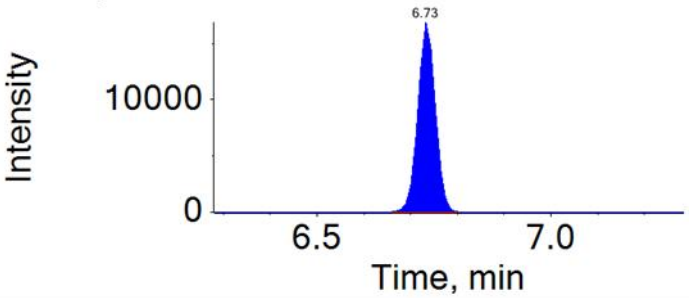
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



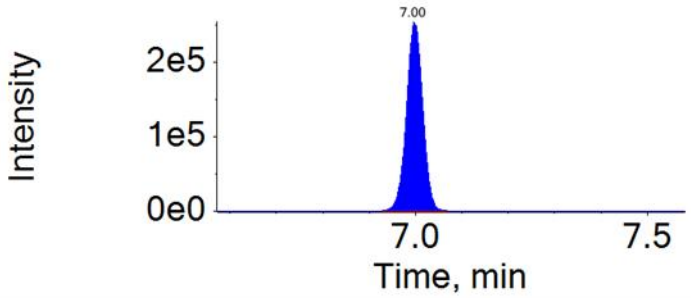
Component: PFHxDA
Primary Mass: 813.0 / 769.0



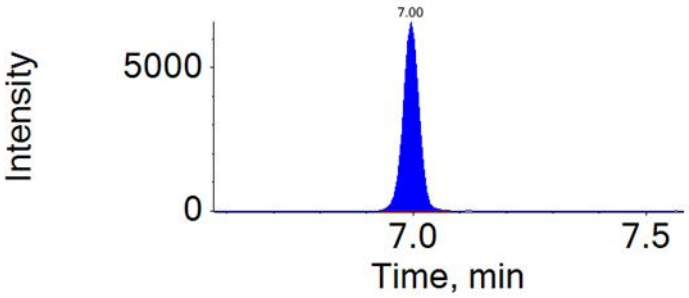
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL6			**Data File:**		18NOV07DCAL-15.wiff
Sample ID:	CALMOD61833E			**Acquis Date:**		2018-11-07T10:24:59
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	8			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	600246.7	730410.6	-18	50	
13C2-PFOA	5.0	457854.9	524423.6	-13	50	
13C4-PFOS	4.8	251499.9	274061.7	-8	50	
13C2-PFDA	5.0	260529.0	311442.1	-16	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	647849.6	13C3-PFBA	600246.7	1.079	5.000	4.995	100	70-130	
E13C5-PFPeA	687796.7	13C3-PFBA	600246.7	1.146	5.000	4.992	100	70-130	
E13C3-PFBS	384220.8	13C3-PFBA	600246.7	0.640	4.650	4.698	101	70-130	
E13C2-4:2-FTS	50041.3	13C2-PFOA	457854.9	0.109	4.670	4.932	106	70-130	
E13C5-PFHxA	607820.1	13C2-PFOA	457854.9	1.328	5.000	4.883	98	70-130	
E13C3-PFHxS	295466.2	13C2-PFOA	457854.9	0.645	4.730	4.633	98	70-130	
E13C4-PFHpA	484763.2	13C2-PFOA	457854.9	1.059	5.000	4.816	96	70-130	
E13C2-6:2-FTS	30466.8	13C2-PFOA	457854.9	0.067	4.750	4.437	93	70-130	
E13C8-PFOA	769164.4	13C2-PFOA	457854.9	1.680	5.000	4.685	94	70-130	
E13C8-PFOS	268369.0	13C4-PFOS	251499.9	1.067	4.780	4.718	99	70-130	
E13C9-PFNA	440319.0	13C4-PFOS	251499.9	1.751	5.000	4.782	96	70-130	
E13C6-PFDA	536626.2	13C2-PFDA	260529.0	2.060	5.000	5.180	104	70-130	
E13C2-8:2-FTS	24938.2	13C2-PFDA	260529.0	0.096	4.790	5.065	106	70-130	
E13C8-PFOSA	614406.4	13C2-PFDA	260529.0	2.358	5.000	5.146	103	70-130	
Ed3-NMeFOSAA	78158.0	13C2-PFDA	260529.0	0.300	5.000	5.579	112	70-130	
E13C7-PFUnDA	229237.1	13C2-PFDA	260529.0	0.880	5.000	5.076	102	70-130	
Ed5-NEtFOSAA	60556.6	13C2-PFDA	260529.0	0.232	5.000	5.379	108	70-130	
E13C2-PFDoDA	500065.3	13C2-PFDA	260529.0	1.919	5.000	5.174	103	70-130	
Ed7-NMePFOSAE	294617.6	13C2-PFDA	260529.0	1.131	5.000	5.259	105	70-130	
Ed3-NMePFOSA	77146.9	13C2-PFDA	260529.0	0.296	5.000	5.421	108	70-130	
Ed9-NEtPFOSAE	239317.0	13C2-PFDA	260529.0	0.919	5.000	5.246	105	70-130	
Ed5-NEtPFOSA	59054.4	13C2-PFDA	260529.0	0.227	5.000	5.248	105	70-130	
E13C2-PFTeDA	394433.9	13C2-PFDA	260529.0	1.514	5.000	5.450	109	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

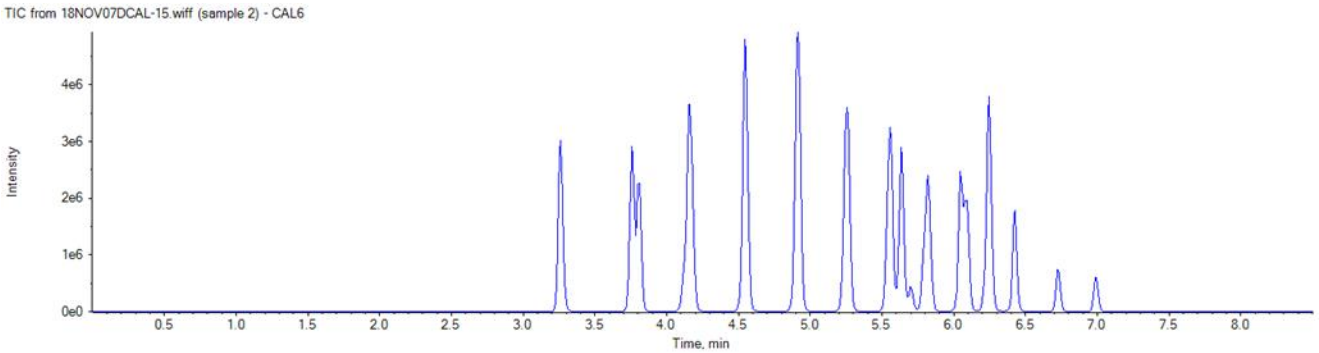
Analyte Quantitation Peak Table

Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.26	1.000	5709364.6		A	13C4-PFBA	3.26	647849.6	8.813	51.576
PFPeA	3.76	1.000	5899932.2		A	13C5-PFPeA	3.76	687796.7	8.578	50.979
PFBS	3.81	1.000	3508201.1		A	13C3-PFBS	3.81	384220.8	9.131	46.035
4:2-FTS	4.12	1.000	866263.6		A	13C2-4:2-FTS	4.12	50041.3	17.311	46.538
PFHxA	4.16	1.000	6739327.9		A	13C5-PFHxA	4.16	607820.1	11.088	47.549
PFPeS	4.18	1.100	1823355.9		A	13C3-PFBS	3.81	384220.8	4.746	46.806
PFHxS	4.55	1.000	2760712.8		A	13C3-PFHxS	4.55	295466.2	9.344	47.360
PFHpA	4.55	1.000	6940304.7		A	13C4-PFHpA	4.55	484763.2	14.317	48.150
6:2-FTS	4.90	1.000	566692.8		A	13C2-6:2-FTS	4.90	30466.8	18.600	46.401
PFHpS	4.91	1.080	2648512.9		A	13C3-PFHxS	4.55	295466.2	8.964	46.896
PFOA	4.92	1.000	7023921.1		A	13C8-PFOA	4.92	769164.4	9.132	51.417
PFOS	5.24	1.000	2487687.4		A	13C8-PFOS	5.24	268369.0	9.270	48.067
PFNA	5.26	1.000	6070259.1		A	13C9-PFNA	5.26	440319.0	13.786	51.521
PFNS	5.54	1.060	1684601.2		A	13C8-PFOS	5.24	268369.0	6.277	49.770
PFDA	5.56	1.000	4962332.7		A	13C6-PFDA	5.56	536626.2	9.247	50.875
8:2-FTS	5.56	1.000	516640.5		A	13C2-8:2-FTS	5.56	24938.2	20.717	46.697
PFOSA	5.64	1.000	5938541.7		A	13C8-PFOSA	5.64	614406.4	9.665	52.247
NMeFOSAA	5.70	1.000	740651.6		A	d3-NMeFOSAA	5.70	78158.0	9.476	48.760
PFDS	5.79	1.110	1337416.6		A	13C8-PFOS	5.24	268369.0	4.983	47.605
PFUnDA	5.82	1.000	4071590.3		A	13C7-PFUnDA	5.82	229237.1	17.761	50.936
NEtFOSAA	5.84	1.000	685447.7		A	d5-NEtFOSAA	5.83	60556.6	11.319	48.645
PFDoDA	6.05	1.000	4509578.7		A	13C2-PFDoDA	6.05	500065.3	9.018	48.873
10:2-FTS	6.07	1.090	395929.8		A	13C2-8:2-FTS	5.56	24938.2	15.876	49.437
NMePFOSAE	6.09	1.000	3462215.2		A	d7-NMePFOSAE	6.08	294617.6	11.752	52.660
NMePFOSA	6.10	1.000	705149.2		A	d3-NMePFOSA	6.09	77146.9	9.140	51.162
PFDoS	6.22	1.190	661528.1		A	13C8-PFOS	5.24	268369.0	2.465	47.576
NEtPFOSAE	6.25	1.000	3836850.8		A	d9-NEtPFOSAE	6.23	239317.0	16.033	51.396
NEtPFOSA	6.26	1.000	676107.2		A	d5-NEtPFOSA	6.25	59054.4	11.449	50.423
PFTrDA	6.25	1.030	3829048.4		A	13C2-PFDoDA	6.05	500065.3	7.657	48.287
PFTeDA	6.42	1.000	3381511.1		A	13C2-PFTeDA	6.43	394433.9	8.573	50.344
PFHxDA	6.73	1.050	1559604.6		A	13C2-PFTeDA	6.43	394433.9	3.954	49.083
PFODA	6.99	1.090	1340733.9		A	13C2-PFTeDA	6.43	394433.9	3.399	48.698

Total Ion Chromatogram

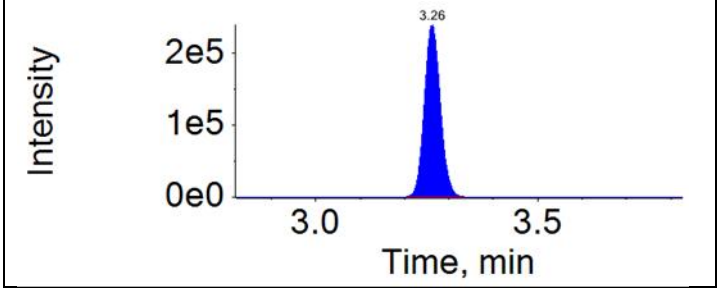


APPROVED
By JPT at 2:53 pm, 11/7/18

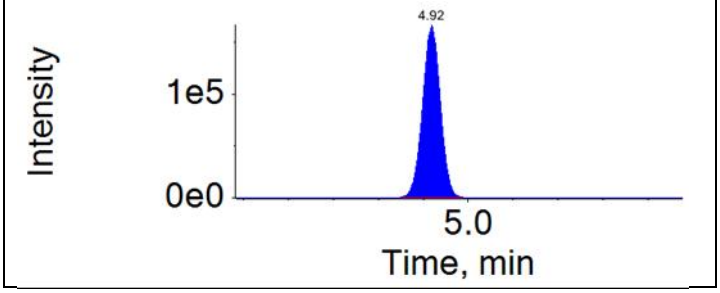
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

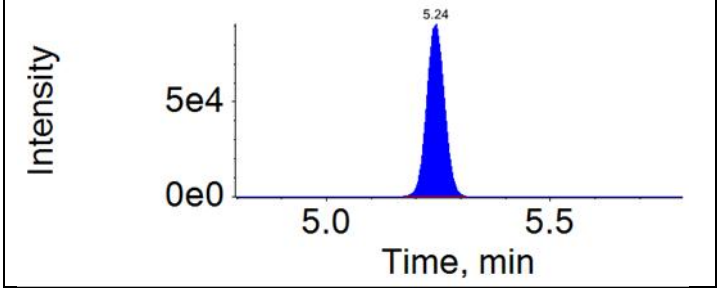
Injection Standard: 13C3-PFBA
216.0 / 172.0



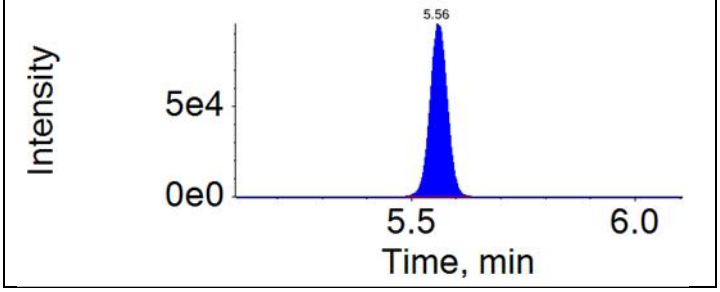
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

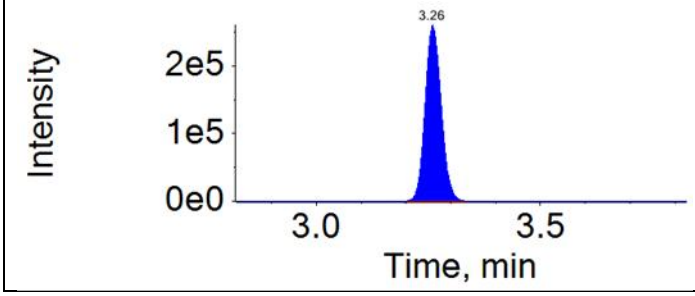


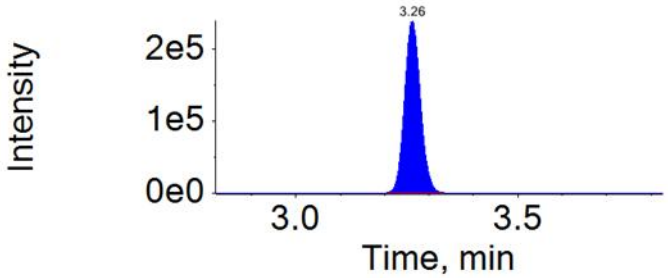
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

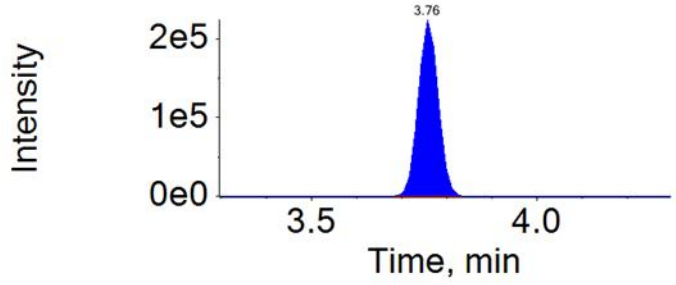
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

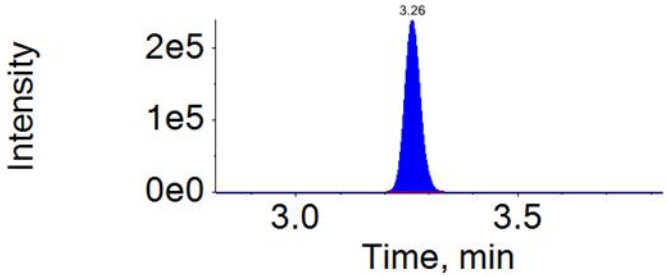
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



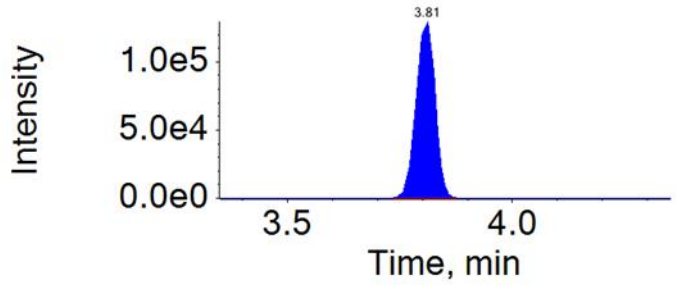


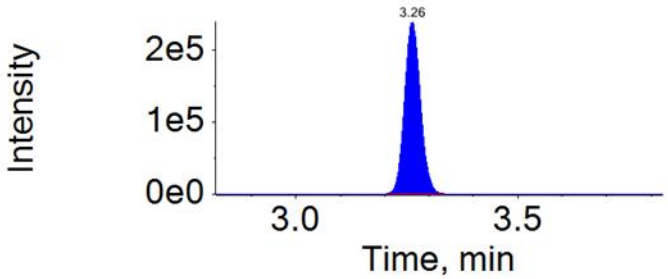
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



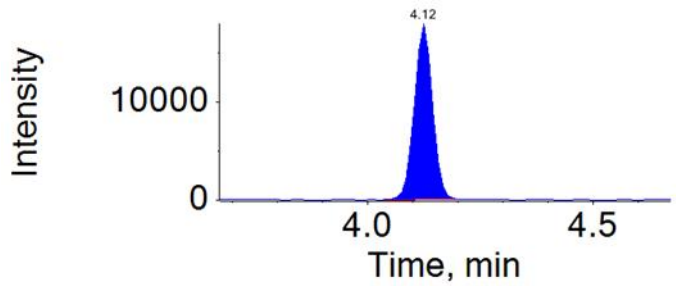


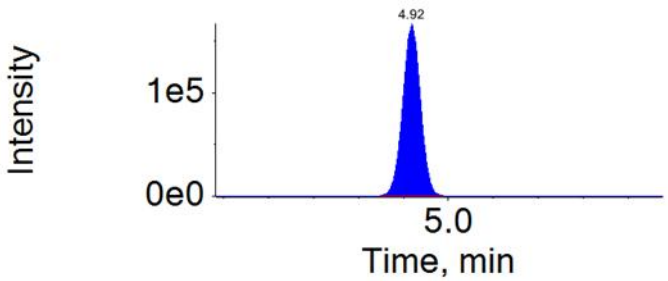
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



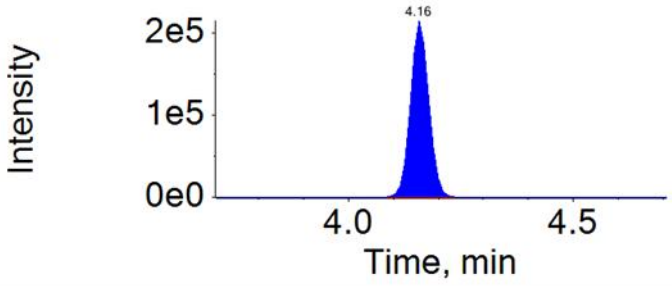
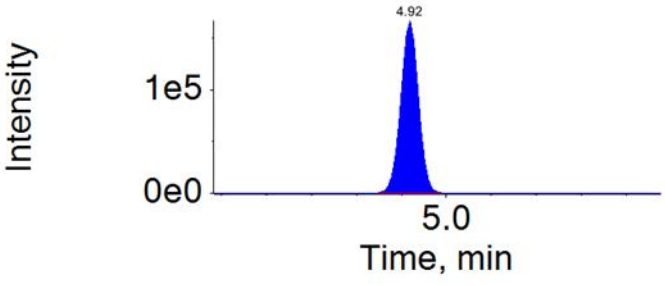


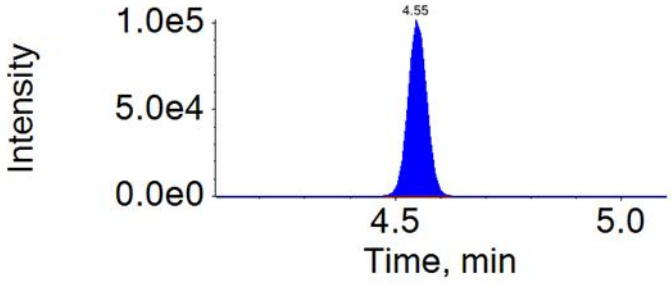
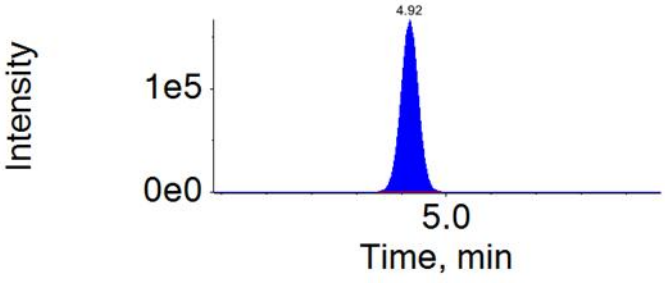
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

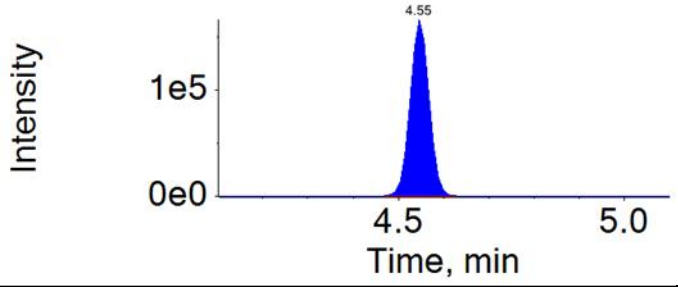
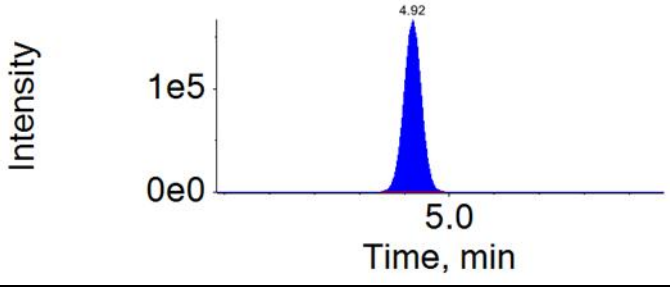


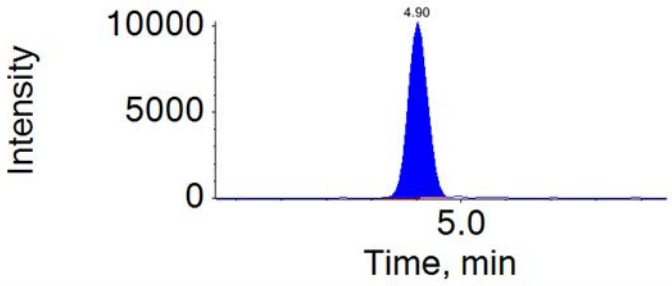
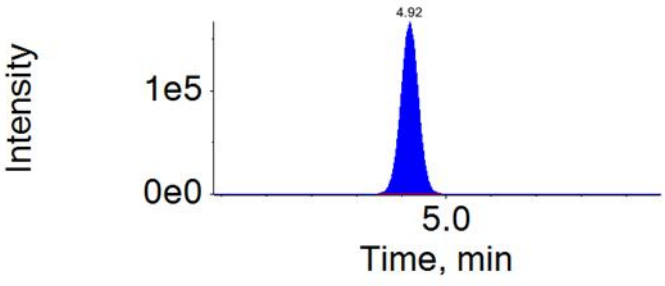


ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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
	

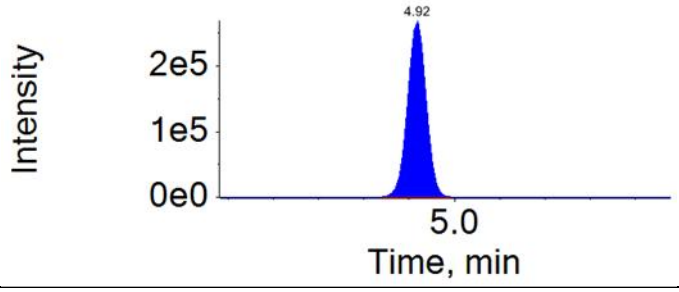
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

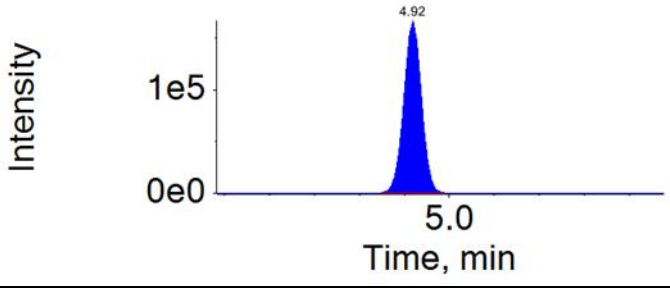
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

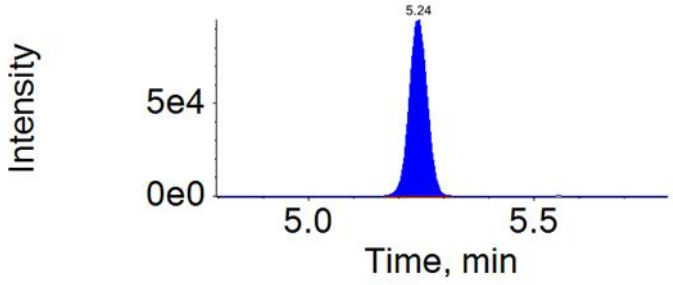
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

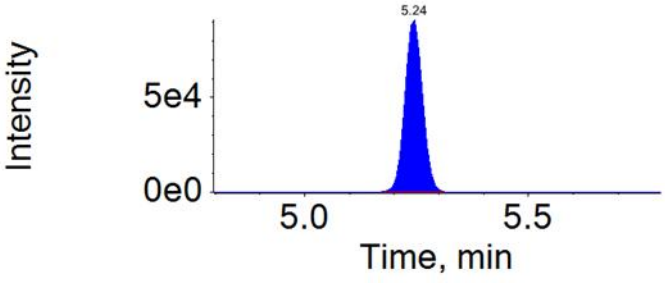
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



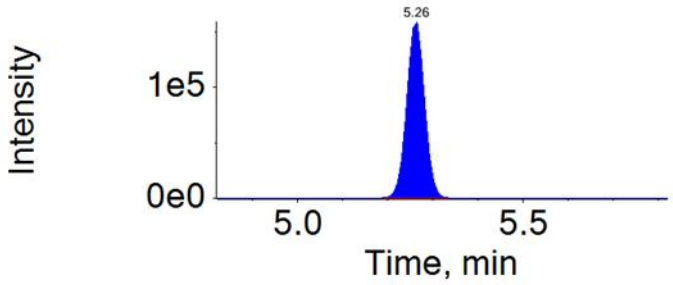


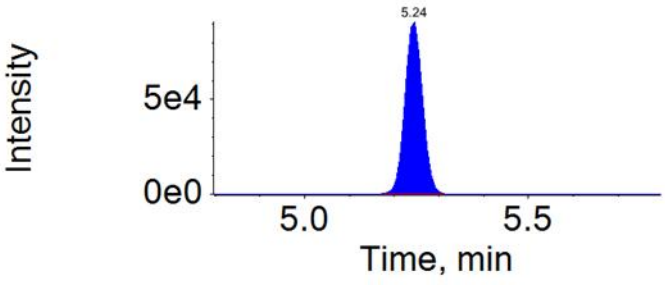
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



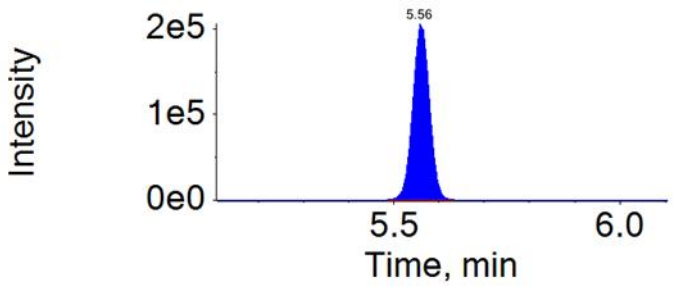


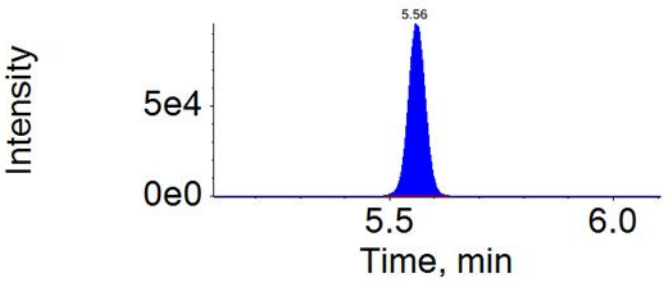
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

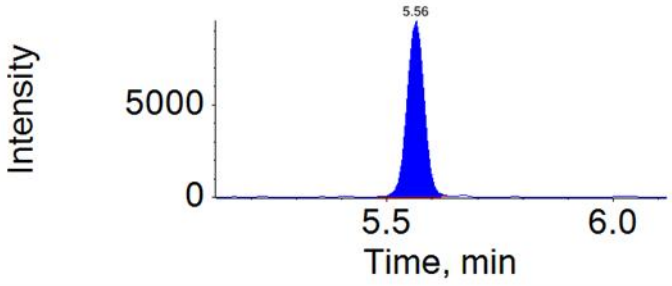
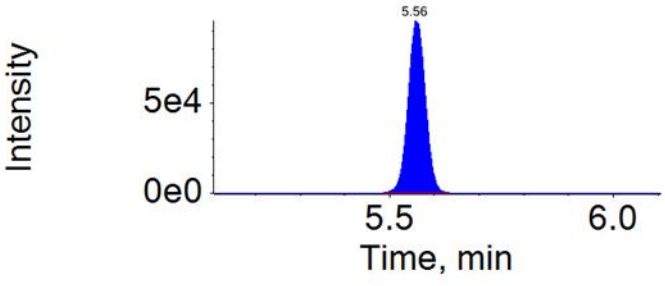


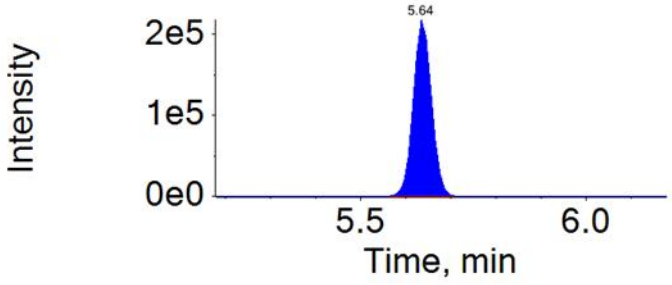
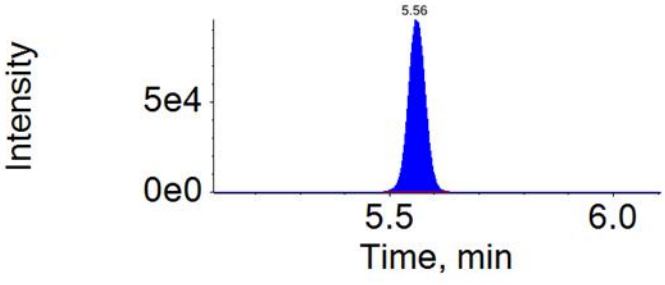


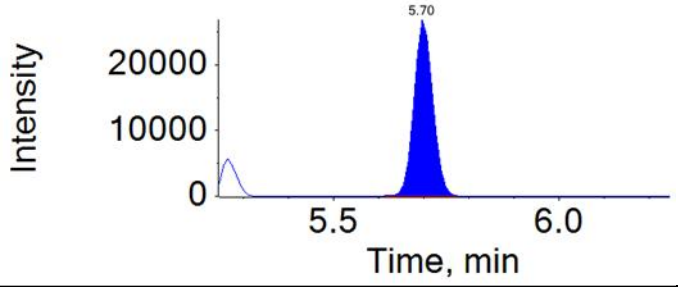
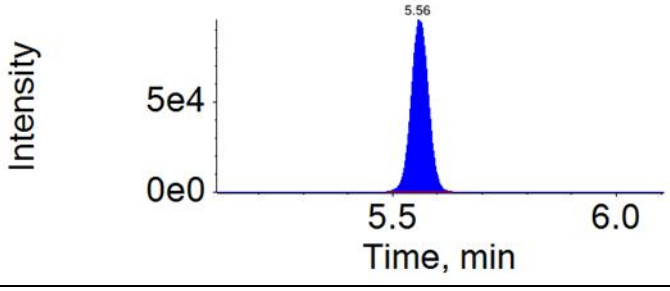
APPROVED
By JPT at 2:53 pm, 11/7/18

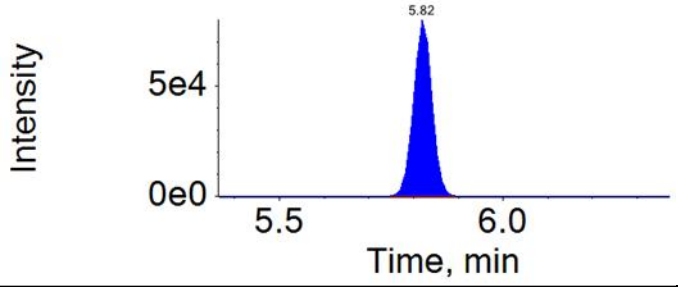
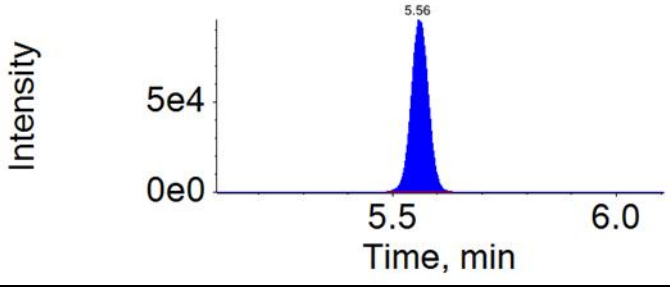
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

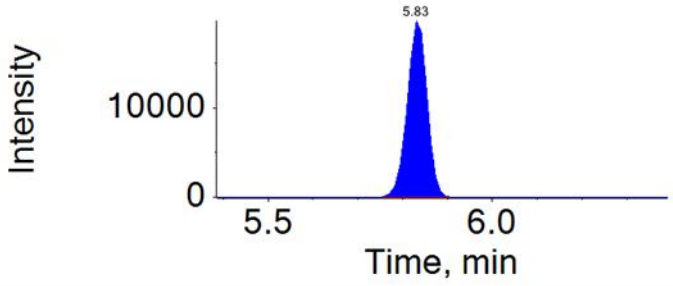
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

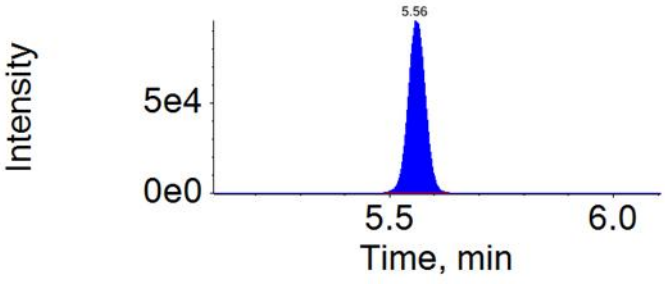
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

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

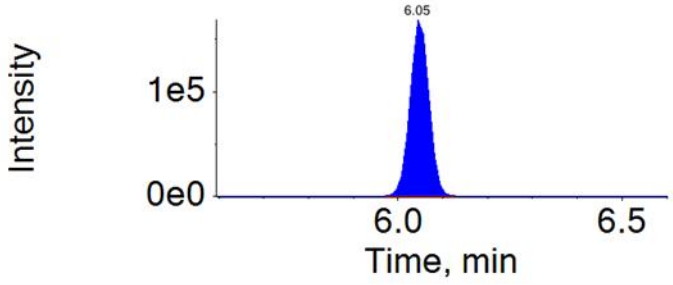
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

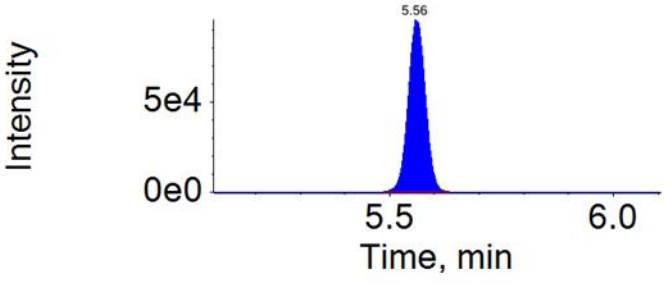
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



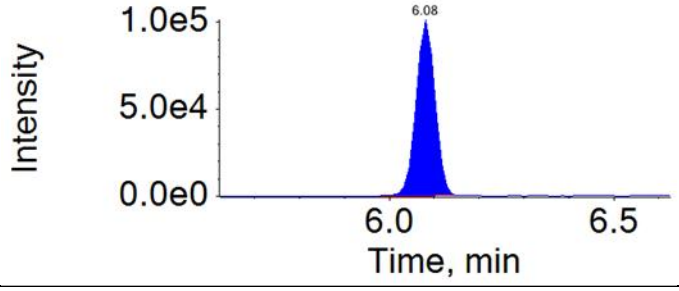


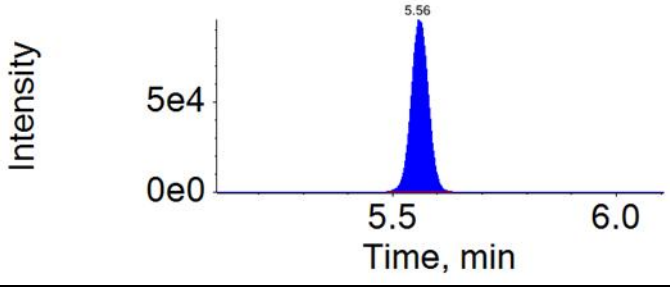
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



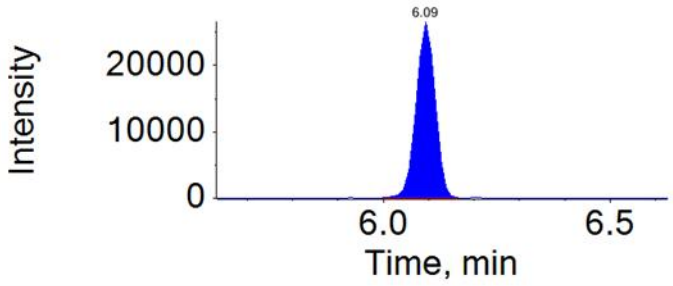


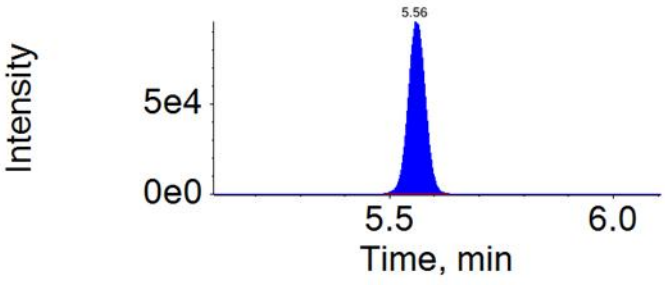
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

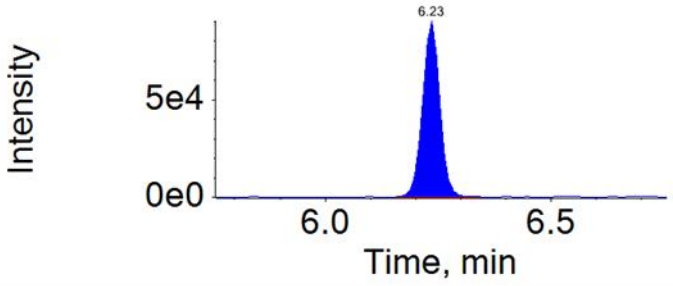
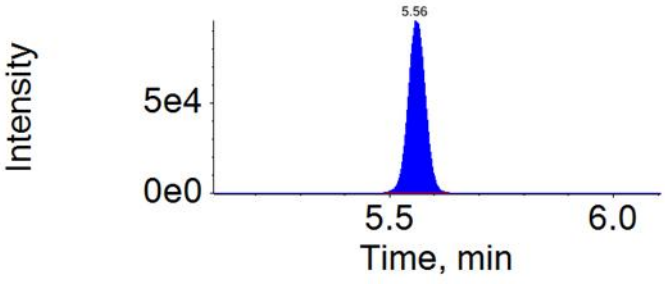


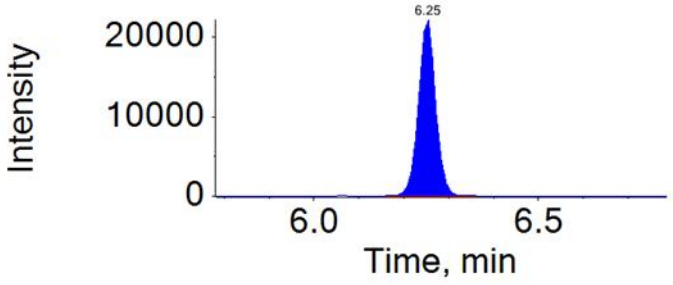
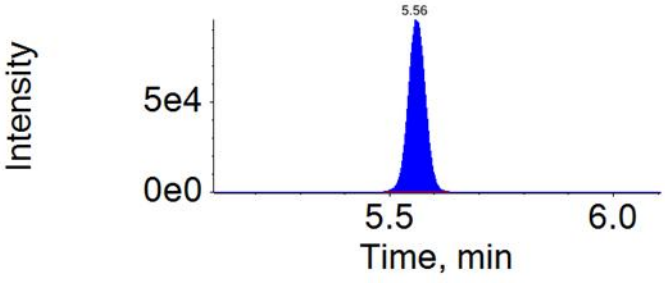


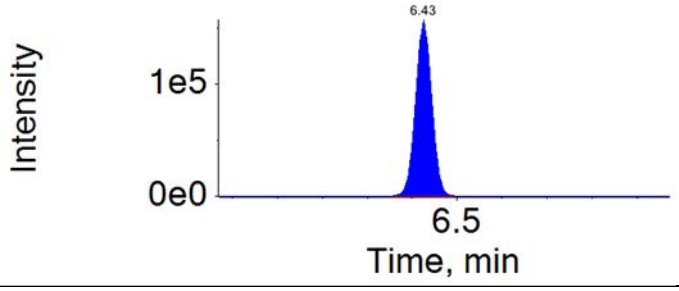
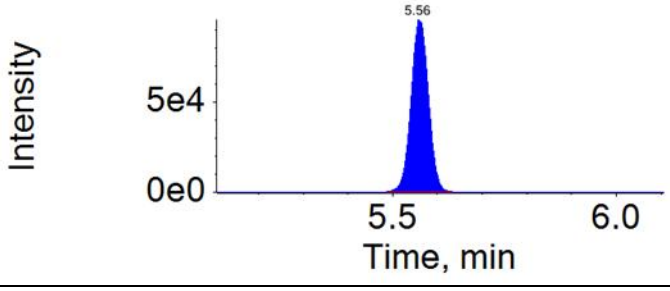
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

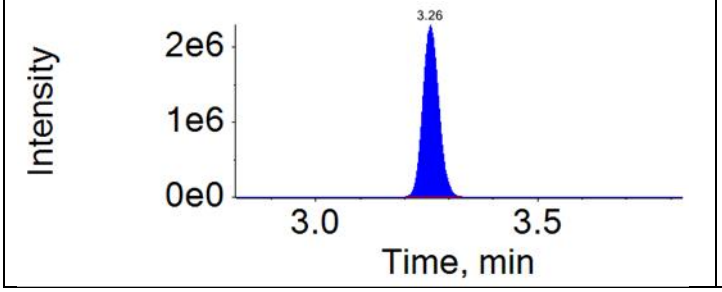
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

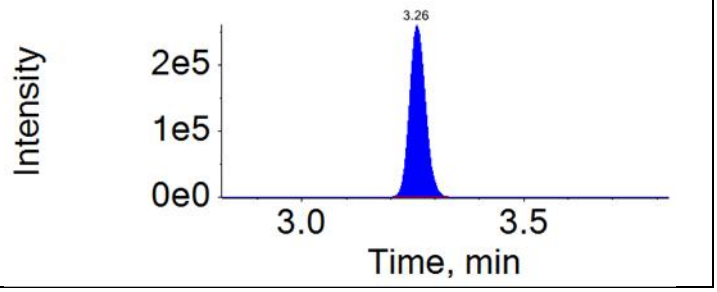
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

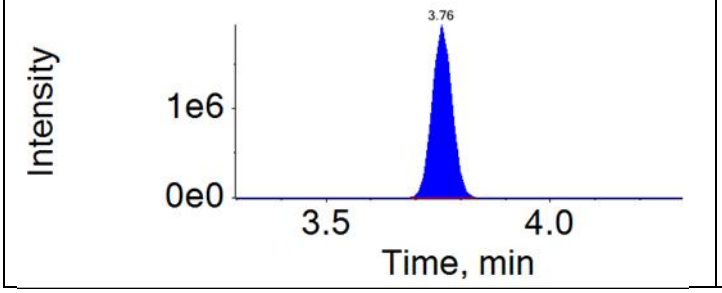
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

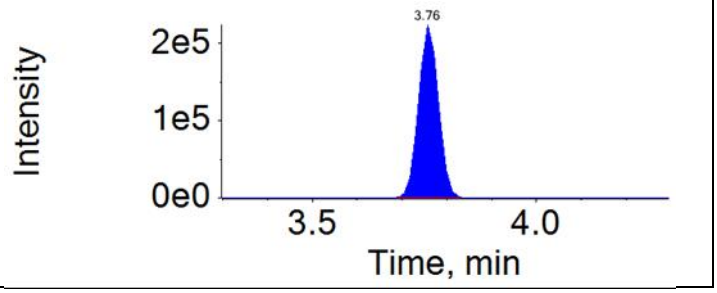
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



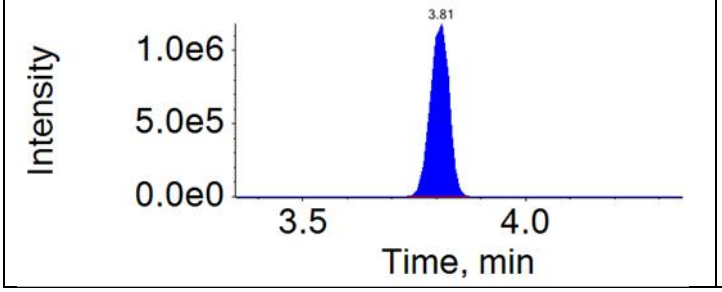


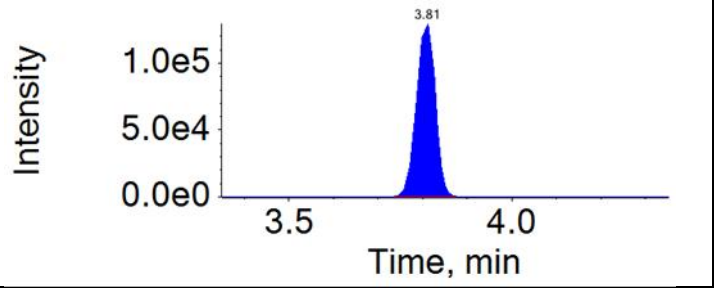
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



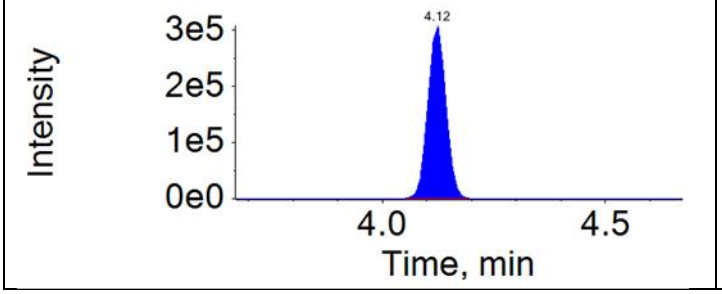


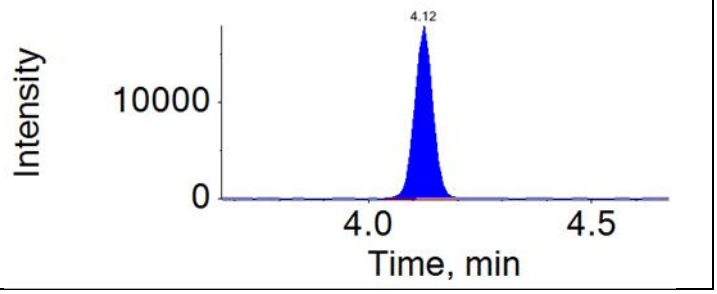
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

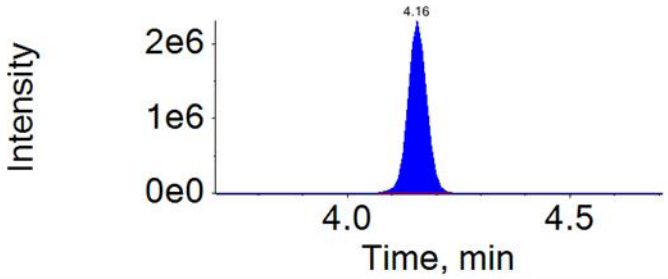
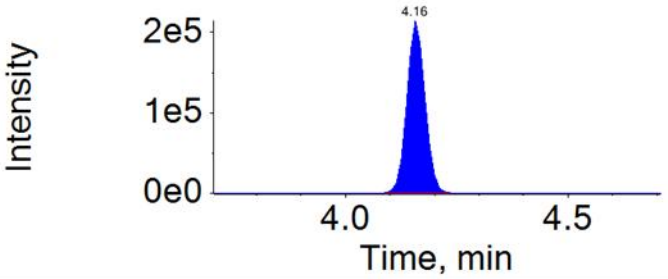


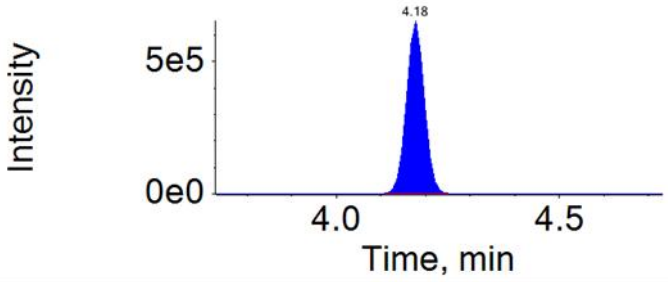
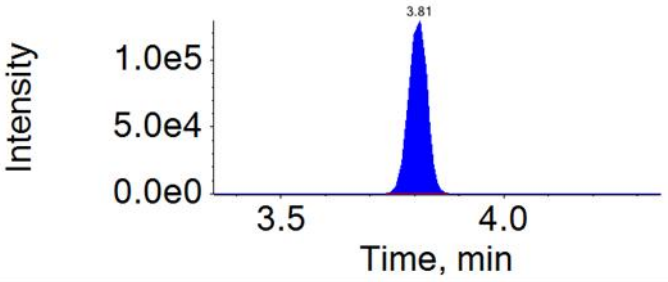


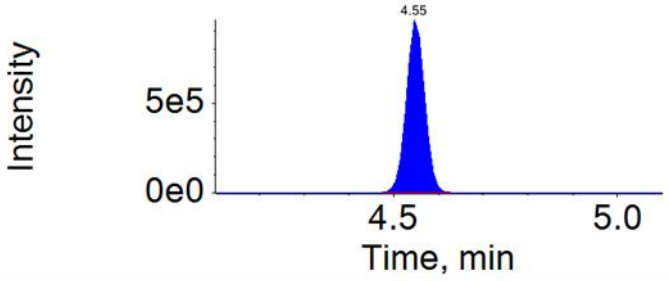
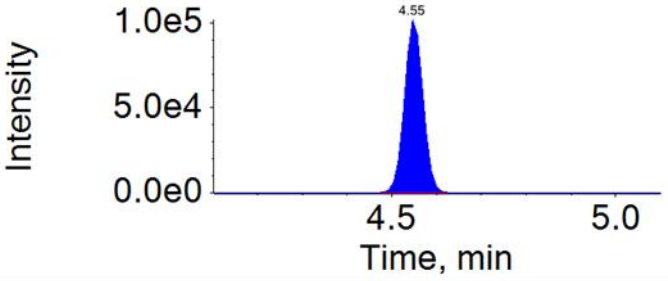
APPROVED
By JPT at 2:53 pm, 11/7/18

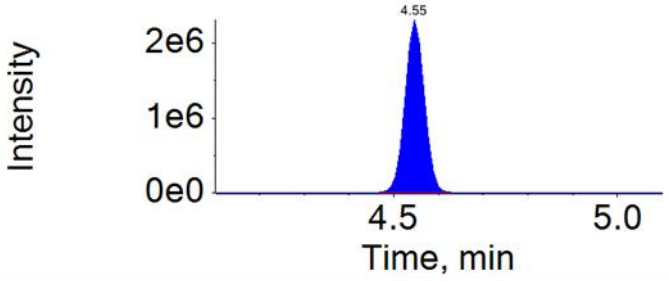
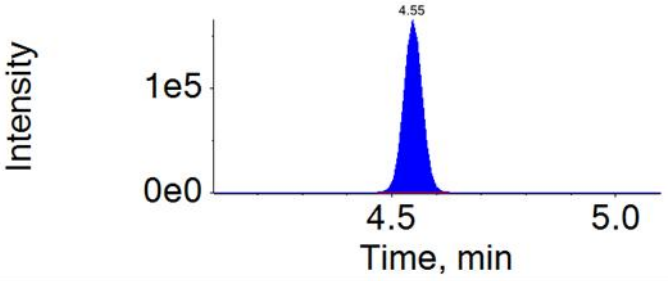
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

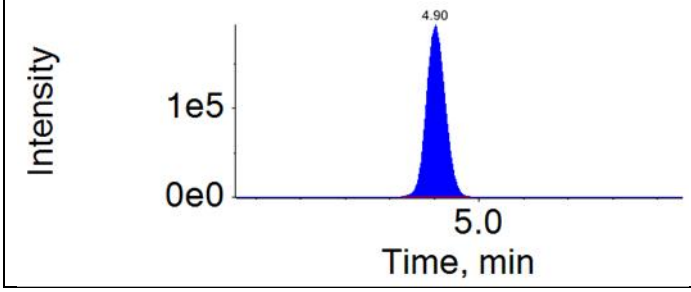
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

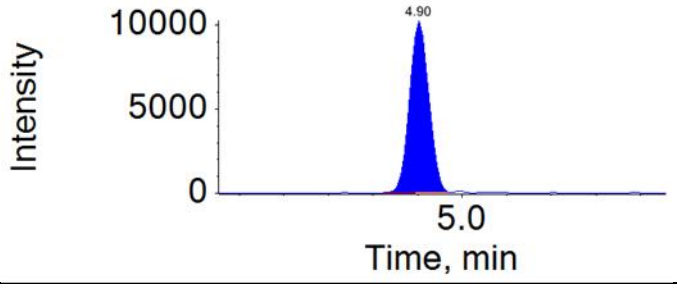
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

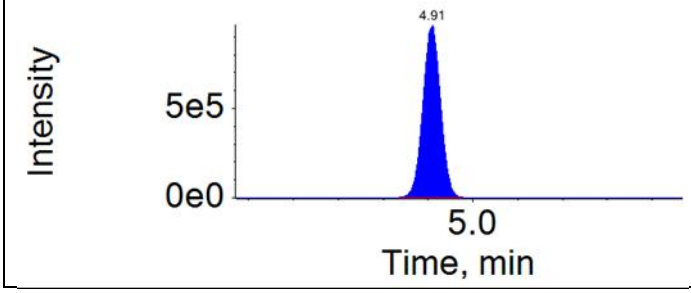
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

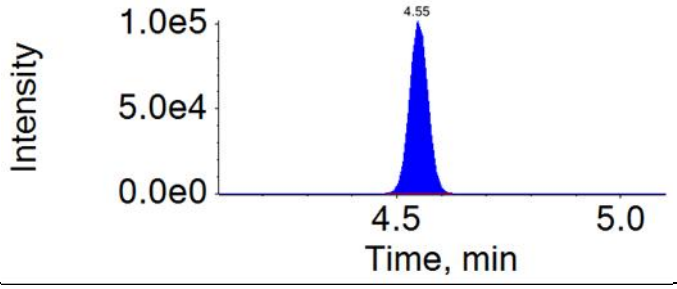
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



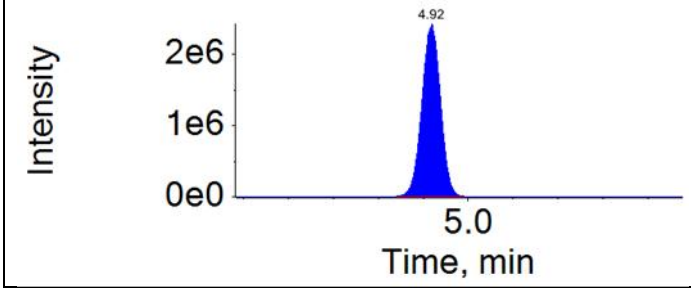


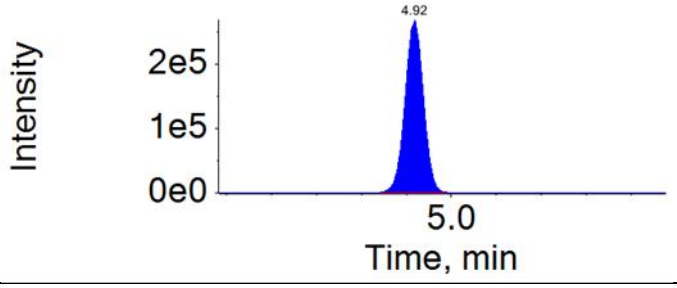
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



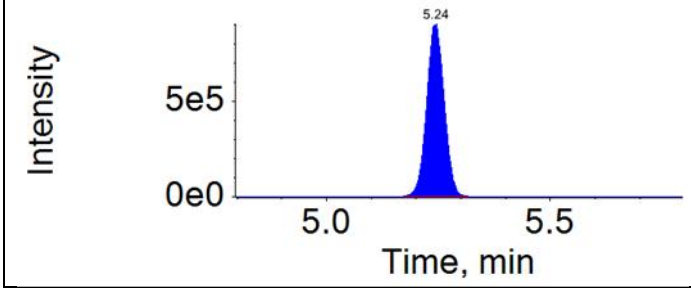


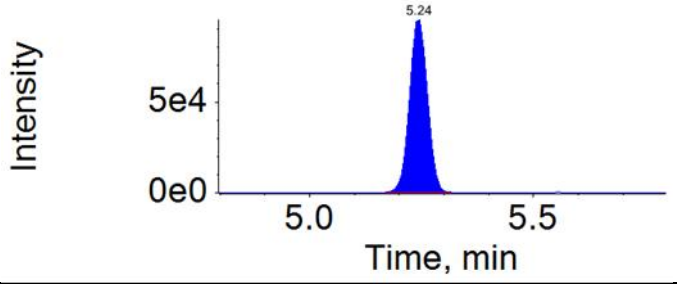
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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



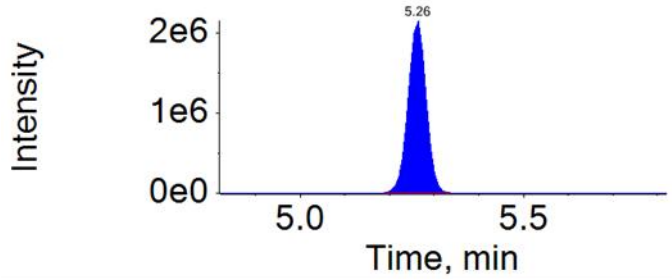


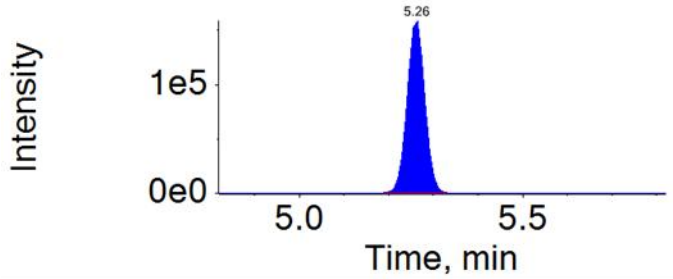
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

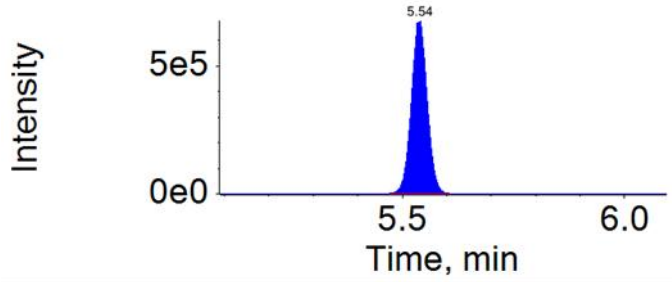
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

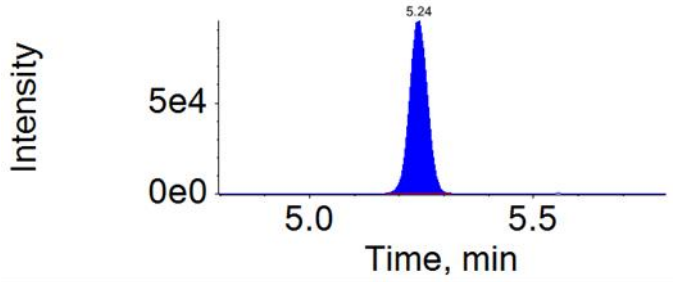
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



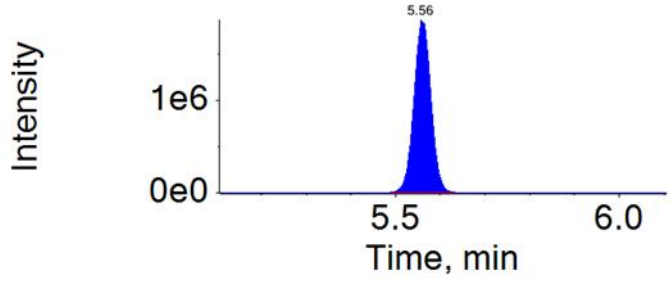


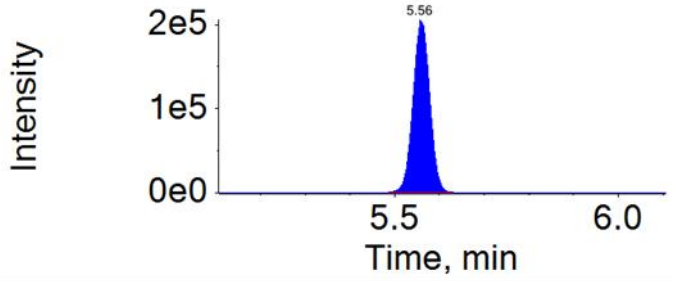
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



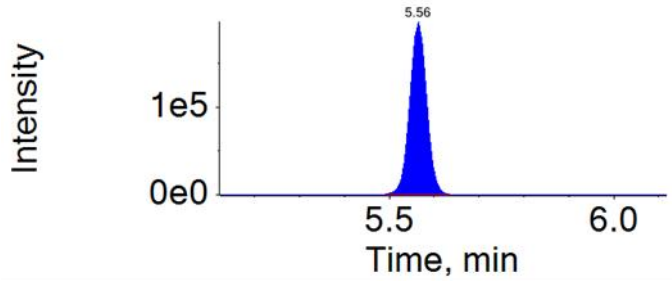


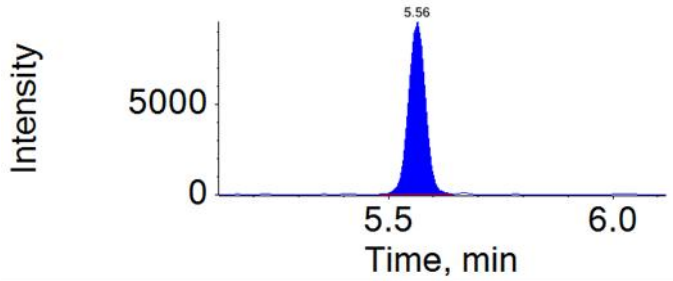
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

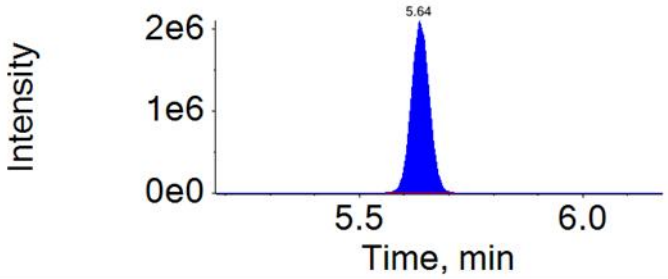
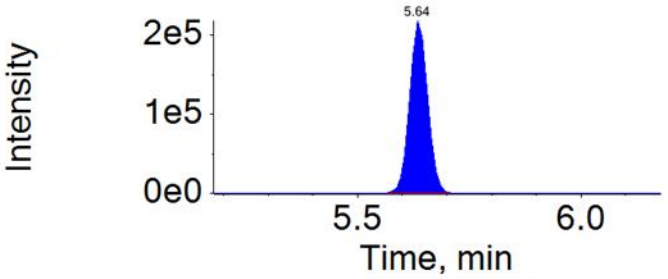


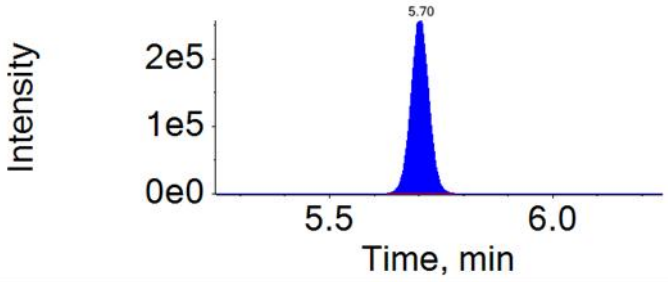
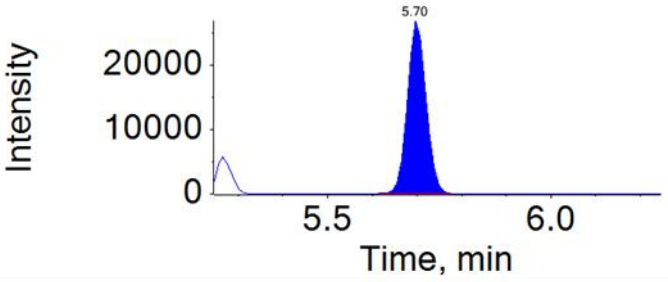


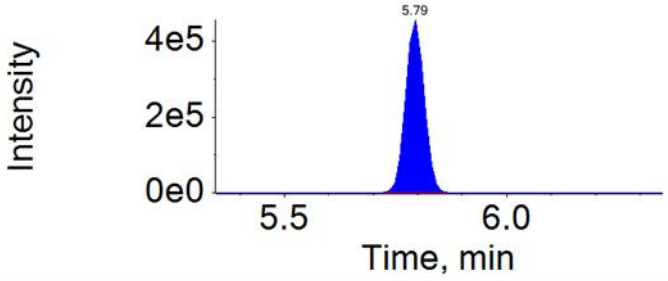
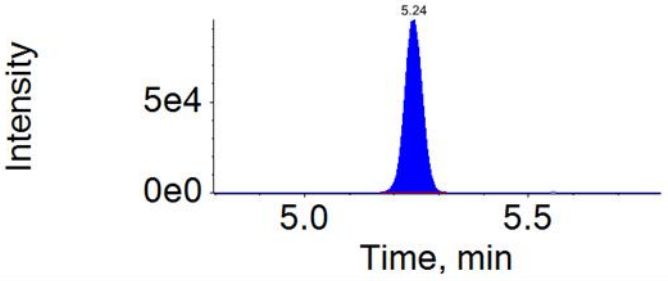
APPROVED
By JPT at 2:53 pm, 11/7/18

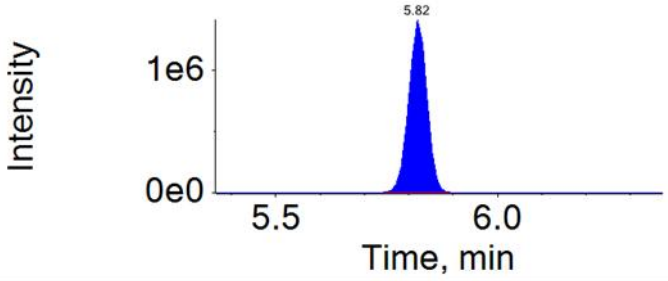
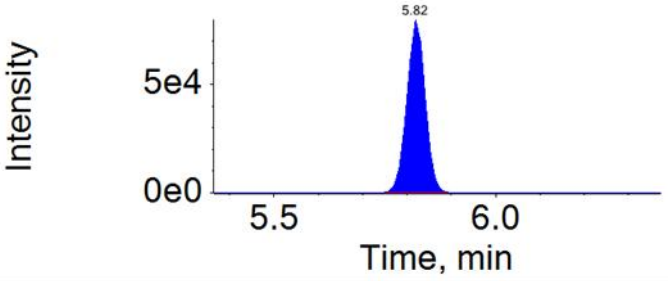
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

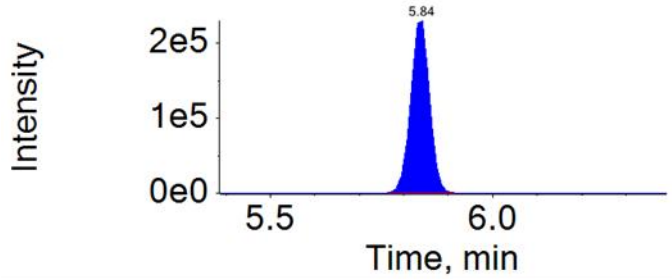
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

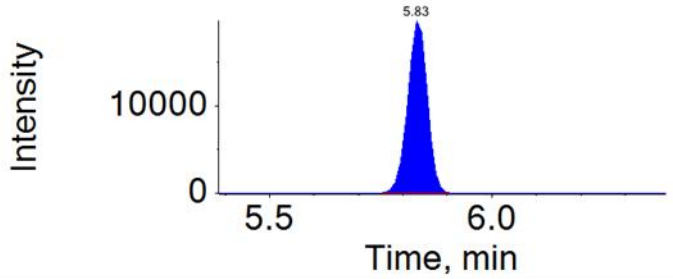
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

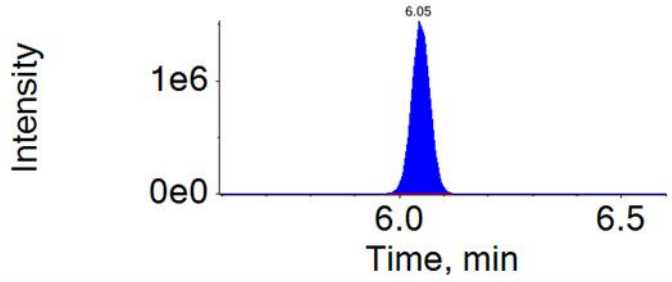
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

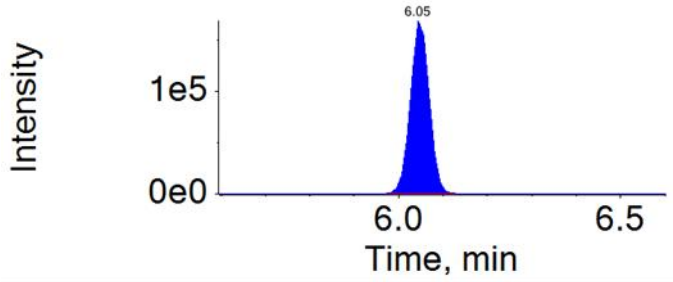
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



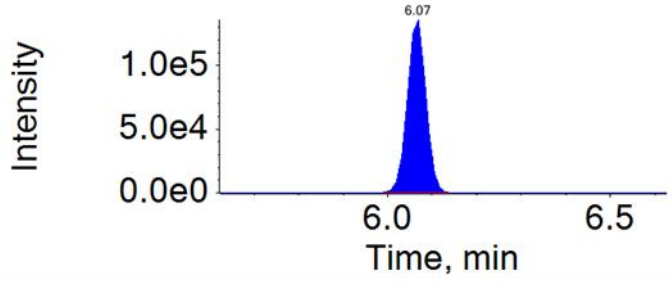


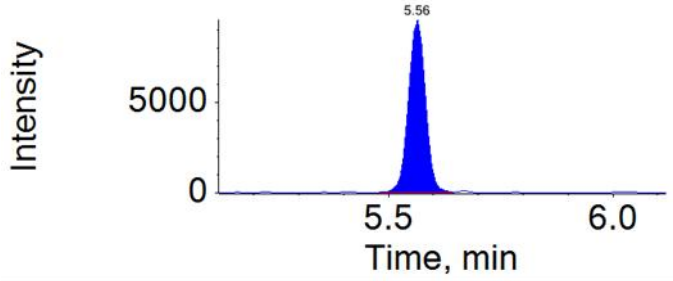
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



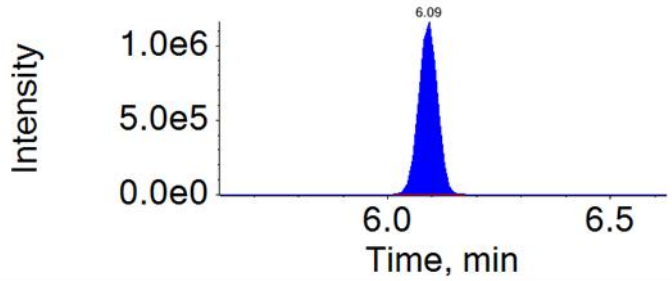


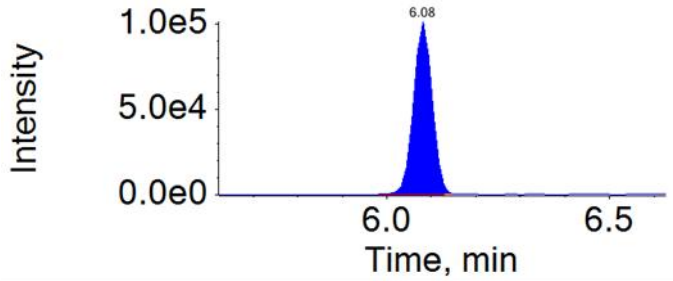
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



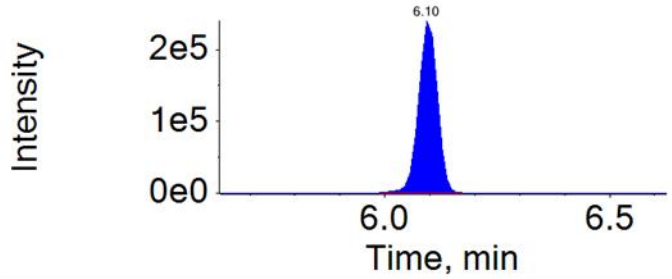


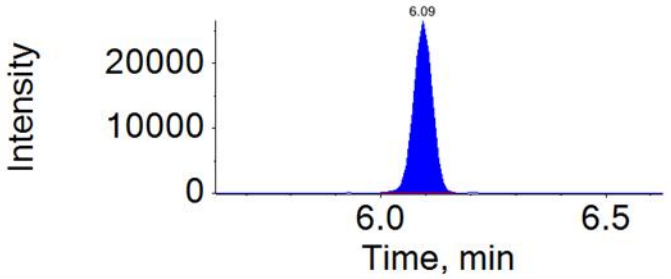
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

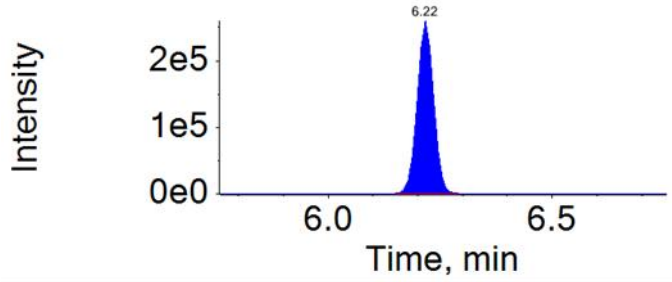
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

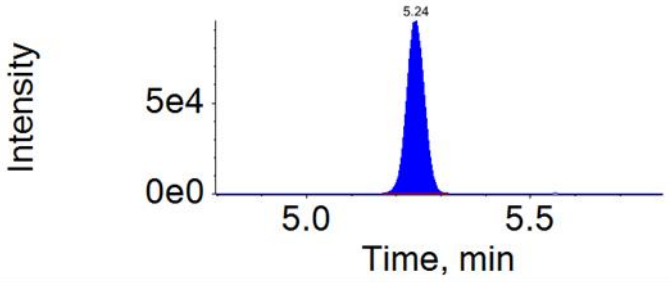
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



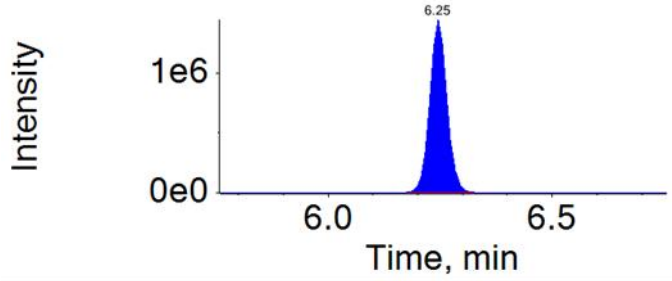


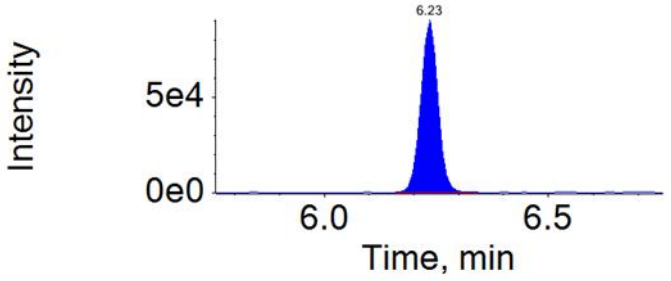
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



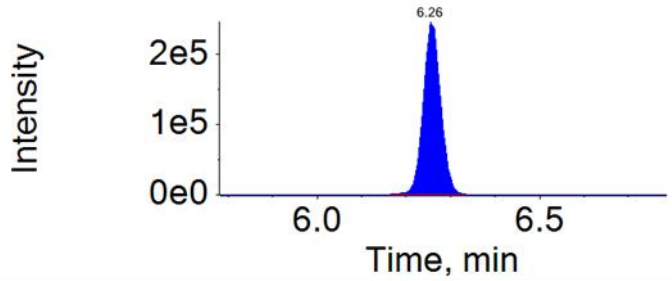


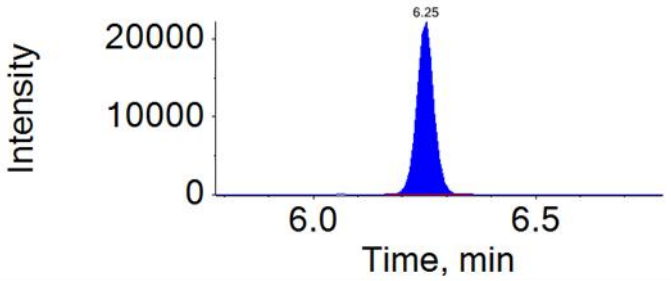
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



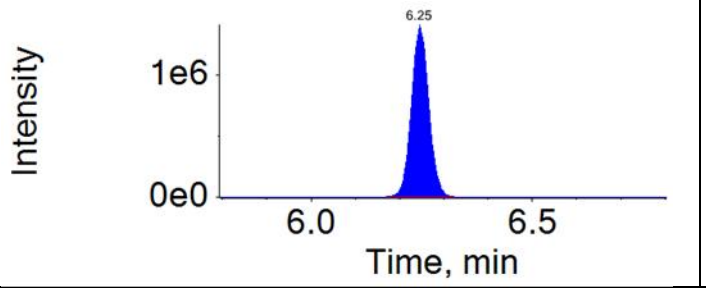


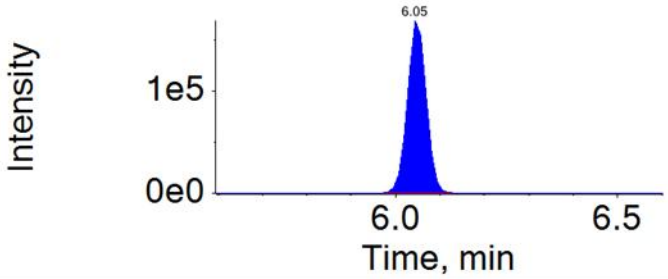
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

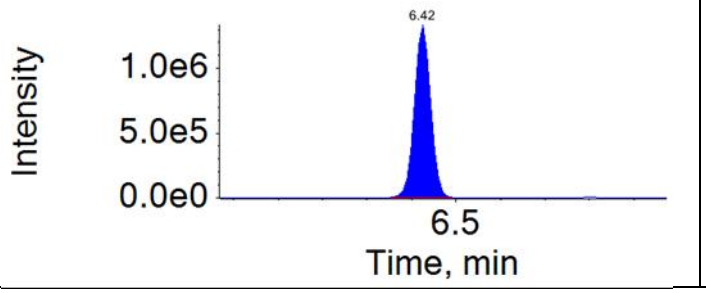
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

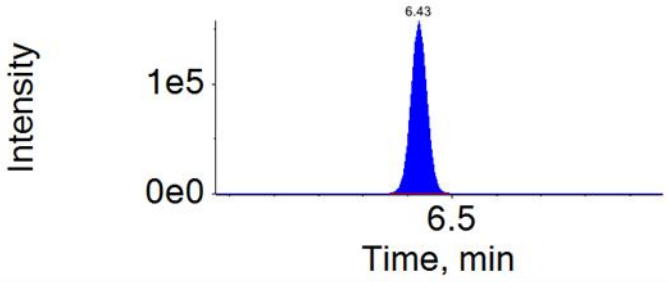
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



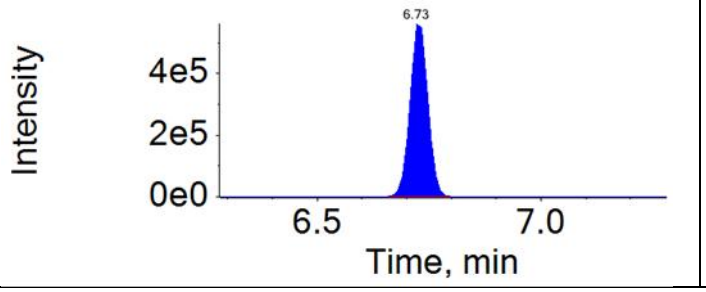


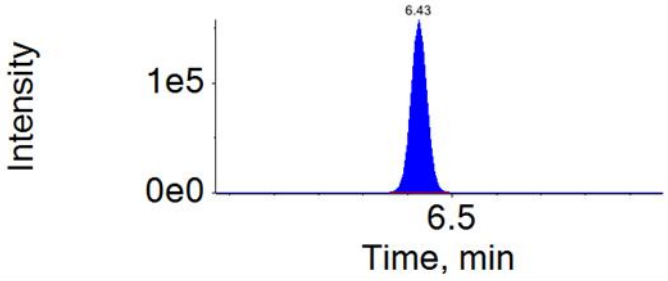
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



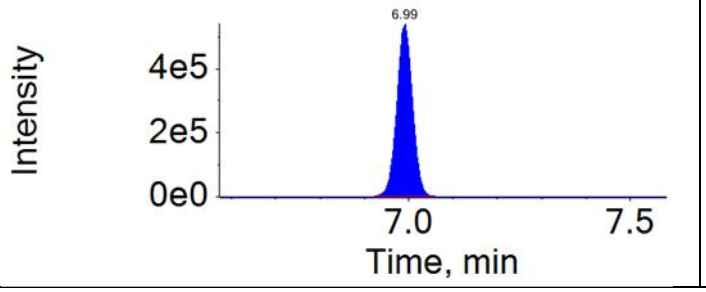


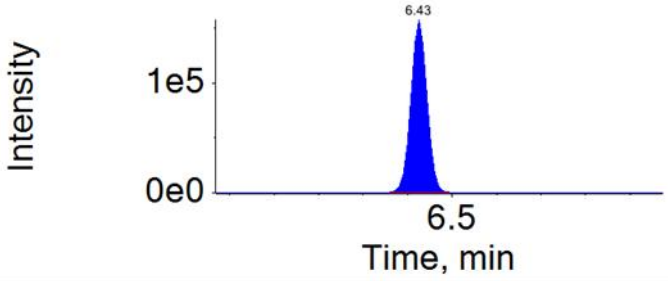
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

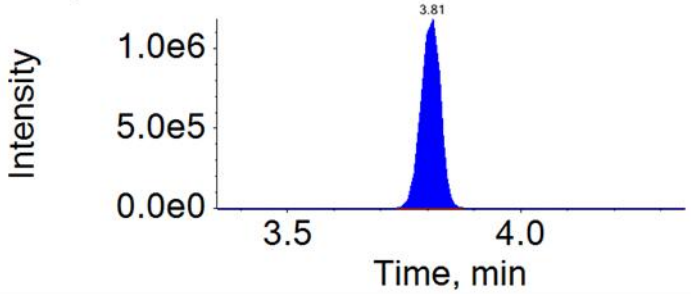
Sample Name: CAL6 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-15.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	3508201.1	A	1.0000	1.0000			
PFBS_2	3.81	1.00	1286846.1	A	0.3576	0.3668	3	50	
4:2-FTS	4.12	1.00	866263.6	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	524123.7	A	0.6359	0.6050	-5	50	
PFHxA	4.16	1.00	6739327.9	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	77061.9	A	0.0115	0.0114	0	50	
PFPeS	4.18	1.10	1823355.9	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	993764.2	A	0.5384	0.5450	1	50	
PFHxS	4.55	1.00	2760712.8	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	964116.9	A	0.3569	0.3492	-2	50	
PFHpA	4.55	1.00	6940304.7	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	395462.8	A	0.0577	0.0570	-1	50	
6:2-FTS	4.90	1.00	566692.8	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	369783.6	A	0.6752	0.6525	-3	50	
PFHpS	4.91	1.08	2648512.9	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	1077513.1	A	0.3950	0.4068	3	50	
PFOA	4.92	1.00	7023921.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	420903.3	A	0.0635	0.0599	-6	50	
PFOS	5.24	1.00	2487687.4	A	1.0000	1.0000			
PFOS_2	5.24	1.00	854704.9	A	0.3494	0.3436	-2	50	
PFNA	5.26	1.00	6070259.1	A	1.0000	1.0000			
PFNA_2	5.26	1.00	127695.8	A	0.0207	0.0210	2	50	
PFNS	5.54	1.06	1684601.2	A	1.0000	1.0000			
PFNS_2	5.54	1.06	776478.1	A	0.4890	0.4609	-6	50	
PFDA	5.56	1.00	4962332.7	A	1.0000	1.0000			
PFDA_2	5.56	1.00	33135.1	A	0.0057	0.0067	18	50	
8:2-FTS	5.56	1.00	516640.5	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	308500.7	A	0.6169	0.5971	-3	50	
NMeFOSAA	5.70	1.00	740651.6	A	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	170978.8	A	0.2206	0.2308	5	50	
PFDS	5.79	1.11	1337416.6	A	1.0000	1.0000			
PFDS_2	5.79	1.10	697007.4	A	0.4648	0.5212	12	50	
PFUnDA	5.82	1.00	4071590.3	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	14961.6	A	0.0031	0.0037	17	50	
NEtFOSAA	5.84	1.00	685447.7	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	416391.3	A	0.6082	0.6075	0	50	
PFDoDA	6.05	1.00	4509578.7	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	57065.9	A	0.0109	0.0127	16	50	
10:2-FTS	6.07	1.09	395929.8	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	276017.2	A	0.7082	0.6971	-2	50	
PFTrDA	6.25	1.03	3829048.4	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	35358.1	A	0.0096	0.0092	-4	50	
PFTeDA	6.42	1.00	3381511.1	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	21143.9	A	0.0055	0.0063	13	50	
PFHxDA	6.73	1.05	1559604.6	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	97226.7	A	0.0596	0.0623	5	50	
PFODA	6.99	1.09	1340733.9	A	1.0000	1.0000			
PFODA_2	6.99	1.09	34220.3	A	0.0257	0.0255	-1	50	

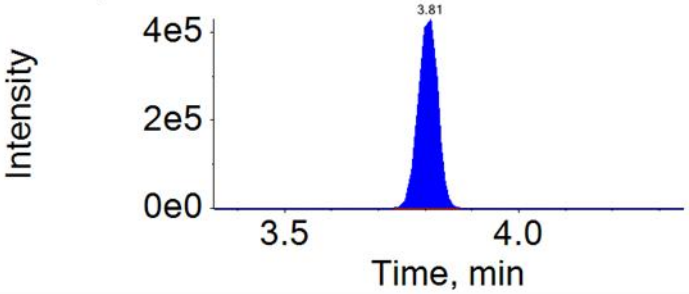
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

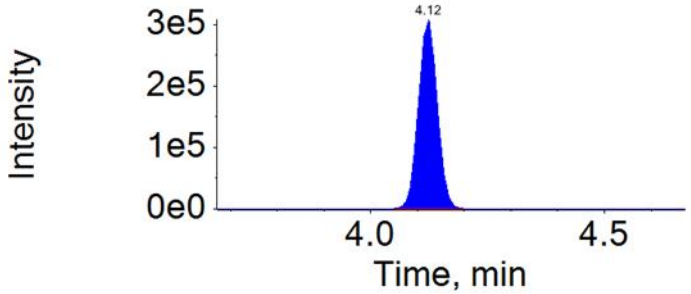
Component: PFBS
Primary Mass: 299.0 / 80.0



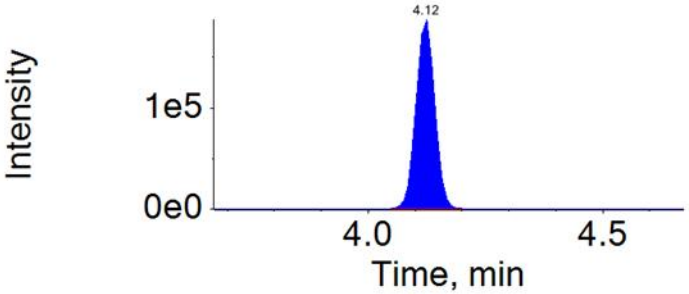
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



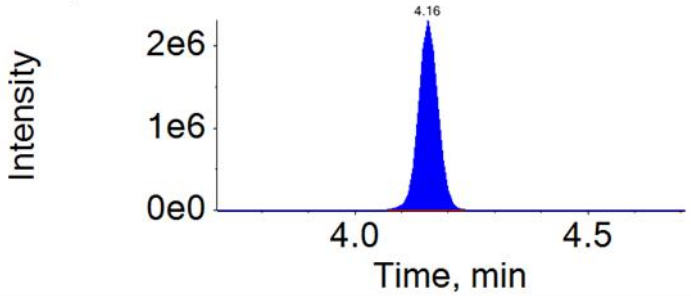
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



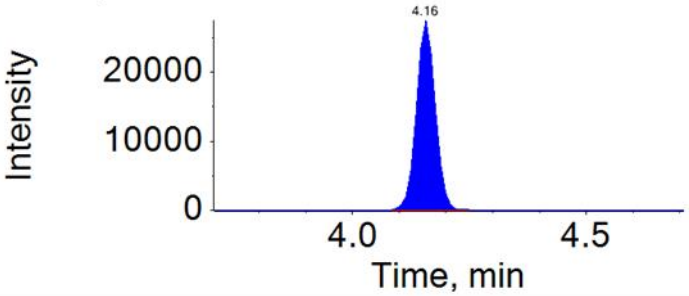
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



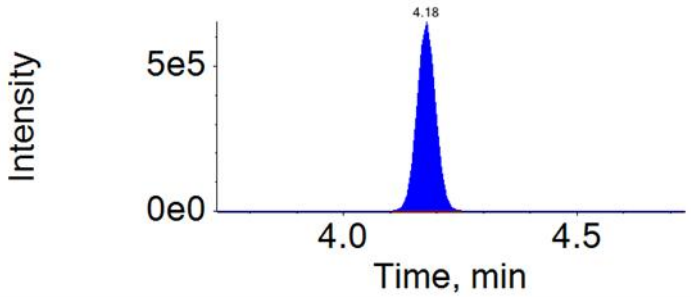
Component: PFHxA
Primary Mass: 313.0 / 269.0



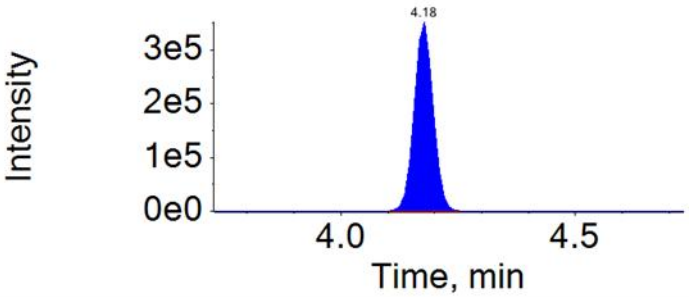
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



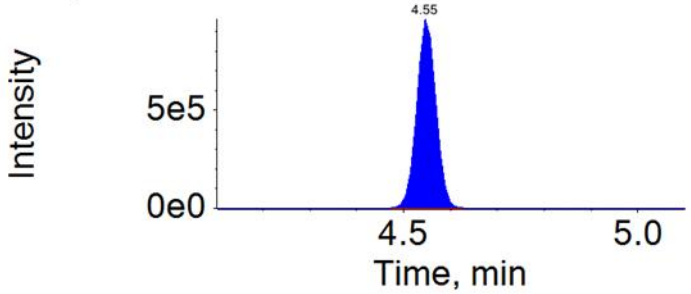
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



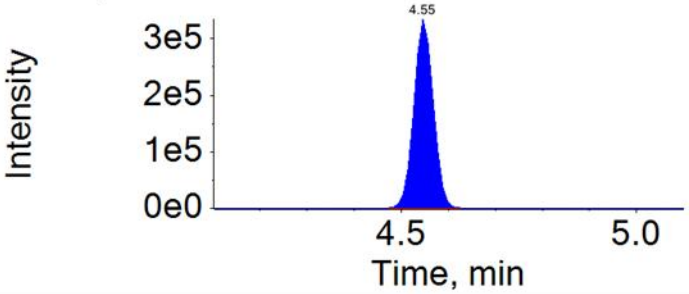
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

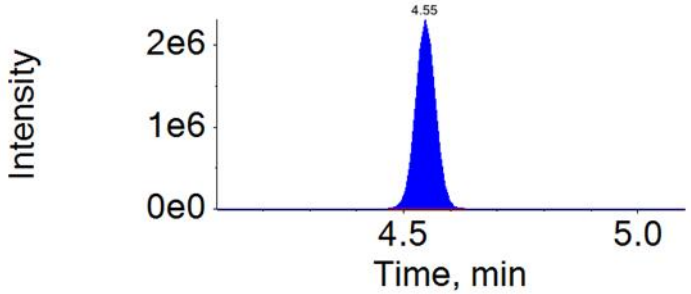
Component: PFHxS
Primary Mass: 399.0 / 80.0



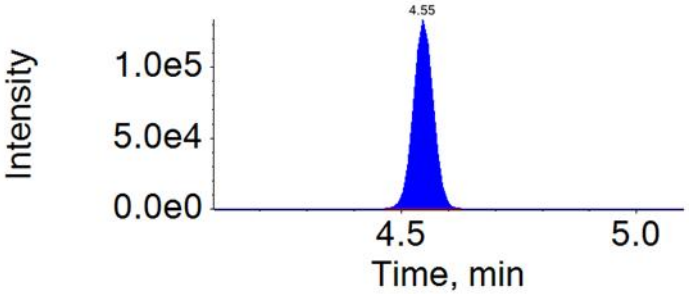
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



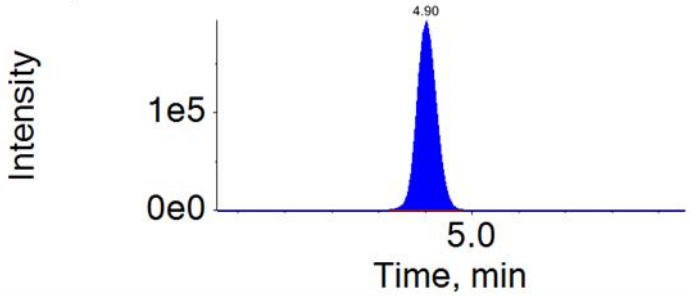
Component: PFHpA
Primary Mass: 363.0 / 319.0



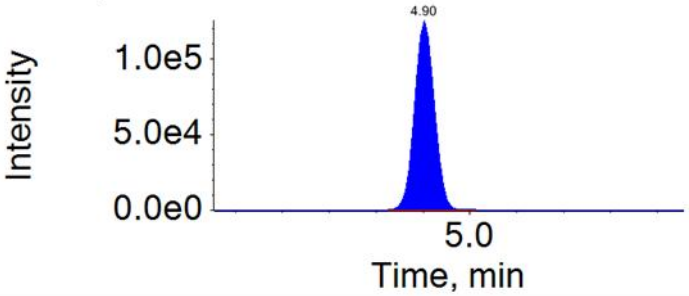
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



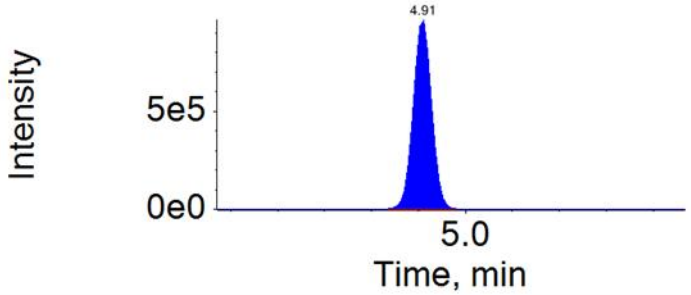
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



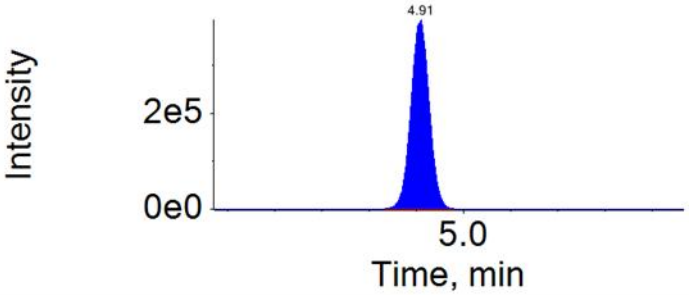
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



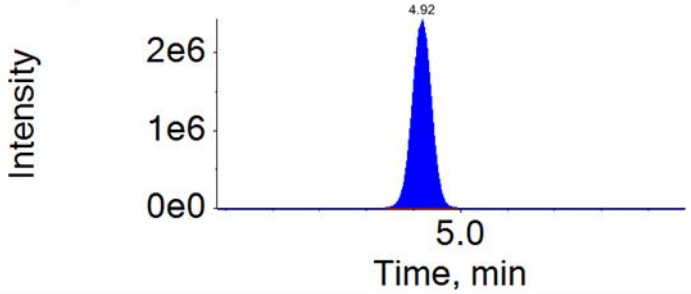
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



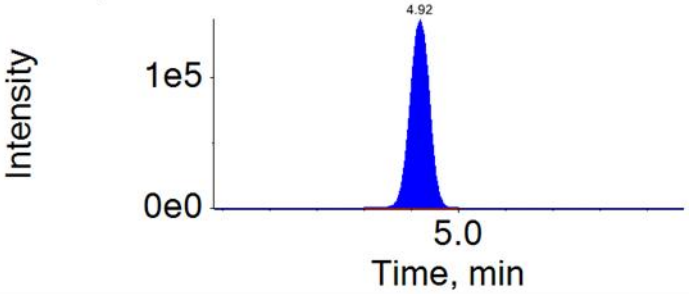
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

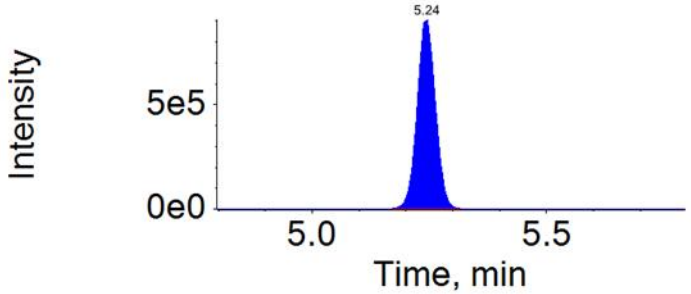
Component: PFOA
Primary Mass: 413.0 / 369.0



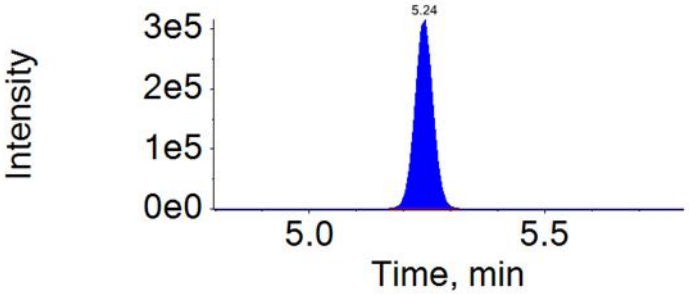
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



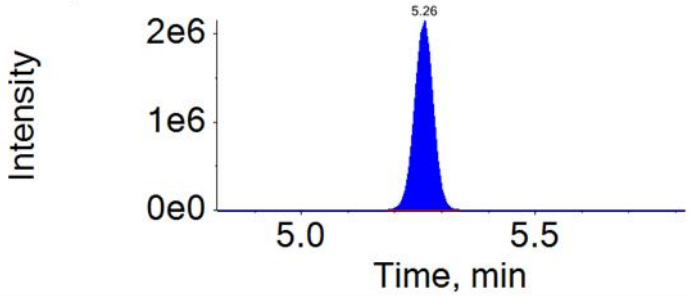
Component: PFOS
Primary Mass: 499.0 / 80.0



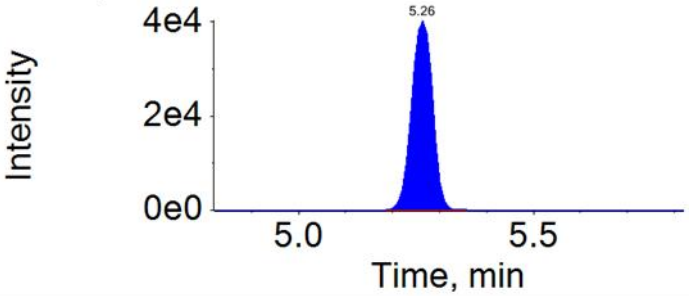
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



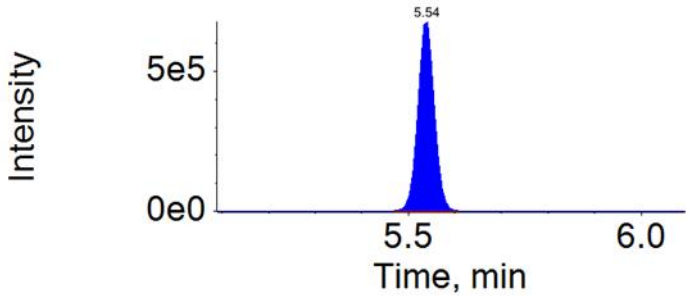
Component: PFNA
Primary Mass: 463.0 / 419.0



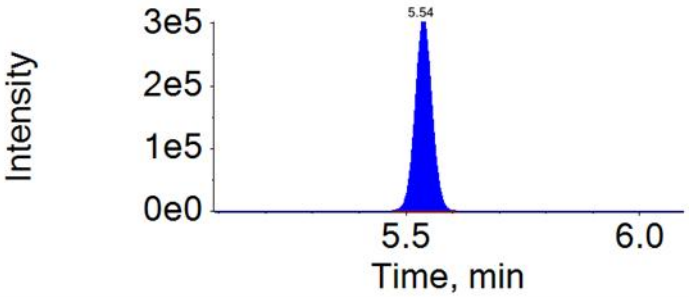
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



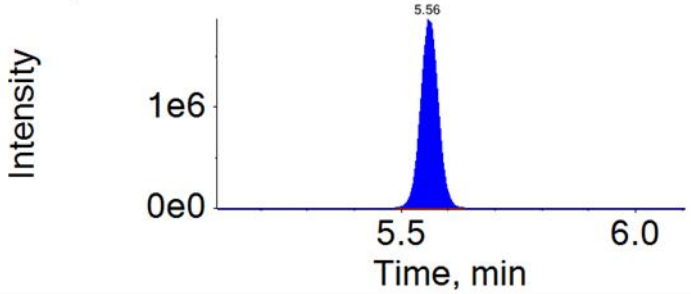
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



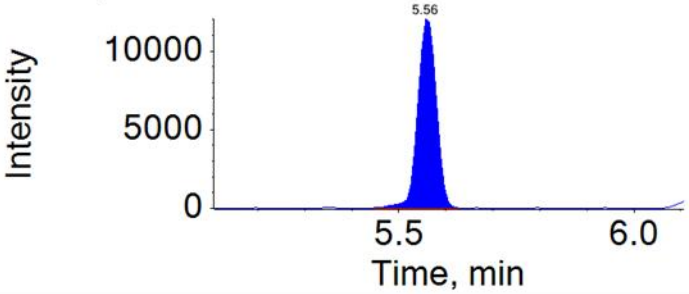
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

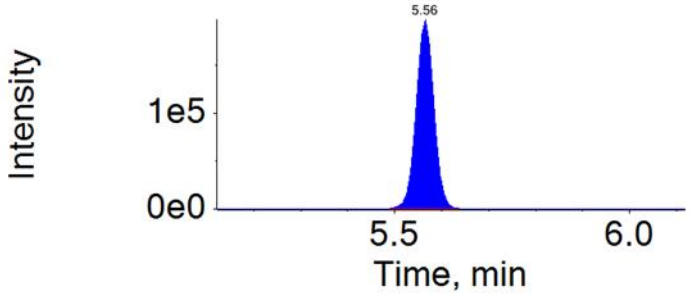
Component: PFDA
Primary Mass: 513.0 / 469.0



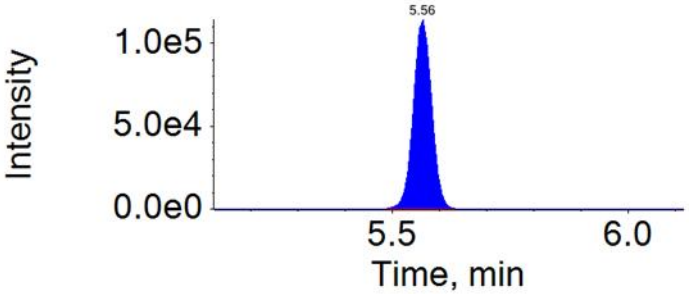
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



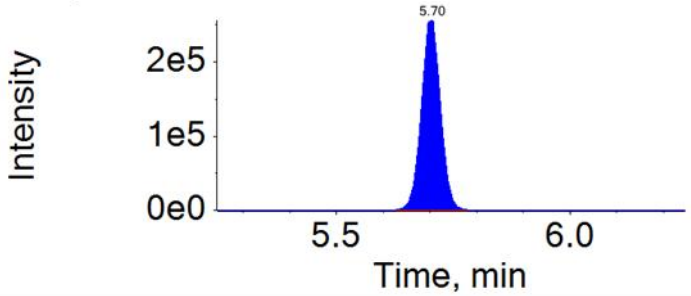
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



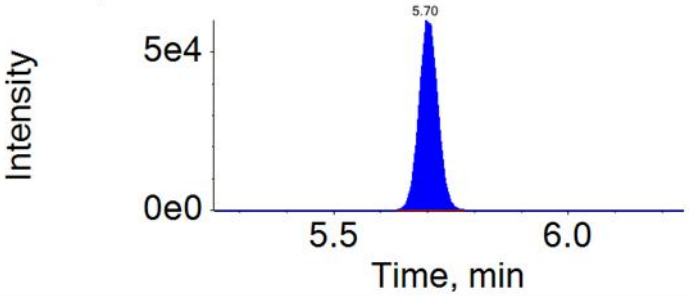
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



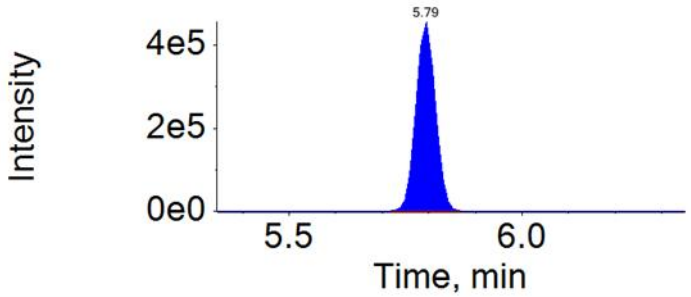
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



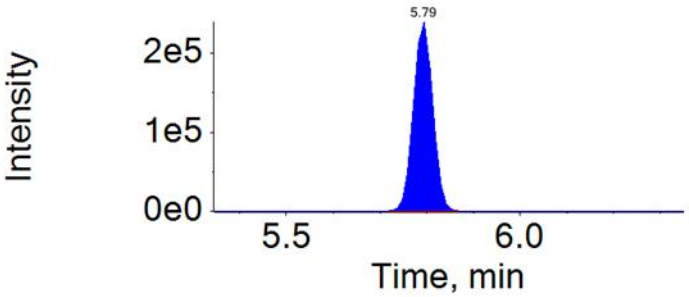
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



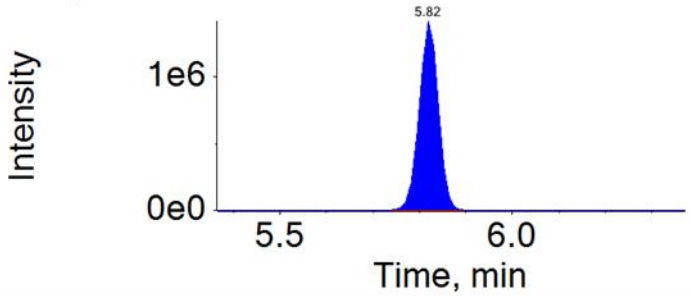
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



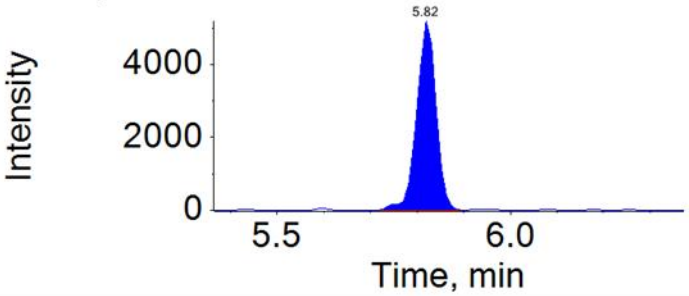
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

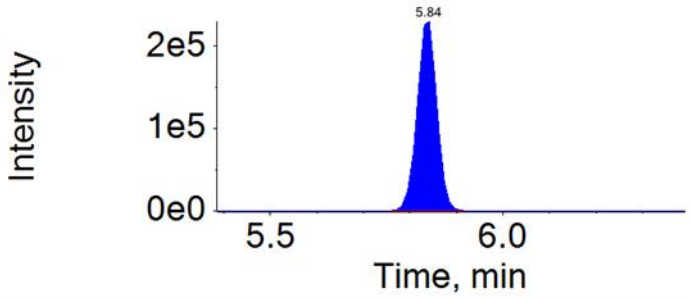
Component: PFUnDA
Primary Mass: 563.0 / 519.0



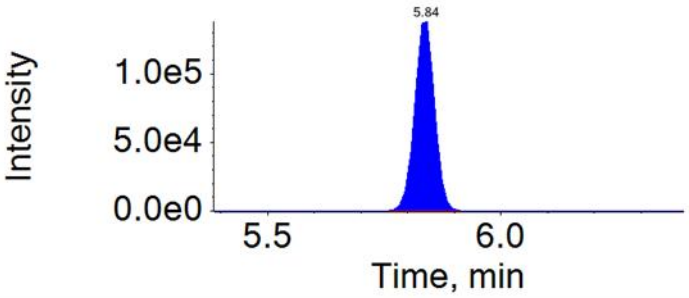
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



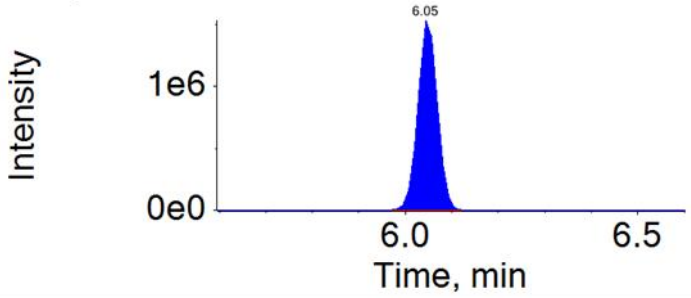
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



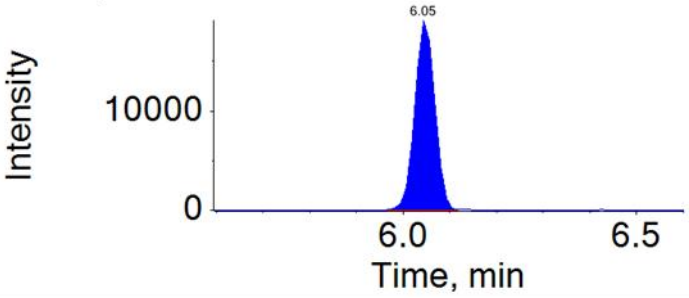
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Secondary Mass: 584.0 / 526.0



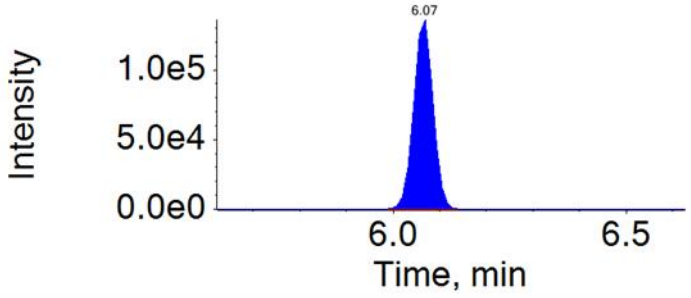
Component: PFDoDA
Primary Mass: 613.0 / 569.0



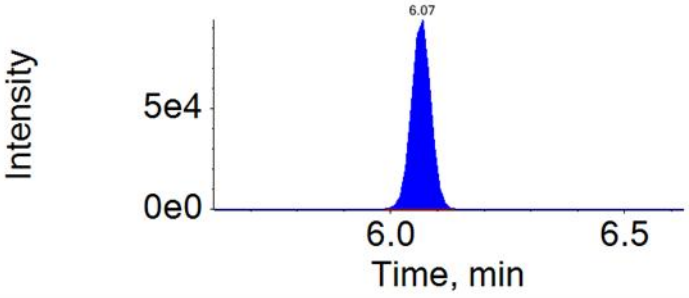
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



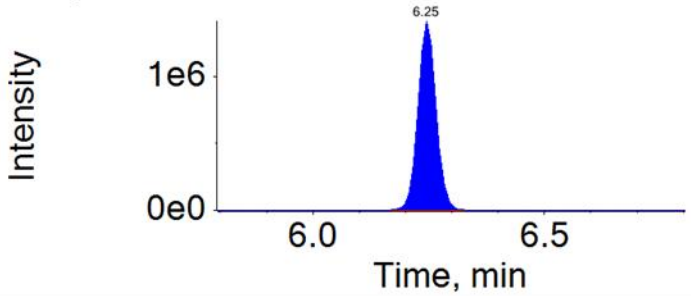
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



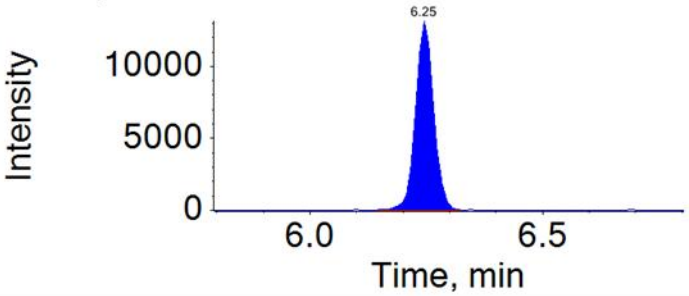
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

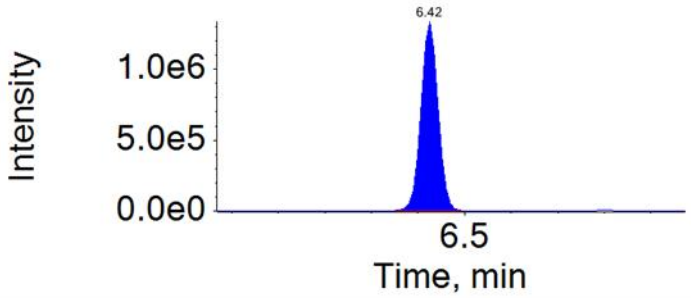
Component: PFTrDA
Primary Mass: 663.0 / 619.0



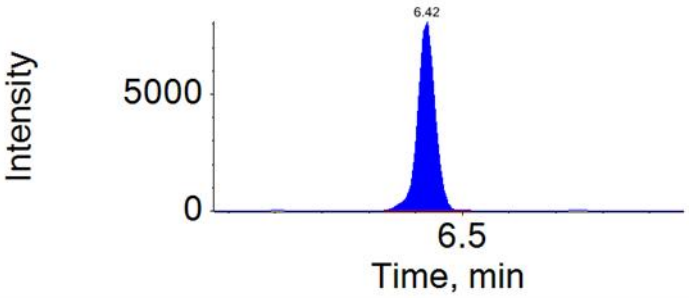
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



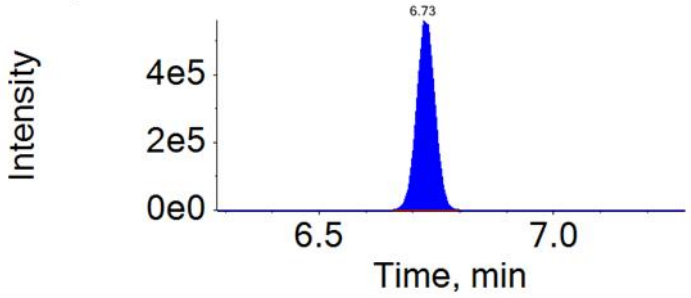
Component: PFTeDA
Primary Mass: 713.0 / 669.0



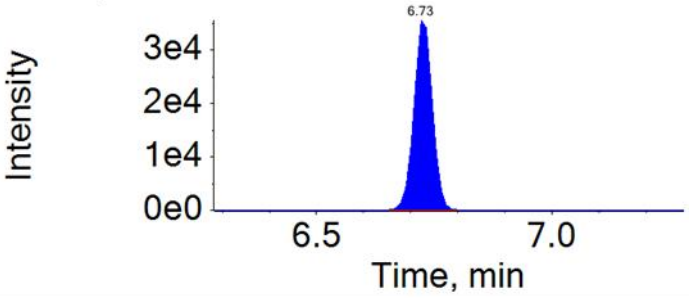
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



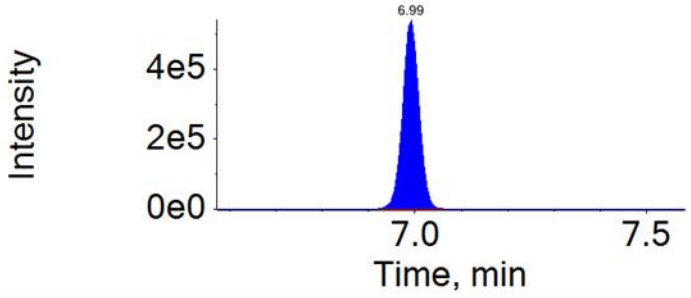
Component: PFHxDA
Primary Mass: 813.0 / 769.0



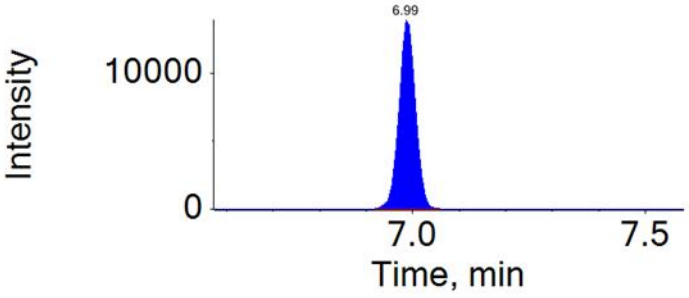
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CAL7			**Data File:**		18NOV07DCAL-16.wiff
Sample ID:	CALMOD71833E			**Acquis Date:**		2018-11-07T10:33:59
Sample Type:	Standard			**Instrument:**		LM27631
Vial Position:	9			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	554647.4	730410.6	-24	50	
13C2-PFOA	5.0	419465.9	524423.6	-20	50	
13C4-PFOS	4.8	253720.8	274061.7	-7	50	
13C2-PFDA	5.0	258292.2	311442.1	-17	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	609686.1	13C3-PFBA	554647.4	1.099	5.000	5.087	102	70-130	
E13C5-PFPeA	628265.5	13C3-PFBA	554647.4	1.133	5.000	4.935	99	70-130	
E13C3-PFBS	381345.5	13C3-PFBA	554647.4	0.688	4.650	5.046	109	70-130	
E13C2-4:2-FTS	46334.2	13C2-PFOA	419465.9	0.110	4.670	4.984	107	70-130	
E13C5-PFHxA	571807.5	13C2-PFOA	419465.9	1.363	5.000	5.014	100	70-130	
E13C3-PFHxS	279859.6	13C2-PFOA	419465.9	0.667	4.730	4.790	101	70-130	
E13C4-PFHpA	457160.4	13C2-PFOA	419465.9	1.090	5.000	4.958	99	70-130	
E13C2-6:2-FTS	26549.1	13C2-PFOA	419465.9	0.063	4.750	4.221	89	70-130	
E13C8-PFOA	678914.6	13C2-PFOA	419465.9	1.619	5.000	4.513	90	70-130	
E13C8-PFOS	264295.9	13C4-PFOS	253720.8	1.042	4.780	4.606	96	70-130	
E13C9-PFNA	402916.7	13C4-PFOS	253720.8	1.588	5.000	4.338	87	70-130	
E13C6-PFDA	480927.9	13C2-PFDA	258292.2	1.862	5.000	4.682	94	70-130	
E13C2-8:2-FTS	24555.7	13C2-PFDA	258292.2	0.095	4.790	5.031	105	70-130	
E13C8-PFOSA	603296.1	13C2-PFDA	258292.2	2.336	5.000	5.097	102	70-130	
Ed3-NMeFOSAA	75408.7	13C2-PFDA	258292.2	0.292	5.000	5.429	109	70-130	
E13C7-PFUnDA	212399.8	13C2-PFDA	258292.2	0.822	5.000	4.744	95	70-130	
Ed5-NEtFOSAA	56963.1	13C2-PFDA	258292.2	0.221	5.000	5.104	102	70-130	
E13C2-PFDoDA	525971.8	13C2-PFDA	258292.2	2.036	5.000	5.490	110	70-130	
Ed7-NMePFOSAE	295395.3	13C2-PFDA	258292.2	1.144	5.000	5.318	106	70-130	
Ed3-NMePFOSA	80053.2	13C2-PFDA	258292.2	0.310	5.000	5.674	113	70-130	
Ed9-NEtPFOSAE	235038.0	13C2-PFDA	258292.2	0.910	5.000	5.197	104	70-130	
Ed5-NEtPFOSA	58686.1	13C2-PFDA	258292.2	0.227	5.000	5.261	105	70-130	
E13C2-PFTeDA	384058.1	13C2-PFDA	258292.2	1.487	5.000	5.353	107	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

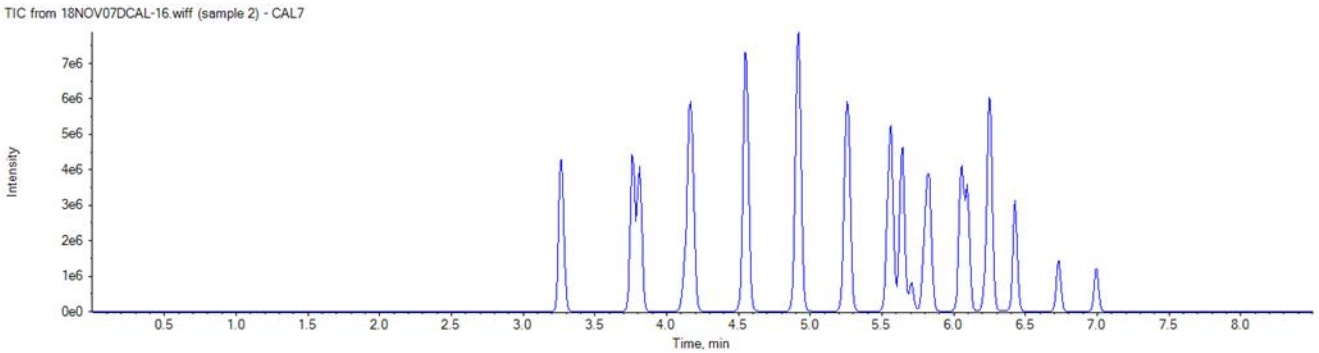
Analyte Quantitation Peak Table

Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.26	1.000	9954520.3		A	13C4-PFBA	3.26	609686.1	16.327	95.554
PFPeA	3.76	1.000	10229627.8		A	13C5-PFPeA	3.76	628265.5	16.282	96.765
PFBS	3.81	1.000	6474525.0		A	13C3-PFBS	3.81	381345.5	16.978	85.599
4:2-FTS	4.13	1.000	1576786.3		A	13C2-4:2-FTS	4.13	46334.2	34.031	91.487
PFHxA	4.16	1.000	11658104.6		A	13C5-PFHxA	4.16	571807.5	20.388	87.434
PFPeS	4.18	1.100	3615170.2		A	13C3-PFBS	3.81	381345.5	9.480	93.501
PFHxS	4.55	1.000	5196245.3		A	13C3-PFHxS	4.55	279859.6	18.567	94.113
PFHpA	4.55	1.000	11701142.2		A	13C4-PFHpA	4.55	457160.4	25.595	86.081
6:2-FTS	4.90	1.000	988785.9		A	13C2-6:2-FTS	4.91	26549.1	37.244	92.910
PFHpS	4.91	1.080	5085803.6		A	13C3-PFHxS	4.55	279859.6	18.173	95.074
PFOA	4.92	1.000	11562348.7		A	13C8-PFOA	4.92	678914.6	17.031	95.892
PFOS	5.25	1.000	4830627.6		A	13C8-PFOS	5.24	264295.9	18.277	94.776
PFNA	5.27	1.000	10279837.9		A	13C9-PFNA	5.26	402916.7	25.514	95.349
PFNS	5.54	1.060	3119908.2		A	13C8-PFOS	5.24	264295.9	11.805	93.596
PFDA	5.56	1.000	8415098.4		A	13C6-PFDA	5.56	480927.9	17.498	96.265
8:2-FTS	5.57	1.000	936483.2		A	13C2-8:2-FTS	5.57	24555.7	38.137	85.963
PFOSA	5.64	1.000	11064835.5		A	13C8-PFOSA	5.64	603296.1	18.341	99.141
NMeFOSAA	5.70	1.000	1450331.2		A	d3-NMeFOSAA	5.70	75408.7	19.233	98.963
PFDS	5.80	1.110	2660525.2		A	13C8-PFOS	5.24	264295.9	10.066	96.161
PFUnDA	5.82	1.000	7204782.9		A	13C7-PFUnDA	5.82	212399.8	33.921	97.277
NEtFOSAA	5.84	1.000	1317020.6		A	d5-NEtFOSAA	5.84	56963.1	23.121	99.363
PFDoDA	6.05	1.000	8211828.8		A	13C2-PFDoDA	6.05	525971.8	15.613	84.613
10:2-FTS	6.07	1.090	747804.5		A	13C2-8:2-FTS	5.57	24555.7	30.453	94.827
NMePFOSAE	6.09	1.000	6220772.1		A	d7-NMePFOSAE	6.08	295395.3	21.059	94.369
NMePFOSA	6.10	1.000	1386738.5		A	d3-NMePFOSA	6.10	80053.3	17.323	96.961
PFDoS	6.22	1.190	1333847.1		A	13C8-PFOS	5.24	264295.9	5.047	97.407
NEtPFOSAE	6.25	1.000	6995371.5		A	d9-NEtPFOSAE	6.24	235038.1	29.763	95.411
NEtPFOSA	6.26	1.000	1329706.9		A	d5-NEtPFOSA	6.26	58686.1	22.658	99.791
PFTrDA	6.25	1.030	6633128.3		A	13C2-PFDoDA	6.05	525971.8	12.611	79.528
PFTeDA	6.43	1.000	6426587.4		A	13C2-PFTeDA	6.43	384058.1	16.733	98.263
PFHxDA	6.73	1.050	3073572.7		A	13C2-PFTeDA	6.43	384058.1	8.003	99.343
PFODA	6.99	1.090	2676698.5		A	13C2-PFTeDA	6.43	384058.1	6.970	99.849

Total Ion Chromatogram

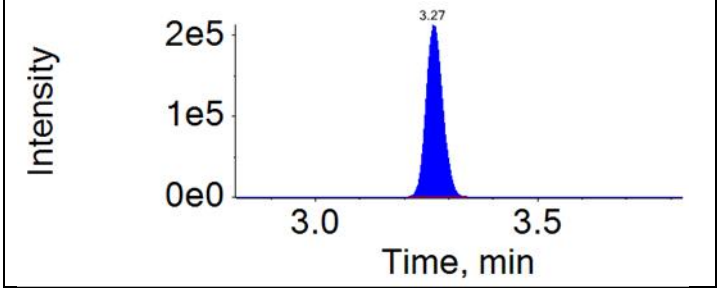


APPROVED
By JPT at 2:53 pm, 11/7/18

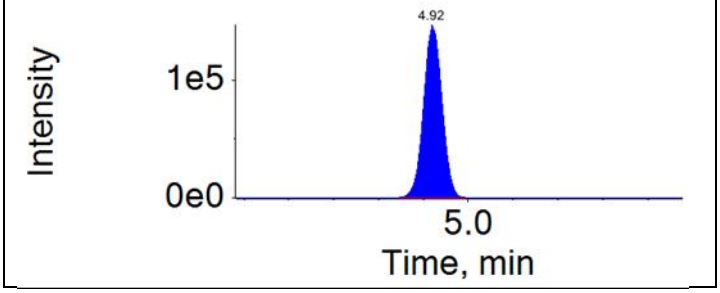
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

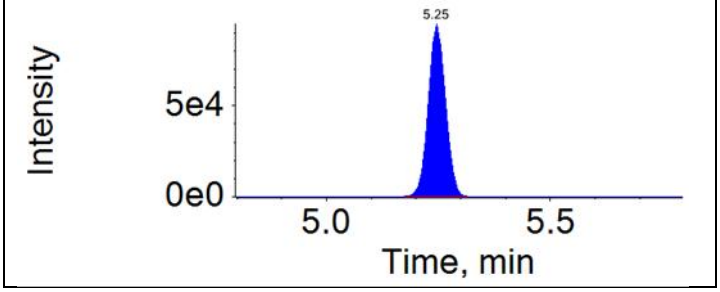
Injection Standard: 13C3-PFBA
216.0 / 172.0



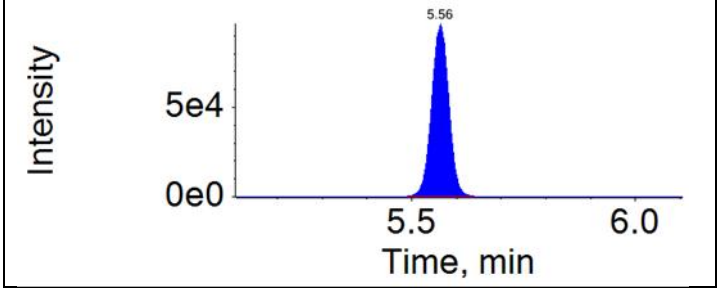
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

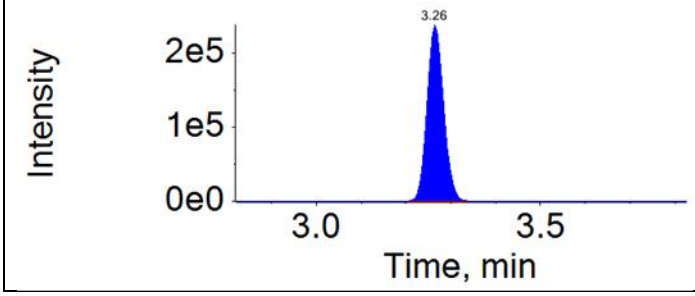


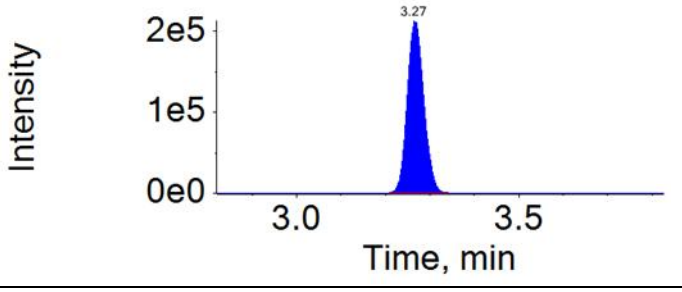
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

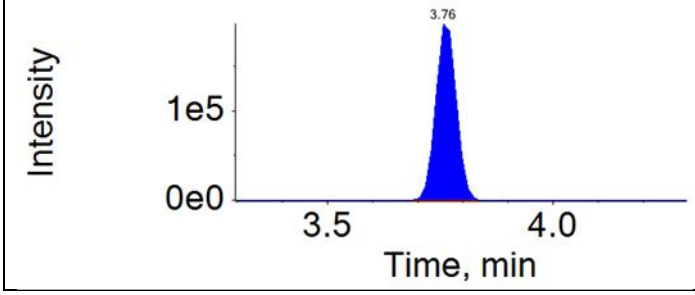
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

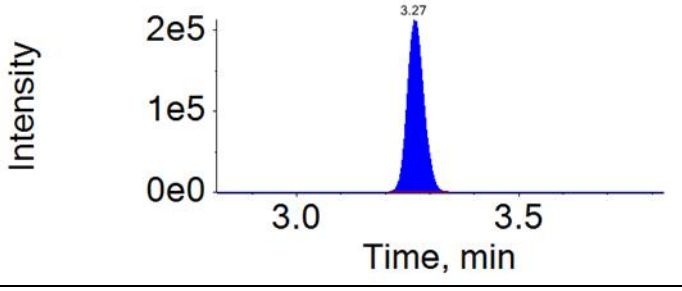
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



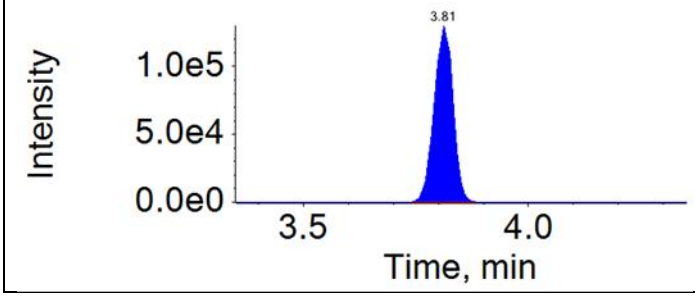


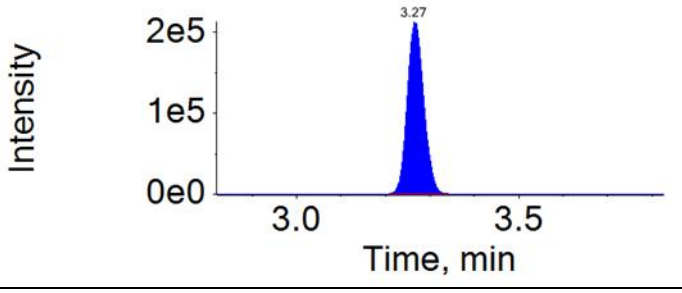
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



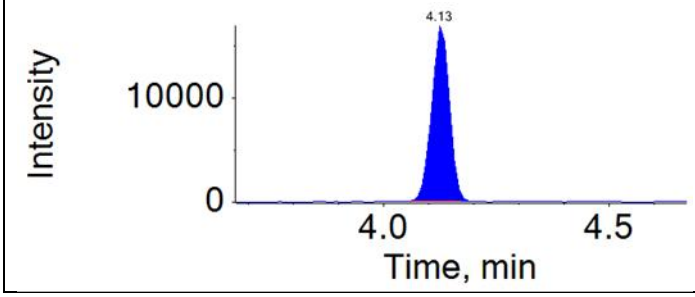


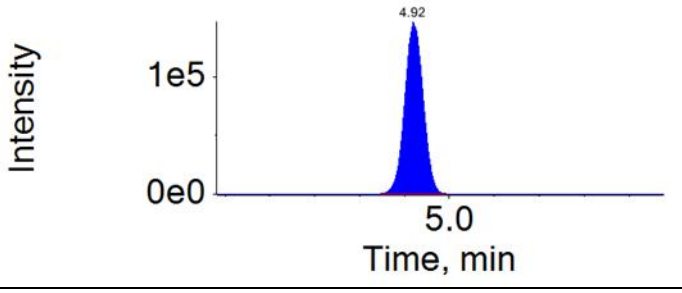
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



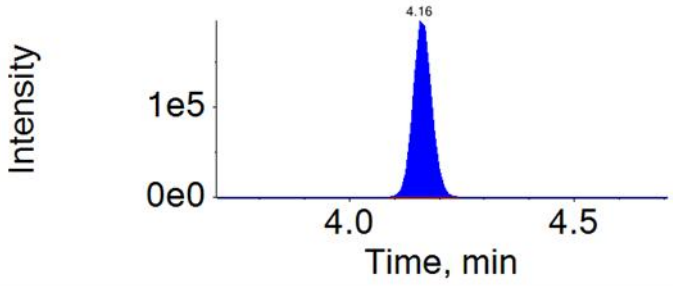


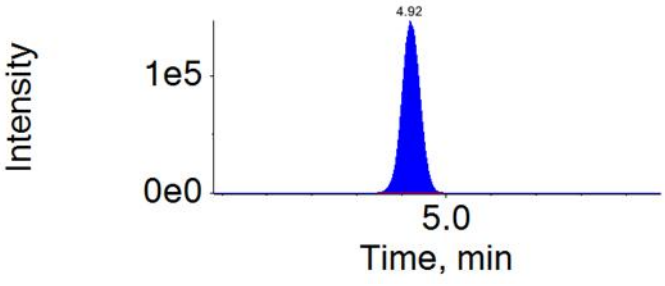
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

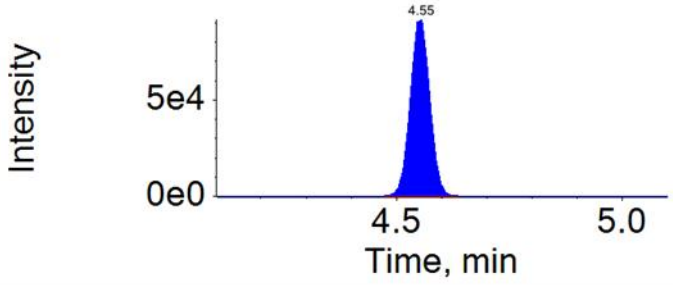
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

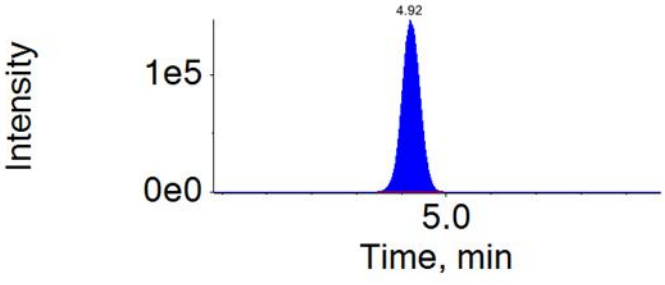
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



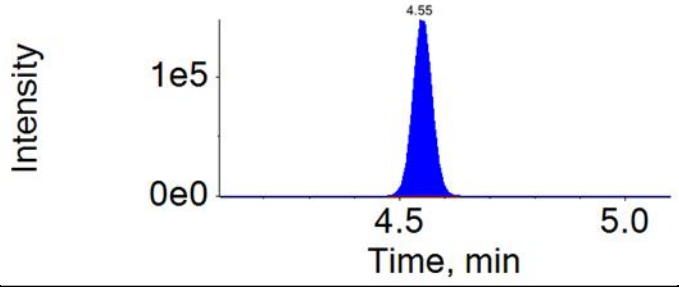


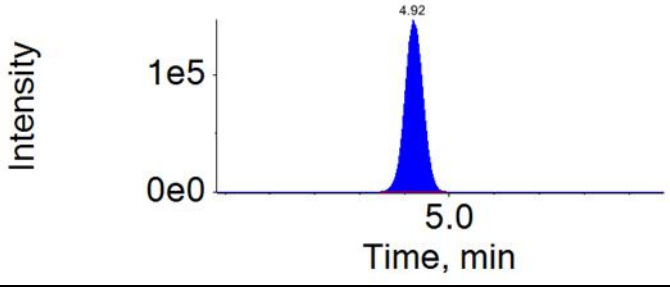
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



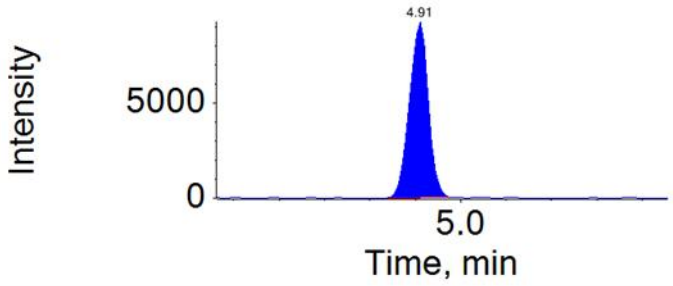


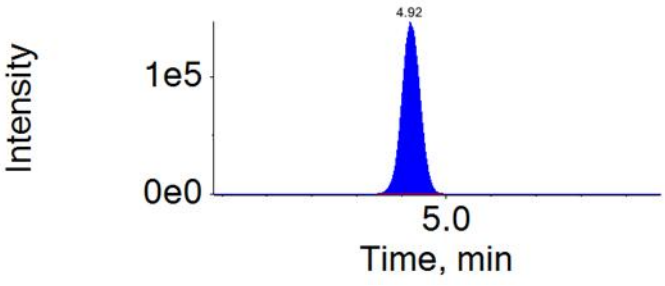
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



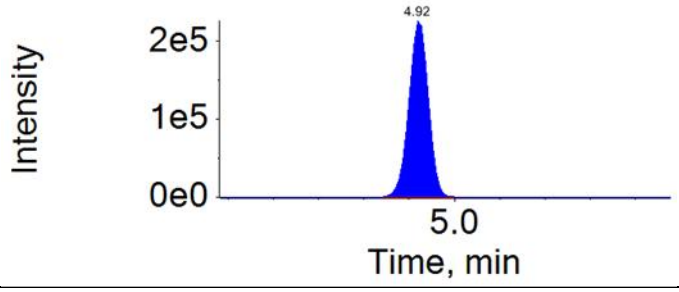


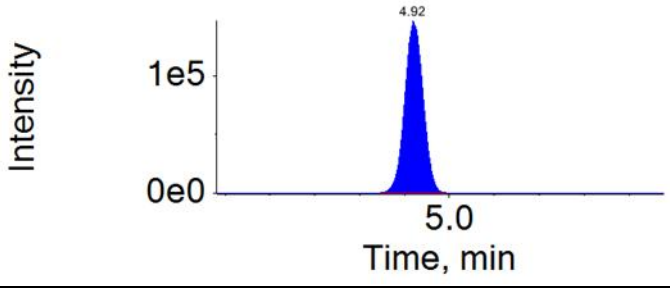
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

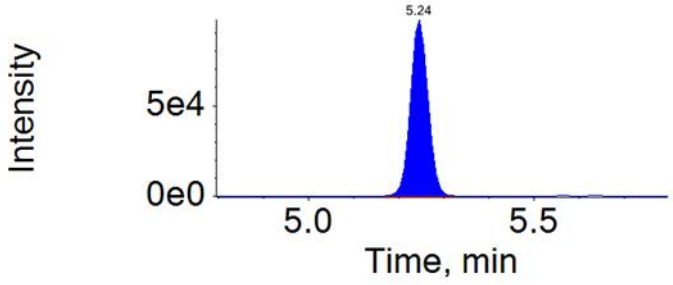
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

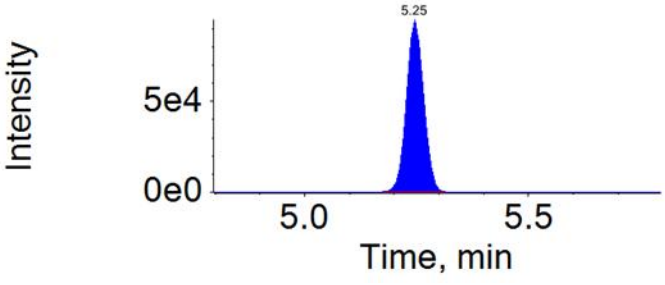
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



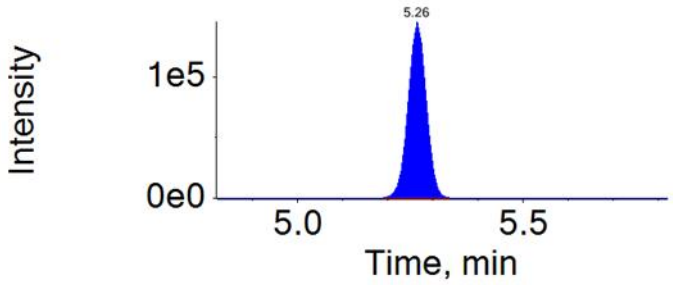


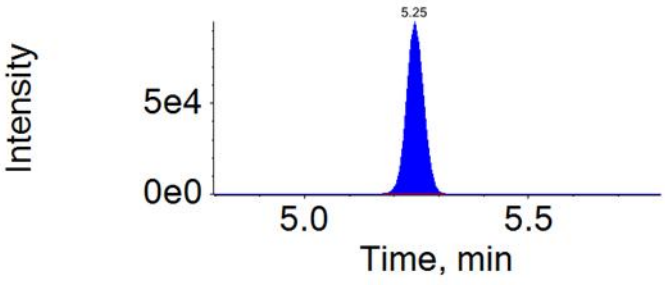
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



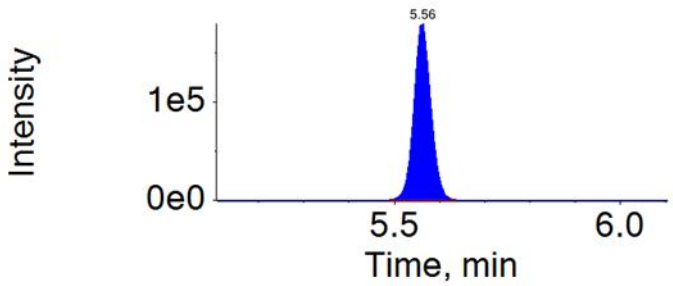


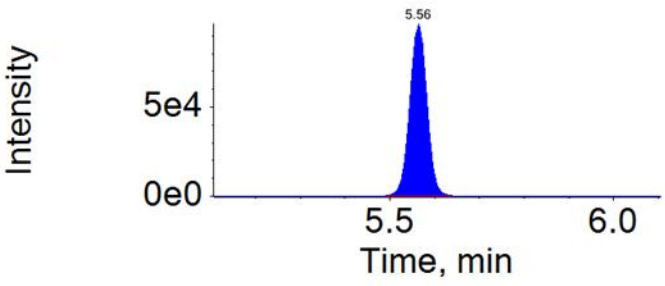
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

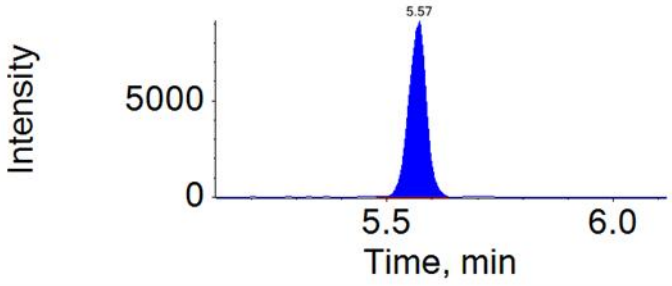
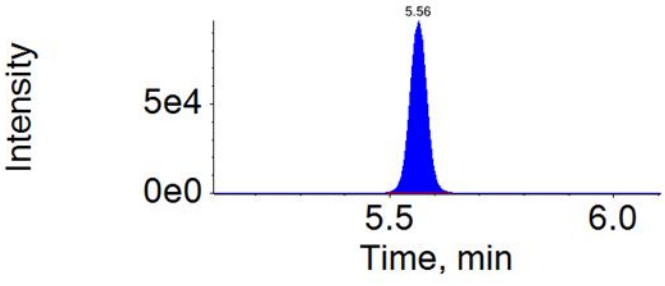


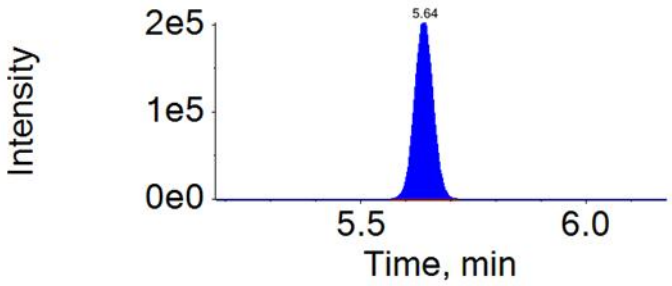
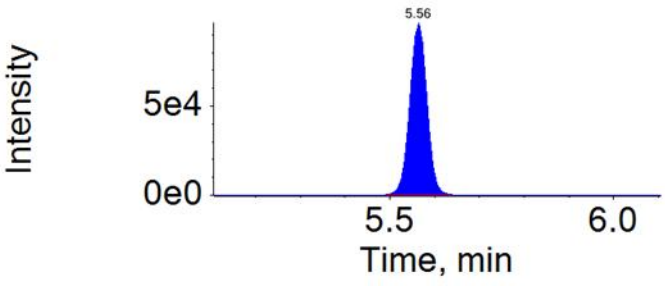


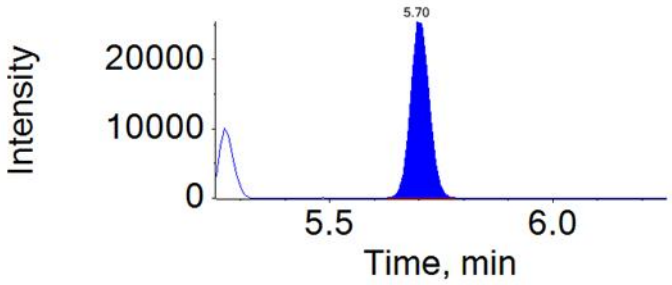
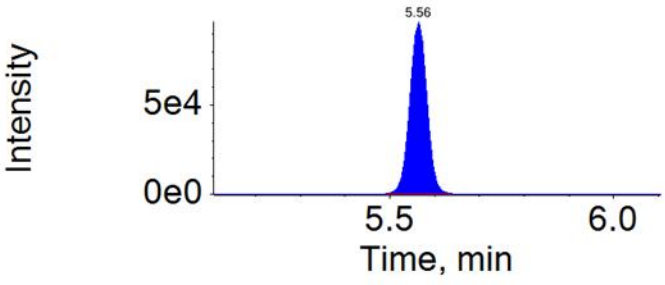
APPROVED
By JPT at 2:53 pm, 11/7/18

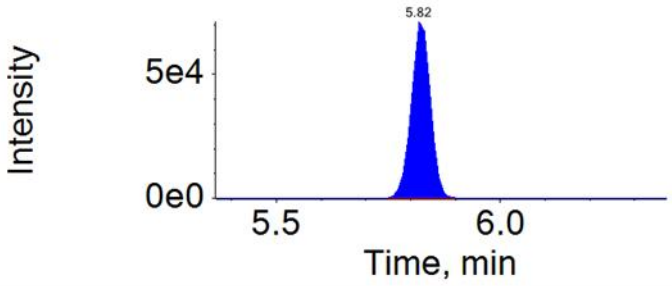
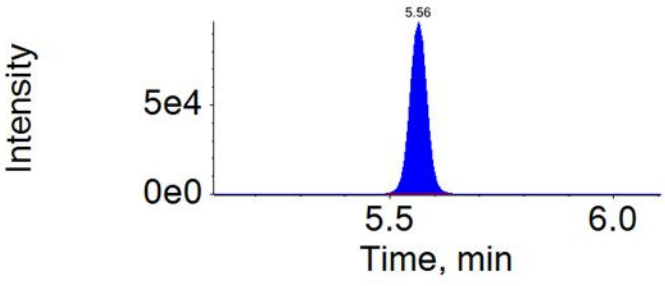
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

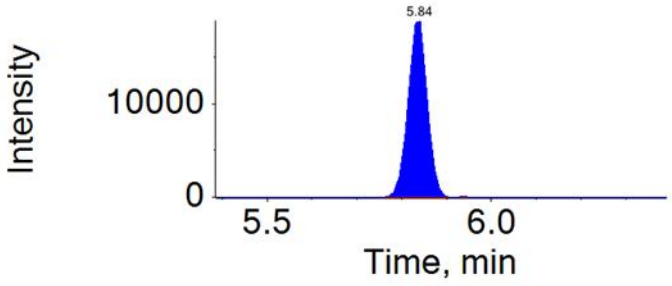
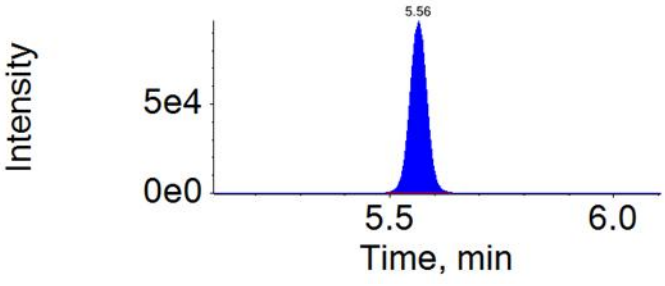
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

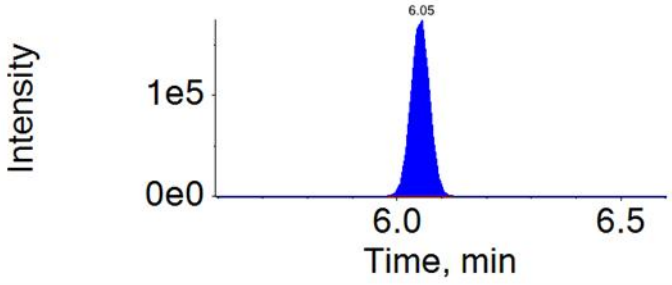
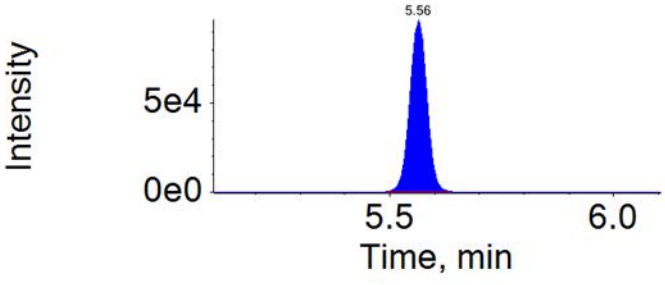
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

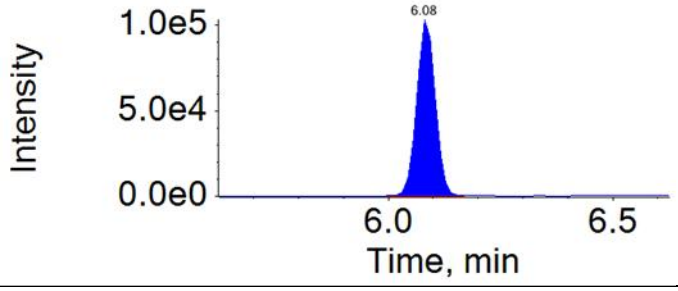
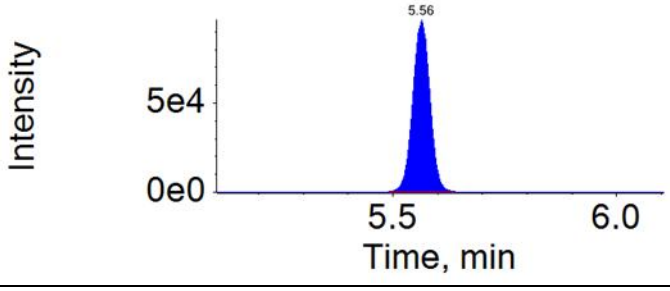
APPROVED
By JPT at 2:53 pm, 11/7/18

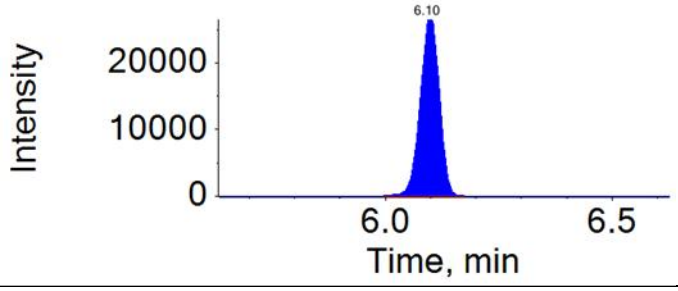
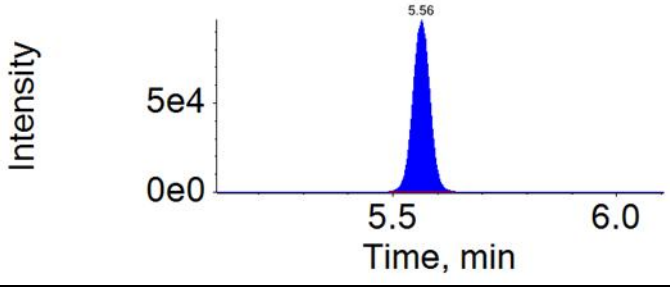
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

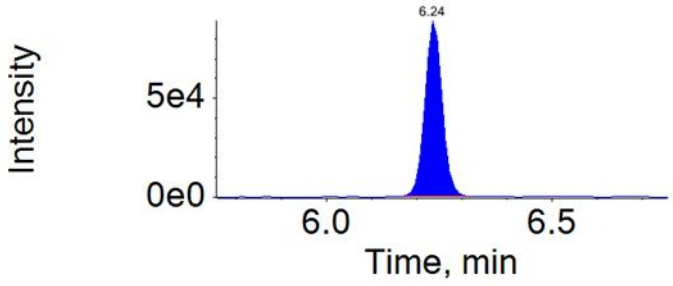
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

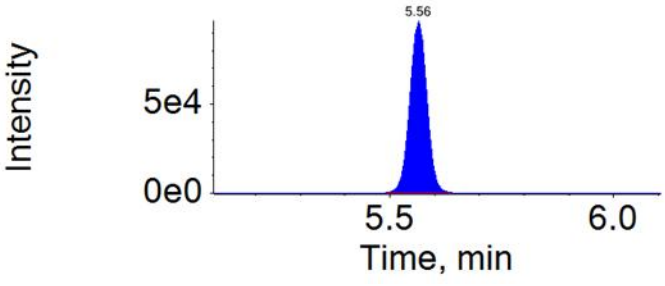
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

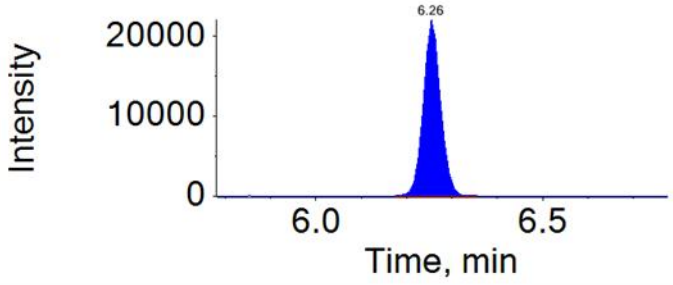
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

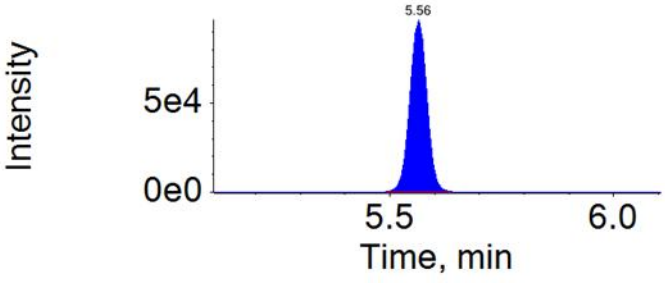
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



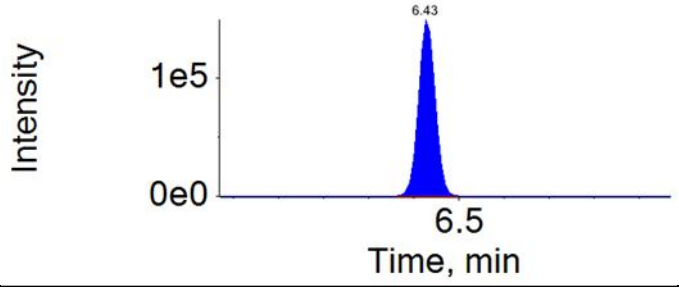


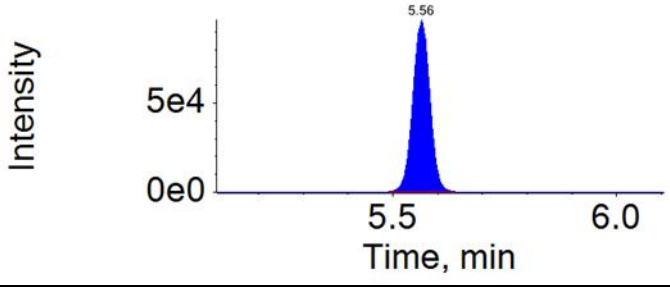
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



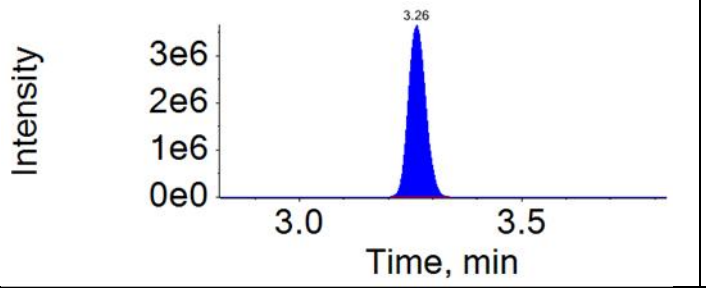


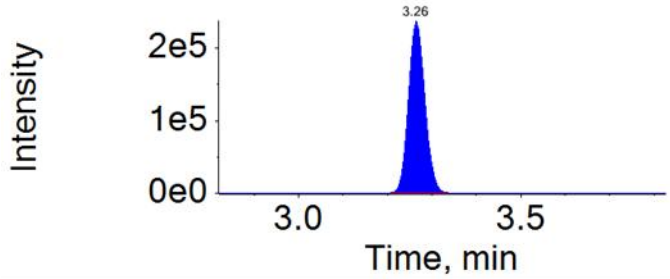
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

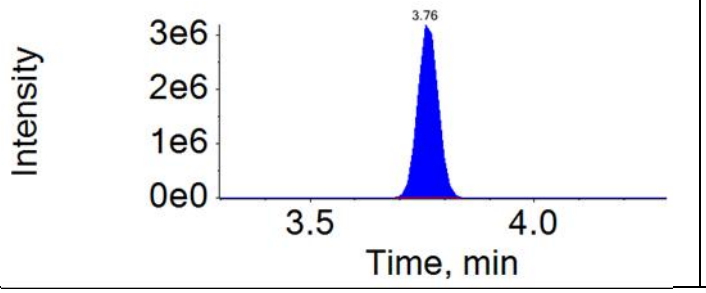
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

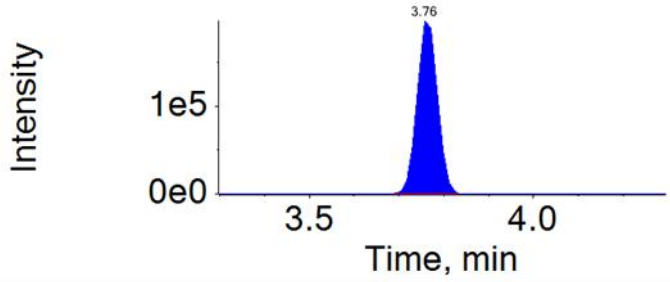
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



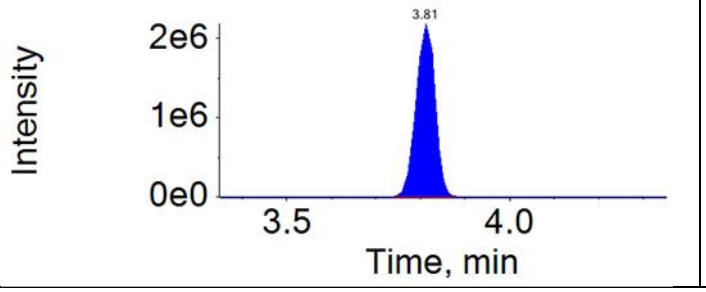


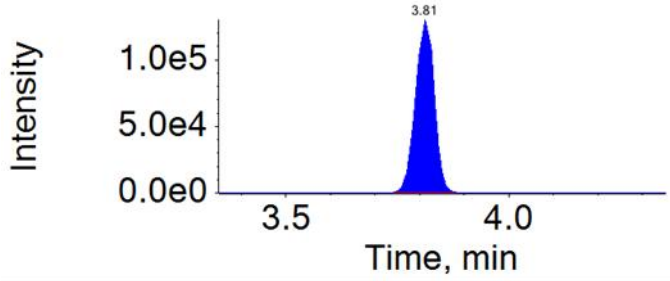
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



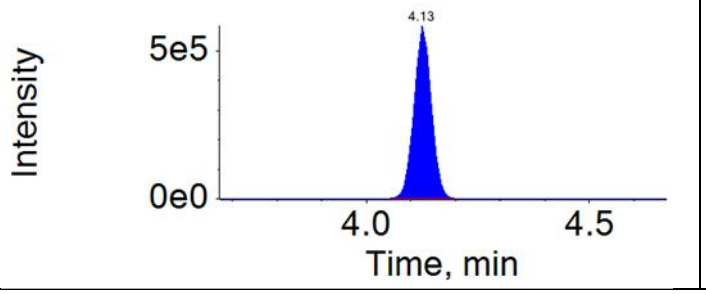


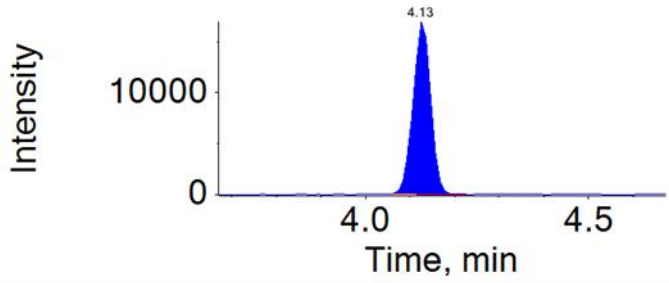
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

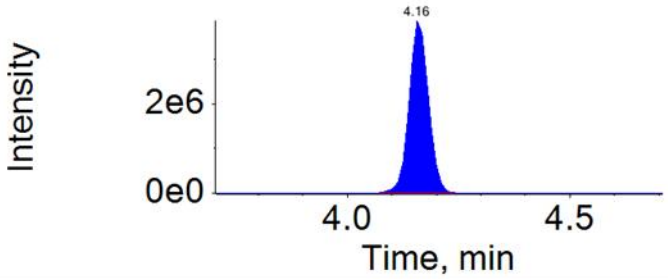
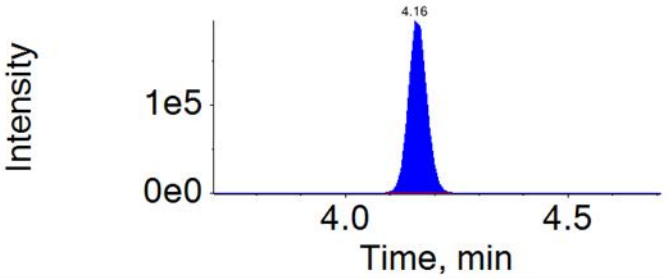


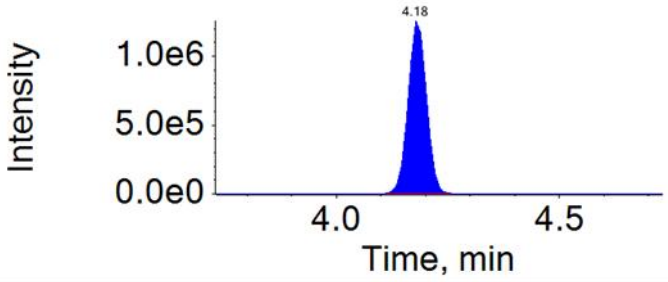
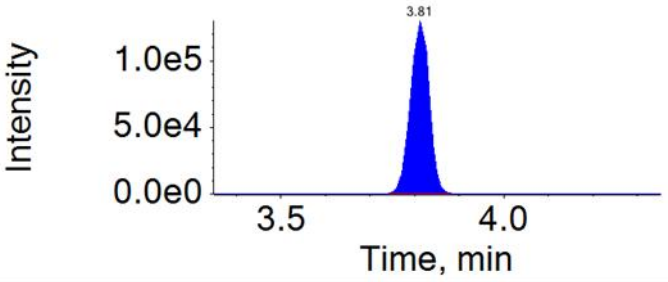


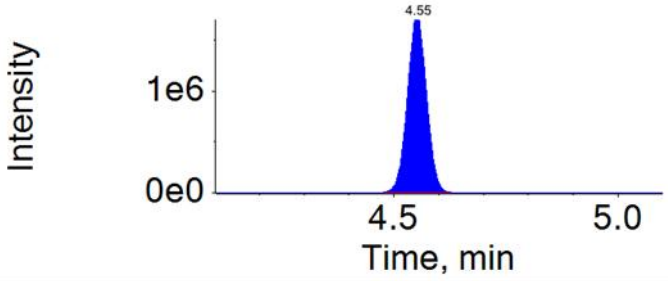
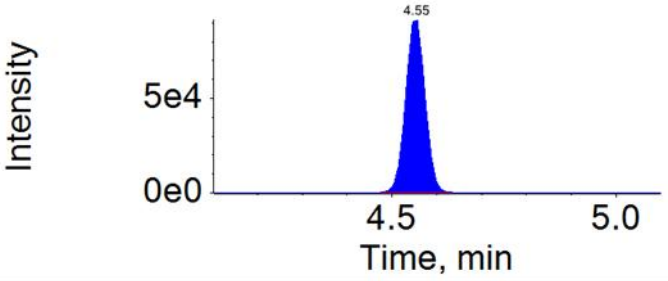
APPROVED
By JPT at 2:53 pm, 11/7/18

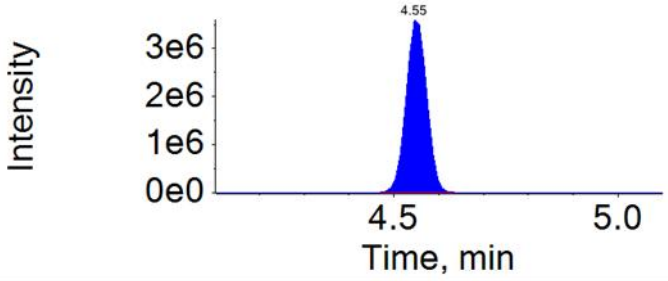
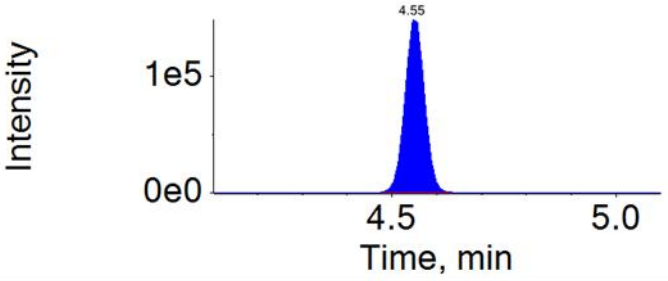
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

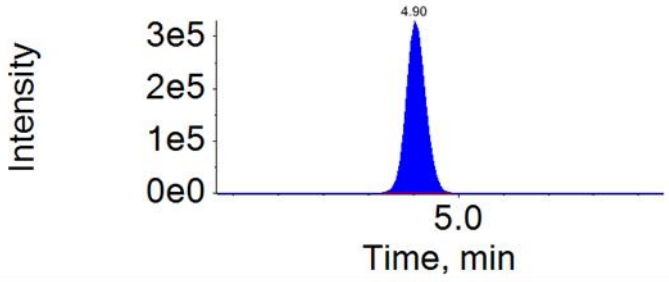
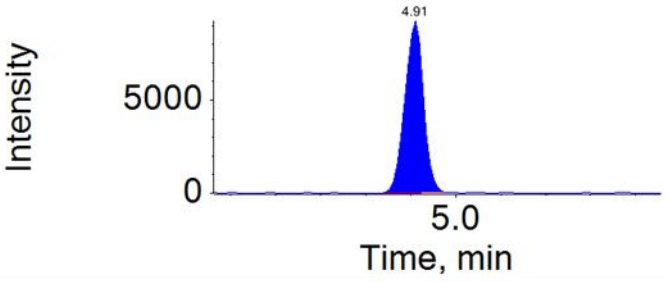
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

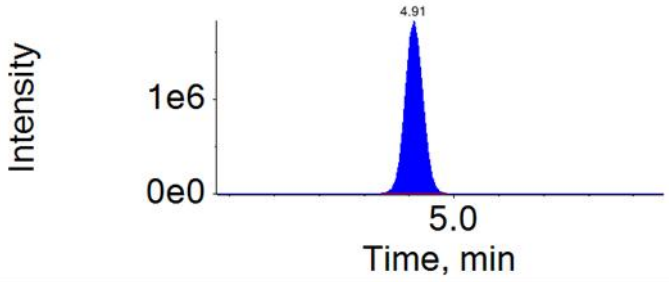
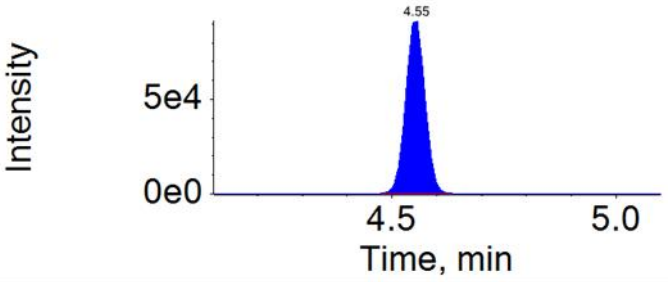
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

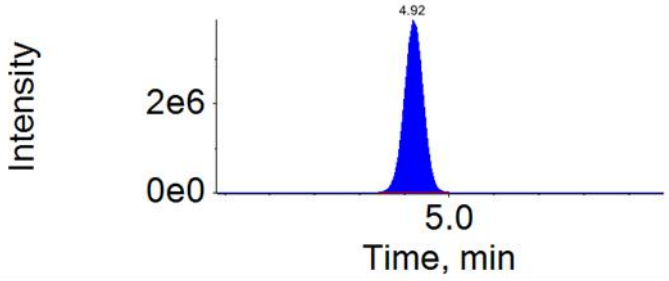
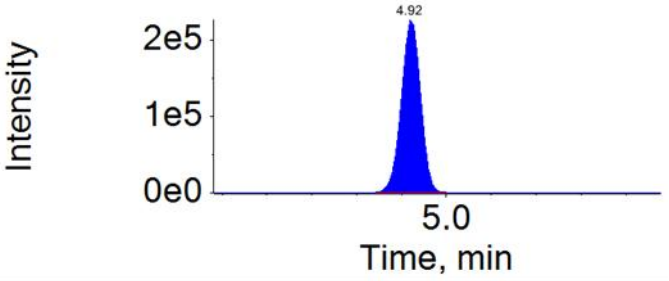
APPROVED
By JPT at 2:53 pm, 11/7/18

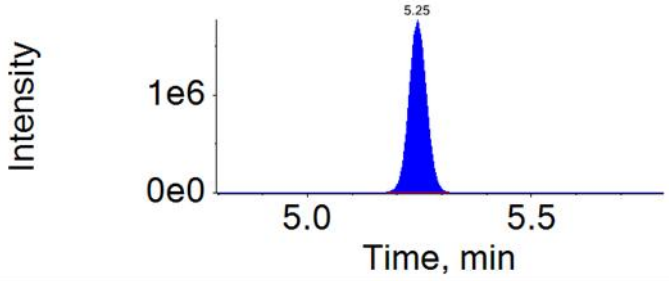
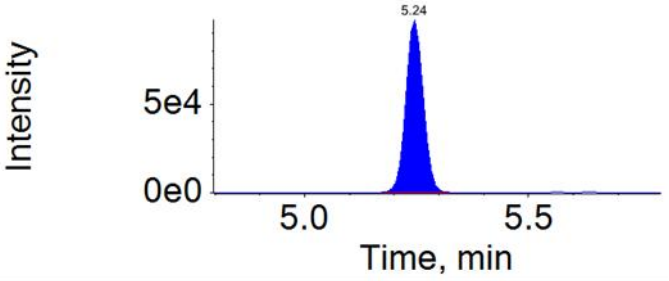
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

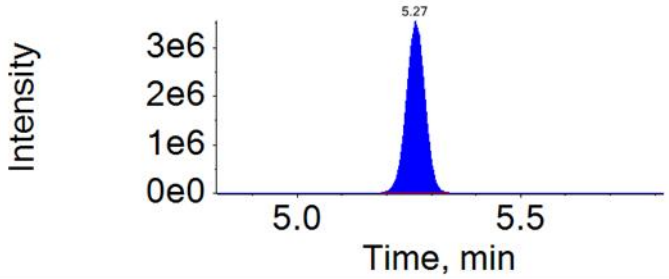
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

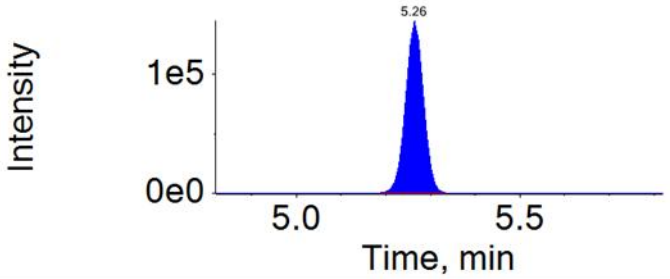
APPROVED
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REVIEWED
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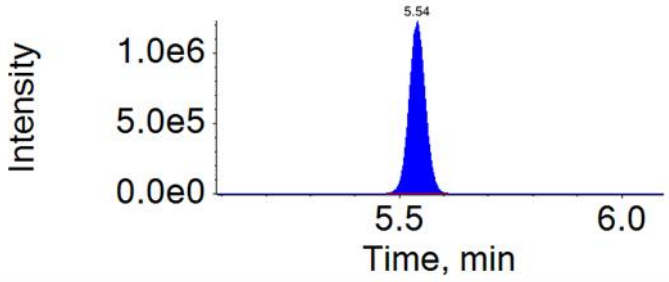
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

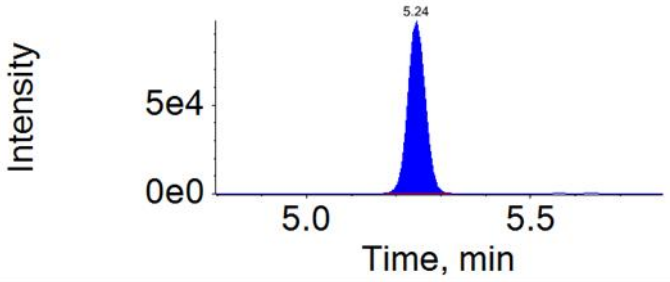
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



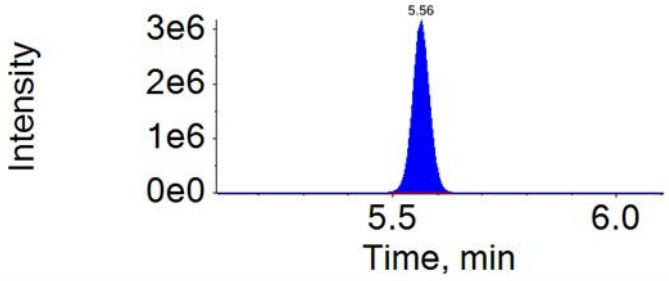


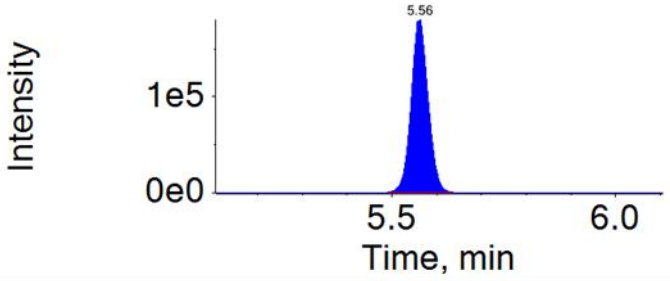
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



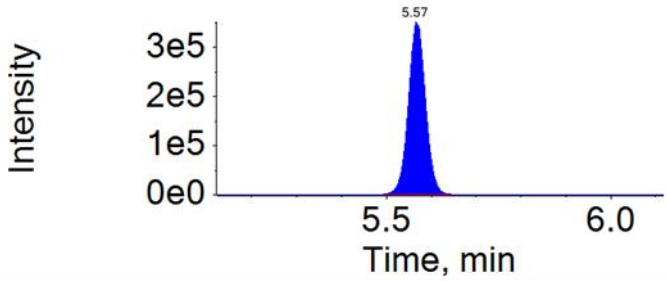


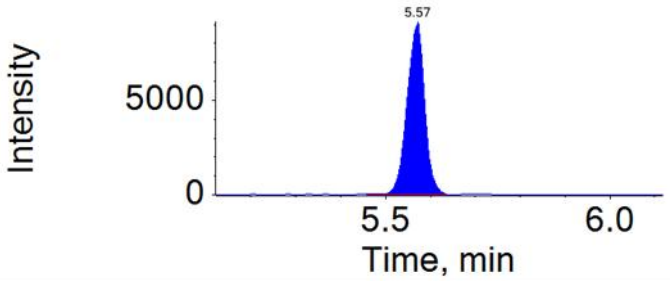
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

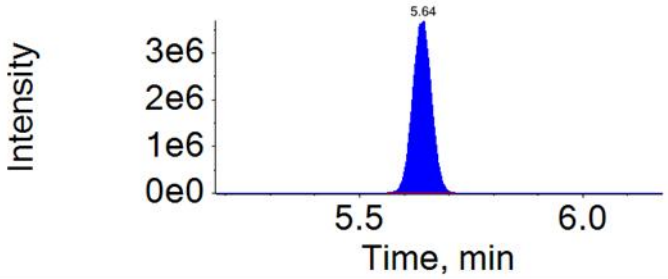
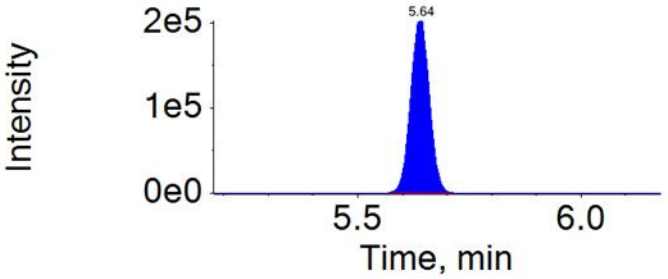


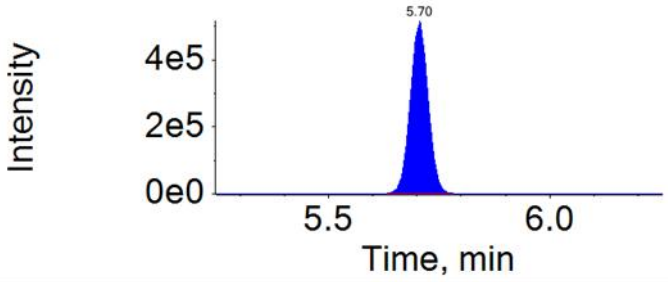
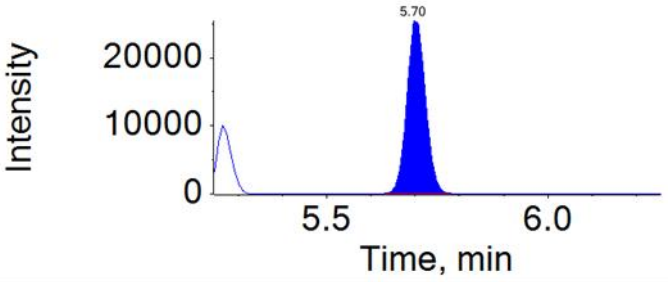


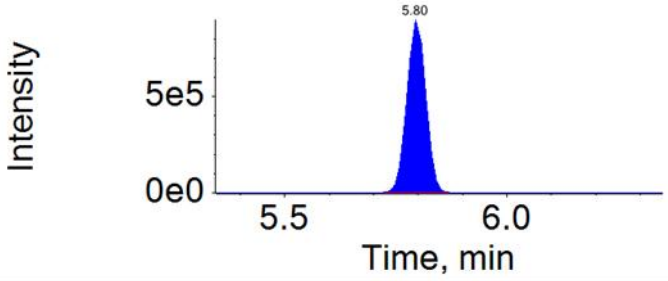
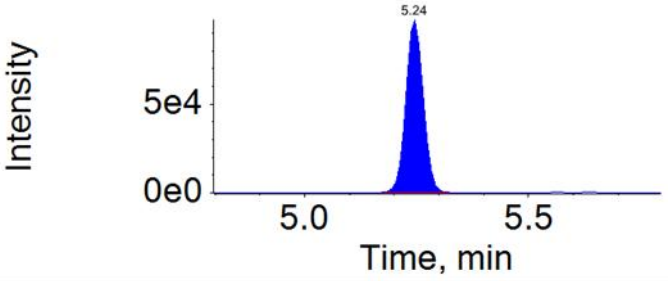
APPROVED
By JPT at 2:53 pm, 11/7/18

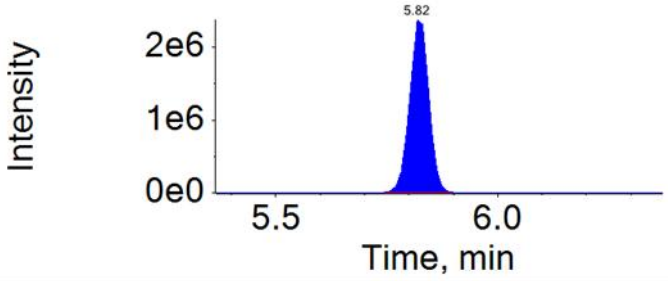
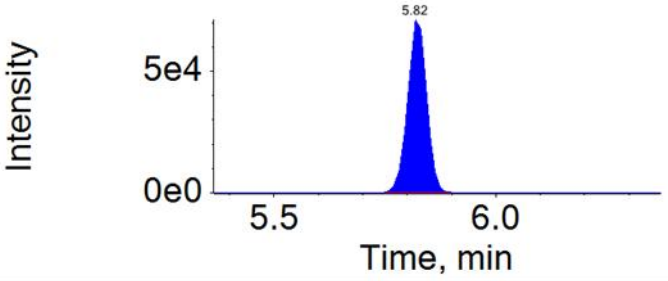
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

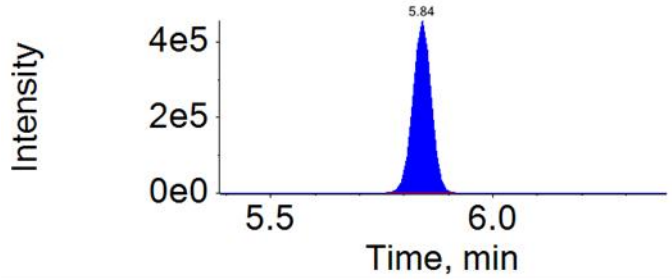
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

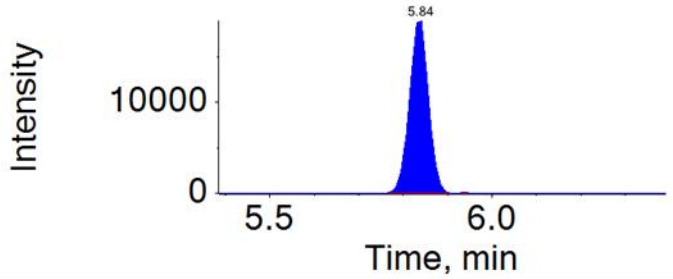
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

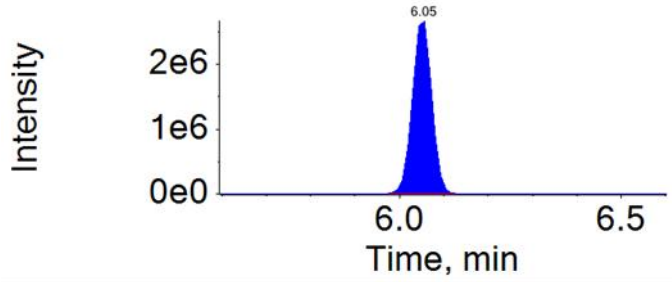
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

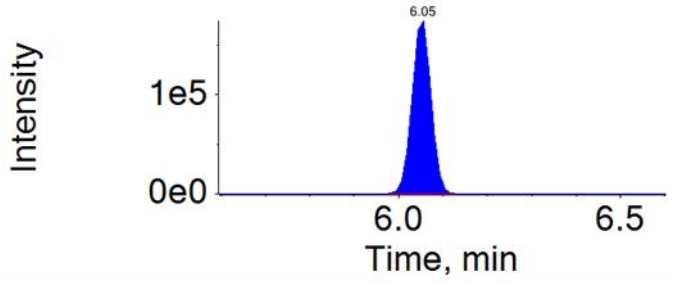
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



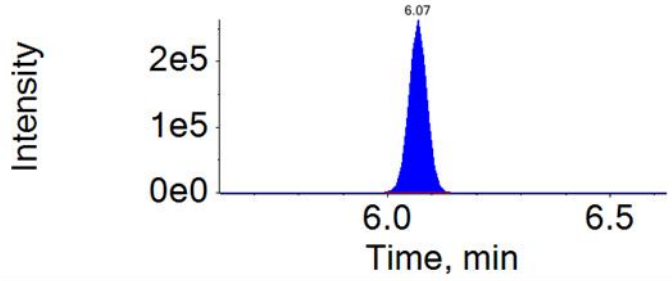


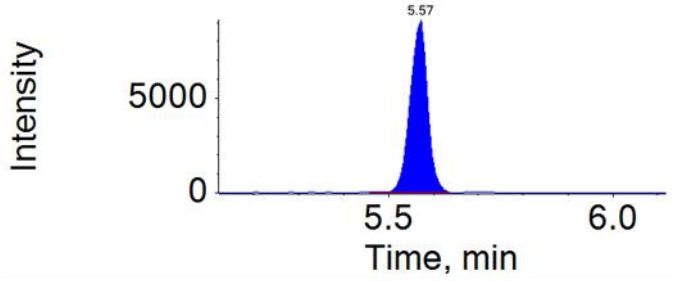
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



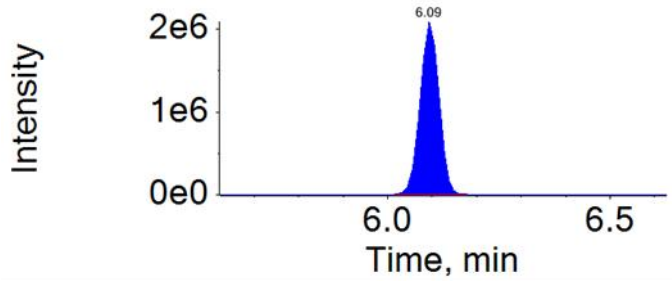


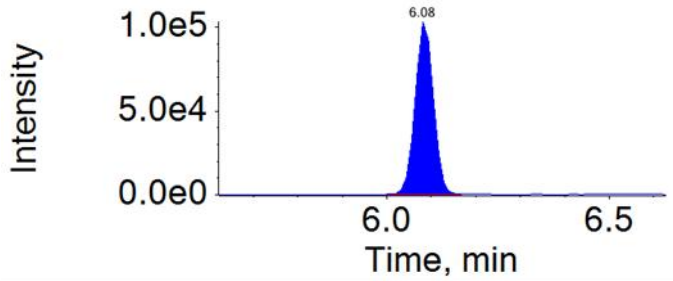
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





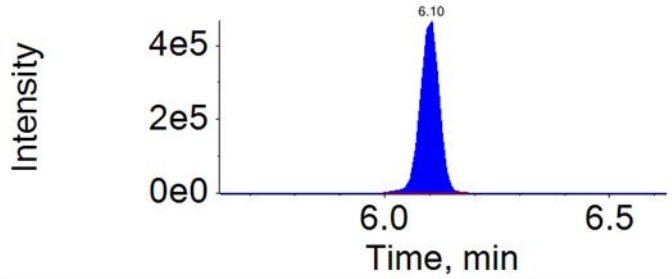
Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0

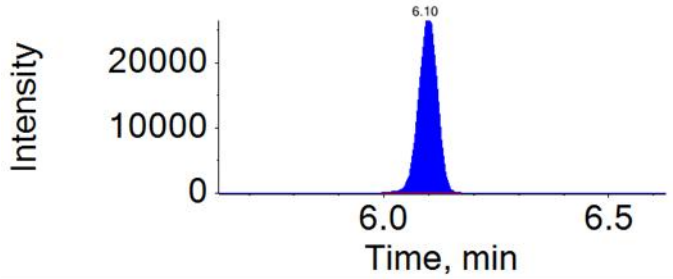




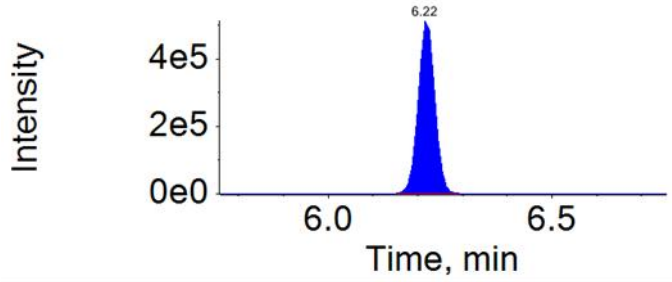
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

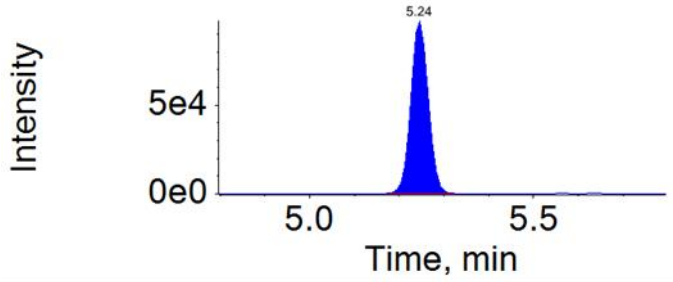
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



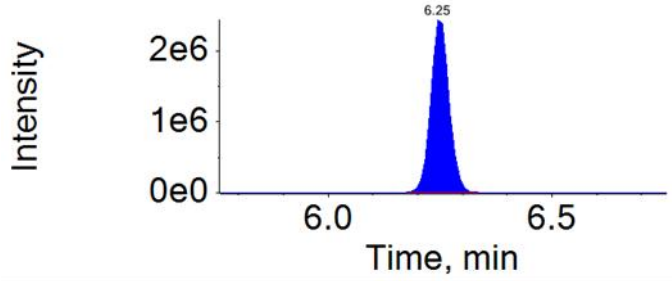


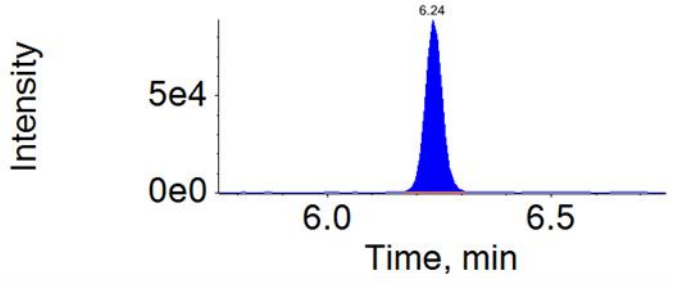
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



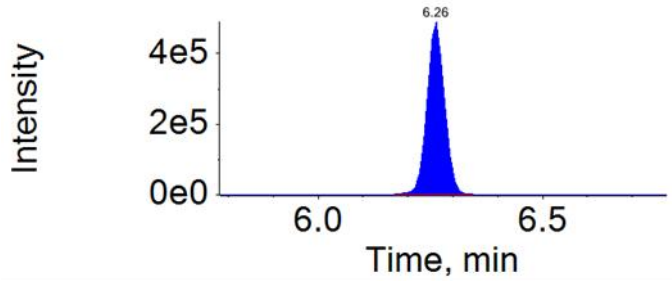


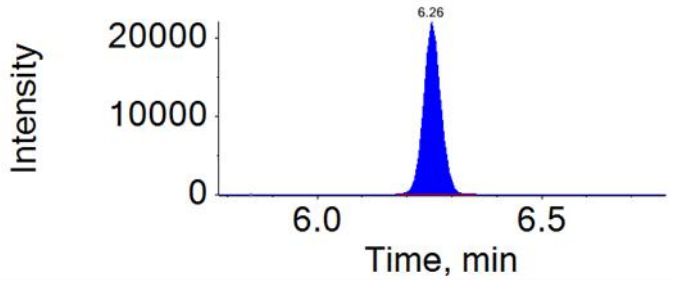
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

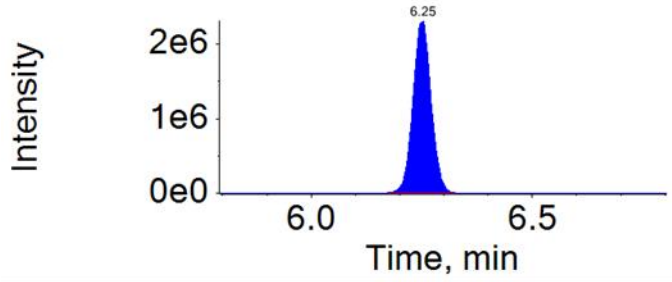
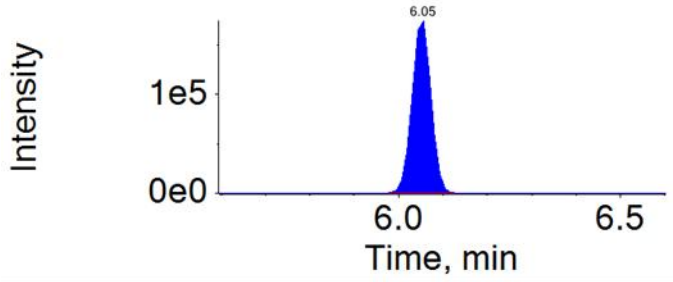


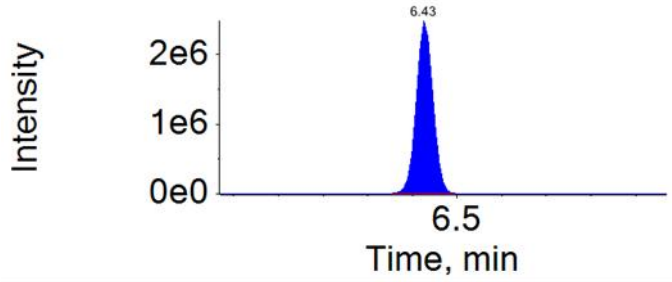
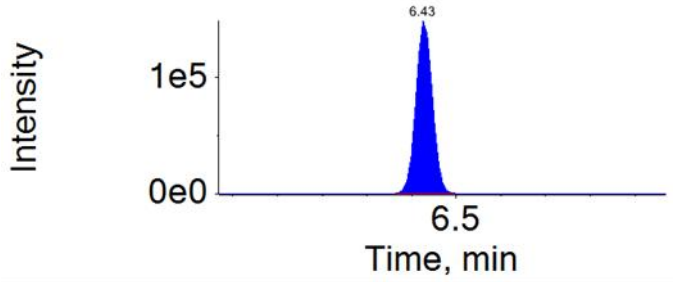


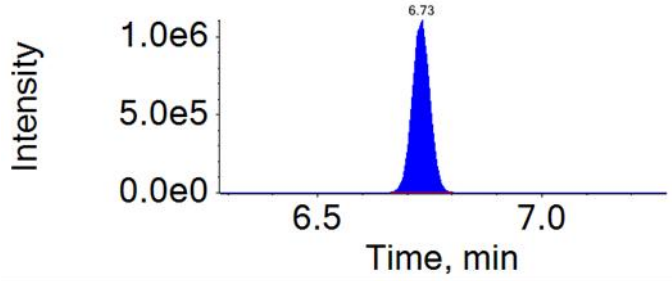
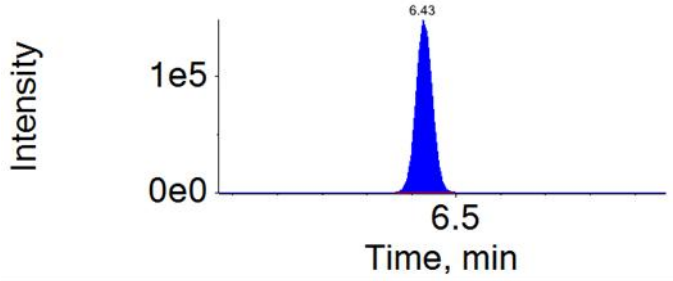
APPROVED
By JPT at 2:53 pm, 11/7/18

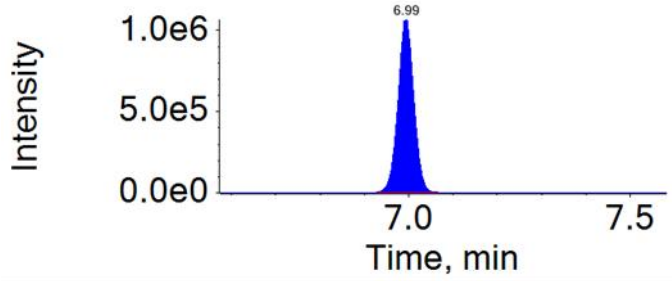
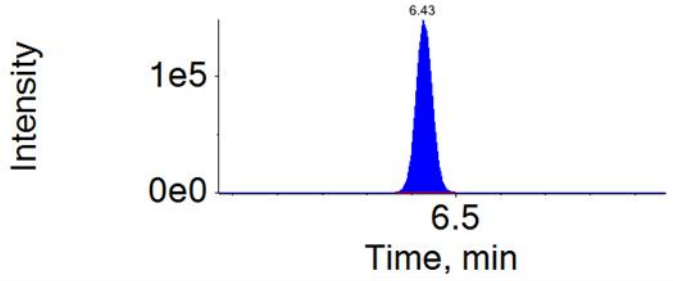
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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 JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

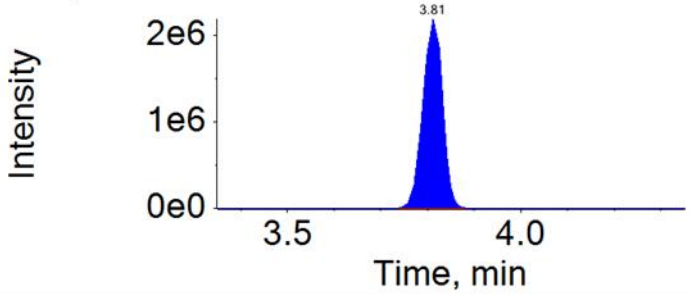
Sample Name: CAL7 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-16.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	6474525.0	A	1.0000	1.0000			
PFBS_2	3.81	1.00	2381935.1	A	0.3576	0.3679	3	50	
4:2-FTS	4.13	1.00	1576786.3	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	946320.6	A	0.6359	0.6002	-6	50	
PFHxA	4.16	1.00	11658104.6	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	146733.2	A	0.0115	0.0126	10	50	
PFPeS	4.18	1.10	3615170.2	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	1859405.8	A	0.5384	0.5143	-4	50	
PFHxS	4.55	1.00	5196245.3	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	1830260.3	A	0.3569	0.3522	-1	50	
PFHpA	4.55	1.00	11701142.2	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	676550.1	A	0.0577	0.0578	0	50	
6:2-FTS	4.90	1.00	988785.9	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	625214.8	A	0.6752	0.6323	-6	50	
PFHpS	4.91	1.08	5085803.6	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	2031737.5	A	0.3950	0.3995	1	50	
PFOA	4.92	1.00	11562348.7	A	1.0000	1.0000			
PFOA_2	4.92	1.00	711843.9	A	0.0635	0.0616	-3	50	
PFOS	5.25	1.00	4830627.6	A	1.0000	1.0000			
PFOS_2	5.24	1.00	1617879.0	A	0.3494	0.3349	-4	50	
PFNA	5.27	1.00	10279837.9	A	1.0000	1.0000			
PFNA_2	5.27	1.00	219746.5	A	0.0207	0.0214	3	50	
PFNS	5.54	1.06	3119908.2	A	1.0000	1.0000			
PFNS_2	5.54	1.06	1542771.9	A	0.4890	0.4945	1	50	
PFDA	5.56	1.00	8415098.4	A	1.0000	1.0000			
PFDA_2	5.56	1.00	58233.7	A	0.0057	0.0069	22	50	
8:2-FTS	5.57	1.00	936483.2	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	547919.5	A	0.6169	0.5851	-5	50	
NMeFOSAA	5.70	1.00	1450331.2	A	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	350791.8	A	0.2206	0.2419	10	50	
PFDS	5.80	1.11	2660525.2	A	1.0000	1.0000			
PFDS_2	5.80	1.11	1326713.6	A	0.4648	0.4987	7	50	
PFUnDA	5.82	1.00	7204782.9	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	26281.4	A	0.0031	0.0036	16	50	
NEtFOSAA	5.84	1.00	1317020.6	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	819492.6	A	0.6082	0.6222	2	50	
PFDoDA	6.05	1.00	8211828.8	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	111190.9	A	0.0109	0.0135	24	50	
10:2-FTS	6.07	1.09	747804.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	511885.1	A	0.7082	0.6845	-3	50	
PFTrDA	6.25	1.03	6633128.3	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	66200.2	A	0.0096	0.0100	4	50	
PFTeDA	6.43	1.00	6426587.4	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	41133.5	A	0.0055	0.0064	16	50	
PFHxDA	6.73	1.05	3073572.7	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	192350.4	A	0.0596	0.0626	5	50	
PFODA	6.99	1.09	2676698.5	A	1.0000	1.0000			
PFODA_2	6.99	1.09	70338.4	A	0.0257	0.0263	2	50	

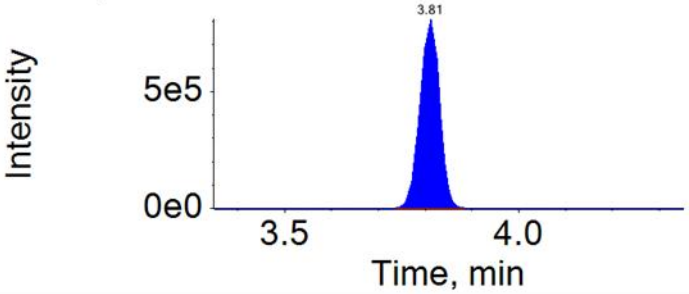
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

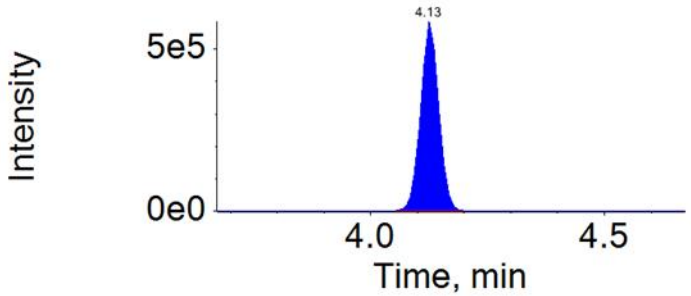
Component: PFBS
Primary Mass: 299.0 / 80.0



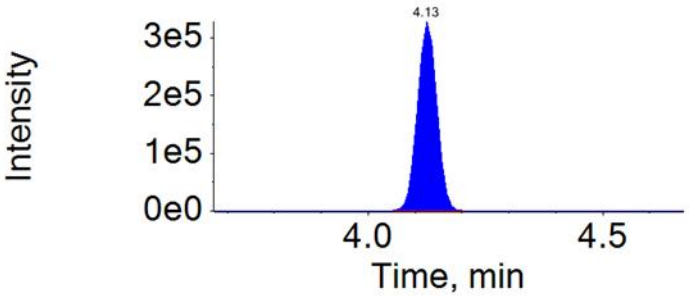
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



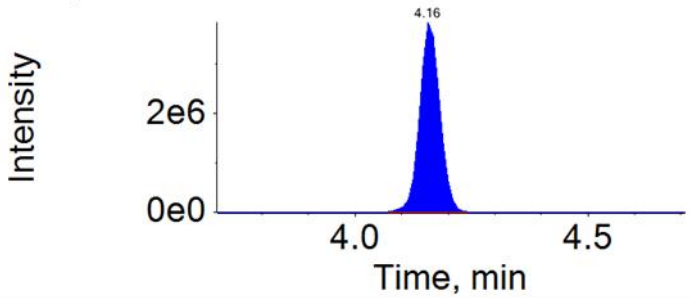
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



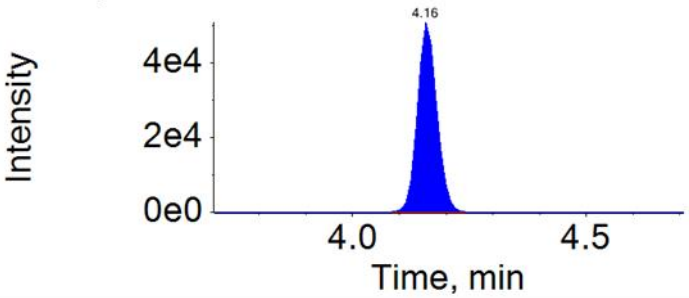
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



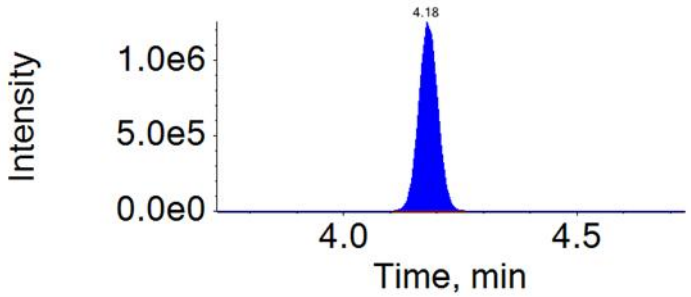
Component: PFHxA
Primary Mass: 313.0 / 269.0



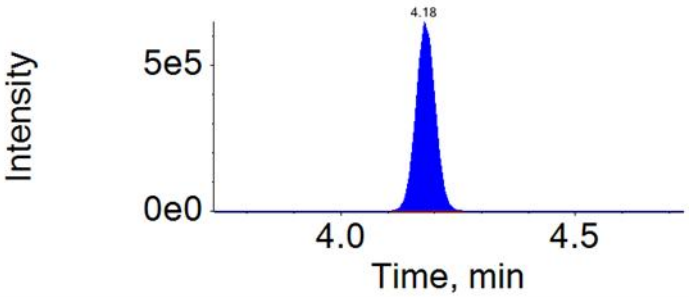
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



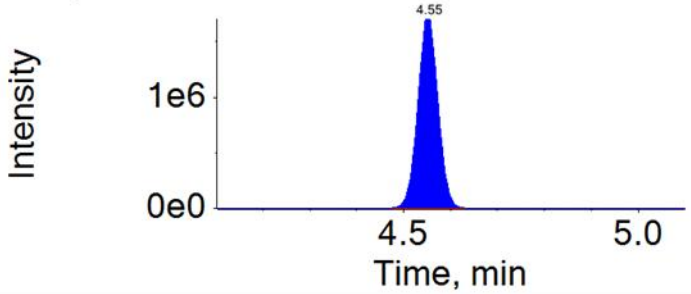
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



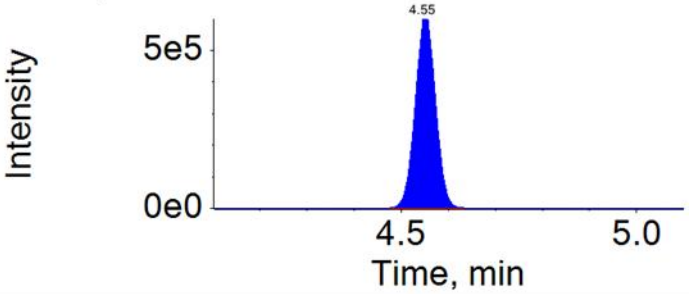
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

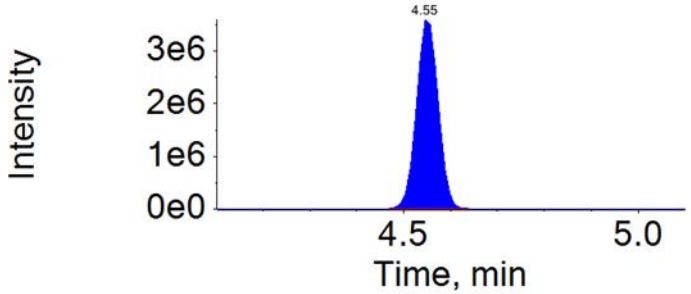
Component: PFHxS
Primary Mass: 399.0 / 80.0



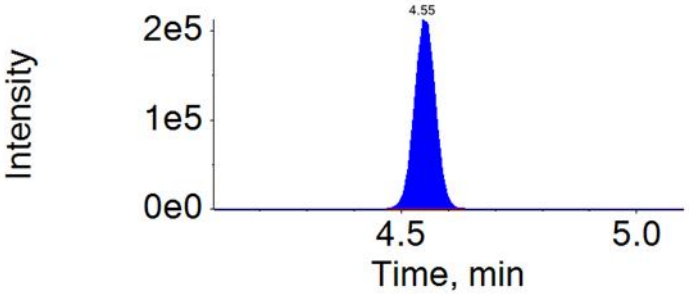
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



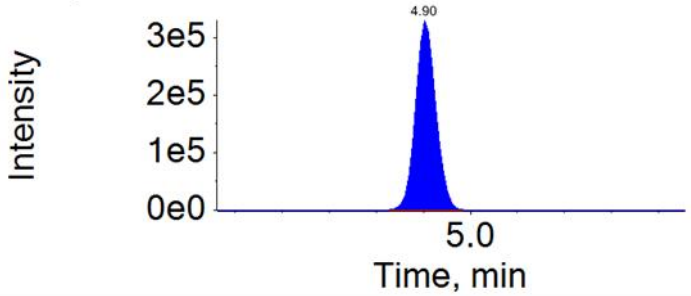
Component: PFHpA
Primary Mass: 363.0 / 319.0



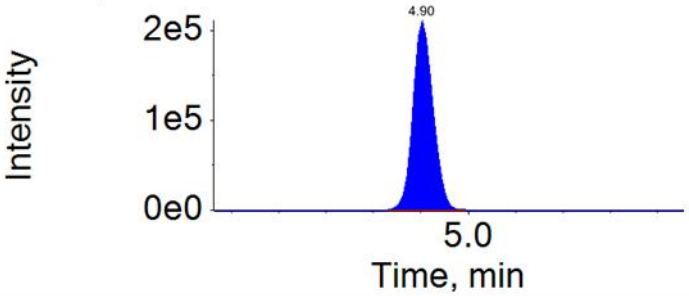
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



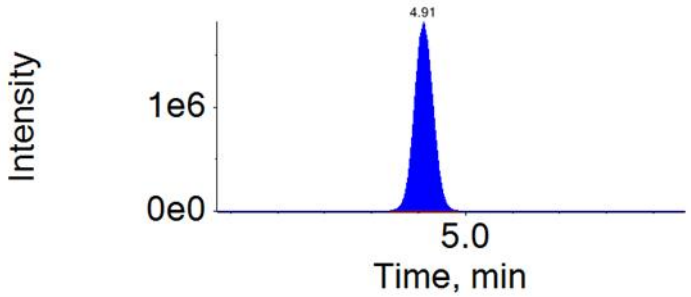
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



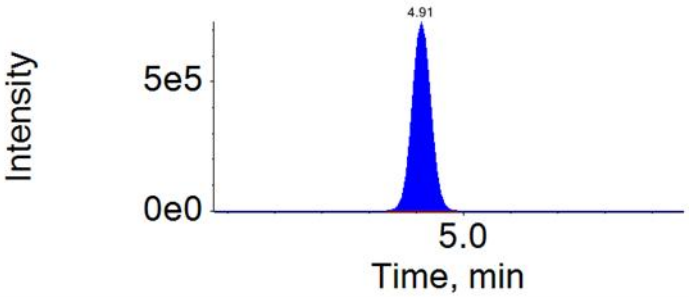
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



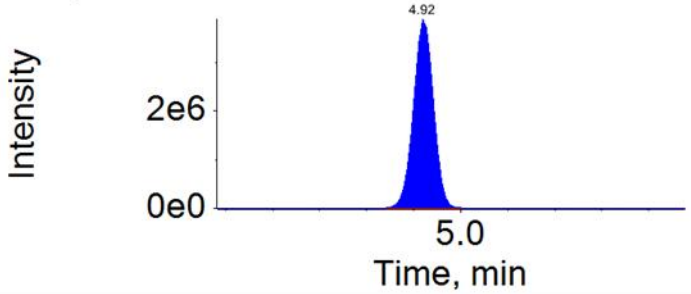
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



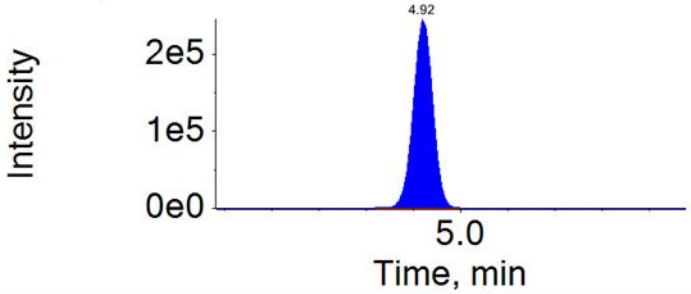
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

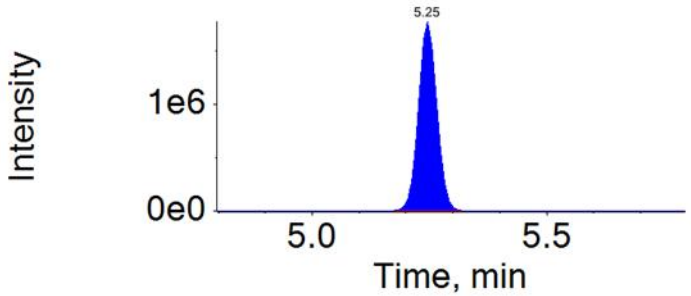
Component: PFOA
Primary Mass: 413.0 / 369.0



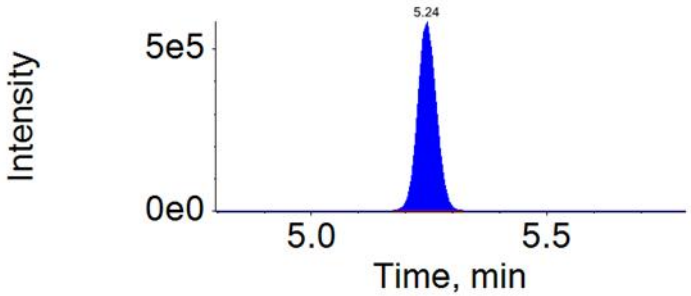
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



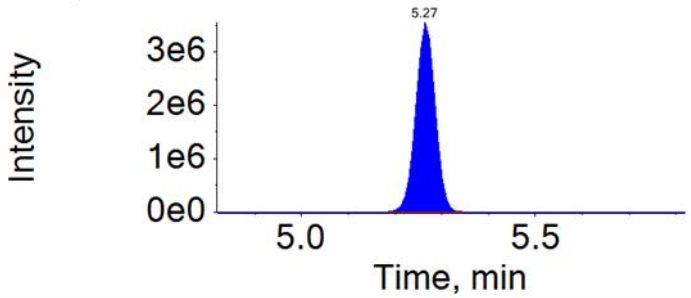
Component: PFOS
Primary Mass: 499.0 / 80.0



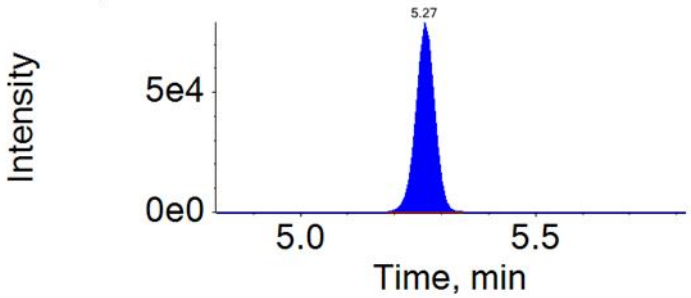
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



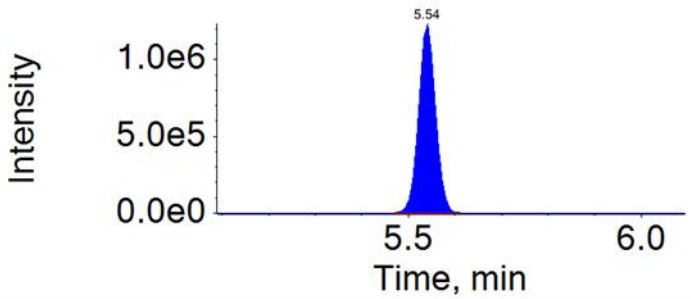
Component: PFNA
Primary Mass: 463.0 / 419.0



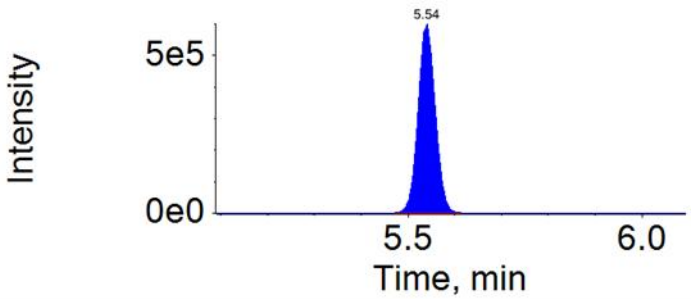
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



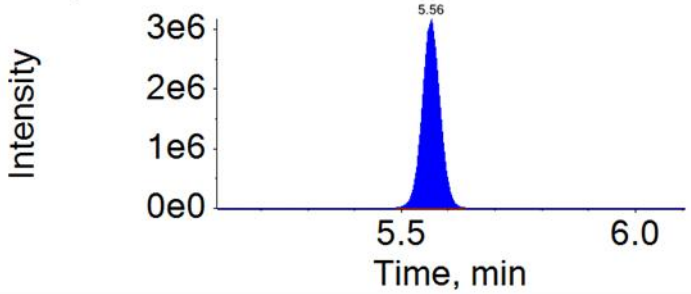
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



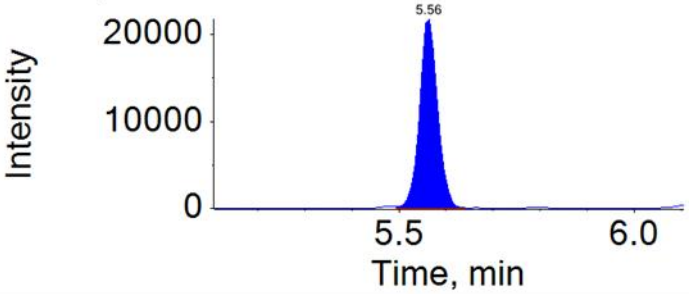
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

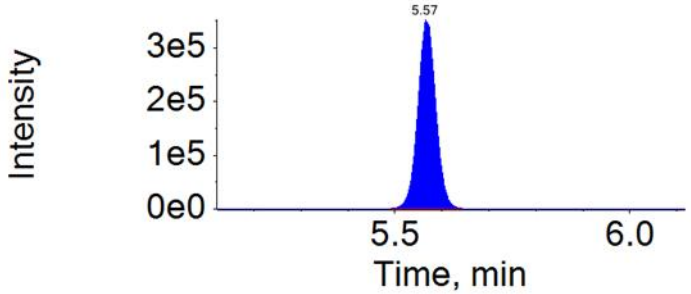
Component: PFDA
Primary Mass: 513.0 / 469.0



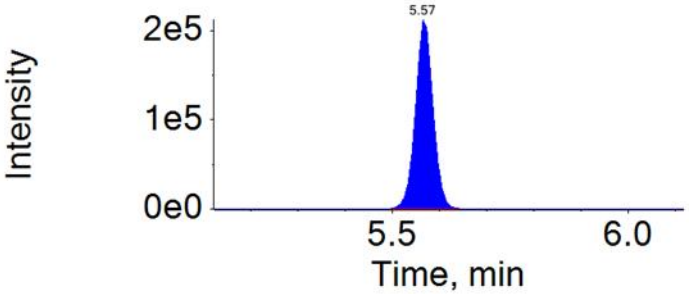
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



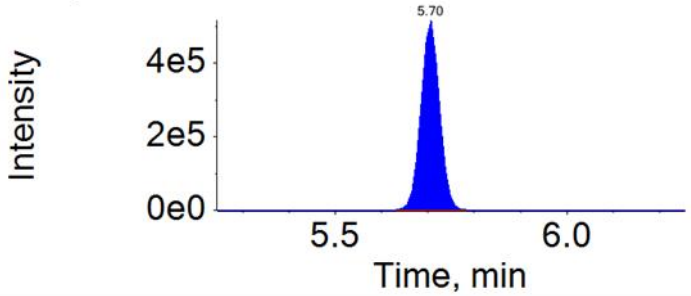
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



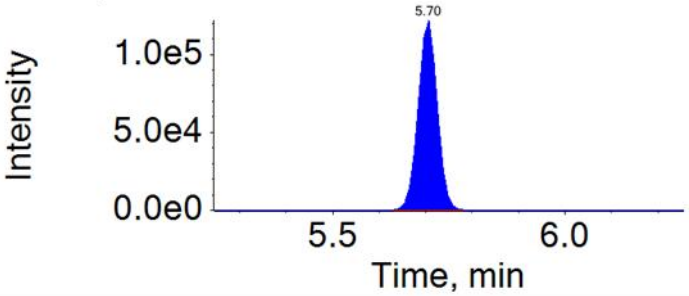
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



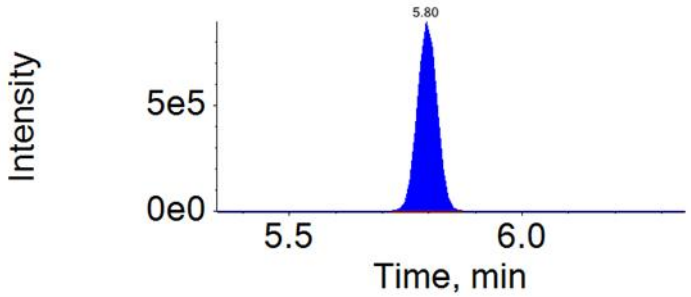
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



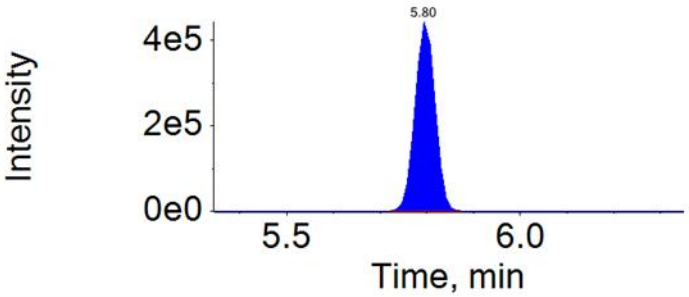
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



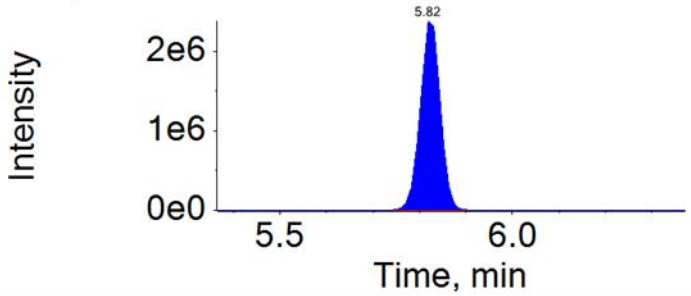
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



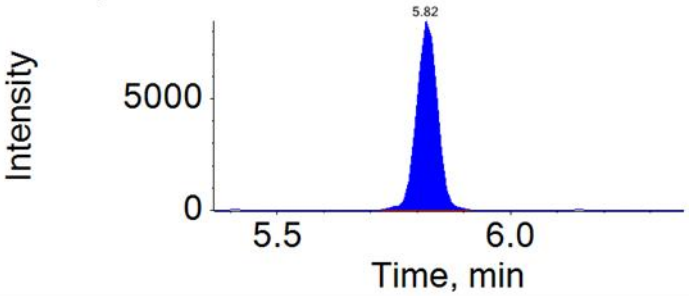
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

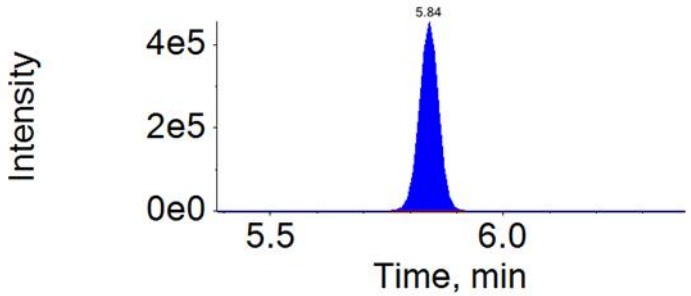
Component: PFUnDA
Primary Mass: 563.0 / 519.0



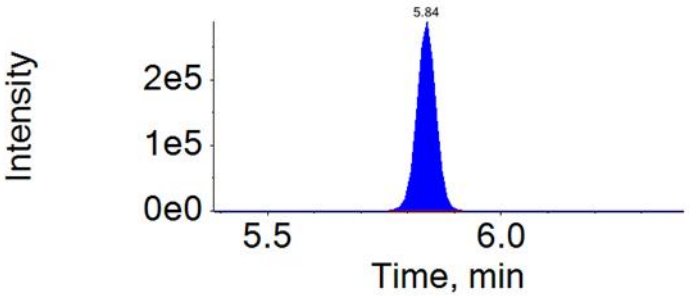
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



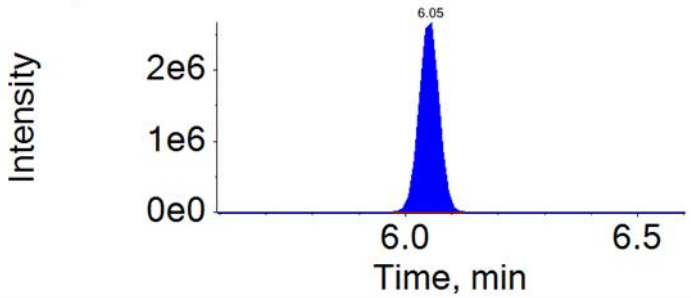
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



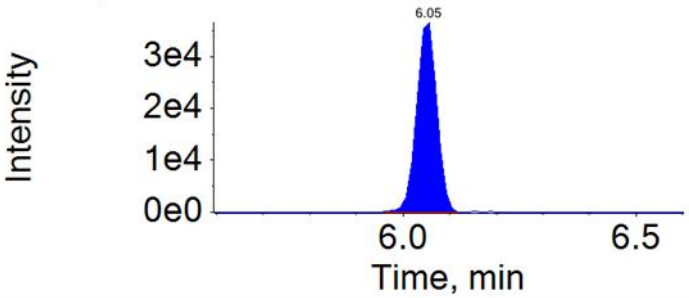
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



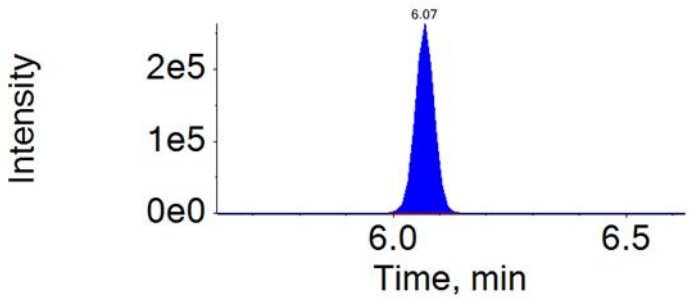
Component: PFDoDA
Primary Mass: 613.0 / 569.0



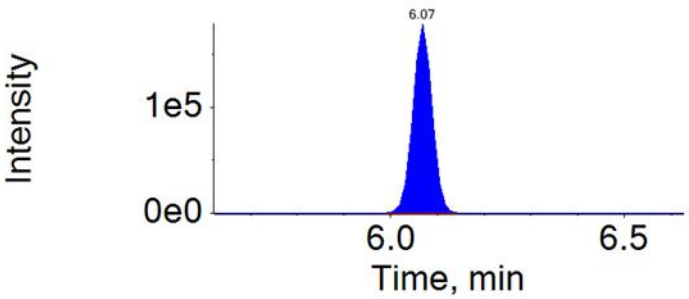
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



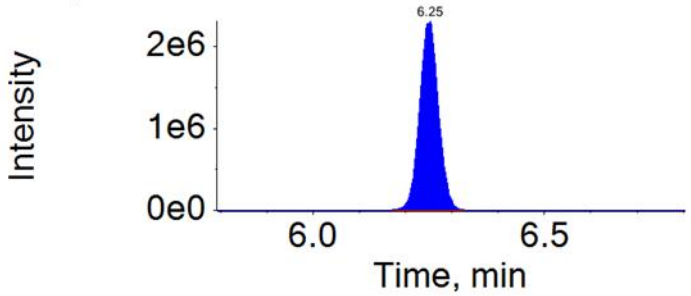
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



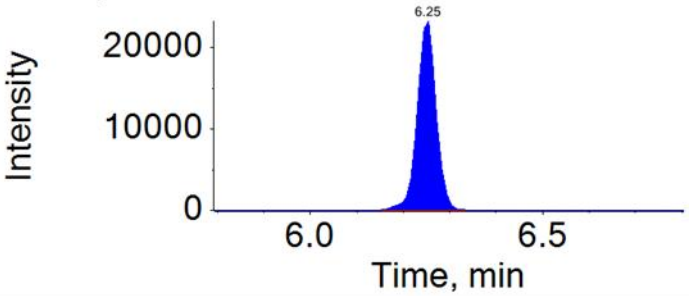
APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

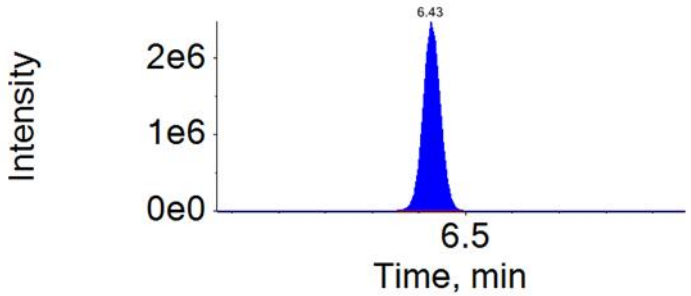
Component: PFTrDA
Primary Mass: 663.0 / 619.0



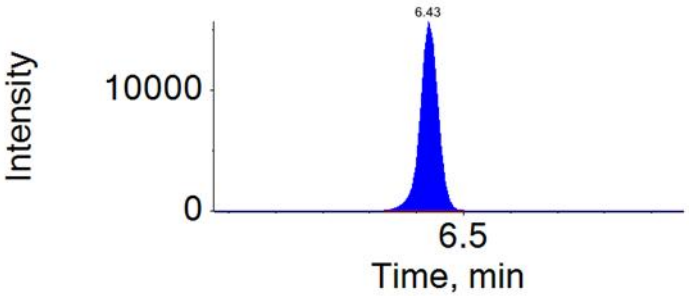
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



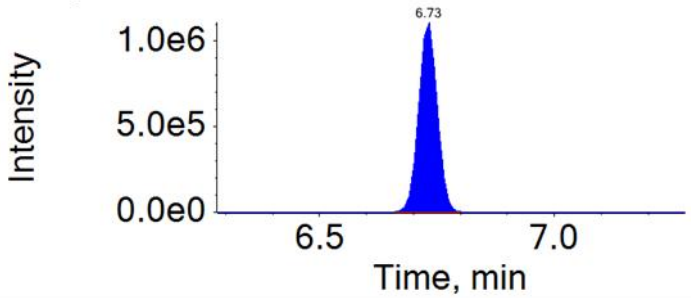
Component: PFTeDA
Primary Mass: 713.0 / 669.0



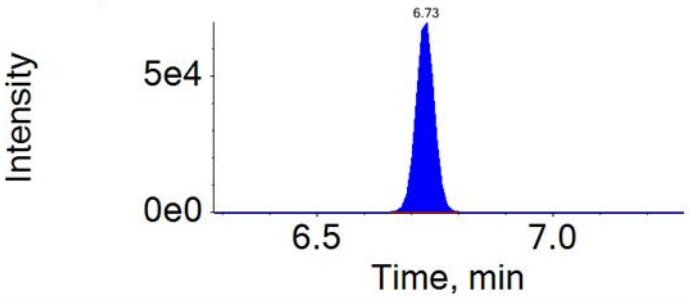
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



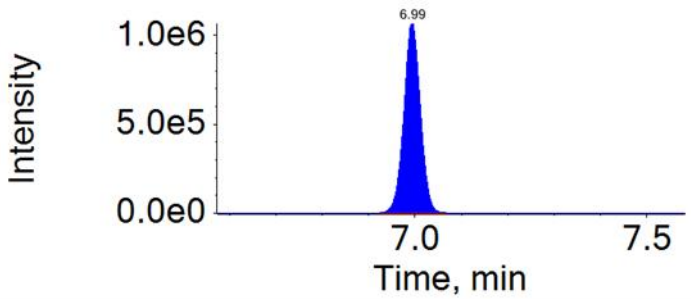
Component: PFHxDA
Primary Mass: 813.0 / 769.0



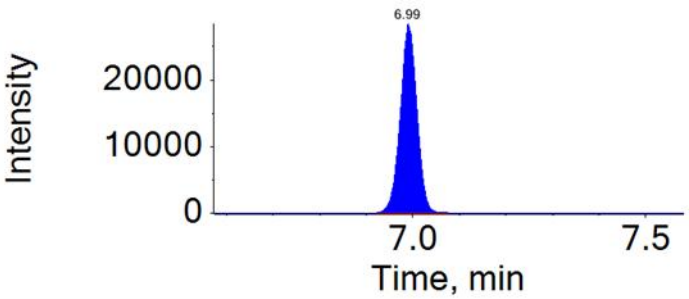
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	MDL			**Data File:**		18NOV07DCAL-09.wiff
Sample ID:	MDLMODX1833E			**Acquis Date:**		2018-11-07T09:30:56
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	2			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	727406.8	730410.6	0	50	
13C2-PFOA	5.0	526479.1	524423.6	0	50	
13C4-PFOS	4.8	275181.3	274061.7	0	50	
13C2-PFDA	5.0	315732.1	311442.1	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	807312.5	13C3-PFBA	727406.8	1.110	5.000	5.136	103	70-130	
E13C5-PFPeA	823702.7	13C3-PFBA	727406.8	1.132	5.000	4.933	99	70-130	
E13C3-PFBS	442660.1	13C3-PFBA	727406.8	0.609	4.650	4.466	96	70-130	
E13C2-4:2-FTS	52398.7	13C2-PFOA	526479.1	0.100	4.670	4.491	96	70-130	
E13C5-PFHxA	716268.2	13C2-PFOA	526479.1	1.360	5.000	5.004	100	70-130	
E13C3-PFHxS	335727.6	13C2-PFOA	526479.1	0.638	4.730	4.578	97	70-130	
E13C4-PFHpA	575860.3	13C2-PFOA	526479.1	1.094	5.000	4.976	100	70-130	
E13C2-6:2-FTS	41140.3	13C2-PFOA	526479.1	0.078	4.750	5.211	110	70-130	
E13C8-PFOA	972540.0	13C2-PFOA	526479.1	1.847	5.000	5.151	103	70-130	
E13C8-PFOS	290003.4	13C4-PFOS	275181.3	1.054	4.780	4.660	97	70-130	
E13C9-PFNA	494088.2	13C4-PFOS	275181.3	1.796	5.000	4.905	98	70-130	
E13C6-PFDA	660922.5	13C2-PFDA	315732.1	2.093	5.000	5.264	105	70-130	
E13C2-8:2-FTS	30155.0	13C2-PFDA	315732.1	0.096	4.790	5.054	106	70-130	
E13C8-PFOSA	682695.0	13C2-PFDA	315732.1	2.162	5.000	4.718	94	70-130	
Ed3-NMeFOSAA	79243.0	13C2-PFDA	315732.1	0.251	5.000	4.667	93	70-130	
E13C7-PFUnDA	280781.9	13C2-PFDA	315732.1	0.889	5.000	5.130	103	70-130	
Ed5-NEtFOSAA	64527.2	13C2-PFDA	315732.1	0.204	5.000	4.730	95	70-130	
E13C2-PFDoDA	600395.5	13C2-PFDA	315732.1	1.902	5.000	5.126	103	70-130	
Ed7-NMePFOSAE	326457.3	13C2-PFDA	315732.1	1.034	5.000	4.808	96	70-130	
Ed3-NMePFOSA	82534.2	13C2-PFDA	315732.1	0.261	5.000	4.786	96	70-130	
Ed9-NEtPFOSAE	271491.0	13C2-PFDA	315732.1	0.860	5.000	4.911	98	70-130	
Ed5-NEtPFOSA	69328.7	13C2-PFDA	315732.1	0.220	5.000	5.084	102	70-130	
E13C2-PFTeDA	418605.6	13C2-PFDA	315732.1	1.326	5.000	4.773	95	70-130	

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

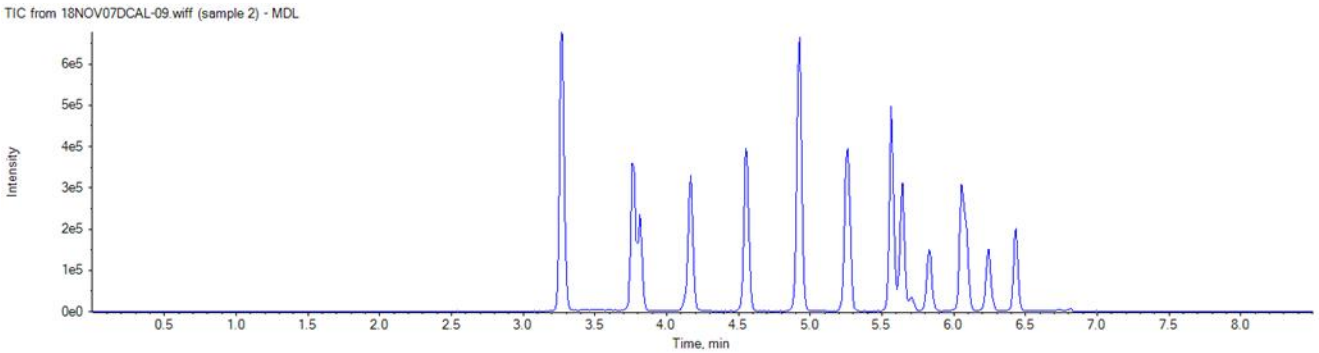
Analyte Quantitation Peak Table

Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	3.27	1.000	15305.2		A	13C4-PFBA	3.27	807312.5	0.019	0.111
PFPeA	3.76	1.000	17527.3		A	13C5-PFPeA	3.77	823702.7	0.021	0.126
PFBS	3.81	1.000	8179.1		A	13C3-PFBS	3.82	442660.1	0.018	0.093
4:2-FTS	4.14	1.000	2516.6		A	13C2-4:2-FTS	4.13	52398.7	0.048	0.129
PFHxA	4.16	1.000	19041.3		A	13C5-PFHxA	4.17	716268.2	0.027	0.114
PFPeS	4.18	1.100	4553.9		A	13C3-PFBS	3.82	442660.1	0.010	0.101
PFHxS	4.55	1.000	5720.4		A	13C3-PFHxS	4.55	335727.6	0.017	0.086
PFHpA	4.55	1.000	20611.7		A	13C4-PFHpA	4.55	575860.3	0.036	0.120
6:2-FTS	4.92	1.000	1337.7		A	13C2-6:2-FTS	4.91	41140.3	0.033	0.081
PFHpS	4.92	1.080	5811.8		A	13C3-PFHxS	4.55	335727.6	0.017	0.091
PFOA	4.92	1.000	21714.7		A	13C8-PFOA	4.92	972540.0	0.022	0.126
PFOS	5.25	1.000	7067.6		A	13C8-PFOS	5.25	290003.4	0.024	0.126
PFNA	5.27	1.000	14036.5		M	13C9-PFNA	5.27	494088.2	0.028	0.106
PFNS	5.54	1.060	4370.5		A	13C8-PFOS	5.25	290003.4	0.015	0.119
PFDA	5.57	1.000	13448.9		A	13C6-PFDA	5.57	660922.5	0.020	0.112
8:2-FTS	5.57	1.000	1277.3		A	13C2-8:2-FTS	5.57	30155.0	0.042	0.095
PFOSA	5.64	1.000	12732.2		A	13C8-PFOSA	5.64	682695.0	0.019	0.101
NMeFOSAA	5.71	1.000	1352.6		M	d3-NMeFOSAA	5.71	79243.0	0.017	0.088
PFDS	5.80	1.110	2949.3		A	13C8-PFOS	5.25	290003.4	0.010	0.097
PFUnDA	5.83	1.000	13003.8		A	13C7-PFUnDA	5.83	280781.9	0.046	0.133
NEtFOSAA	5.84	1.000	1823.4		A	d5-NEtFOSAA	5.84	64527.2	0.028	0.121
PFDoDA	6.05	1.000	12755.8		A	13C2-PFDoDA	6.05	600395.5	0.021	0.115
10:2-FTS	6.07	1.090	1033.2		A	13C2-8:2-FTS	5.57	30155.0	0.034	0.107
NMePFOSAE	6.10	1.000	8309.5		A	d7-NMePFOSAE	6.08	326457.3	0.025	0.114
NMePFOSA	6.10	1.000	1429.6		M	d3-NMePFOSA	6.10	82534.2	0.017	0.097
PFDoS	6.22	1.190	1360.5		A	13C8-PFOS	5.25	290003.4	0.005	0.091
NEtPFOSAE	6.25	1.000	9821.0		A	d9-NEtPFOSAE	6.24	271491.0	0.036	0.116
NEtPFOSA	6.26	1.000	1542.4		A	d5-NEtPFOSA	6.26	69328.7	0.022	0.098
PFTrDA	6.26	1.030	10576.8		M	13C2-PFDoDA	6.05	600395.5	0.018	0.111
PFTeDA	6.43	1.000	7741.6		A	13C2-PFTeDA	6.43	418605.6	0.018	0.109
PFHxDA	6.73	1.050	5030.0		A	13C2-PFTeDA	6.43	418605.6	0.012	0.149
PFODA	7.00	1.090	3044.8		A	13C2-PFTeDA	6.43	418605.6	0.007	0.104

Total Ion Chromatogram

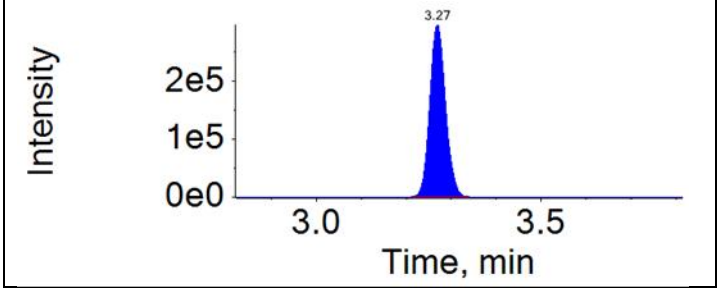


APPROVED
By JPT at 2:54 pm, 11/7/18

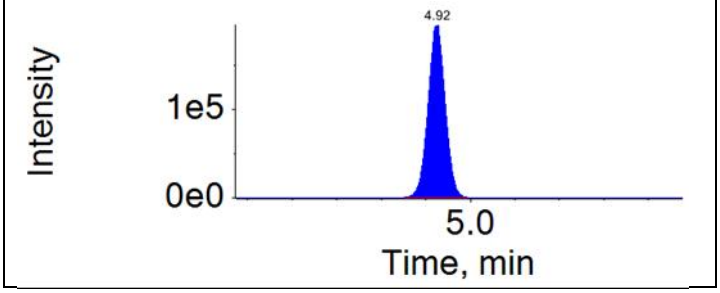
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

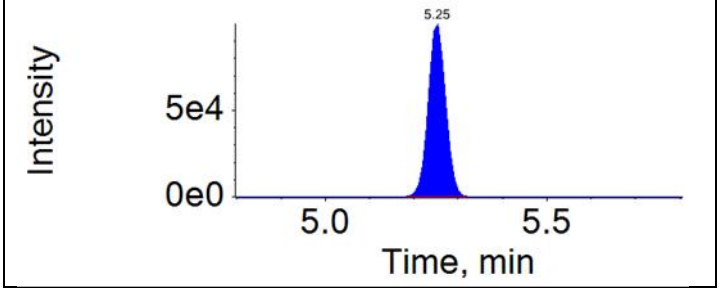
Injection Standard: 13C3-PFBA
216.0 / 172.0



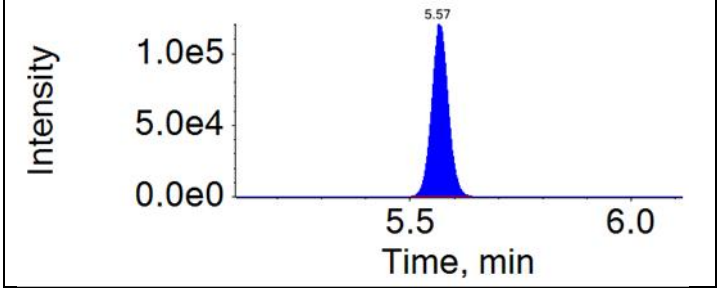
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



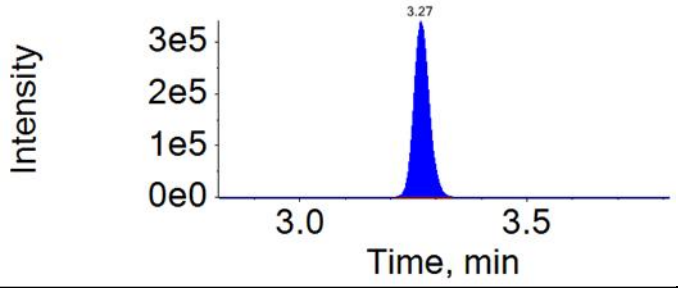
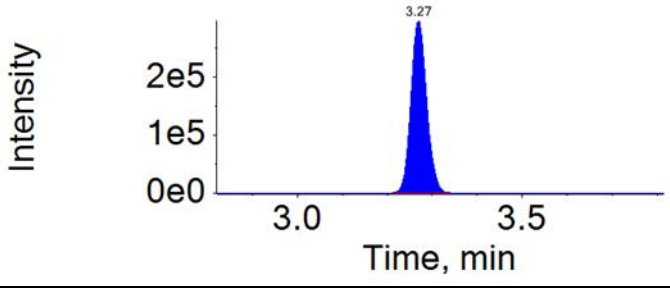
Injection Standard: 13C2-PFDA
515.0 / 470.0

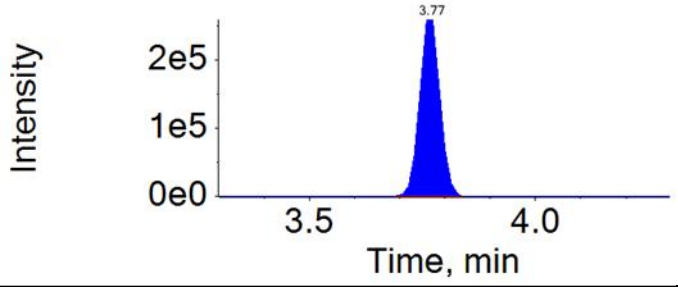
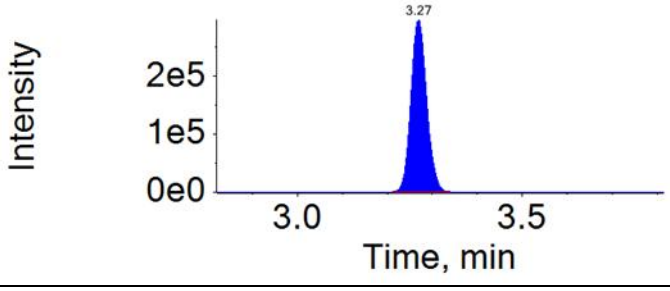


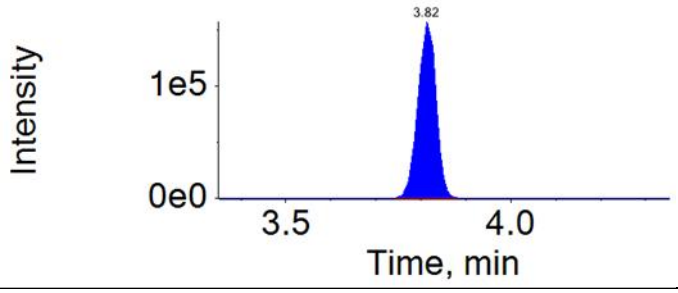
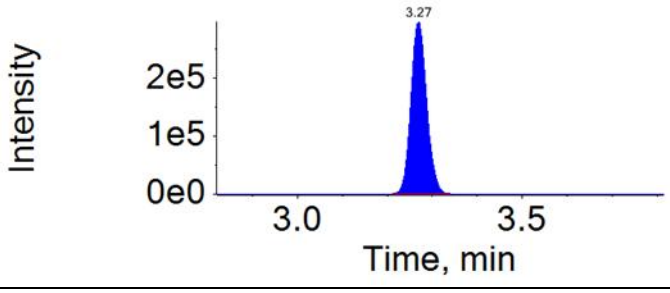
APPROVED
By JPT at 2:54 pm, 11/7/18

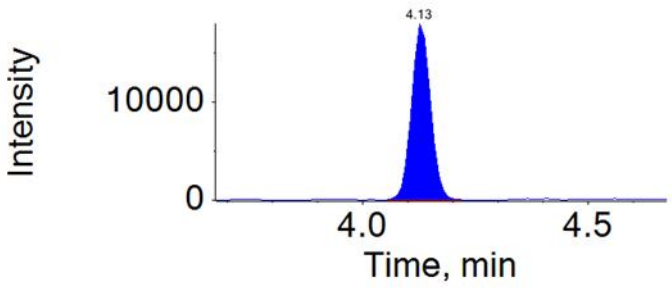
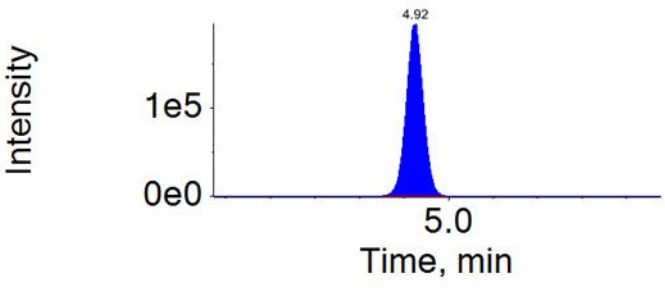
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

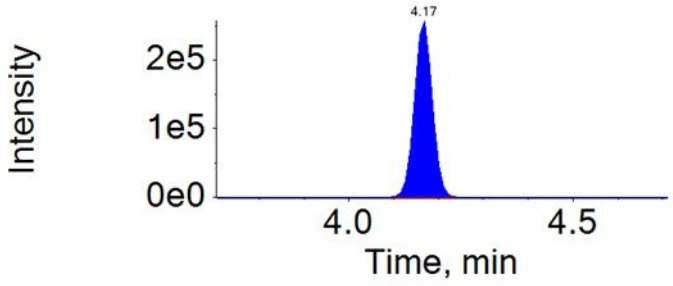
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

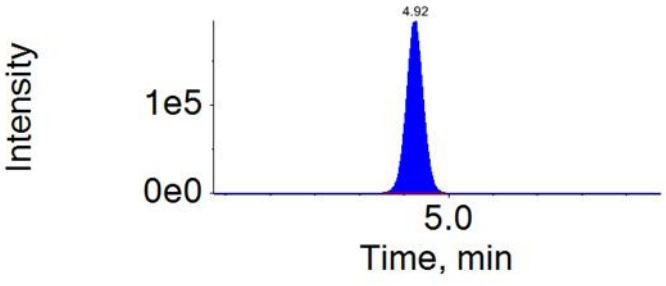
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

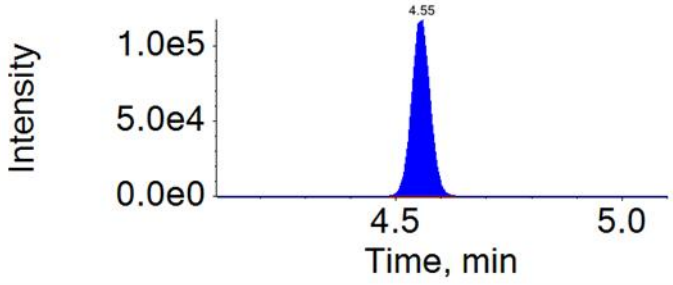
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

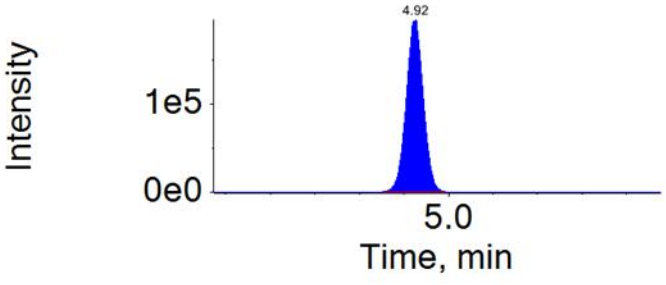
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



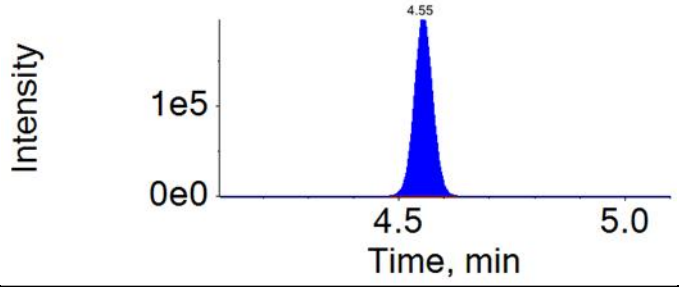


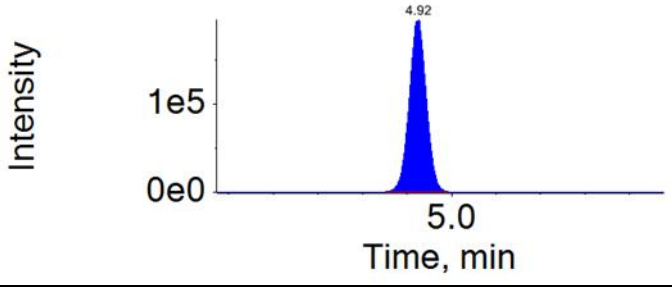
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



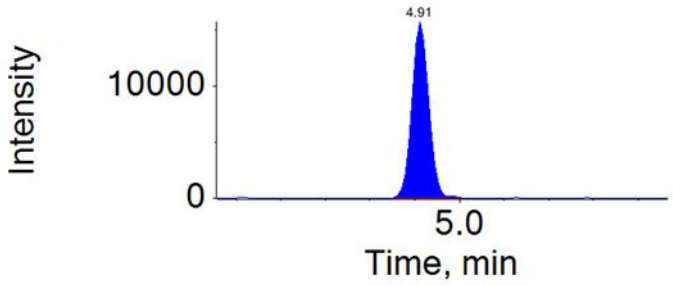


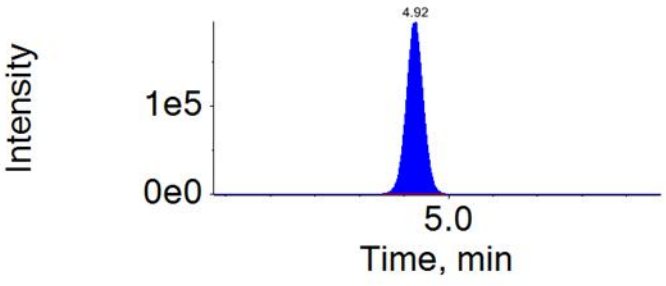
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

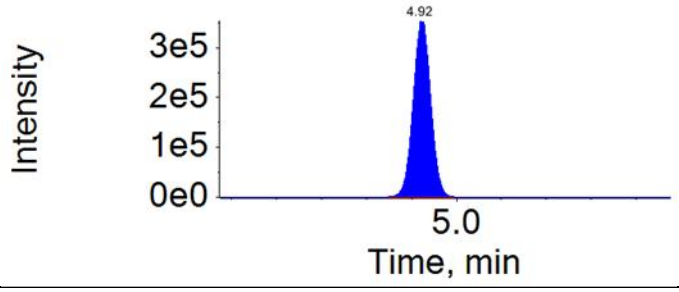
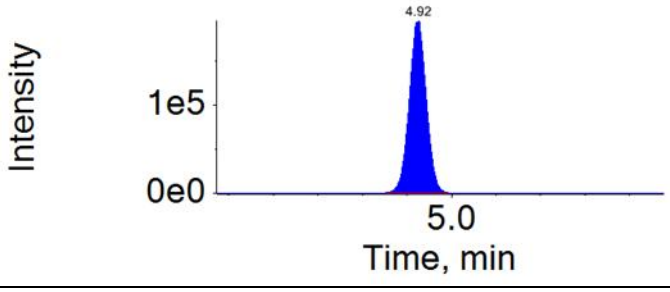


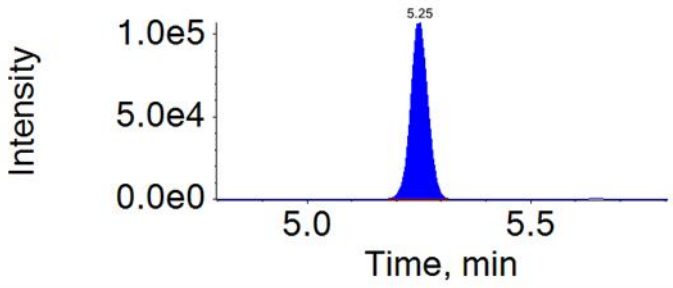
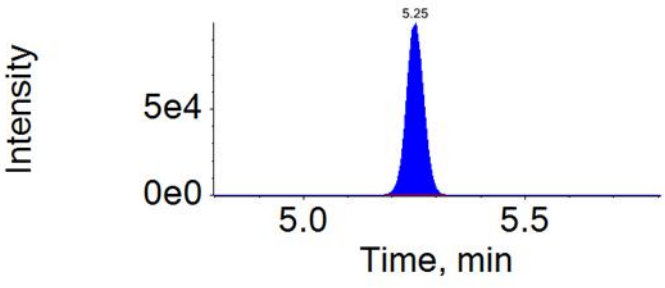


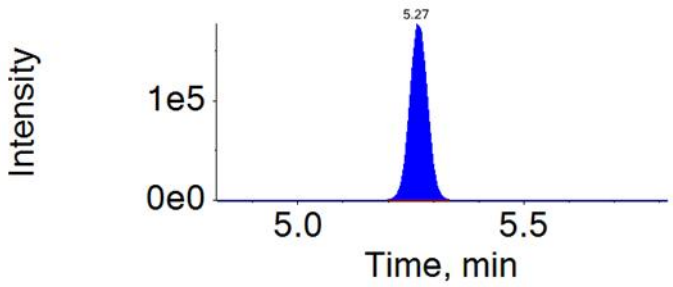
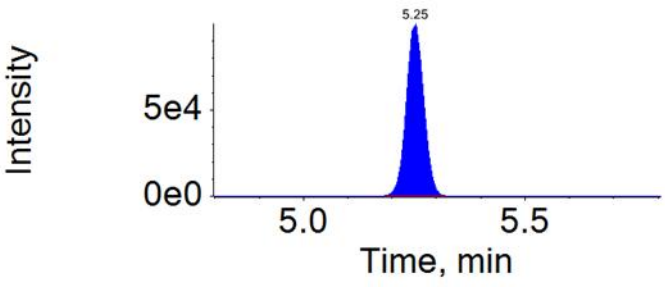
APPROVED
By JPT at 2:54 pm, 11/7/18

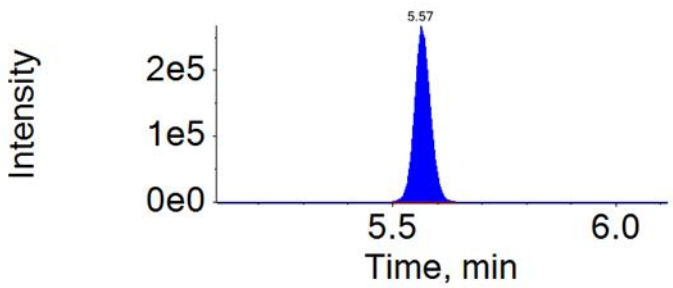
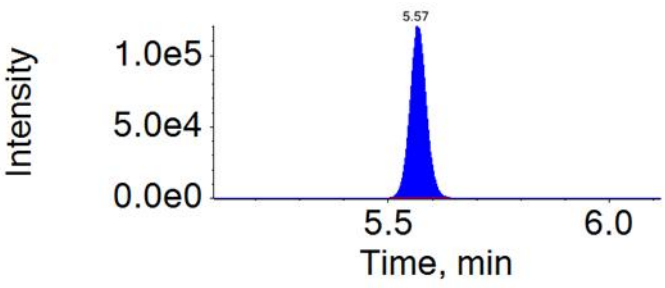
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

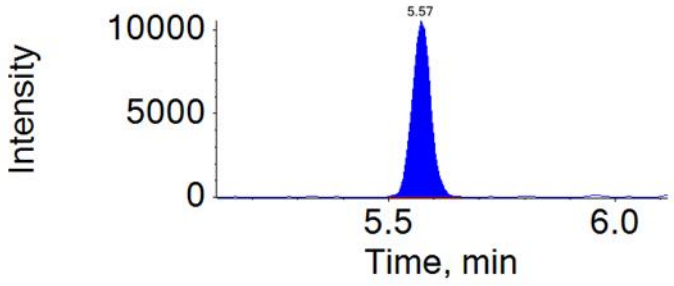
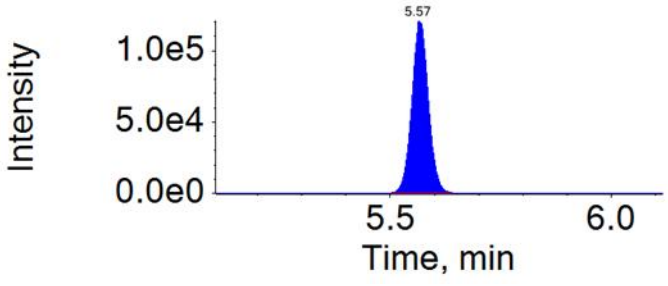
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

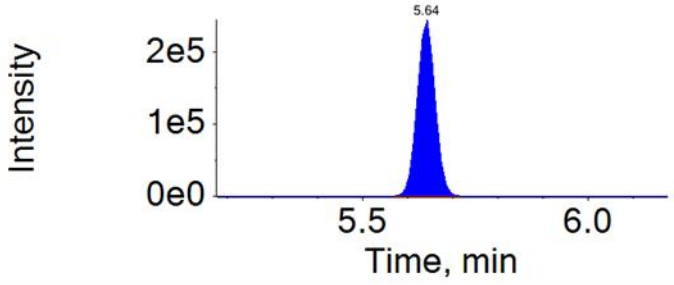
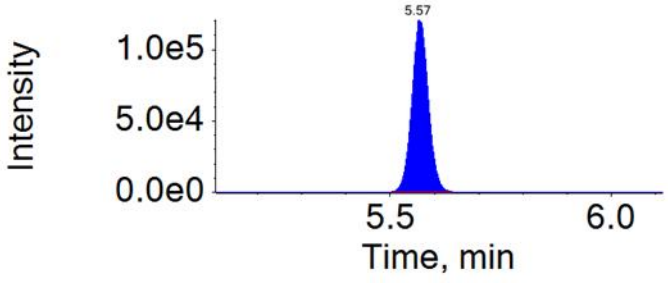
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

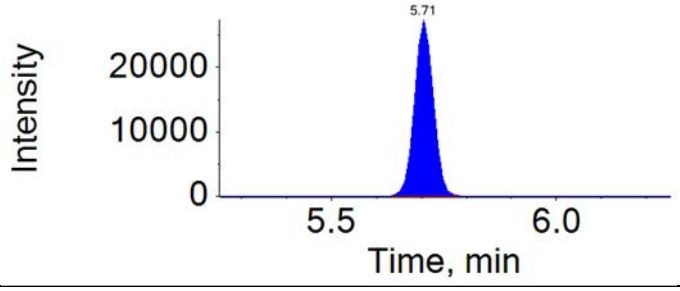
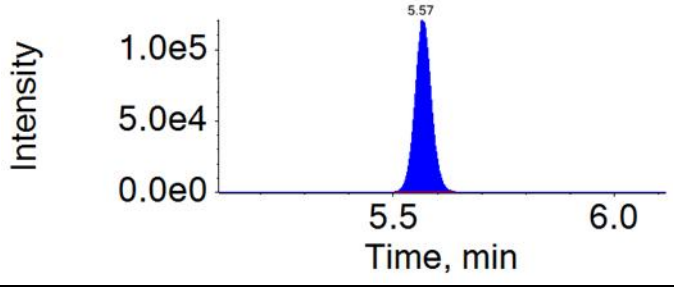
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

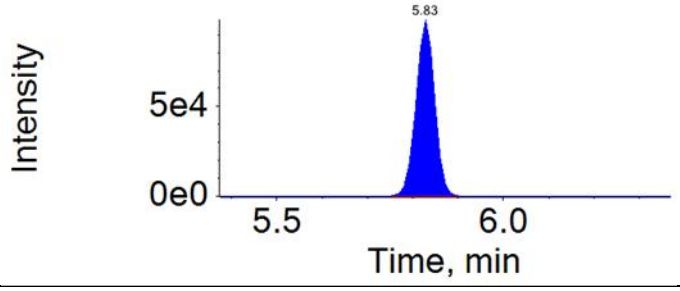
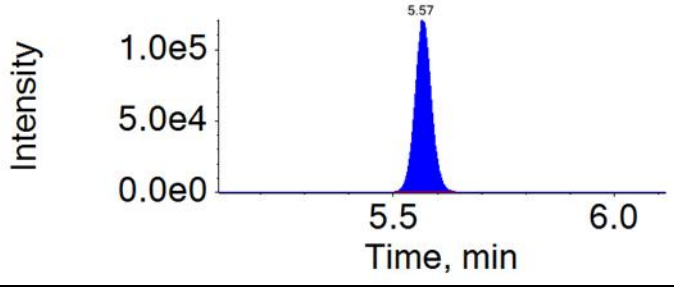
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

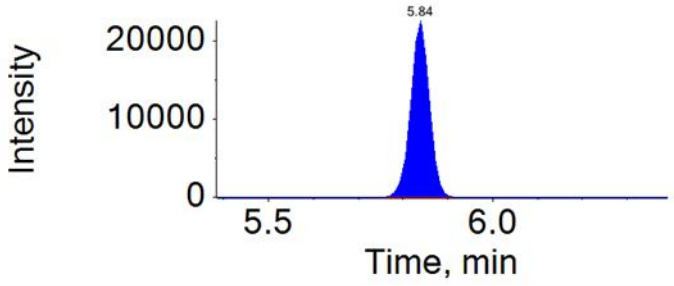
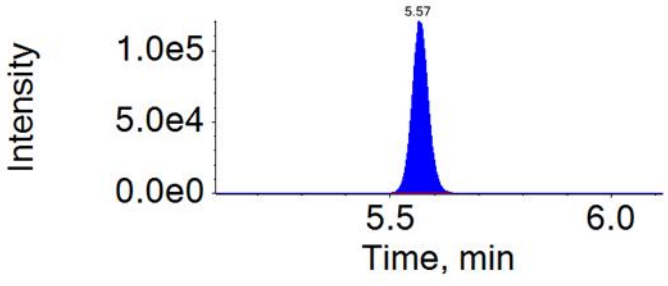
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

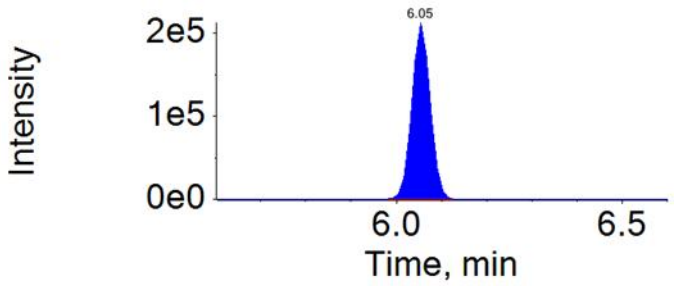
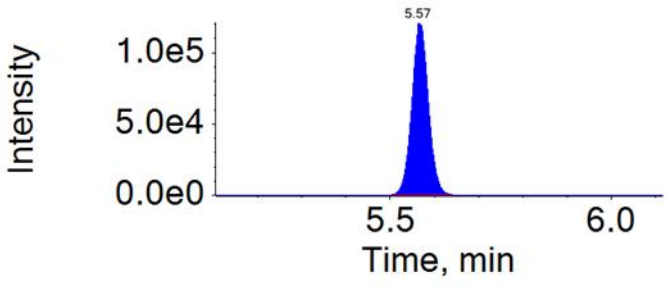
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

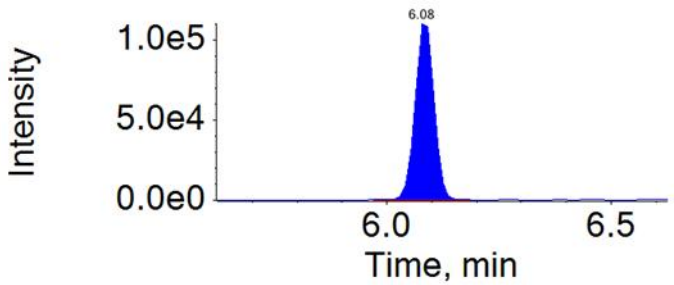
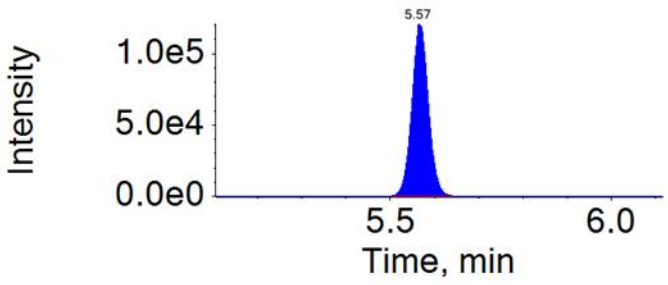
APPROVED
By JPT at 2:54 pm, 11/7/18

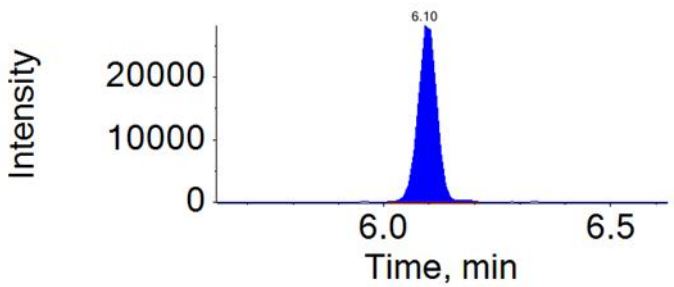
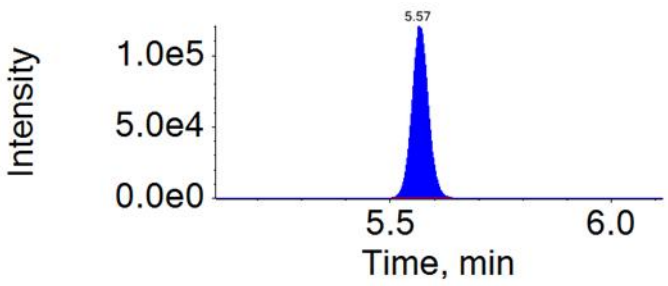
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

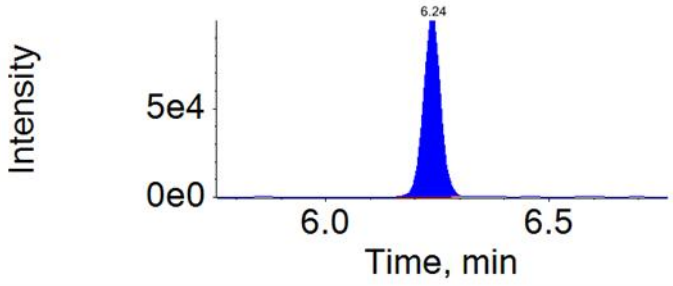
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

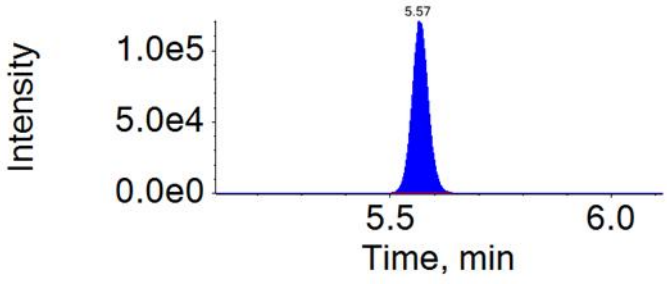
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

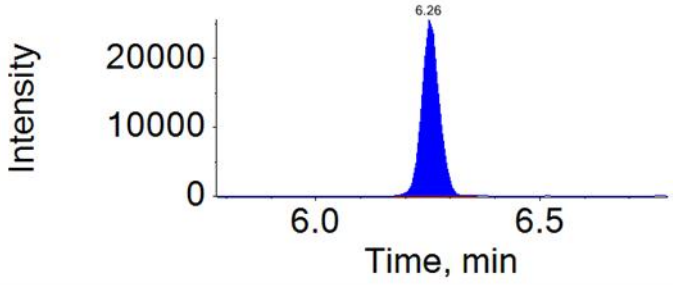
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

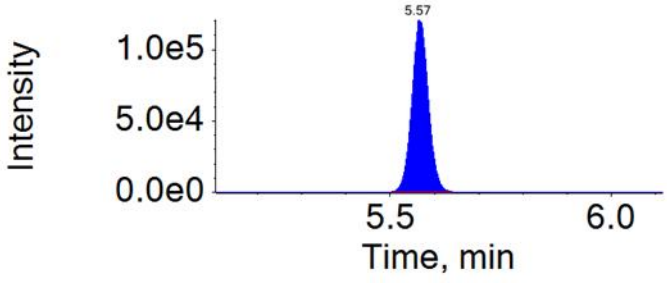
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



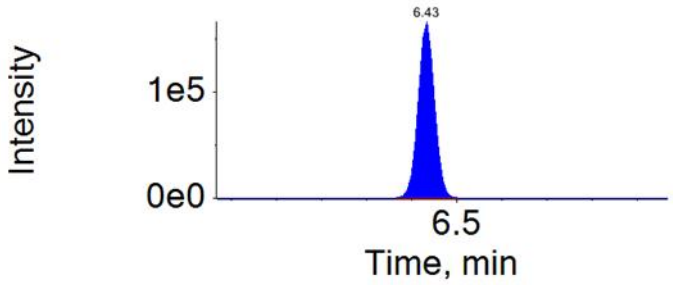


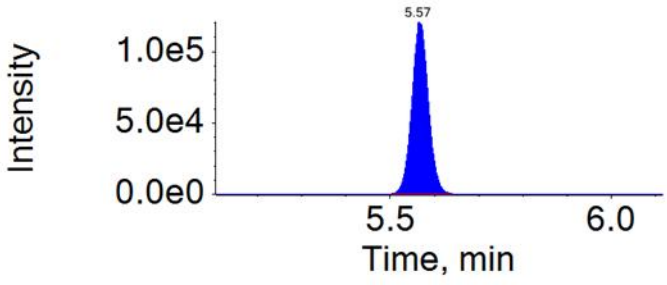
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



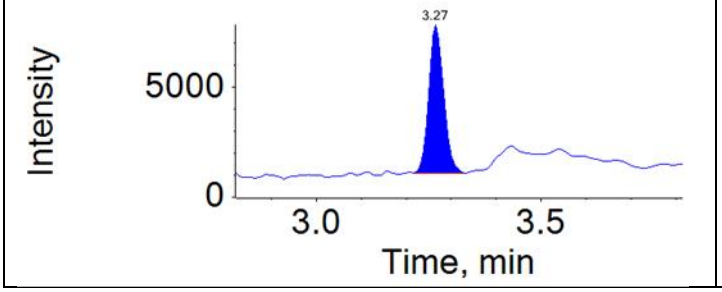


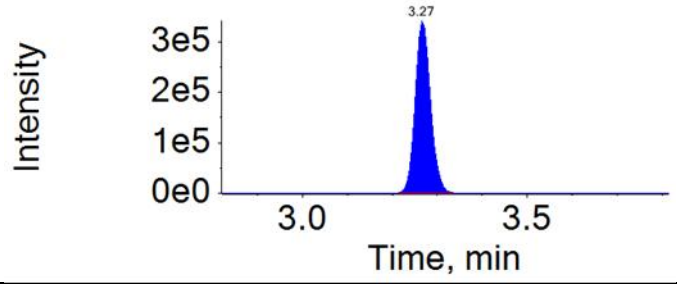
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

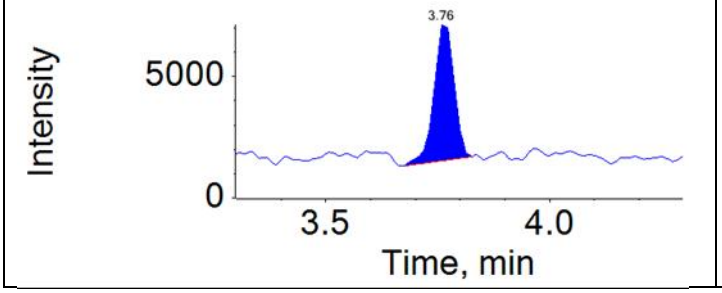
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

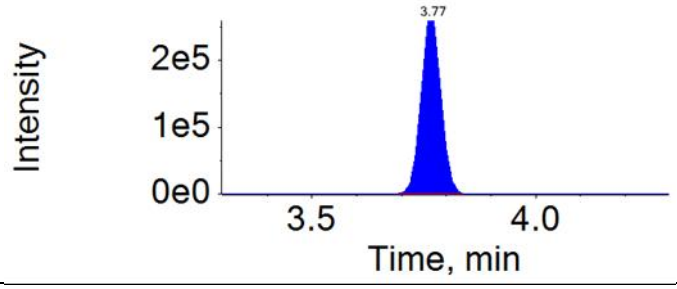
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



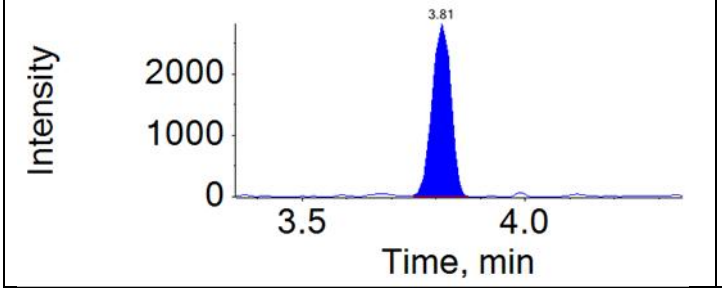


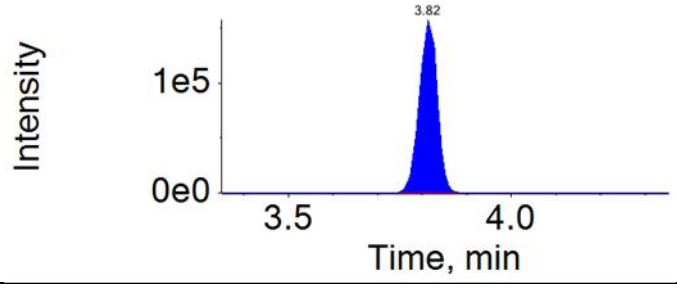
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



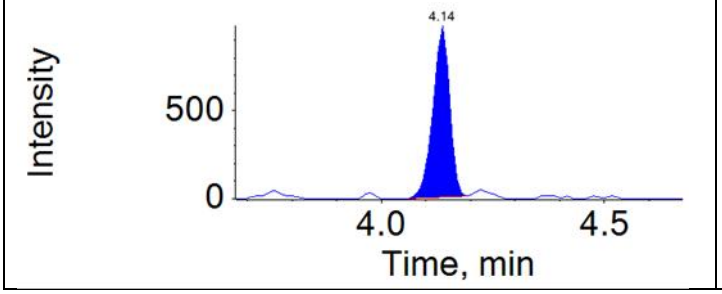


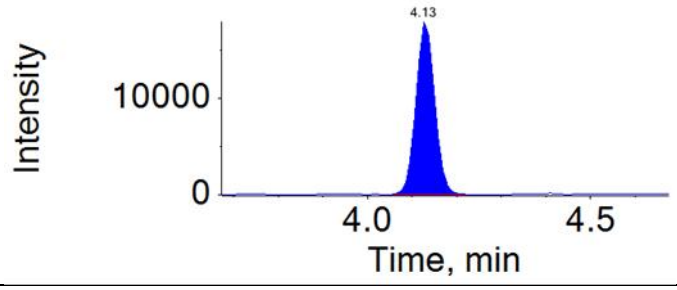
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

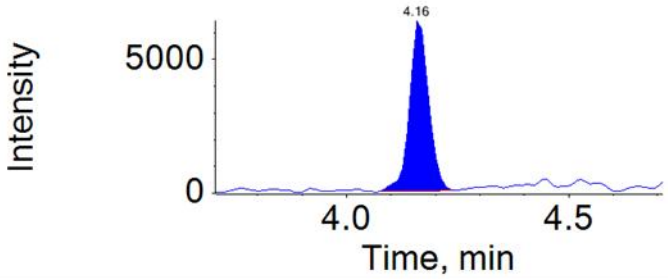
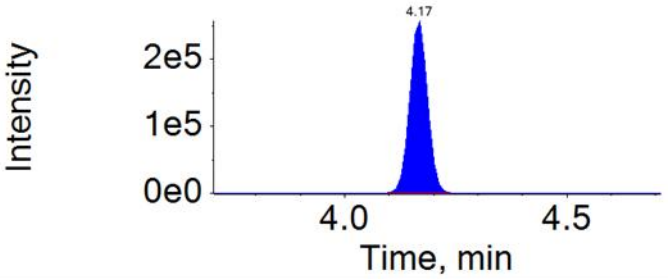


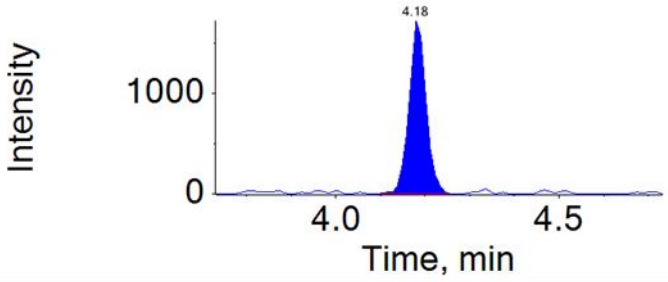
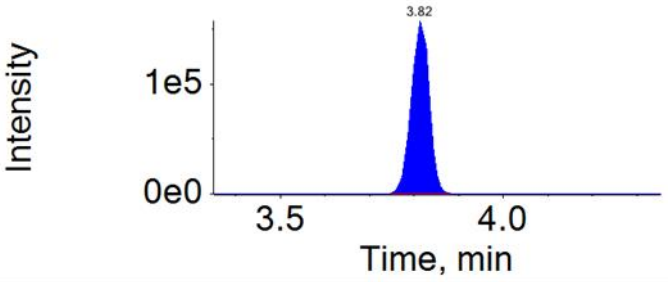


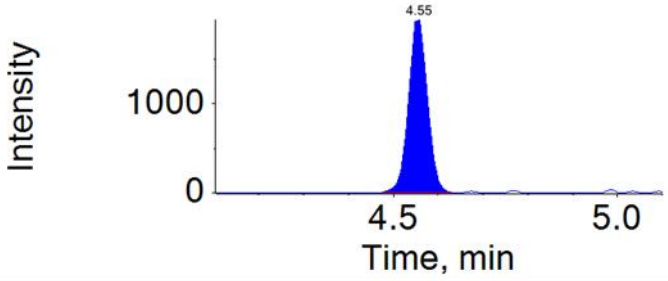
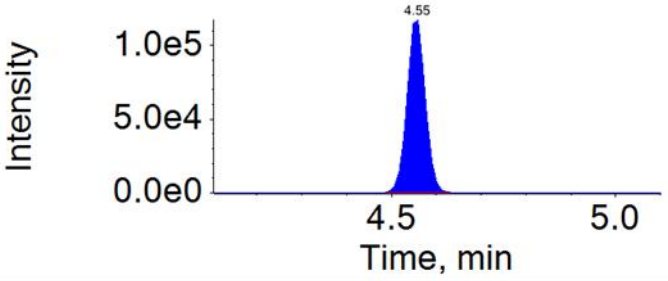
APPROVED
By JPT at 2:54 pm, 11/7/18

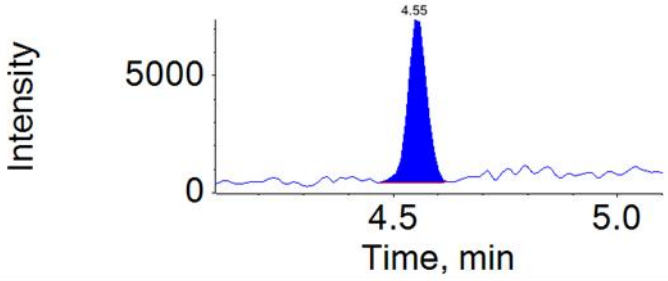
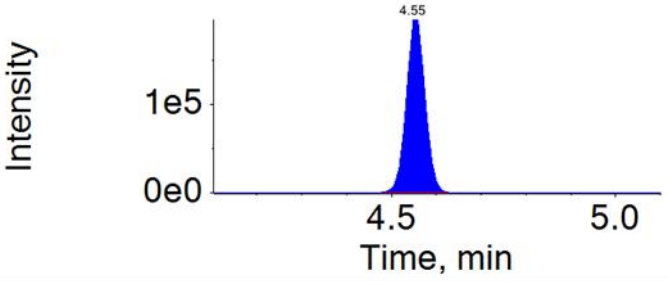
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

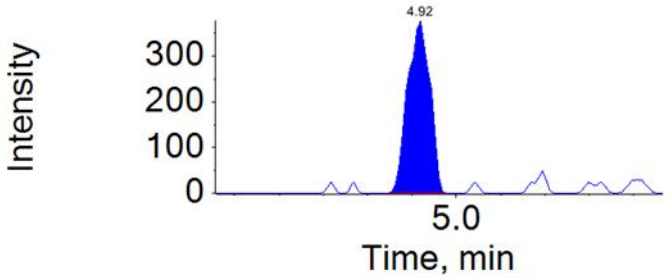
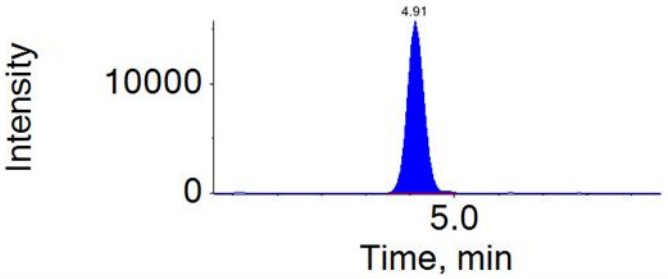
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

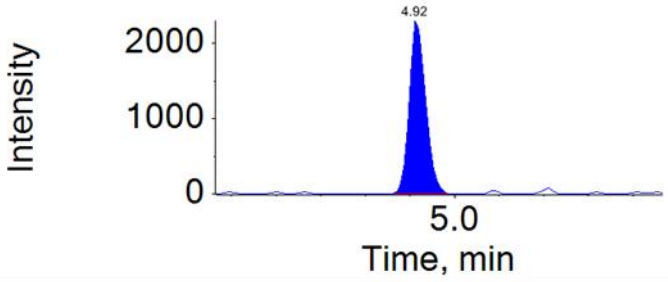
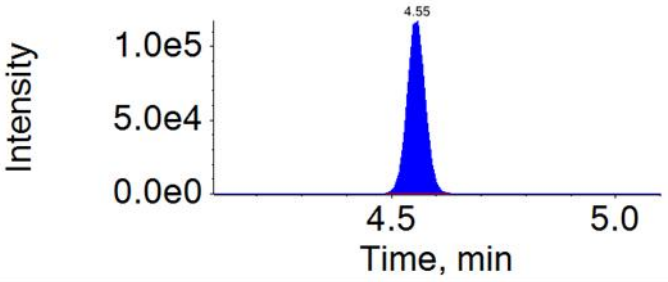
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

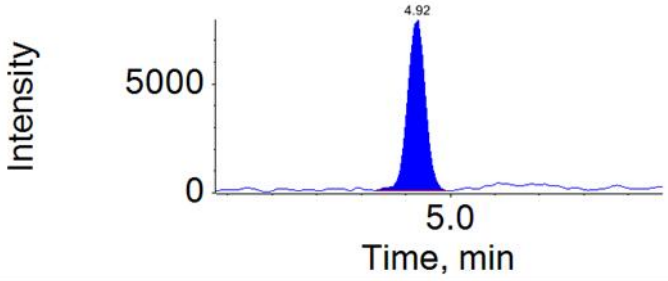
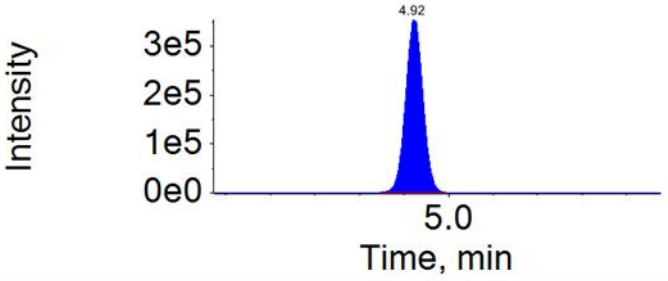
APPROVED
By JPT at 2:54 pm, 11/7/18

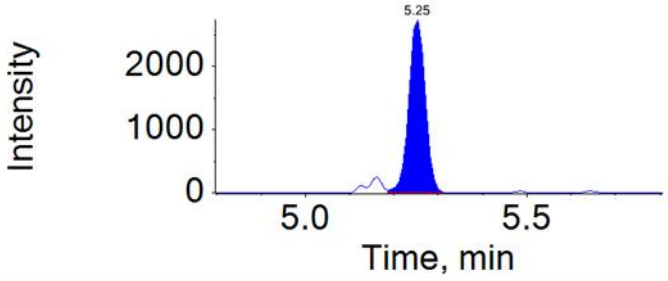
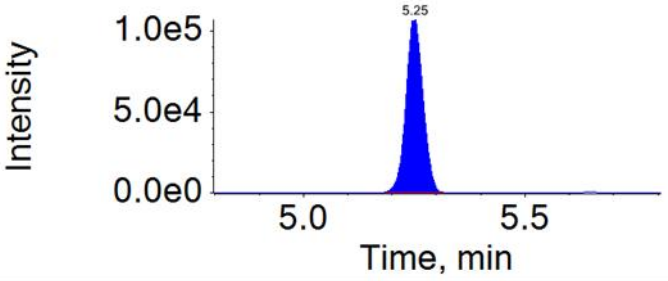
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

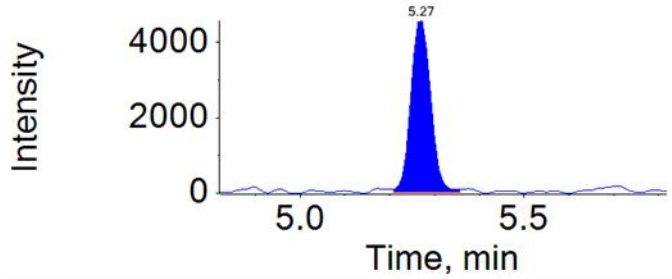
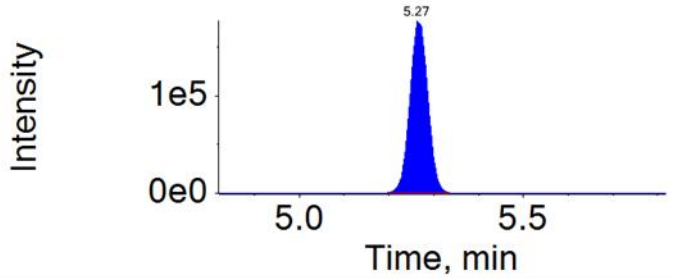
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

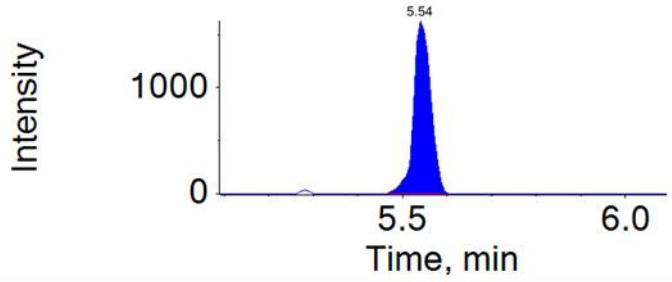
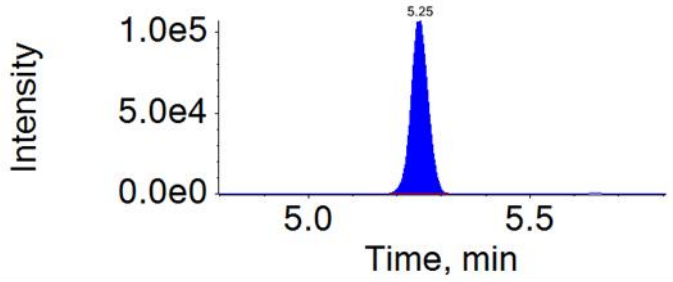
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

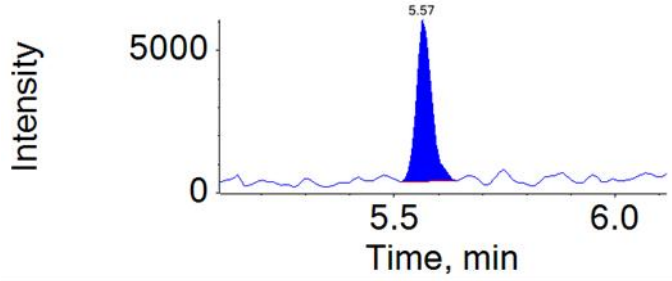
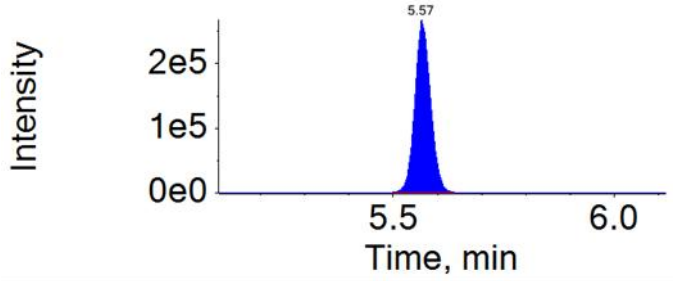
APPROVED
By JPT at 2:54 pm, 11/7/18

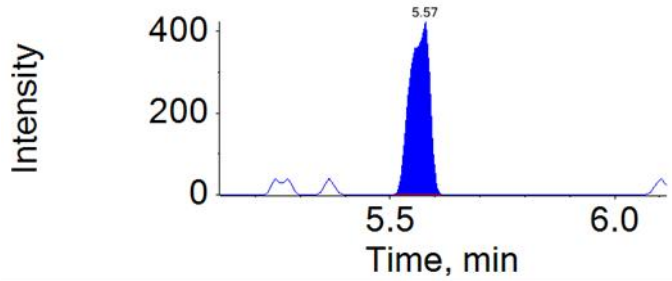
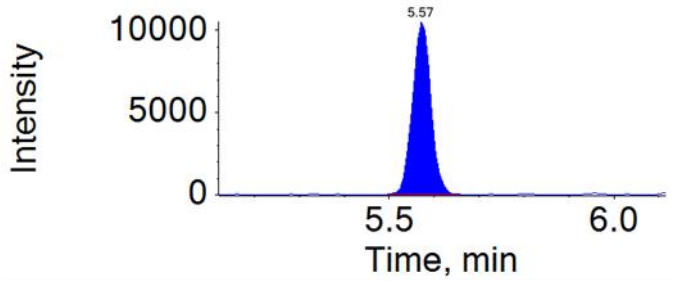
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

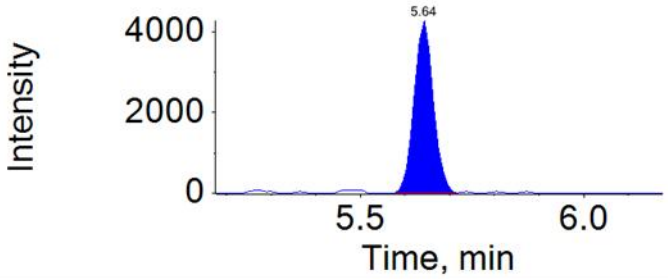
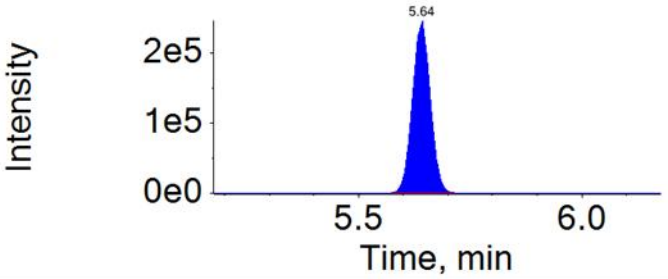
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

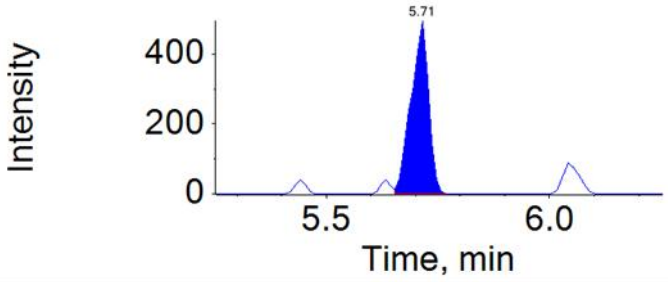
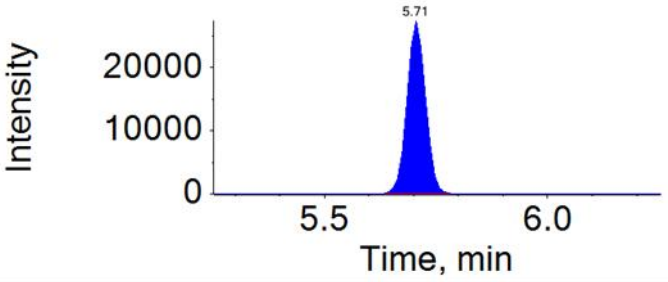
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

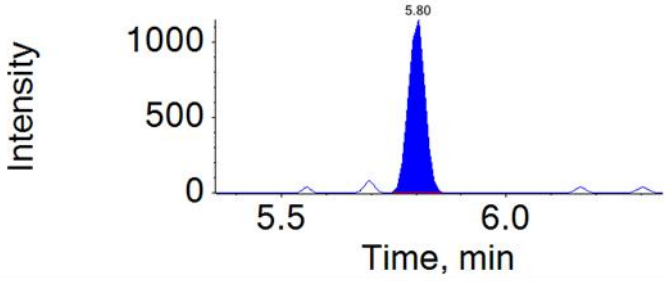
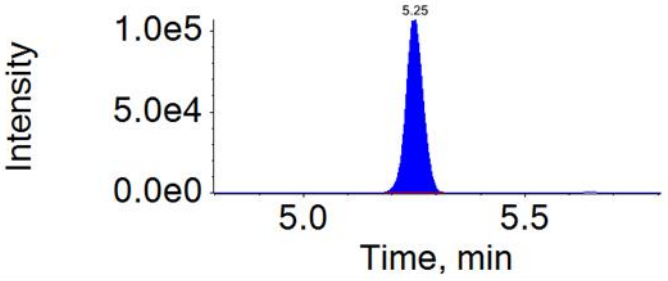
APPROVED
By JPT at 2:54 pm, 11/7/18

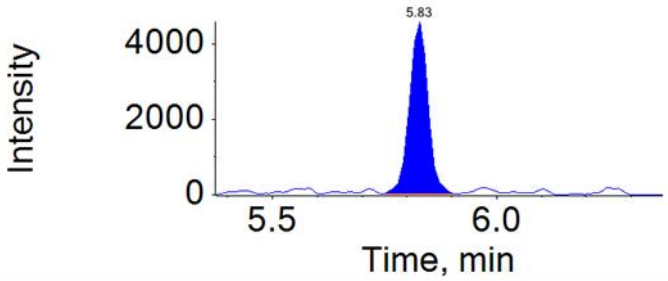
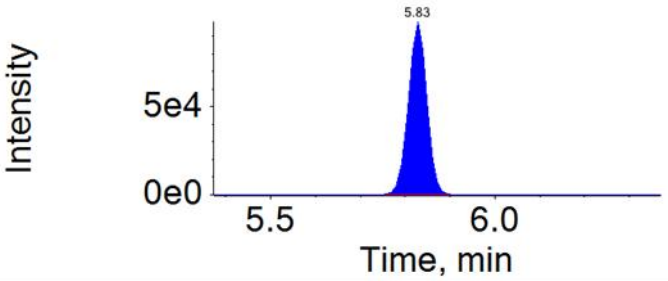
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

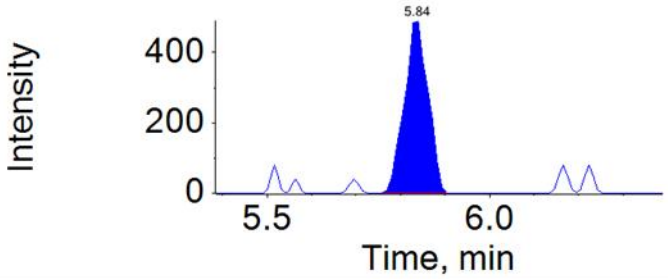
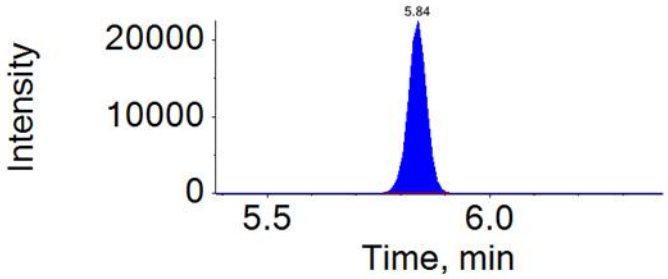
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0
	

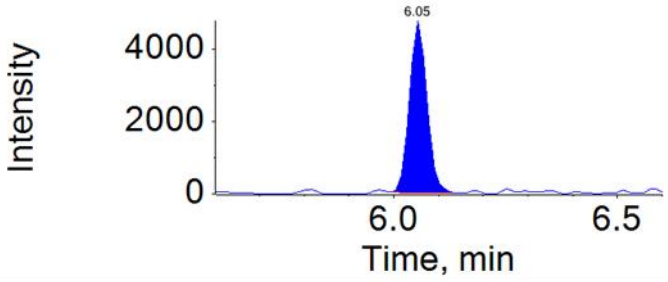
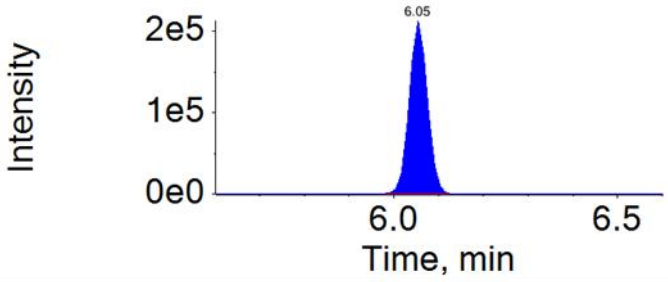
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

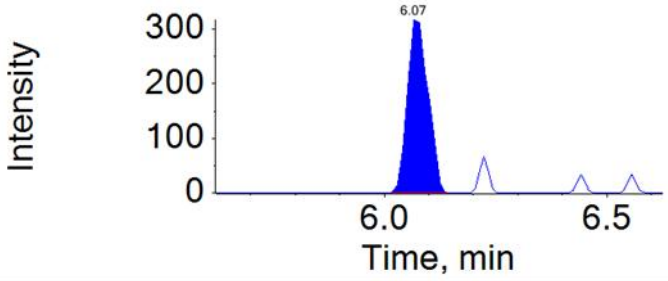
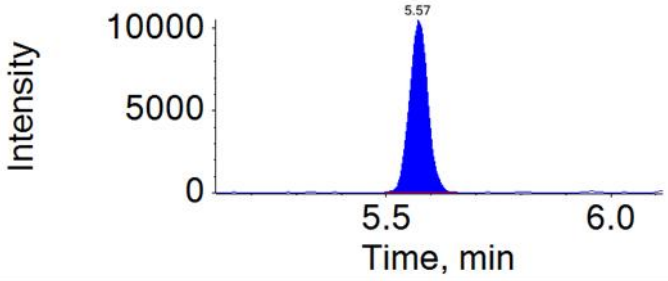
APPROVED
By JPT at 2:54 pm, 11/7/18

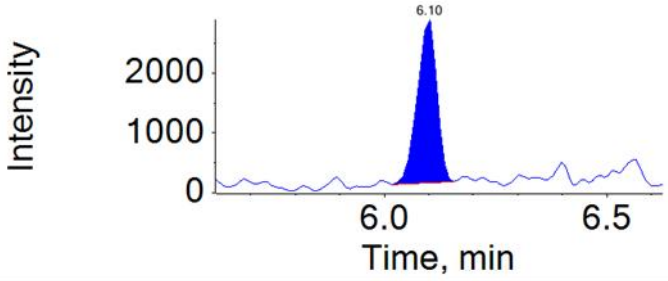
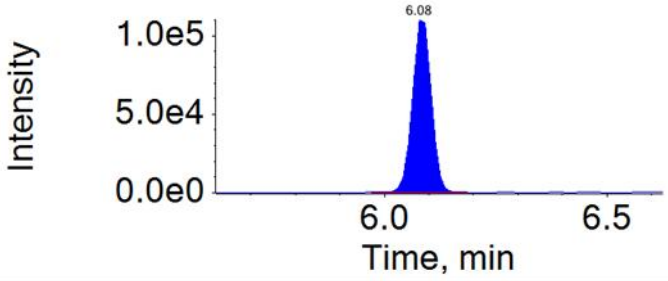
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

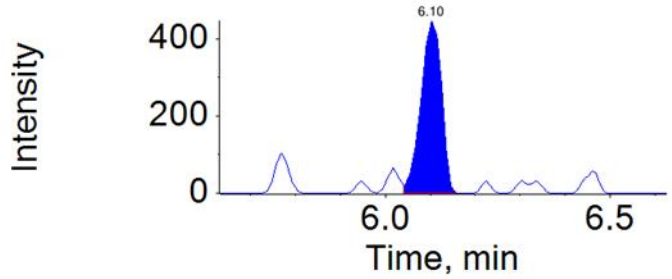
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

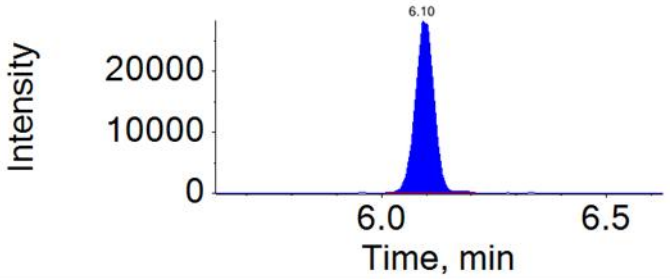
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0
	

Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0
	

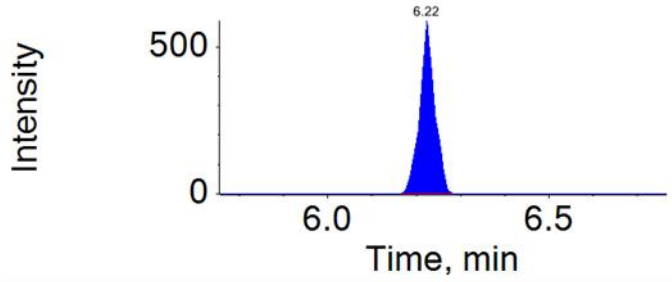
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

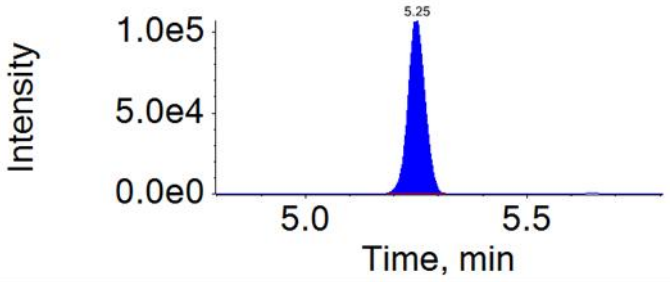
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



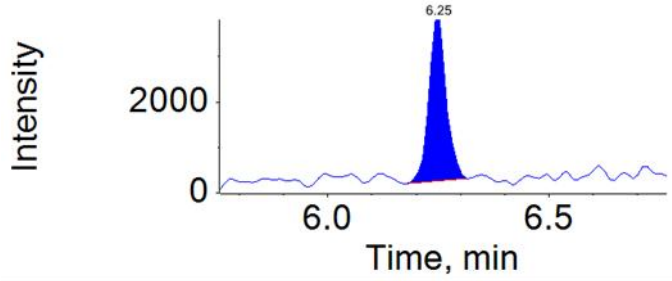


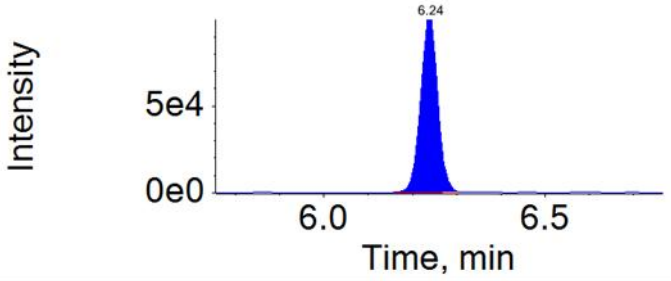
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



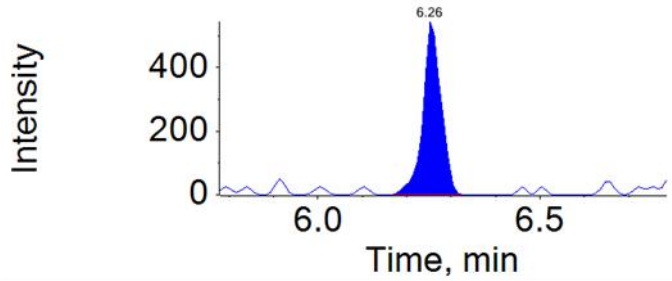


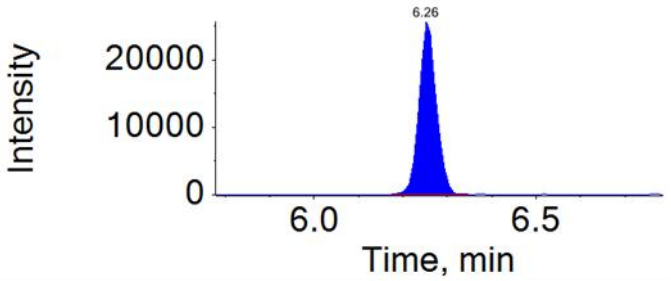
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

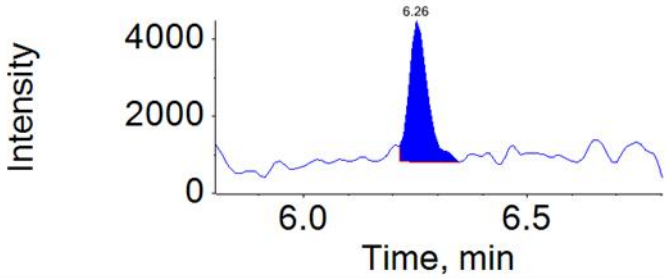
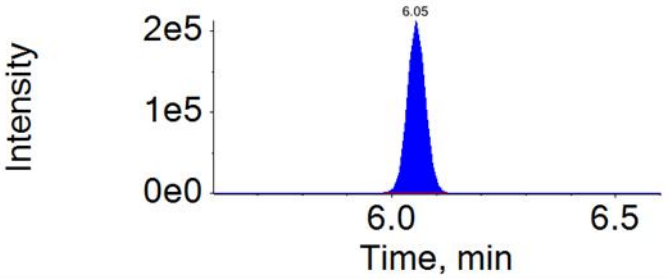


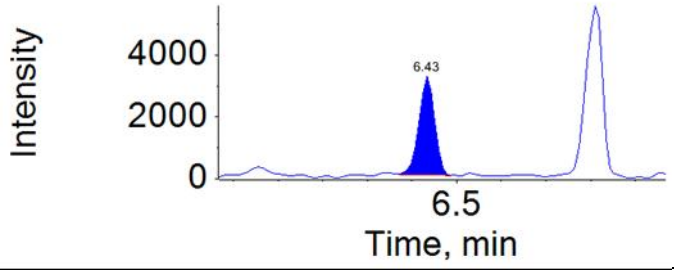
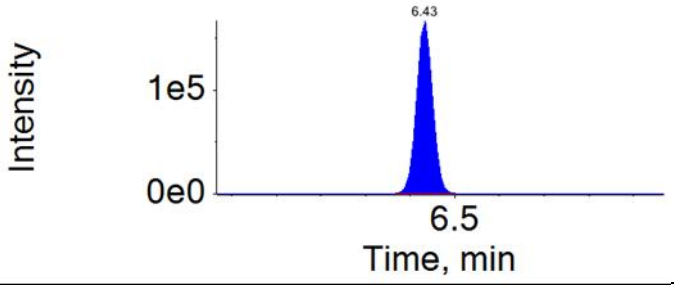


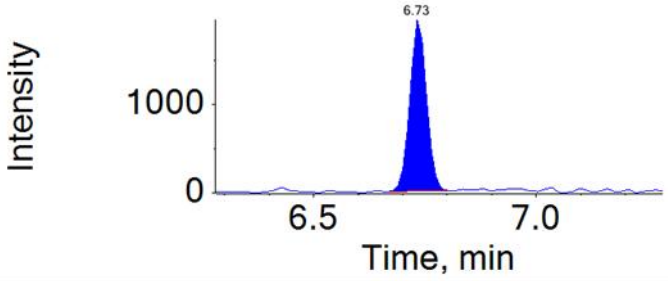
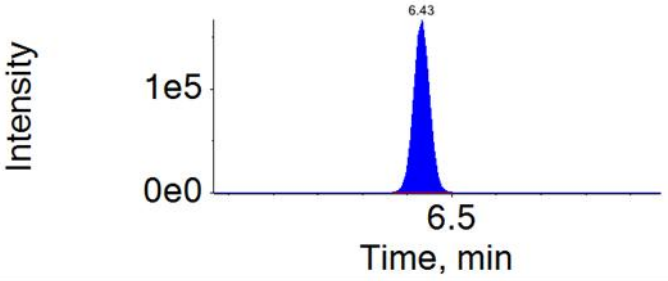
APPROVED
By JPT at 2:54 pm, 11/7/18

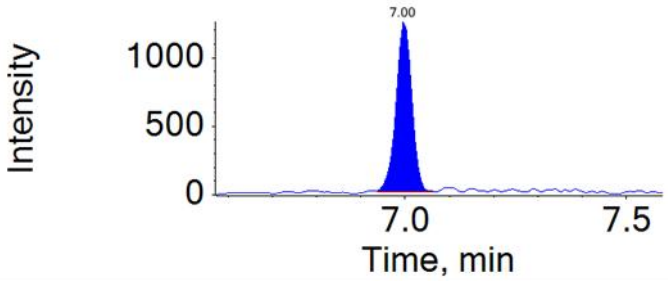
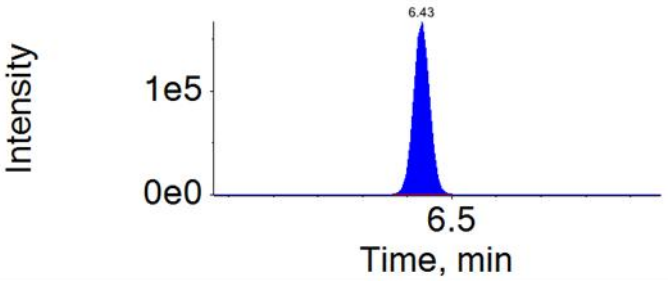
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

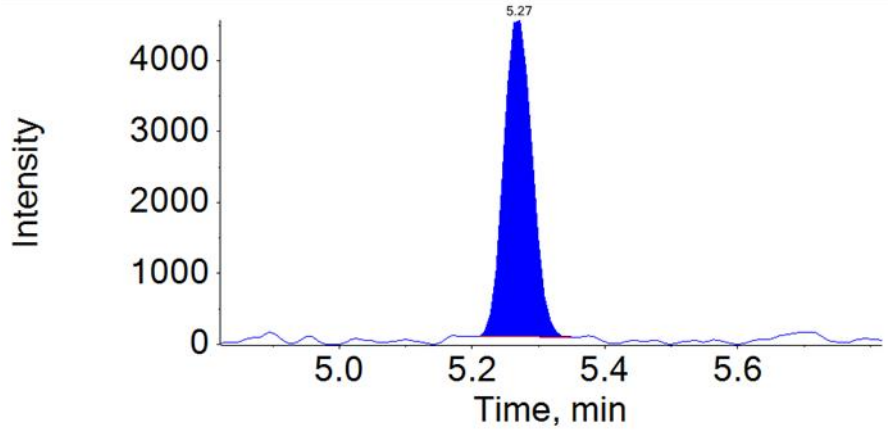
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

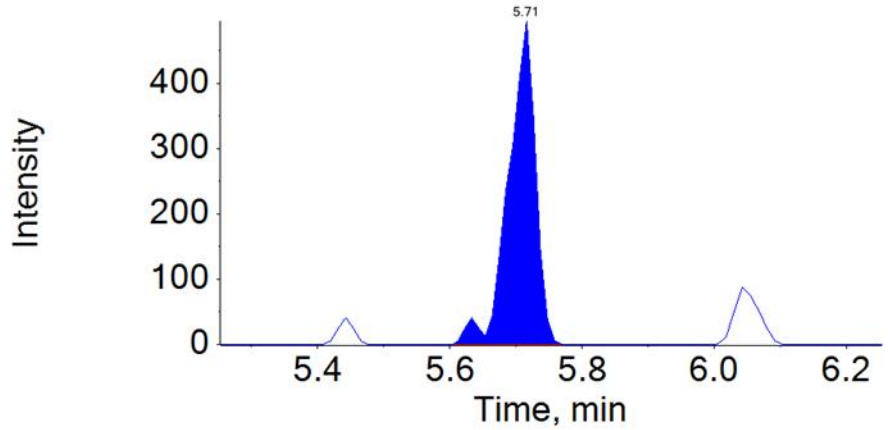
Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFNA
RT (min.):
5.27
Peak Area:
13308.8
Mass Range:
463.0 / 419.0
File Name:
18NOV07DCAL-09.wiff
Sample Name:
MDL



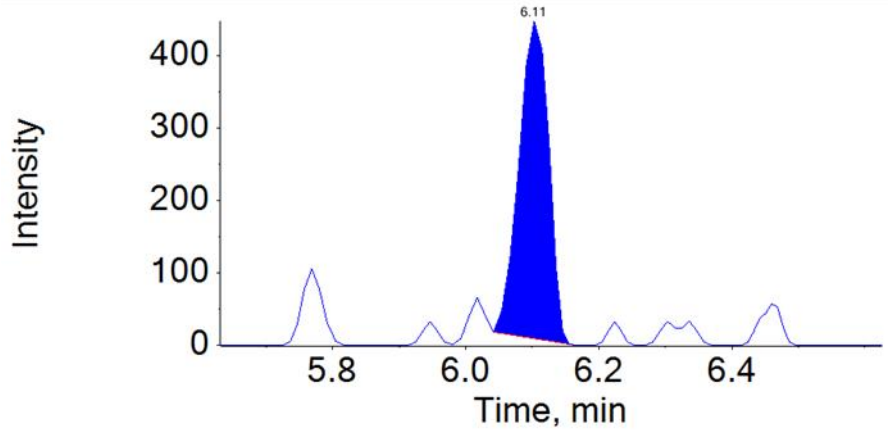
Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
1418.1
Mass Range:
570.0 / 419.0
File Name:
18NOV07DCAL-09.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Component Name:
NMePFOSA
RT (min.):
6.11
Peak Area:
1361.1
Mass Range:
512.0 / 169.0
File Name:
18NOV07DCAL-09.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

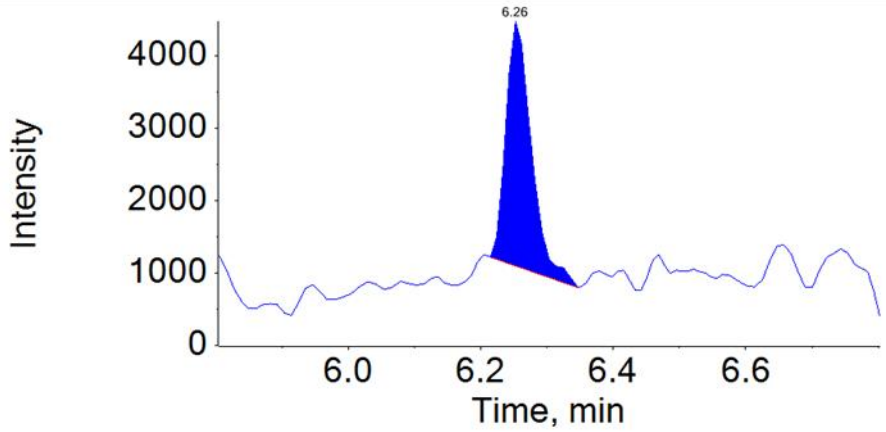
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFTrDA
RT (min.):
6.26
Peak Area:
8999.3
Mass Range:
663.0 / 619.0
File Name:
18NOV07DCAL-09.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Ion Ratio Report

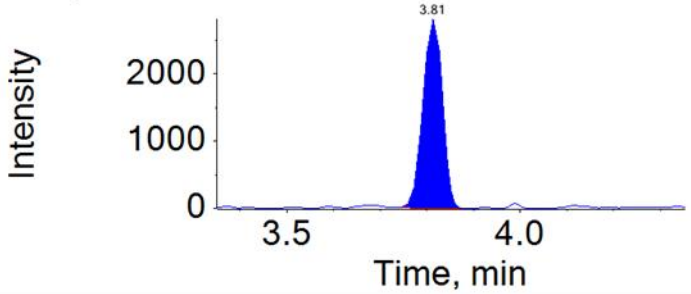
Sample Name: MDL **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-09.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	8179.1	A	1.0000	1.0000			
PFBS_2	3.81	1.00	3067.3	A	0.3576	0.3750	5	50	
4:2-FTS	4.14	1.00	2516.6	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	1184.6	A	0.6359	0.4707	-26	50	
PFHxA	4.16	1.00	19041.3	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	272.1	A	0.0115	0.0143	25	50	
PFPeS	4.18	1.10	4553.9	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	2517.9	A	0.5384	0.5529	3	50	
PFHxS	4.55	1.00	5720.4	A	1.0000	1.0000			
PFHxS_2	4.56	1.00	2255.5	A	0.3569	0.3943	10	50	
PFHpA	4.55	1.00	20611.7	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	1062.3	A	0.0577	0.0515	-11	50	
6:2-FTS	4.92	1.00	1337.7	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	1232.9	A	0.6752	0.9217	37	50	
PFHpS	4.92	1.08	5811.8	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	2272.0	A	0.3950	0.3909	-1	50	
PFOA	4.92	1.00	21714.7	A	1.0000	1.0000			
PFOA_2	4.92	1.00	1080.5	A	0.0635	0.0498	-22	50	
PFOS	5.25	1.00	7067.6	A	1.0000	1.0000			
PFOS_2	5.26	1.00	1948.3	A	0.3494	0.2757	-21	50	
PFNA	5.27	1.00	14036.5	M	1.0000	1.0000			
PFNA_2	5.25	1.00	631.4	A	0.0207	0.0450	118	50	OOS
PFNS	5.54	1.06	4370.5	A	1.0000	1.0000			
PFNS_2	5.54	1.06	1979.5	A	0.4890	0.4529	-7	50	
PFDA	5.57	1.00	13448.9	A	1.0000	1.0000			
PFDA_2	5.56	1.00	136.4	A	0.0057	0.0101	79	50	OOS
8:2-FTS	5.57	1.00	1277.3	A	1.0000	1.0000			
8:2-FTS_2	5.58	1.00	851.4	A	0.6169	0.6666	8	50	
NMeFOSAA	5.71	1.00	1352.6	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	451.3	A	0.2206	0.3336	51	50	OOS
PFDS	5.80	1.11	2949.3	A	1.0000	1.0000			
PFDS_2	5.80	1.11	1315.3	A	0.4648	0.4460	-4	50	
PFUnDA	5.83	1.00	13003.8	A	1.0000	1.0000			
PFUnDA_2	N/A	N/A	N/A	A	0.0031	N/A		50	
NEtFOSAA	5.84	1.00	1823.4	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	670.0	A	0.6082	0.3675	-40	50	
PFDoDA	6.05	1.00	12755.8	A	1.0000	1.0000			
PFDoDA_2	6.07	1.00	250.5	A	0.0109	0.0196	80	50	OOS
10:2-FTS	6.07	1.09	1033.2	A	1.0000	1.0000			
10:2-FTS_2	6.08	1.09	898.7	A	0.7082	0.8698	23	50	
PFTrDA	6.26	1.03	10576.8	M	1.0000	1.0000			
PFTrDA_2	6.24	1.03	127.3	A	0.0096	0.0120	25	50	
PFTeDA	6.43	1.00	7741.6	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	40.1	A	0.0055	0.0052	-7	50	
PFHxDA	6.73	1.05	5030.0	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	165.8	A	0.0596	0.0330	-45	50	
PFODA	7.00	1.09	3044.8	A	1.0000	1.0000			
PFODA_2	7.00	1.09	76.0	A	0.0257	0.0250	-3	50	

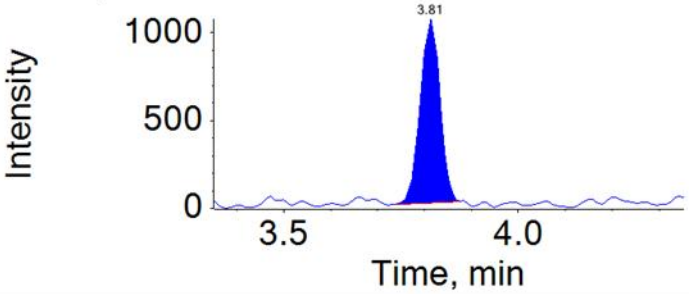
APPROVED
By JPT at 2:54 pm, 11/7/18

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By umar at 5:24 pm, 11/9/18

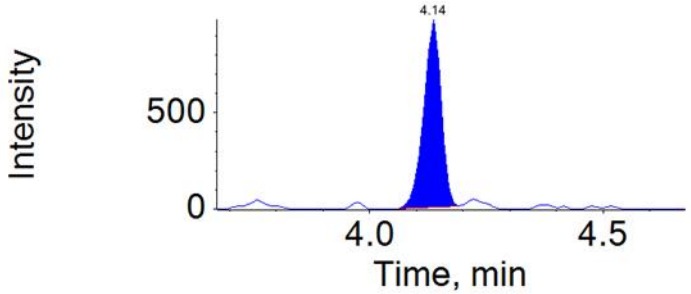
Component: PFBS
Primary Mass: 299.0 / 80.0



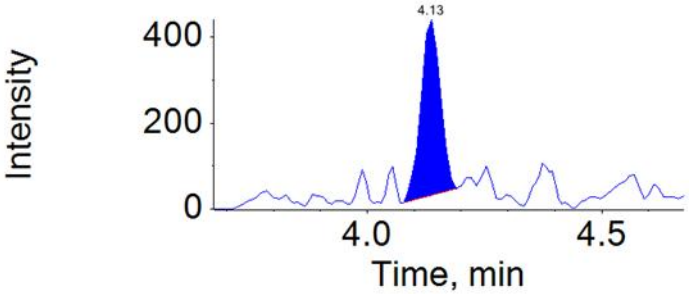
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



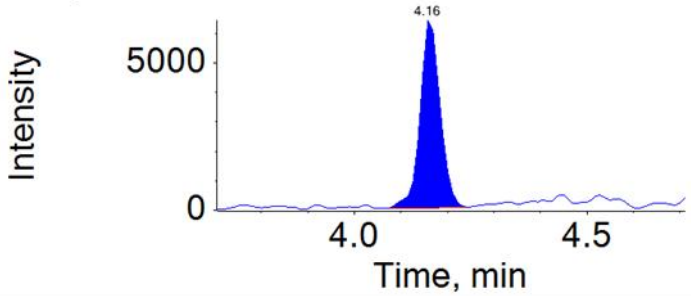
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



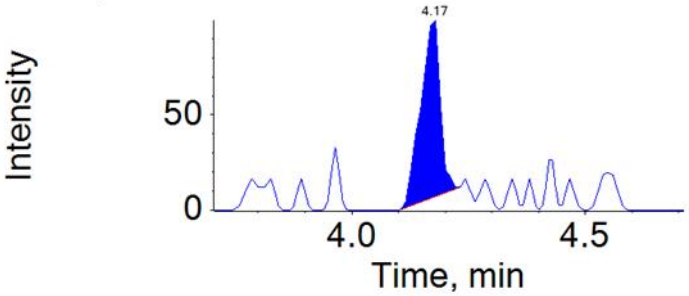
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



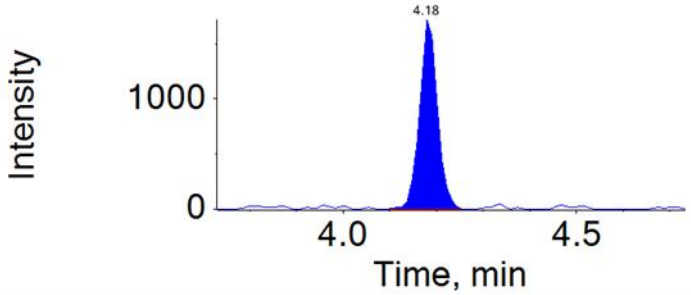
Component: PFHxA
Primary Mass: 313.0 / 269.0



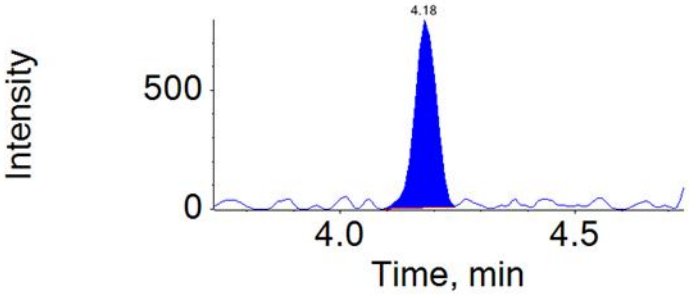
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



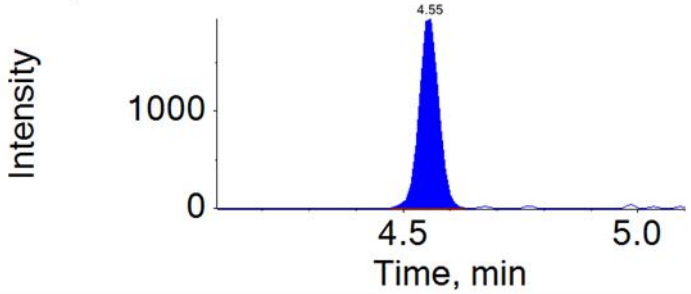
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



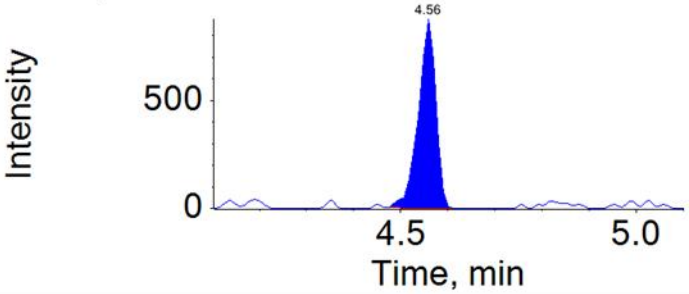
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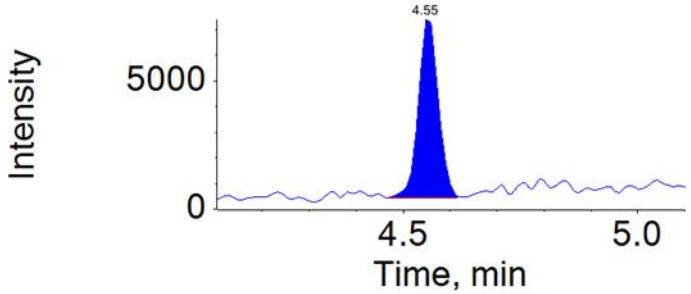
Component: PFHxS
Primary Mass: 399.0 / 80.0



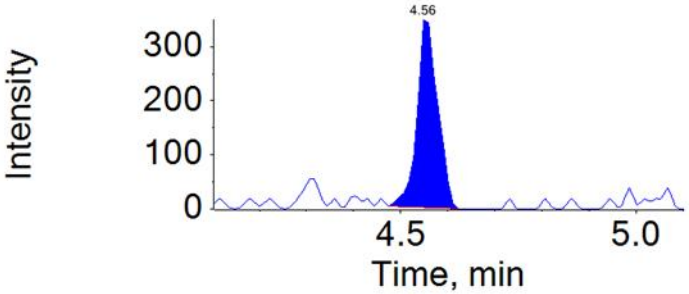
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



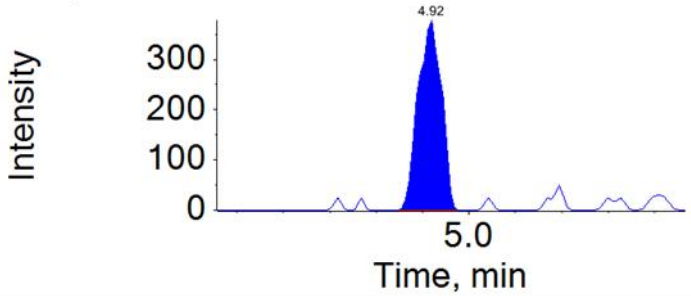
Component: PFHpA
Primary Mass: 363.0 / 319.0



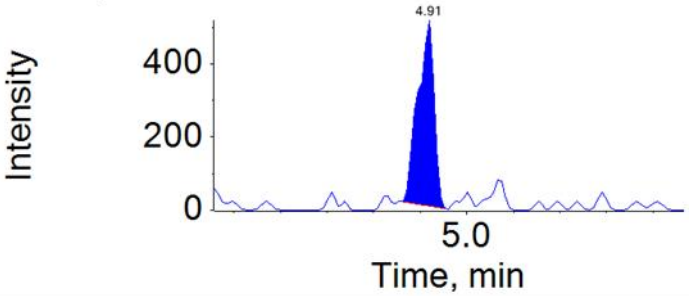
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



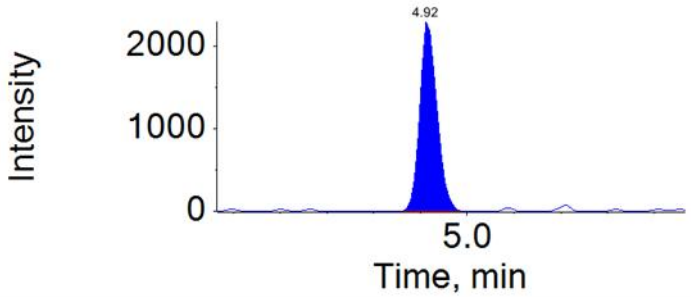
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



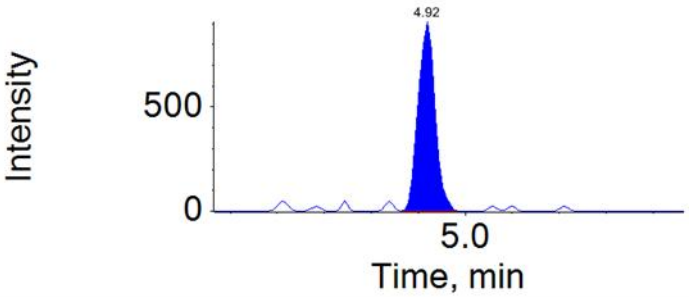
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



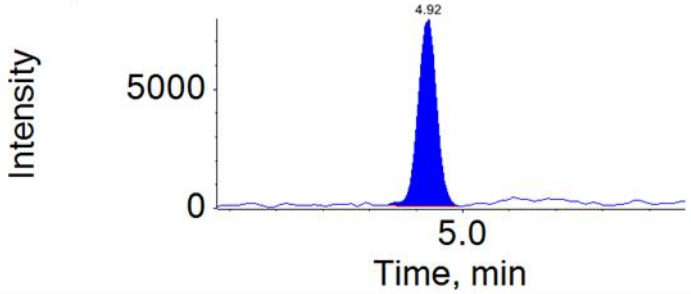
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



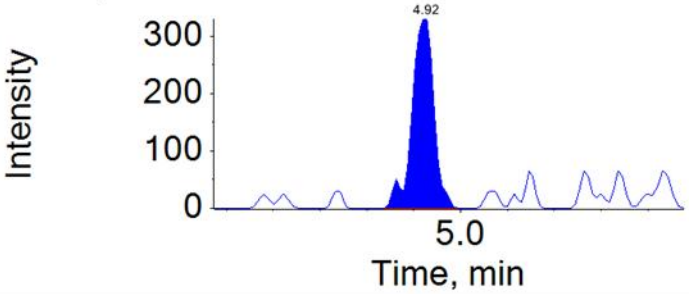
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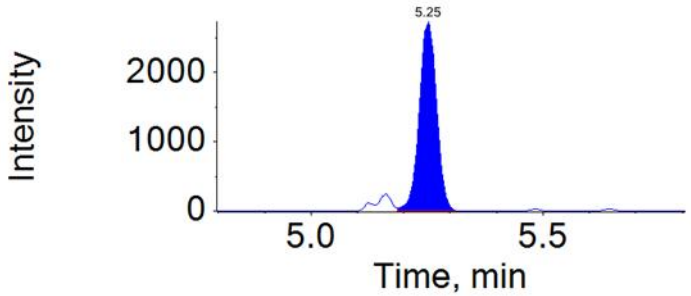
Component: PFOA
Primary Mass: 413.0 / 369.0



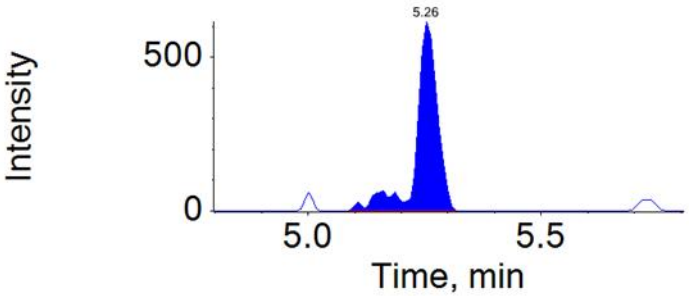
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



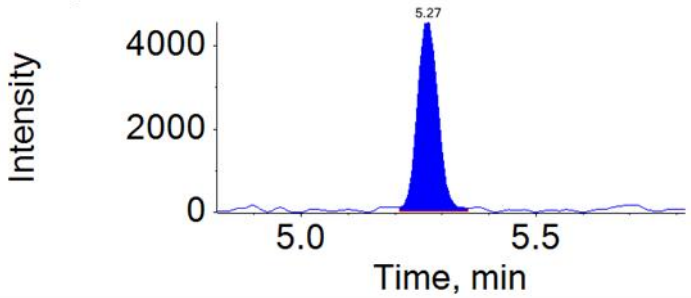
Component: PFOS
Primary Mass: 499.0 / 80.0



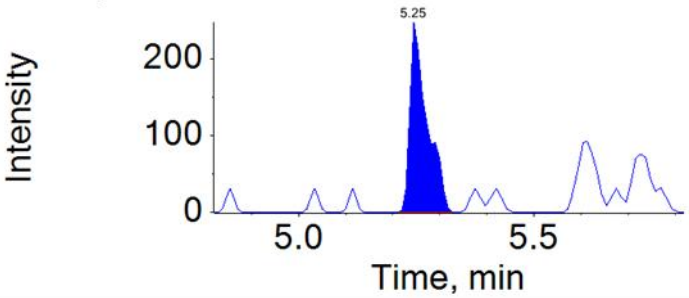
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



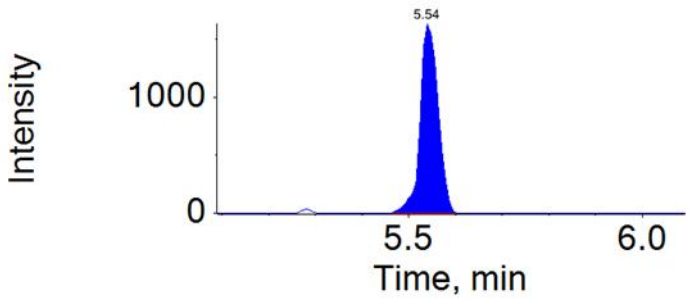
Component: PFNA
Primary Mass: 463.0 / 419.0



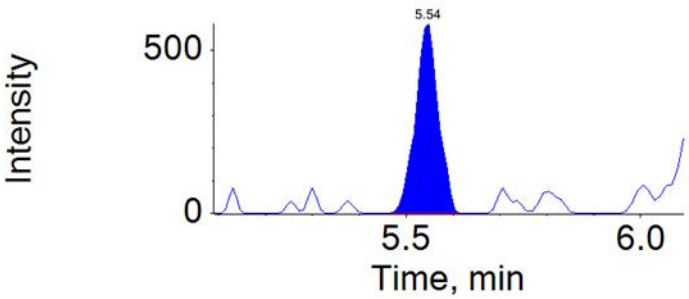
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



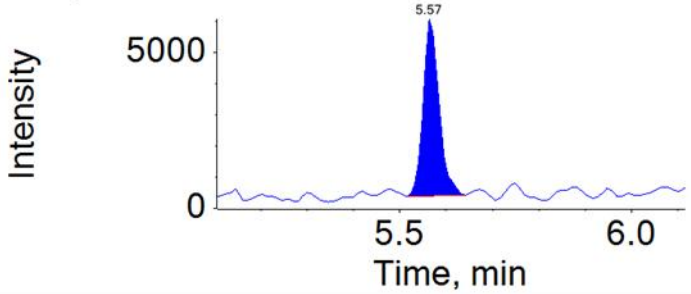
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



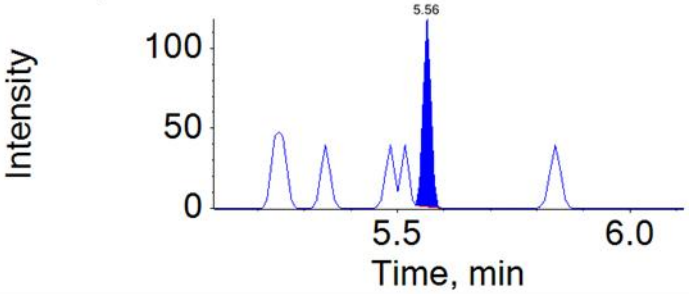
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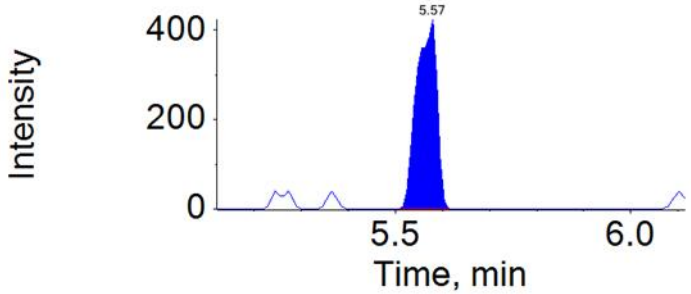
Component: PFDA
Primary Mass: 513.0 / 469.0



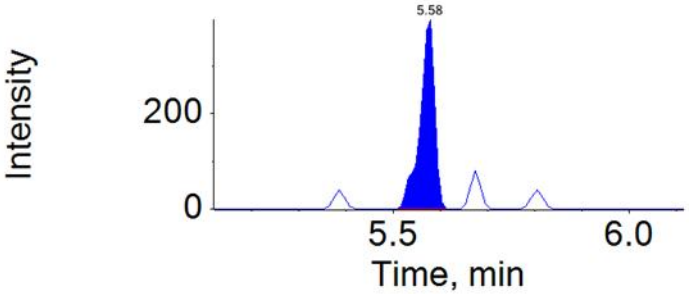
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



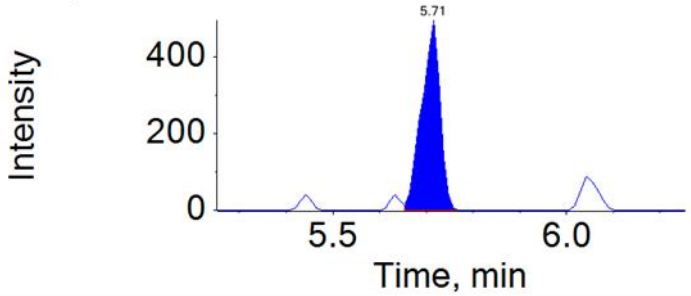
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



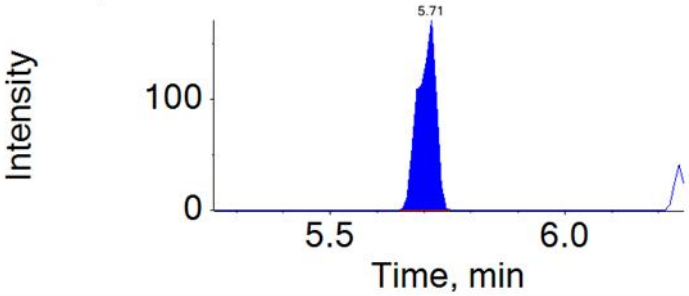
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



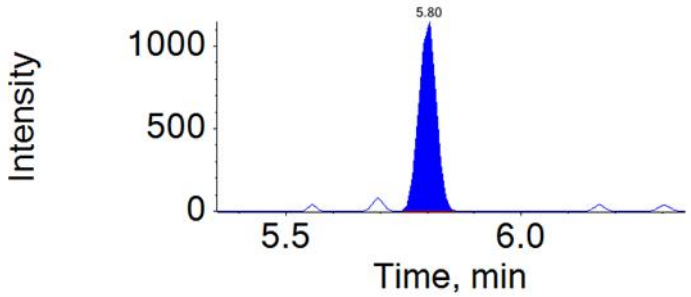
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



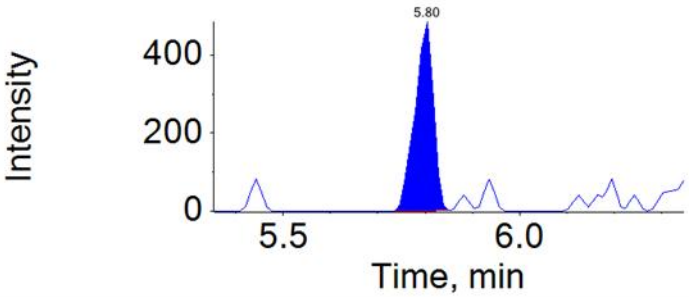
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



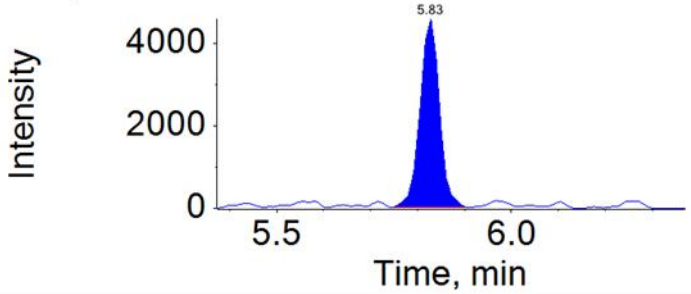
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



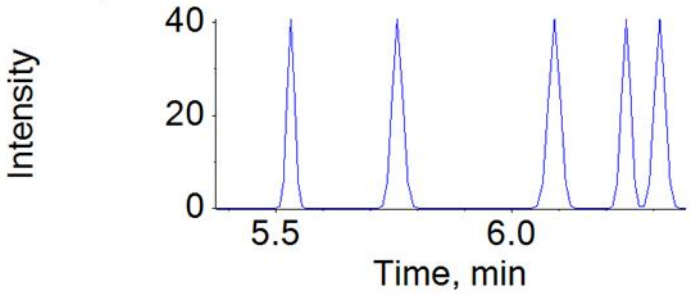
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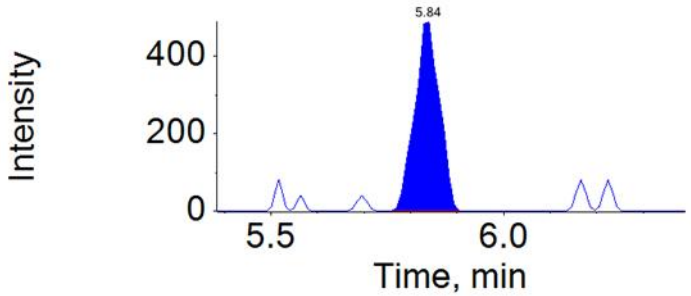
Component: PFUnDA
Primary Mass: 563.0 / 519.0



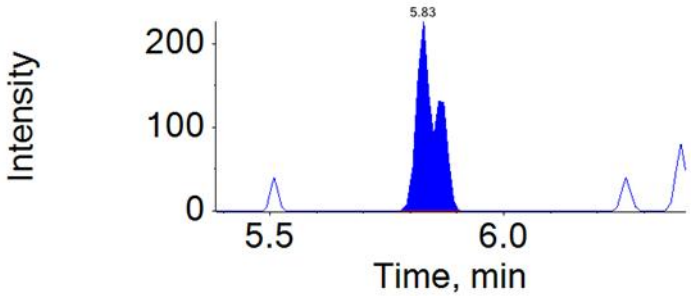
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



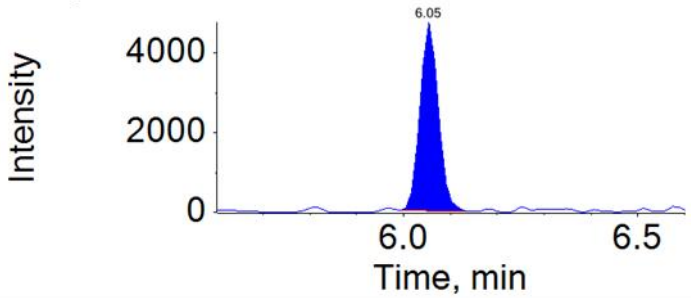
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



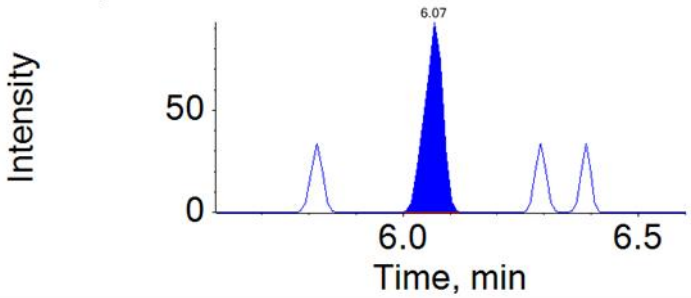
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



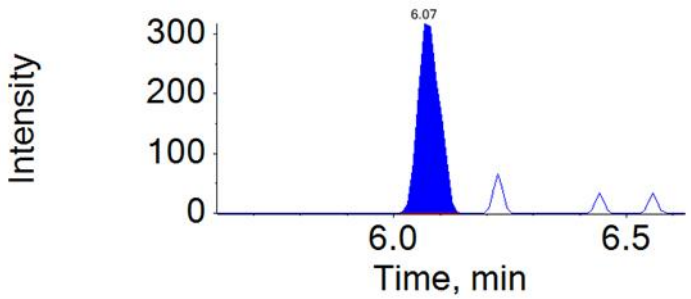
Component: PFDoDA
Primary Mass: 613.0 / 569.0



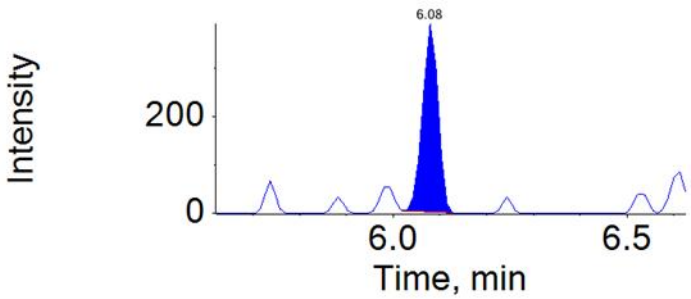
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



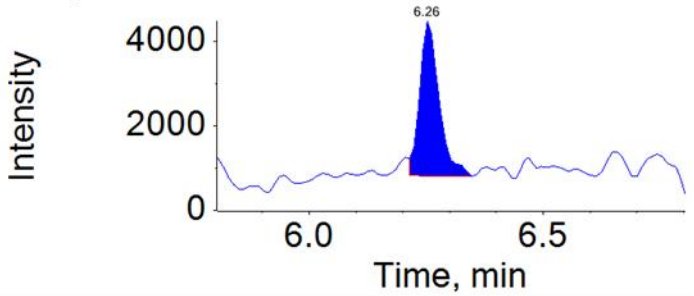
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



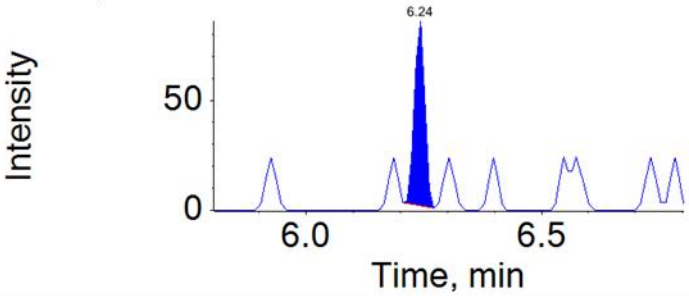
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

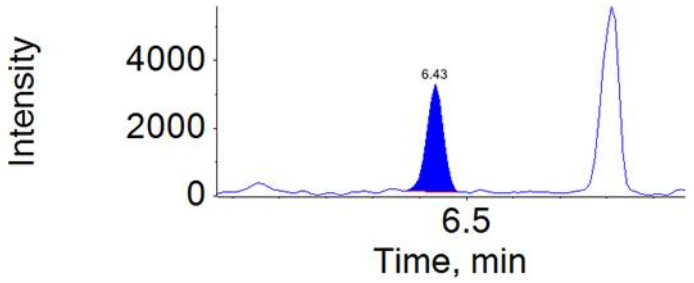
Component: PFTrDA
Primary Mass: 663.0 / 619.0



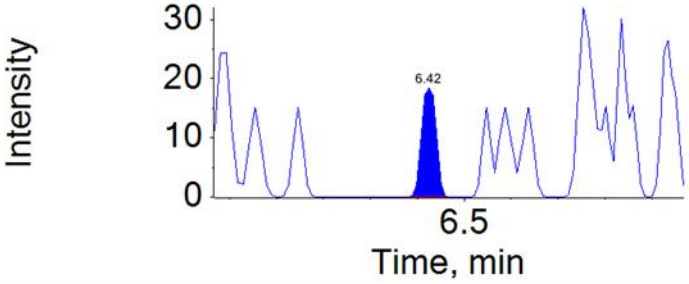
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



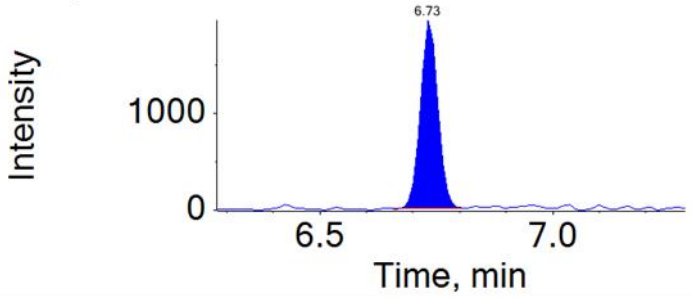
Component: PFTeDA
Primary Mass: 713.0 / 669.0



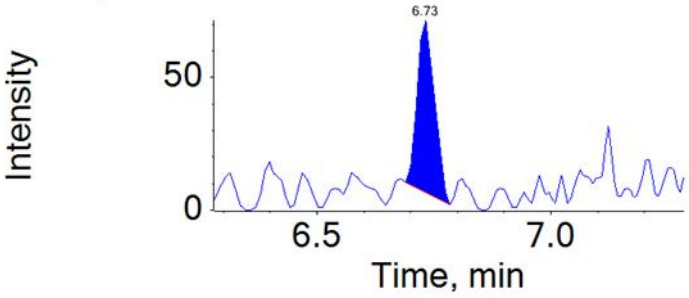
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



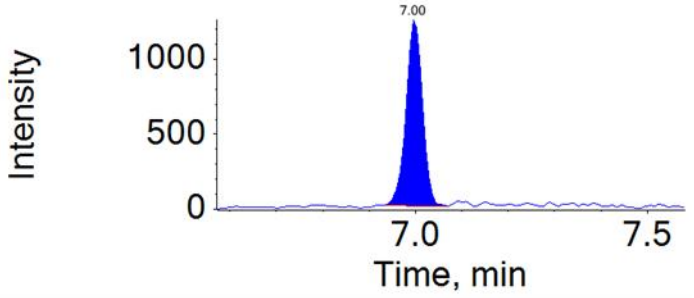
Component: PFHxDA
Primary Mass: 813.0 / 769.0



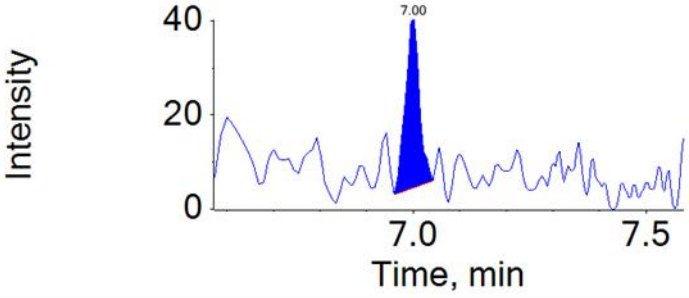
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	Instrument Blank			**Data File:**		18NOV07DCAL-17.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-11-07T10:42:59
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	735610.3	730410.6	1	50	
13C2-PFOA	5.0	545052.0	524423.6	4	50	
13C4-PFOS	4.8	294815.1	274061.7	8	50	
13C2-PFDA	5.0	340045.1	311442.1	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	825928.3	13C3-PFBA	735610.3	1.123	5.000	5.196	104	70-130	
E13C5-PFPeA	881634.8	13C3-PFBA	735610.3	1.199	5.000	5.221	104	70-130	
E13C3-PFBS	456572.3	13C3-PFBA	735610.3	0.621	4.650	4.555	98	70-130	
E13C2-4:2-FTS	56024.0	13C2-PFOA	545052.0	0.103	4.670	4.638	99	70-130	
E13C5-PFHxA	745299.1	13C2-PFOA	545052.0	1.367	5.000	5.030	101	70-130	
E13C3-PFHxS	363559.9	13C2-PFOA	545052.0	0.667	4.730	4.788	101	70-130	
E13C4-PFHpA	680947.9	13C2-PFOA	545052.0	1.249	5.000	5.683	114	70-130	
E13C2-6:2-FTS	40789.9	13C2-PFOA	545052.0	0.075	4.750	4.990	105	70-130	
E13C8-PFOA	1030720.3	13C2-PFOA	545052.0	1.891	5.000	5.273	105	70-130	
E13C8-PFOS	325503.0	13C4-PFOS	294815.1	1.104	4.780	4.882	102	70-130	
E13C9-PFNA	562782.6	13C4-PFOS	294815.1	1.909	5.000	5.214	104	70-130	
E13C6-PFDA	680228.7	13C2-PFDA	340045.1	2.000	5.000	5.031	101	70-130	
E13C2-8:2-FTS	29365.3	13C2-PFDA	340045.1	0.086	4.790	4.570	95	70-130	
E13C8-PFOSA	750773.0	13C2-PFDA	340045.1	2.208	5.000	4.818	96	70-130	
Ed3-NMeFOSAA	84635.6	13C2-PFDA	340045.1	0.249	5.000	4.628	93	70-130	
E13C7-PFUnDA	301084.0	13C2-PFDA	340045.1	0.885	5.000	5.108	102	70-130	
Ed5-NEtFOSAA	71817.7	13C2-PFDA	340045.1	0.211	5.000	4.888	98	70-130	
E13C2-PFDoDA	636951.8	13C2-PFDA	340045.1	1.873	5.000	5.050	101	70-130	
Ed7-NMePFOSAE	359644.6	13C2-PFDA	340045.1	1.058	5.000	4.918	98	70-130	
Ed3-NMePFOSA	81798.8	13C2-PFDA	340045.1	0.241	5.000	4.404	88	70-130	
Ed9-NEtPFOSAE	287361.1	13C2-PFDA	340045.1	0.845	5.000	4.826	97	70-130	
Ed5-NEtPFOSA	66311.5	13C2-PFDA	340045.1	0.195	5.000	4.515	90	70-130	
E13C2-PFTeDA	458986.1	13C2-PFDA	340045.1	1.350	5.000	4.859	97	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

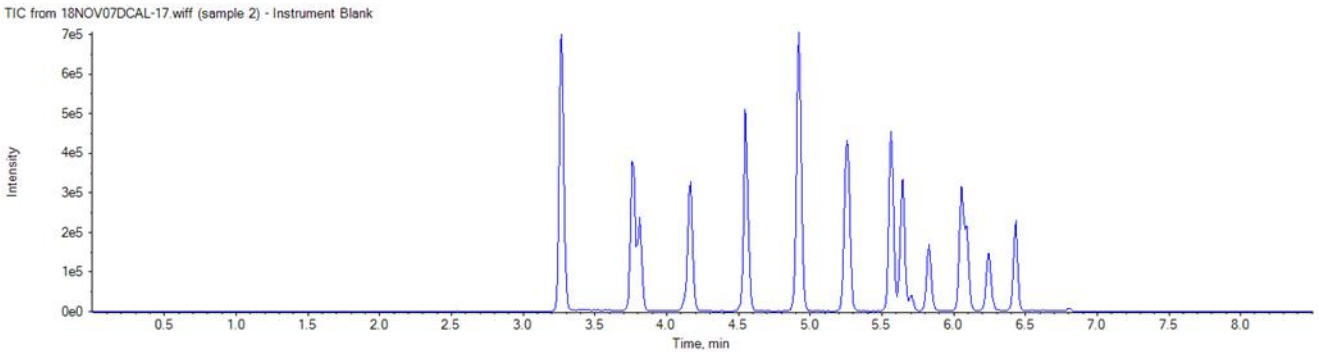
Analyte Quantitation Peak Table

Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-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	N/A	N/A	N/A		A	13C4-PFBA	3.27	825928.3	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.76	881634.8	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	456572.3	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	56024.0	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	745299.1	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.81	456572.3	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	363559.9	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	680947.9	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	40789.9	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	363559.9	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	1030720.3	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.25	325503.0	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	562782.6	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	325503.0	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	680228.7	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	29365.3	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.64	750773.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	84635.6	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	325503.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	301084.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	71817.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	636951.8	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	29365.3	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	359644.6	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.10	81798.8	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	325503.0	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	287361.1	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	66311.5	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.05	636951.8	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	458986.1	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	458986.1	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	458986.1	N/A	

Total Ion Chromatogram

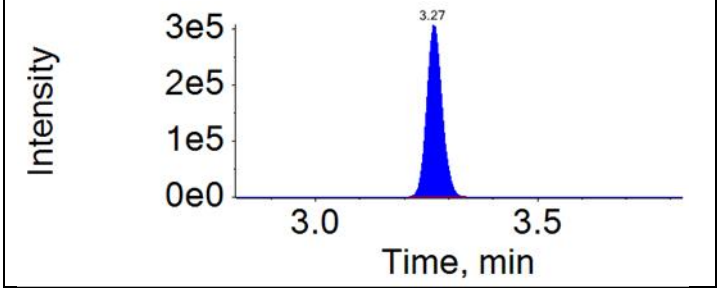


APPROVED
By JPT at 2:53 pm, 11/7/18

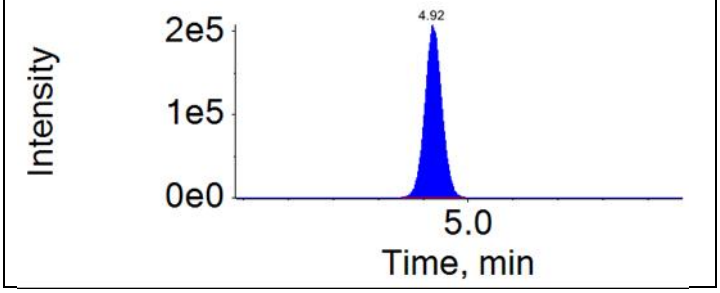
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

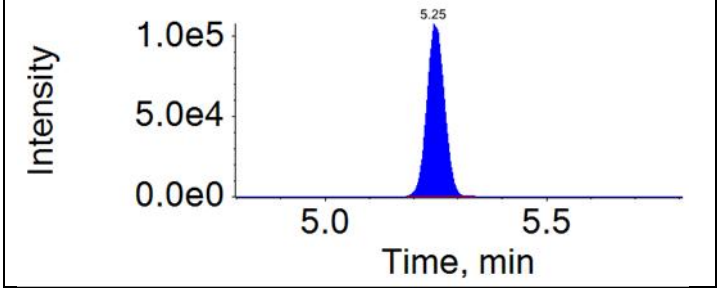
Injection Standard: 13C3-PFBA
216.0 / 172.0



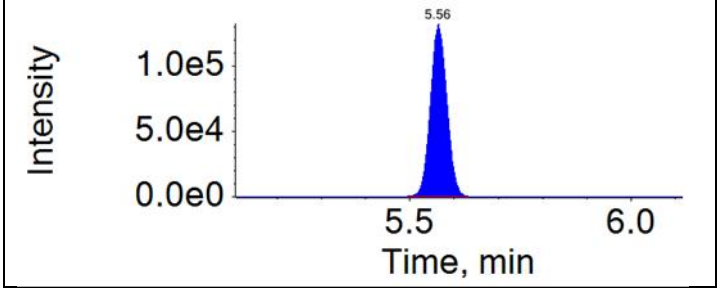
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

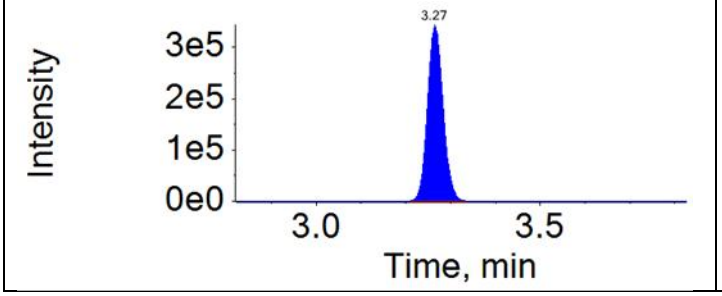


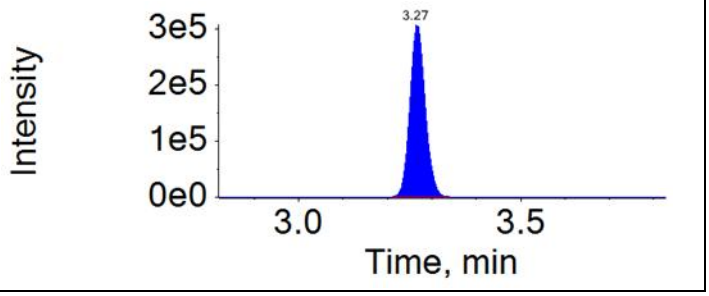
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

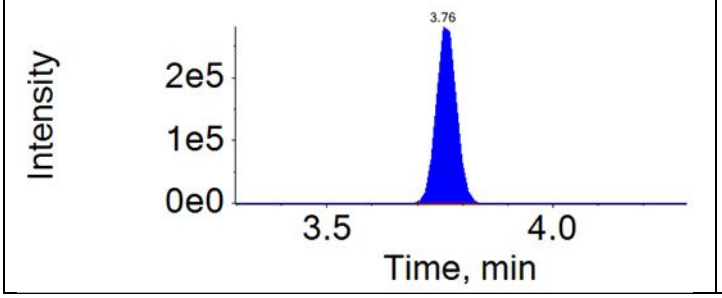
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

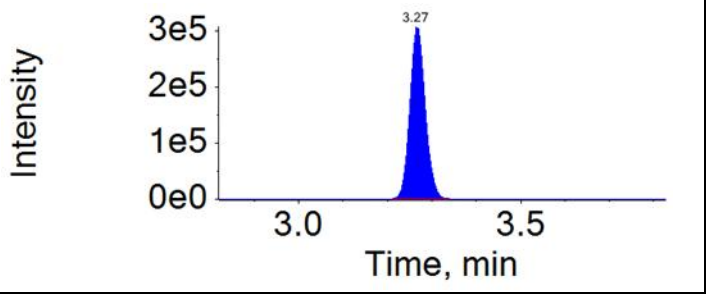
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



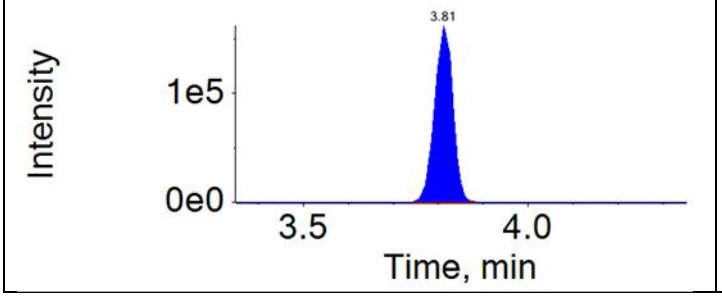


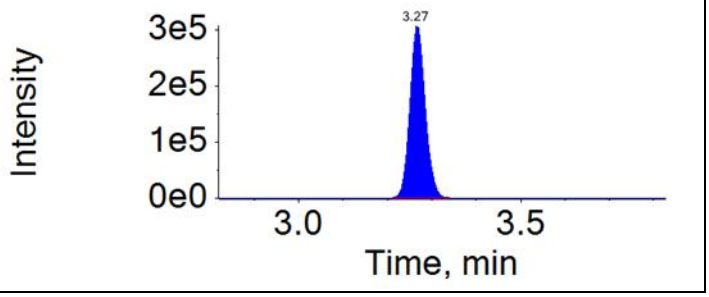
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



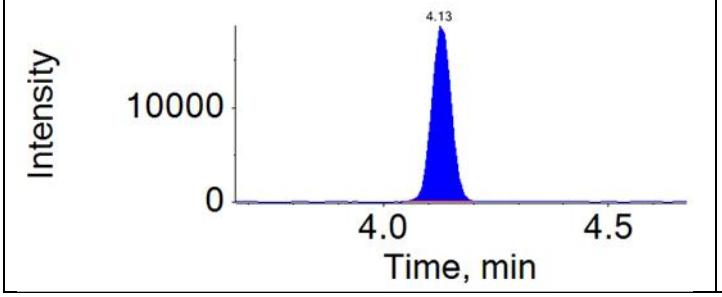


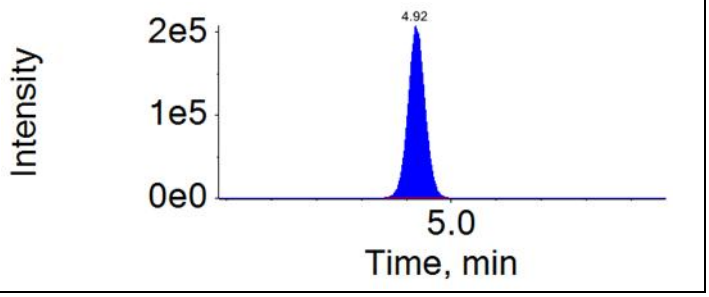
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





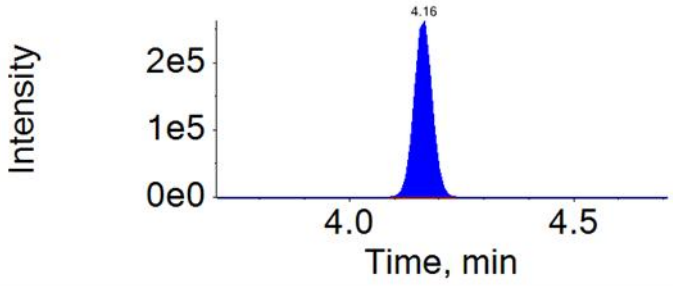
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

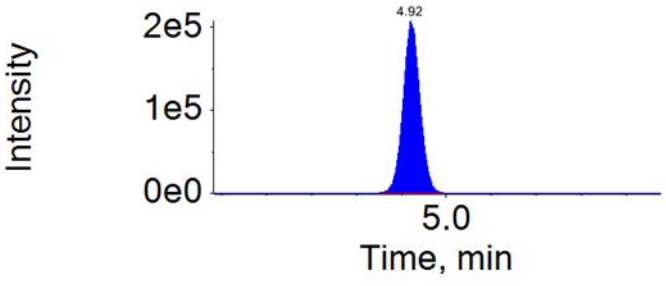




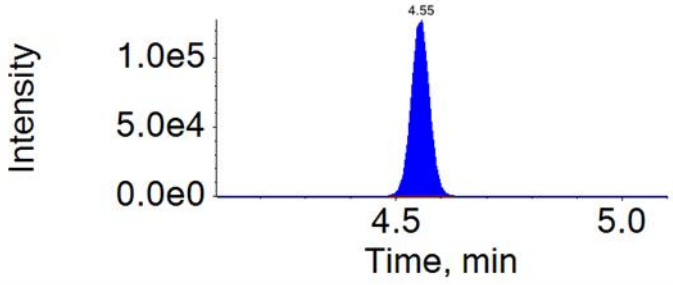
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

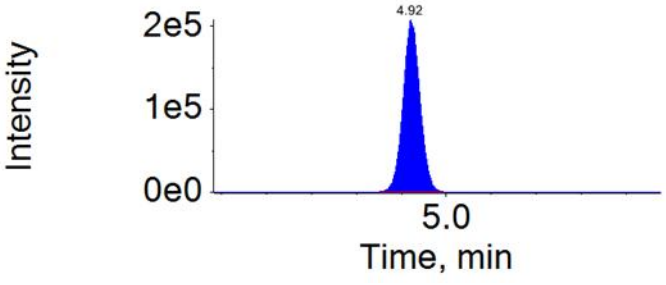
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



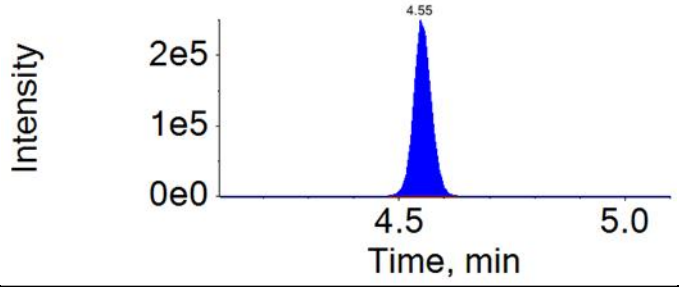


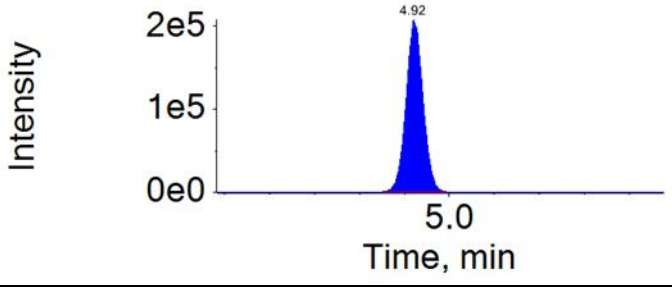
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



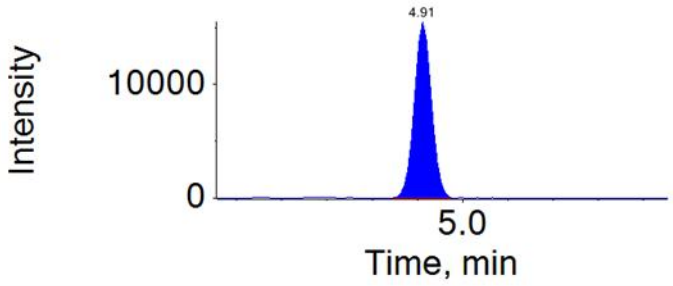


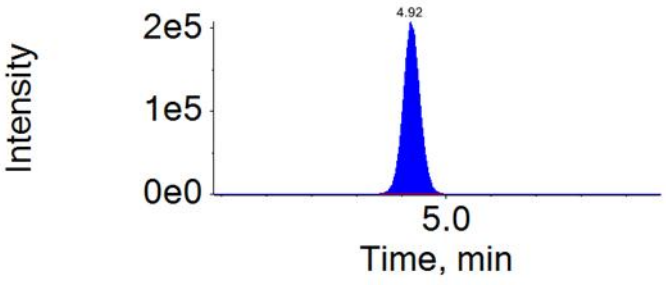
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



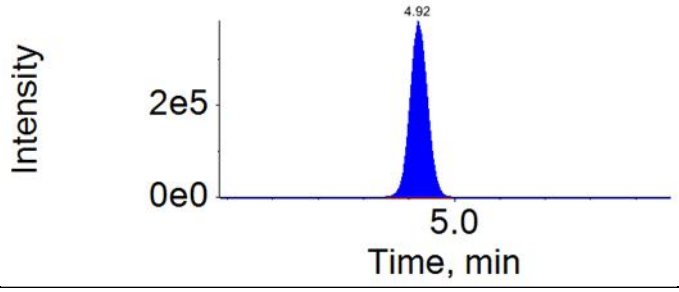


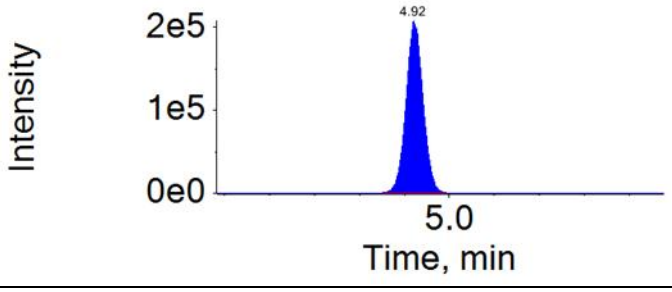
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

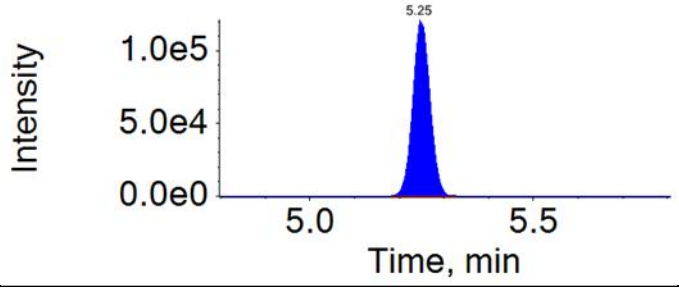
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

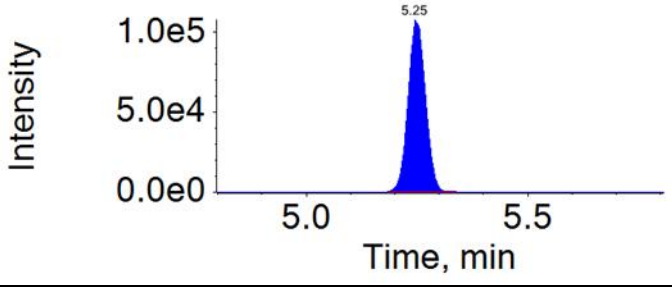
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



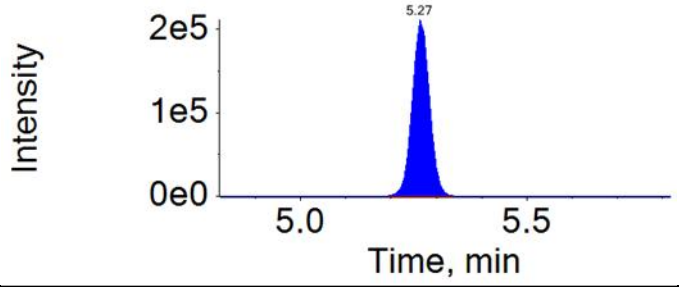


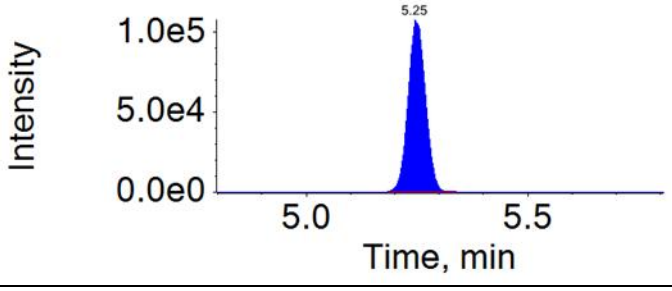
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



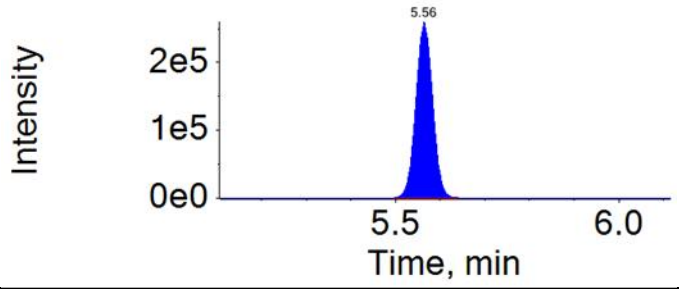


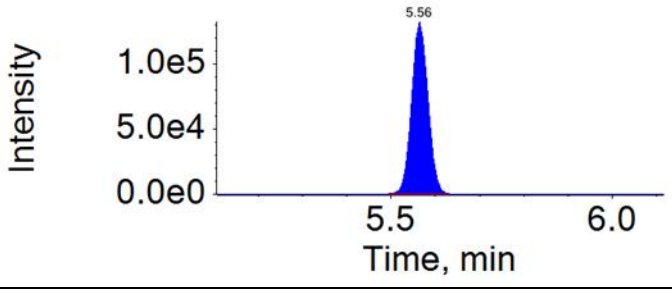
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

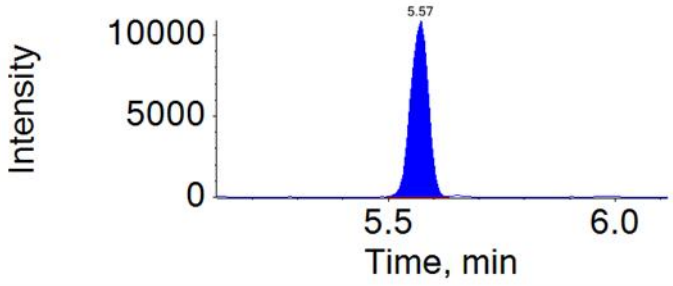
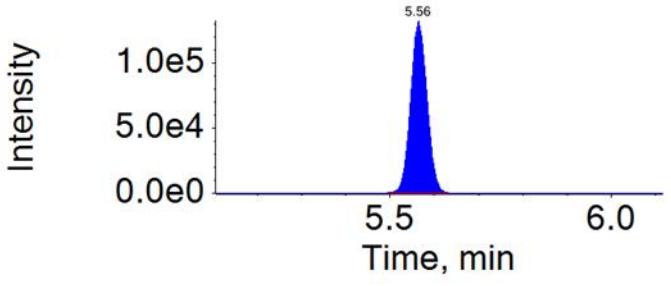


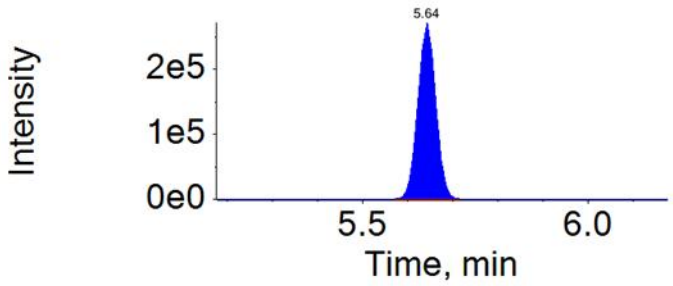
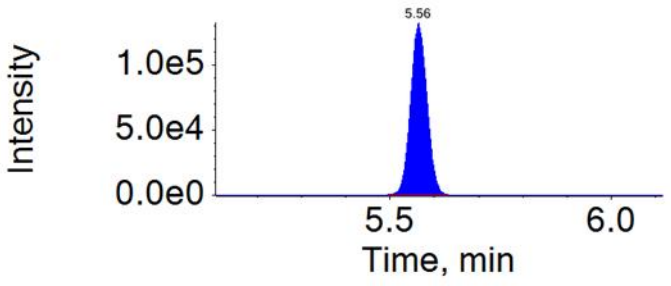


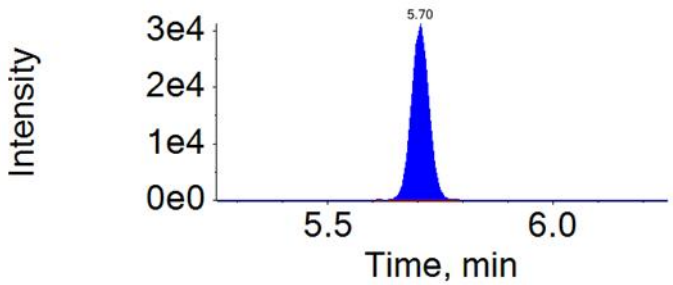
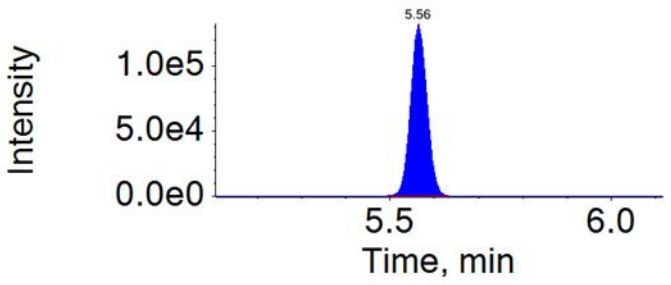
APPROVED
By JPT at 2:53 pm, 11/7/18

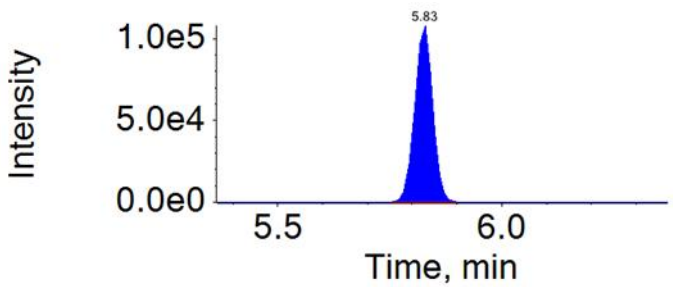
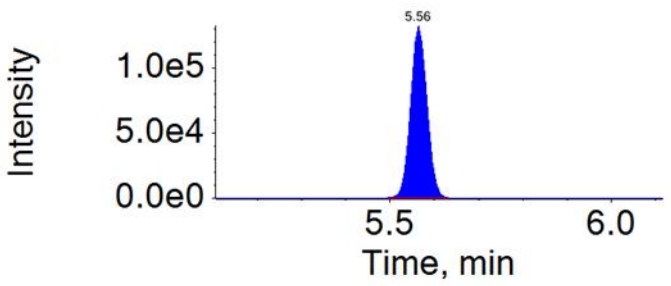
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

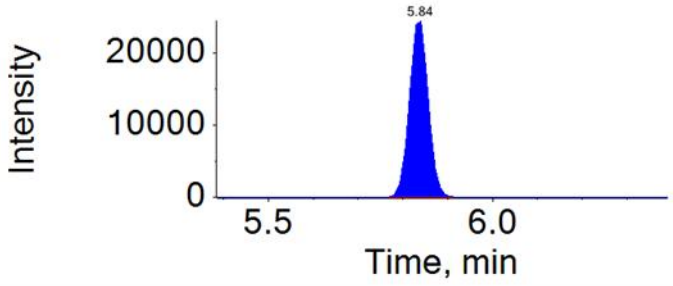
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

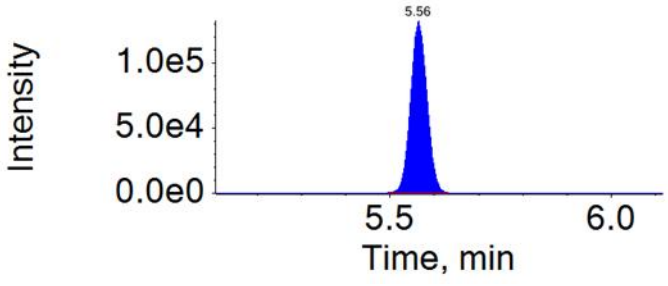
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

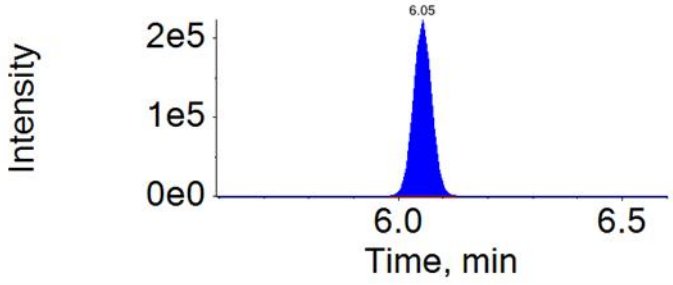
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

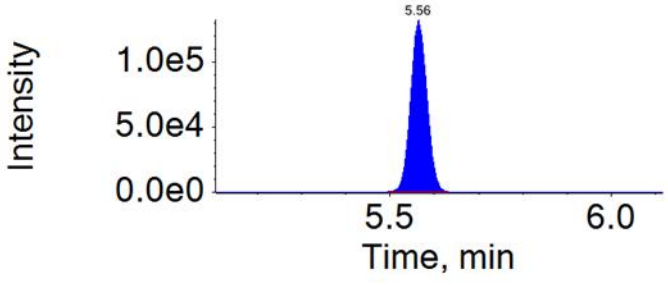
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



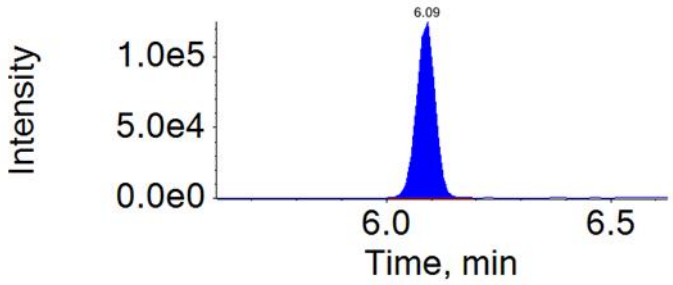


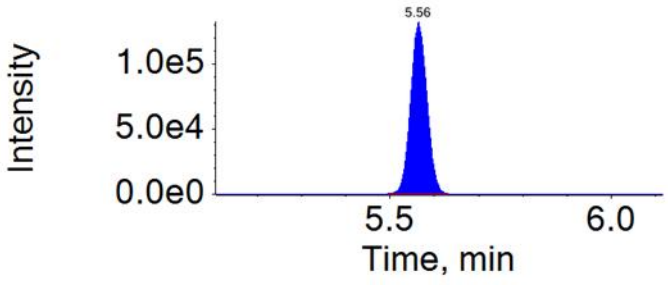
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



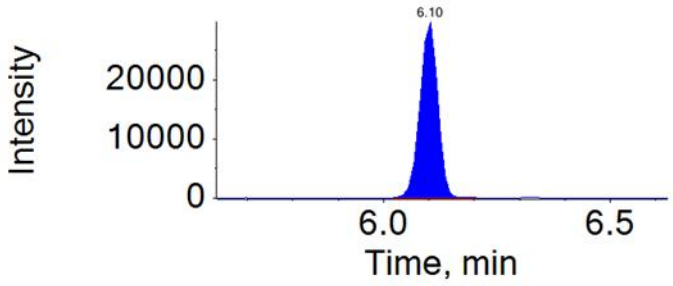


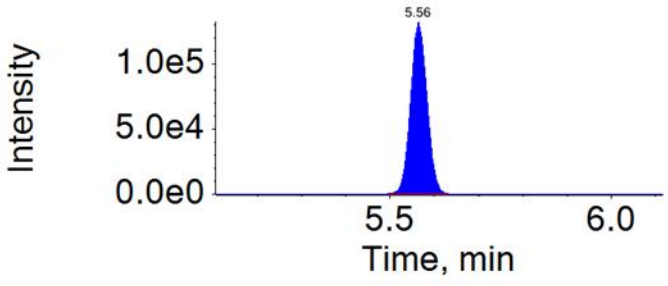
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





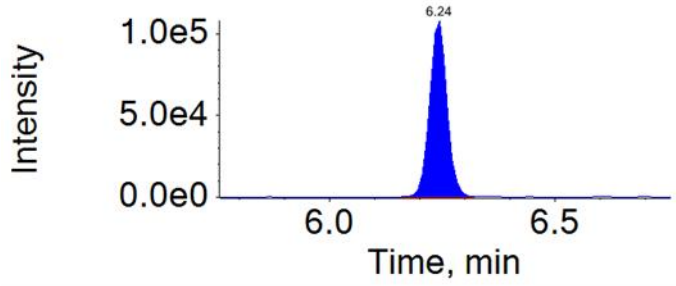
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

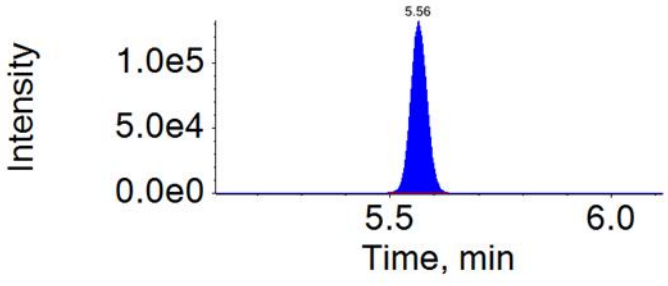




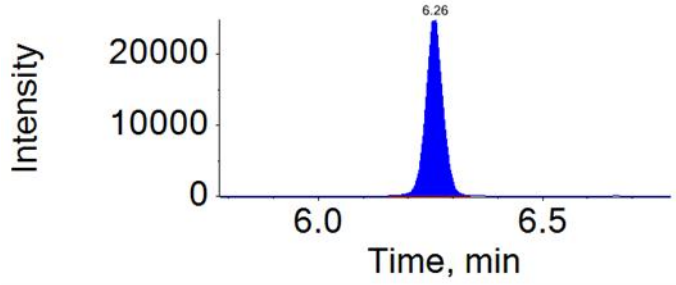
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

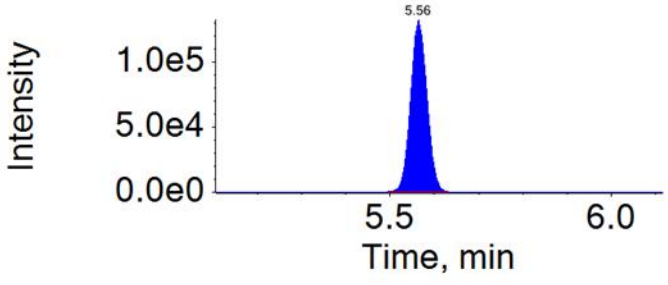
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



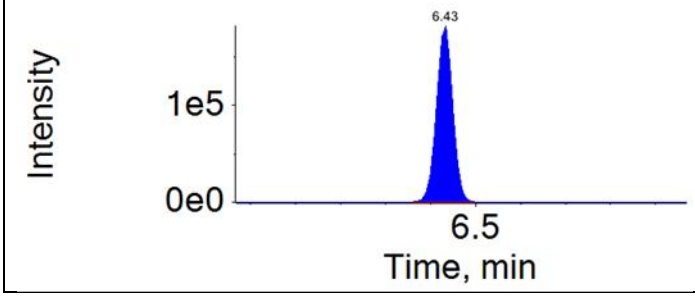


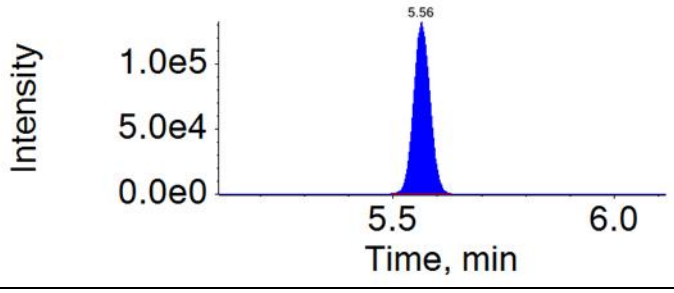
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



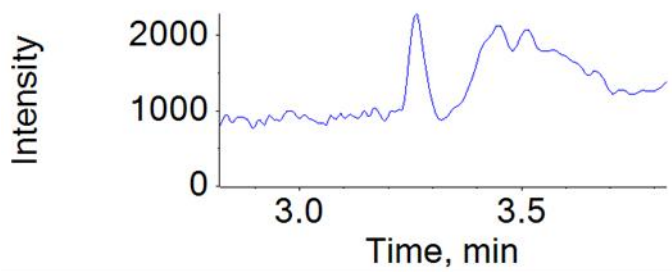


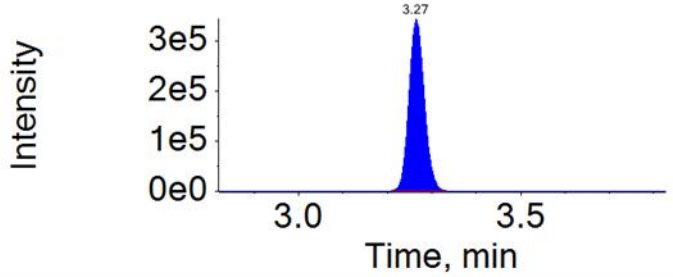
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

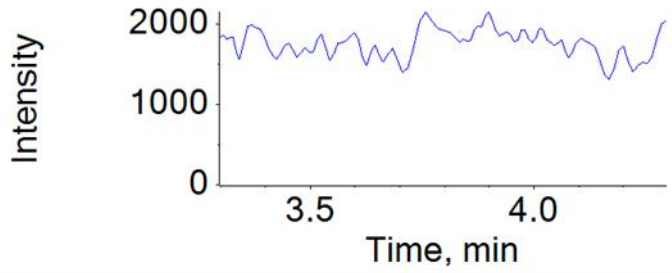
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

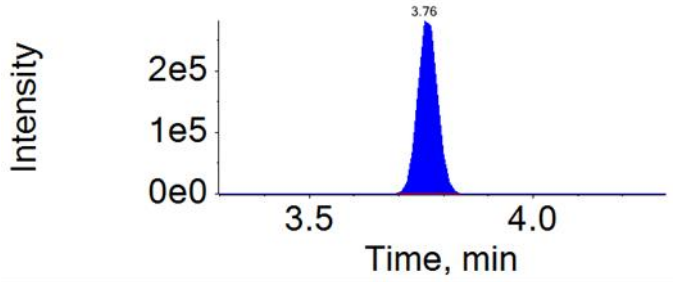
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



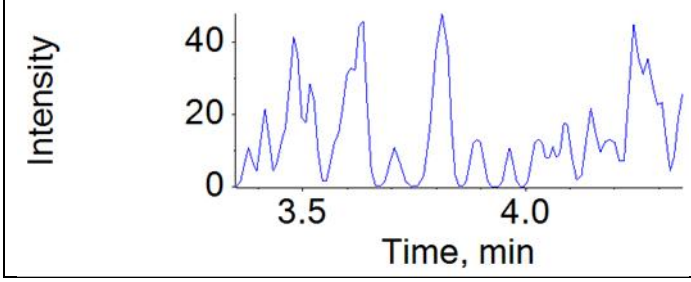


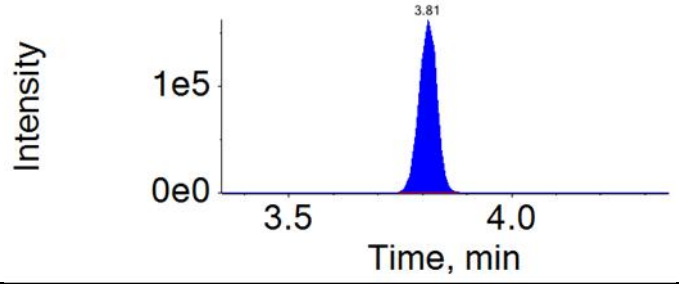
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



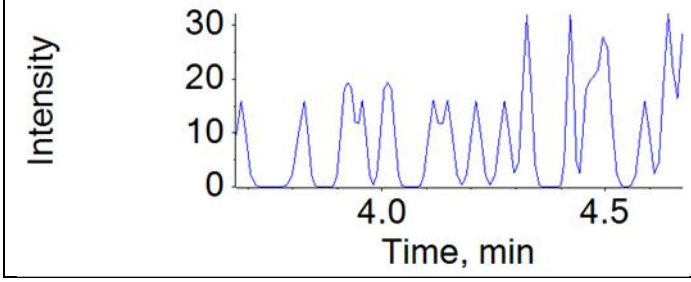


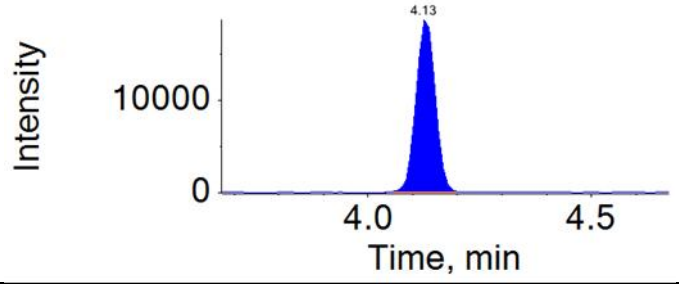
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



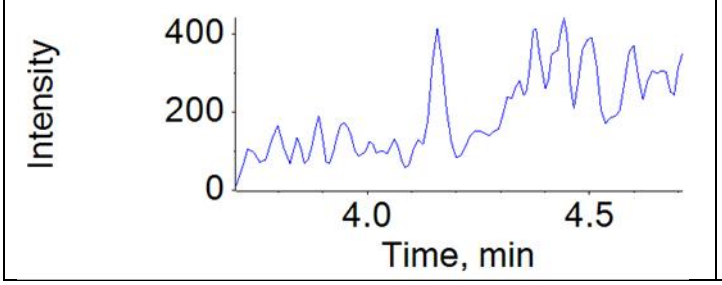


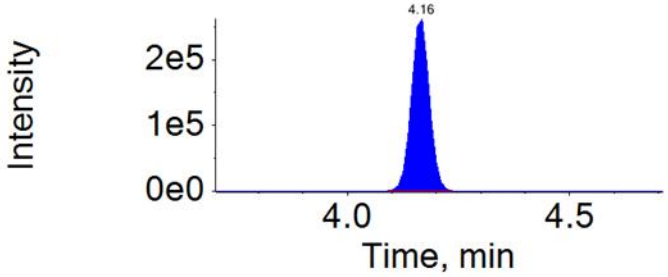
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

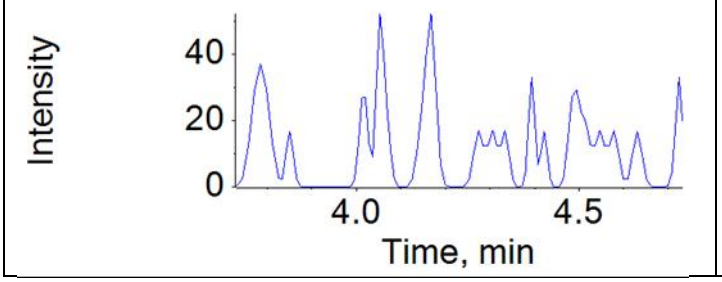
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

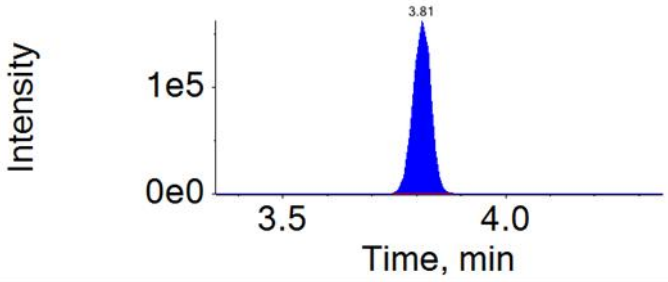
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



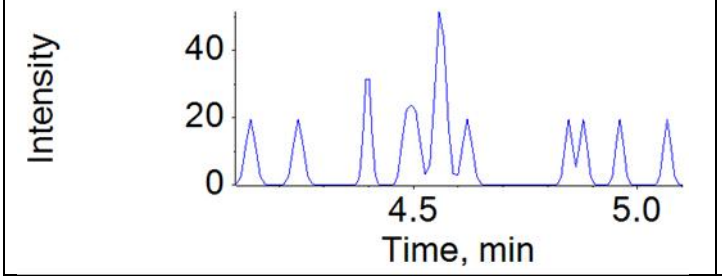


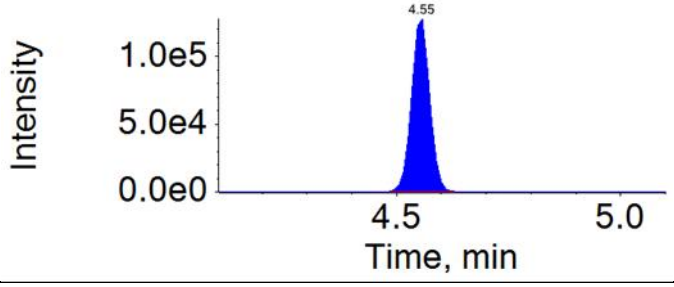
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



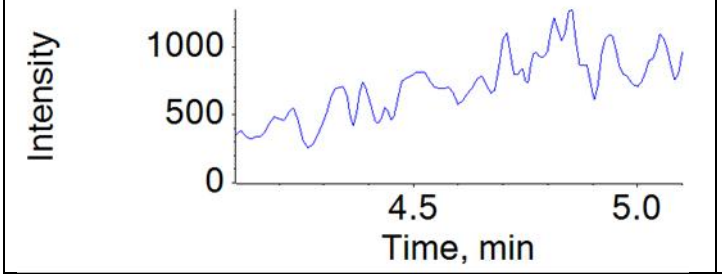


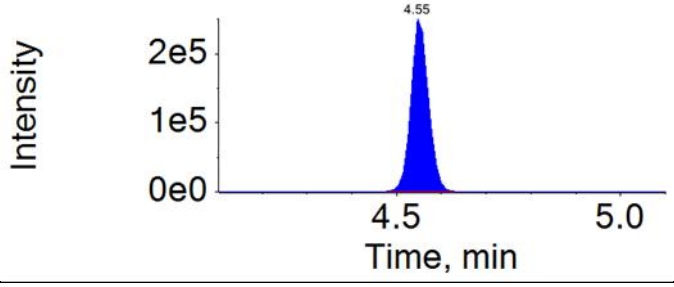
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



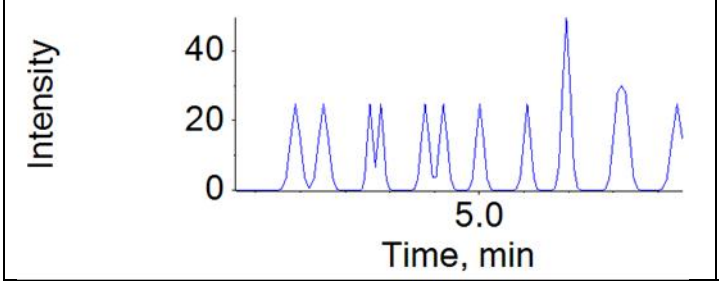


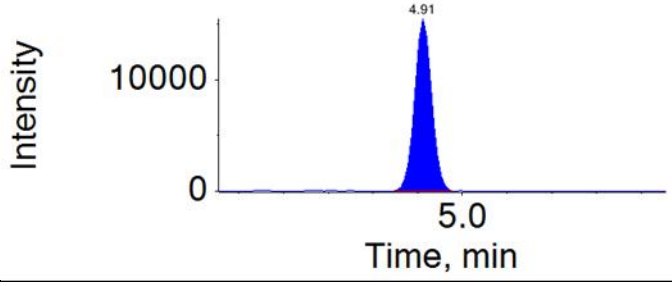
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

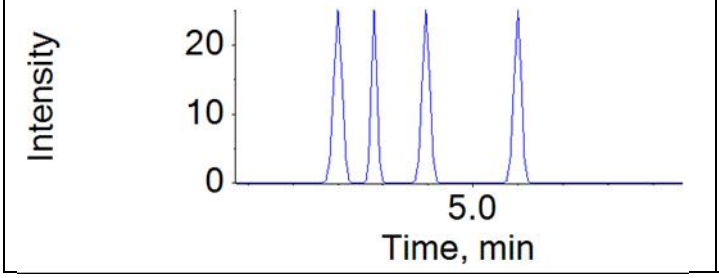
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

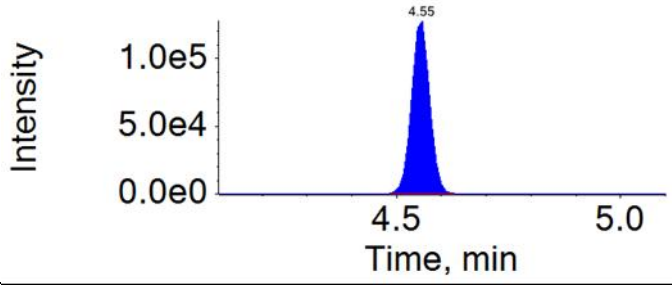
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



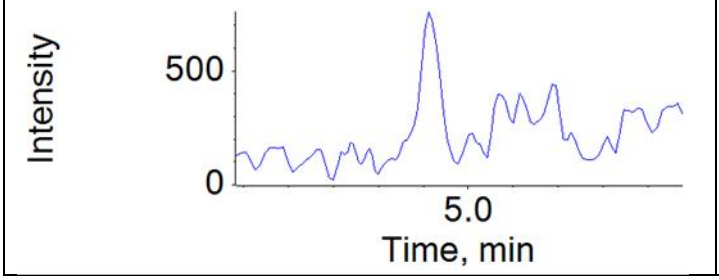


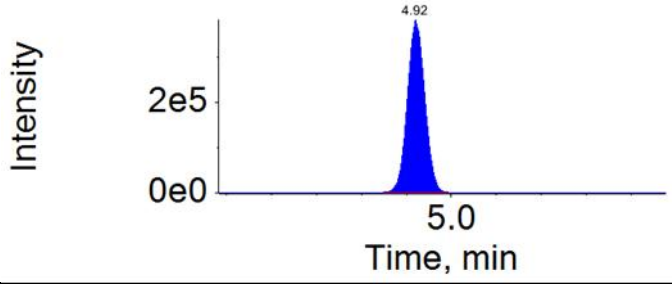
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



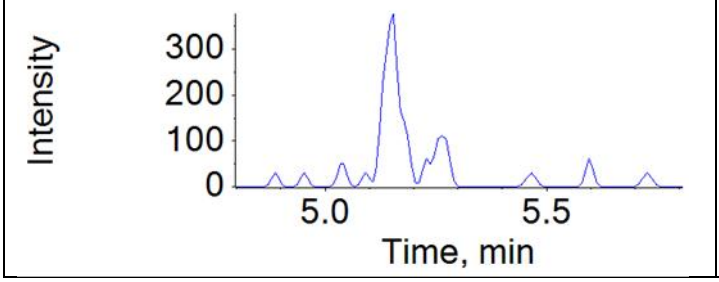


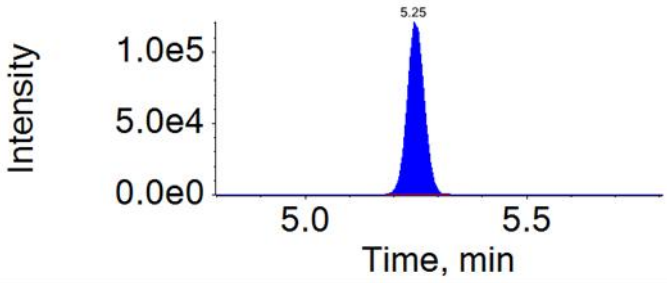
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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



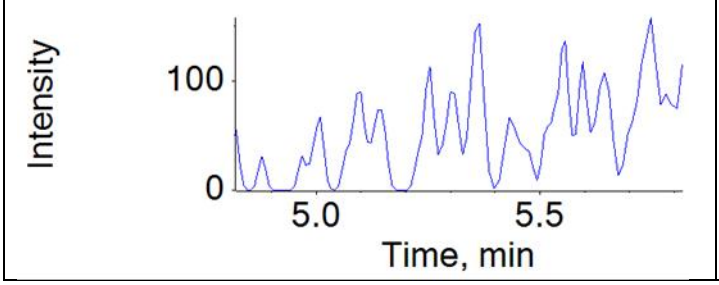


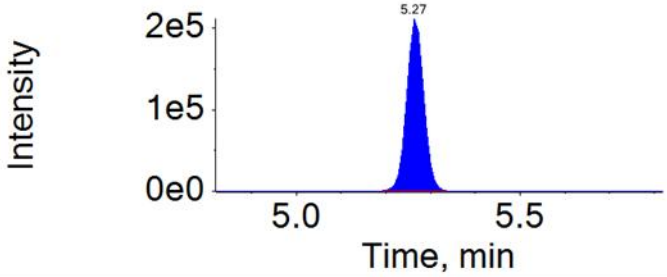
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

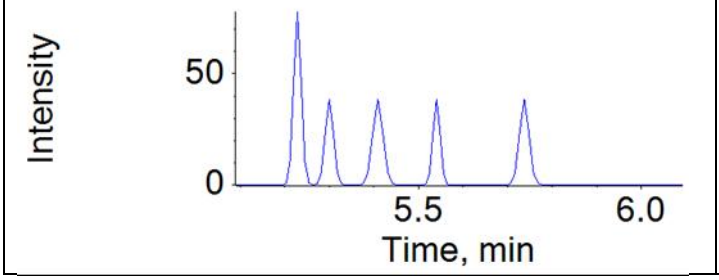
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

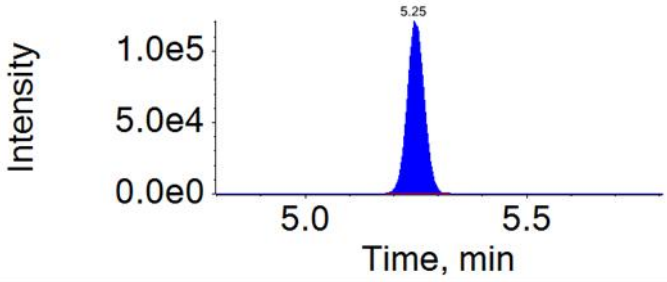
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



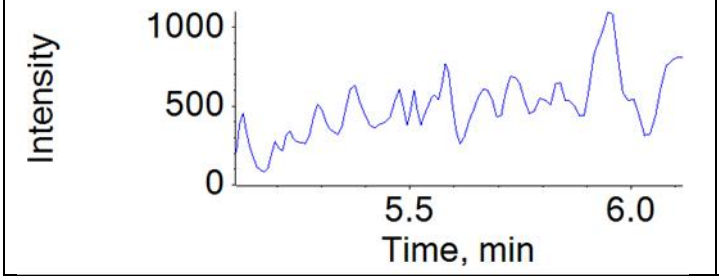


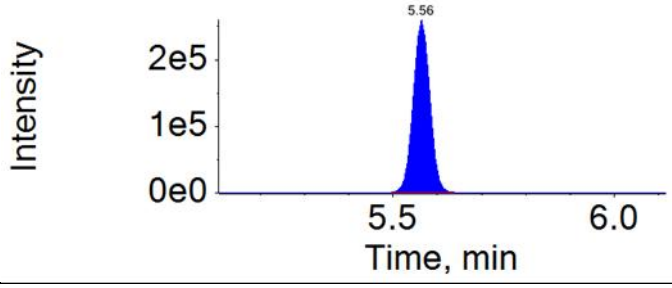
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



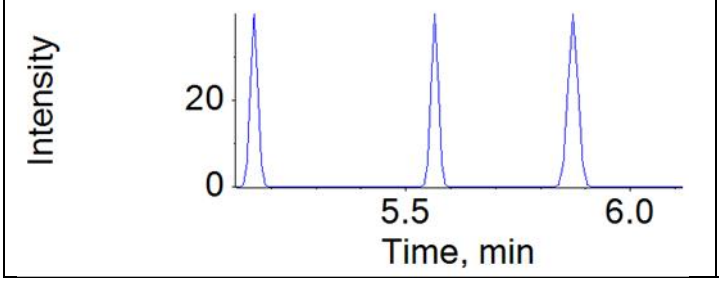


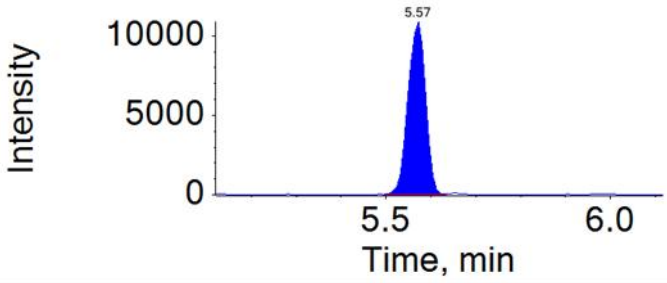
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



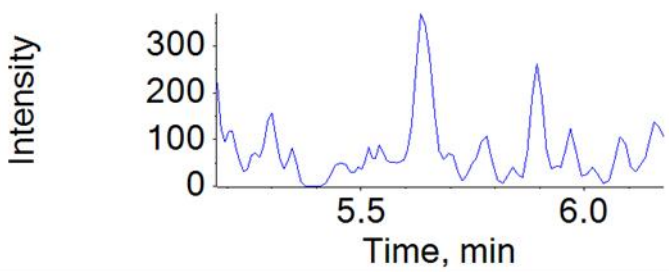


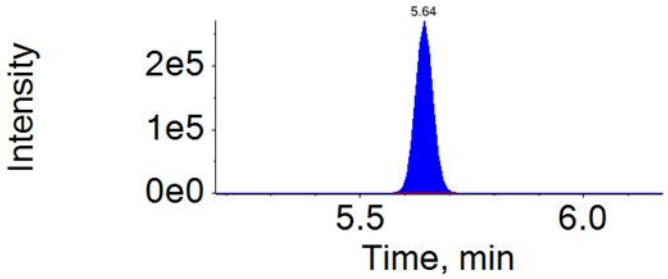
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

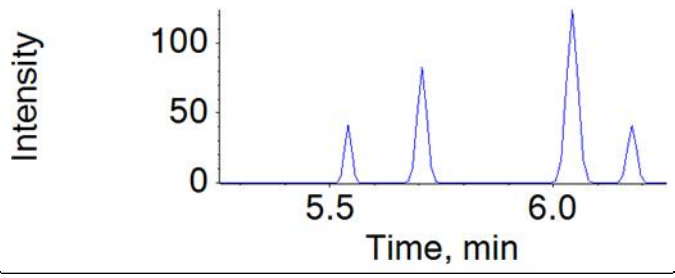
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

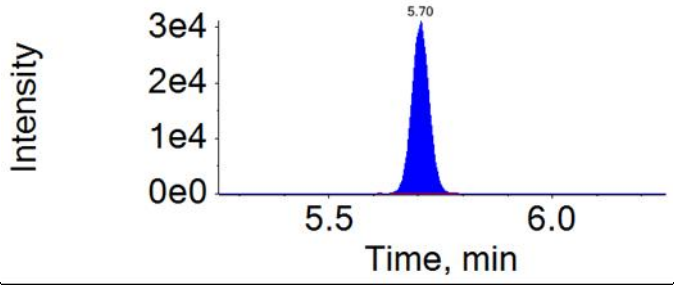
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



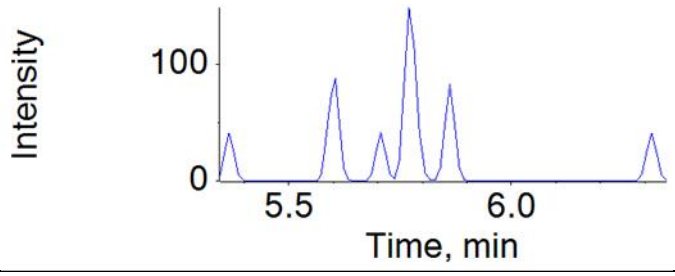


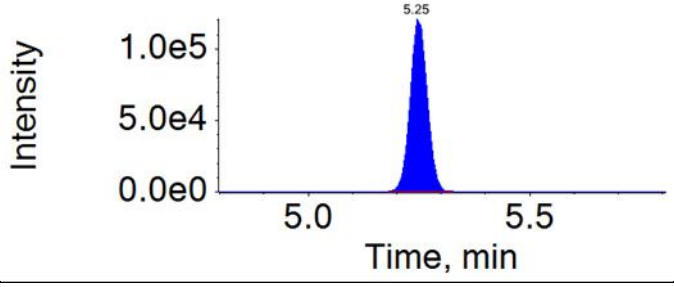
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



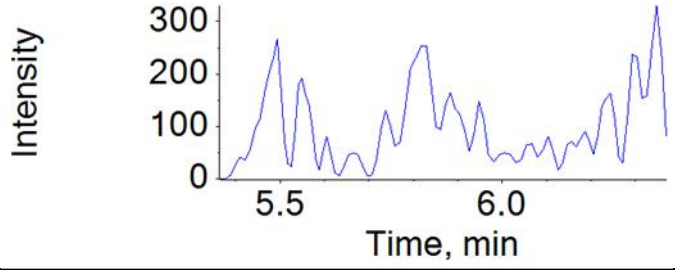


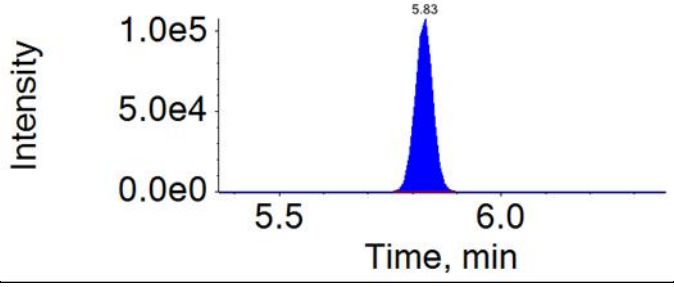
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



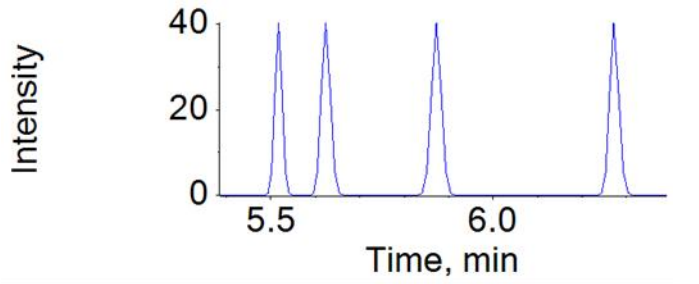


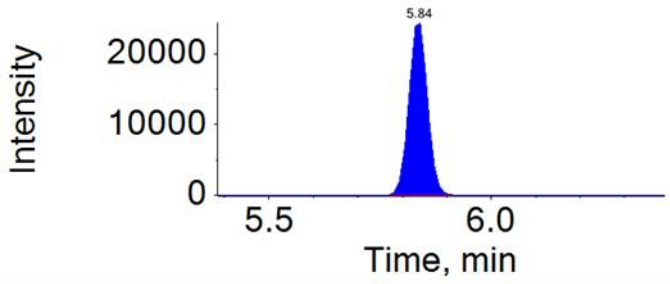
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

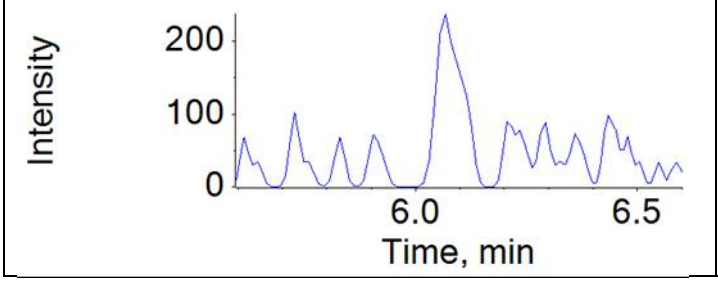
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

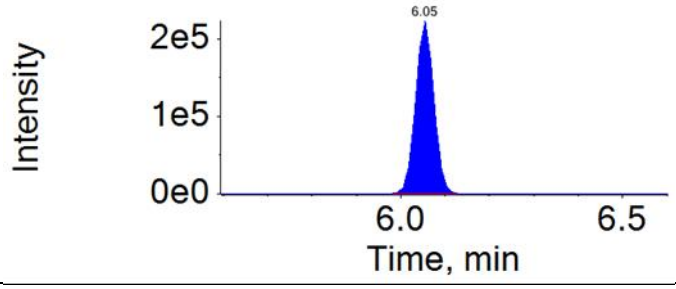
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



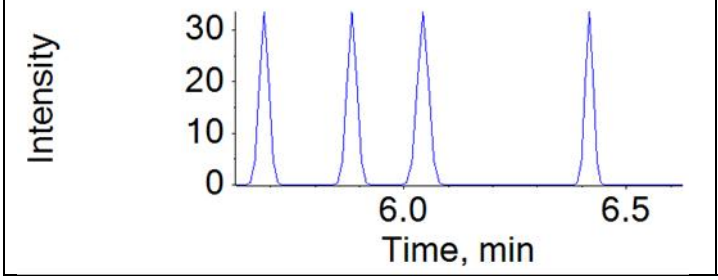


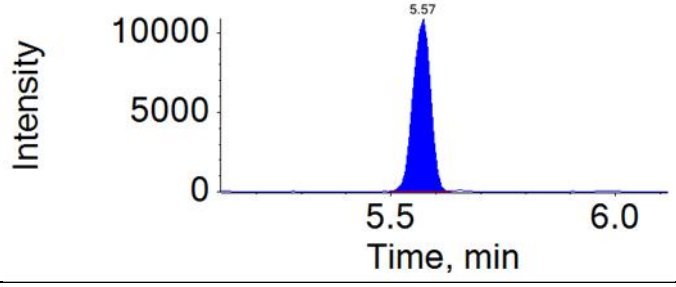
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



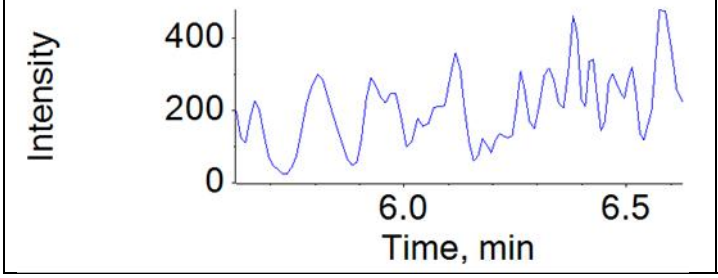


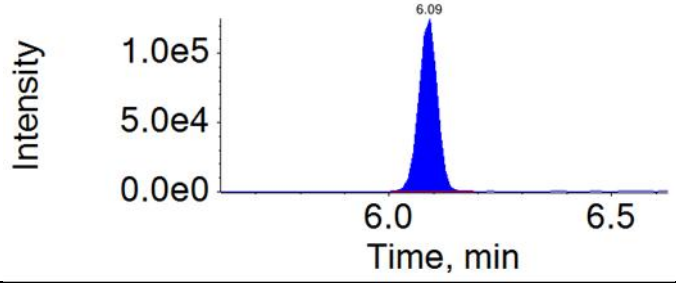
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



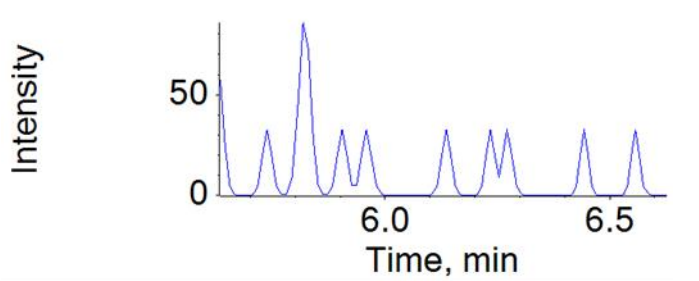


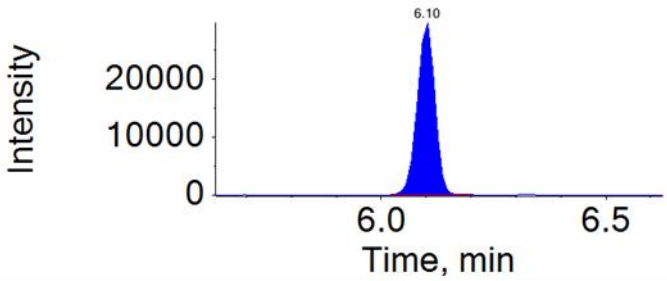
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

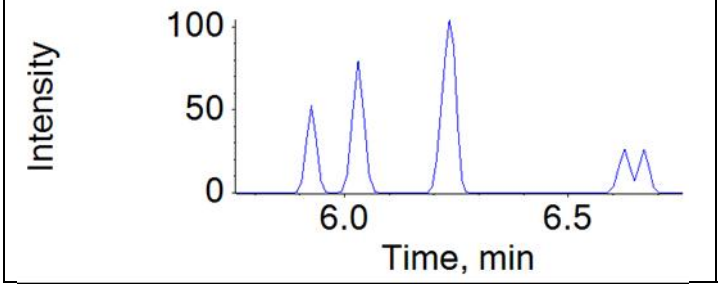
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

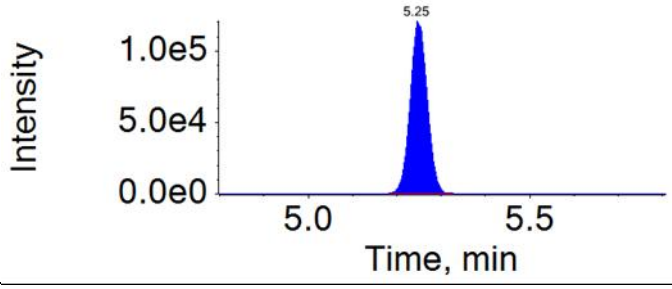
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



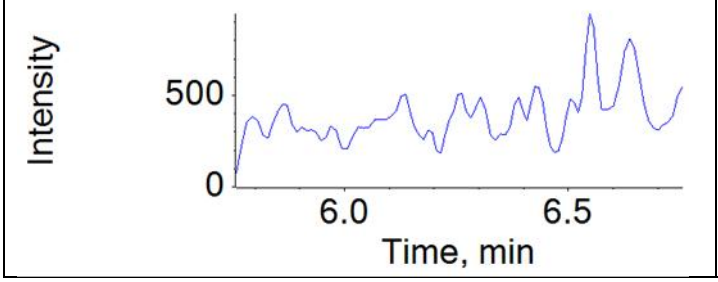


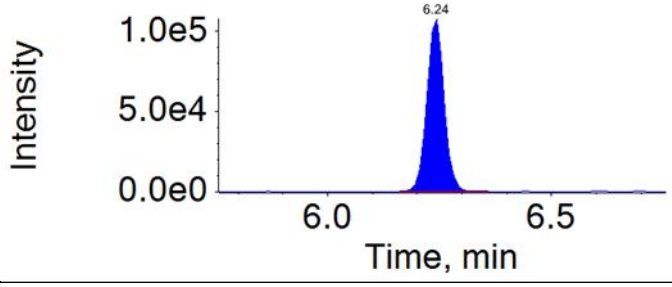
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



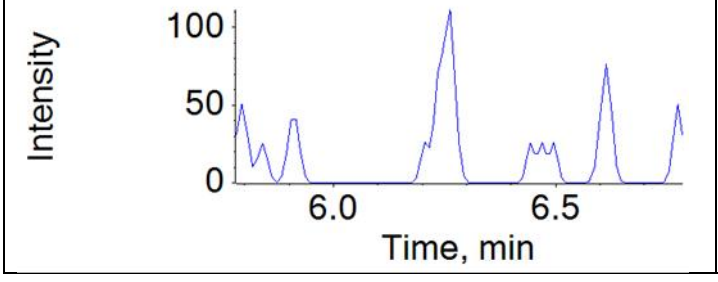


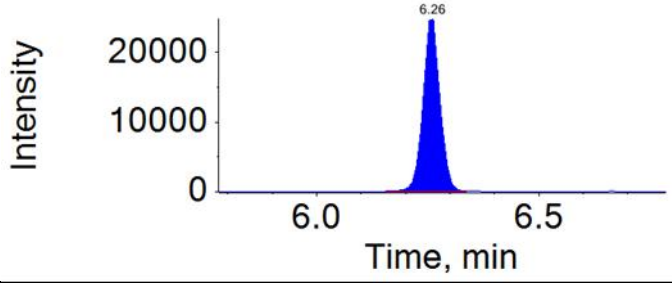
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

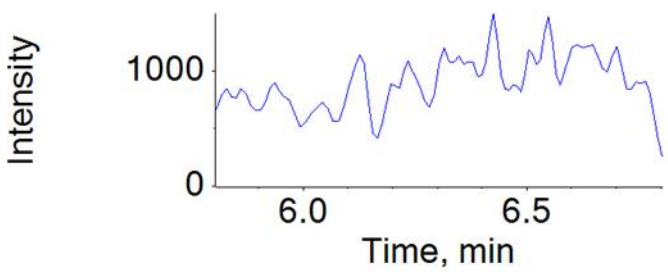
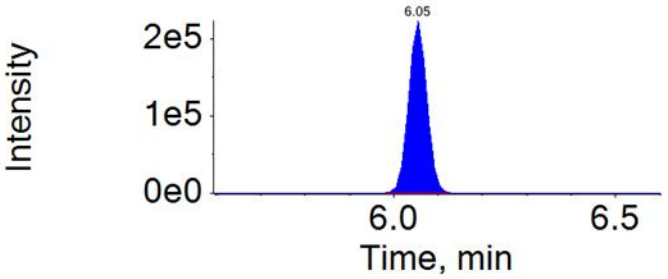


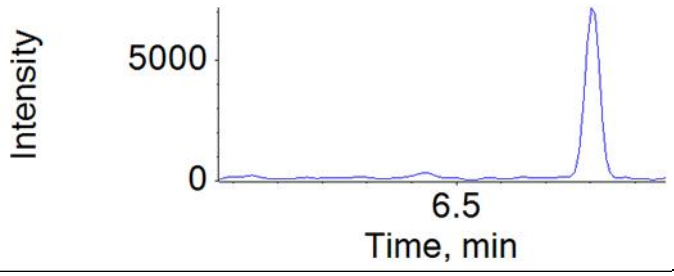
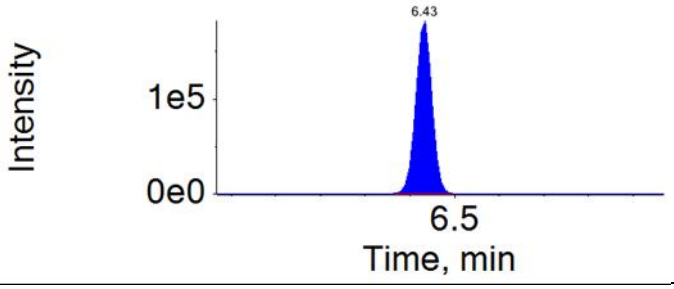


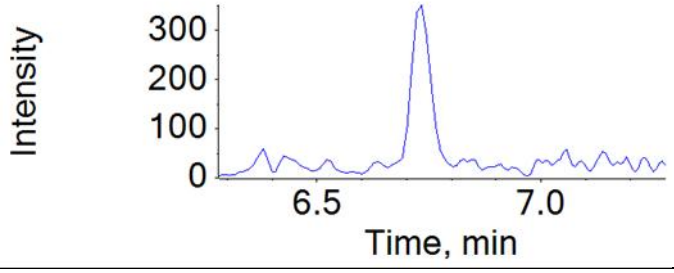
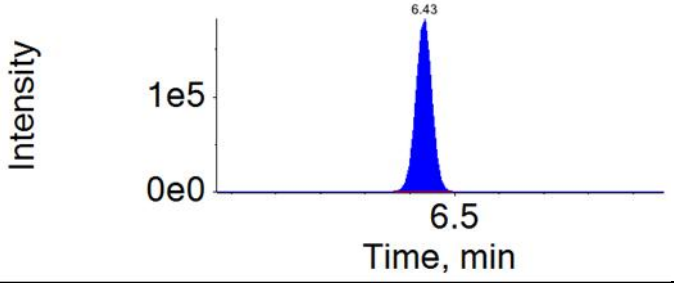
APPROVED
By JPT at 2:53 pm, 11/7/18

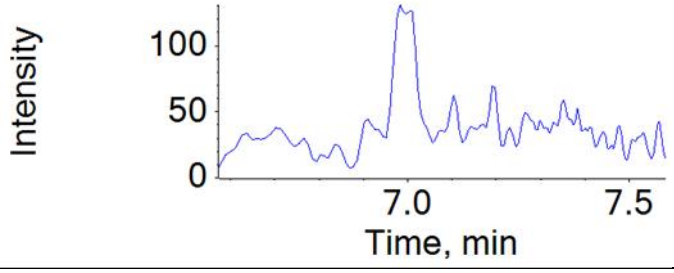
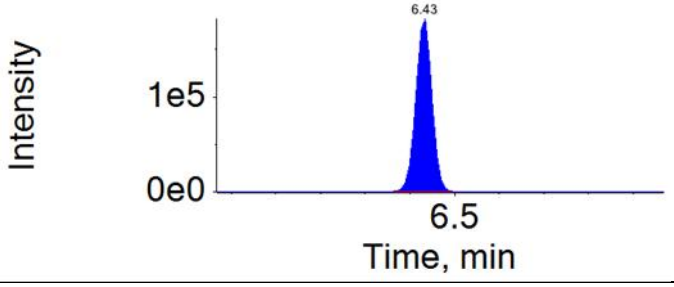
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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 JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

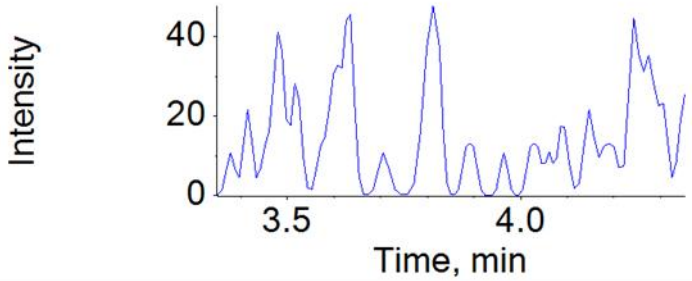
Sample Name: Instrument Blank **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-17.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	1.0000	N/A			
PFBS_2	N/A	N/A	N/A	A	0.3576	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	0.6359	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	0.5384	N/A		50	
PFHxS	N/A	N/A	N/A	A	1.0000	N/A			
PFHxS_2	N/A	N/A	N/A	A	0.3569	N/A		50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0577	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	0.6752	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.3950	N/A		50	
PFOA	N/A	N/A	N/A	A	1.0000	N/A			
PFOA_2	N/A	N/A	N/A	A	0.0635	N/A		50	
PFOS	N/A	N/A	N/A	A	1.0000	N/A			
PFOS_2	N/A	N/A	N/A	A	0.3494	N/A		50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0207	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4890	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0057	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	0.6169	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2206	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4648	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0031	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6082	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0109	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	0.7082	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0096	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0055	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0596	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0257	N/A		50	

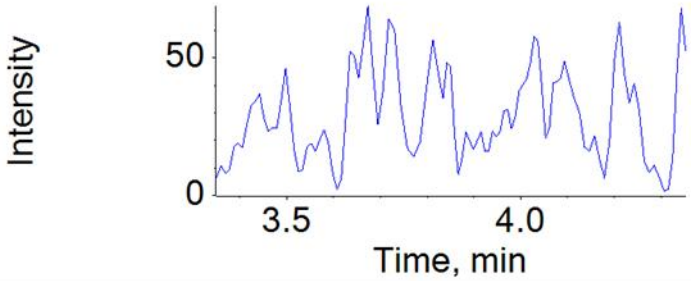
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

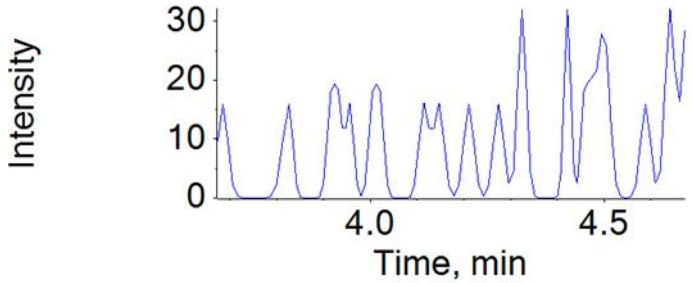
Component: PFBS
Primary Mass: 299.0 / 80.0



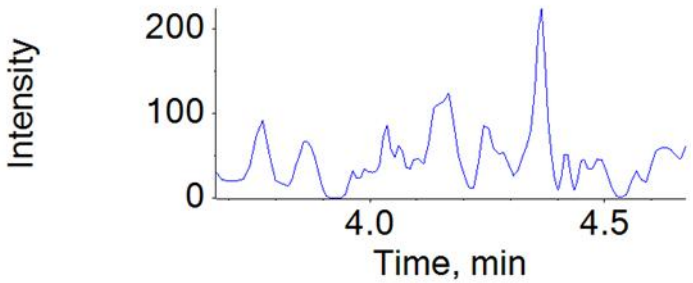
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



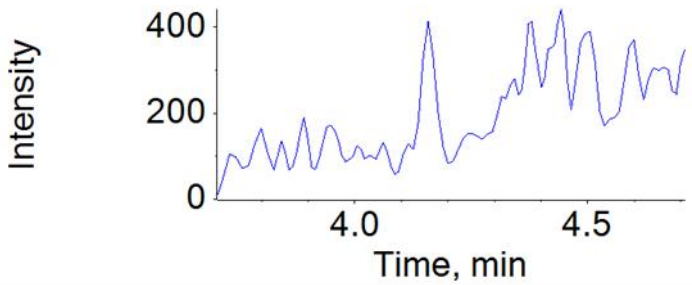
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



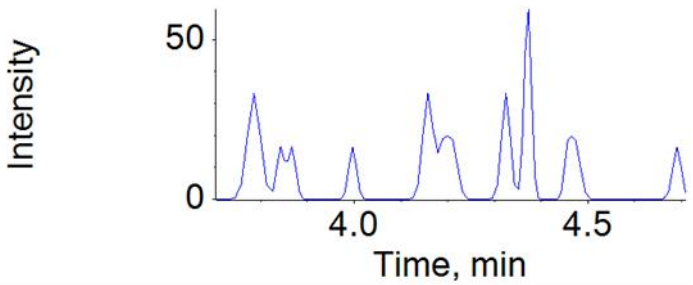
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



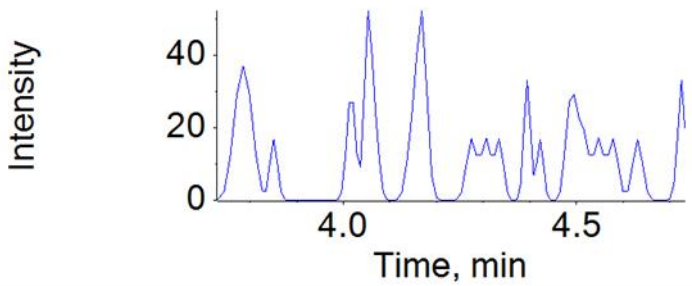
Component: PFHxA
Primary Mass: 313.0 / 269.0



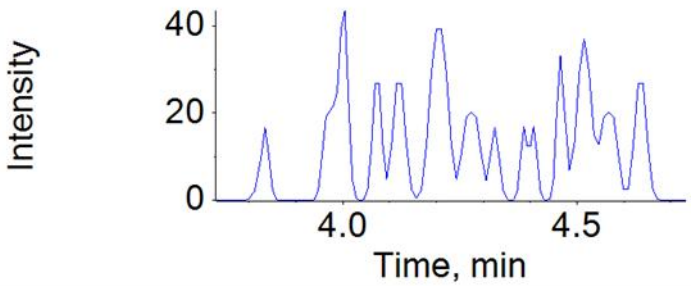
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



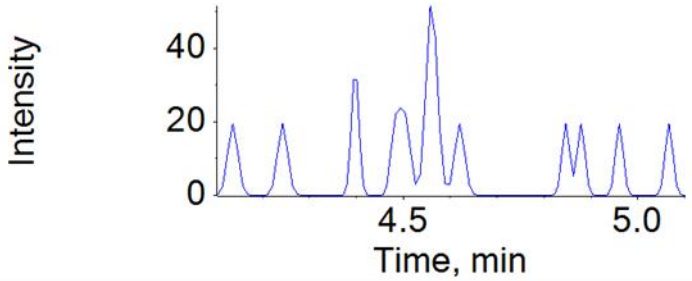
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



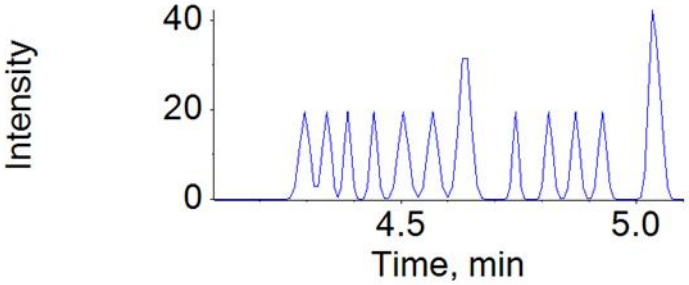
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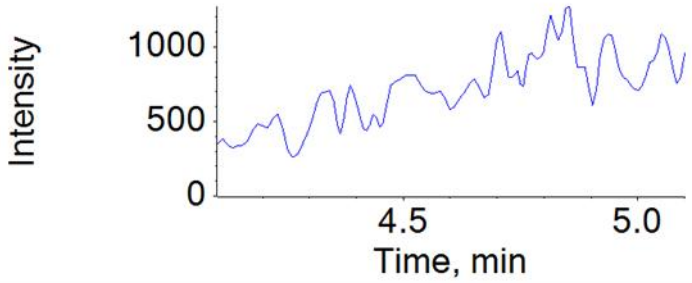
Component: PFHxS
Primary Mass: 399.0 / 80.0



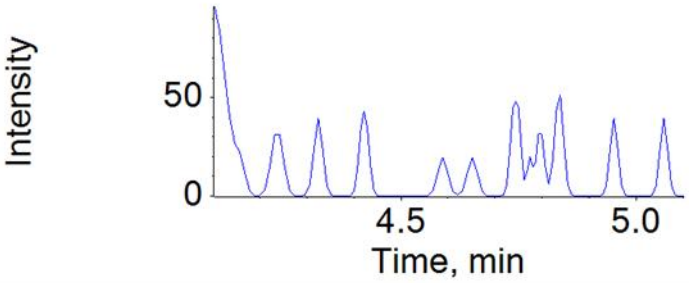
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



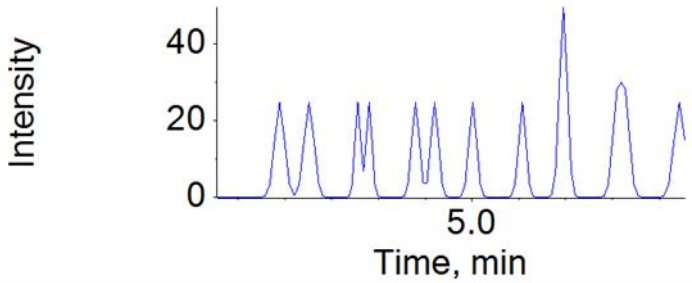
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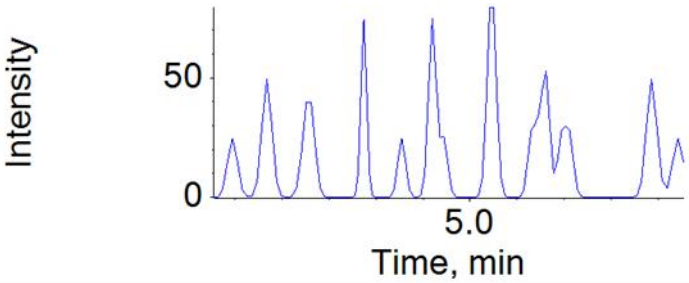
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



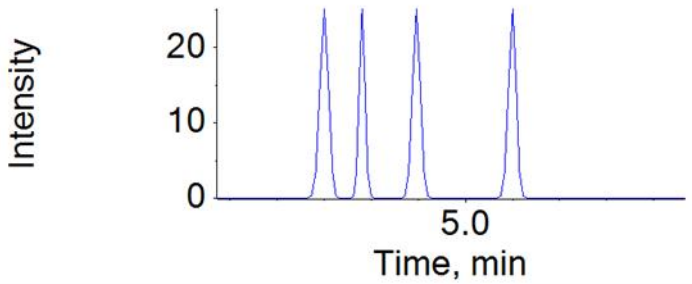
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



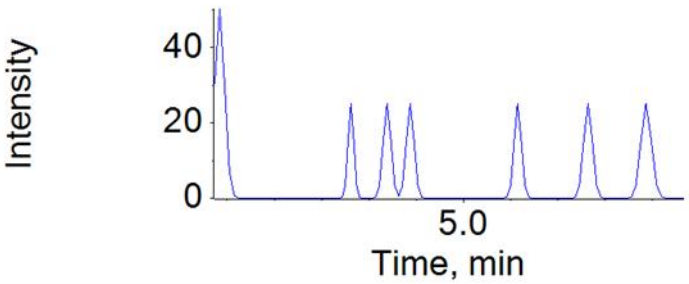
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



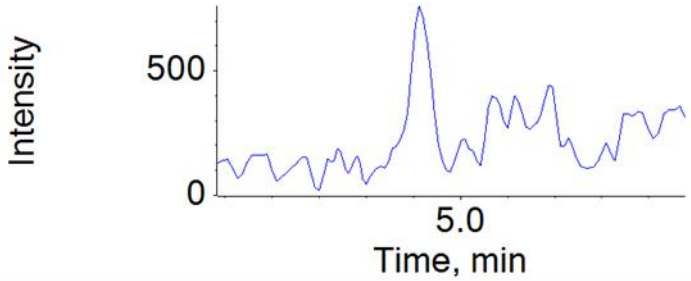
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



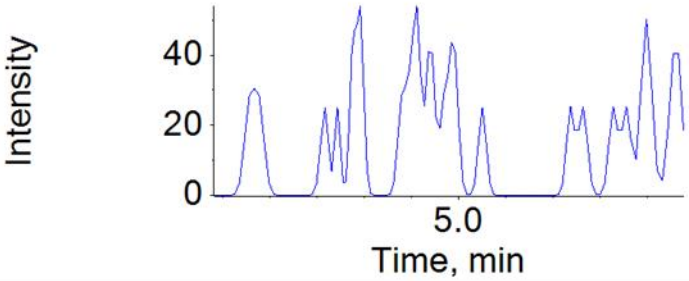
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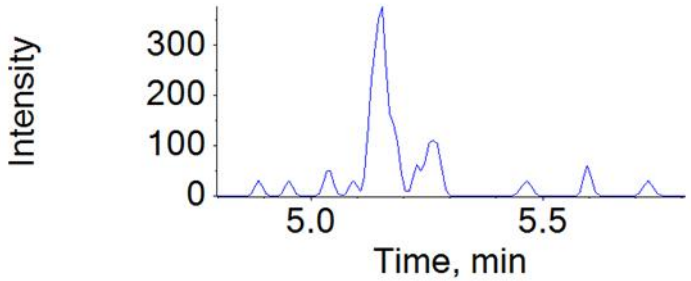
Component: PFOA
Primary Mass: 413.0 / 369.0



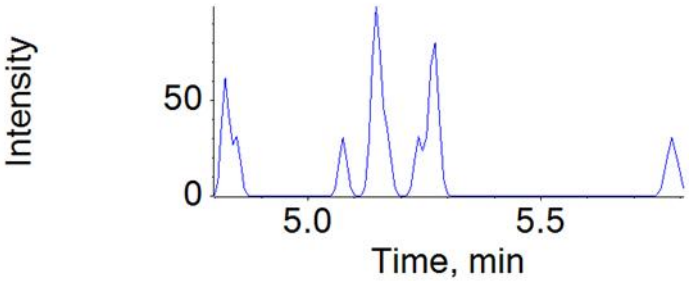
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Secondary Mass: 413.0 / 169.0



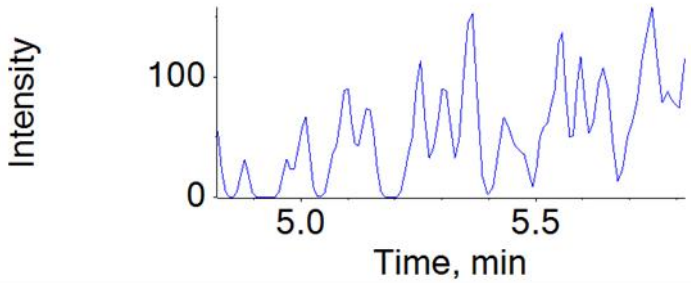
Component: PFOS
Primary Mass: 499.0 / 80.0



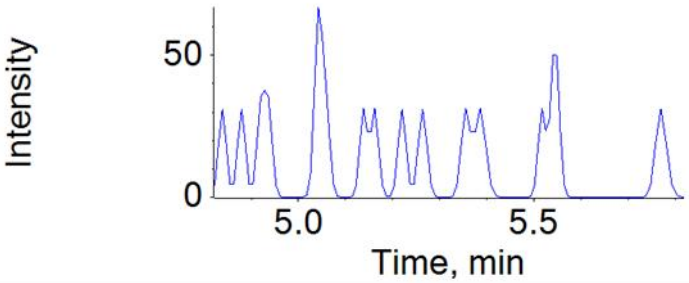
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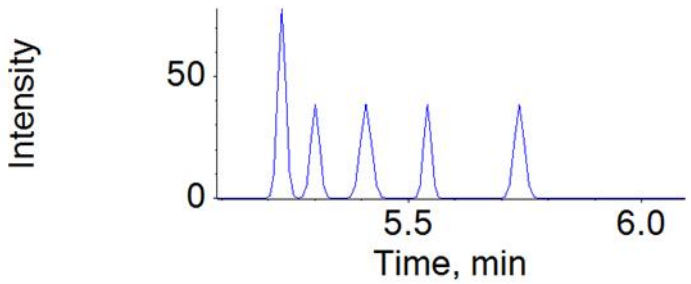
Component: PFNA
Primary Mass: 463.0 / 419.0



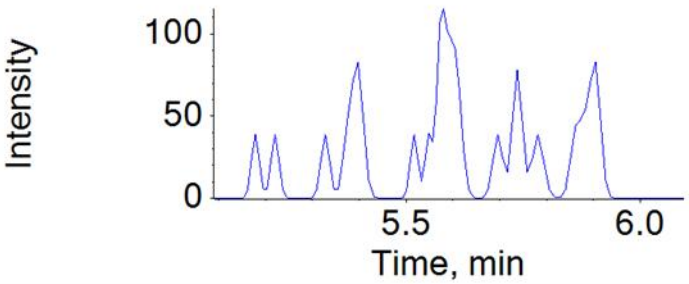
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



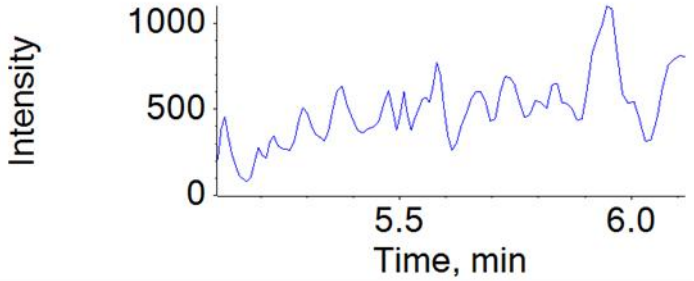
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Secondary Mass: 549.0 / 99.0



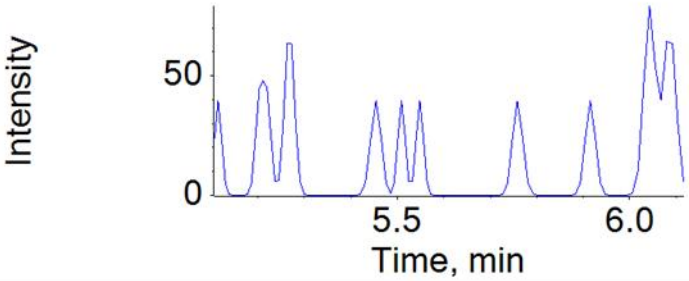
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By umar at 5:23 pm, 11/9/18

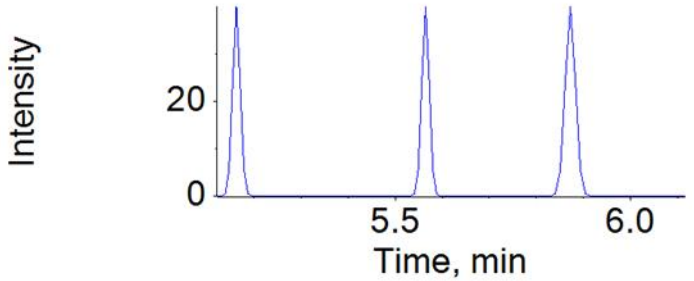
Component: PFDA
Primary Mass: 513.0 / 469.0



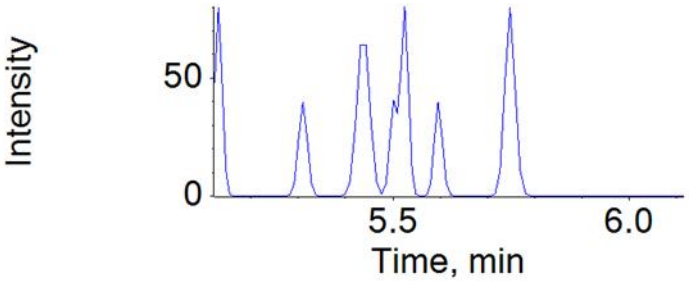
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Secondary Mass: 513.0 / 169.0



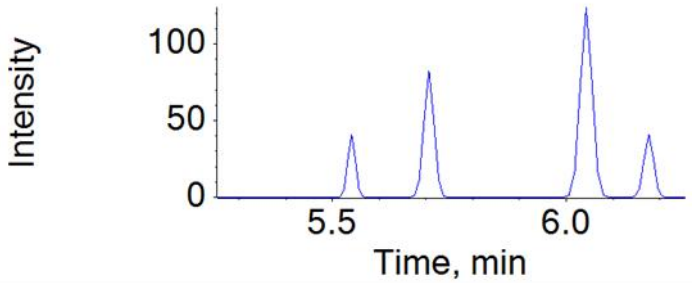
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



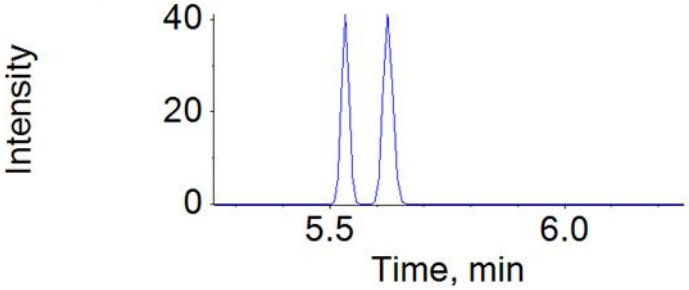
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



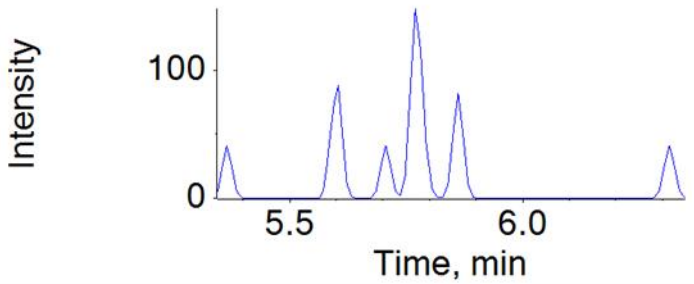
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



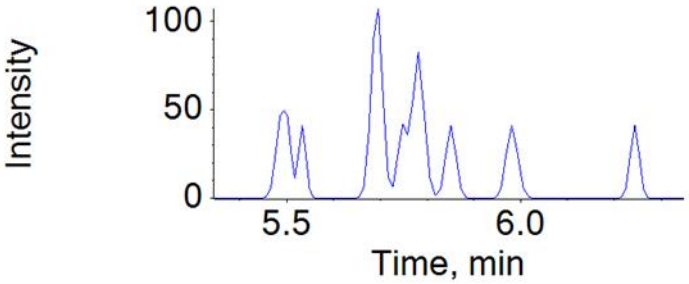
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



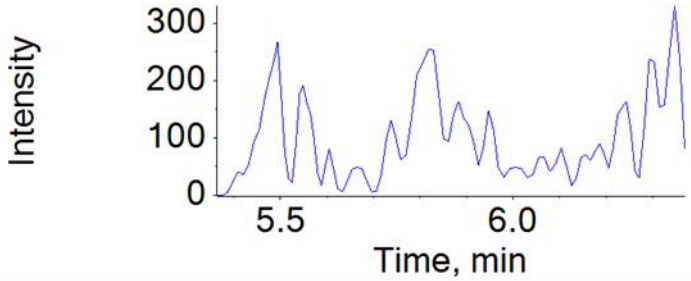
Component: PFDS_2
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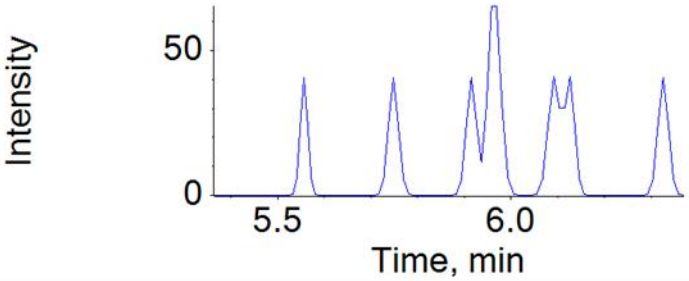
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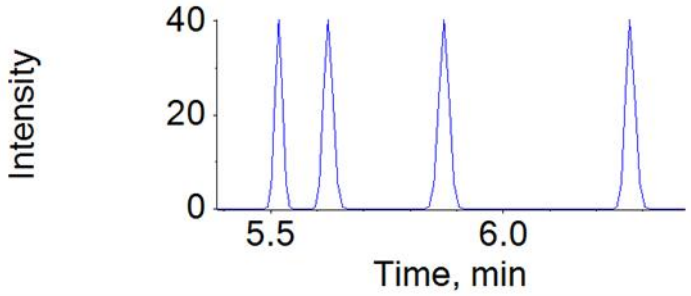
Component: PFUnDA
Primary Mass: 563.0 / 519.0



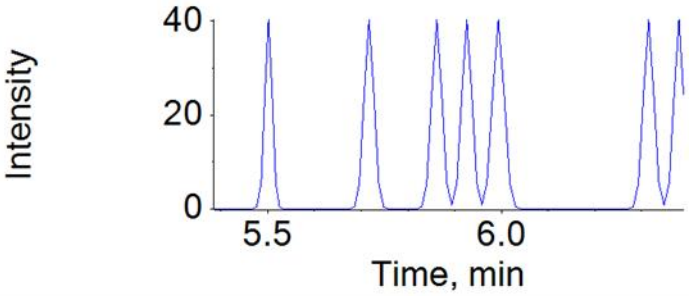
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



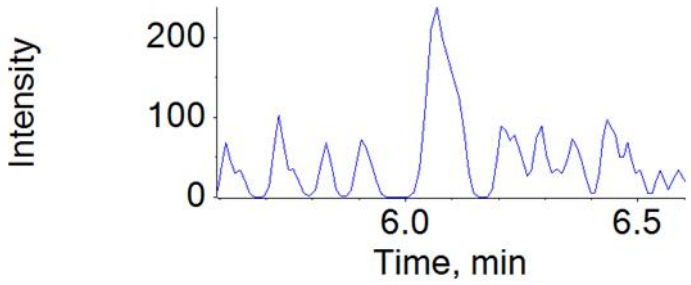
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



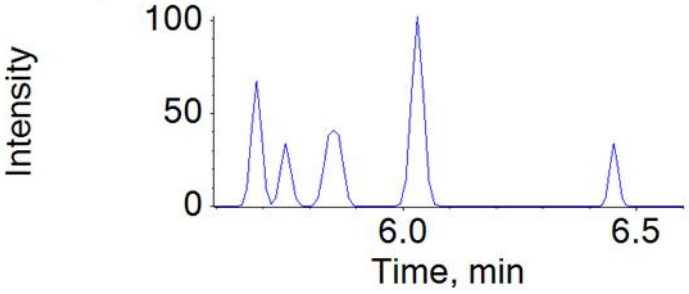
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Secondary Mass: 584.0 / 526.0



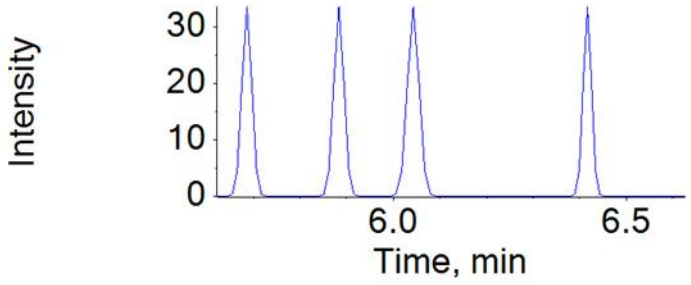
Component: PFDoDA
Primary Mass: 613.0 / 569.0



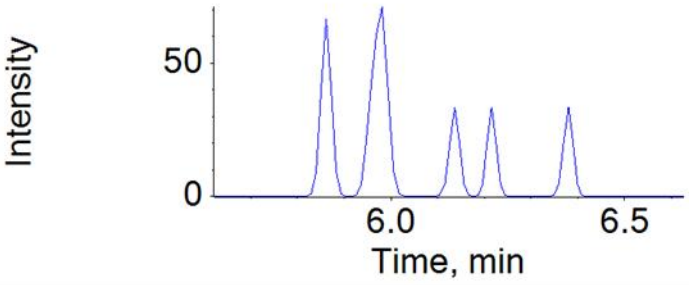
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



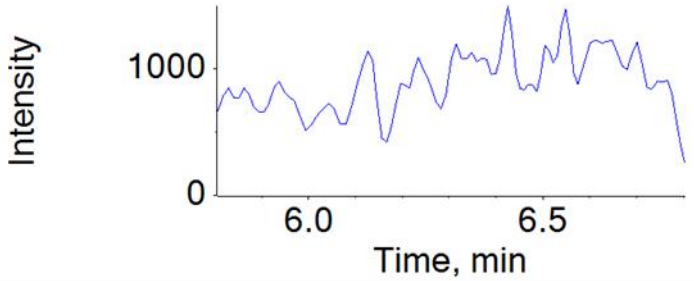
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



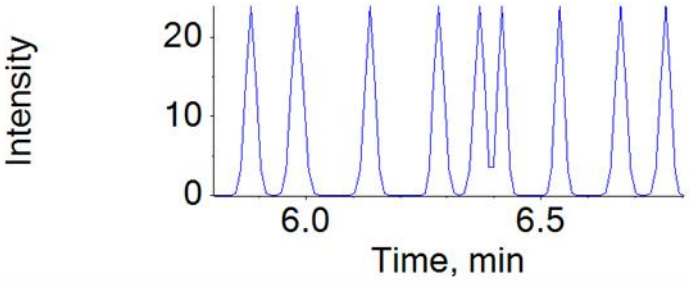
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

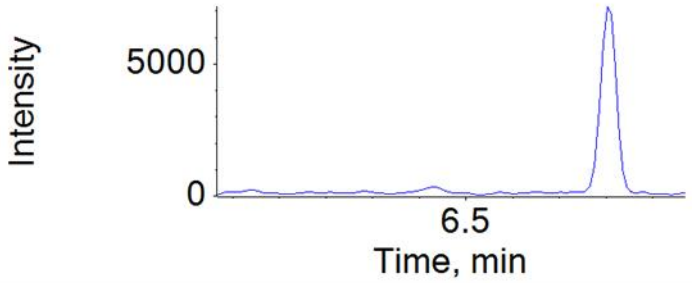
Component: PFTrDA
Primary Mass: 663.0 / 619.0



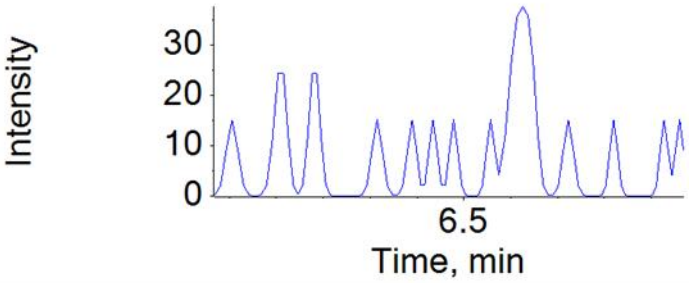
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



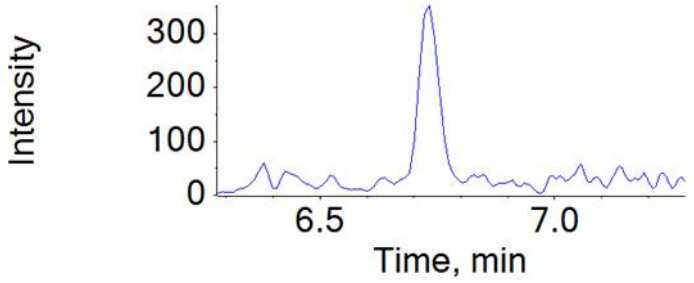
Component: PFTeDA
Primary Mass: 713.0 / 669.0



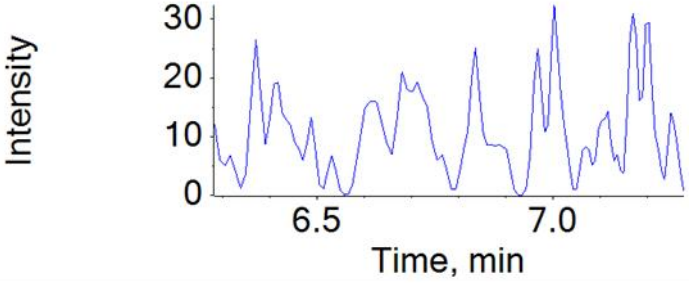
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



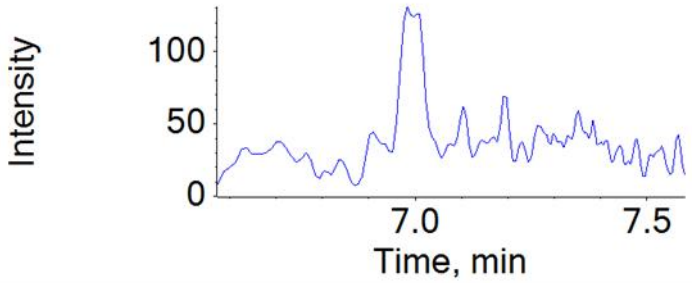
Component: PFHxDA
Primary Mass: 813.0 / 769.0



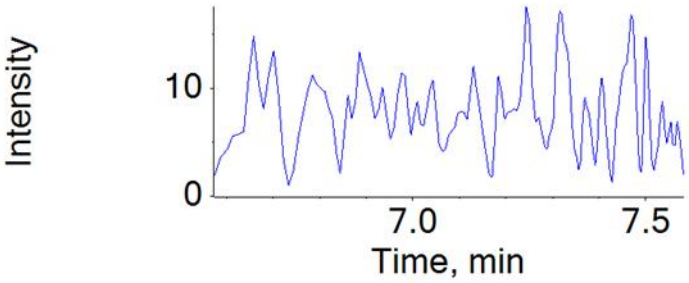
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	ICV			**Data File:**		18NOV07DCAL-18.wiff
Sample ID:	ICVMODX1833G			**Acquis Date:**		2018-11-07T10:51:59
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	10			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	748799.9	730410.6	3	50	
13C2-PFOA	5.0	501855.0	524423.6	-4	50	
13C4-PFOS	4.8	265586.7	274061.7	-3	50	
13C2-PFDA	5.0	309656.0	311442.1	-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	809267.5	13C3-PFBA	748799.9	1.081	5.000	5.001	100	70-130	
E13C5-PFPeA	881218.2	13C3-PFBA	748799.9	1.177	5.000	5.127	103	70-130	
E13C3-PFBS	459507.5	13C3-PFBA	748799.9	0.614	4.650	4.504	97	70-130	
E13C2-4:2-FTS	53452.0	13C2-PFOA	501855.0	0.107	4.670	4.806	103	70-130	
E13C5-PFHxA	721013.6	13C2-PFOA	501855.0	1.437	5.000	5.285	106	70-130	
E13C3-PFHxS	351166.0	13C2-PFOA	501855.0	0.700	4.730	5.023	106	70-130	
E13C4-PFHpA	564695.4	13C2-PFOA	501855.0	1.125	5.000	5.119	102	70-130	
E13C2-6:2-FTS	37550.1	13C2-PFOA	501855.0	0.075	4.750	4.989	105	70-130	
E13C8-PFOA	985027.1	13C2-PFOA	501855.0	1.963	5.000	5.473	109	70-130	
E13C8-PFOS	289450.1	13C4-PFOS	265586.7	1.090	4.780	4.819	101	70-130	
E13C9-PFNA	531663.0	13C4-PFOS	265586.7	2.002	5.000	5.468	109	70-130	
E13C6-PFDA	669137.1	13C2-PFDA	309656.0	2.161	5.000	5.434	109	70-130	
E13C2-8:2-FTS	27983.4	13C2-PFDA	309656.0	0.090	4.790	4.782	100	70-130	
E13C8-PFOSA	741232.2	13C2-PFDA	309656.0	2.394	5.000	5.223	104	70-130	
Ed3-NMeFOSAA	76665.4	13C2-PFDA	309656.0	0.248	5.000	4.604	92	70-130	
E13C7-PFUnDA	292761.5	13C2-PFDA	309656.0	0.945	5.000	5.454	109	70-130	
Ed5-NEtFOSAA	78938.7	13C2-PFDA	309656.0	0.255	5.000	5.899	118	70-130	
E13C2-PFDoDA	580675.1	13C2-PFDA	309656.0	1.875	5.000	5.055	101	70-130	
Ed7-NMePFOSAE	334001.4	13C2-PFDA	309656.0	1.079	5.000	5.016	100	70-130	
Ed3-NMePFOSA	79719.1	13C2-PFDA	309656.0	0.257	5.000	4.713	94	70-130	
Ed9-NEtPFOSAE	293829.7	13C2-PFDA	309656.0	0.949	5.000	5.419	108	70-130	
Ed5-NEtPFOSA	65412.9	13C2-PFDA	309656.0	0.211	5.000	4.891	98	70-130	
E13C2-PFTeDA	427601.6	13C2-PFDA	309656.0	1.381	5.000	4.971	99	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

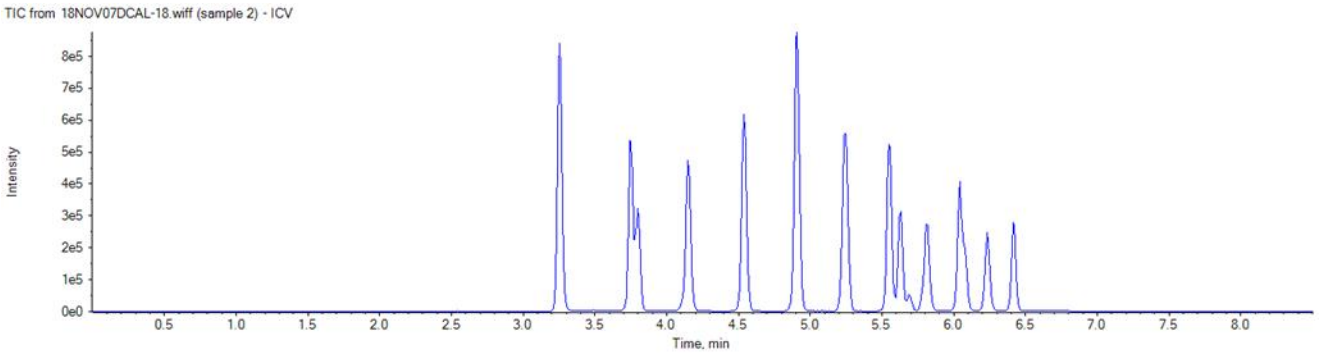
Analyte Quantitation Peak Table

Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-18.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	307777.1		A	13C4-PFBA	3.25	809267.5	0.380	2.226
PFPeA	3.75	1.000	325574.9		A	13C5-PFPeA	3.75	881218.2	0.369	2.196
PFBS	3.80	1.000	159719.5		A	13C3-PFBS	3.80	459507.5	0.348	1.752
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.11	53452.0	N/A	
PFHxA	4.15	1.000	397434.6		A	13C5-PFHxA	4.15	721013.6	0.551	2.364
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.80	459507.5	N/A	
PFHxS	4.54	1.000	126635.3		A	13C3-PFHxS	4.54	351166.0	0.361	1.828
PFHpA	4.54	1.000	390197.1		A	13C4-PFHpA	4.54	564695.4	0.691	2.324
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	37550.1	N/A	
PFHpS	4.90	1.080	126812.1		A	13C3-PFHxS	4.54	351166.0	0.361	1.889
PFOA	4.91	1.000	387215.1		M	13C8-PFOA	4.91	985027.1	0.393	2.213
PFOS	5.23	1.000	114911.8		M	13C8-PFOS	5.23	289450.1	0.397	2.059
PFNA	5.25	1.000	329644.4		A	13C9-PFNA	5.25	531663.0	0.620	2.317
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.23	289450.1	N/A	
PFDA	5.55	1.000	262760.0		A	13C6-PFDA	5.55	669137.1	0.393	2.160
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	27983.4	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.63	741232.2	N/A	
NMeFOSAA	5.69	1.000	33916.6		A	d3-NMeFOSAA	5.69	76665.4	0.442	2.276
PFDS	5.79	1.110	65962.5		A	13C8-PFOS	5.23	289450.1	0.228	2.177
PFUnDA	5.81	1.000	225137.5		A	13C7-PFUnDA	5.81	292761.5	0.769	2.205
NEtFOSAA	5.83	1.000	29687.2		A	d5-NEtFOSAA	5.82	78938.7	0.376	1.616
PFDoDA	6.04	1.000	232949.2		A	13C2-PFDoDA	6.04	580675.1	0.401	2.174
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	27983.4	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	334001.4	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.09	79719.1	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.23	289450.1	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.23	293829.7	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.25	65412.9	N/A	
PFTrDA	6.24	1.030	206908.4		A	13C2-PFDoDA	6.04	580675.1	0.356	2.247
PFTeDA	6.42	1.000	157975.3		A	13C2-PFTeDA	6.42	427601.6	0.369	2.169
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	427601.6	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	427601.6	N/A	

Total Ion Chromatogram

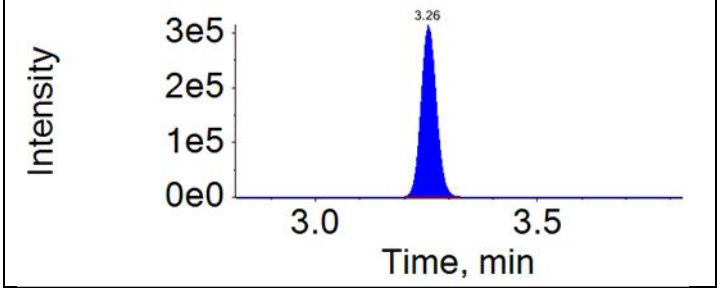


APPROVED
By JPT at 2:53 pm, 11/7/18

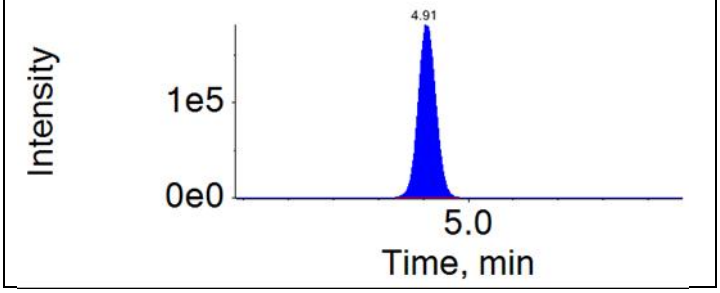
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

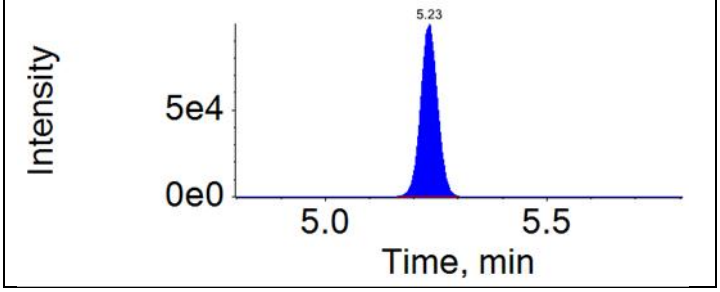
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216.0 / 172.0



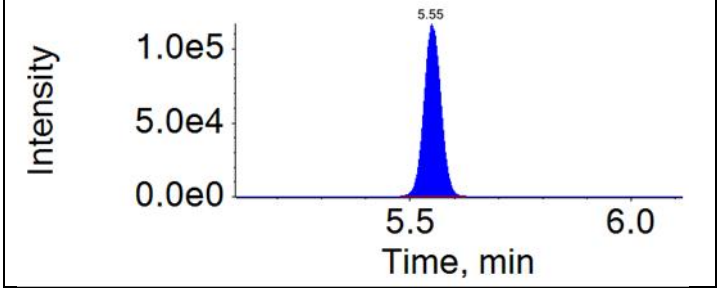
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



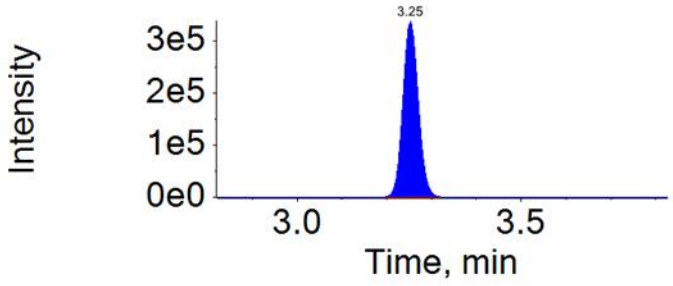
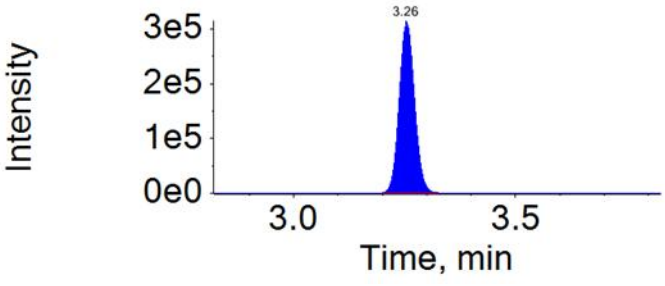
Injection Standard: 13C2-PFDA
515.0 / 470.0

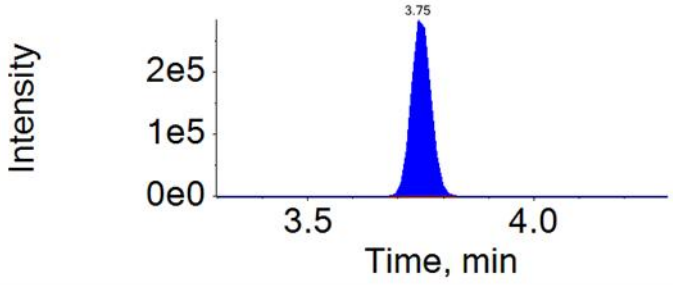
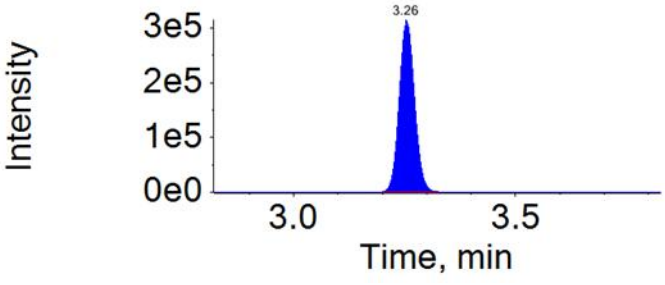


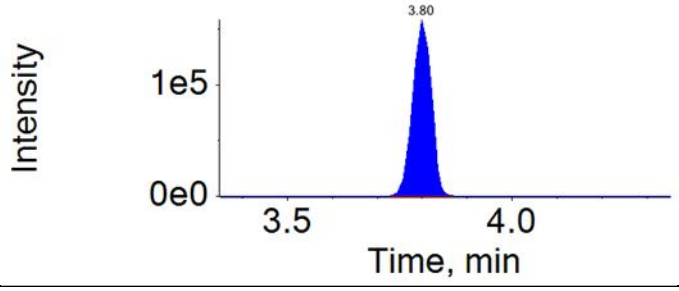
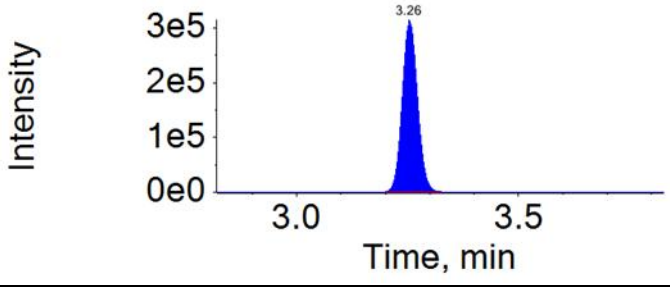
APPROVED
By JPT at 2:53 pm, 11/7/18

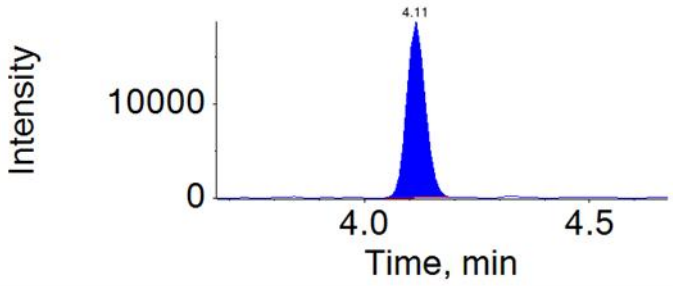
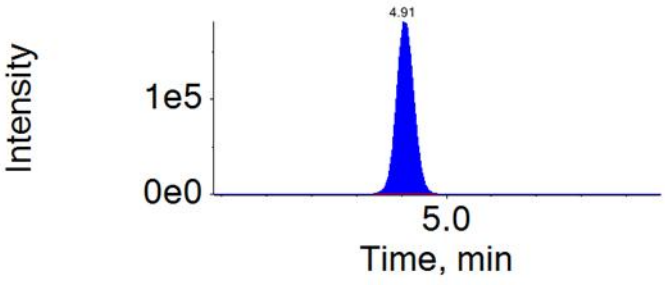
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

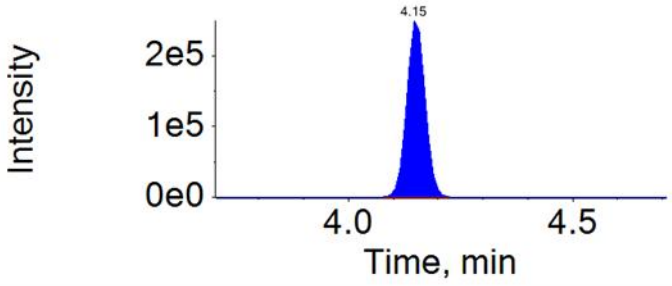
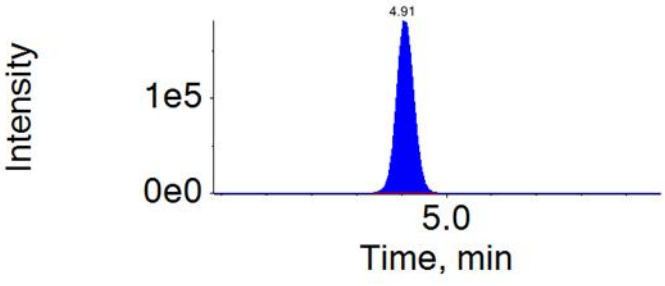
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302.0 / 80.0	216.0 / 172.0
	

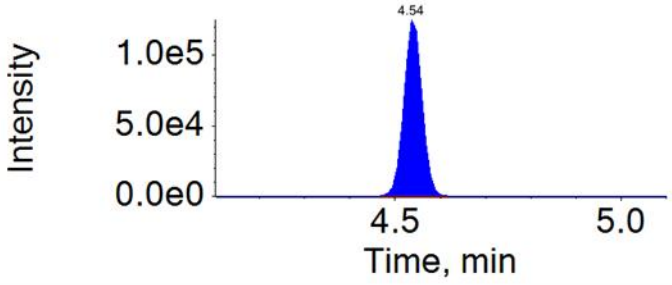
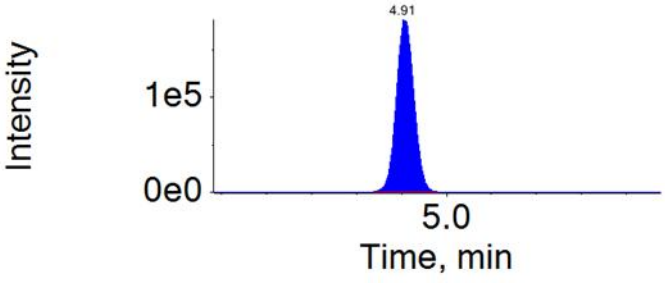
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

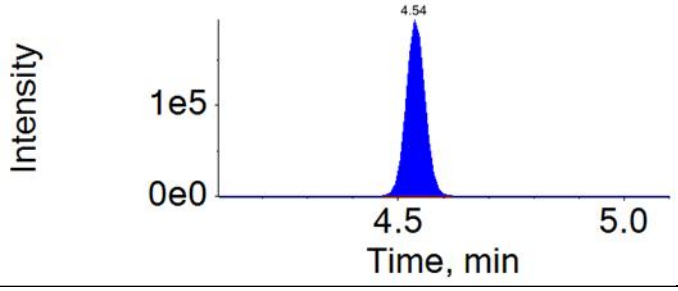
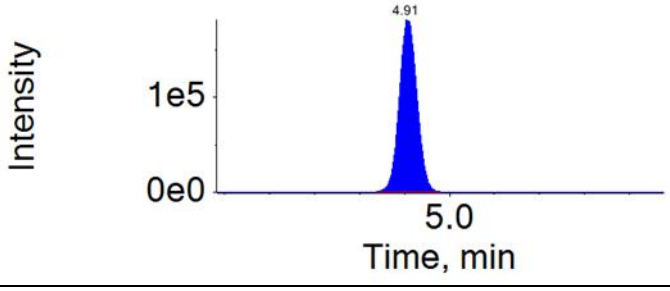
APPROVED
By JPT at 2:53 pm, 11/7/18

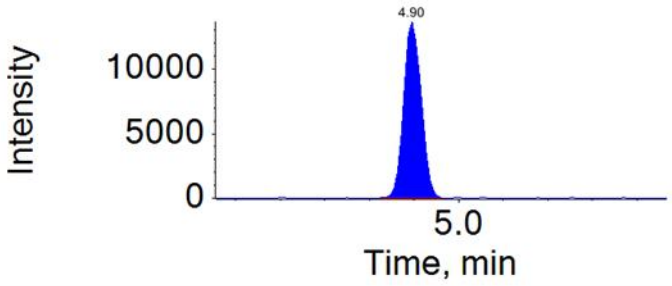
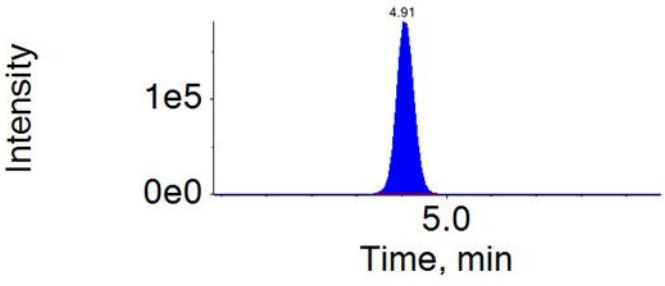
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

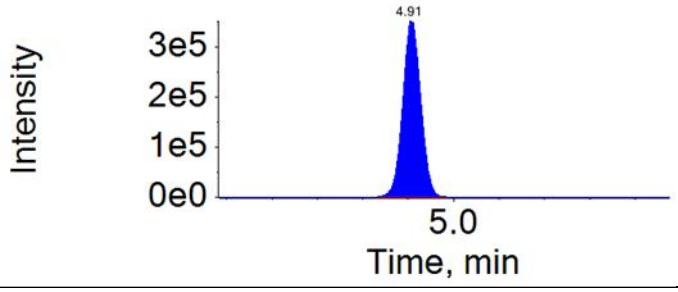
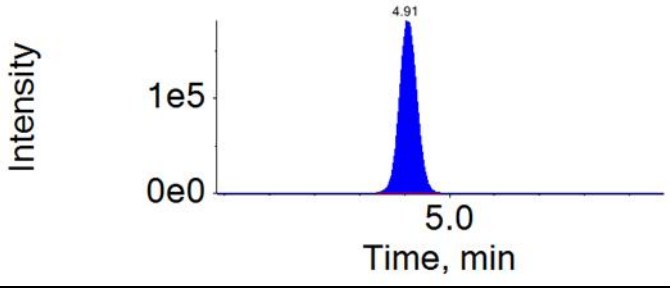
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

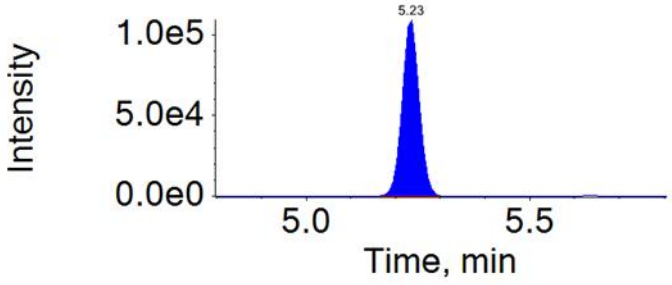
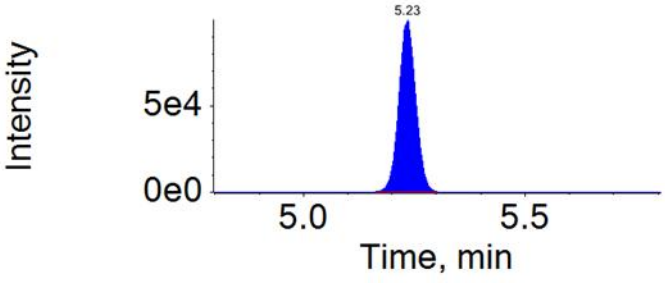
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0
	

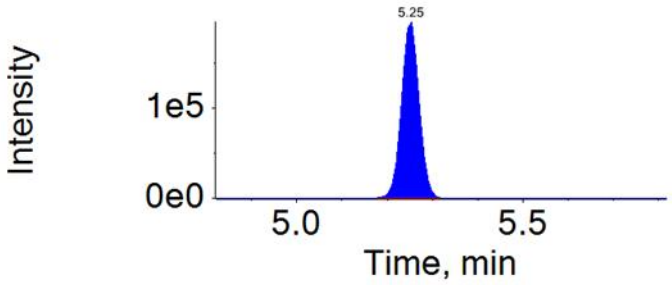
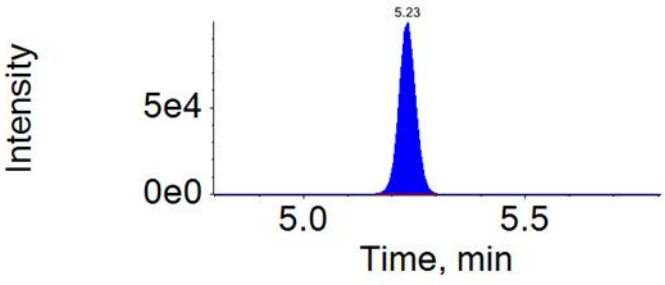
APPROVED
By JPT at 2:53 pm, 11/7/18

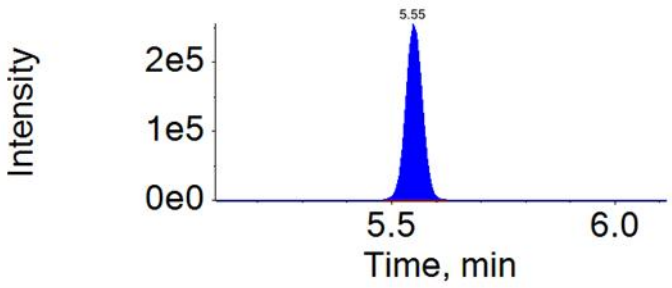
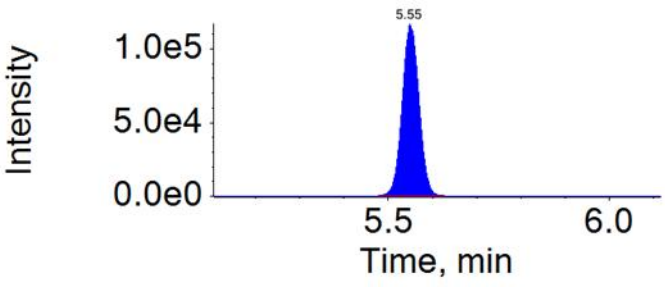
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

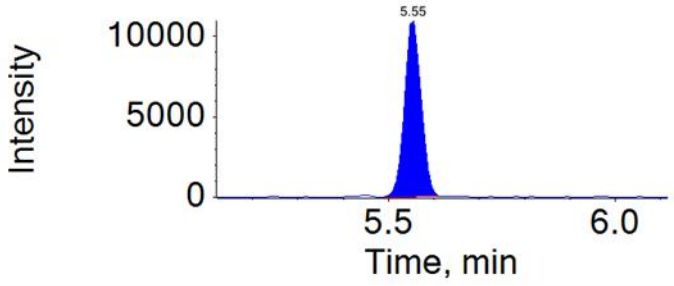
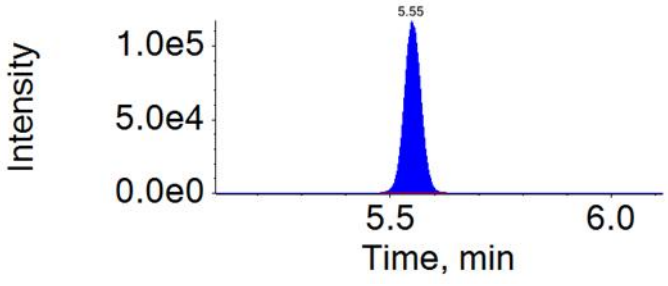
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

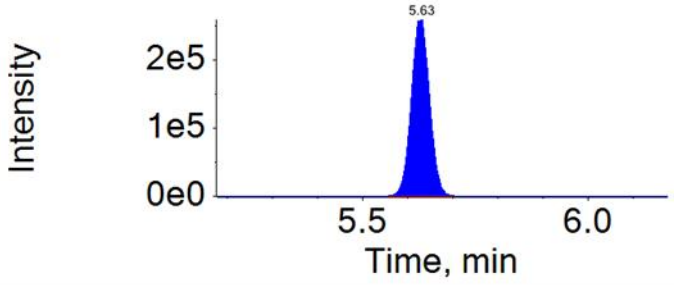
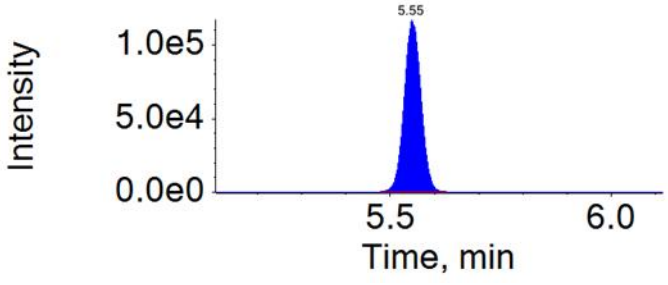
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

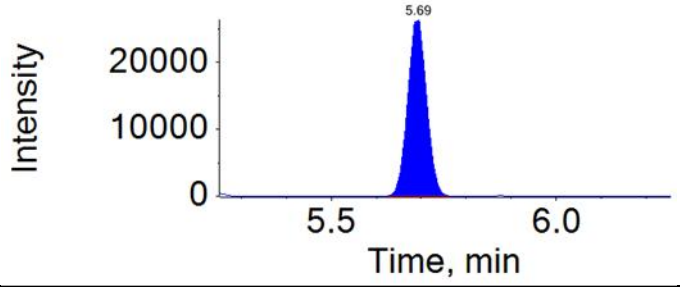
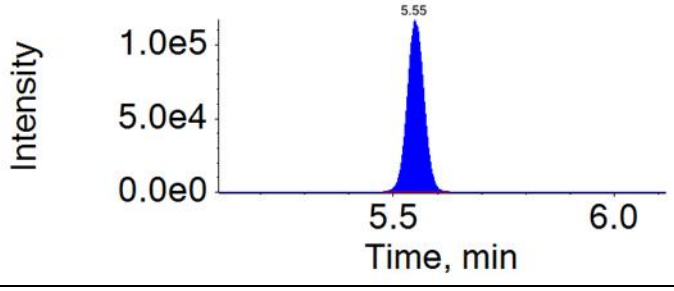
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

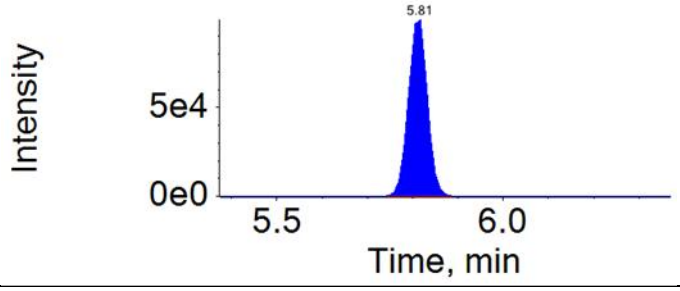
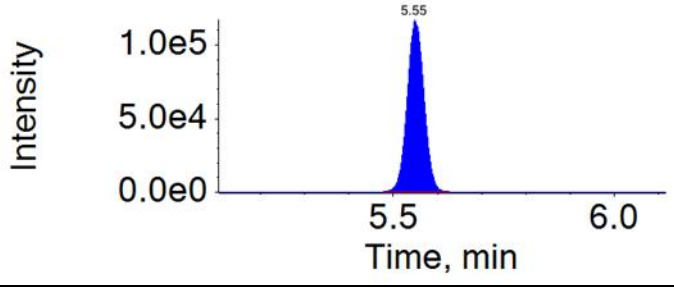
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

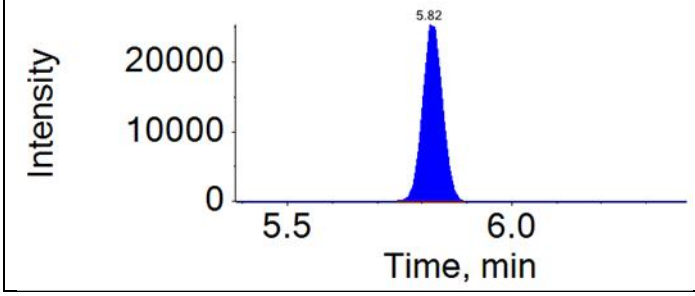
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

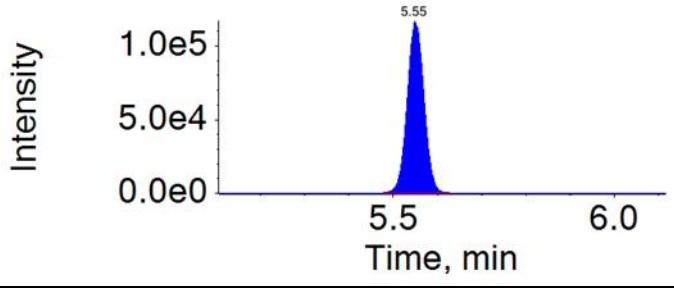
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

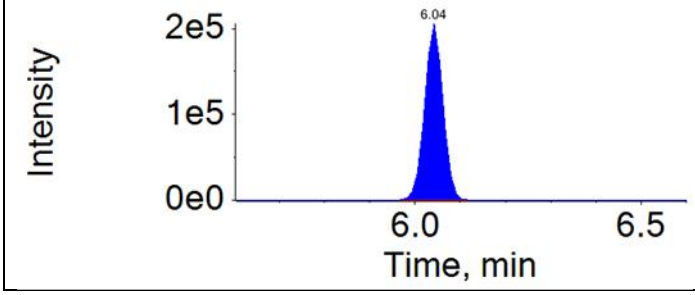
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

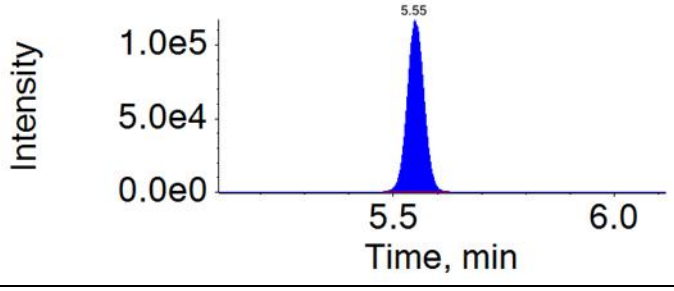
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



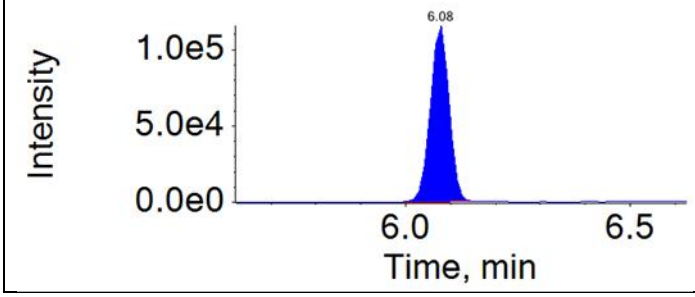


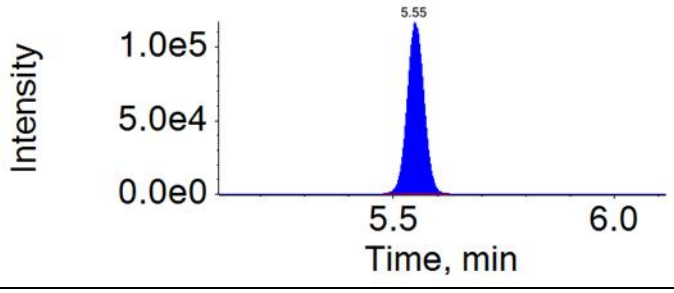
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



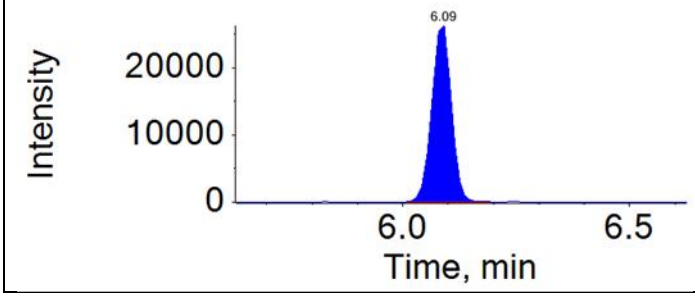


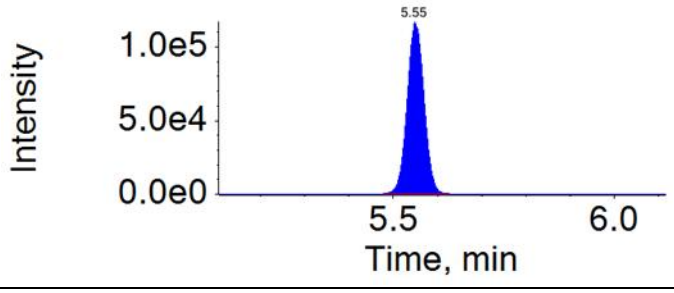
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



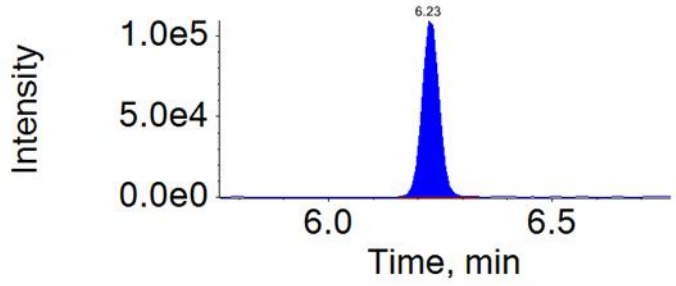


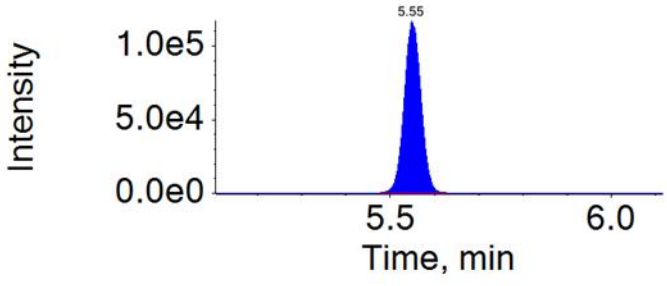
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

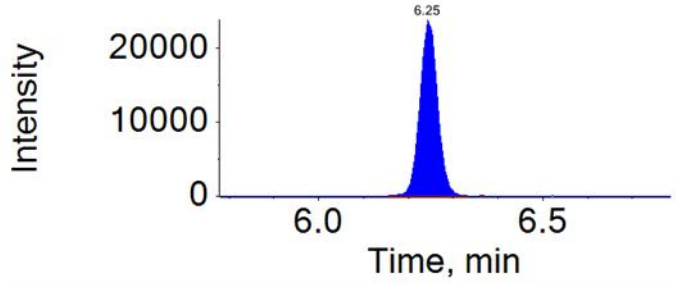
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

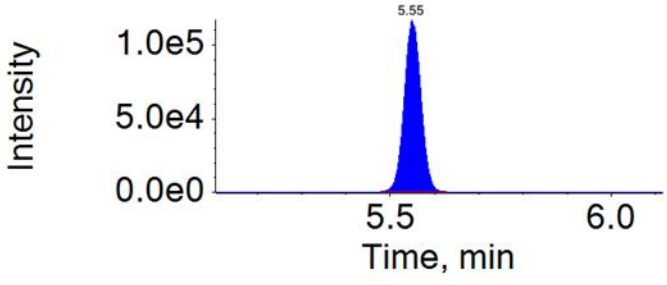
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



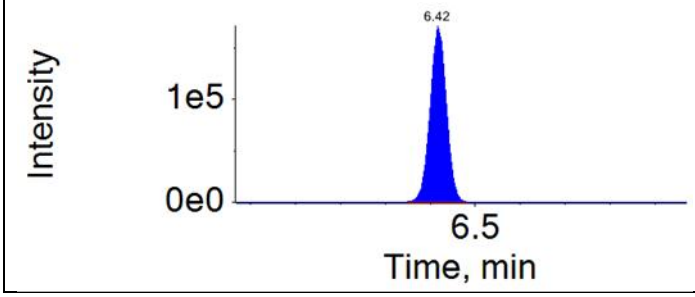


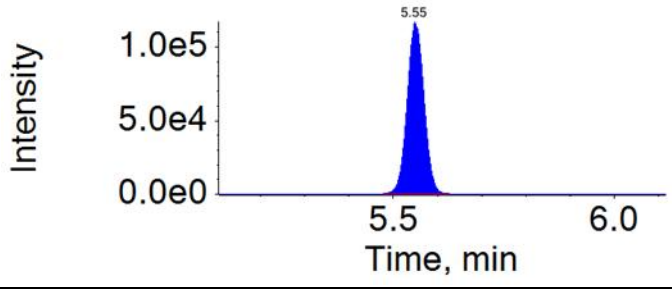
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



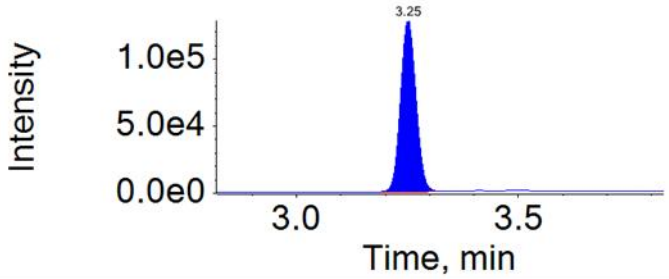


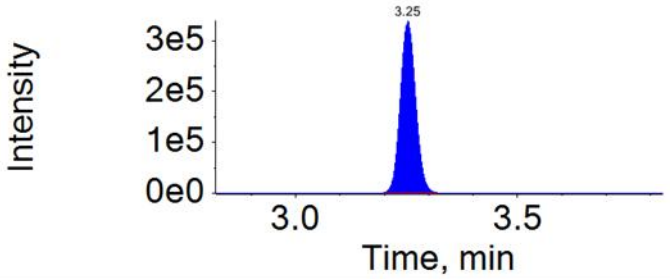
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

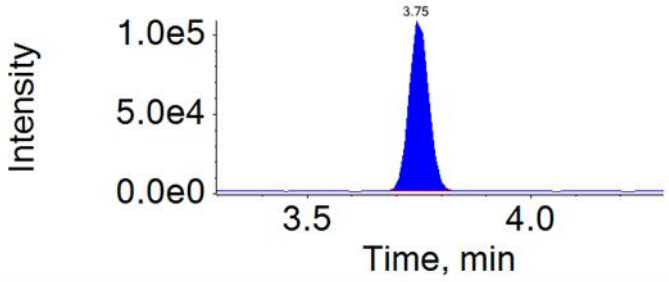
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

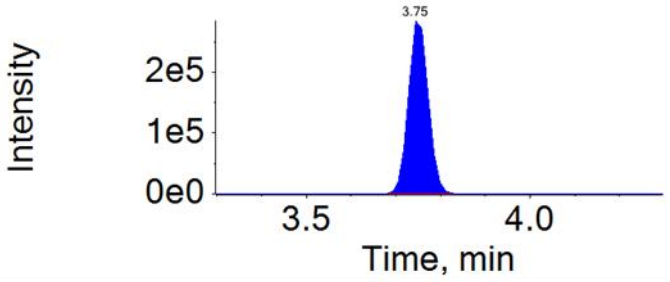
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



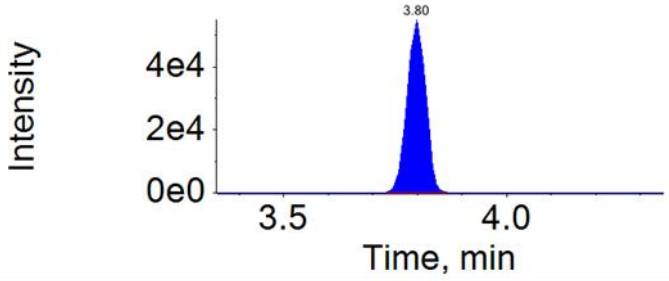


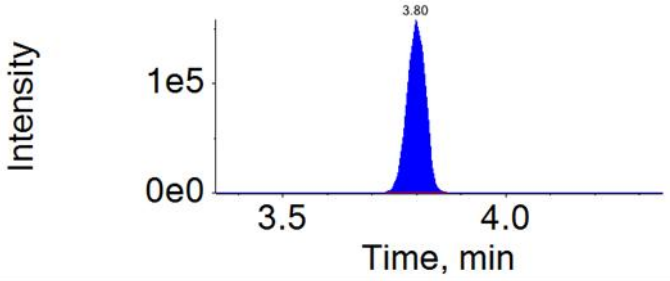
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



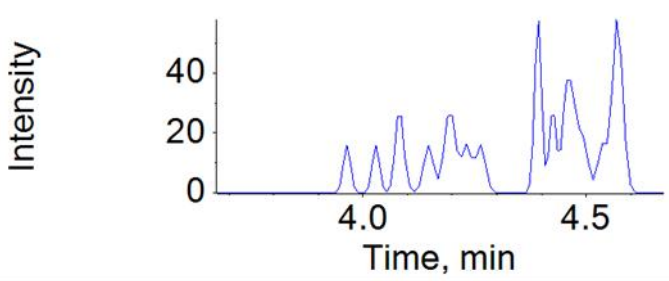


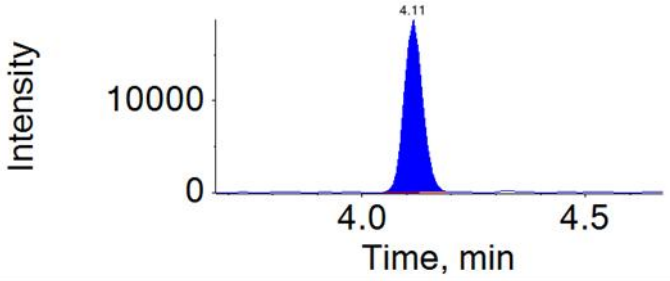
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



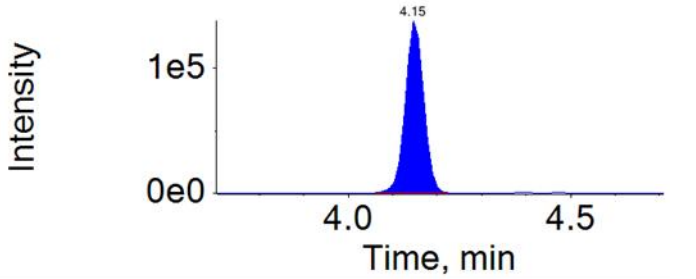


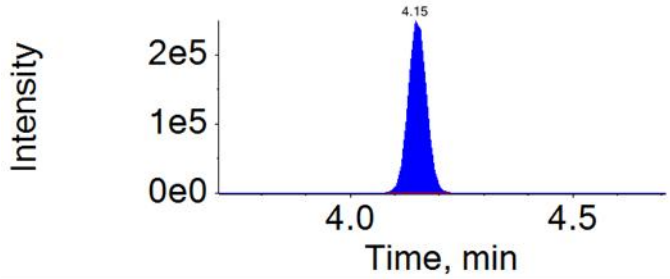
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By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

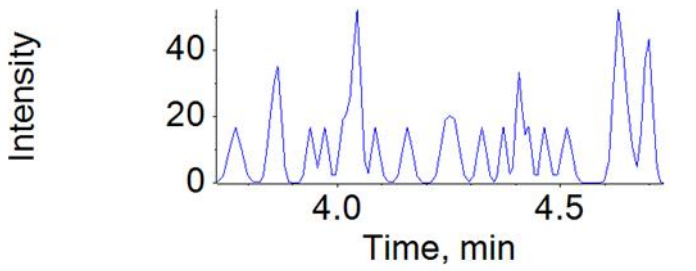
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

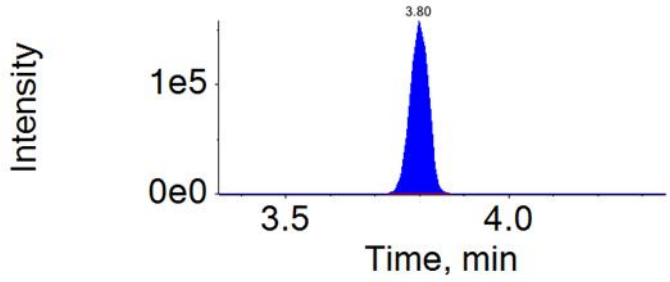
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



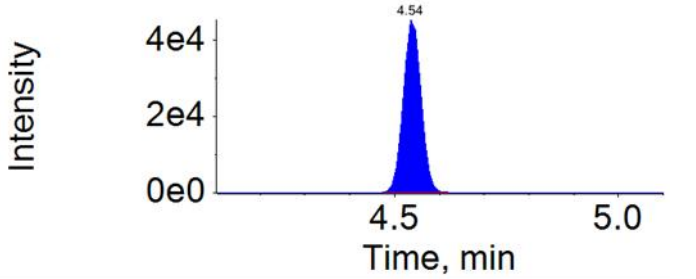


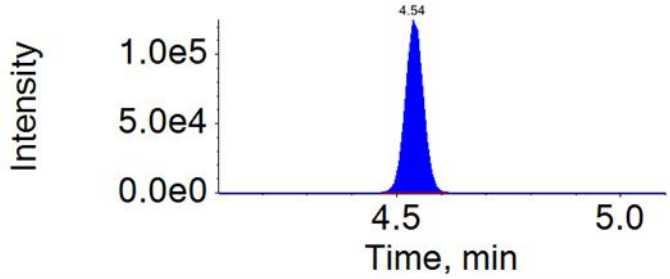
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



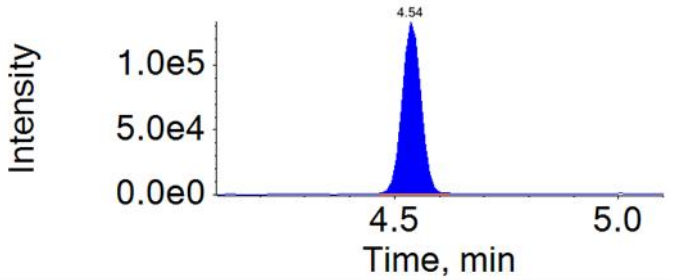


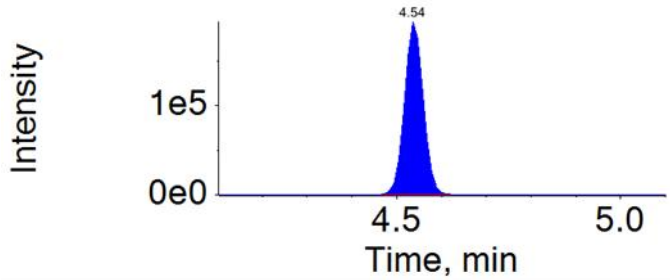
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



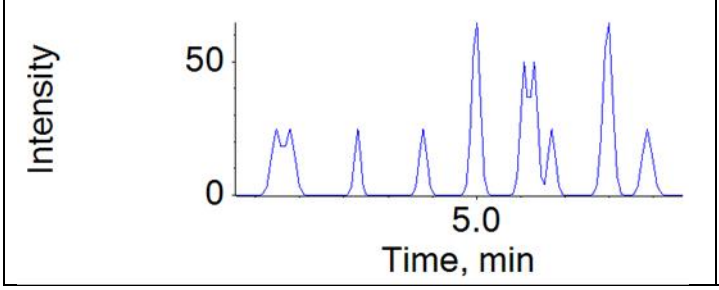


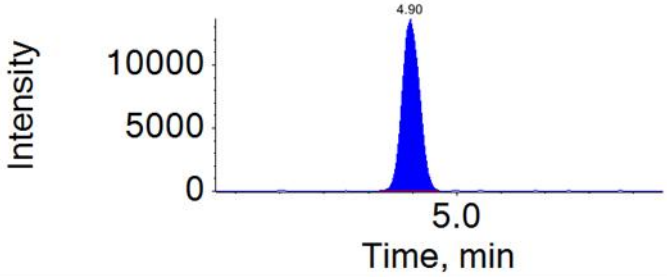
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

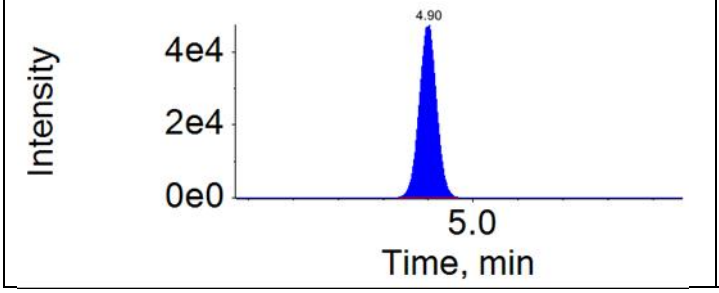
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

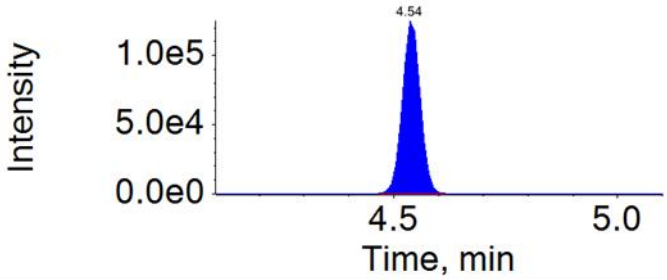
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



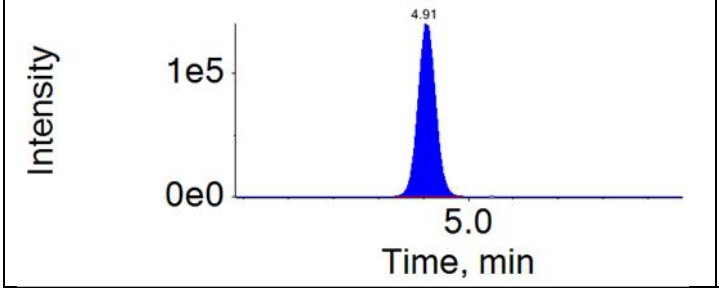


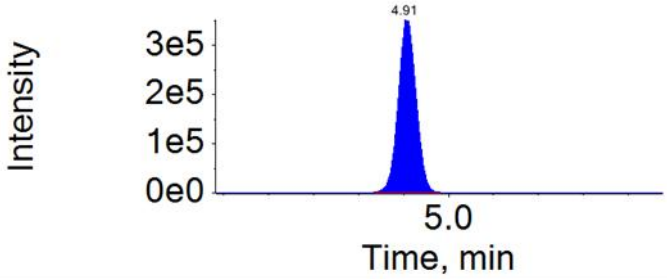
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



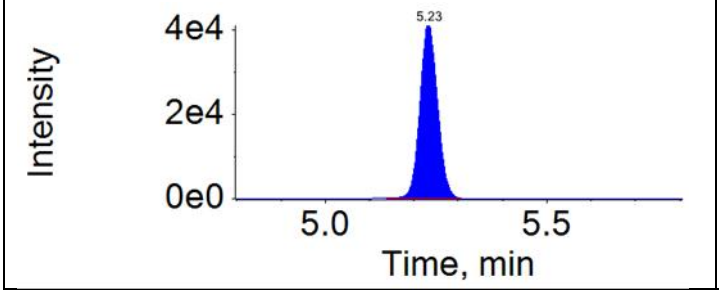


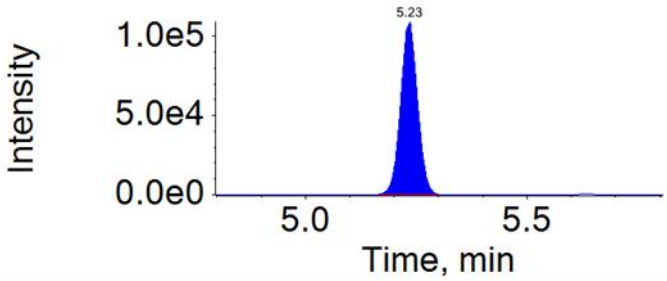
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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

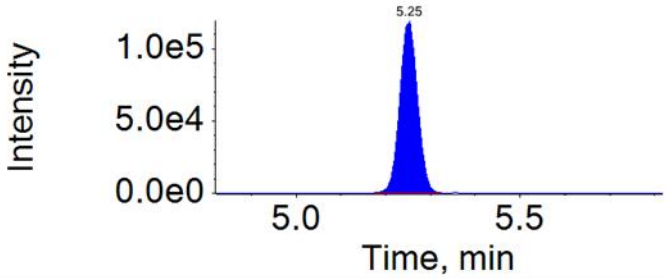
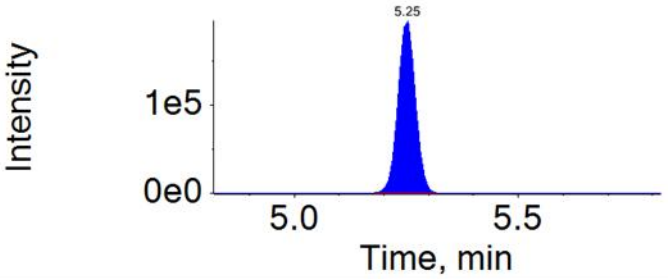


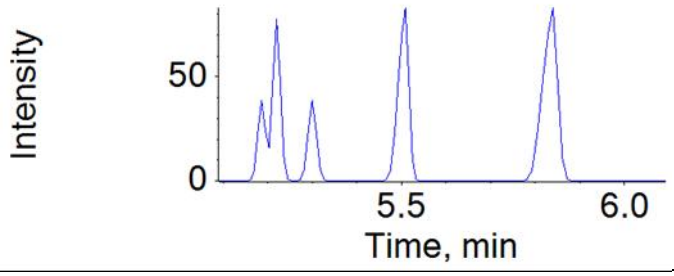
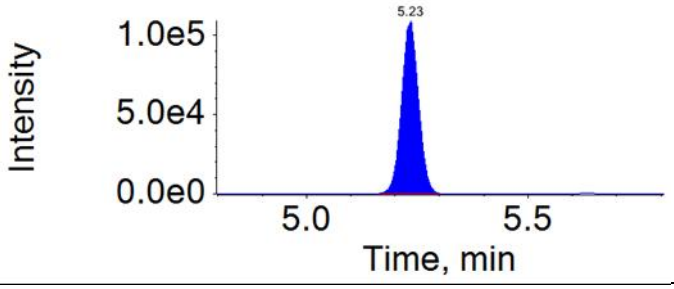


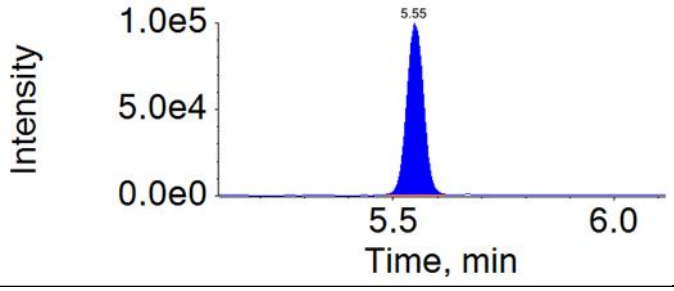
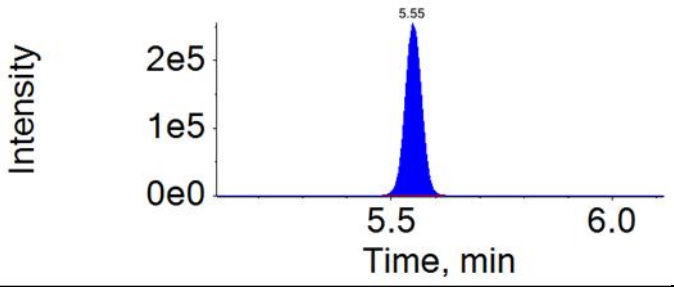
APPROVED
By JPT at 2:53 pm, 11/7/18

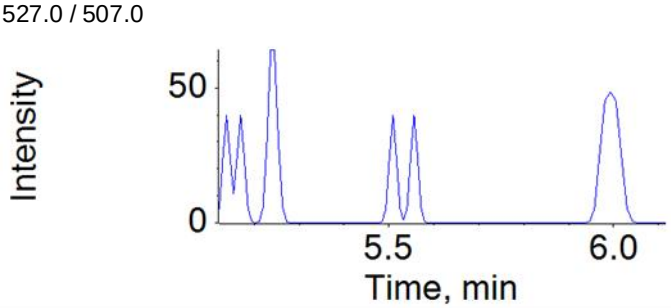
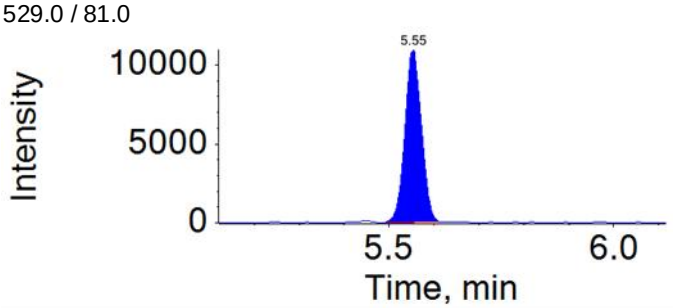
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

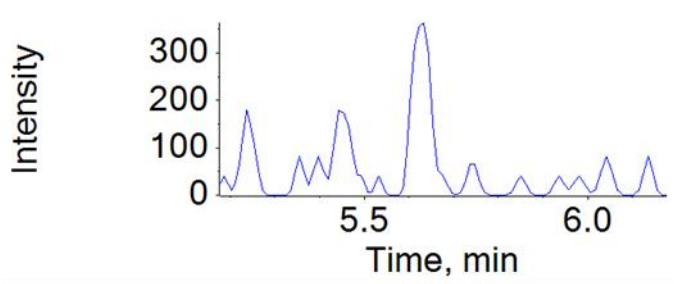
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

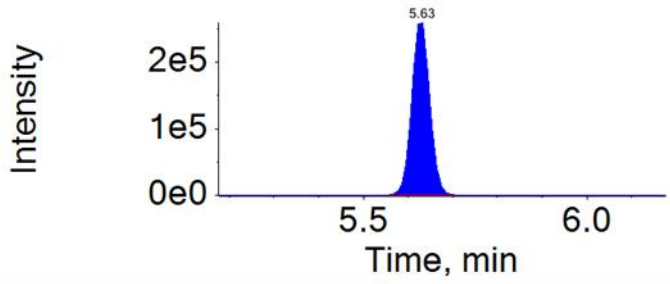
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

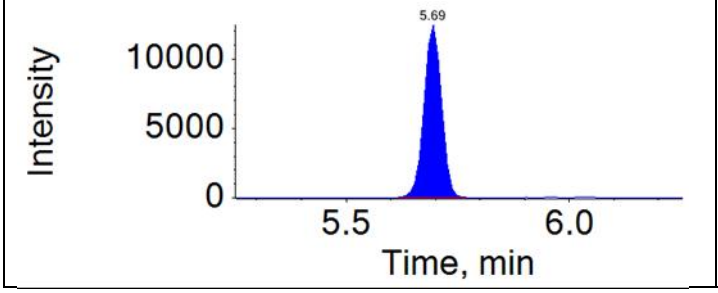
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

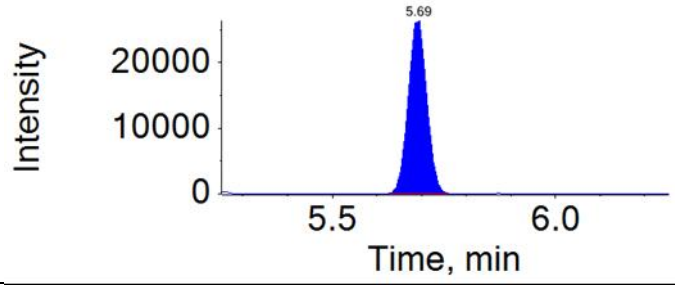
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



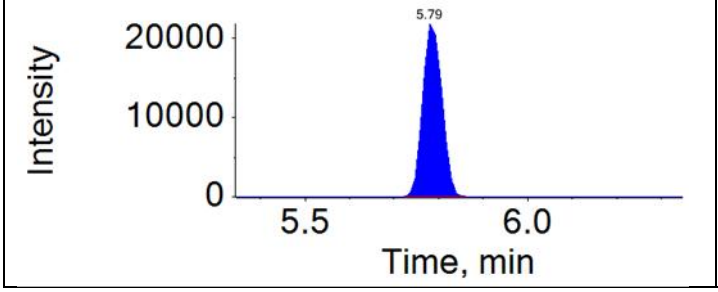


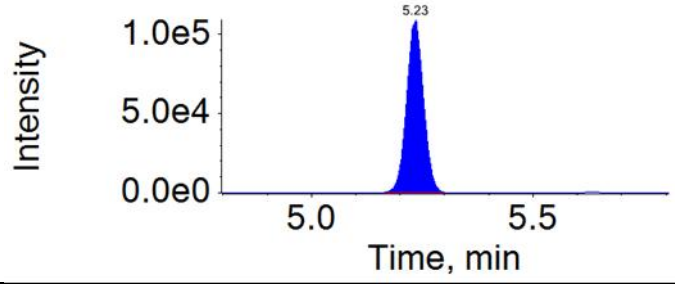
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



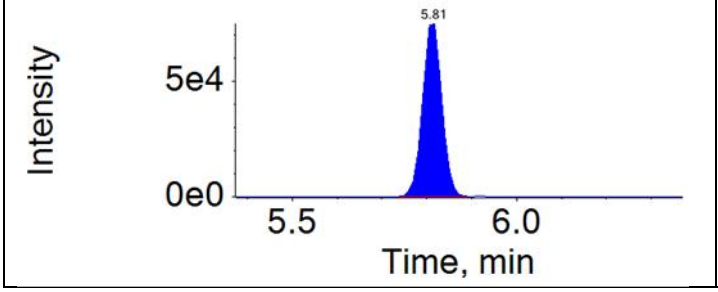


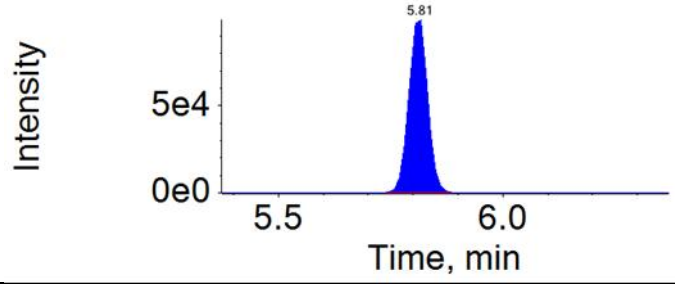
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



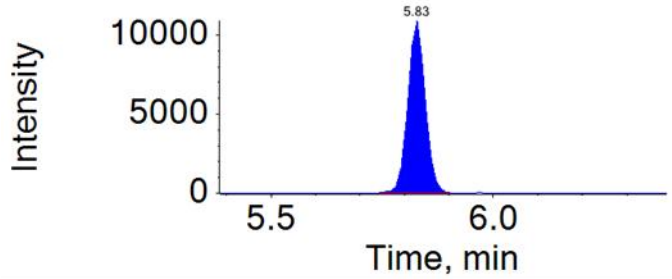


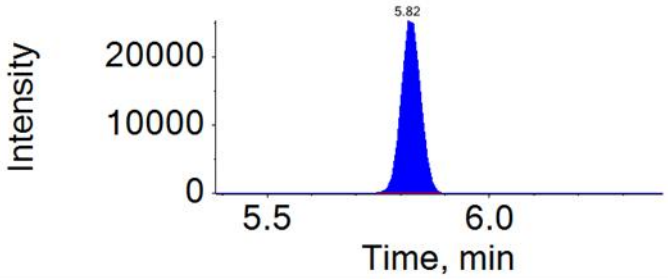
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

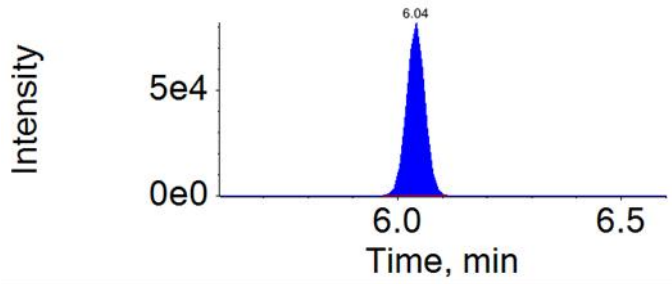
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

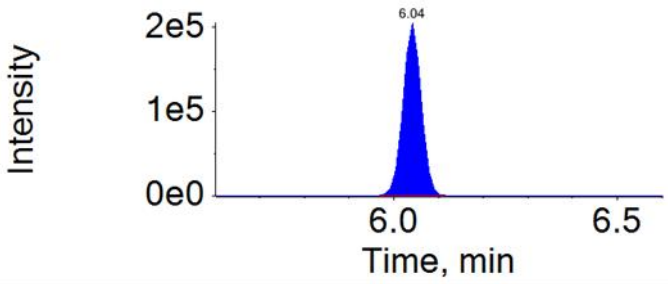
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



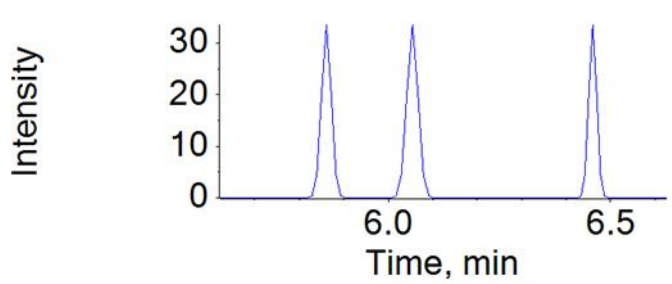


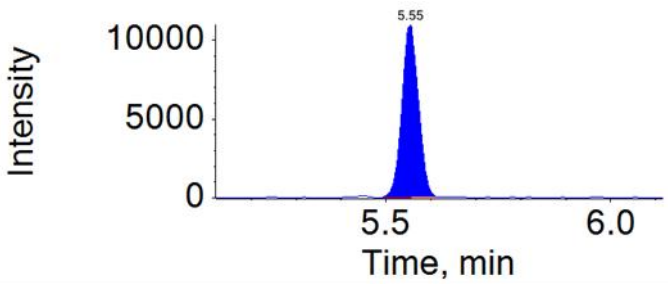
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



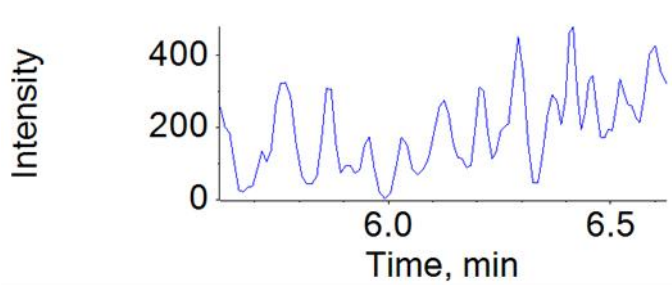


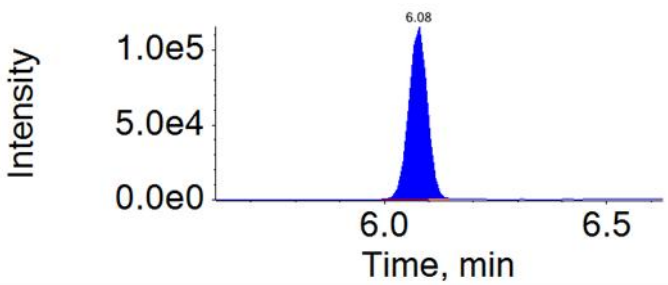
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



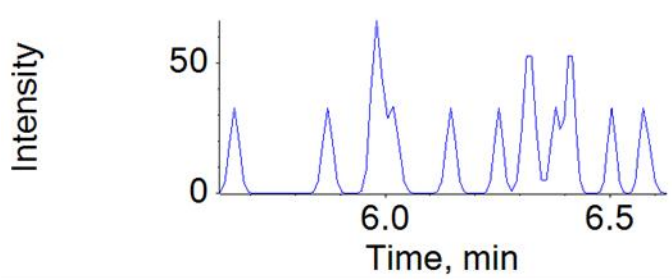


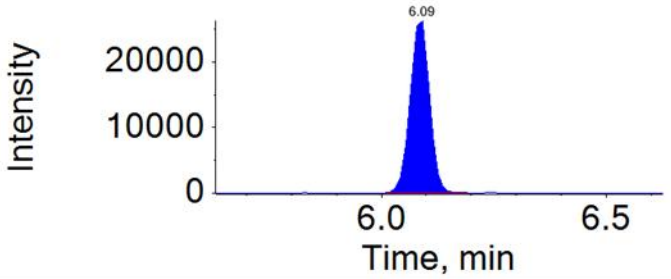
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

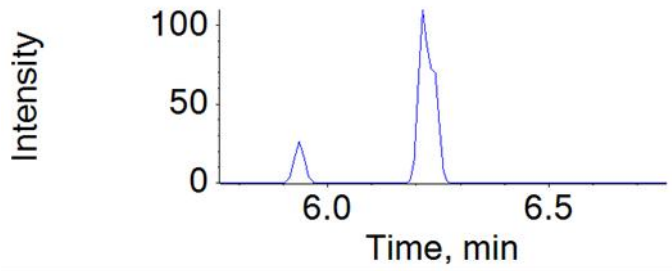
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

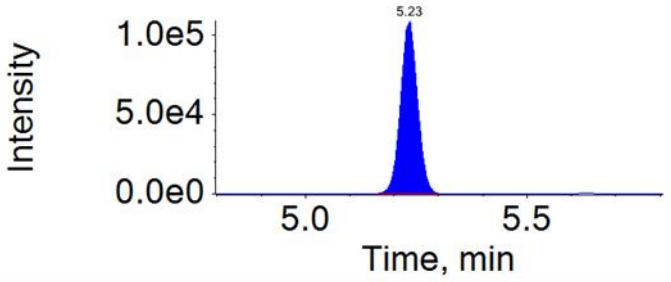
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



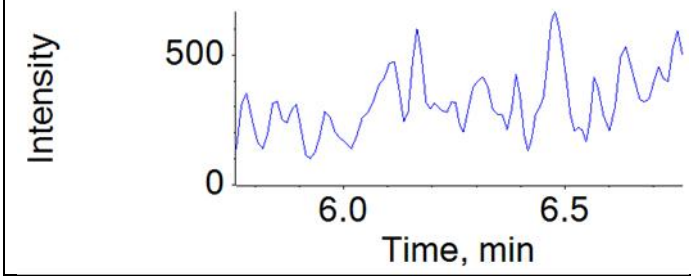


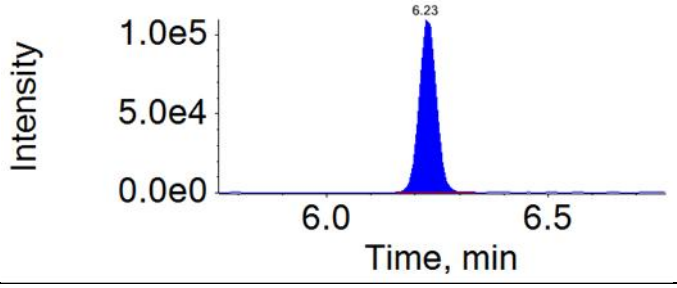
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



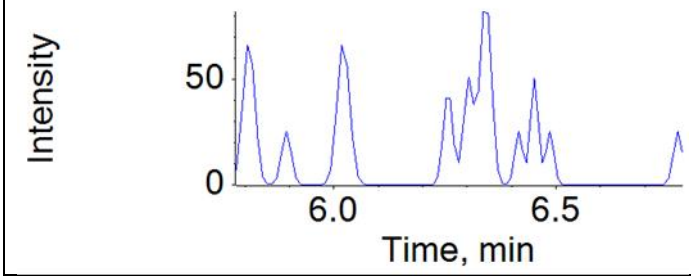


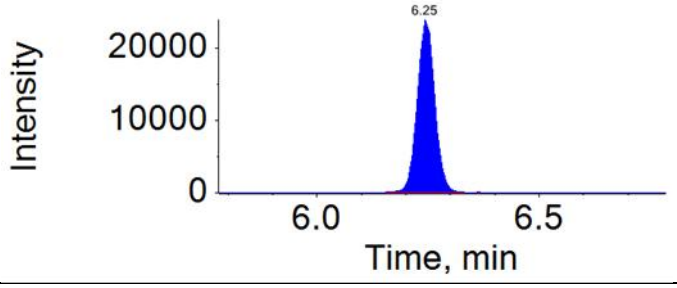
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



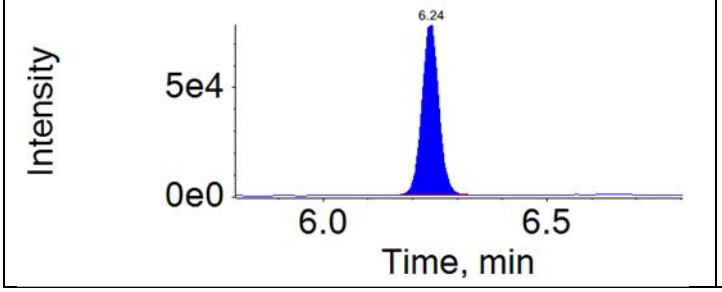


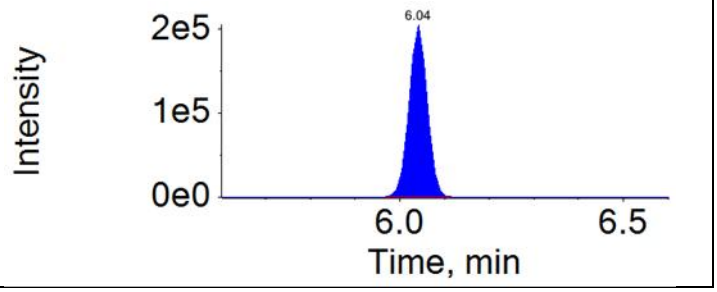
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

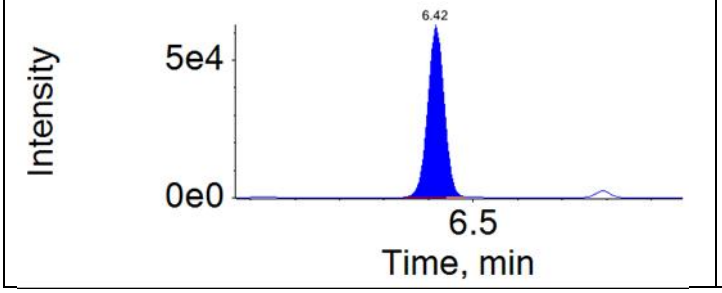
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

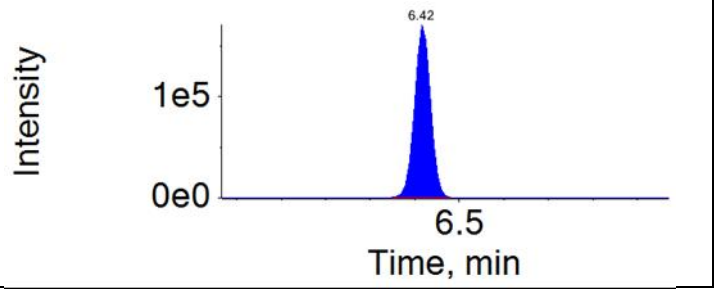
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



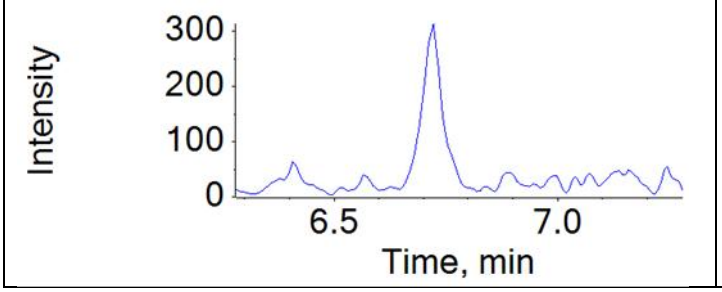


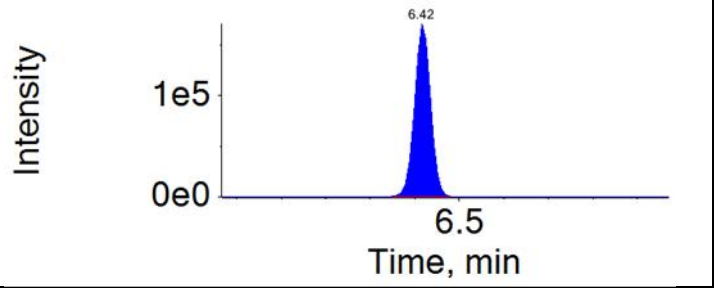
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



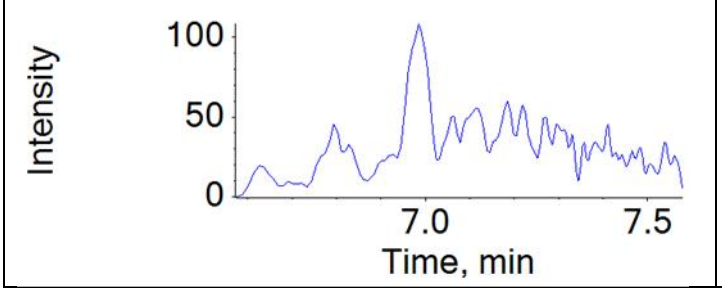


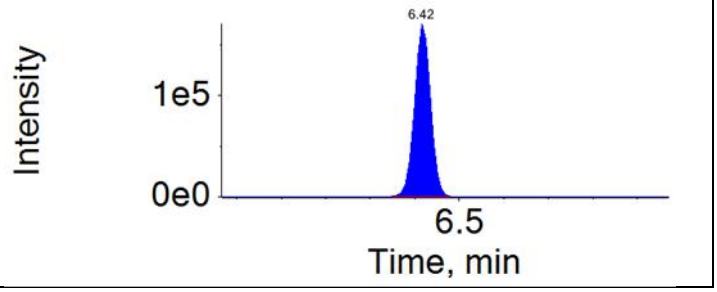
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0

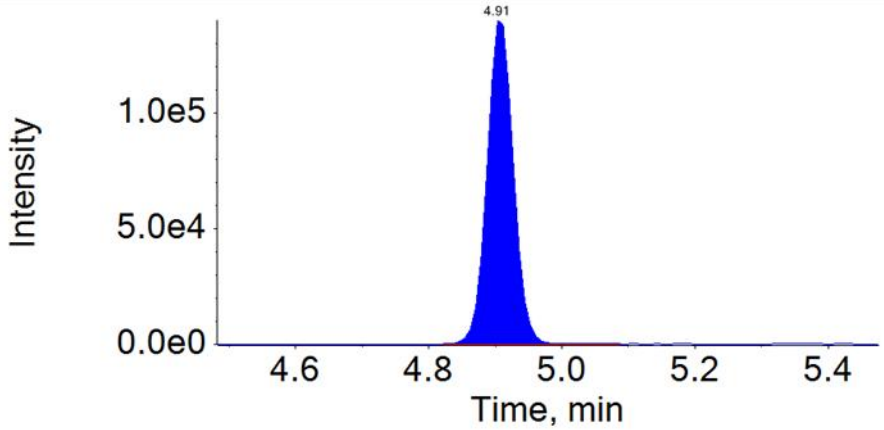


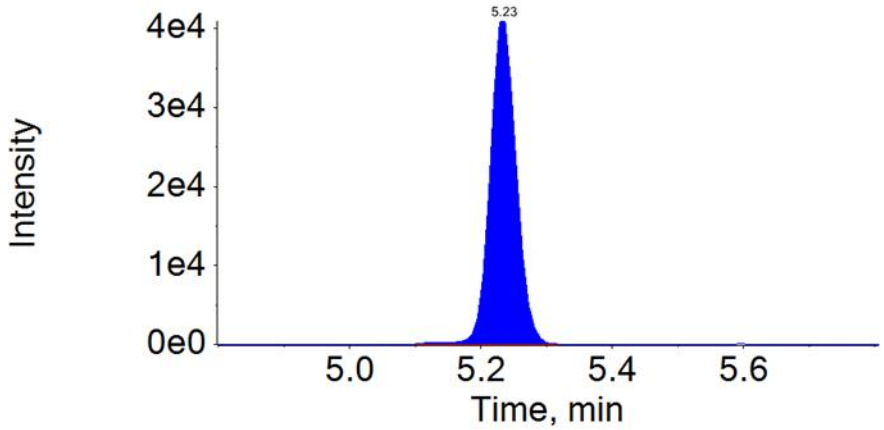


APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name: PFOA **RT (min.):** 4.91 **Peak Area:** 388249.1 **Mass Range:** 413.0 / 369.0 **File Name:** 18NOV07DCAL-18.wiff **Sample Name:** ICV	 **Integration Comment:** incorrect integration

Component Name: PFOS **RT (min.):** 5.23 **Peak Area:** 115469.0 **Mass Range:** 499.0 / 80.0 **File Name:** 18NOV07DCAL-18.wiff **Sample Name:** ICV	 **Integration Comment:** incorrect integration

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

Ion Ratio Report

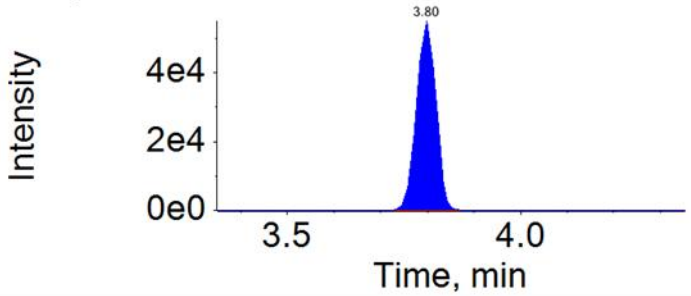
Sample Name: ICV **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-18.wiff

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	159719.5	A	1.0000	1.0000			
PFBS_2	3.80	1.00	61541.1	A	0.3576	0.3853	8	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	0.6359	N/A		50	
PFHxA	4.15	1.00	397434.6	A	1.0000	1.0000			
PFHxA_2	4.15	1.00	3792.4	A	0.0115	0.0095	-17	50	
PFPeS	N/A	N/A	N/A	A	1.0000	N/A			
PFPeS_2	N/A	N/A	N/A	A	0.5384	N/A		50	
PFHxS	4.54	1.00	126635.3	A	1.0000	1.0000			
PFHxS_2	4.54	1.00	48242.3	A	0.3569	0.3810	7	50	
PFHpA	4.54	1.00	390197.1	A	1.0000	1.0000			
PFHpA_2	4.54	1.00	18822.2	A	0.0577	0.0482	-16	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	0.6752	N/A		50	
PFHpS	4.90	1.08	126812.1	A	1.0000	1.0000			
PFHpS_2	4.90	1.08	51068.7	A	0.3950	0.4027	2	50	
PFOA	4.91	1.00	387215.1	M	1.0000	1.0000			
PFOA_2	4.91	1.00	20820.8	A	0.0635	0.0538	-15	50	
PFOS	5.23	1.00	114911.8	M	1.0000	1.0000			
PFOS_2	5.23	1.00	40072.6	A	0.3494	0.3487	0	50	
PFNA	5.25	1.00	329644.4	A	1.0000	1.0000			
PFNA_2	5.25	1.00	6625.6	A	0.0207	0.0201	-3	50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4890	N/A		50	
PFDA	5.55	1.00	262760.0	A	1.0000	1.0000			
PFDA_2	5.55	1.00	2122.6	A	0.0057	0.0081	43	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	0.6169	N/A		50	
NMeFOSAA	5.69	1.00	33916.6	A	1.0000	1.0000			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2206	N/A		50	
PFDS	5.79	1.11	65962.5	A	1.0000	1.0000			
PFDS_2	5.78	1.11	33540.9	A	0.4648	0.5085	9	50	
PFUnDA	5.81	1.00	225137.5	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	557.6	A	0.0031	0.0025	-21	50	
NEtFOSAA	5.83	1.00	29687.2	A	1.0000	1.0000			
NEtFOSAA_2	5.83	1.00	17691.0	A	0.6082	0.5959	-2	50	
PFDoDA	6.04	1.00	232949.2	A	1.0000	1.0000			
PFDoDA_2	6.04	1.00	3431.7	A	0.0109	0.0147	35	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	0.7082	N/A		50	
PFTrDA	6.24	1.03	206908.4	A	1.0000	1.0000			
PFTrDA_2	6.24	1.03	2086.3	A	0.0096	0.0101	5	50	
PFTeDA	6.42	1.00	157975.3	A	1.0000	1.0000			
PFTeDA_2	6.41	1.00	879.0	A	0.0055	0.0056	0	50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0596	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0257	N/A		50	

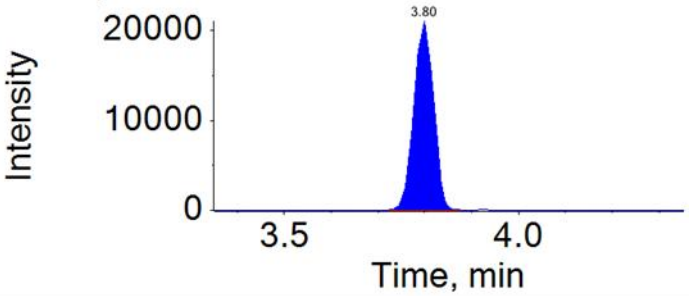
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

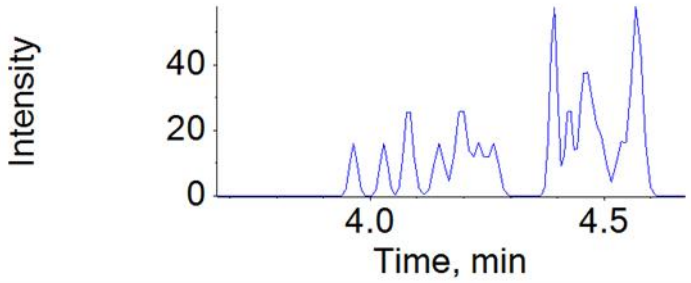
Component: PFBS
Primary Mass: 299.0 / 80.0



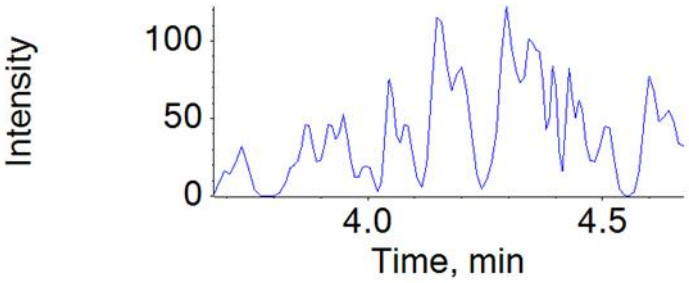
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



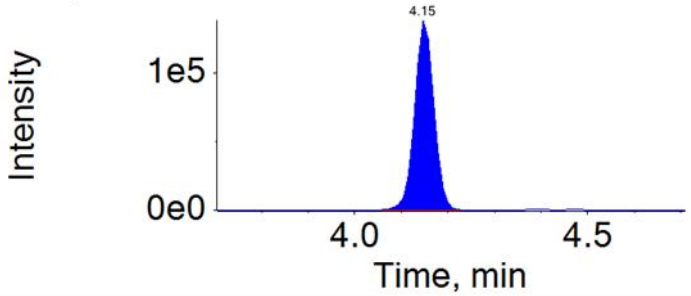
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



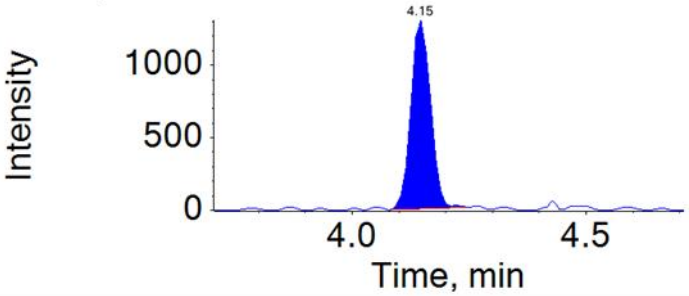
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



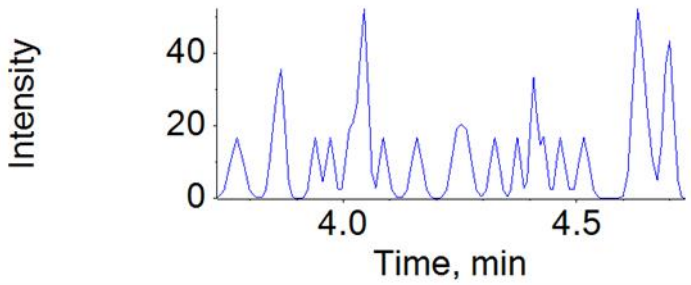
Component: PFHxA
Primary Mass: 313.0 / 269.0



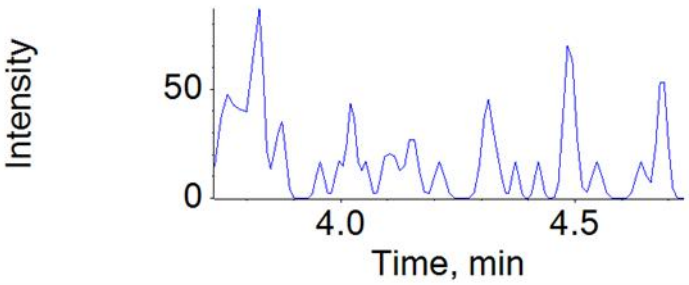
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



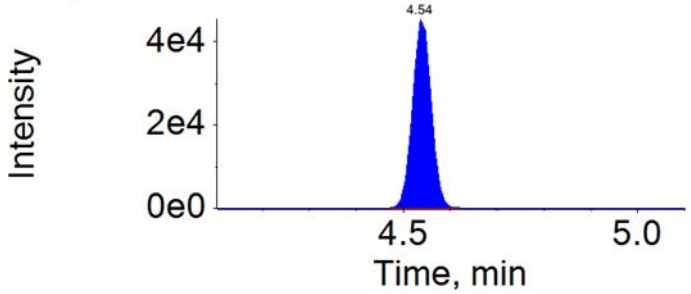
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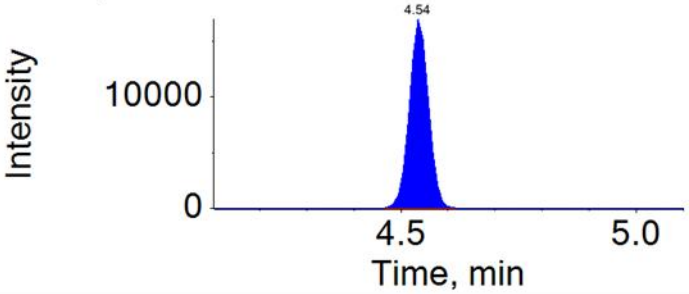
APPROVED
By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

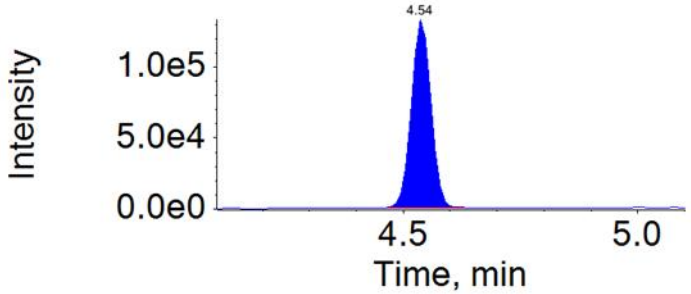
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Primary Mass: 399.0 / 80.0



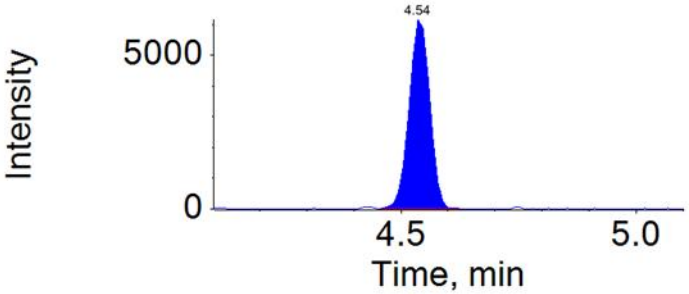
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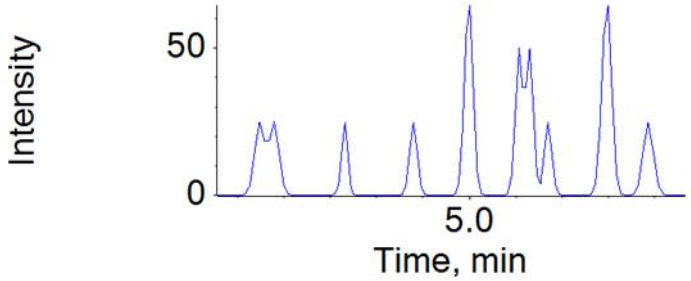
Component: PFHpA
Primary Mass: 363.0 / 319.0



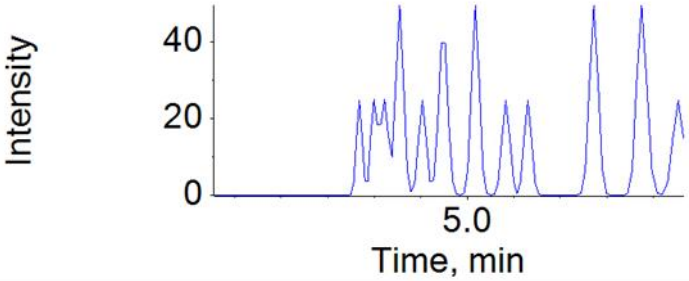
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



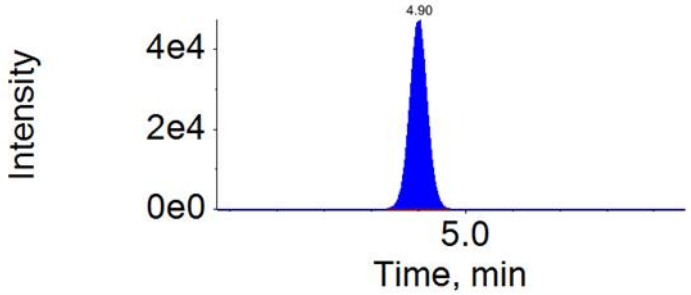
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



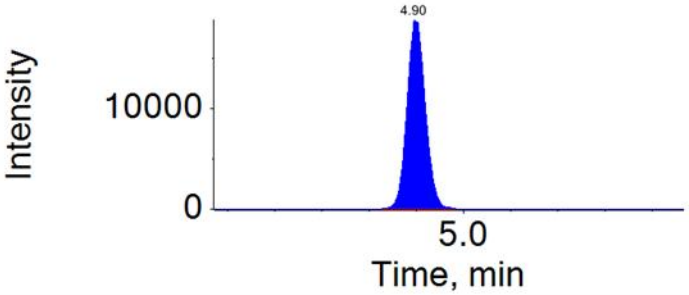
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



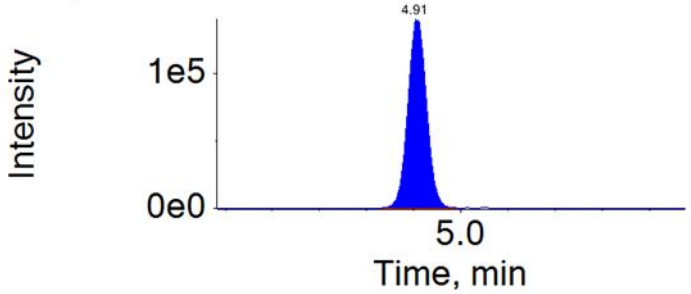
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



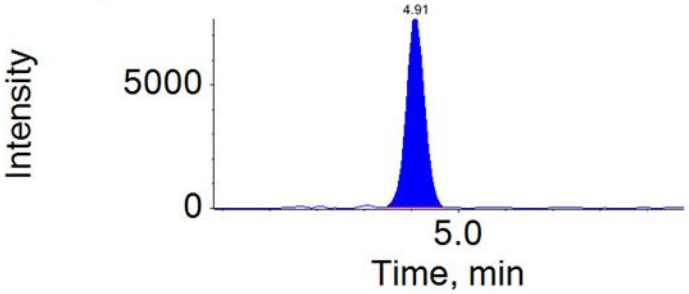
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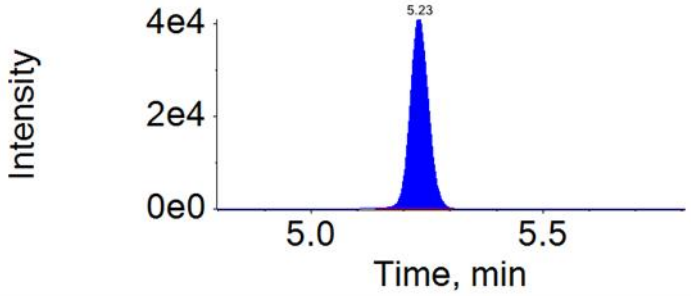
Component: PFOA
Primary Mass: 413.0 / 369.0



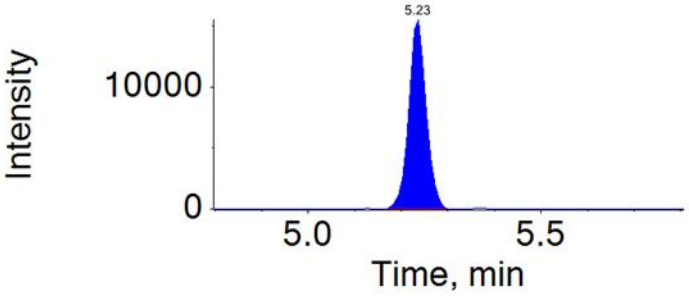
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



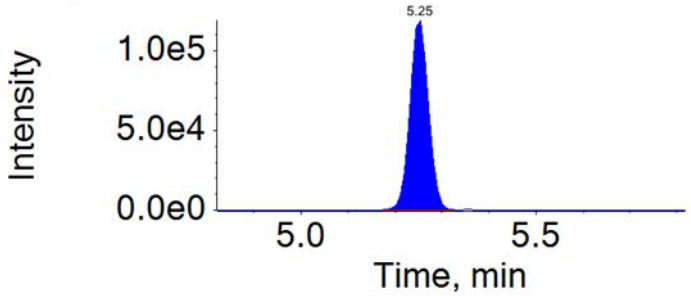
Component: PFOS
Primary Mass: 499.0 / 80.0



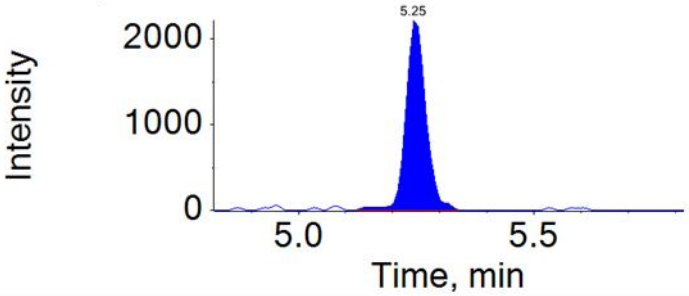
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



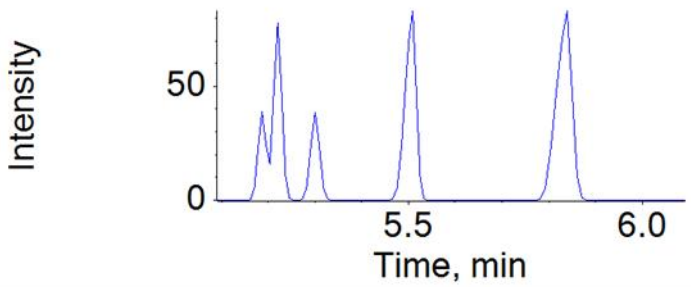
Component: PFNA
Primary Mass: 463.0 / 419.0



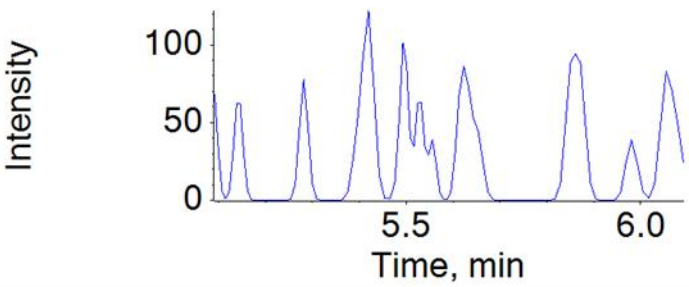
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



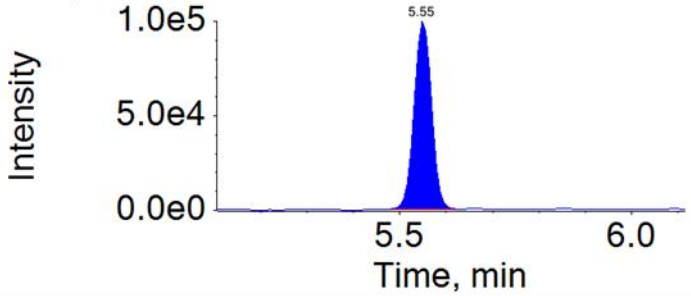
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



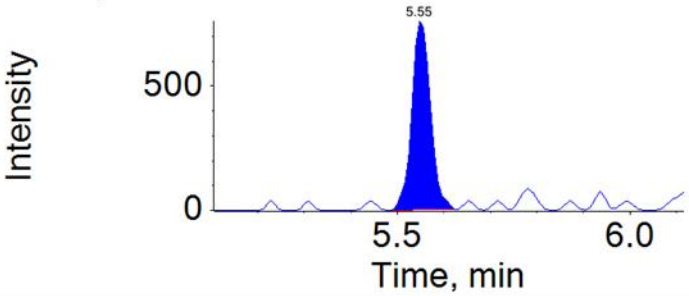
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By JPT at 2:53 pm, 11/7/18

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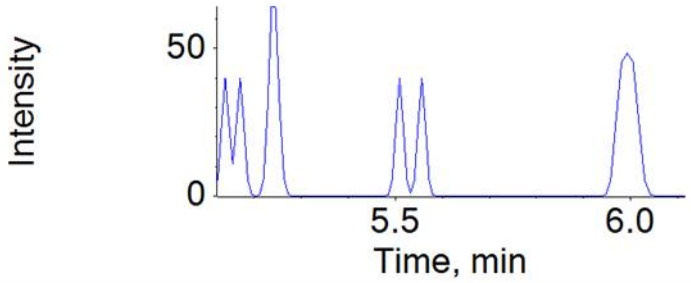
Component: PFDA
Primary Mass: 513.0 / 469.0



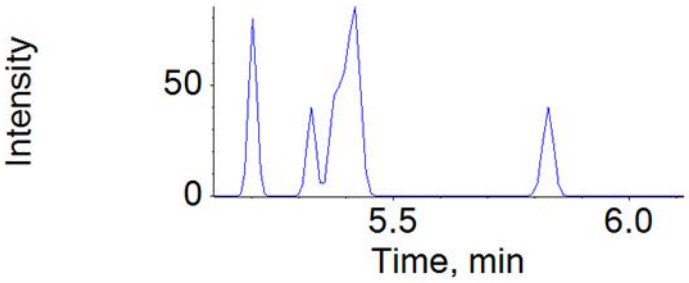
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



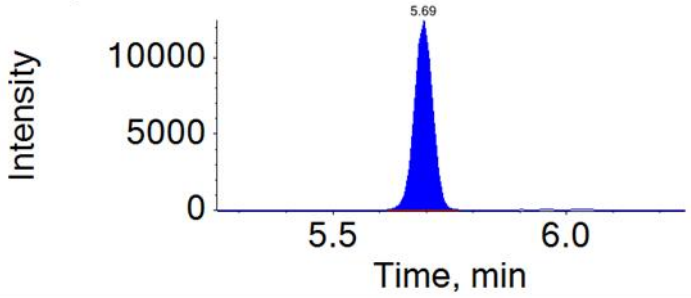
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



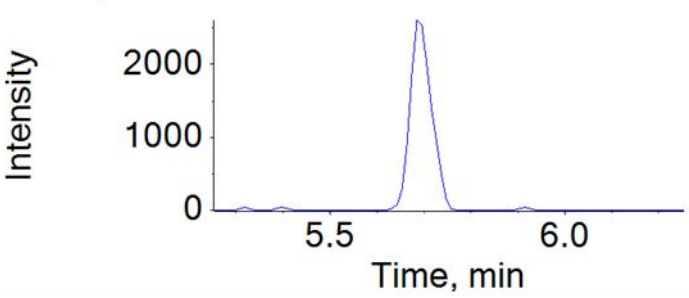
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



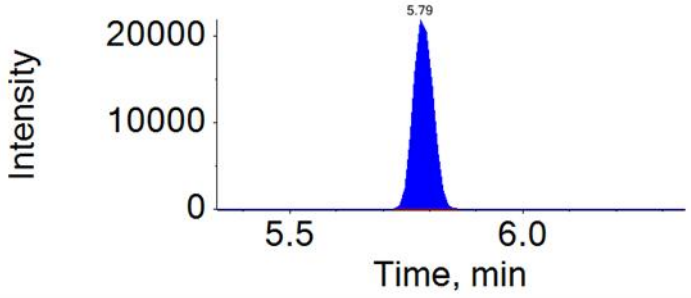
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



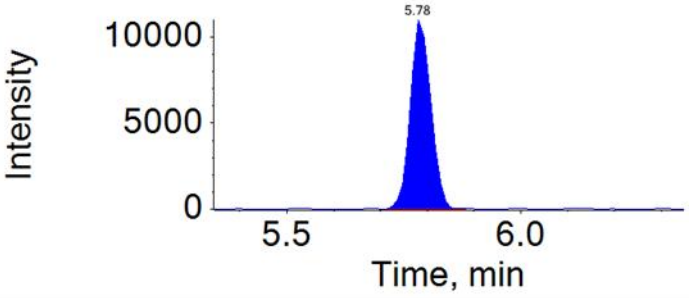
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



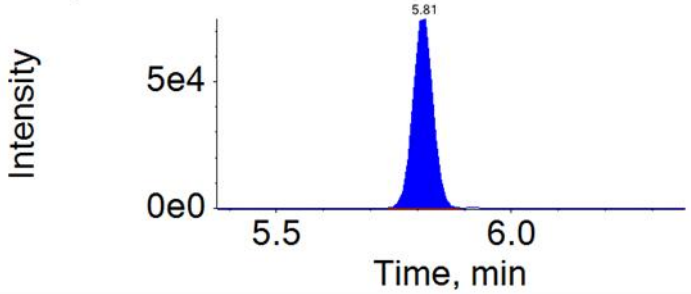
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



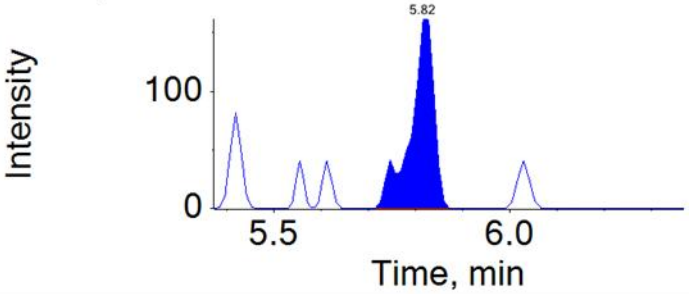
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

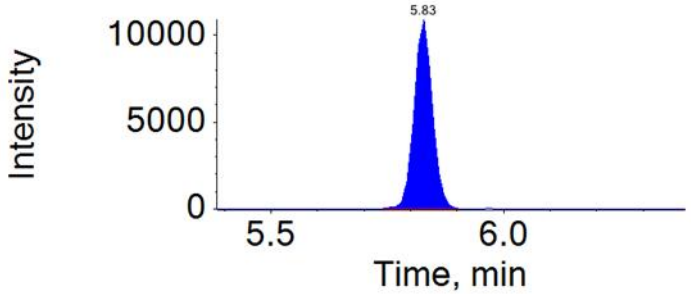
Component: PFUnDA
Primary Mass: 563.0 / 519.0



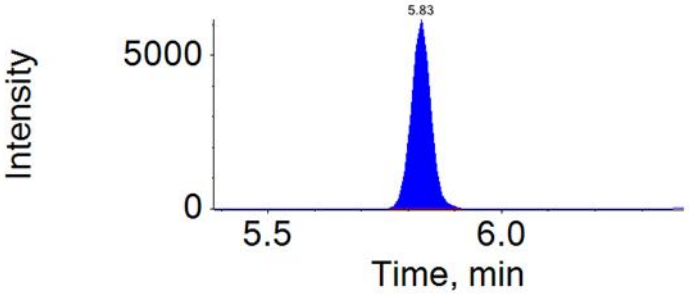
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Secondary Mass: 563.0 / 169.0



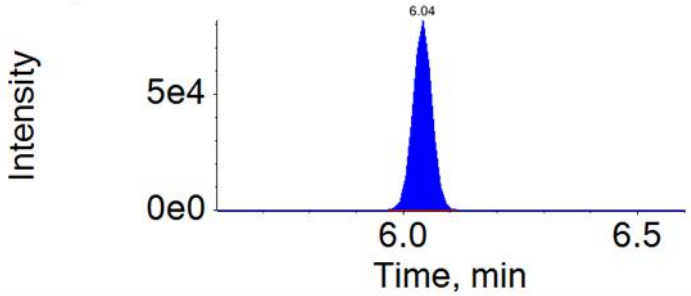
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



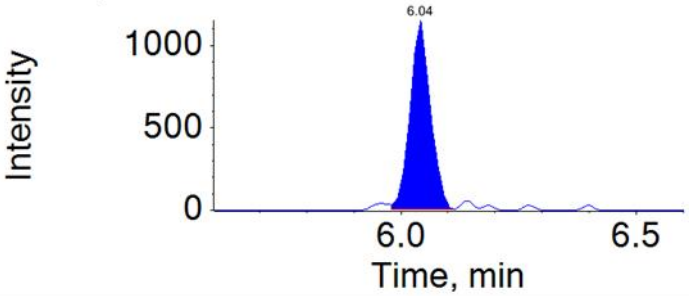
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



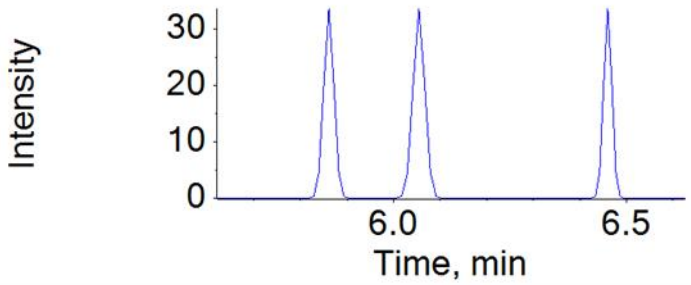
Component: PFDoDA
Primary Mass: 613.0 / 569.0



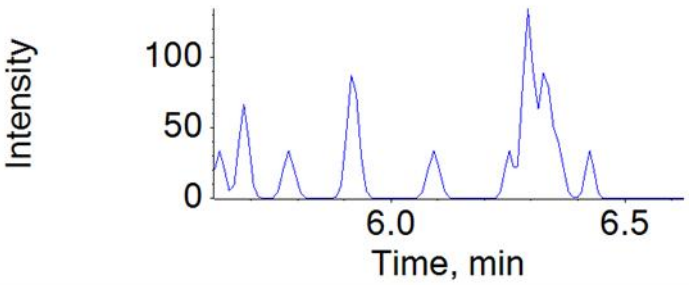
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Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



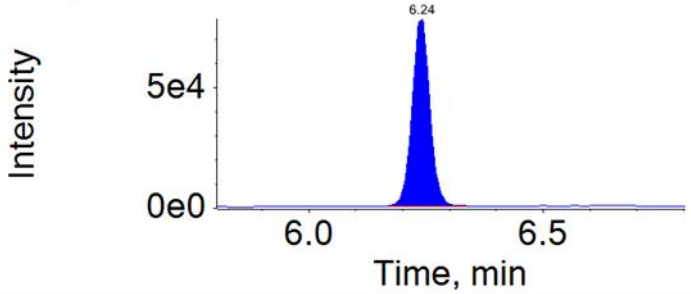
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



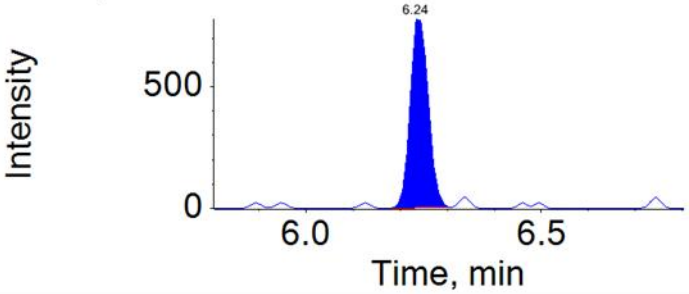
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

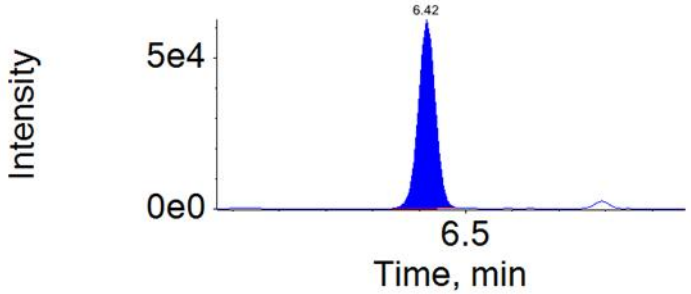
Component: PFTrDA
Primary Mass: 663.0 / 619.0



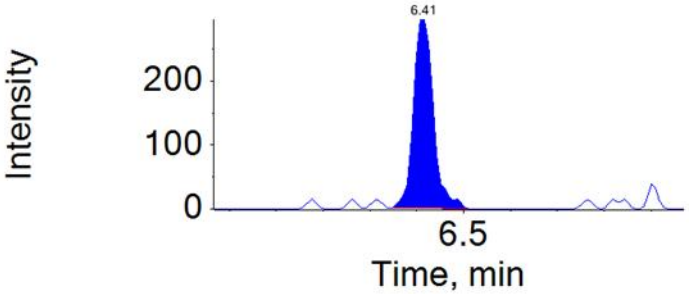
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



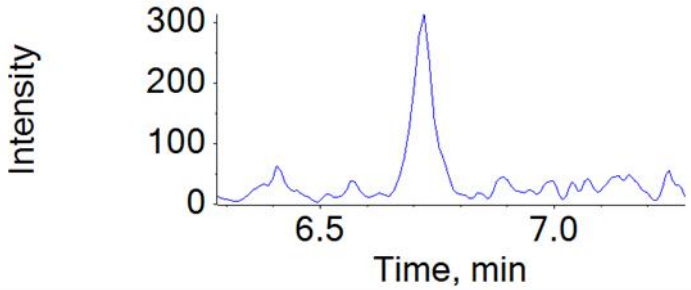
Component: PFTeDA
Primary Mass: 713.0 / 669.0



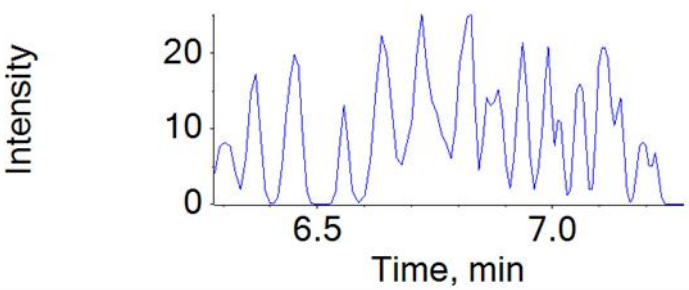
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



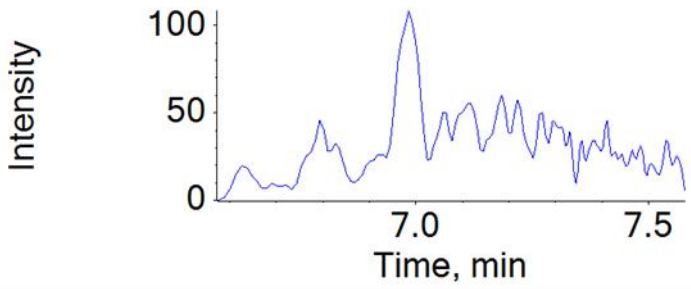
Component: PFHxDA
Primary Mass: 813.0 / 769.0



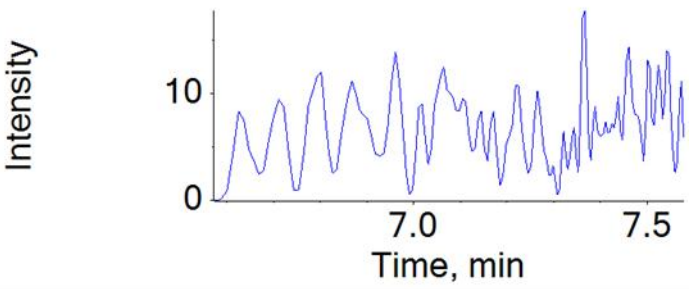
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	L+B CAL3			**Data File:**		18NOV07DCAL-19.wiff
Sample ID:	LBMODX1833D			**Acquis Date:**		2018-11-07T11:00:59
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	11			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	736211.8	730410.6	1	50	
13C2-PFOA	5.0	529333.9	524423.6	1	50	
13C4-PFOS	4.8	269502.4	274061.7	-2	50	
13C2-PFDA	5.0	314695.8	311442.1	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	798089.2	13C3-PFBA	736211.8	1.084	5.000	5.017	100	70-130	
E13C5-PFPeA	837606.5	13C3-PFBA	736211.8	1.138	5.000	4.956	99	70-130	
E13C3-PFBS	434778.6	13C3-PFBA	736211.8	0.591	4.650	4.334	93	70-130	
E13C2-4:2-FTS	52170.5	13C2-PFOA	529333.9	0.099	4.670	4.447	95	70-130	
E13C5-PFHxA	698718.6	13C2-PFOA	529333.9	1.320	5.000	4.856	97	70-130	
E13C3-PFHxS	338752.7	13C2-PFOA	529333.9	0.640	4.730	4.594	97	70-130	
E13C4-PFHpA	566540.4	13C2-PFOA	529333.9	1.070	5.000	4.869	97	70-130	
E13C2-6:2-FTS	34551.5	13C2-PFOA	529333.9	0.065	4.750	4.353	92	70-130	
E13C8-PFOA	967968.8	13C2-PFOA	529333.9	1.829	5.000	5.099	102	70-130	
E13C8-PFOS	276433.8	13C4-PFOS	269502.4	1.026	4.780	4.536	95	70-130	
E13C9-PFNA	490916.1	13C4-PFOS	269502.4	1.822	5.000	4.976	100	70-130	
E13C6-PFDA	634835.7	13C2-PFDA	314695.8	2.017	5.000	5.073	101	70-130	
E13C2-8:2-FTS	29224.4	13C2-PFDA	314695.8	0.093	4.790	4.914	103	70-130	
E13C8-PFOSA	714716.6	13C2-PFDA	314695.8	2.271	5.000	4.956	99	70-130	
Ed3-NMeFOSAA	78018.5	13C2-PFDA	314695.8	0.248	5.000	4.610	92	70-130	
E13C7-PFUnDA	277737.7	13C2-PFDA	314695.8	0.883	5.000	5.091	102	70-130	
Ed5-NEtFOSAA	76987.7	13C2-PFDA	314695.8	0.245	5.000	5.661	113	70-130	
E13C2-PFDoDA	545941.2	13C2-PFDA	314695.8	1.735	5.000	4.677	94	70-130	
Ed7-NMePFOSAE	329839.8	13C2-PFDA	314695.8	1.048	5.000	4.874	97	70-130	
Ed3-NMePFOSA	79724.2	13C2-PFDA	314695.8	0.253	5.000	4.638	93	70-130	
Ed9-NEtPFOSAE	275393.6	13C2-PFDA	314695.8	0.875	5.000	4.998	100	70-130	
Ed5-NEtPFOSA	64841.7	13C2-PFDA	314695.8	0.206	5.000	4.771	95	70-130	
E13C2-PFTeDA	416258.4	13C2-PFDA	314695.8	1.323	5.000	4.762	95	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

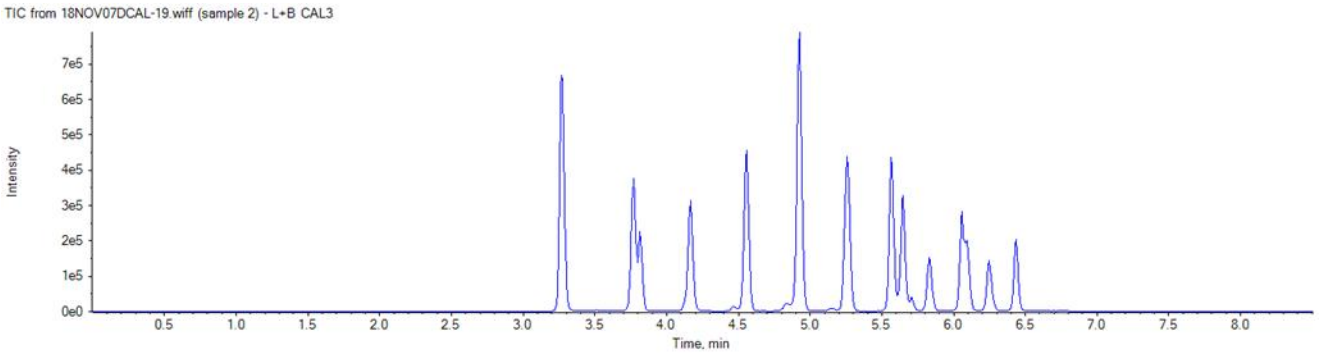
Analyte Quantitation Peak Table

Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-19.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	798089.2	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.77	837606.5	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.82	434778.6	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.13	52170.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.17	698718.6	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.82	434778.6	N/A	
PFHxS	4.56	1.000	140012.1		M	13C3-PFHxS	4.56	338752.7	0.413	2.095
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	566540.4	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.91	34551.5	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.56	338752.7	N/A	
PFOA	4.92	1.000	347563.0		M	13C8-PFOA	4.92	967968.8	0.359	2.022
PFOS	5.25	1.000	117649.0		M	13C8-PFOS	5.25	276433.8	0.426	2.207
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.27	490916.1	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.25	276433.8	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	634835.7	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	29224.4	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.65	714716.6	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	78018.5	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.25	276433.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.83	277737.7	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.84	76987.7	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	545941.2	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.57	29224.4	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.09	329839.8	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.11	79724.2	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.25	276433.8	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.25	275393.7	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.26	64841.7	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.06	545941.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	416258.4	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	416258.4	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.44	416258.4	N/A	

Total Ion Chromatogram

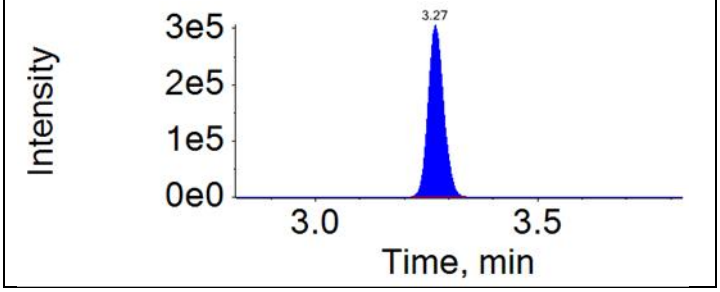


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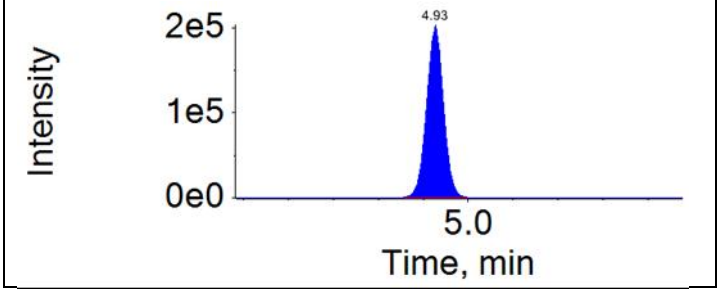
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

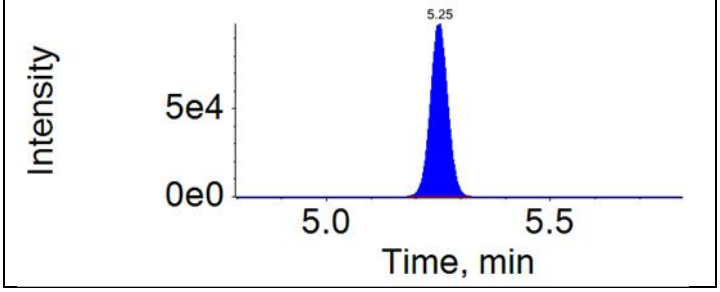
Injection Standard: 13C3-PFBA
216.0 / 172.0



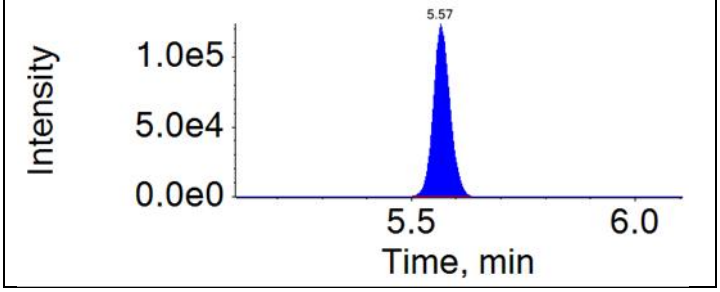
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



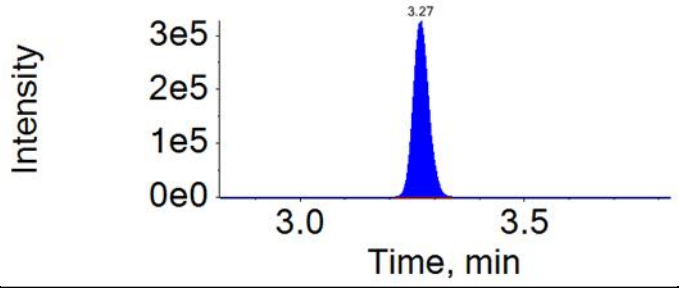
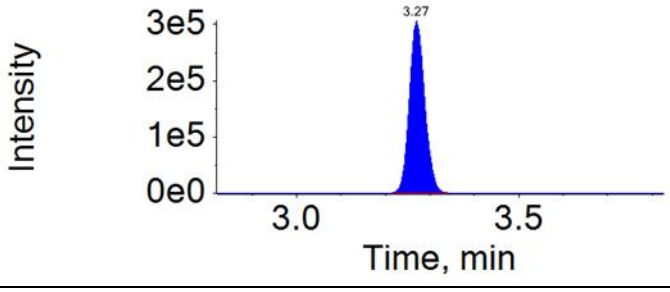
Injection Standard: 13C2-PFDA
515.0 / 470.0

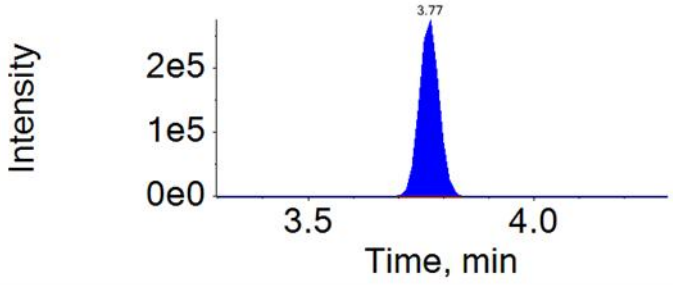
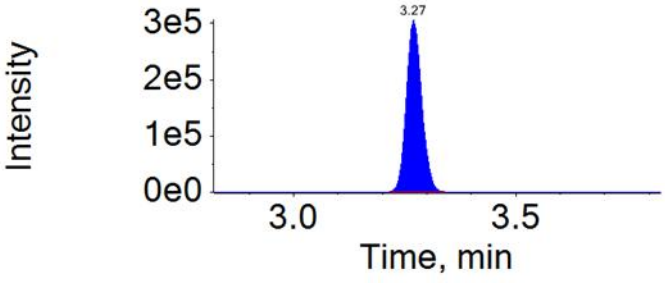


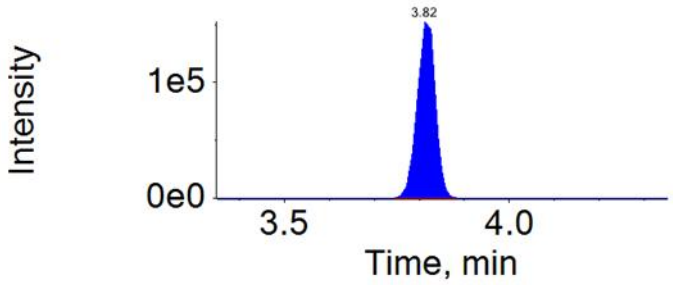
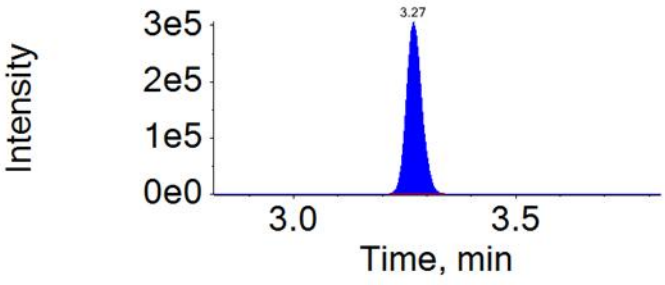
APPROVED
By JPT at 2:53 pm, 11/7/18

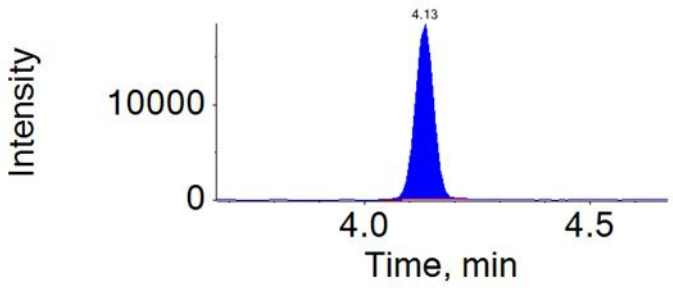
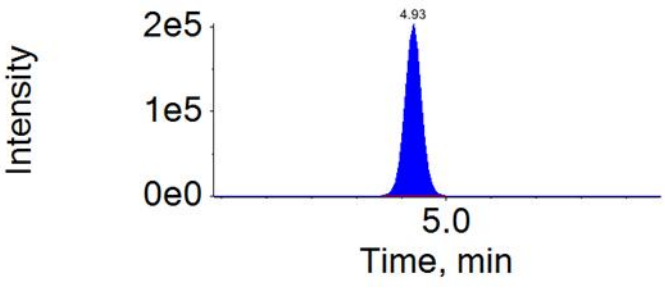
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0
	

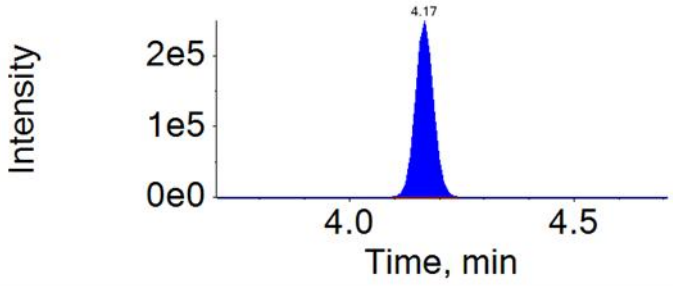
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0
	

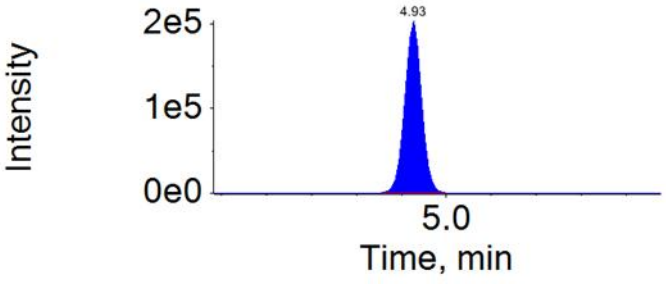
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0
	

Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

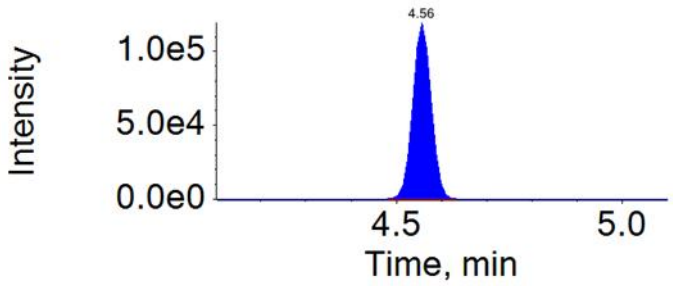
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

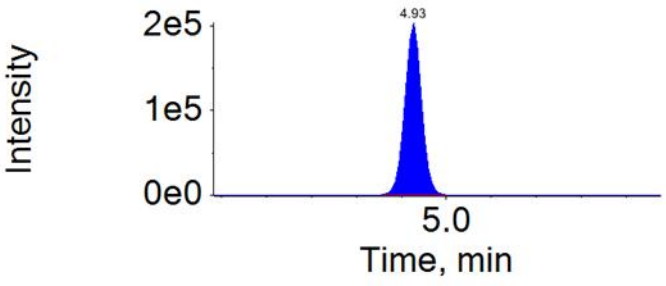
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



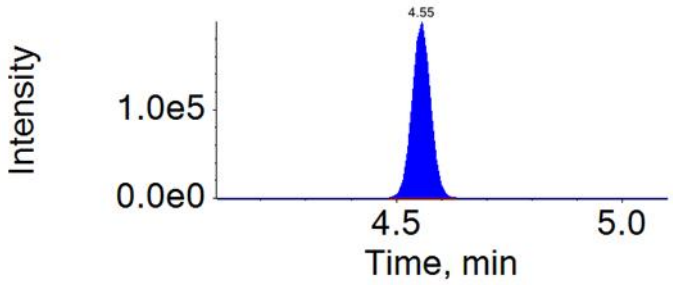


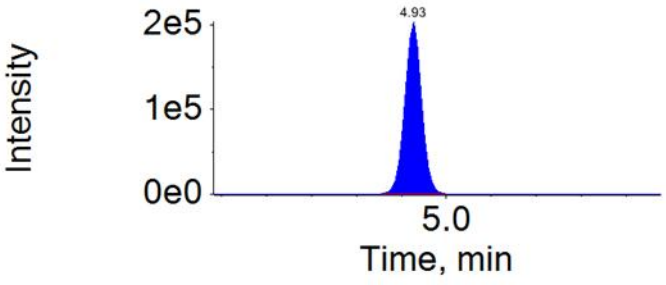
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



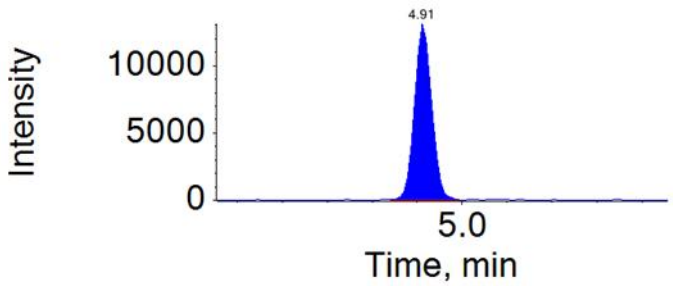


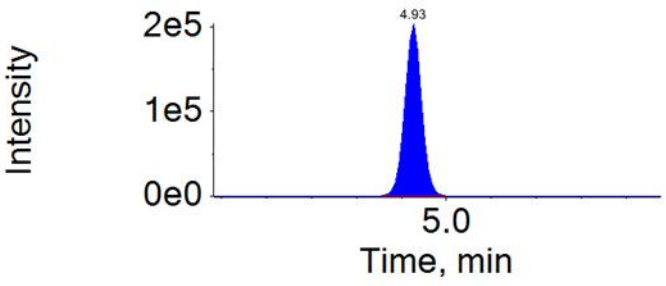
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

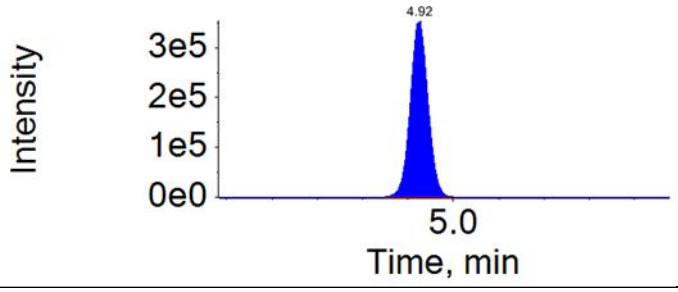
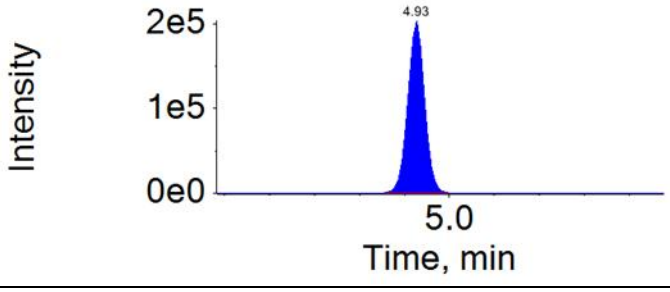


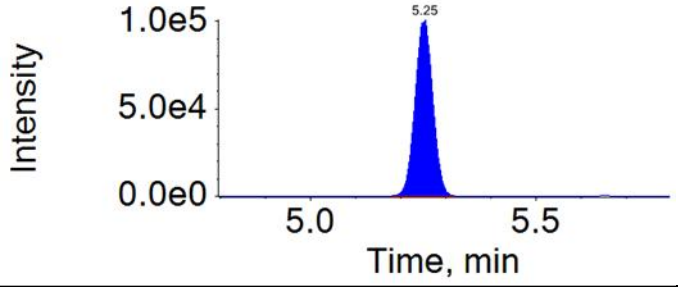
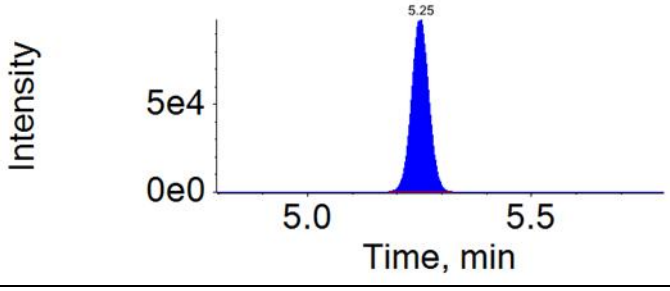


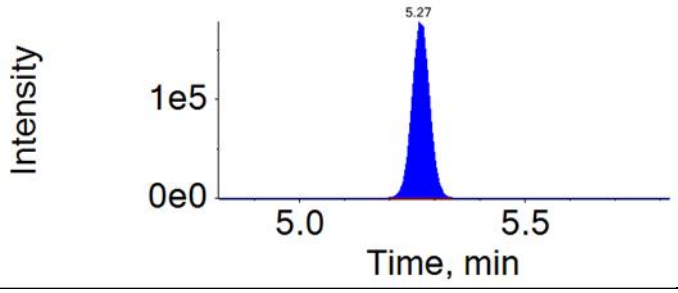
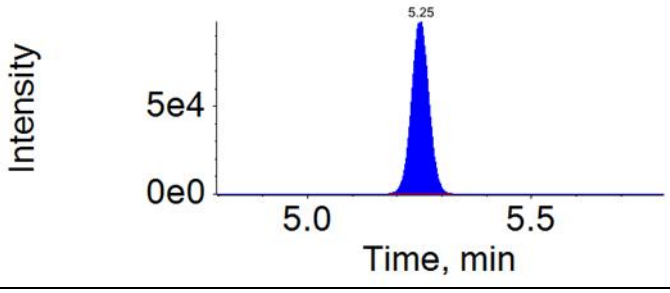
APPROVED
By JPT at 2:53 pm, 11/7/18

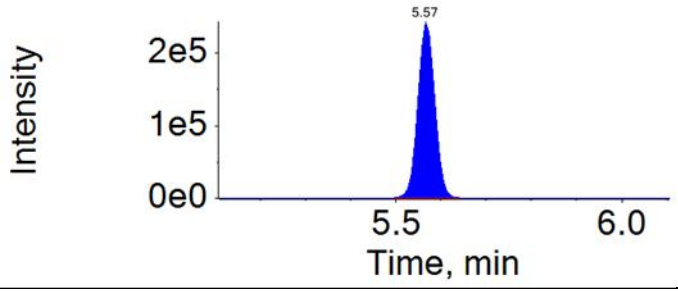
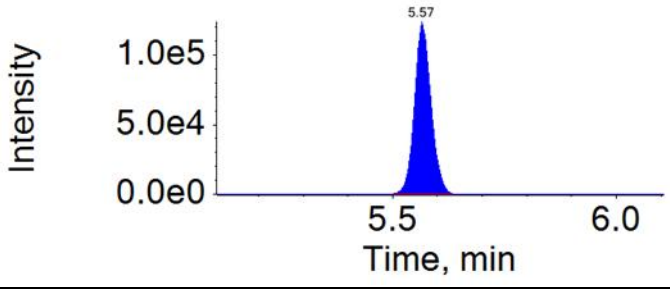
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

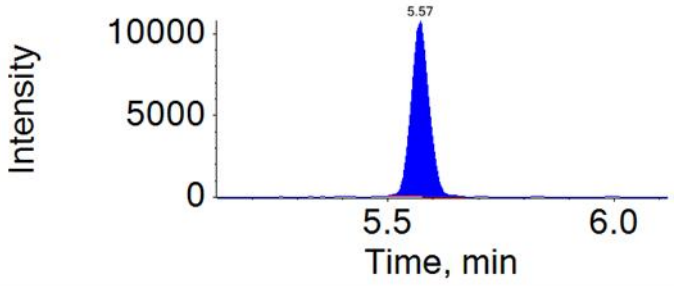
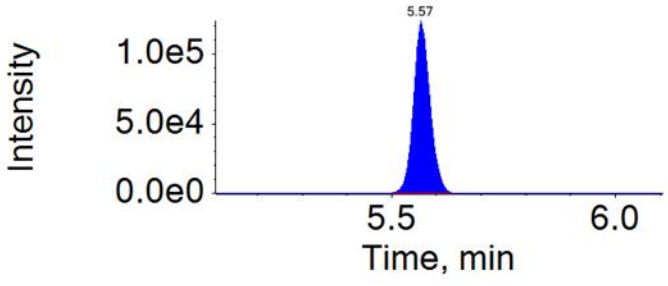
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0
	

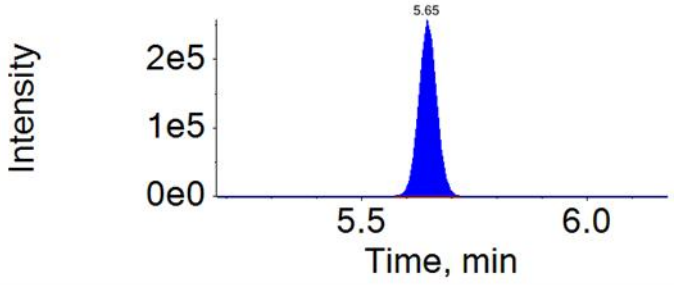
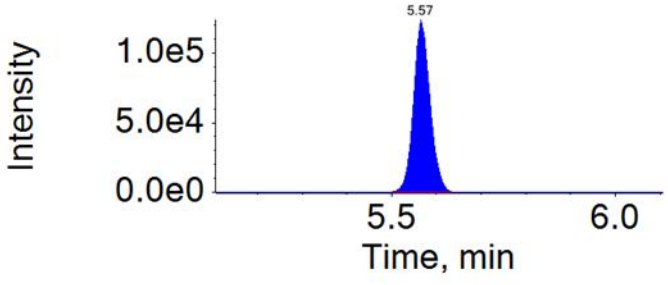
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

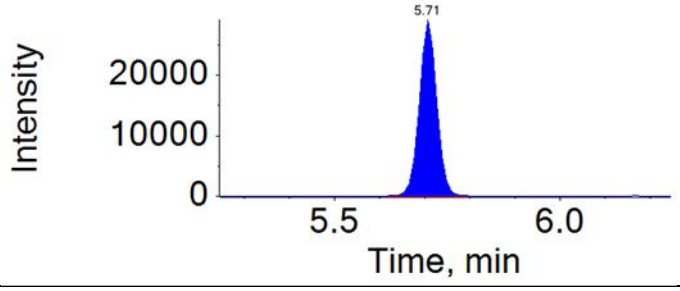
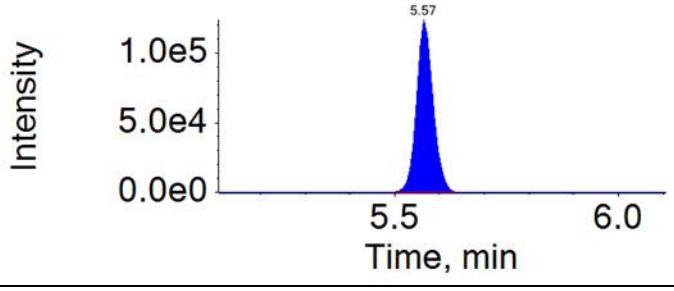
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

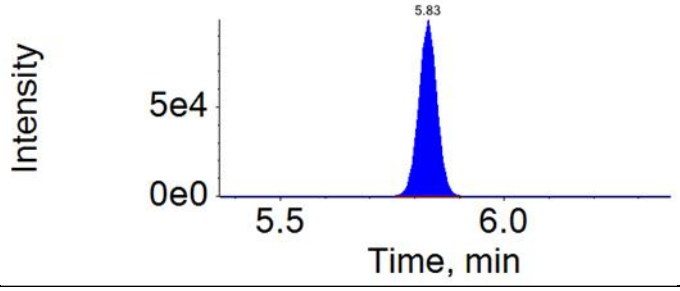
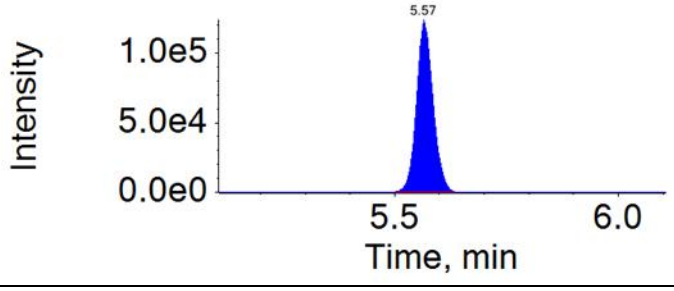
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

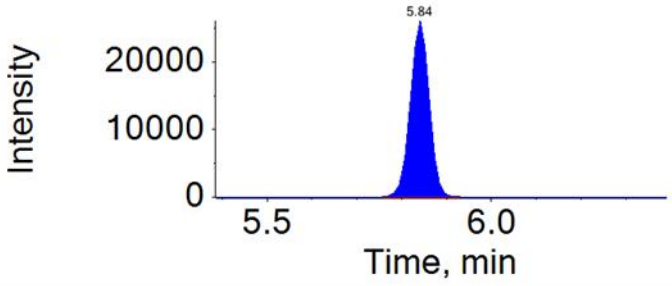
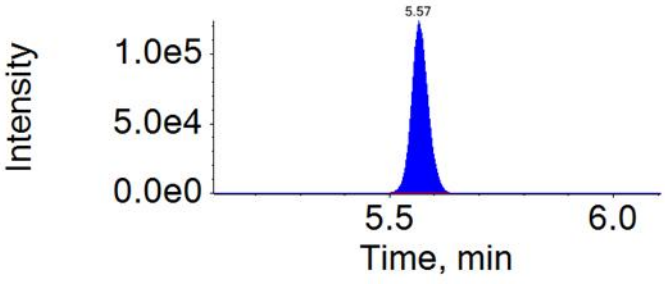
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

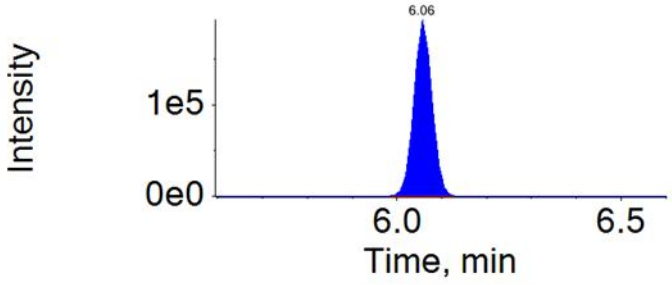
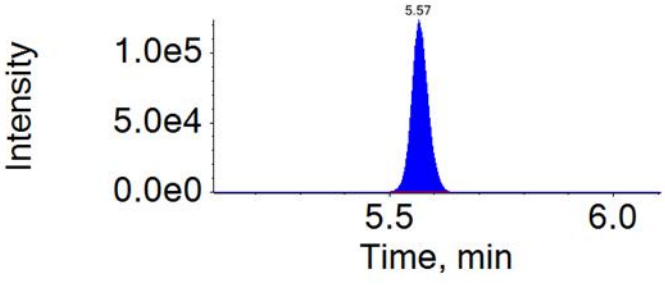
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

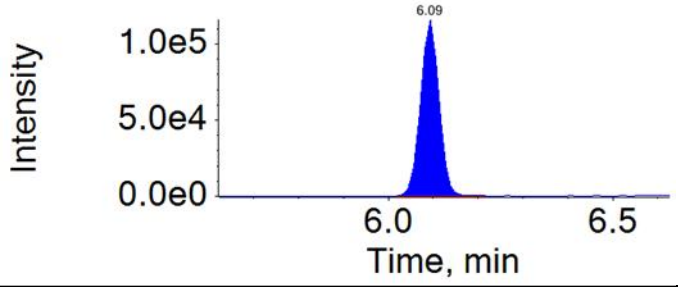
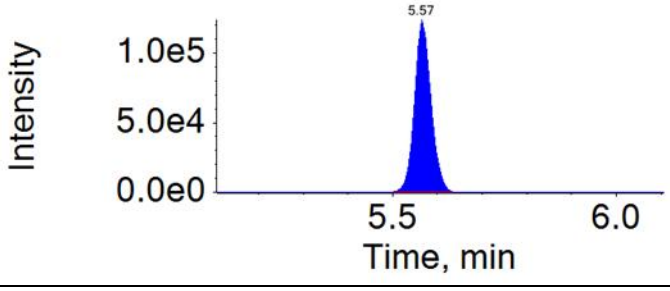
APPROVED
By JPT at 2:53 pm, 11/7/18

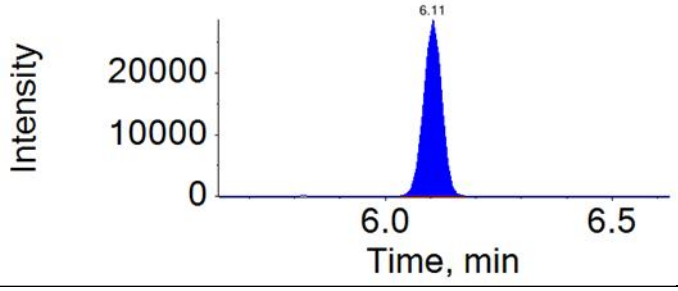
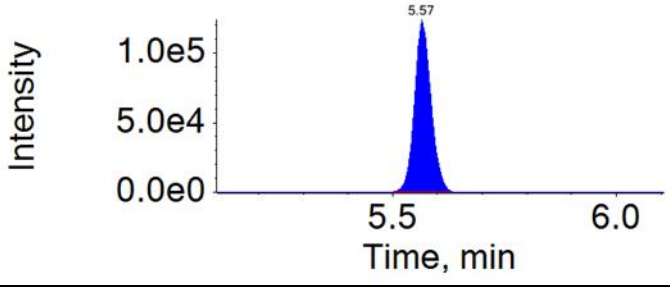
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

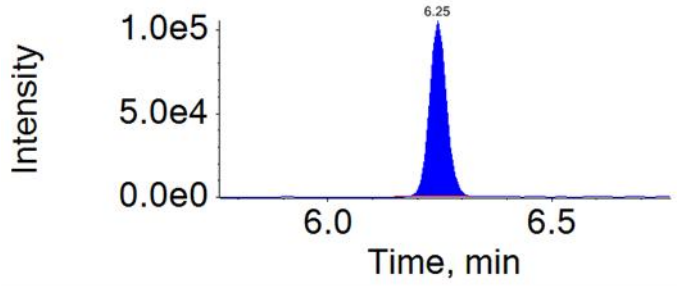
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

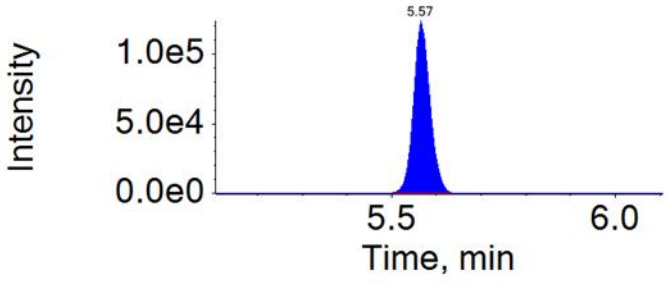
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

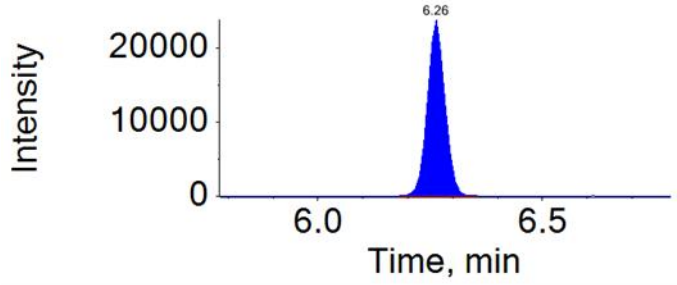
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

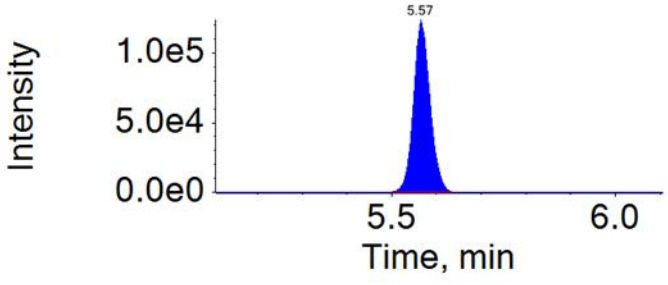
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



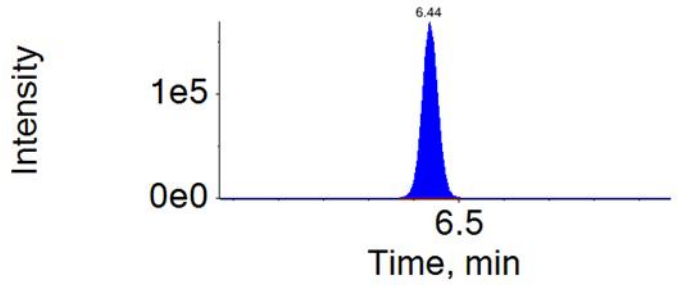


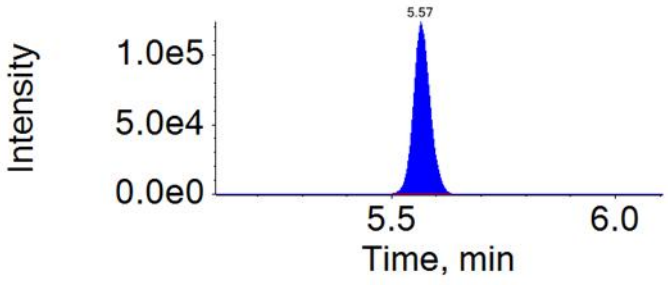
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



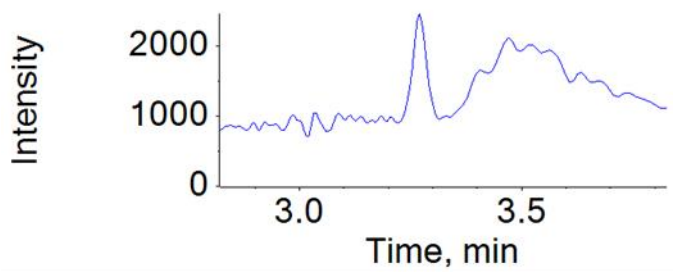


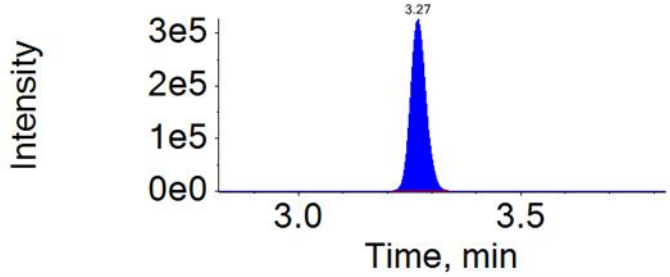
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

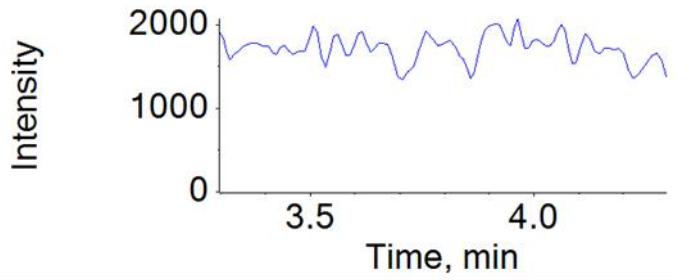
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

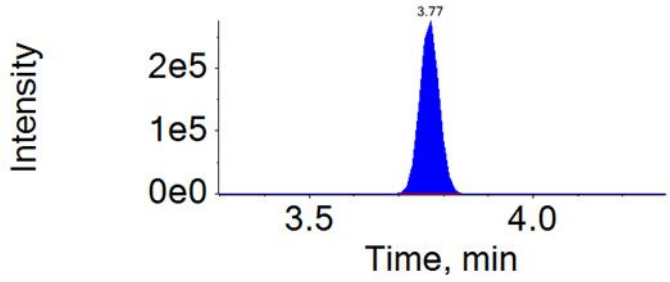
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



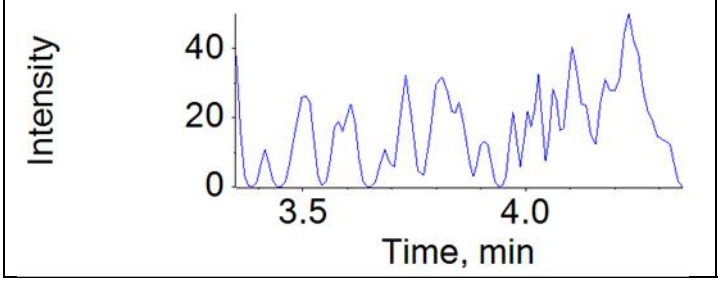


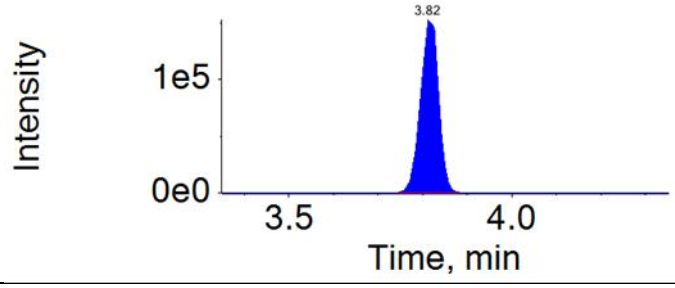
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



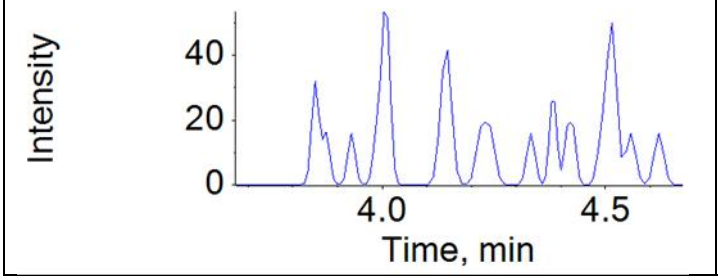


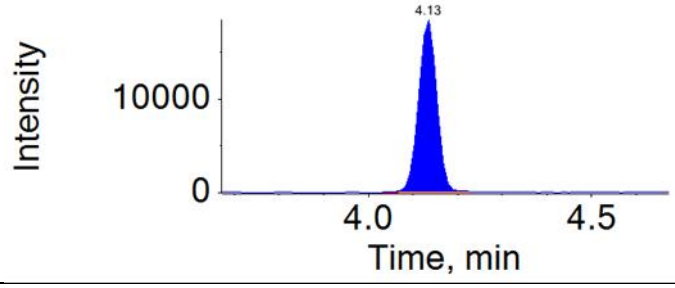
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



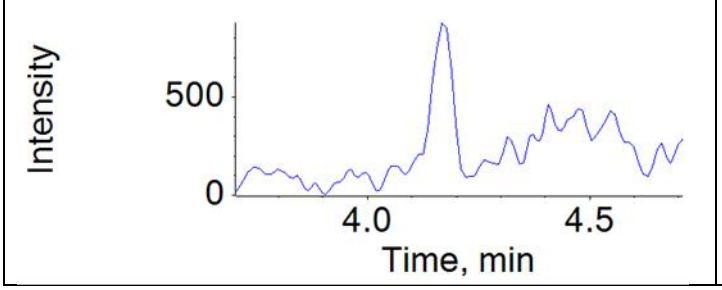


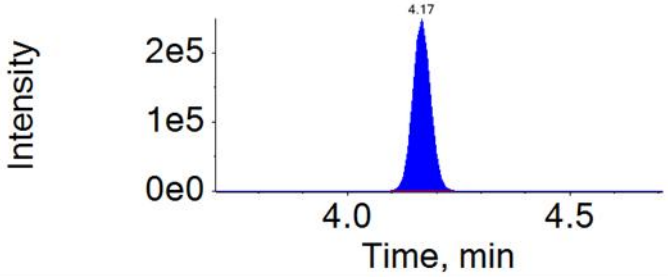
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

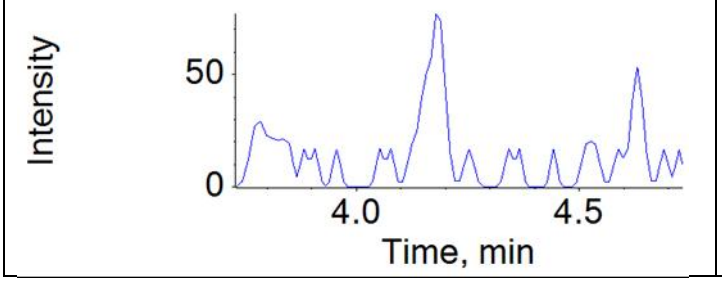
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

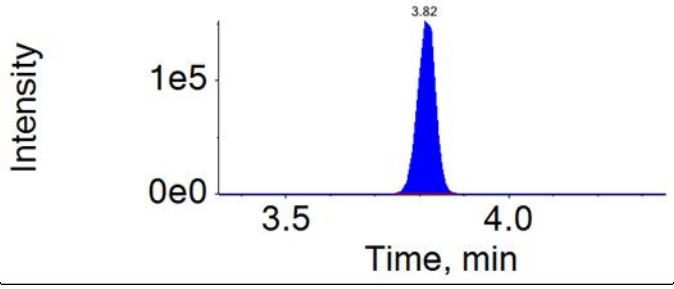
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



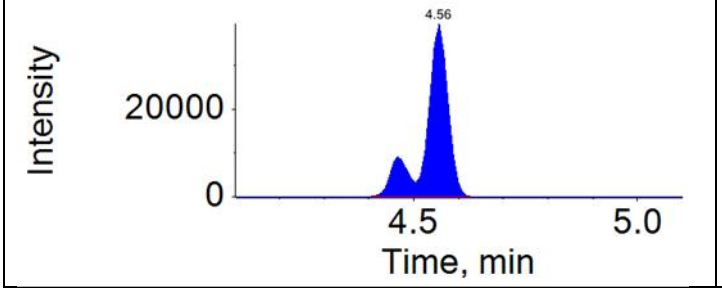


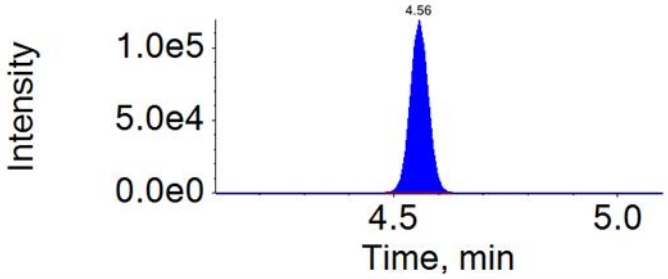
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



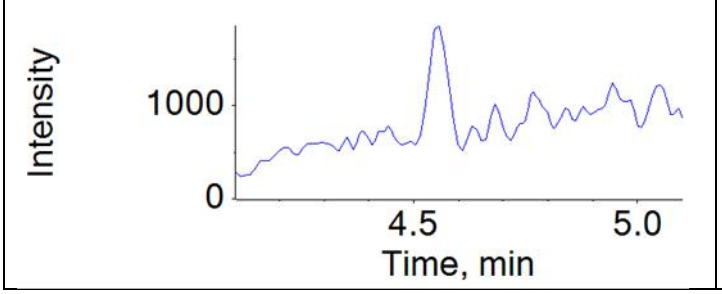


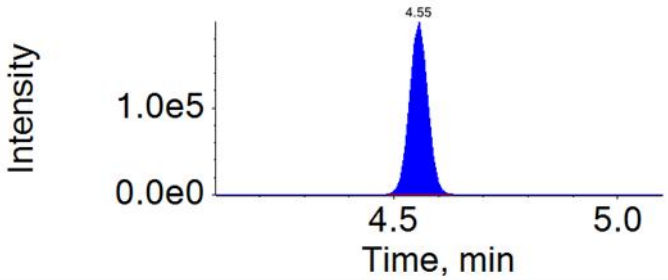
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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

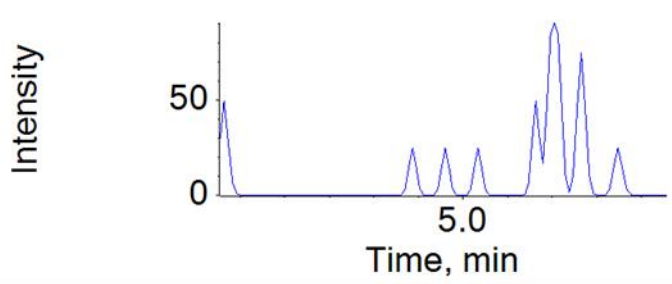
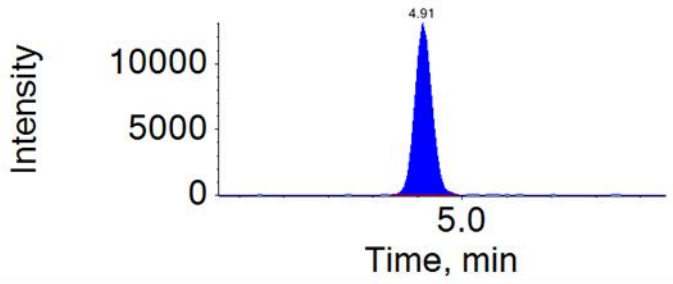


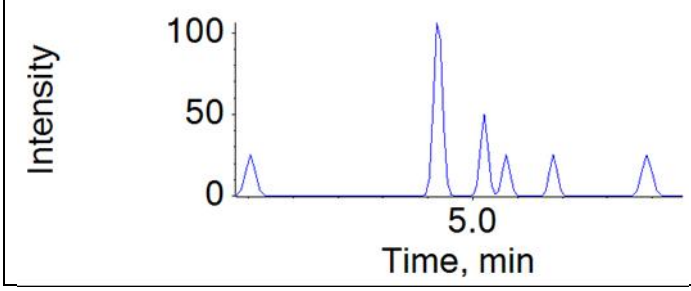
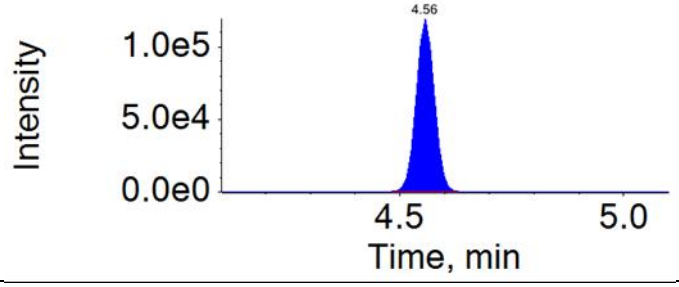


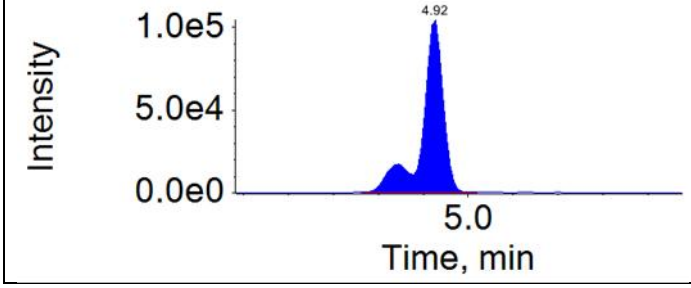
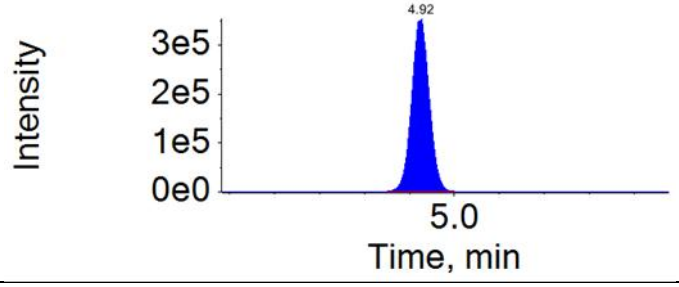
APPROVED
By JPT at 2:53 pm, 11/7/18

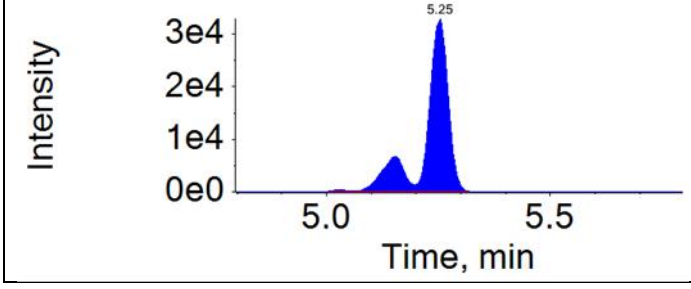
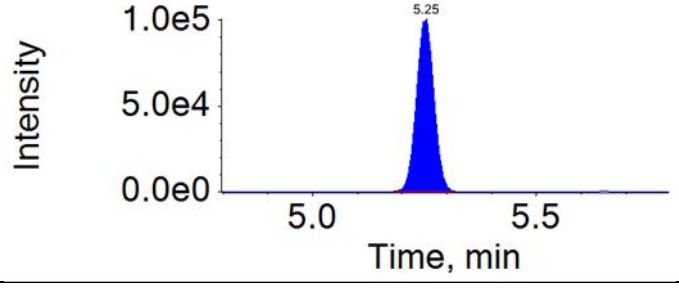
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

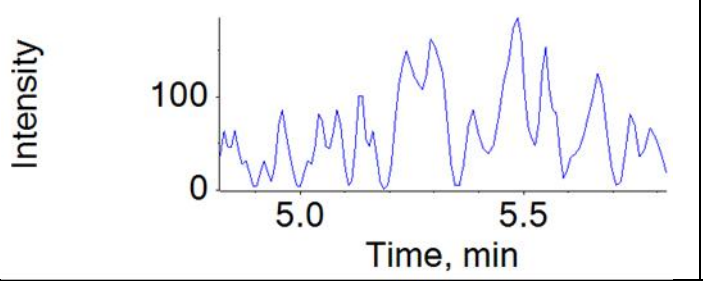
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

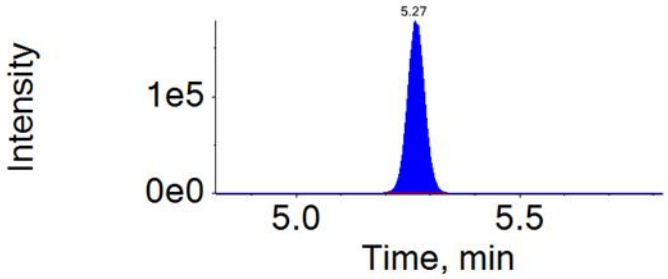
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

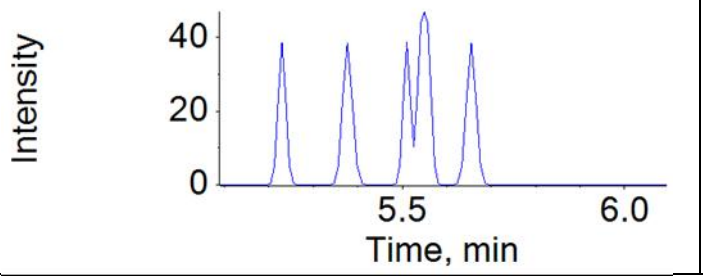
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

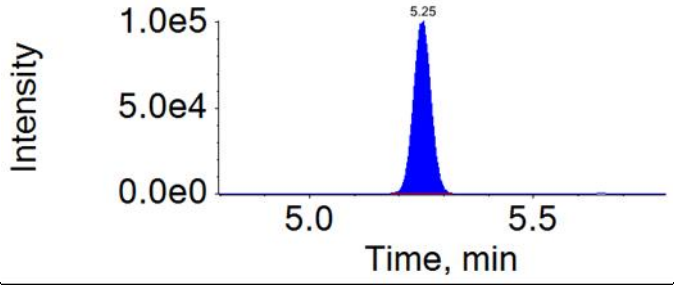
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



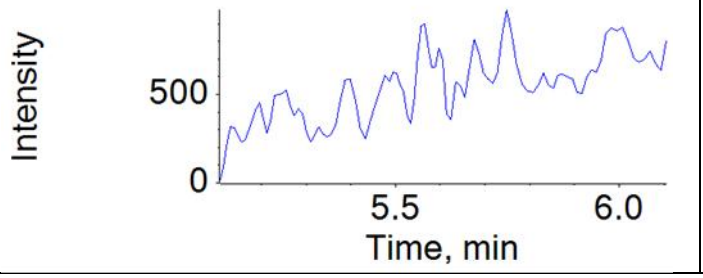


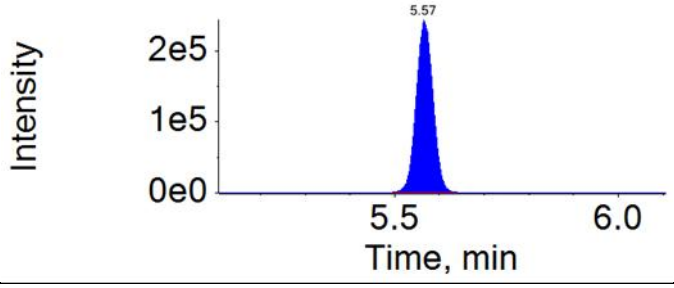
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



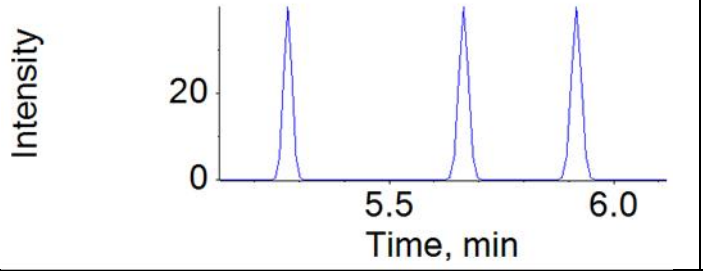


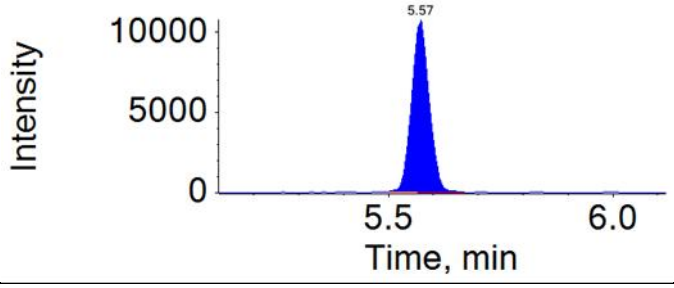
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



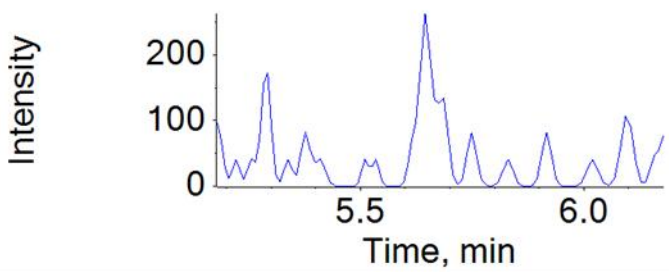


APPROVED
By JPT at 2:54 pm, 11/7/18

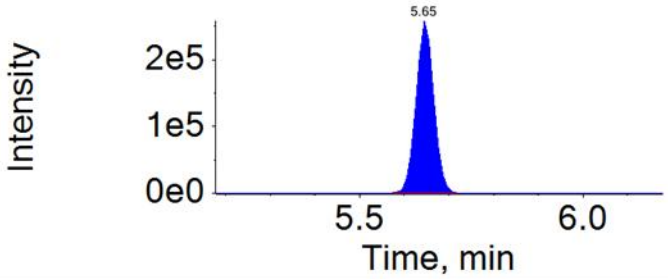
REVIEWED
By umar at 5:24 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

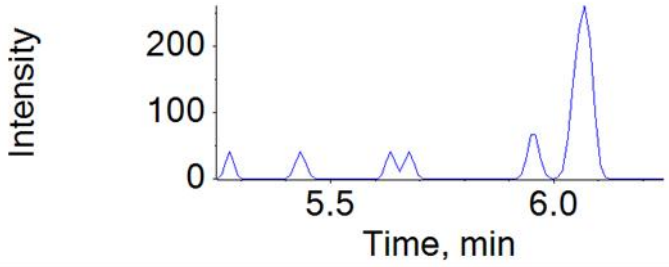
Analyte: PFOSA
498.0 / 78.0



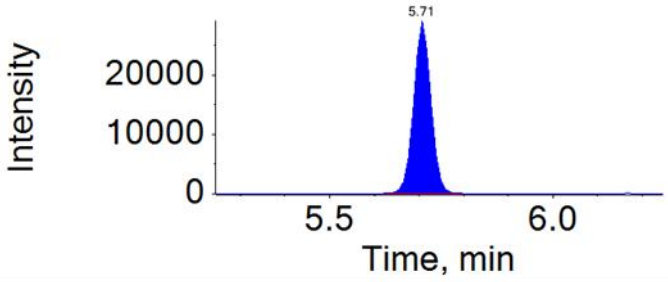
Extraction Standard: 13C8-PFOSA
506.0 / 78.0



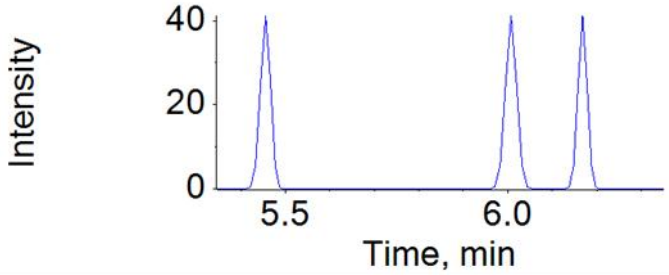
Analyte: NMeFOSAA
570.0 / 419.0



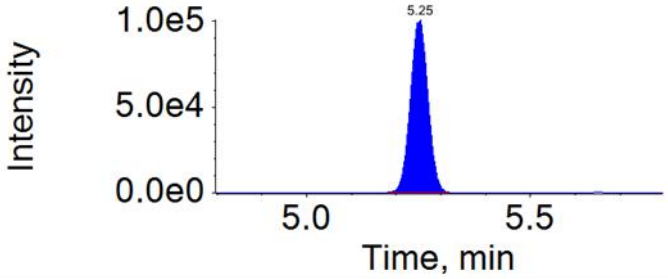
Extraction Standard: d3-NMeFOSAA
573.0 / 419.0



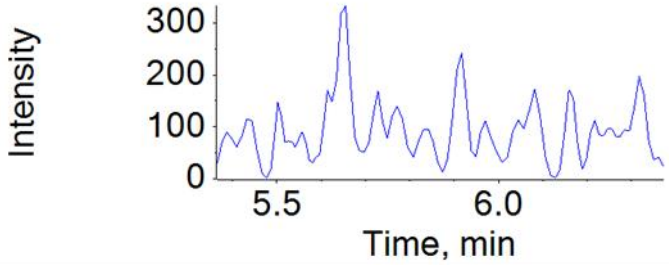
Analyte: PFDS
599.0 / 80.0



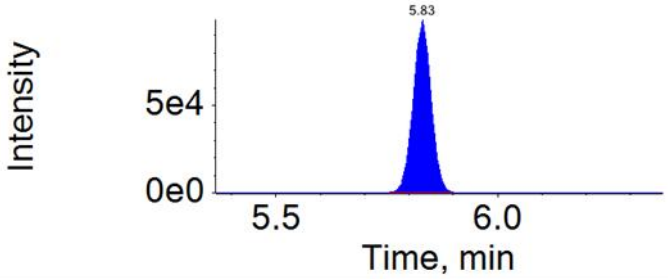
Extraction Standard: 13C8-PFOS
507.0 / 80.0



Analyte: PFUnDA
563.0 / 519.0



Extraction Standard: 13C7-PFUnDA
570.0 / 525.0

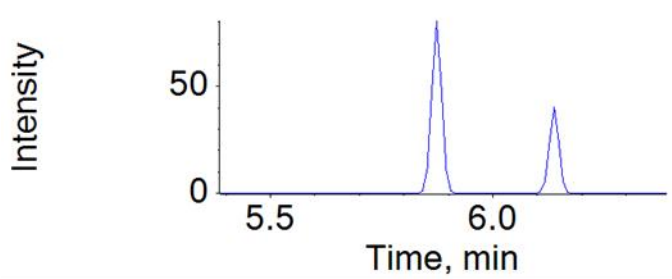


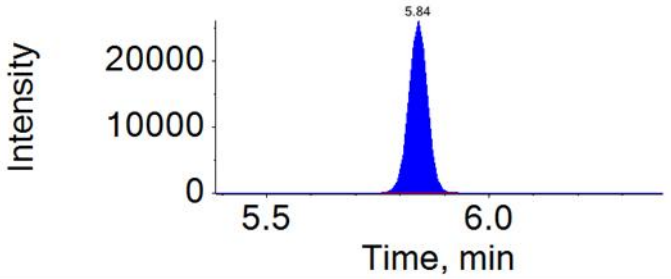
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

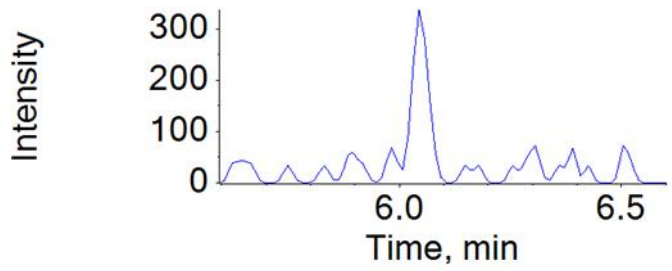
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

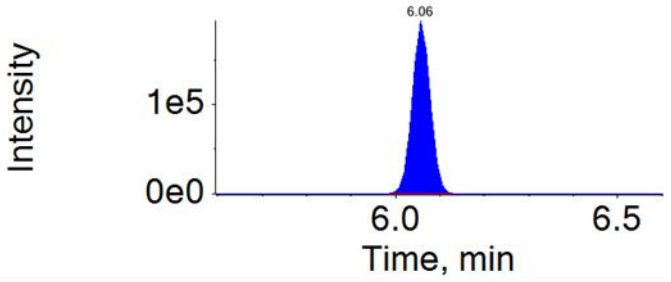
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



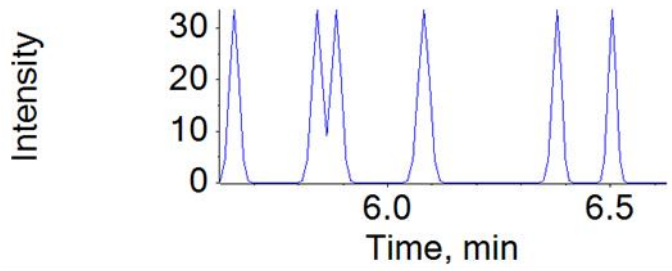


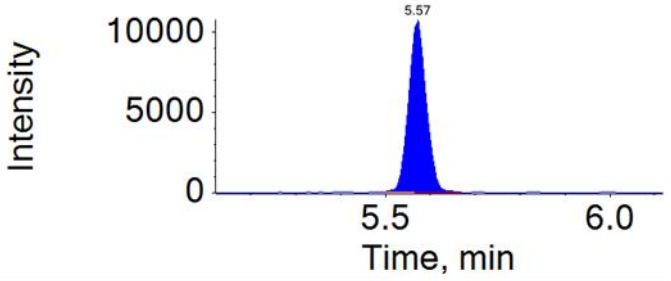
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



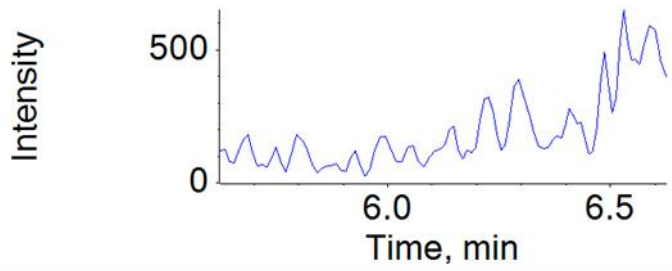


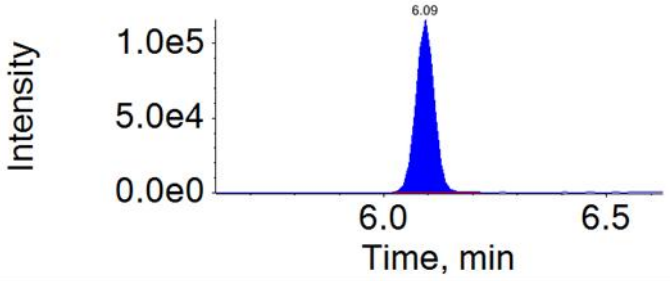
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



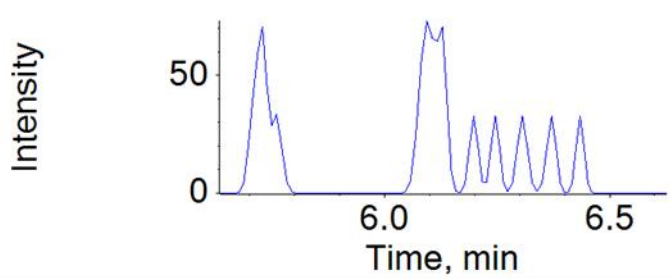


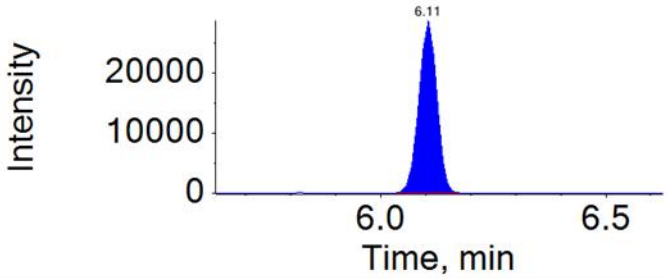
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

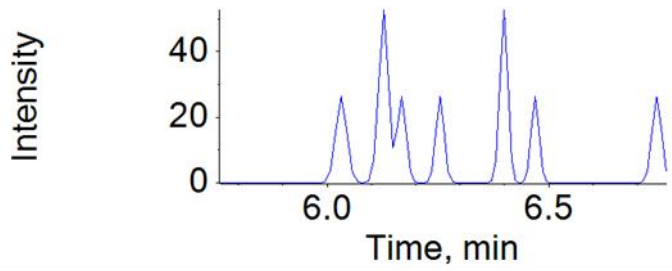
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

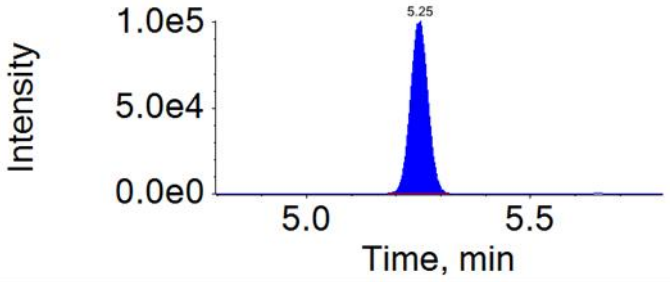
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



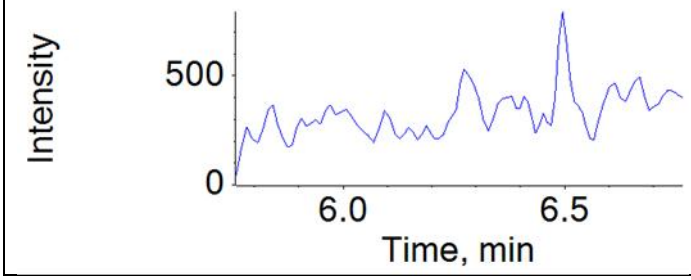


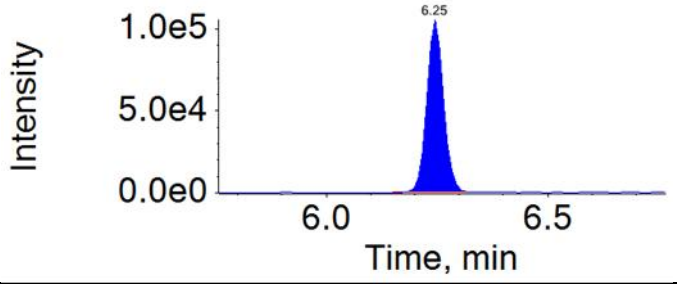
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



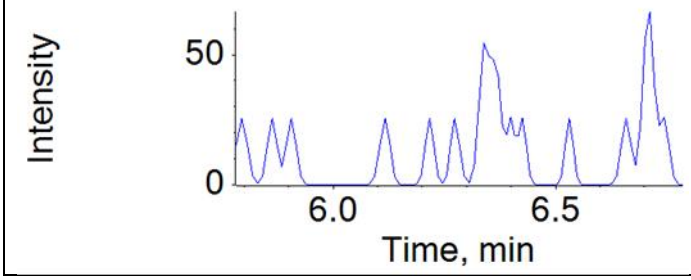


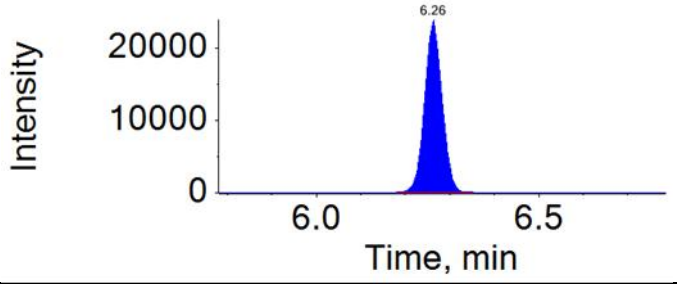
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0



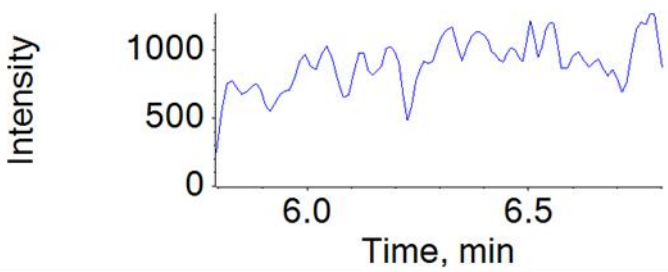
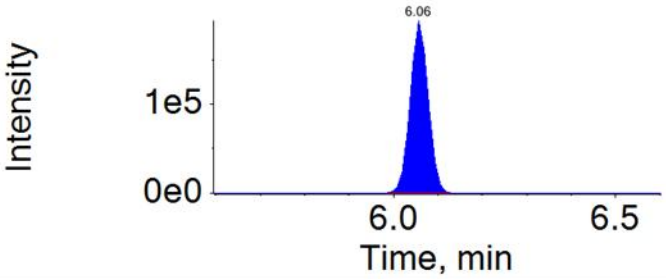


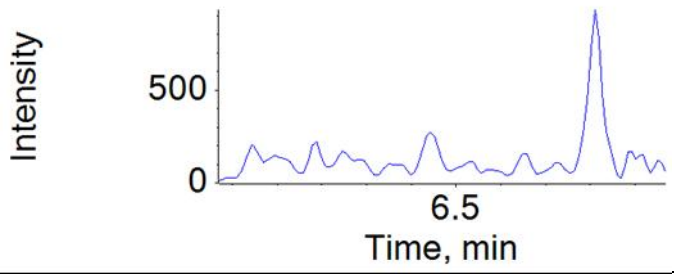
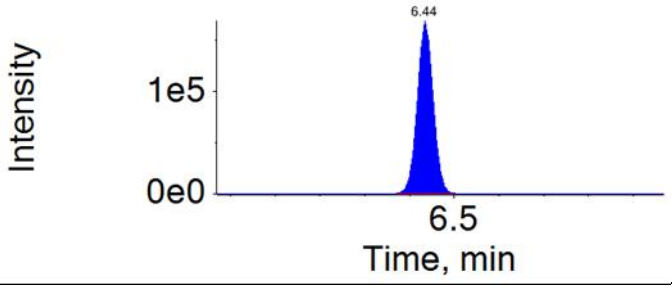
Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

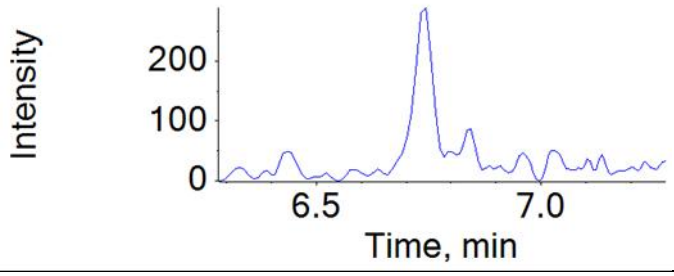
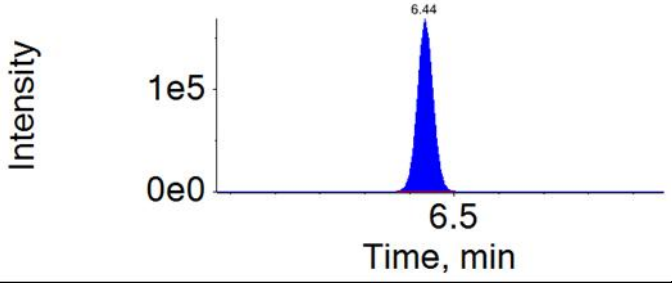


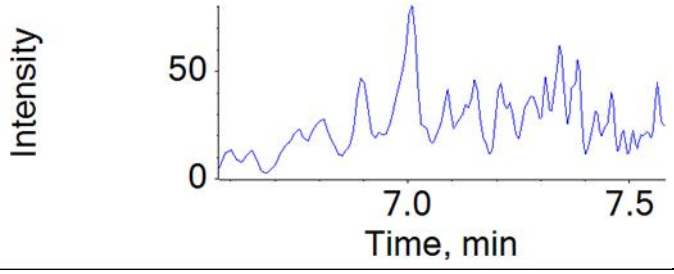
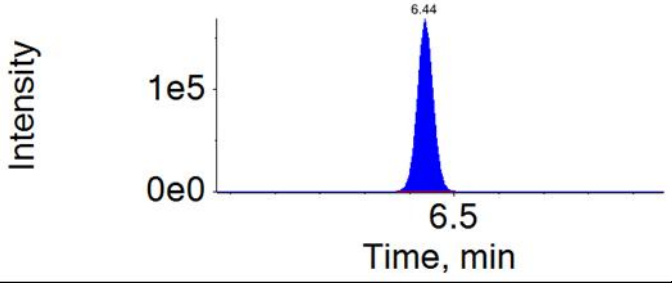


ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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
	

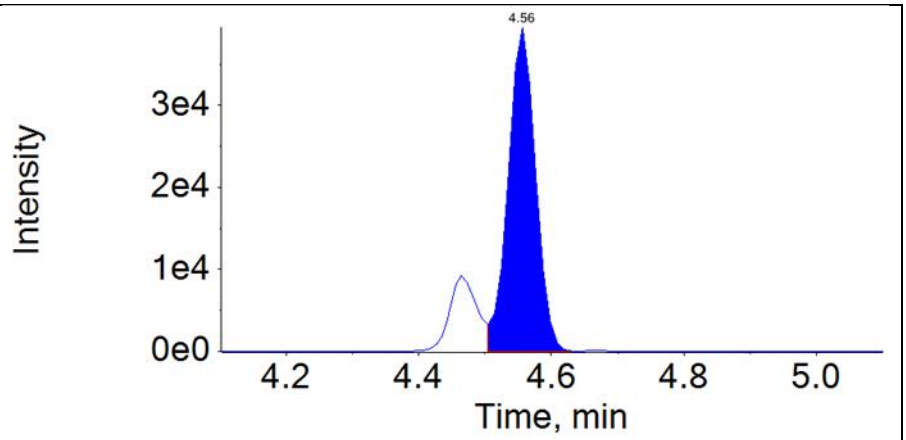
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

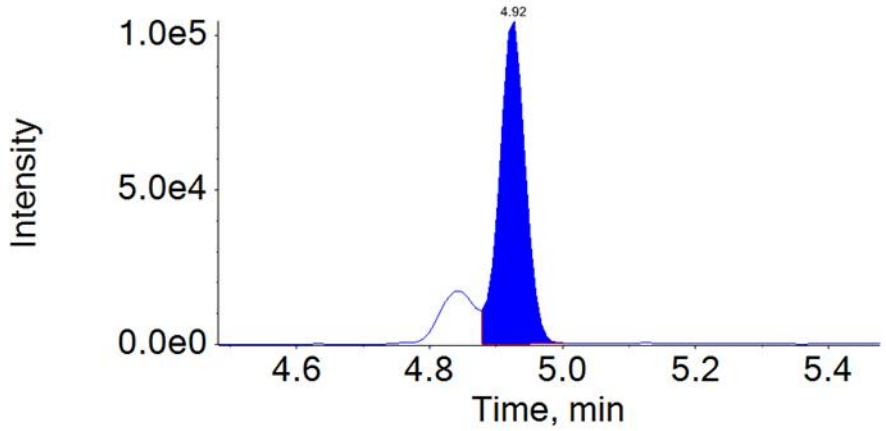
Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
113540.6
Mass Range:
399.0 / 80.0
File Name:
18NOV07DCAL-19.wiff
Sample Name:
L+B CAL3



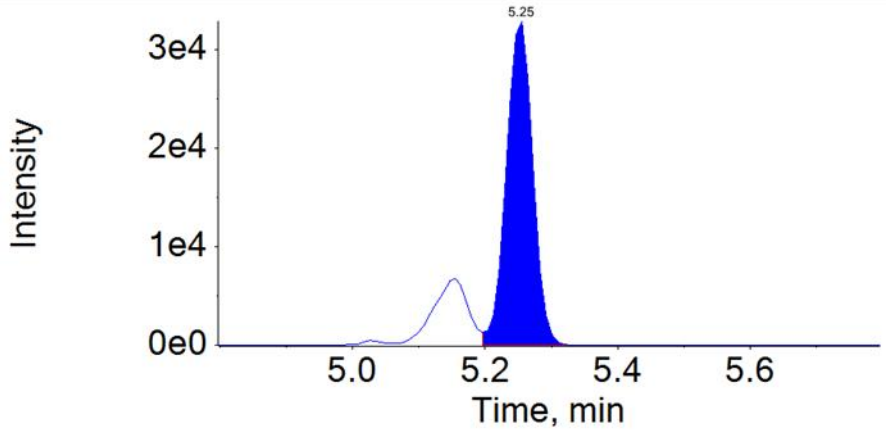
Integration Comment: incorrect integration

Component Name:
PFOA
RT (min.):
4.92
Peak Area:
284491.6
Mass Range:
413.0 / 369.0
File Name:
18NOV07DCAL-19.wiff
Sample Name:
L+B CAL3



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
91841.8
Mass Range:
499.0 / 80.0
File Name:
18NOV07DCAL-19.wiff
Sample Name:
L+B CAL3

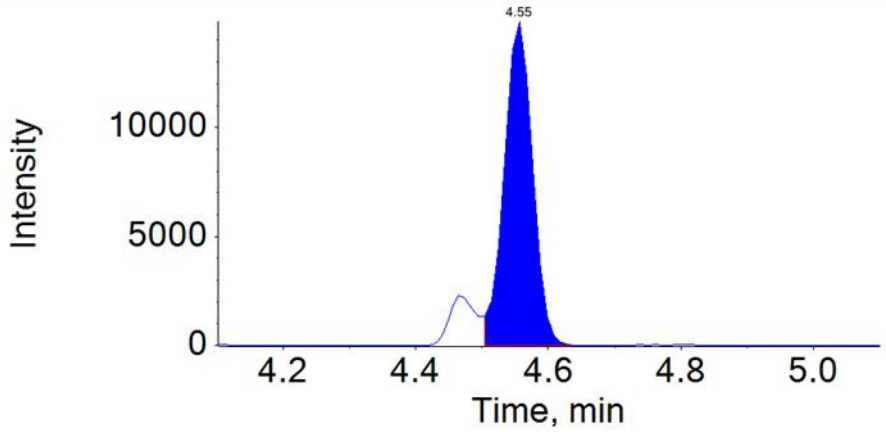


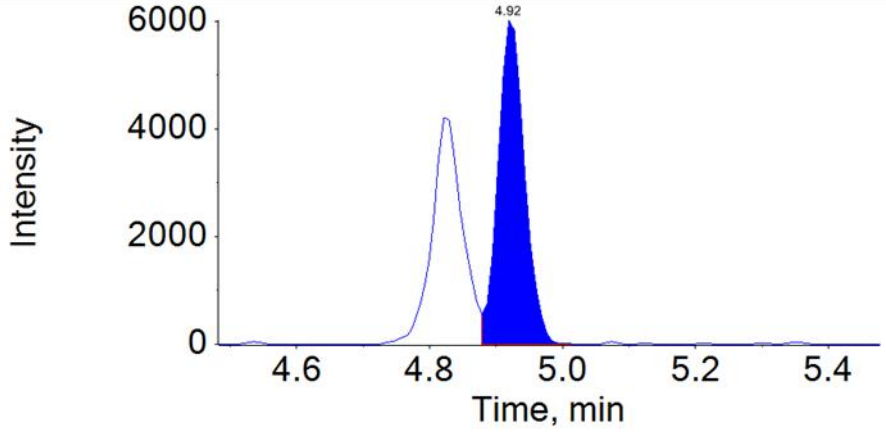
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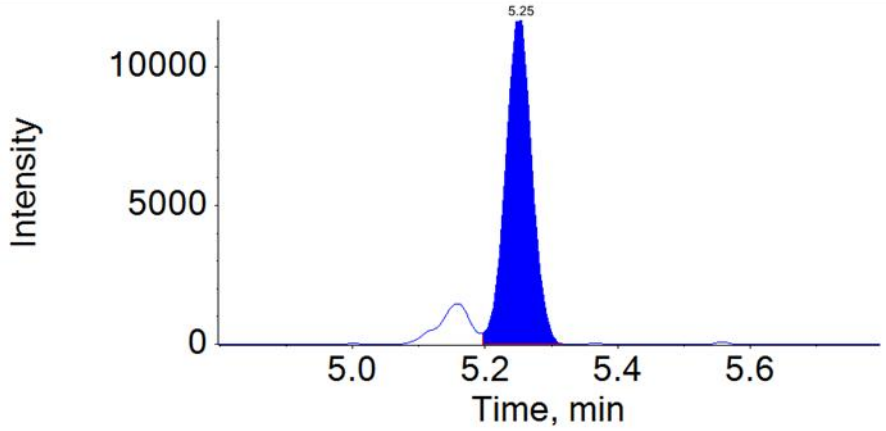
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name: PFHxS_2 **RT (min.):** 4.55 **Peak Area:** 44357.1 **Mass Range:** 399.0 / 99.0 **File Name:** 18NOV07DCAL-19.wiff **Sample Name:** L+B CAL3	 **Integration Comment:** incorrect integration

Component Name: PFOA_2 **RT (min.):** 4.92 **Peak Area:** 16848.6 **Mass Range:** 413.0 / 169.0 **File Name:** 18NOV07DCAL-19.wiff **Sample Name:** L+B CAL3	 **Integration Comment:** incorrect integration

Component Name: PFOS_2 **RT (min.):** 5.25 **Peak Area:** 32705.6 **Mass Range:** 499.0 / 99.0 **File Name:** 18NOV07DCAL-19.wiff **Sample Name:** L+B CAL3	 **Integration Comment:** incorrect integration

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

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REVIEWED
By umar at 5:24 pm, 11/9/18

Ion Ratio Report

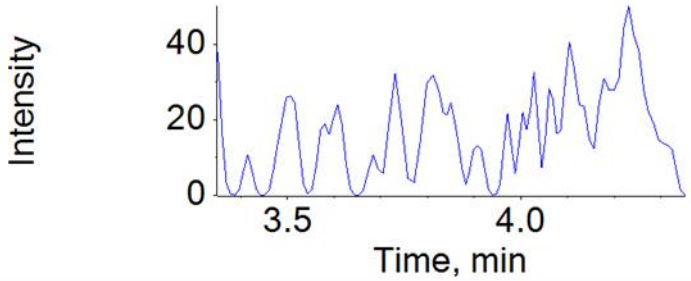
Sample Name: L+B CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-19.wiff

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	0.3576	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	0.6359	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	0.5384	N/A		50	
PFHxS	4.56	1.00	140012.1	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	50830.8	M	0.3569	0.3630	2	50	
PFHpA	N/A	N/A	N/A	A	1.0000	N/A			
PFHpA_2	N/A	N/A	N/A	A	0.0577	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	0.6752	N/A		50	
PFHpS	N/A	N/A	N/A	A	1.0000	N/A			
PFHpS_2	N/A	N/A	N/A	A	0.3950	N/A		50	
PFOA	4.92	1.00	347563.0	M	1.0000	1.0000			
PFOA_2	4.90	0.99	30355.3	M	0.0635	0.0873	38	50	
PFOS	5.25	1.00	117649.0	M	1.0000	1.0000			
PFOS_2	5.25	1.00	37584.5	M	0.3494	0.3195	-9	50	
PFNA	N/A	N/A	N/A	A	1.0000	N/A			
PFNA_2	N/A	N/A	N/A	A	0.0207	N/A		50	
PFNS	N/A	N/A	N/A	A	1.0000	N/A			
PFNS_2	N/A	N/A	N/A	A	0.4890	N/A		50	
PFDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDA_2	N/A	N/A	N/A	A	0.0057	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	0.6169	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	0.2206	N/A		50	
PFDS	N/A	N/A	N/A	A	1.0000	N/A			
PFDS_2	N/A	N/A	N/A	A	0.4648	N/A		50	
PFUnDA	N/A	N/A	N/A	A	1.0000	N/A			
PFUnDA_2	N/A	N/A	N/A	A	0.0031	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	1.0000	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	0.6082	N/A		50	
PFDoDA	N/A	N/A	N/A	A	1.0000	N/A			
PFDoDA_2	N/A	N/A	N/A	A	0.0109	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	0.7082	N/A		50	
PFTrDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTrDA_2	N/A	N/A	N/A	A	0.0096	N/A		50	
PFTeDA	N/A	N/A	N/A	A	1.0000	N/A			
PFTeDA_2	N/A	N/A	N/A	A	0.0055	N/A		50	
PFHxDA	N/A	N/A	N/A	A	1.0000	N/A			
PFHxDA_2	N/A	N/A	N/A	A	0.0596	N/A		50	
PFODA	N/A	N/A	N/A	A	1.0000	N/A			
PFODA_2	N/A	N/A	N/A	A	0.0257	N/A		50	

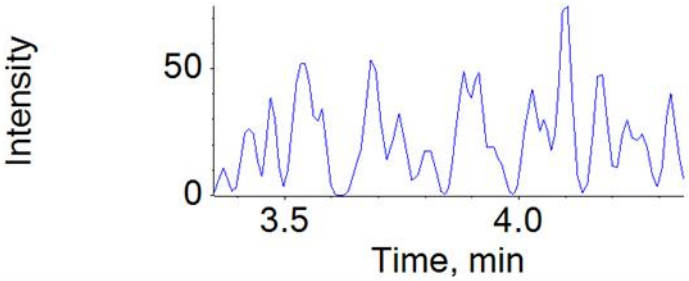
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

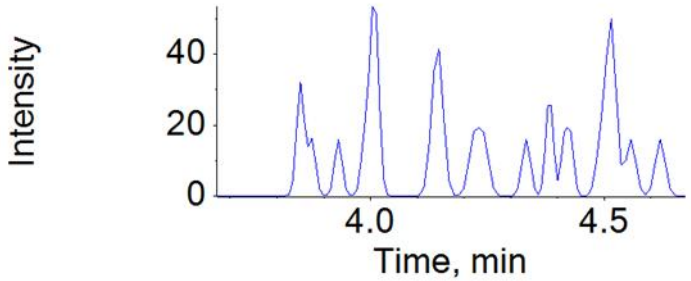
Component: PFBS
Primary Mass: 299.0 / 80.0



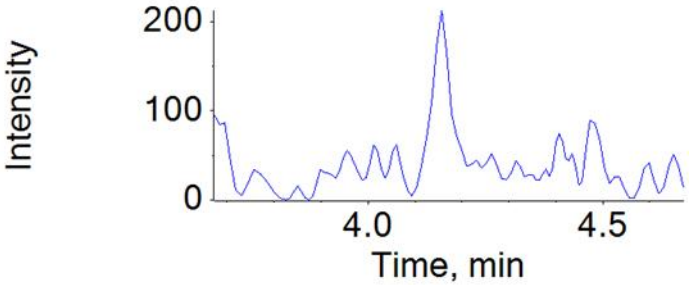
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



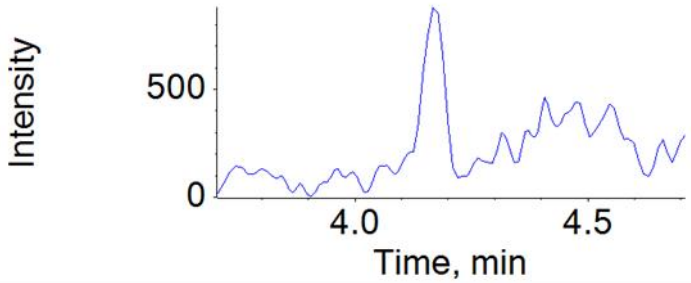
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



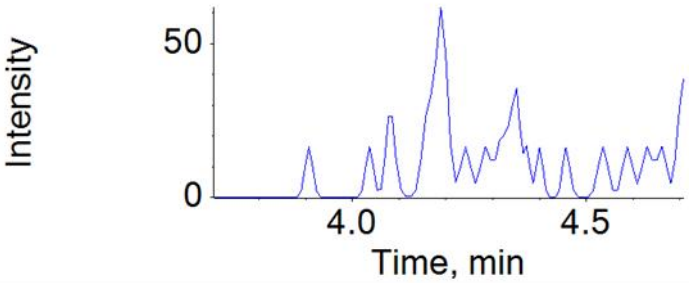
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Secondary Mass: 327.0 / 81.0



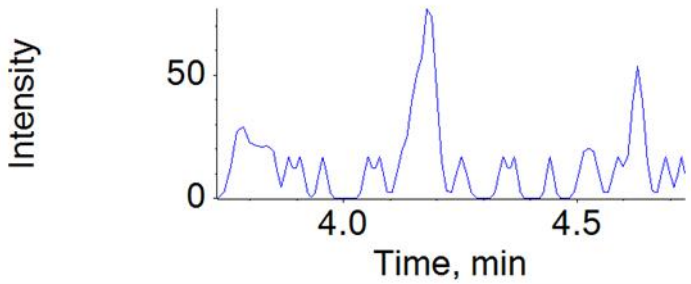
Component: PFHxA
Primary Mass: 313.0 / 269.0



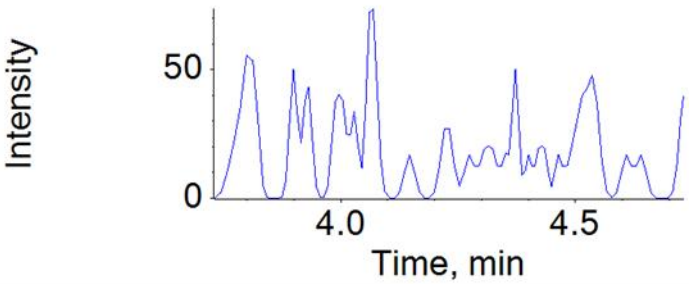
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



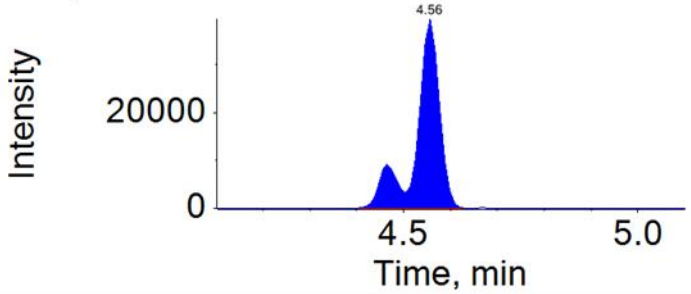
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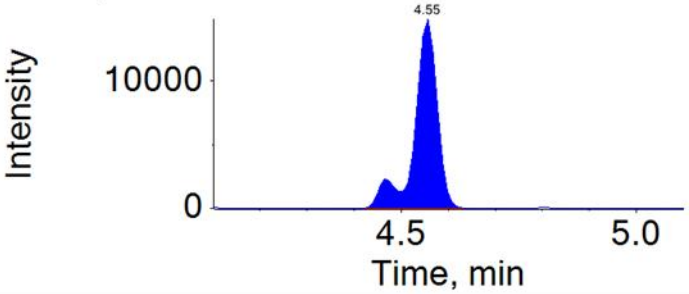
APPROVED
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REVIEWED
By umar at 5:24 pm, 11/9/18

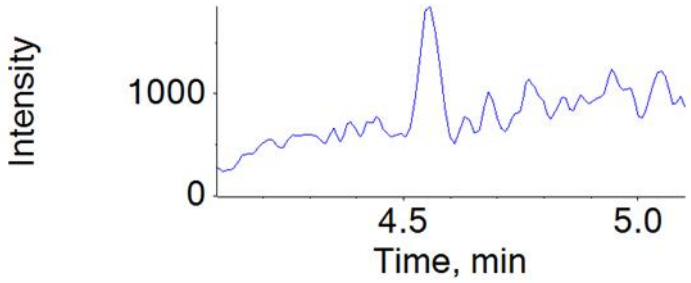
Component: PFHxS
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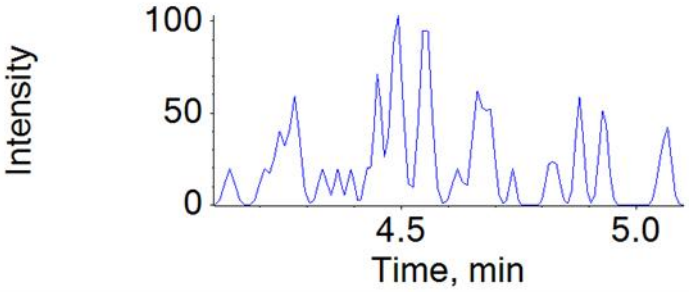
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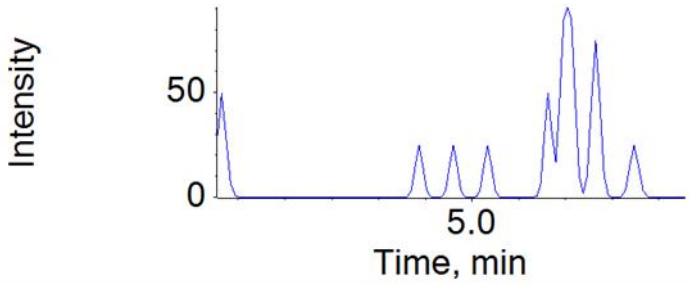
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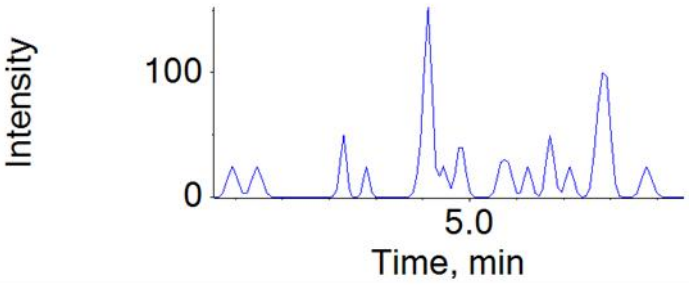
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Secondary Mass: 363.0 / 169.0



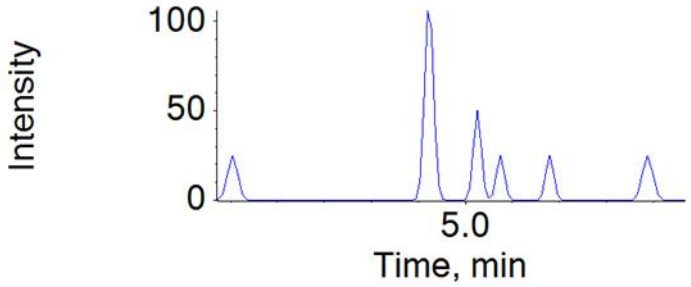
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



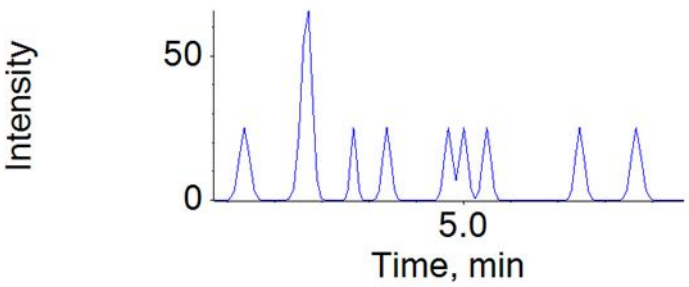
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



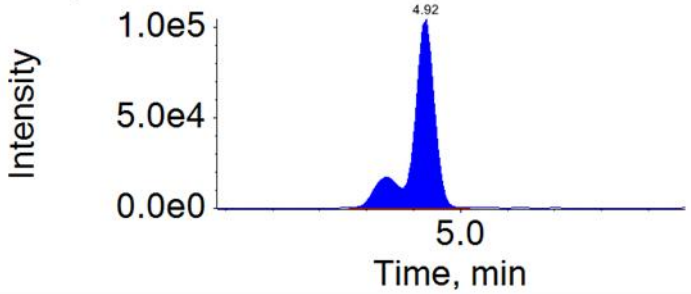
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



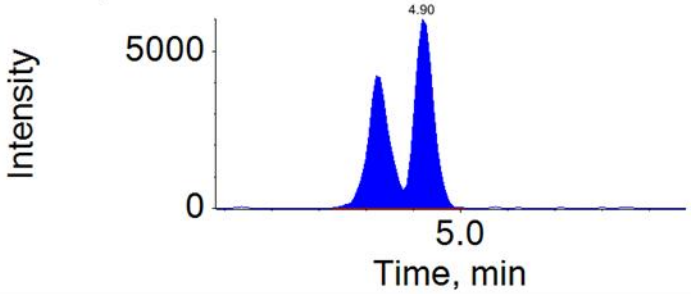
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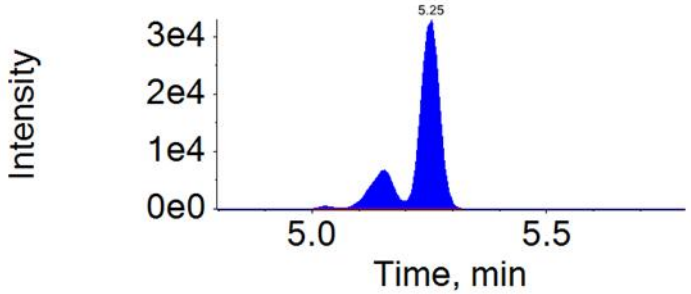
Component: PFOA
Primary Mass: 413.0 / 369.0



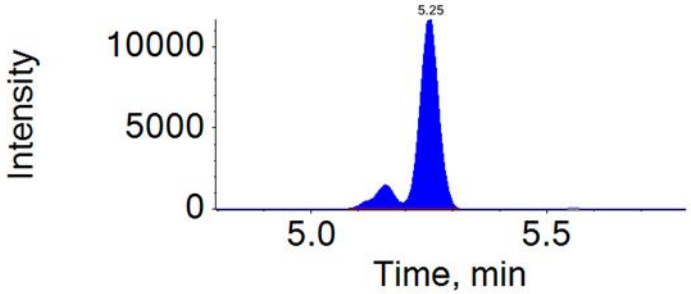
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



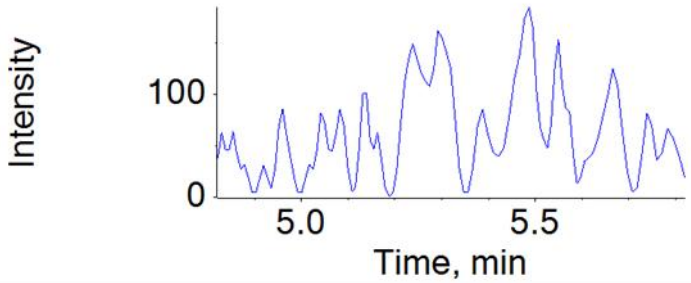
Component: PFOS
Primary Mass: 499.0 / 80.0



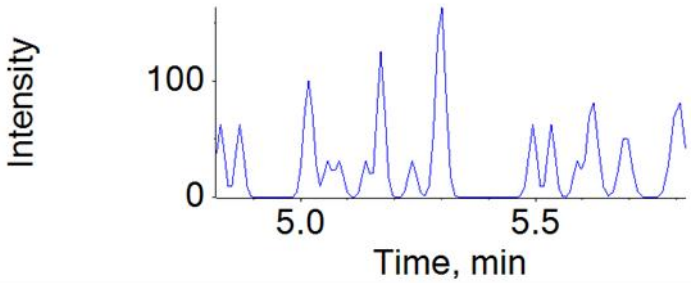
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



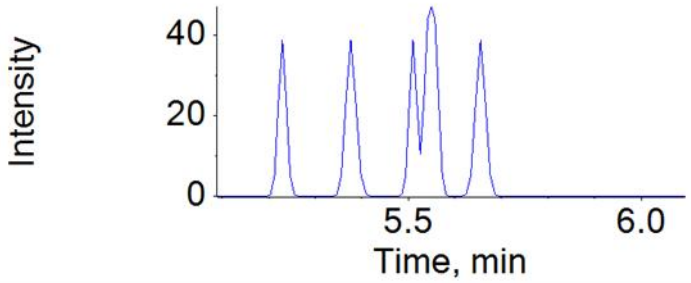
Component: PFNA
Primary Mass: 463.0 / 419.0



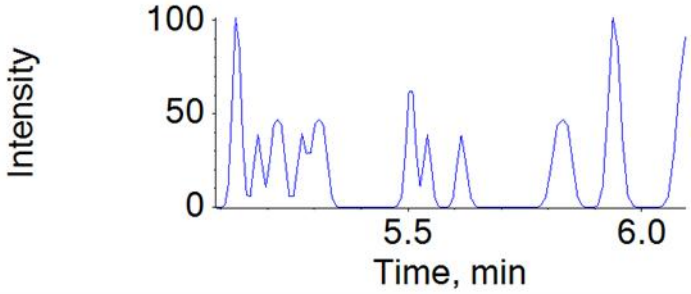
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



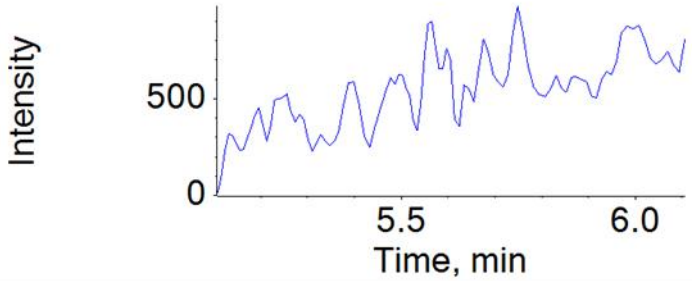
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



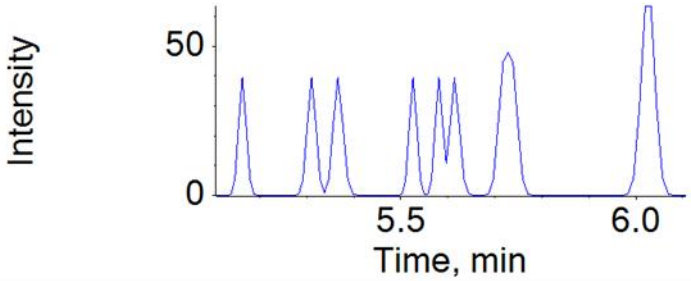
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

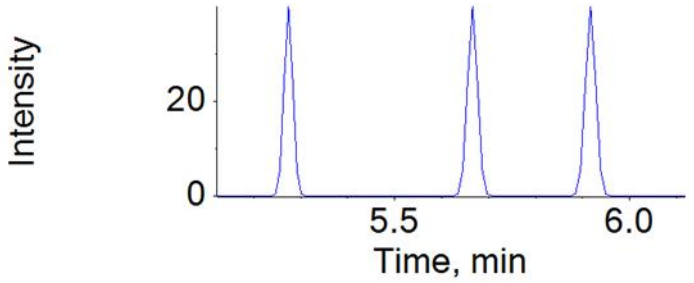
Component: PFDA
Primary Mass: 513.0 / 469.0



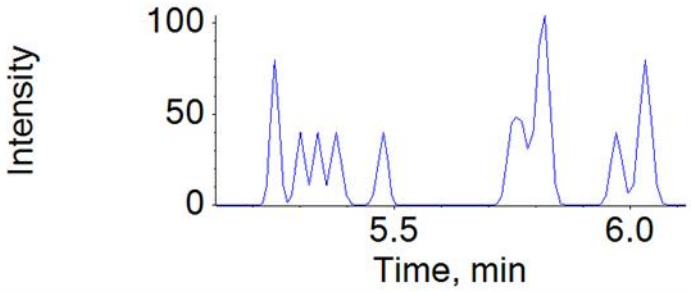
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



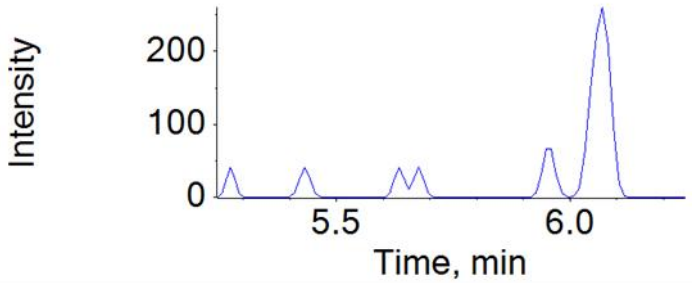
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



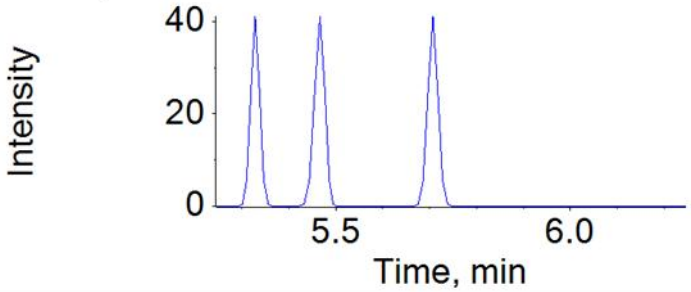
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



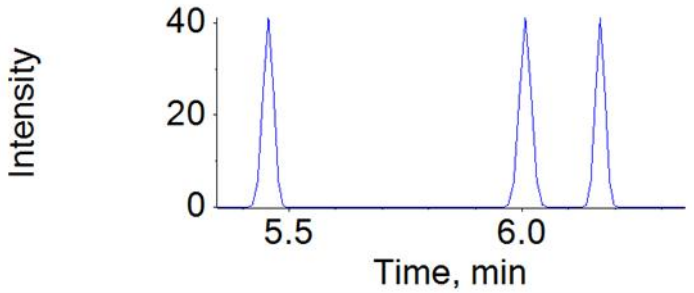
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



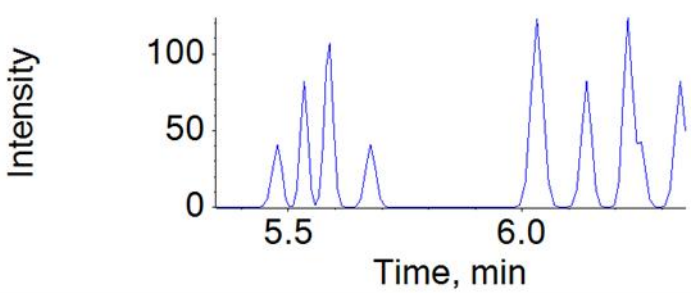
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



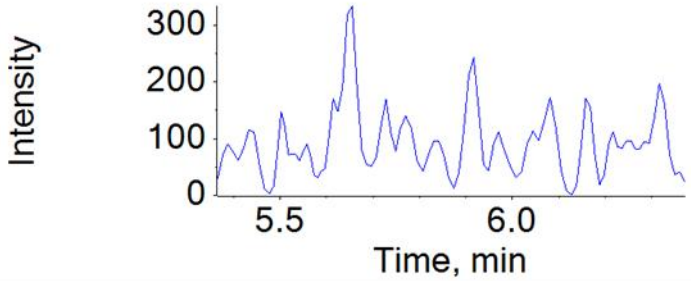
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



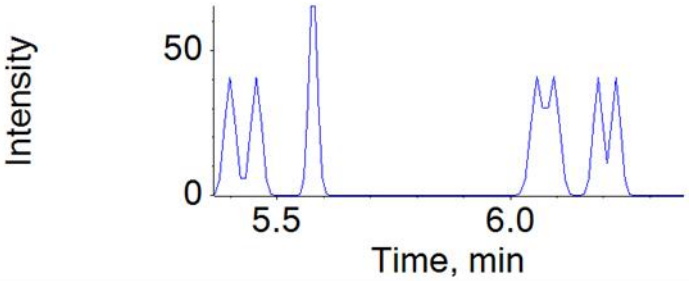
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

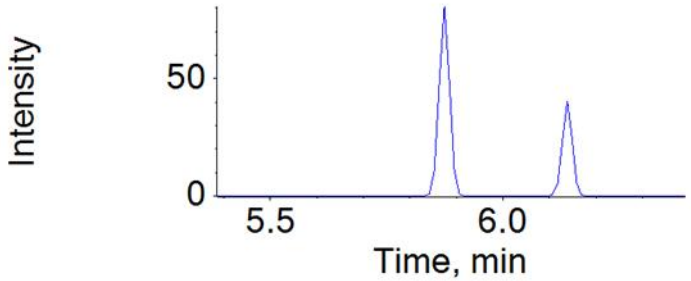
Component: PFUnDA
Primary Mass: 563.0 / 519.0



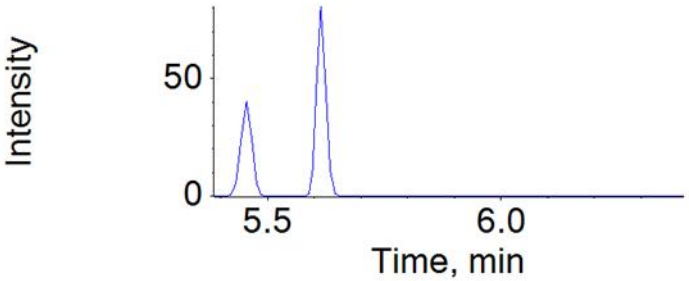
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



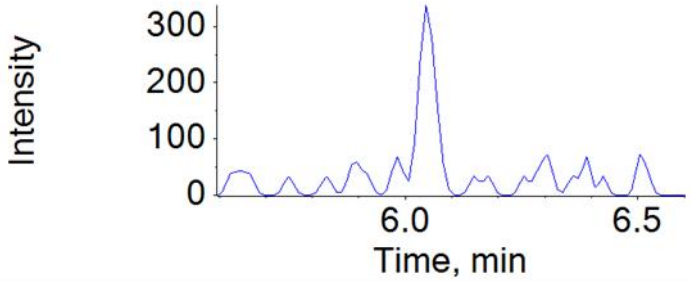
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



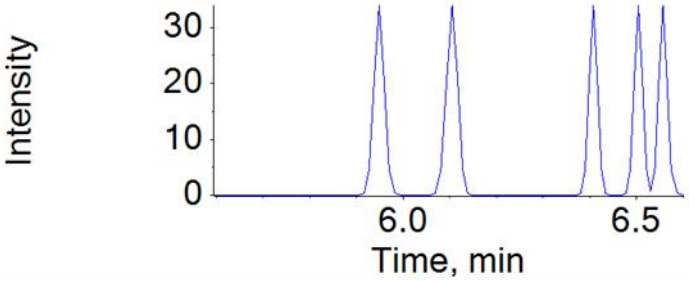
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



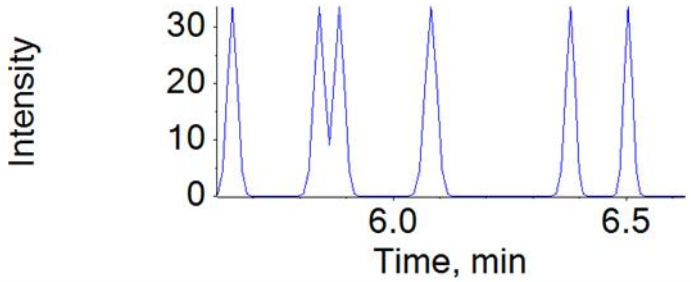
Component: PFDoDA
Primary Mass: 613.0 / 569.0



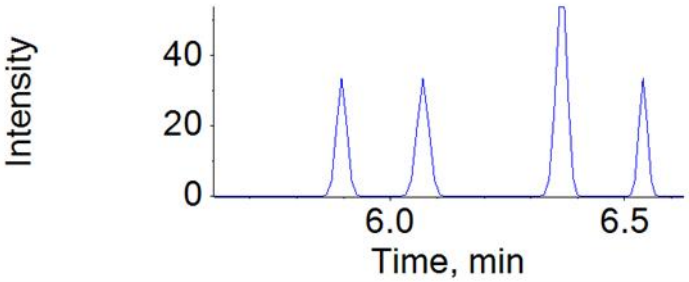
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



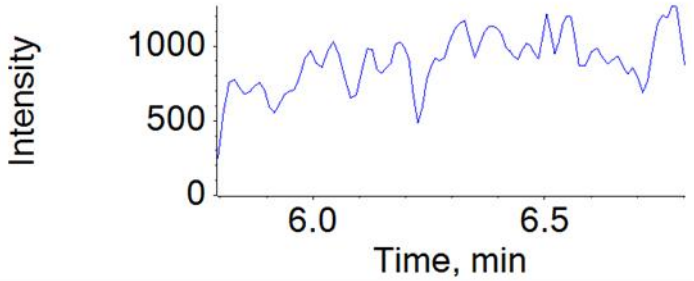
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



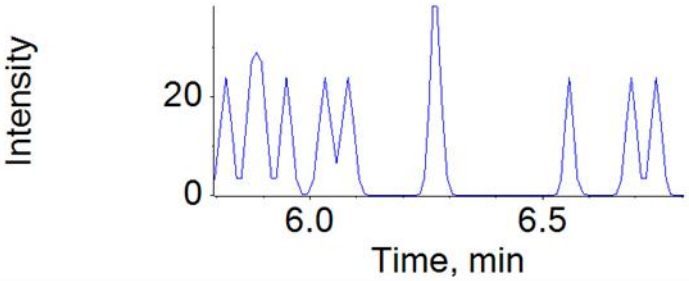
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

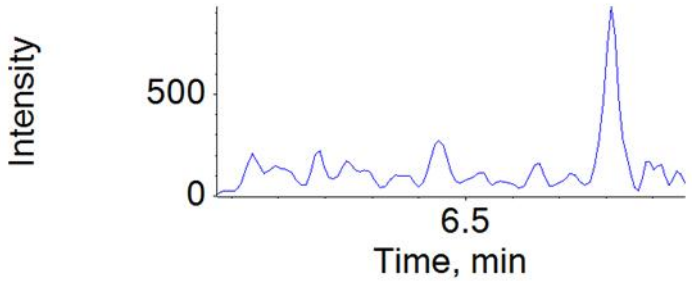
Component: PFTrDA
Primary Mass: 663.0 / 619.0



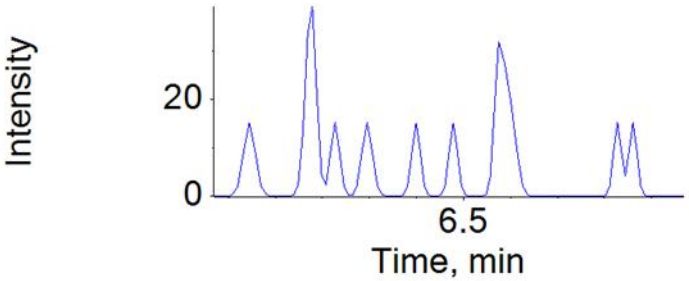
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



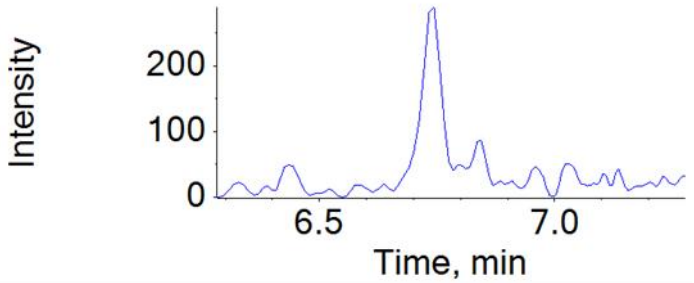
Component: PFTeDA
Primary Mass: 713.0 / 669.0



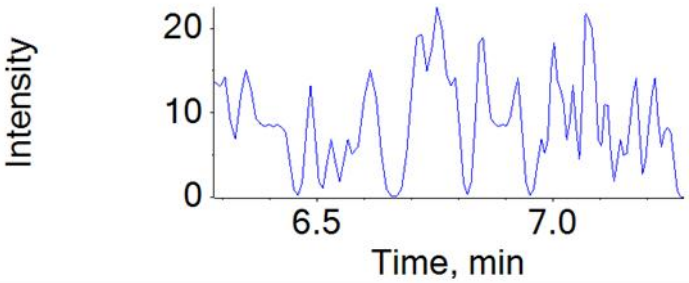
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



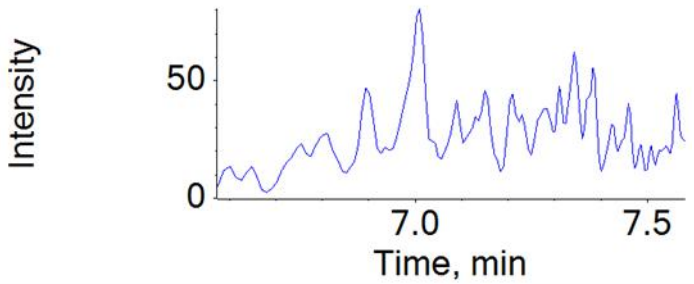
Component: PFHxDA
Primary Mass: 813.0 / 769.0



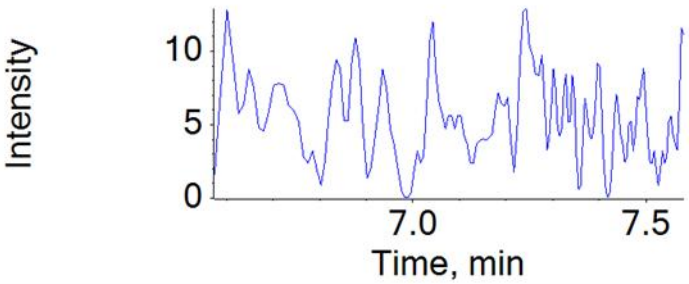
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



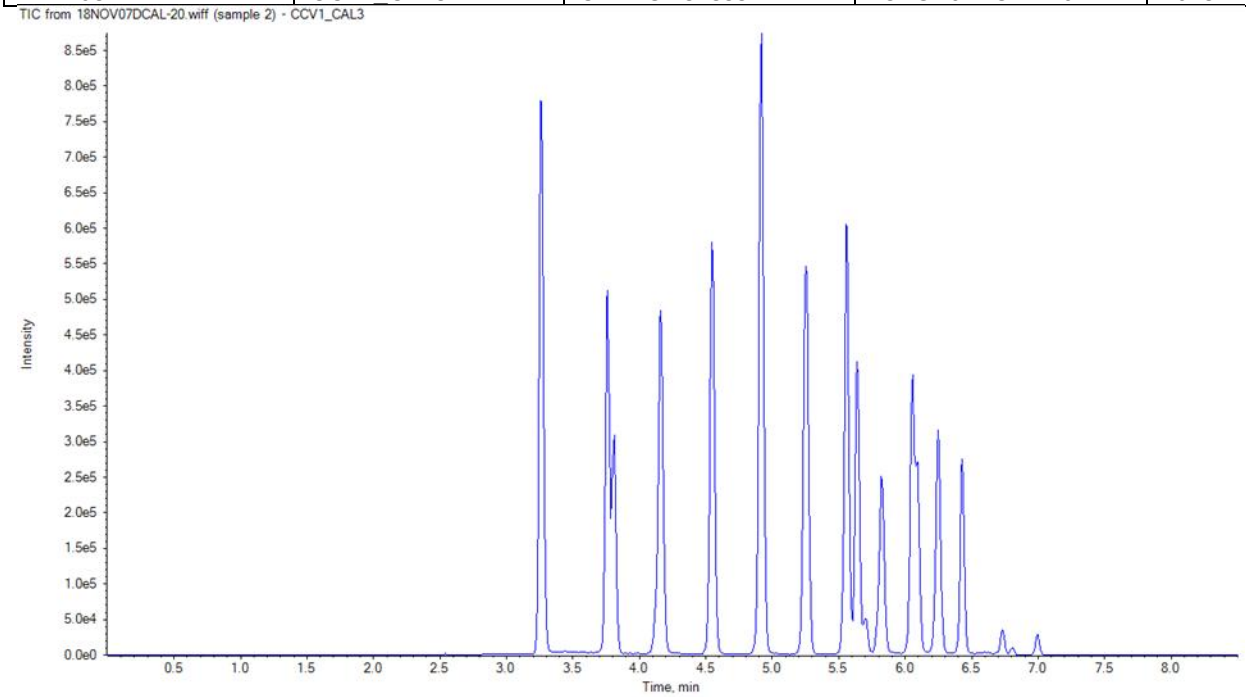
APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALMOD31833F	18NOV07DCAL-20.wiff	2018-11-07T11:09:59



Injection Standard Area Reference File: 18NOV07DCAL-12

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	721701.6	730410.6	-1	50	
13C2-PFOA	5.0	512566.9	524423.6	-2	50	
13C4-PFOS	4.8	267946.3	274061.7	-2	50	
13C2-PFDA	5.0	316670.3	311442.1	2	50	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_CAL3	CALMOD31833F	18NOV07DCAL-20.wiff	2018-11-07T11:09:59

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	278381.8	10	13C4-PFBA	780482.5	5.0	0.357	3.26	1.000	2.000	2.087	4	30	
PFPeA	286996.9	12	13C5-PFPeA	819317.3	5.0	0.350	3.76	1.000	2.000	2.082	4	30	
PFBS	155917.1	11	13C3-PFBS	430650.1	4.7	0.362	3.81	1.000	1.770	1.825	3	30	
4:2-FTS	41869.1	11	13C2-4:2-FTS	53424.6	4.7	0.784	4.13	1.000	1.980	2.107	6	30	
PFHxA	355844.6	12	13C5-PFHxA	678729.1	5.0	0.524	4.16	1.000	2.000	2.248	12	30	
PFPeS	84840.7	11	13C3-PFBS	430650.1	4.7	0.197	4.18	1.100	1.880	1.943	3	30	
PFHxS	126167.9	12	13C3-PFHxS	332171.0	4.7	0.380	4.55	1.000	1.890	1.925	2	30	
PFHpA	359438.8	12	13C4-PFHpA	553115.2	5.0	0.650	4.55	1.000	2.000	2.186	9	30	
6:2-FTS	30418.5	11	13C2-6:2-FTS	39617.7	4.8	0.768	4.91	1.000	2.090	1.915	-8	30	
PFHpS	118682.9	11	13C3-PFHxS	332171.0	4.7	0.357	4.91	1.080	1.900	1.869	-2	30	
PFOA	363186.2	11	13C8-PFOA	951797.5	5.0	0.382	4.92	1.000	2.000	2.148	7	30	
PFOS	113455.6	11	13C8-PFOS	281657.2	4.8	0.403	5.24	1.000	1.910	2.089	9	30	
PFNA	284061.5	11	13C9-PFNA	514994.9	5.0	0.552	5.26	1.000	2.000	2.061	3	30	
PFNS	70168.8	10	13C8-PFOS	281657.2	4.8	0.249	5.54	1.060	1.920	1.975	3	30	
PFDA	243089.4	11	13C6-PFDA	643202.5	5.0	0.378	5.56	1.000	2.000	2.079	4	30	
8:2-FTS	25674.2	11	13C2-8:2-FTS	27654.3	4.8	0.928	5.56	1.000	2.110	2.093	-1	30	
PFOSA	272309.7	12	13C8-PFOSA	710116.3	5.0	0.383	5.64	1.000	2.000	2.073	4	30	
NMeFOSAA	27107.5	12	d3-NMeFOSAA	85750.0	5.0	0.316	5.71	1.000	2.000	1.627	-19	30	
PFDS	57911.4	12	13C8-PFOS	281657.2	4.8	0.206	5.80	1.110	1.930	1.964	2	30	
PFUnDA	206684.1	12	13C7-PFUnDA	274326.2	5.0	0.753	5.82	1.000	2.000	2.161	8	30	
NEtFOSAA	29353.4	12	d5-NEtFOSAA	64529.1	5.0	0.455	5.84	1.000	2.000	1.955	-2	30	
PFDoDA	220745.0	12	13C2-PFDoDA	586710.7	5.0	0.376	6.05	1.000	2.000	2.039	2	30	
10:2-FTS	14526.2	12	13C2-8:2-FTS	27654.3	4.8	0.525	6.07	1.090	2.120	1.636	-23	30	
NMePFOSAE	157888.7	12	d7-NMePFOSAE	328201.0	5.0	0.481	6.10	1.000	2.000	2.156	8	30	
NMePFOSA	30788.7	12	d3-NMePFOSA	80699.5	5.0	0.382	6.10	1.000	2.000	2.136	7	30	
PFDoS	30510.8	11	13C8-PFOS	281657.2	4.8	0.108	6.22	1.190	1.940	2.091	8	30	
NEtPFOSAE	187574.4	11	d9-NEtPFOSAE	274277.4	5.0	0.684	6.25	1.000	2.000	2.192	10	30	
NEtPFOSA	29547.8	12	d5-NEtPFOSA	72708.8	5.0	0.406	6.26	1.000	2.000	1.790	-11	30	
PFTrDA	191338.9	11	13C2-PFDoDA	586710.7	5.0	0.326	6.25	1.030	2.000	2.057	3	30	
PFTeDA	153182.8	11	13C2-PFTeDA	429266.0	5.0	0.357	6.43	1.000	2.000	2.096	5	30	
PFHxDA	71156.3	11	13C2-PFTeDA	429266.0	5.0	0.166	6.73	1.050	2.000	2.058	3	30	
PFODA	60356.7	10	13C2-PFTeDA	429266.0	5.0	0.141	6.99	1.090	2.000	2.014	1	30	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_CAL3			**Data File:**		18NOV07DCAL-20.wiff
Sample ID:	CALMOD31833F			**Acquis Date:**		2018-11-07T11:09:59
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCAL
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	N/A			**Operator:**		JPT12262
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: 18NOV07DCAL-12

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	721701.6	730410.6	-1	50	
13C2-PFOA	5.0	512566.9	524423.6	-2	50	
13C4-PFOS	4.8	267946.3	274061.7	-2	50	
13C2-PFDA	5.0	316670.3	311442.1	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	780482.5	13C3-PFBA	721701.6	1.081	5.000	5.005	100	70-130	
E13C5-PFPeA	819317.3	13C3-PFBA	721701.6	1.135	5.000	4.946	99	70-130	
E13C3-PFBS	430650.1	13C3-PFBA	721701.6	0.597	4.650	4.379	94	70-130	
E13C2-4:2-FTS	53424.6	13C2-PFOA	512566.9	0.104	4.670	4.703	101	70-130	
E13C5-PFHxA	678729.1	13C2-PFOA	512566.9	1.324	5.000	4.871	97	70-130	
E13C3-PFHxS	332171.0	13C2-PFOA	512566.9	0.648	4.730	4.652	98	70-130	
E13C4-PFHpA	553115.2	13C2-PFOA	512566.9	1.079	5.000	4.909	98	70-130	
E13C2-6:2-FTS	39617.7	13C2-PFOA	512566.9	0.077	4.750	5.154	109	70-130	
E13C8-PFOA	951797.5	13C2-PFOA	512566.9	1.857	5.000	5.178	104	70-130	
E13C8-PFOS	281657.2	13C4-PFOS	267946.3	1.051	4.780	4.648	97	70-130	
E13C9-PFNA	514994.9	13C4-PFOS	267946.3	1.922	5.000	5.250	105	70-130	
E13C6-PFDA	643202.5	13C2-PFDA	316670.3	2.031	5.000	5.108	102	70-130	
E13C2-8:2-FTS	27654.3	13C2-PFDA	316670.3	0.087	4.790	4.621	96	70-130	
E13C8-PFOSA	710116.3	13C2-PFDA	316670.3	2.242	5.000	4.893	98	70-130	
Ed3-NMeFOSAA	85750.0	13C2-PFDA	316670.3	0.271	5.000	5.036	101	70-130	
E13C7-PFUnDA	274326.2	13C2-PFDA	316670.3	0.866	5.000	4.997	100	70-130	
Ed5-NEtFOSAA	64529.1	13C2-PFDA	316670.3	0.204	5.000	4.716	94	70-130	
E13C2-PFDoDA	586710.7	13C2-PFDA	316670.3	1.853	5.000	4.995	100	70-130	
Ed7-NMePFOSAE	328201.0	13C2-PFDA	316670.3	1.036	5.000	4.820	96	70-130	
Ed3-NMePFOSA	80699.5	13C2-PFDA	316670.3	0.255	5.000	4.665	93	70-130	
Ed9-NEtPFOSAE	274277.4	13C2-PFDA	316670.3	0.866	5.000	4.946	99	70-130	
Ed5-NEtPFOSA	72708.8	13C2-PFDA	316670.3	0.230	5.000	5.316	106	70-130	
E13C2-PFTeDA	429266.0	13C2-PFDA	316670.3	1.356	5.000	4.880	98	70-130	

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

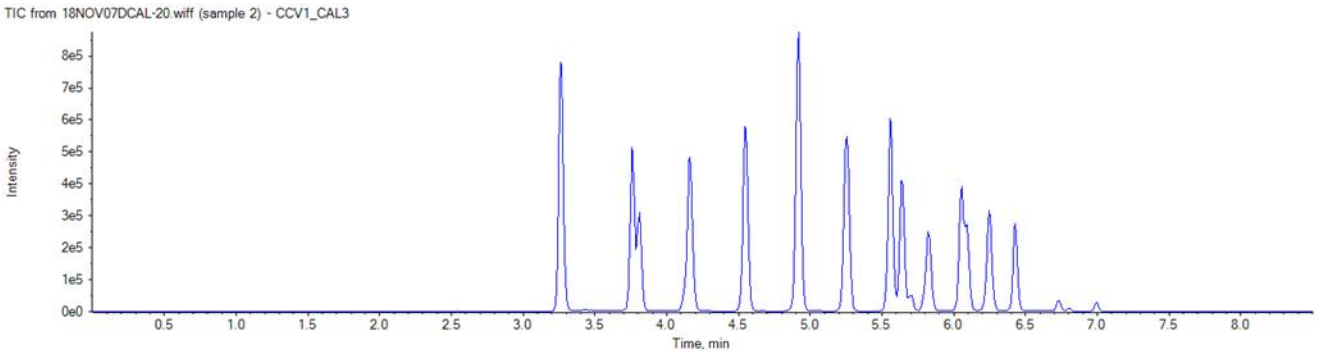
Analyte Quantitation Peak Table

Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-20.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	278381.8		A	13C4-PFBA	3.26	780482.5	0.357	2.087
PFPeA	3.76	1.000	286996.9		A	13C5-PFPeA	3.76	819317.3	0.350	2.082
PFBS	3.81	1.000	155917.1		A	13C3-PFBS	3.81	430650.1	0.362	1.825
4:2-FTS	4.13	1.000	41869.1		A	13C2-4:2-FTS	4.13	53424.6	0.784	2.107
PFHxA	4.16	1.000	355844.6		A	13C5-PFHxA	4.16	678729.1	0.524	2.248
PFPeS	4.18	1.100	84840.7		A	13C3-PFBS	3.81	430650.1	0.197	1.943
PFHxS	4.55	1.000	126167.9		A	13C3-PFHxS	4.55	332171.0	0.380	1.925
PFHpA	4.55	1.000	359438.8		A	13C4-PFHpA	4.55	553115.2	0.650	2.186
6:2-FTS	4.91	1.000	30418.5		A	13C2-6:2-FTS	4.91	39617.7	0.768	1.915
PFHpS	4.91	1.080	118682.9		A	13C3-PFHxS	4.55	332171.0	0.357	1.869
PFOA	4.92	1.000	363186.2		A	13C8-PFOA	4.92	951797.5	0.382	2.148
PFOS	5.24	1.000	113455.6		M	13C8-PFOS	5.24	281657.2	0.403	2.089
PFNA	5.26	1.000	284061.5		A	13C9-PFNA	5.26	514994.9	0.552	2.061
PFNS	5.54	1.060	70168.8		A	13C8-PFOS	5.24	281657.2	0.249	1.975
PFDA	5.56	1.000	243089.4		A	13C6-PFDA	5.56	643202.5	0.378	2.079
8:2-FTS	5.56	1.000	25674.2		A	13C2-8:2-FTS	5.56	27654.3	0.928	2.093
PFOSA	5.64	1.000	272309.7		A	13C8-PFOSA	5.64	710116.3	0.383	2.073
NMeFOSAA	5.71	1.000	27107.5		A	d3-NMeFOSAA	5.70	85750.0	0.316	1.627
PFDS	5.80	1.110	57911.4		A	13C8-PFOS	5.24	281657.2	0.206	1.964
PFUnDA	5.82	1.000	206684.1		A	13C7-PFUnDA	5.82	274326.2	0.753	2.161
NEtFOSAA	5.84	1.000	29353.4		A	d5-NEtFOSAA	5.84	64529.1	0.455	1.955
PFDoDA	6.05	1.000	220745.0		A	13C2-PFDoDA	6.05	586710.7	0.376	2.039
10:2-FTS	6.07	1.090	14526.2		A	13C2-8:2-FTS	5.56	27654.3	0.525	1.636
NMePFOSAE	6.10	1.000	157888.7		A	d7-NMePFOSAE	6.09	328201.0	0.481	2.156
NMePFOSA	6.10	1.000	30788.7		A	d3-NMePFOSA	6.10	80699.5	0.382	2.136
PFDoS	6.22	1.190	30510.8		A	13C8-PFOS	5.24	281657.2	0.108	2.091
NEtPFOSAE	6.25	1.000	187574.4		A	d9-NEtPFOSAE	6.24	274277.4	0.684	2.192
NEtPFOSA	6.26	1.000	29547.8		A	d5-NEtPFOSA	6.26	72708.8	0.406	1.790
PFTrDA	6.25	1.030	191338.9		A	13C2-PFDoDA	6.05	586710.7	0.326	2.057
PFTeDA	6.43	1.000	153182.8		A	13C2-PFTeDA	6.43	429266.0	0.357	2.096
PFHxDA	6.73	1.050	71156.3		A	13C2-PFTeDA	6.43	429266.0	0.166	2.058
PFODA	6.99	1.090	60356.7		A	13C2-PFTeDA	6.43	429266.0	0.141	2.014

Total Ion Chromatogram

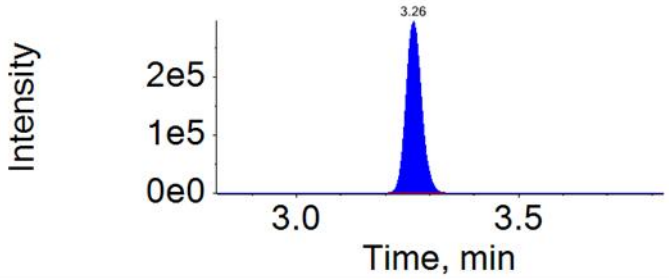


APPROVED
By JPT at 2:53 pm, 11/7/18

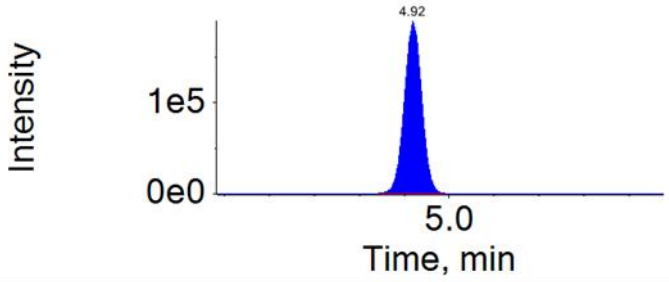
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

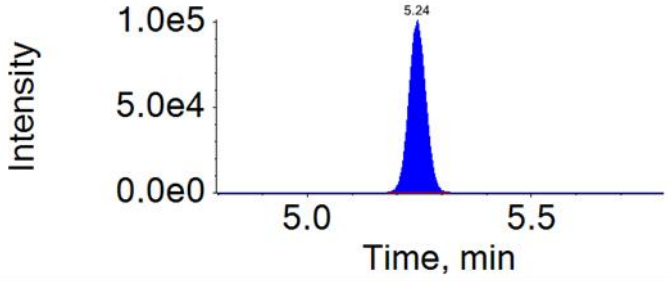
Injection Standard: 13C3-PFBA
216.0 / 172.0



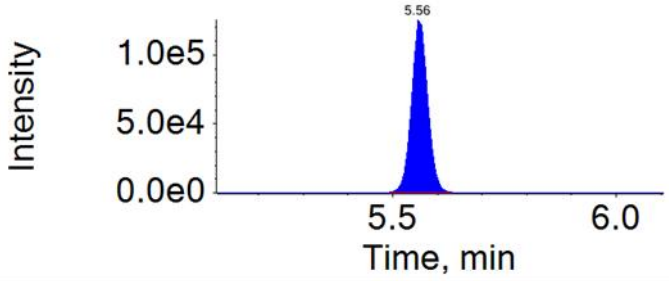
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



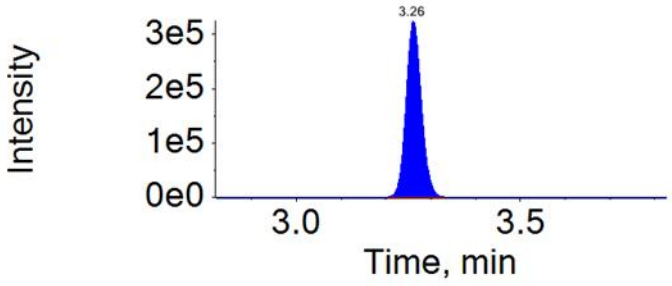
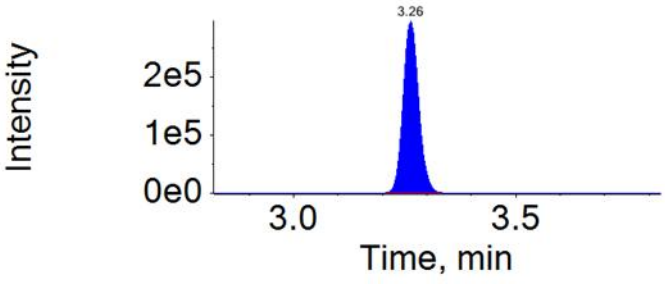
Injection Standard: 13C2-PFDA
515.0 / 470.0

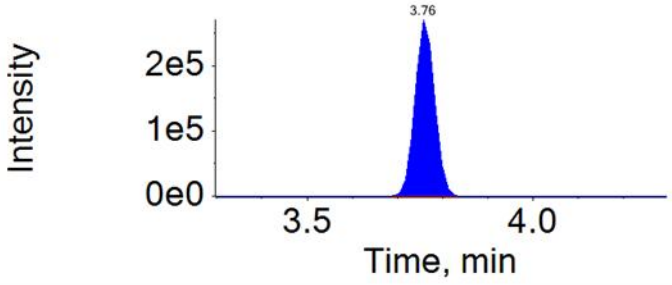
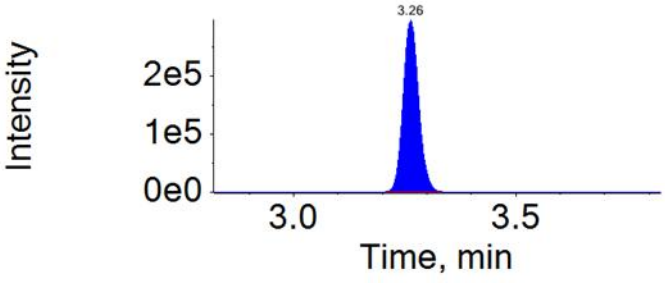


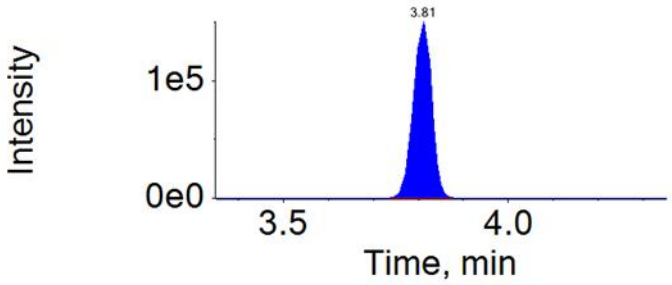
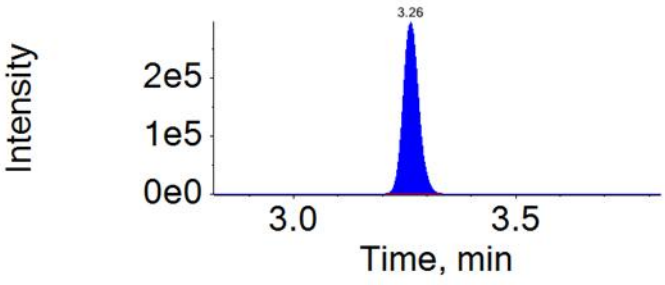
APPROVED
By JPT at 2:53 pm, 11/7/18

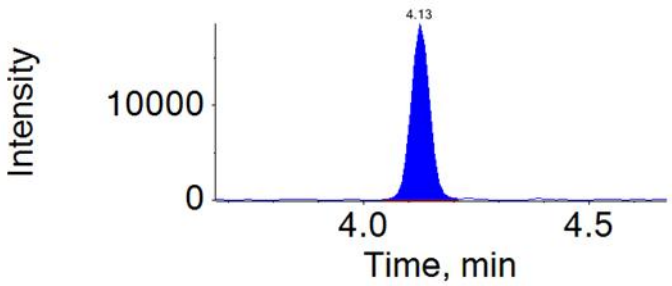
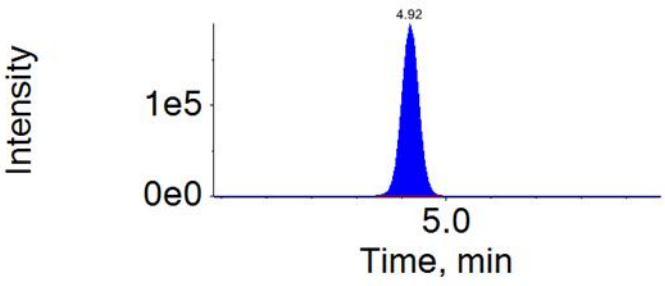
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

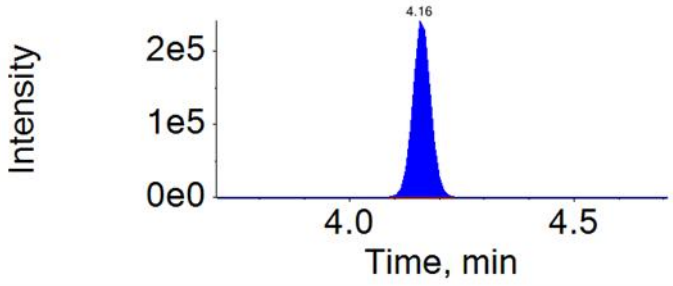
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

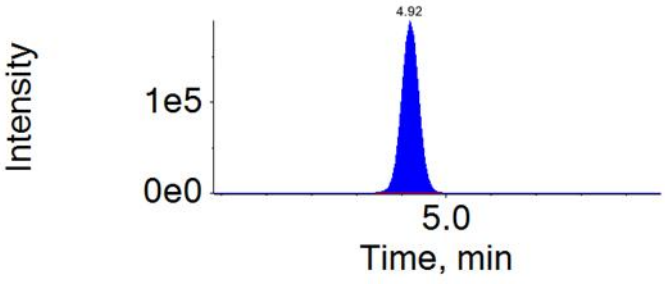
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

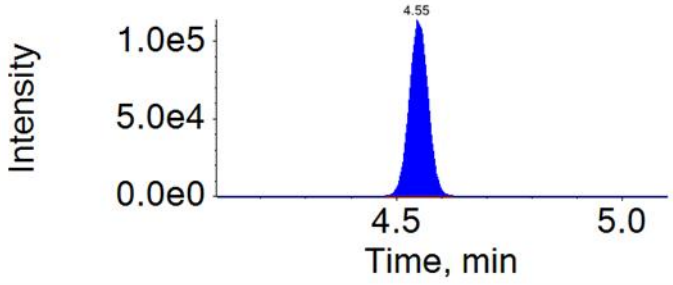
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

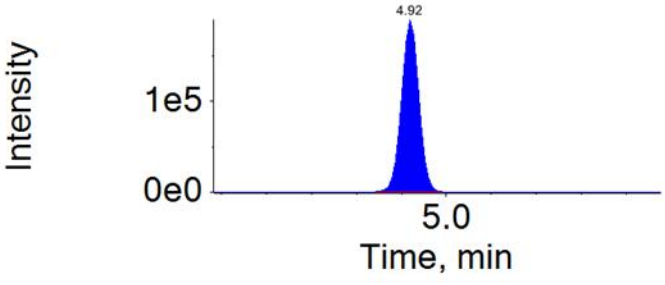
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



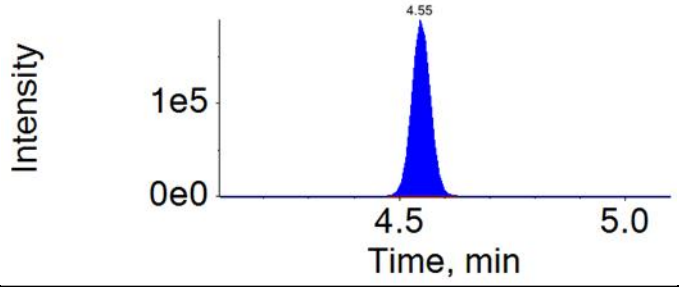


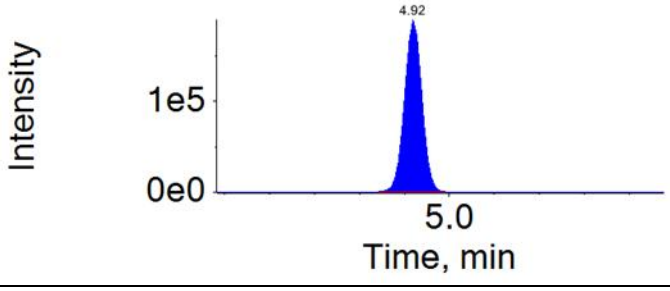
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



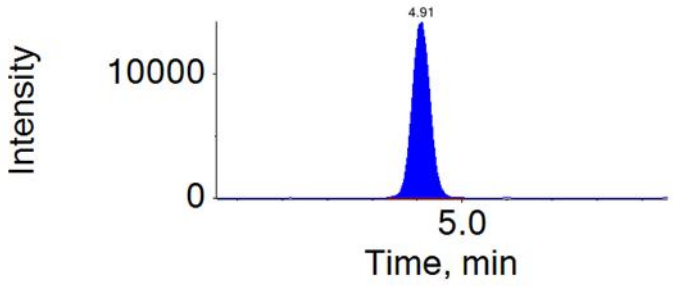


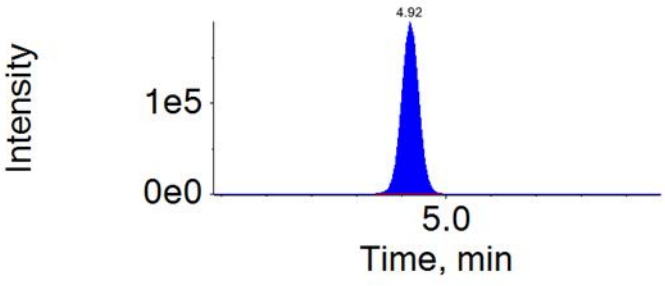
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





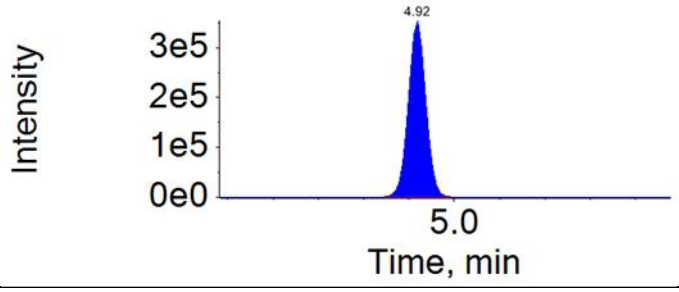
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

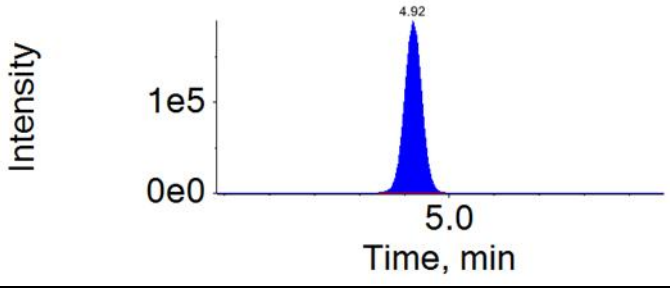




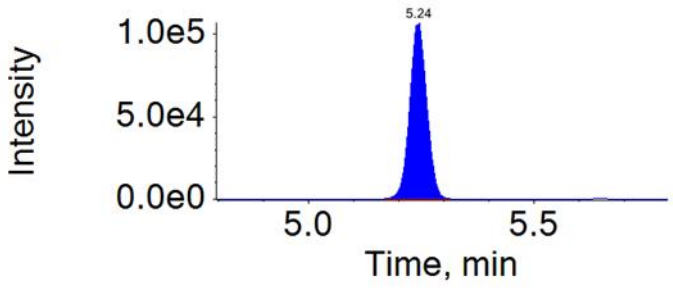
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

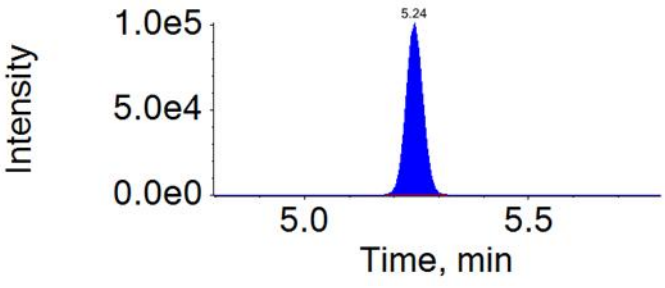
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



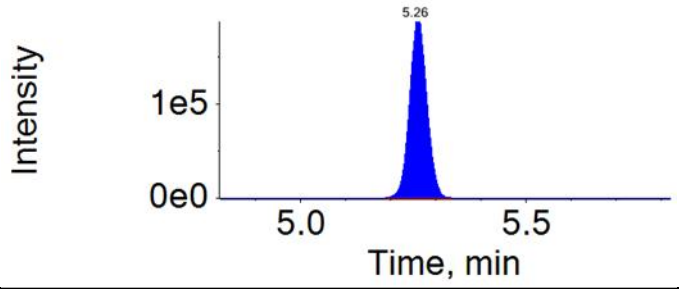


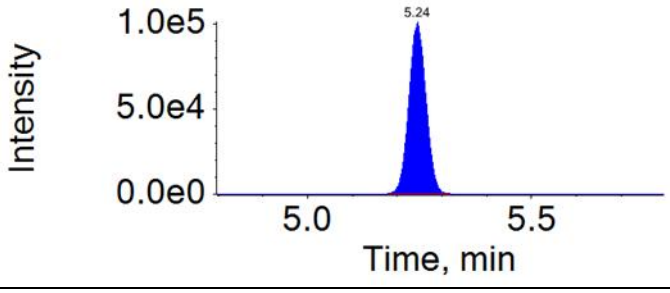
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



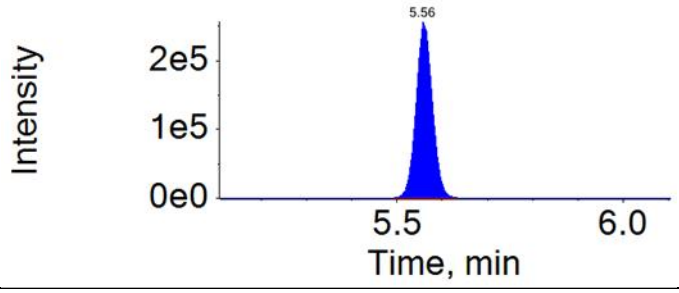


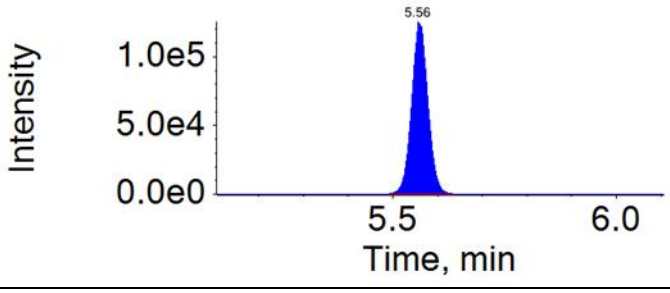
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

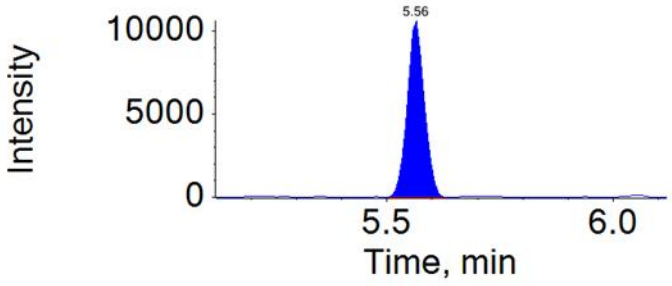
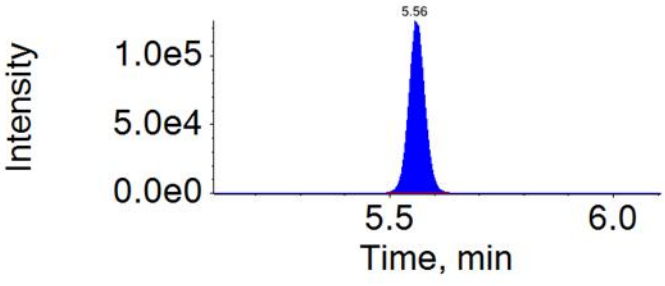


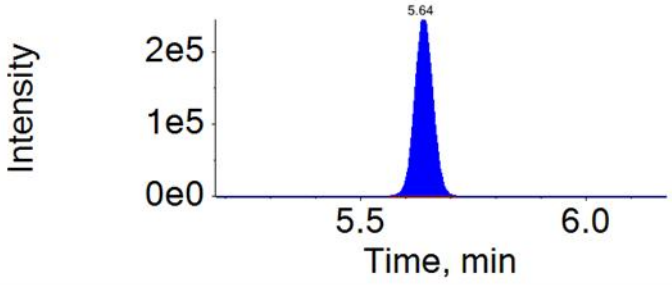
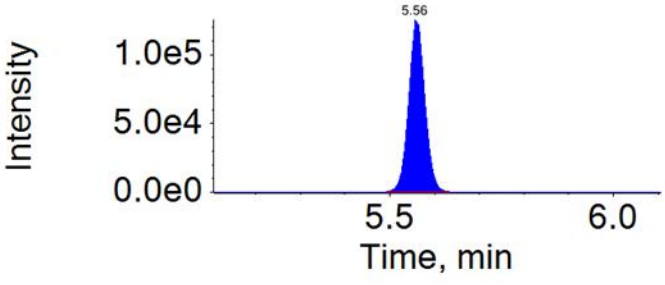


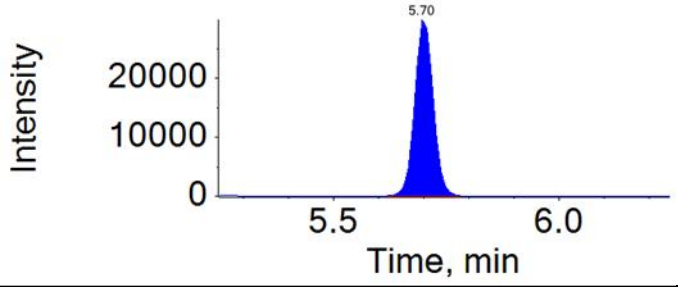
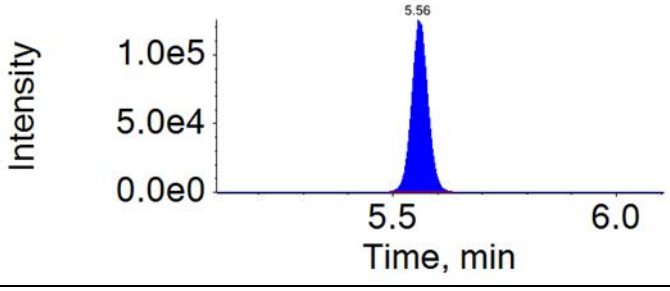
APPROVED
By JPT at 2:53 pm, 11/7/18

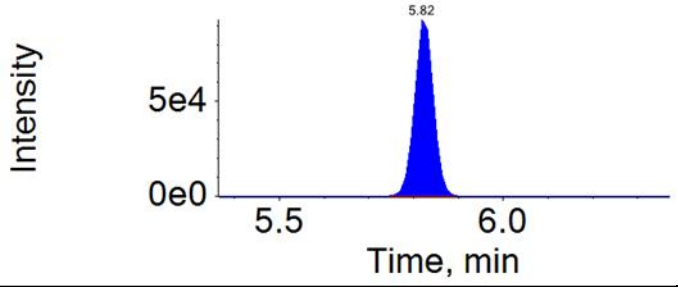
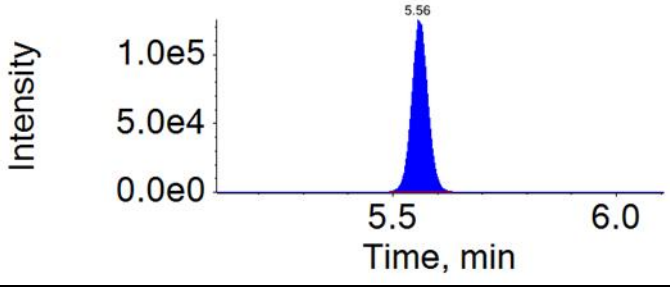
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

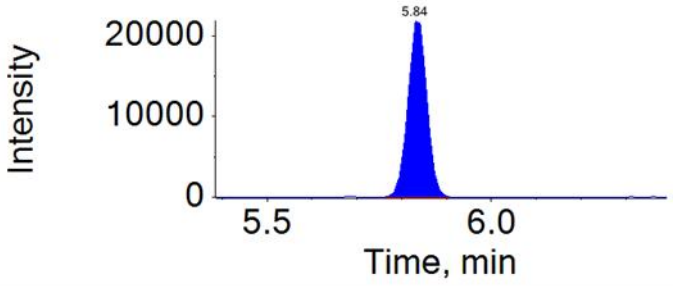
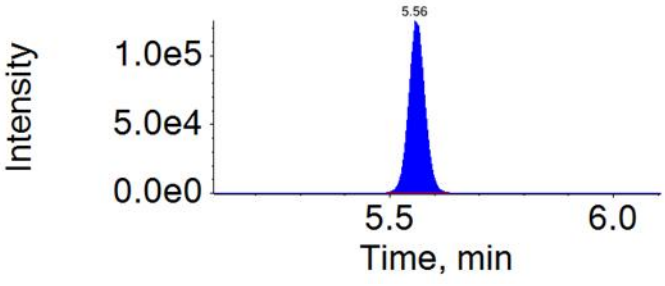
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

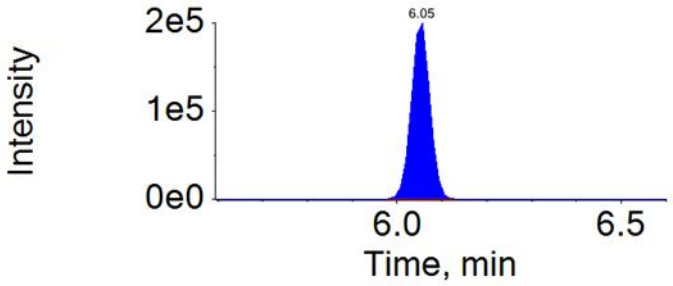
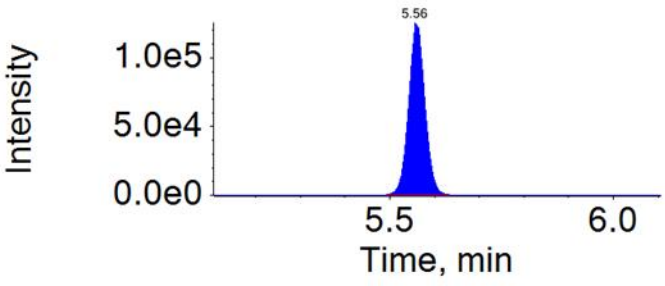
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

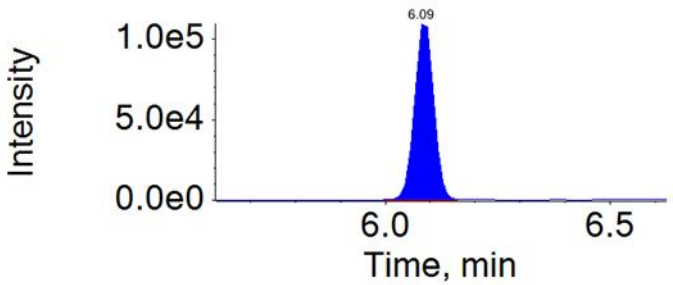
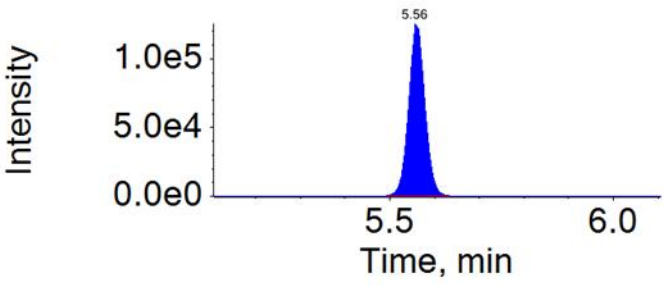
APPROVED
By JPT at 2:53 pm, 11/7/18

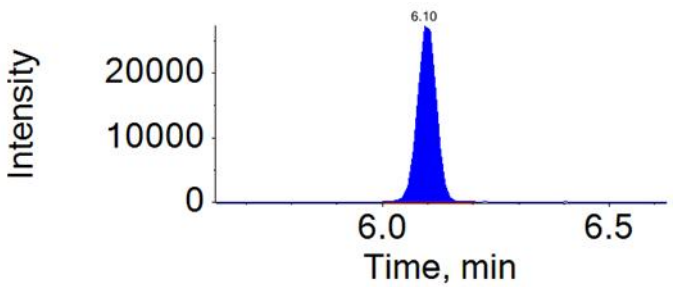
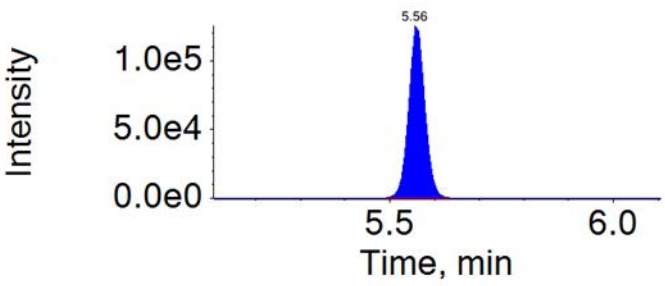
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

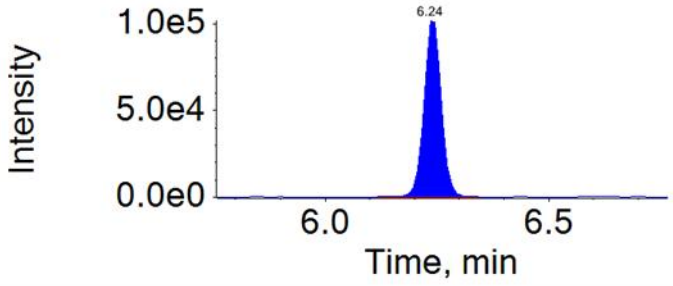
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

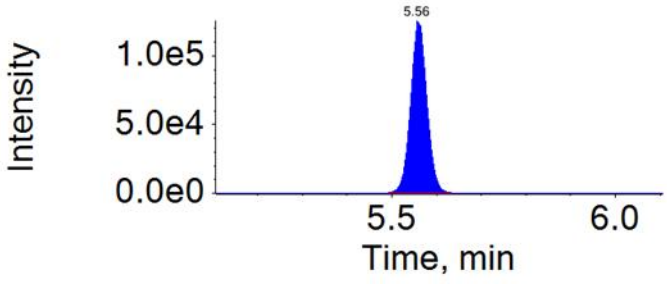
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

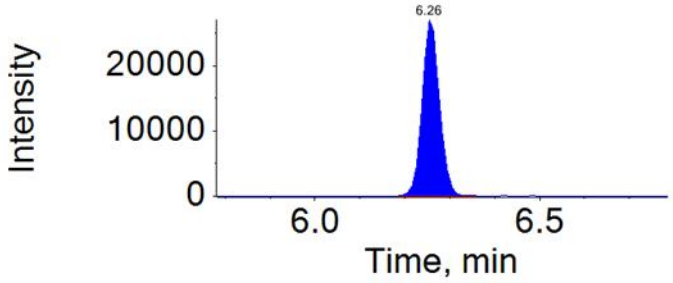
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

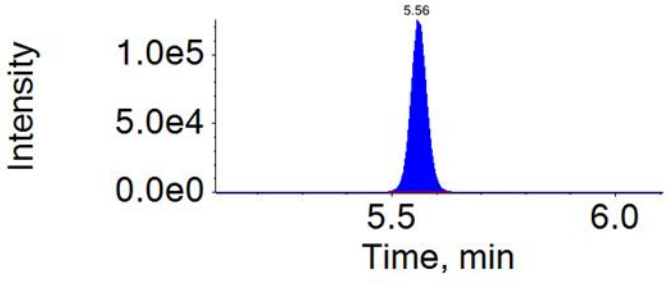
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



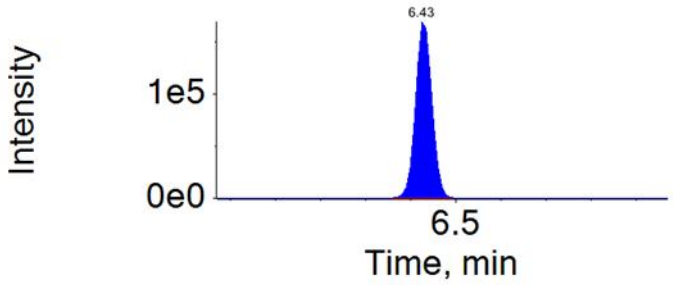


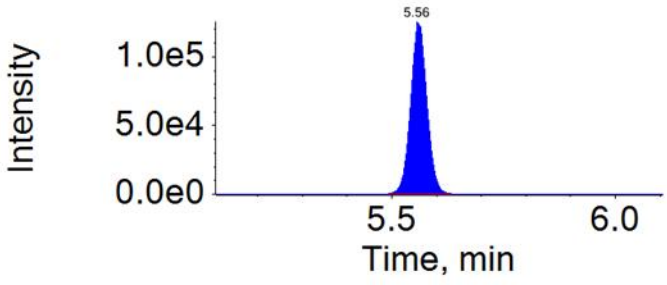
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



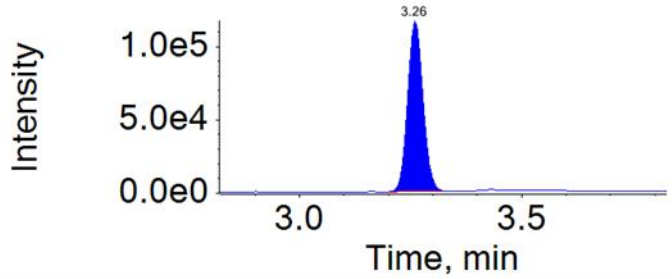


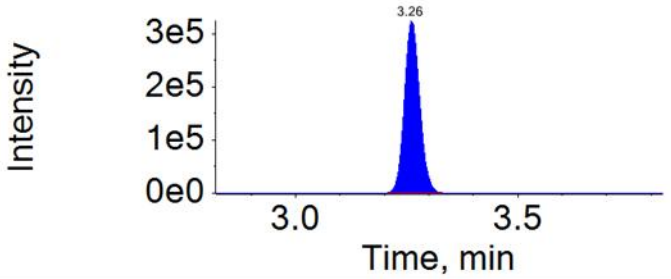
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

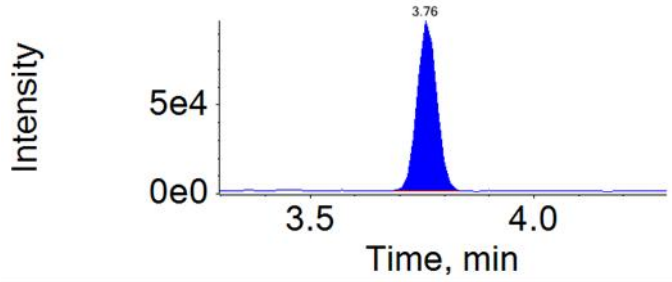
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

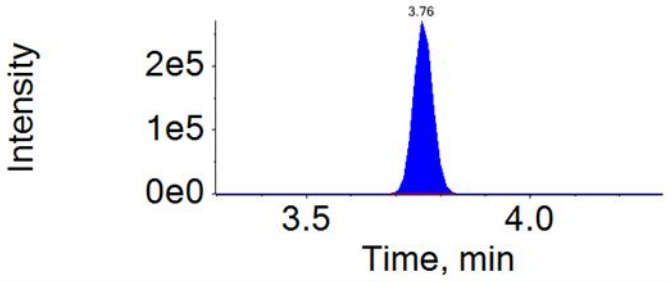
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



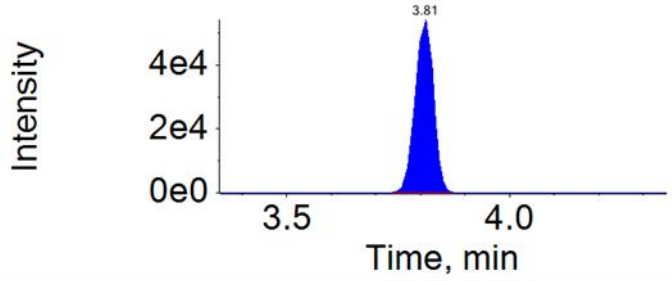


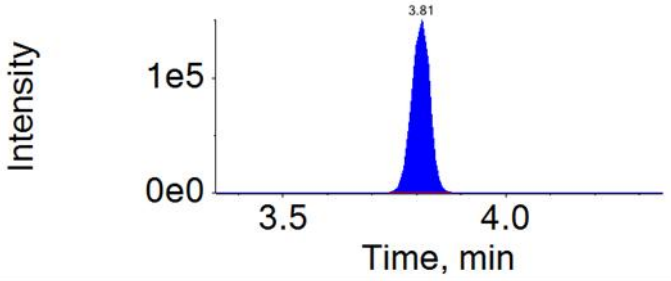
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



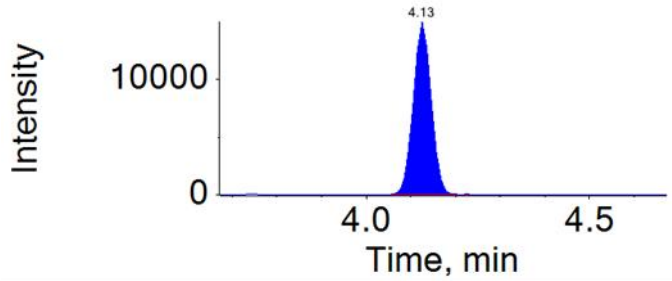


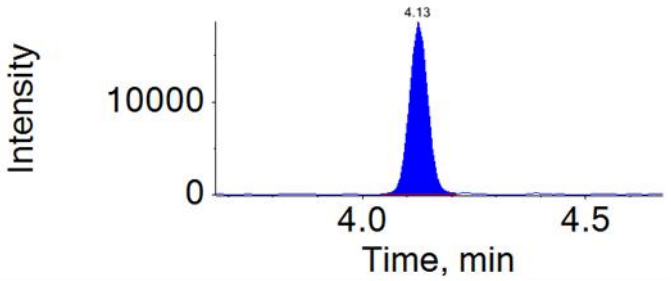
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

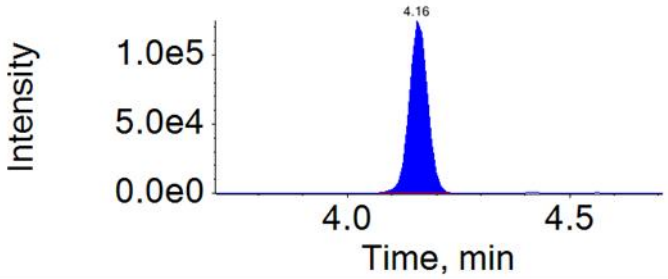
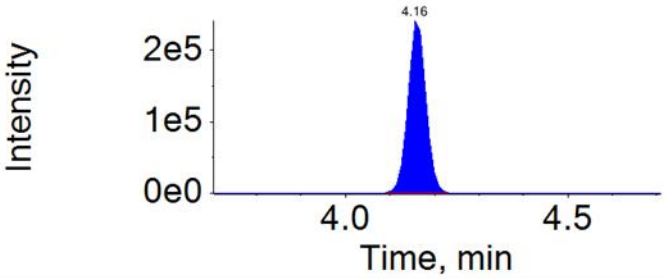


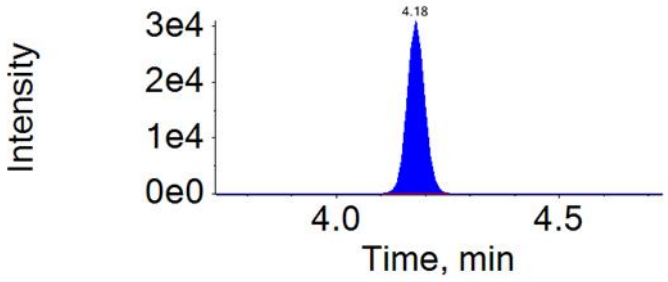
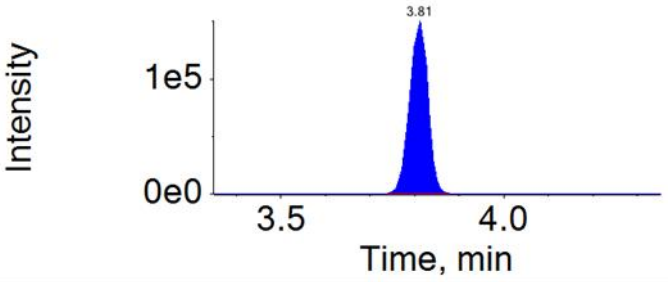


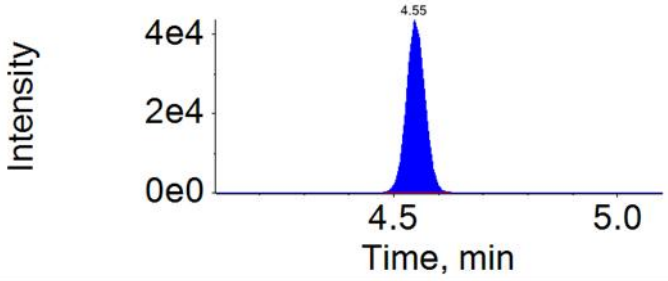
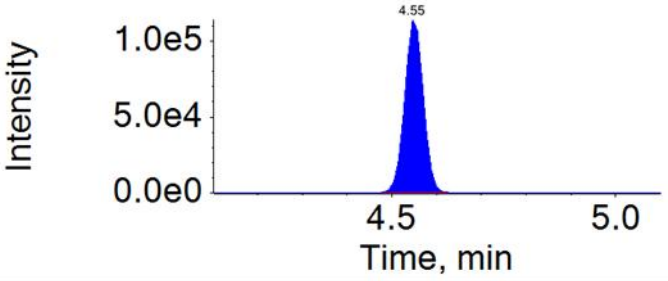
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By JPT at 2:53 pm, 11/7/18

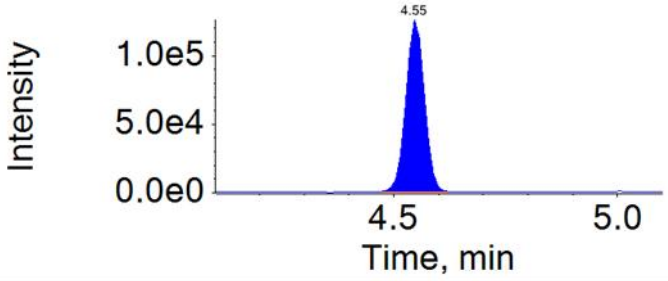
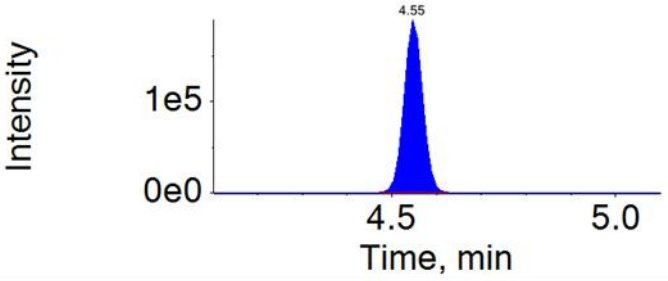
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

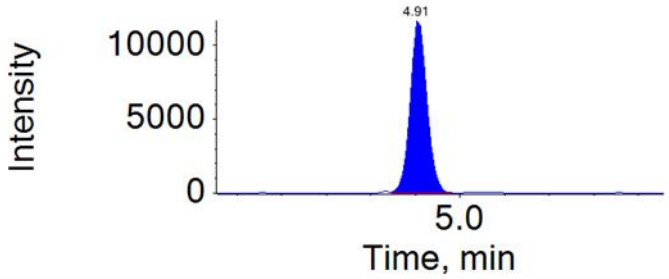
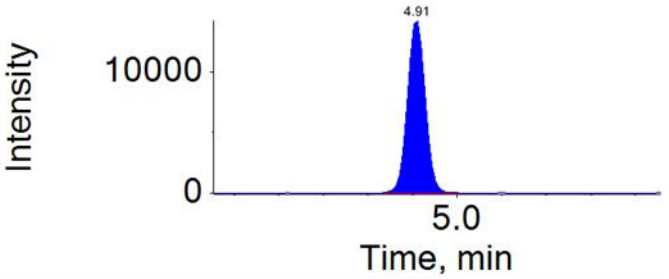
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

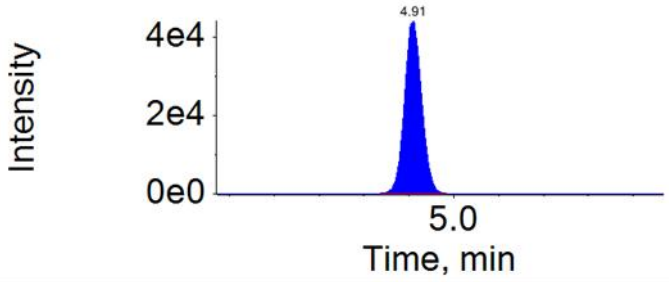
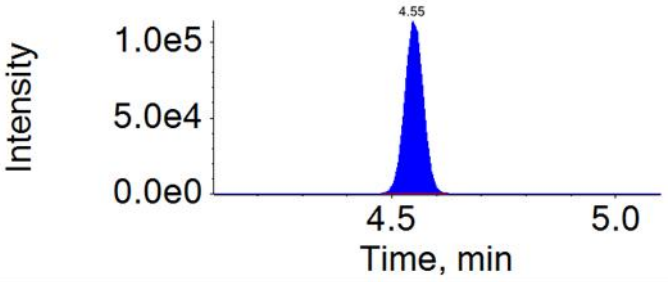
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

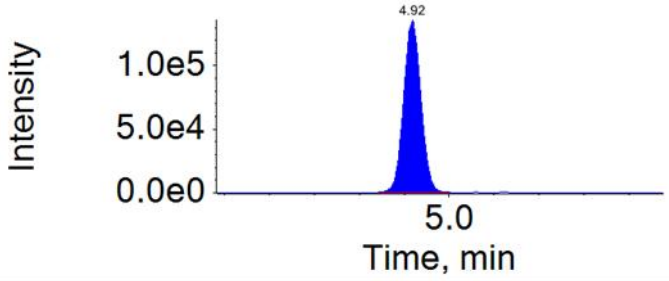
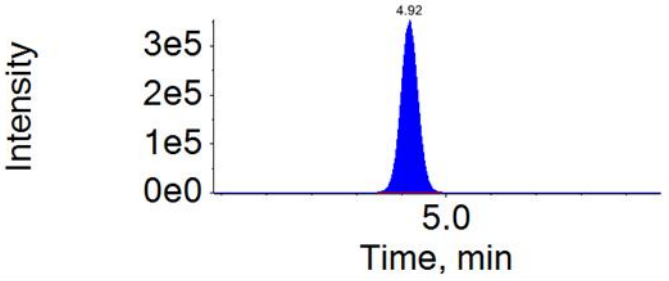
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By JPT at 2:53 pm, 11/7/18

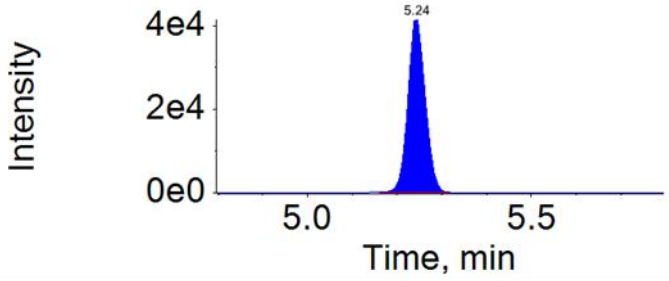
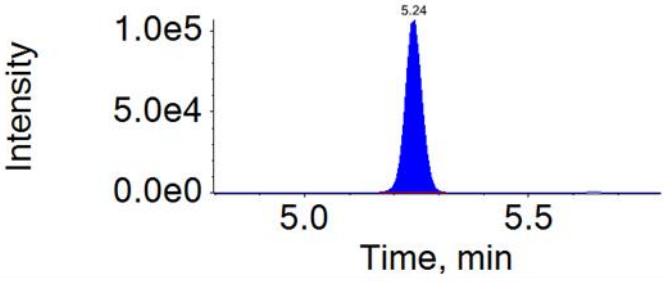
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

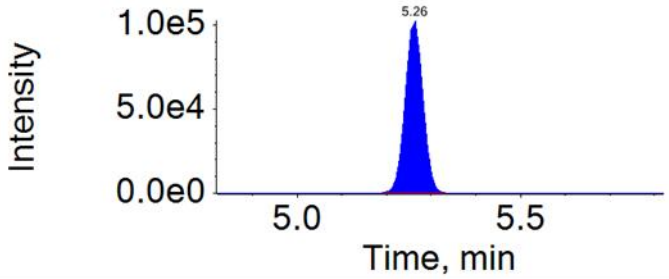
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

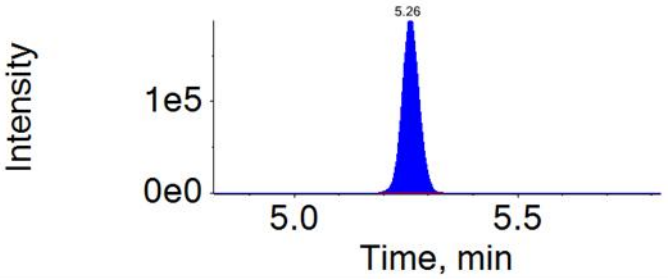
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

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

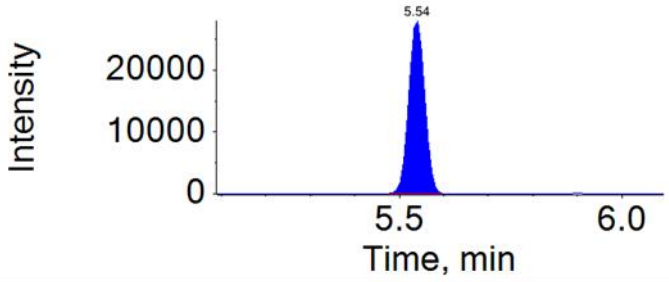
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

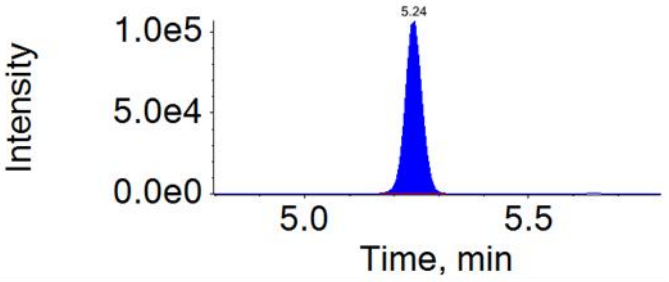
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



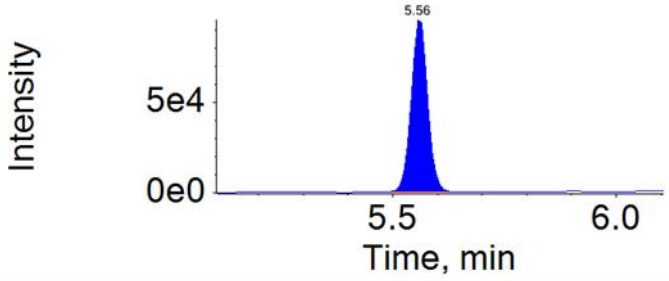


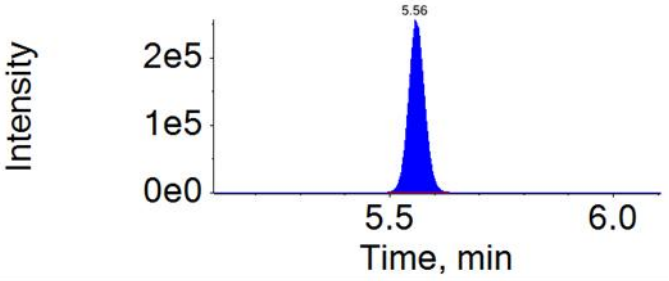
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



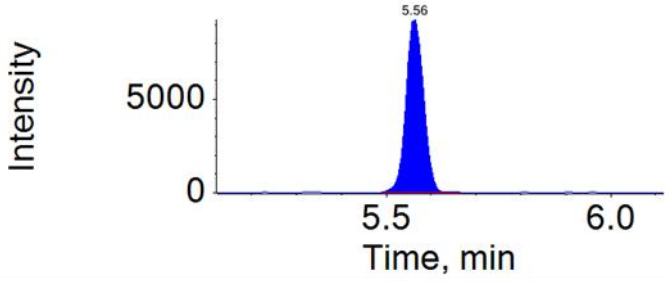


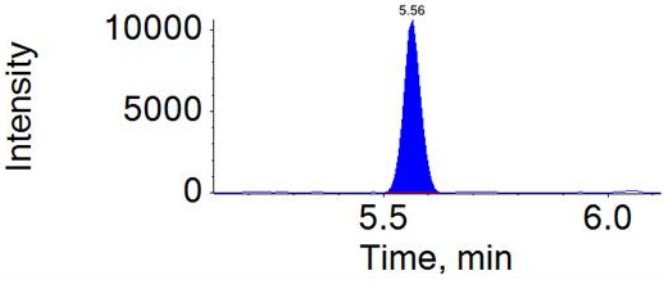
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0

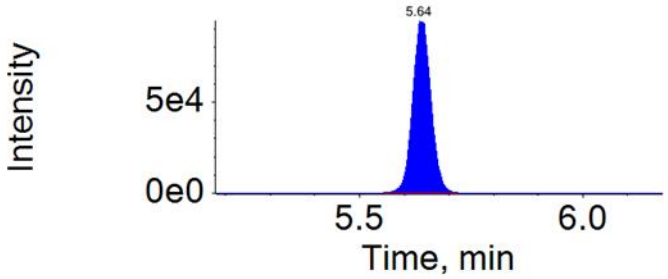
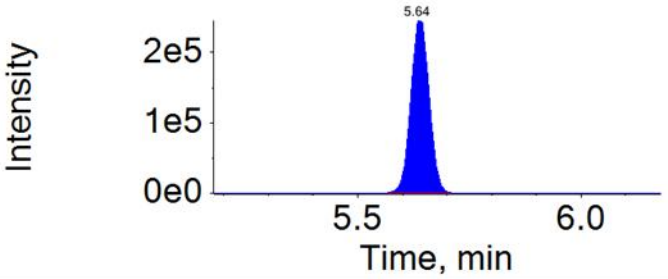


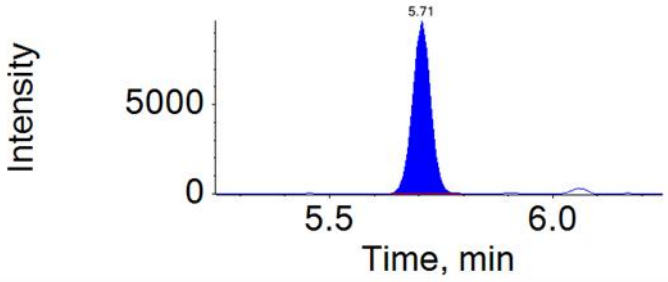
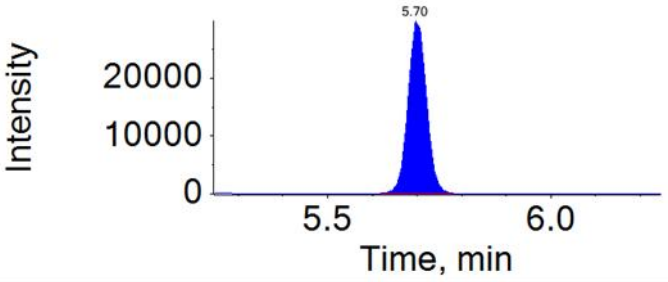


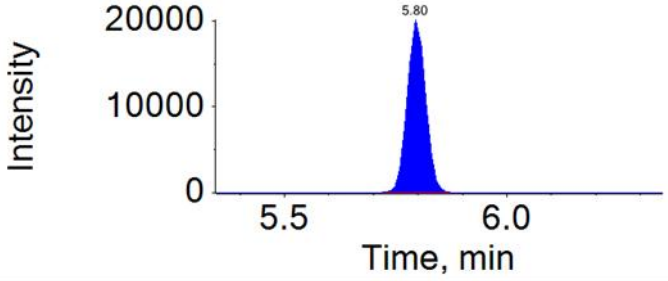
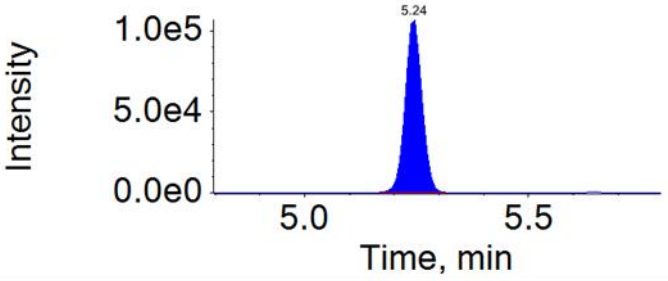
APPROVED
By JPT at 2:53 pm, 11/7/18

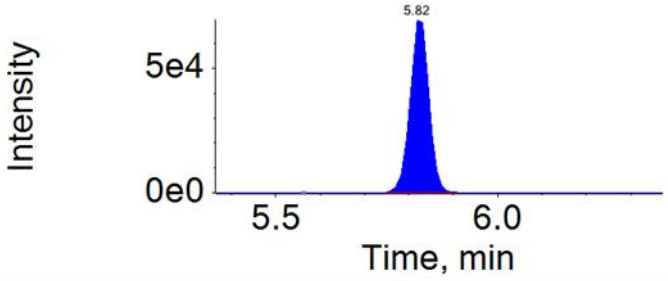
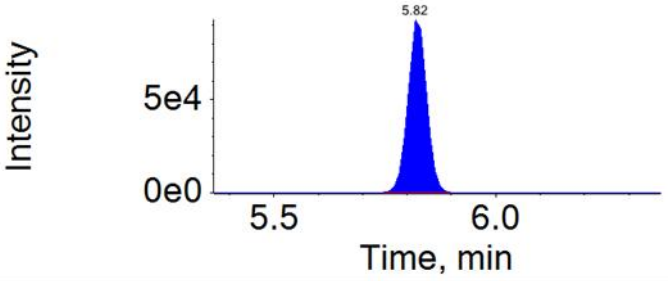
REVIEWED
By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **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
	

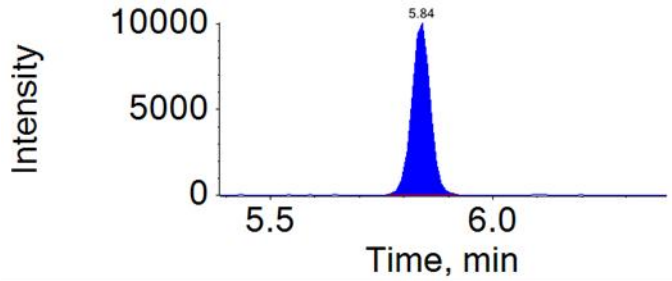
Analyte: PFUnDA	Extraction Standard: 13C7-PFUnDA
563.0 / 519.0	570.0 / 525.0
	

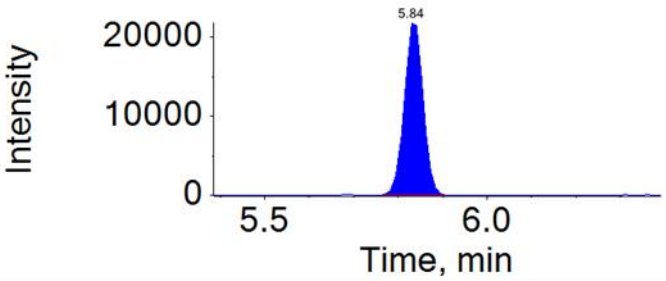
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

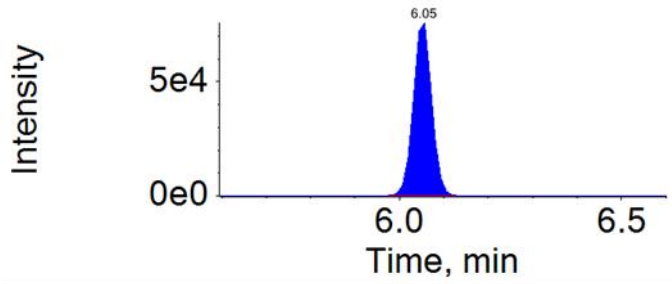
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

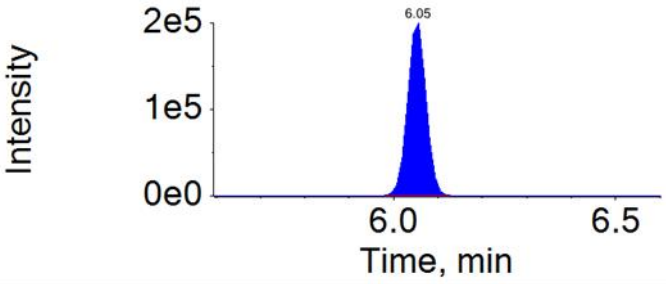
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



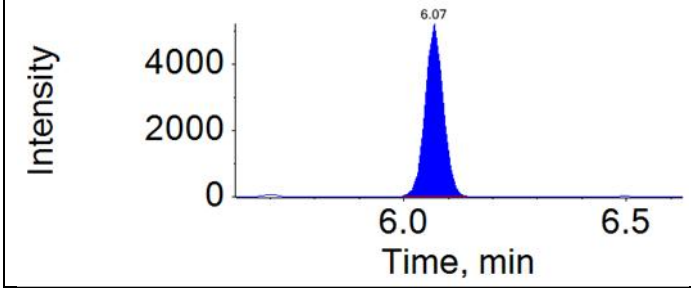


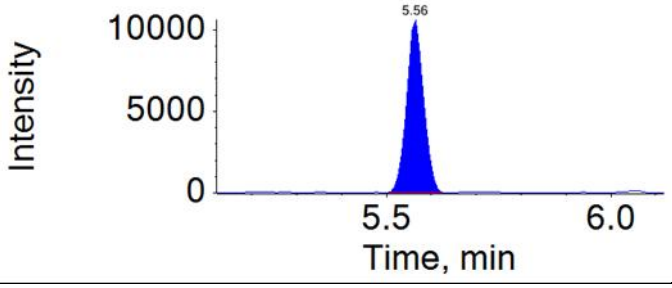
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



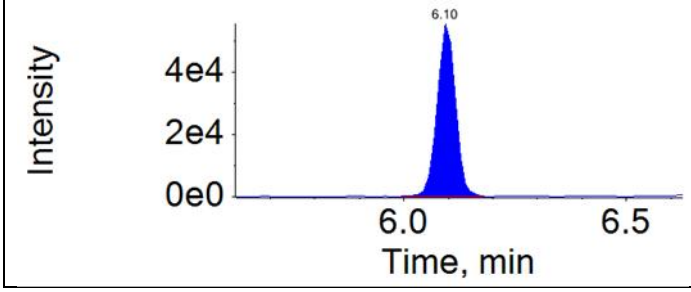


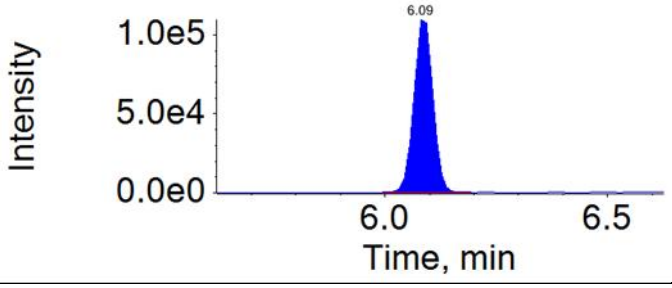
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



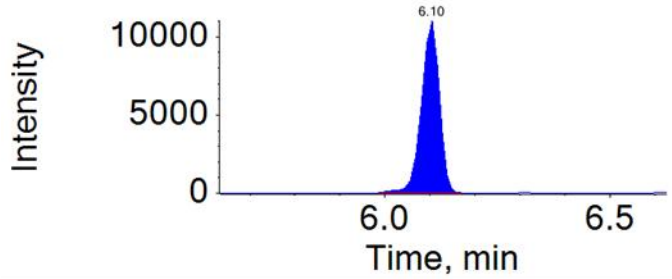


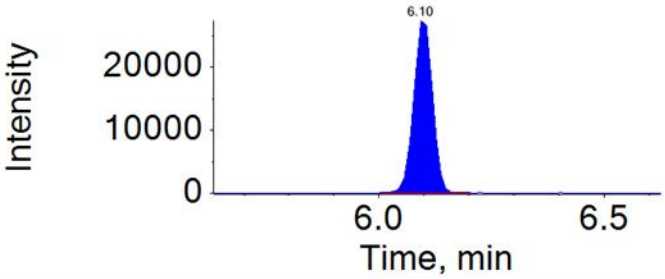
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

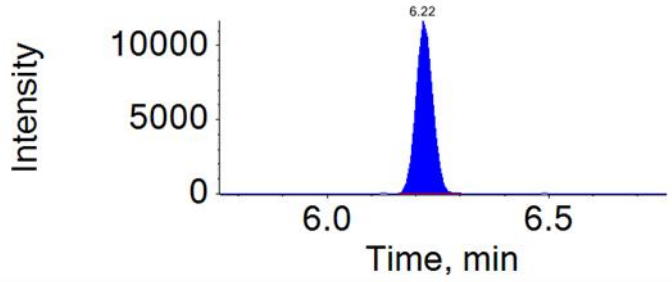
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

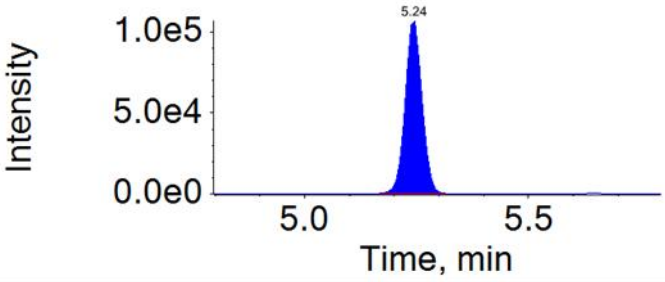
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



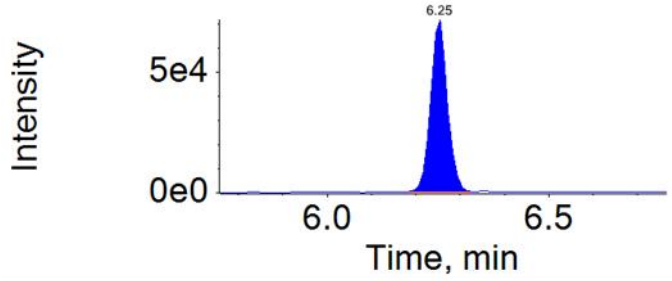


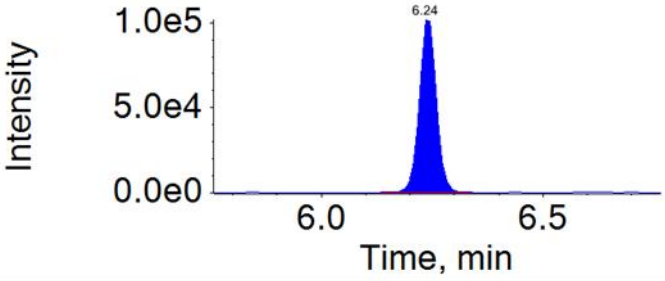
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



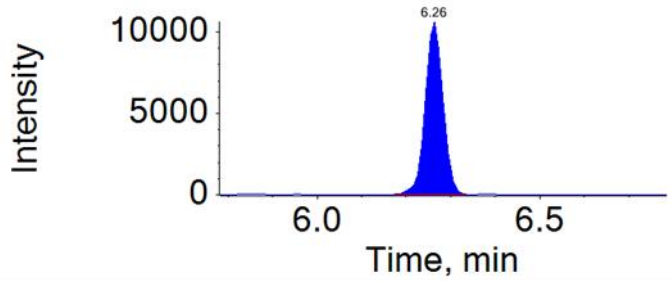


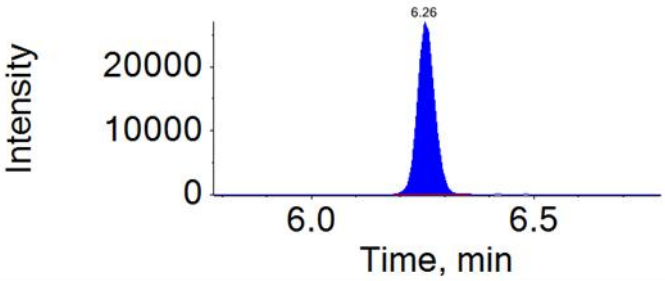
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



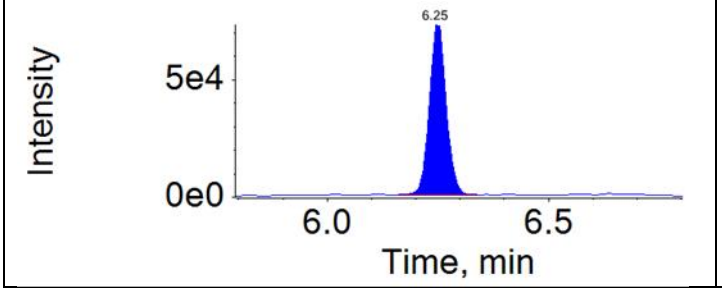


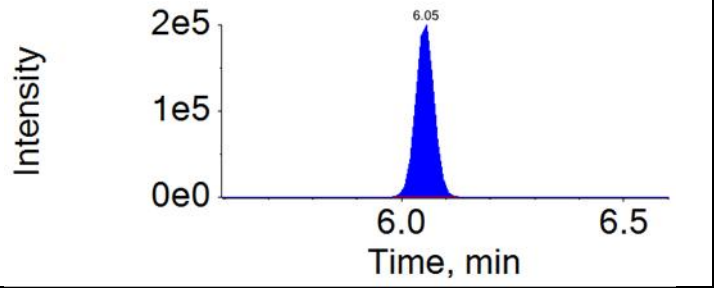
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

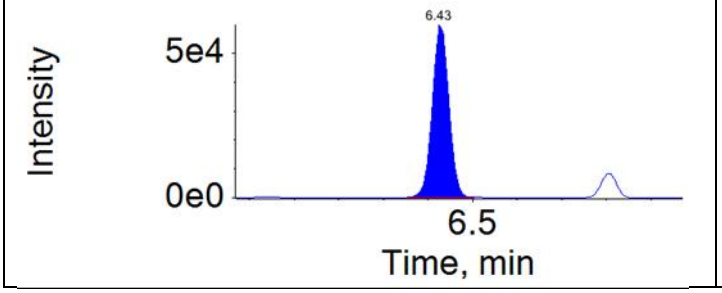
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCAL 11/7/2018 2:18:30 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

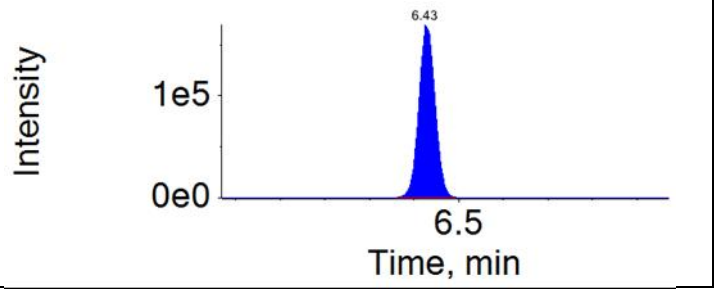
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



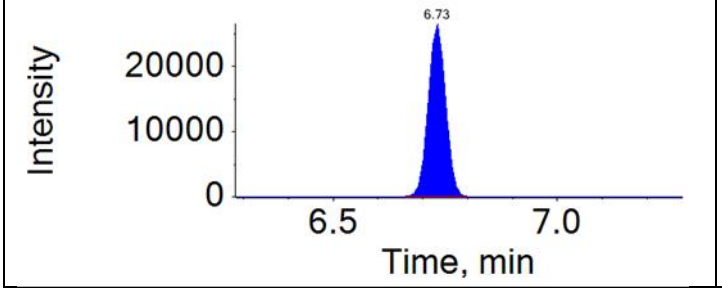


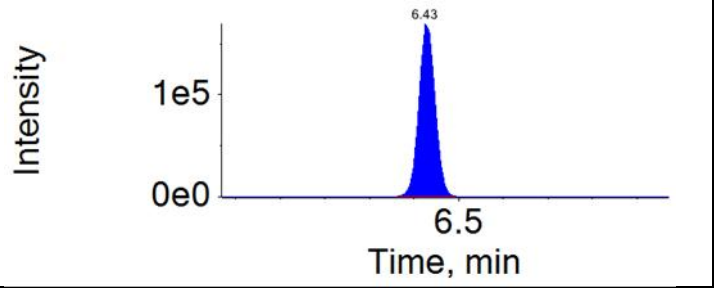
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



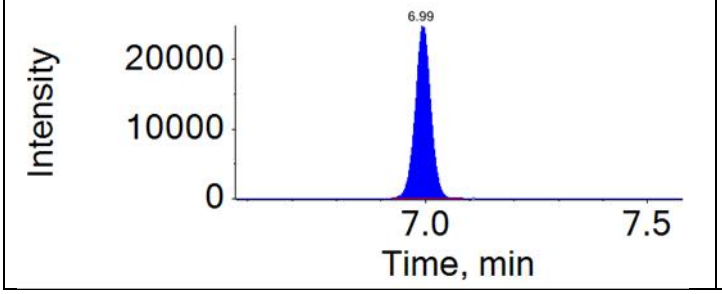


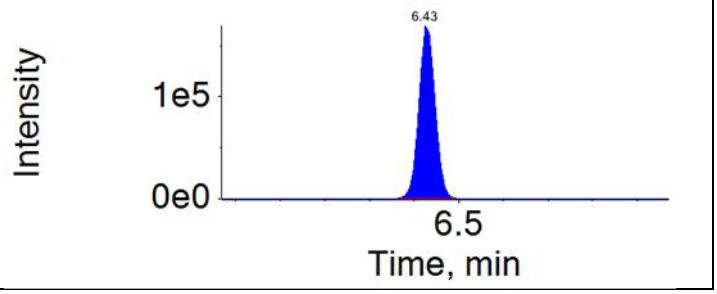
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





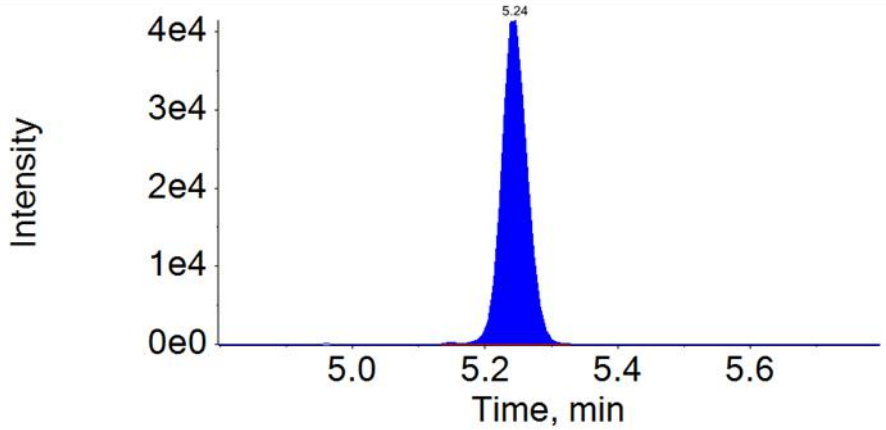
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
113697.4
Mass Range:
499.0 / 80.0
File Name:
18NOV07DCAL-20.wiff
Sample Name:
CCV1_CAL3



Integration Comment: incorrect integration

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Ion Ratio Report

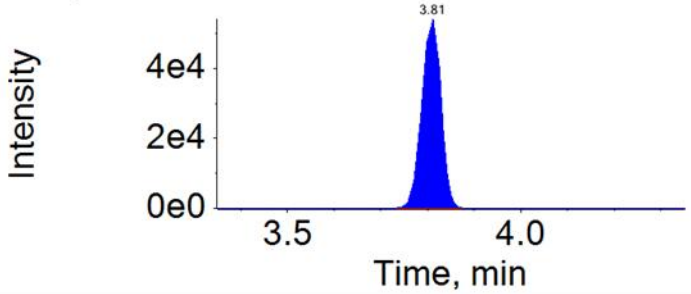
Sample Name: CCV1_CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07DCAL-20.wiff

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	155917.1	A	1.0000	1.0000			
PFBS_2	3.81	1.00	59330.4	A	0.3576	0.3805	6	50	
4:2-FTS	4.13	1.00	41869.1	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	22969.1	A	0.6359	0.5486	-14	50	
PFHxA	4.16	1.00	355844.6	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	4420.8	A	0.0115	0.0124	8	50	
PFPeS	4.18	1.10	84840.7	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	44612.7	A	0.5384	0.5258	-2	50	
PFHxS	4.55	1.00	126167.9	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	44496.5	A	0.3569	0.3527	-1	50	
PFHpA	4.55	1.00	359438.8	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	17557.5	A	0.0577	0.0488	-15	50	
6:2-FTS	4.91	1.00	30418.5	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	19338.5	A	0.6752	0.6357	-6	50	
PFHpS	4.91	1.08	118682.9	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	47884.4	A	0.3950	0.4035	2	50	
PFOA	4.92	1.00	363186.2	A	1.0000	1.0000			
PFOA_2	4.92	1.00	21404.0	A	0.0635	0.0589	-7	50	
PFOS	5.24	1.00	113455.6	M	1.0000	1.0000			
PFOS_2	5.25	1.00	38360.0	A	0.3494	0.3381	-3	50	
PFNA	5.26	1.00	284061.5	A	1.0000	1.0000			
PFNA_2	5.26	1.00	5433.5	A	0.0207	0.0191	-8	50	
PFNS	5.54	1.06	70168.8	A	1.0000	1.0000			
PFNS_2	5.54	1.06	34369.0	A	0.4890	0.4898	0	50	
PFDA	5.56	1.00	243089.4	A	1.0000	1.0000			
PFDA_2	5.56	1.00	1775.1	A	0.0057	0.0073	29	50	
8:2-FTS	5.56	1.00	25674.2	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	17540.1	A	0.6169	0.6832	11	50	
NMeFOSAA	5.71	1.00	27107.5	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	6964.7	A	0.2206	0.2569	16	50	
PFDS	5.80	1.11	57911.4	A	1.0000	1.0000			
PFDS_2	5.80	1.11	30519.9	A	0.4648	0.5270	13	50	
PFUnDA	5.82	1.00	206684.1	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	912.7	A	0.0031	0.0044	40	50	
NEtFOSAA	5.84	1.00	29353.4	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	17948.8	A	0.6082	0.6115	1	50	
PFDoDA	6.05	1.00	220745.0	A	1.0000	1.0000			
PFDoDA_2	6.05	1.00	3019.9	A	0.0109	0.0137	25	50	
10:2-FTS	6.07	1.09	14526.2	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	13571.8	A	0.7082	0.9343	32	50	
PFTrDA	6.25	1.03	191338.9	A	1.0000	1.0000			
PFTrDA_2	6.25	1.03	1915.2	A	0.0096	0.0100	4	50	
PFTeDA	6.43	1.00	153182.8	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	1214.6	A	0.0055	0.0079	43	50	
PFHxDA	6.73	1.05	71156.3	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	4385.3	A	0.0596	0.0616	3	50	
PFODA	6.99	1.09	60356.7	A	1.0000	1.0000			
PFODA_2	6.99	1.09	1801.4	A	0.0257	0.0298	16	50	

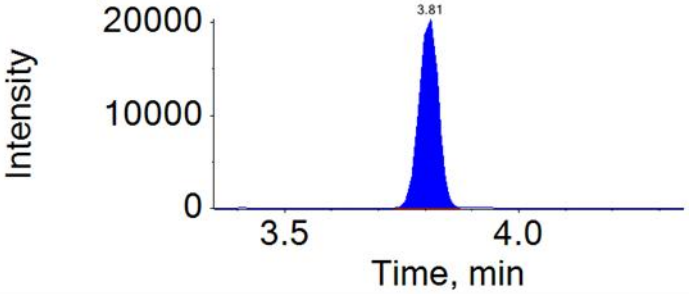
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

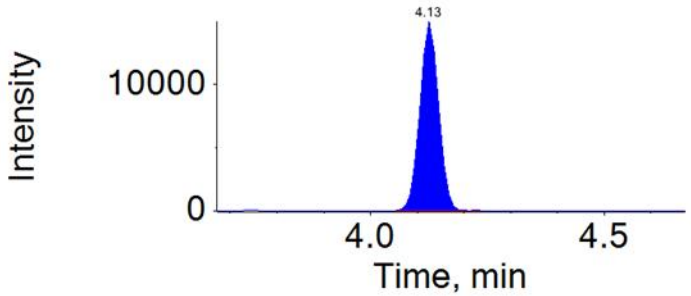
Component: PFBS
Primary Mass: 299.0 / 80.0



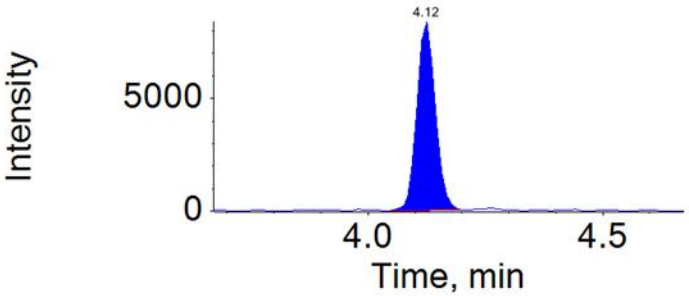
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



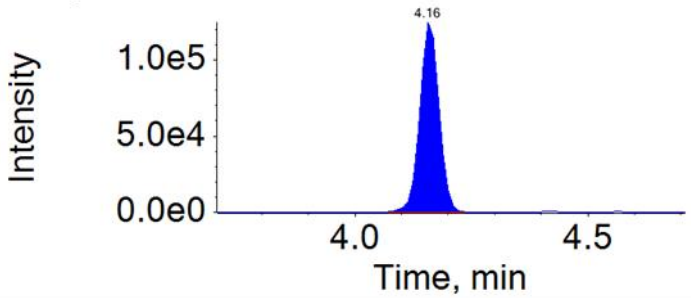
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



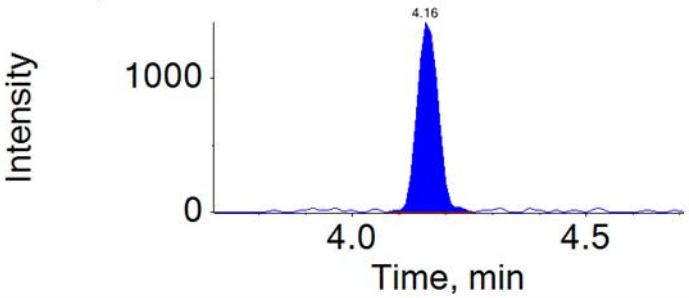
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



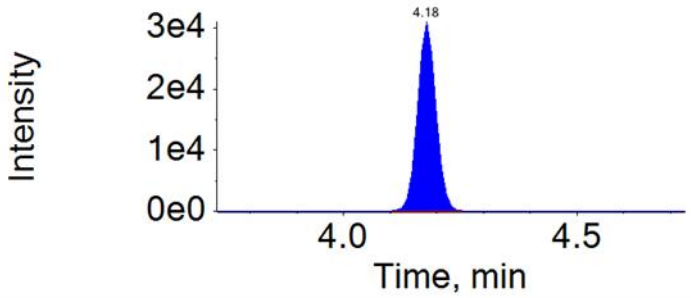
Component: PFHxA
Primary Mass: 313.0 / 269.0



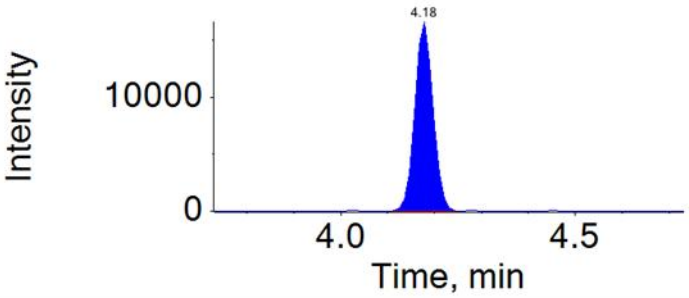
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



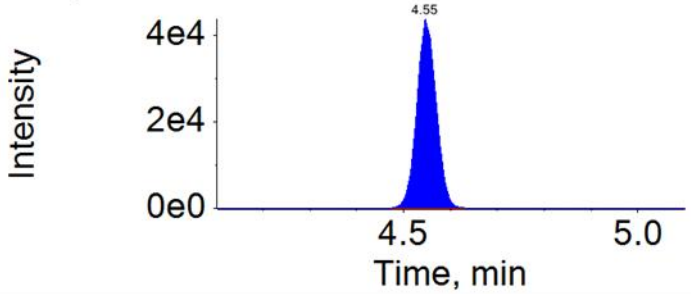
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



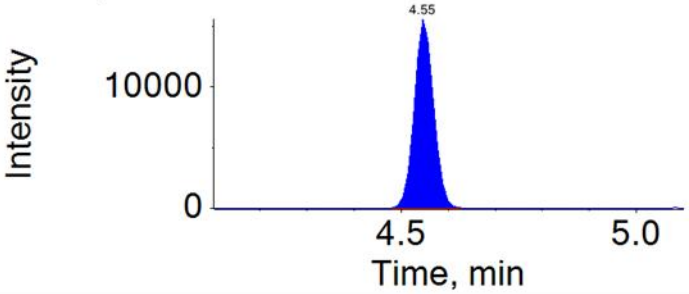
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

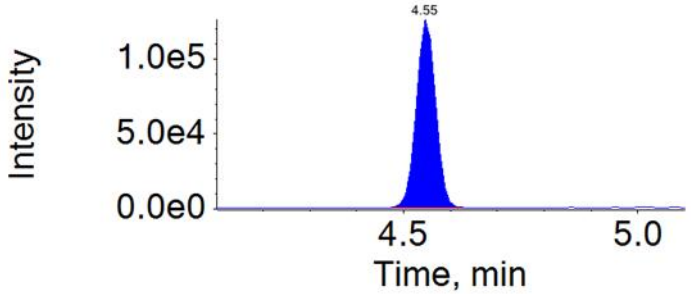
Component: PFHxS
Primary Mass: 399.0 / 80.0



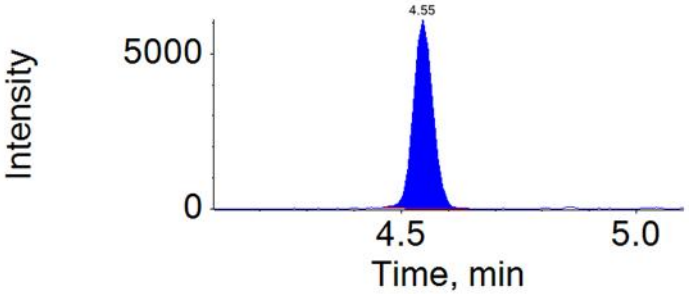
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



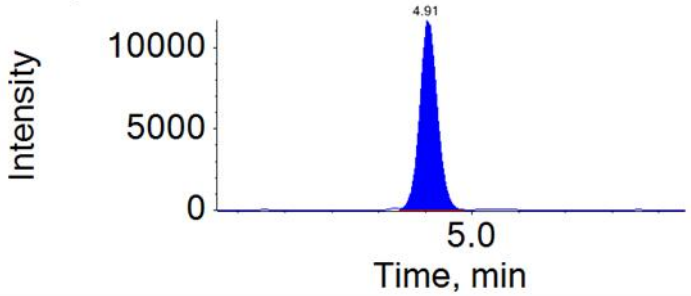
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Primary Mass: 363.0 / 319.0



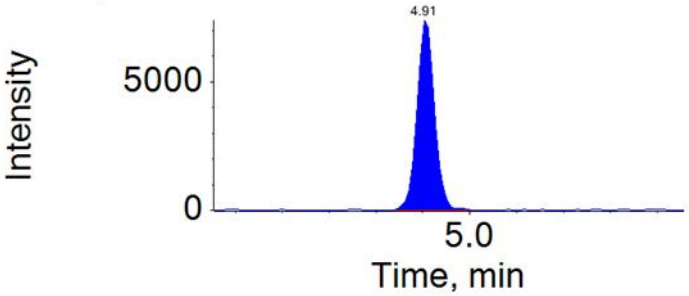
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



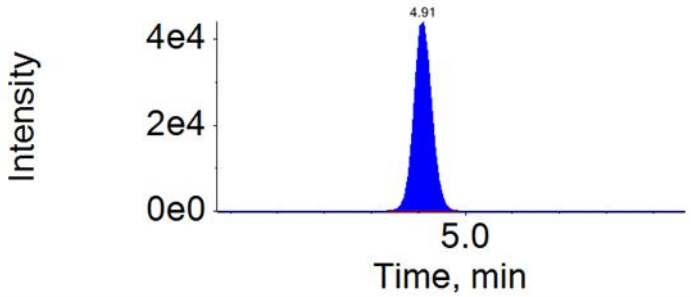
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



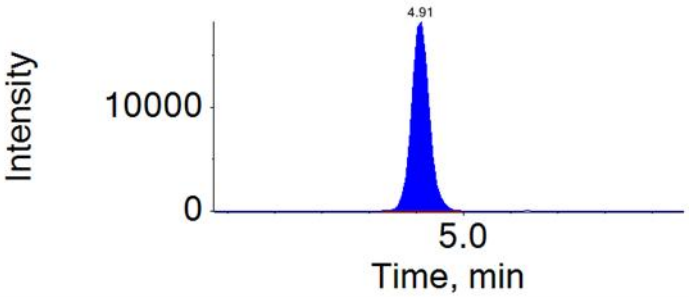
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



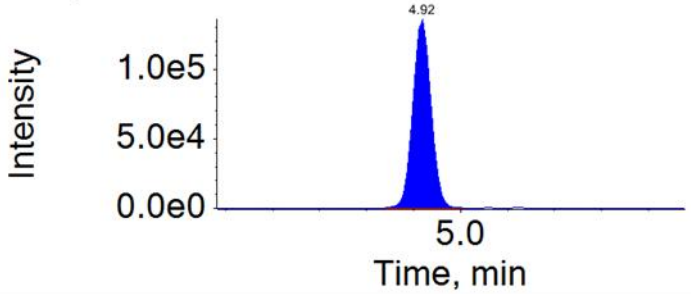
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



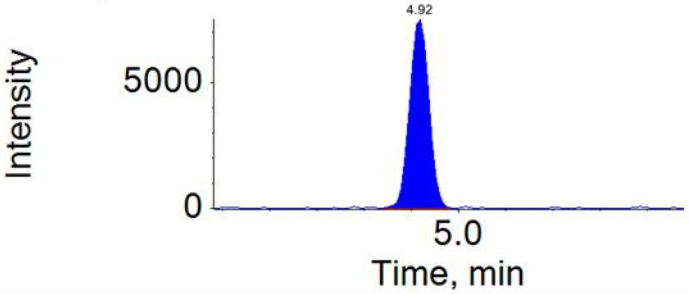
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

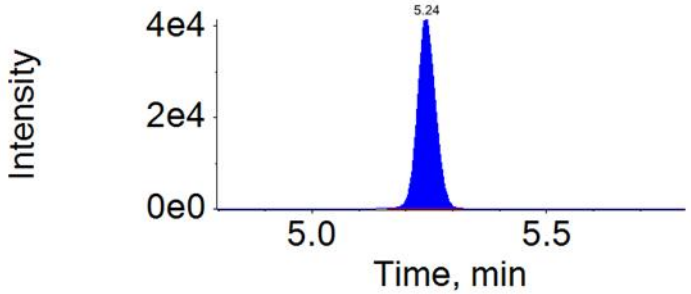
Component: PFOA
Primary Mass: 413.0 / 369.0



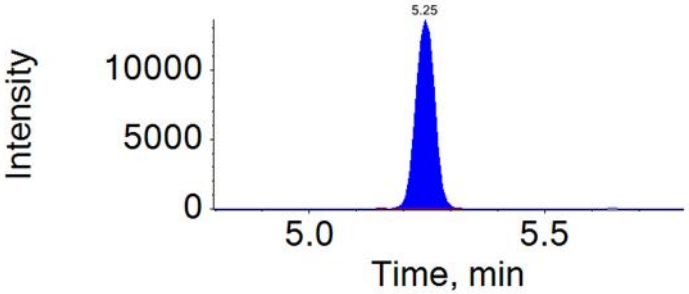
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



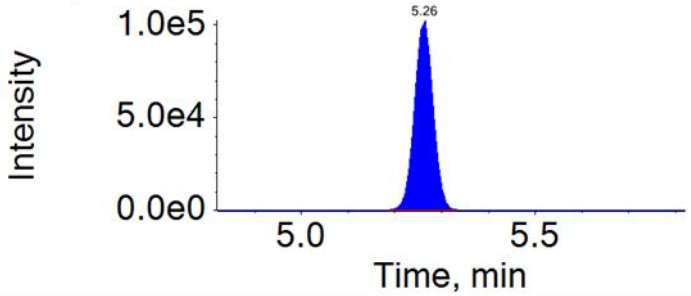
Component: PFOS
Primary Mass: 499.0 / 80.0



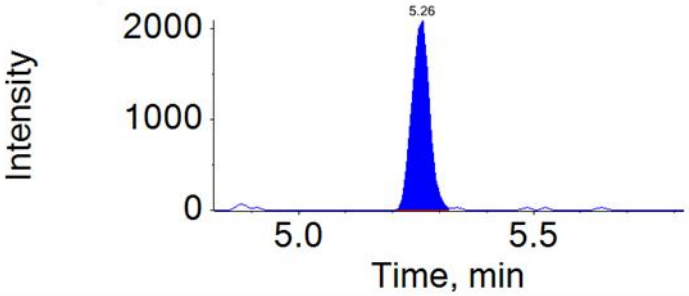
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



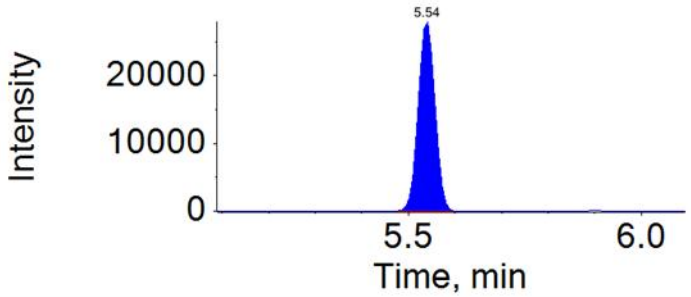
Component: PFNA
Primary Mass: 463.0 / 419.0



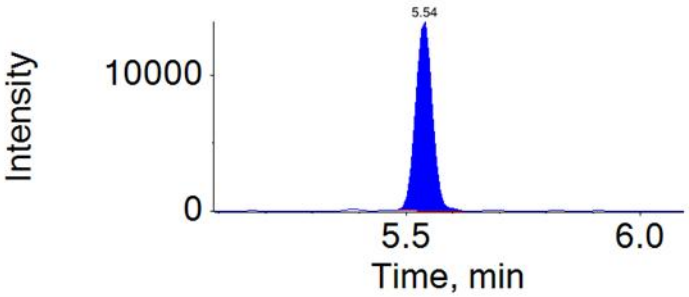
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



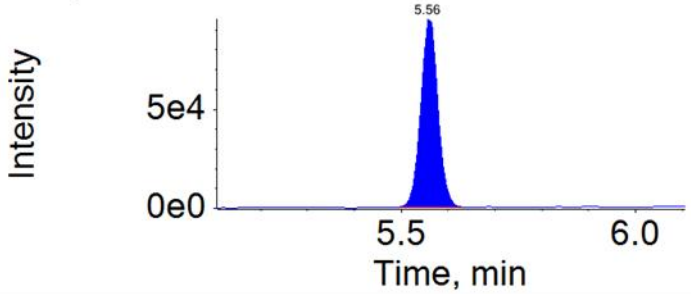
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



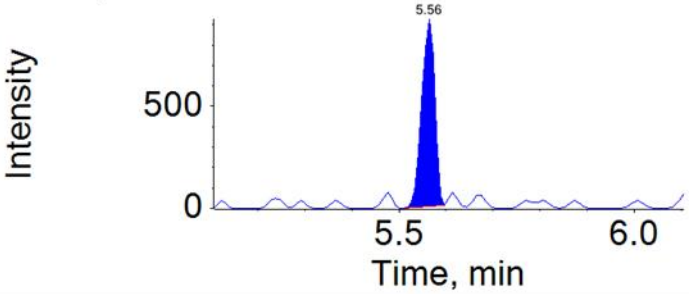
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

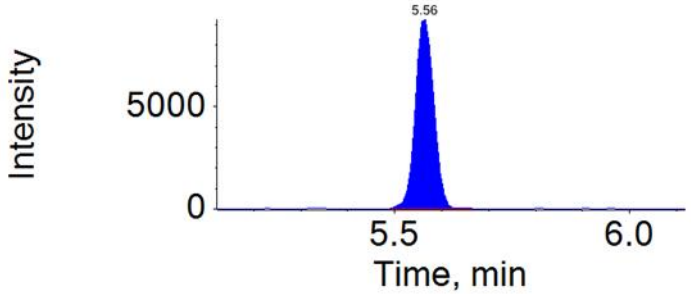
Component: PFDA
Primary Mass: 513.0 / 469.0



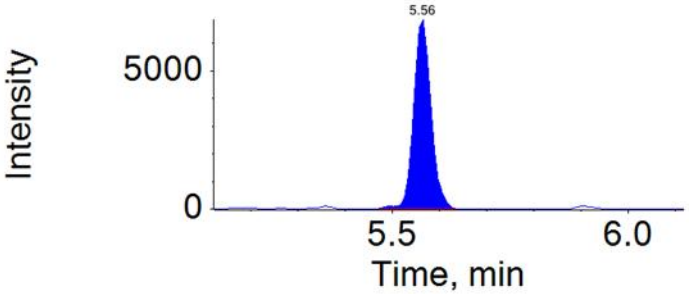
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Secondary Mass: 513.0 / 169.0



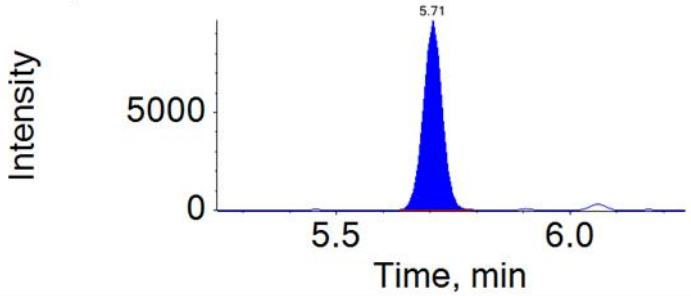
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



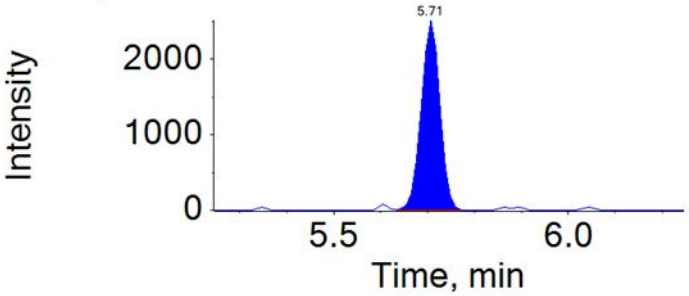
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



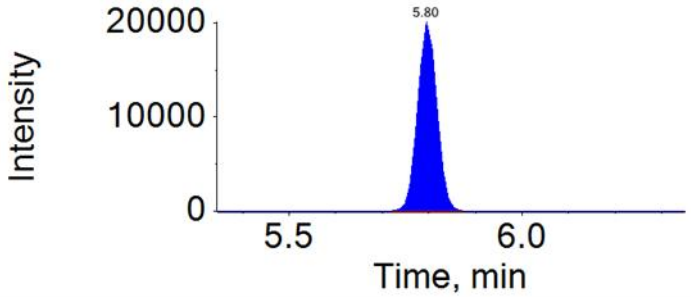
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



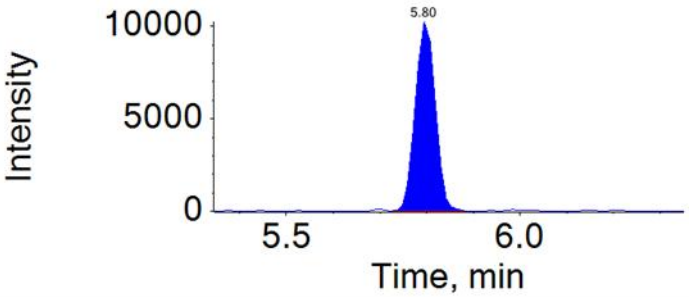
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Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



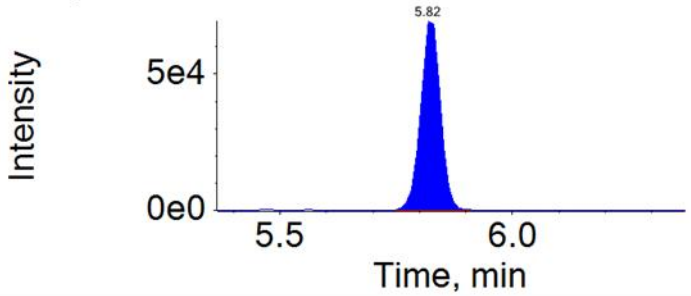
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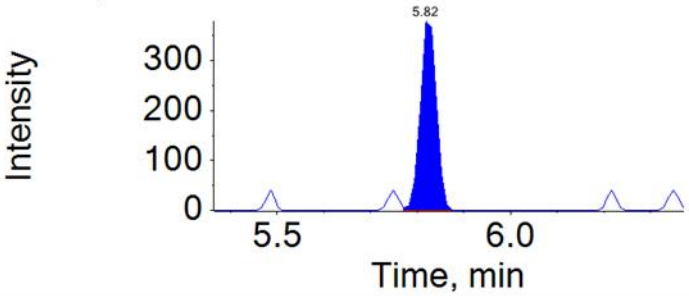
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

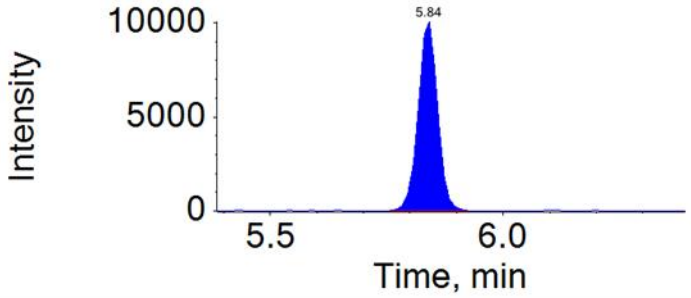
Component: PFUnDA
Primary Mass: 563.0 / 519.0



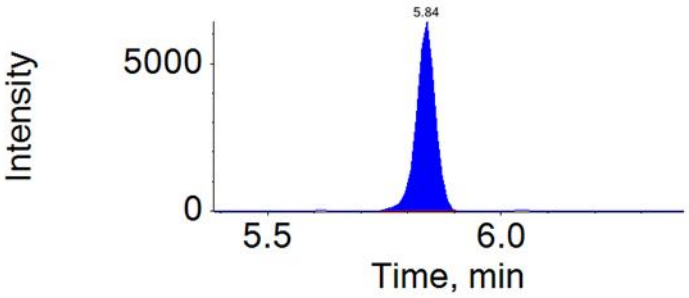
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



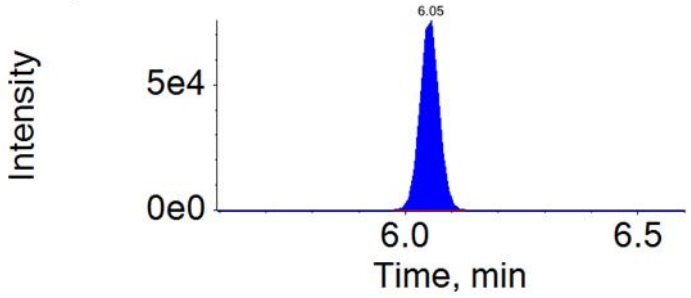
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



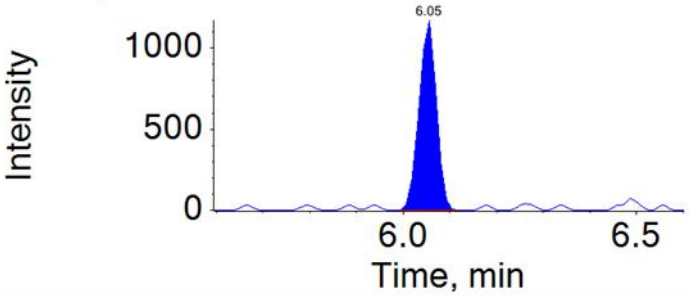
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



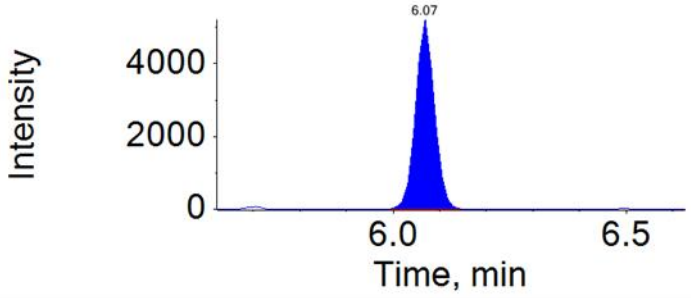
Component: PFDoDA
Primary Mass: 613.0 / 569.0



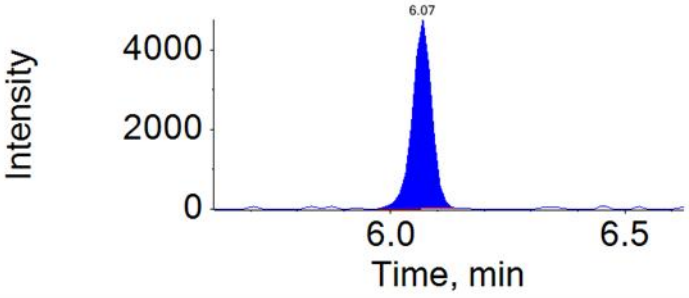
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



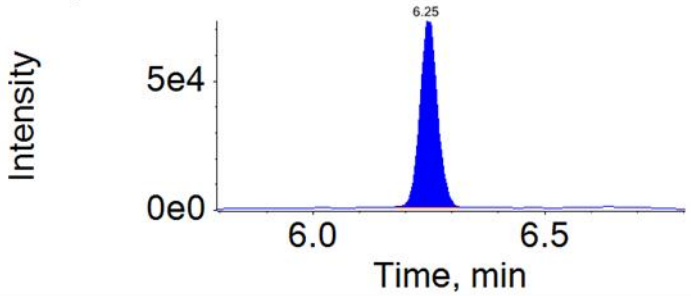
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



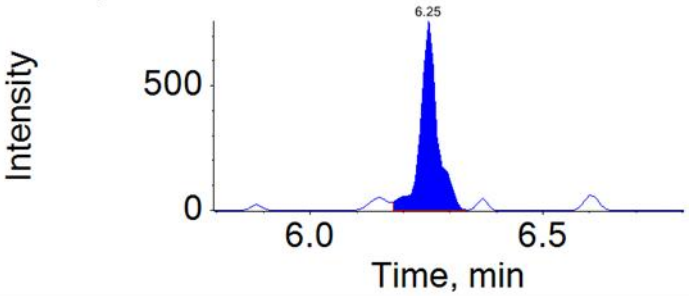
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

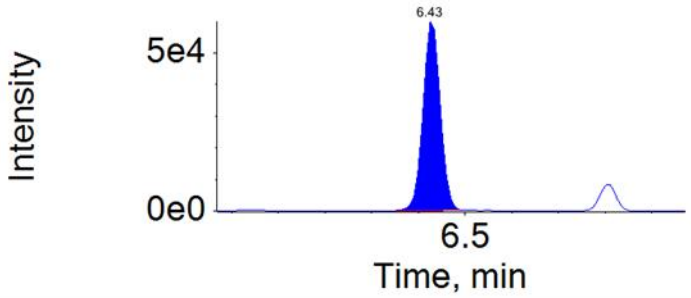
Component: PFTrDA
Primary Mass: 663.0 / 619.0



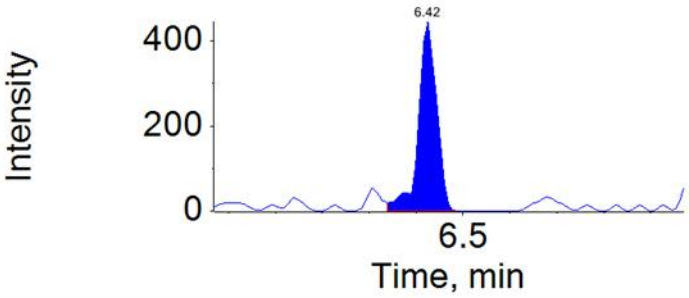
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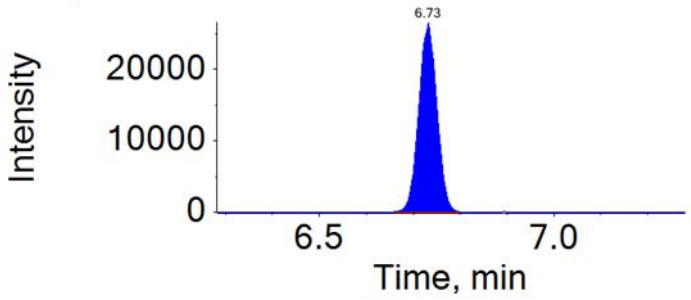
Component: PFTeDA
Primary Mass: 713.0 / 669.0



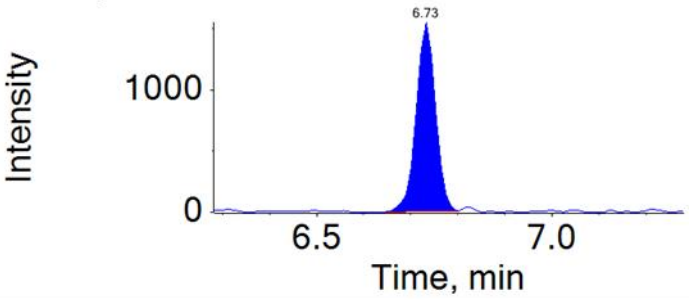
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Secondary Mass: 713.0 / 169.0



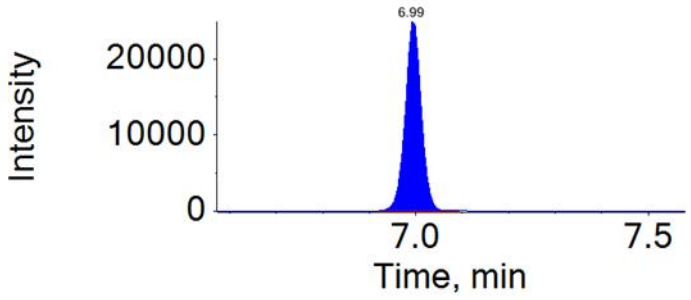
Component: PFHxDA
Primary Mass: 813.0 / 769.0



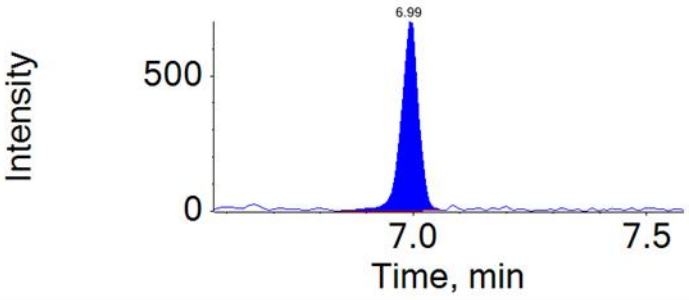
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



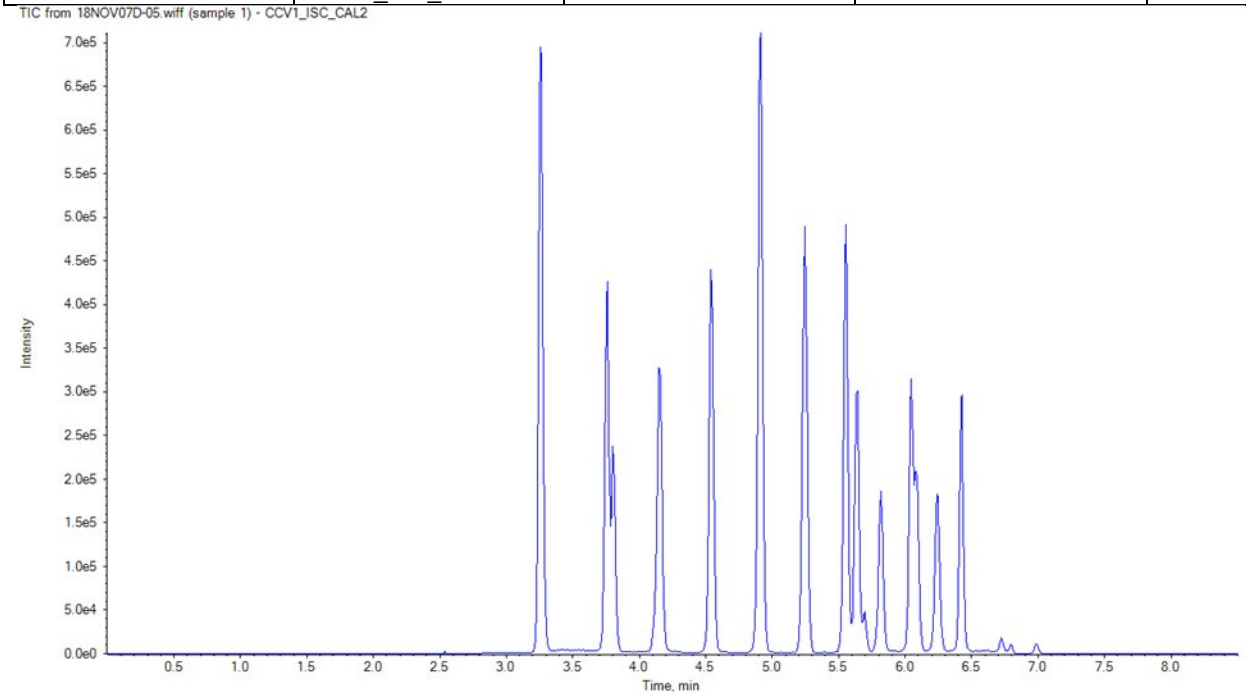
APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:23:57 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALMOD21833F	18NOV07D-05.wiff	2018-11-07T11:56:44



Injection Standard Area Reference File: 18NOV07DCAL-12

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	723636.3	730410.6	-1	50	
13C2-PFOA	5.0	521176.2	524423.6	-1	50	
13C4-PFOS	4.8	281409.0	274061.7	3	50	
13C2-PFDA	5.0	314201.1	311442.1	1	50	

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:23:57 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV1_ISC_CAL2	CALMOD21833F	18NOV07D-05.wiff	2018-11-07T11:56:44

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	72943.4	10	13C4-PFBA	778381.3	5.0	0.094	3.26	1.000	0.500	0.548	10	30	
PFPeA	77938.7	12	13C5-PFPeA	833775.0	5.0	0.093	3.76	1.000	0.500	0.556	11	30	
PFBS	39168.4	12	13C3-PFBS	424213.4	4.7	0.092	3.81	1.000	0.440	0.466	6	30	
4:2-FTS	9925.9	11	13C2-4:2-FTS	58255.4	4.7	0.170	4.12	1.000	0.467	0.458	-2	30	
PFHxA	88074.7	12	13C5-PFHxA	698561.1	5.0	0.126	4.15	1.000	0.500	0.541	8	30	
PFPeS	20913.0	12	13C3-PFBS	424213.4	4.7	0.049	4.17	1.100	0.469	0.486	4	30	
PFHxS	30387.3	12	13C3-PFHxS	352931.4	4.7	0.086	4.54	1.000	0.473	0.436	-8	30	
PFHpA	90462.4	12	13C4-PFHpA	560291.0	5.0	0.161	4.54	1.000	0.500	0.543	9	30	
6:2-FTS	8938.2	11	13C2-6:2-FTS	41536.9	4.8	0.215	4.90	1.000	0.474	0.537	13	30	
PFHpS	30992.6	11	13C3-PFHxS	352931.4	4.7	0.088	4.90	1.080	0.476	0.459	-3	30	
PFOA	99629.5	11	13C8-PFOA	987341.0	5.0	0.101	4.91	1.000	0.500	0.568	14	30	
PFOS	30525.5	11	13C8-PFOS	307801.9	4.8	0.099	5.24	1.000	0.478	0.514	8	30	
PFNA	74628.2	11	13C9-PFNA	538549.9	5.0	0.139	5.25	1.000	0.500	0.518	4	30	
PFNS	16672.5	11	13C8-PFOS	307801.9	4.8	0.054	5.53	1.060	0.480	0.429	-11	30	
PFDA	58204.1	11	13C6-PFDA	661143.8	5.0	0.088	5.55	1.000	0.500	0.484	-3	30	
8:2-FTS	6912.4	11	13C2-8:2-FTS	33696.5	4.8	0.205	5.56	1.000	0.479	0.462	-3	30	
PFOSA	64296.7	12	13C8-PFOSA	674275.2	5.0	0.095	5.64	1.000	0.500	0.515	3	30	
NMeFOSAA	7609.0	12	d3-NMeFOSAA	83963.9	5.0	0.091	5.69	1.000	0.500	0.466	-7	30	
PFDS	13804.1	11	13C8-PFOS	307801.9	4.8	0.045	5.79	1.110	0.482	0.428	-11	30	
PFUnDA	55119.4	11	13C7-PFUnDA	290057.1	5.0	0.190	5.82	1.000	0.500	0.545	9	30	
NEtFOSAA	9115.6	11	d5-NEtFOSAA	67534.8	5.0	0.135	5.83	1.000	0.500	0.580	16	30	
PFDoDA	59030.8	12	13C2-PFDoDA	612086.9	5.0	0.096	6.04	1.000	0.500	0.523	5	30	
10:2-FTS	4422.0	12	13C2-8:2-FTS	33696.5	4.8	0.131	6.06	1.090	0.482	0.409	-15	30	
NMePFOSAE	40895.8	12	d7-NMePFOSAE	337249.9	5.0	0.121	6.09	1.000	0.500	0.543	9	30	
NMePFOSA	8204.0	11	d3-NMePFOSA	80989.7	5.0	0.101	6.10	1.000	0.500	0.567	13	30	
PFDoS	7792.8	11	13C8-PFOS	307801.9	4.8	0.025	6.21	1.190	0.484	0.489	1	30	
NEtPFOSAE	49160.3	11	d9-NEtPFOSAE	271867.0	5.0	0.181	6.25	1.000	0.500	0.580	16	30	
NEtPFOSA	7779.2	11	d5-NEtPFOSA	68493.6	5.0	0.114	6.26	1.000	0.500	0.500	0	30	
PFTrDA	52443.4	11	13C2-PFDoDA	612086.9	5.0	0.086	6.24	1.030	0.500	0.540	8	30	
PFTeDA	46434.9	11	13C2-PFTeDA	533368.0	5.0	0.087	6.42	1.000	0.500	0.511	2	30	
PFHxDA	28219.3	11	13C2-PFTeDA	533368.0	5.0	0.053	6.72	1.050	0.500	0.657	31	30	OOS
PFODA	24584.2	10	13C2-PFTeDA	533368.0	5.0	0.046	6.99	1.090	0.500	0.660	32	30	OOS

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18NOV07DCCV1-4_DOD 11/7/2018 6:23:57 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV1_ISC_CAL2			**Data File:**		18NOV07D-05.wiff
Sample ID:	CALMOD21833F			**Acquis Date:**		2018-11-07T11:56:44
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCCV1-4_DOD
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
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: 18NOV07DCAL-12

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	723636.3	730410.6	-1	50	
13C2-PFOA	5.0	521176.2	524423.6	-1	50	
13C4-PFOS	4.8	281409.0	274061.7	3	50	
13C2-PFDA	5.0	314201.1	311442.1	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	778381.3	13C3-PFBA	723636.3	1.076	5.000	4.978	100	70-130	
E13C5-PFPeA	833775.0	13C3-PFBA	723636.3	1.152	5.000	5.019	100	70-130	
E13C3-PFBS	424213.4	13C3-PFBA	723636.3	0.586	4.650	4.302	93	70-130	
E13C2-4:2-FTS	58255.4	13C2-PFOA	521176.2	0.112	4.670	5.044	108	70-130	
E13C5-PFHxA	698561.1	13C2-PFOA	521176.2	1.340	5.000	4.930	99	70-130	
E13C3-PFHxS	352931.4	13C2-PFOA	521176.2	0.677	4.730	4.861	103	70-130	
E13C4-PFHpA	560291.0	13C2-PFOA	521176.2	1.075	5.000	4.891	98	70-130	
E13C2-6:2-FTS	41536.9	13C2-PFOA	521176.2	0.080	4.750	5.315	112	70-130	
E13C8-PFOA	987341.0	13C2-PFOA	521176.2	1.894	5.000	5.283	106	70-130	
E13C8-PFOS	307801.9	13C4-PFOS	281409.0	1.094	4.780	4.837	101	70-130	
E13C9-PFNA	538549.9	13C4-PFOS	281409.0	1.914	5.000	5.228	105	70-130	
E13C6-PFDA	661143.8	13C2-PFDA	314201.1	2.104	5.000	5.292	106	70-130	
E13C2-8:2-FTS	33696.5	13C2-PFDA	314201.1	0.107	4.790	5.675	118	70-130	
E13C8-PFOSA	674275.2	13C2-PFDA	314201.1	2.146	5.000	4.683	94	70-130	
Ed3-NMeFOSAA	83963.9	13C2-PFDA	314201.1	0.267	5.000	4.969	99	70-130	
E13C7-PFUnDA	290057.1	13C2-PFDA	314201.1	0.923	5.000	5.325	107	70-130	
Ed5-NEtFOSAA	67534.7	13C2-PFDA	314201.1	0.215	5.000	4.974	99	70-130	
E13C2-PFDoDA	612086.9	13C2-PFDA	314201.1	1.948	5.000	5.252	105	70-130	
Ed7-NMePFOSAE	337249.9	13C2-PFDA	314201.1	1.073	5.000	4.991	100	70-130	
Ed3-NMePFOSA	80989.7	13C2-PFDA	314201.1	0.258	5.000	4.719	94	70-130	
Ed9-NEtPFOSAE	271867.0	13C2-PFDA	314201.1	0.865	5.000	4.941	99	70-130	
Ed5-NEtPFOSA	68493.6	13C2-PFDA	314201.1	0.218	5.000	5.048	101	70-130	
E13C2-PFTeDA	533368.0	13C2-PFDA	314201.1	1.698	5.000	6.111	122	70-130	

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

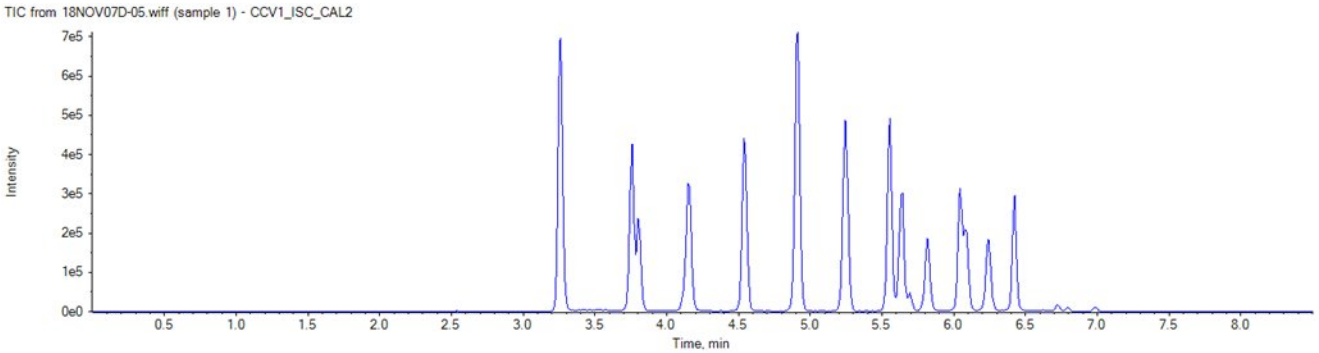
Analyte Quantitation Peak Table

Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV07D-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	72943.4		A	13C4-PFBA	3.26	778381.3	0.094	0.548
PFPeA	3.76	1.000	77938.7		A	13C5-PFPeA	3.76	833775.0	0.093	0.556
PFBS	3.81	1.000	39168.4		A	13C3-PFBS	3.81	424213.4	0.092	0.466
4:2-FTS	4.12	1.000	9925.9		A	13C2-4:2-FTS	4.12	58255.4	0.170	0.458
PFHxA	4.15	1.000	88074.7		A	13C5-PFHxA	4.15	698561.1	0.126	0.541
PFPeS	4.17	1.100	20913.0		A	13C3-PFBS	3.81	424213.4	0.049	0.486
PFHxS	4.54	1.000	30387.3		A	13C3-PFHxS	4.54	352931.4	0.086	0.436
PFHpA	4.54	1.000	90462.4		A	13C4-PFHpA	4.54	560291.0	0.161	0.543
6:2-FTS	4.90	1.000	8938.2		A	13C2-6:2-FTS	4.90	41536.9	0.215	0.537
PFHpS	4.90	1.080	30992.6		A	13C3-PFHxS	4.54	352931.4	0.088	0.459
PFOA	4.91	1.000	99629.5		A	13C8-PFOA	4.91	987341.0	0.101	0.568
PFOS	5.24	1.000	30525.5		M	13C8-PFOS	5.24	307801.9	0.099	0.514
PFNA	5.25	1.000	74628.2		A	13C9-PFNA	5.25	538549.9	0.139	0.518
PFNS	5.53	1.060	16672.5		A	13C8-PFOS	5.24	307801.9	0.054	0.429
PFDA	5.55	1.000	58204.1		A	13C6-PFDA	5.55	661143.8	0.088	0.484
8:2-FTS	5.56	1.000	6912.4		A	13C2-8:2-FTS	5.56	33696.5	0.205	0.462
PFOSA	5.64	1.000	64296.7		A	13C8-PFOSA	5.64	674275.2	0.095	0.515
NMeFOSAA	5.69	1.000	7609.0		A	d3-NMeFOSAA	5.69	83963.9	0.091	0.466
PFDS	5.79	1.110	13804.1		A	13C8-PFOS	5.24	307801.9	0.045	0.428
PFUnDA	5.82	1.000	55119.4		M	13C7-PFUnDA	5.82	290057.1	0.190	0.545
NEtFOSAA	5.83	1.000	9115.6		M	d5-NEtFOSAA	5.83	67534.8	0.135	0.580
PFDoDA	6.04	1.000	59030.8		A	13C2-PFDoDA	6.04	612086.9	0.096	0.523
10:2-FTS	6.06	1.090	4422.0		A	13C2-8:2-FTS	5.56	33696.5	0.131	0.409
NMePFOSAE	6.09	1.000	40895.8		A	d7-NMePFOSAE	6.08	337249.9	0.121	0.543
NMePFOSA	6.10	1.000	8204.0		A	d3-NMePFOSA	6.10	80989.7	0.101	0.567
PFDoS	6.21	1.190	7792.8		A	13C8-PFOS	5.24	307801.9	0.025	0.489
NEtPFOSAE	6.25	1.000	49160.3		A	d9-NEtPFOSAE	6.24	271867.0	0.181	0.580
NEtPFOSA	6.26	1.000	7779.2		A	d5-NEtPFOSA	6.26	68493.6	0.114	0.500
PFTrDA	6.24	1.030	52443.4		A	13C2-PFDoDA	6.04	612086.9	0.086	0.540
PFTeDA	6.42	1.000	46434.9		A	13C2-PFTeDA	6.42	533368.0	0.087	0.511
PFHxDA	6.72	1.050	28219.3		A	13C2-PFTeDA	6.42	533368.0	0.053	0.657
PFODA	6.99	1.090	24584.2		A	13C2-PFTeDA	6.42	533368.0	0.046	0.660

Total Ion Chromatogram

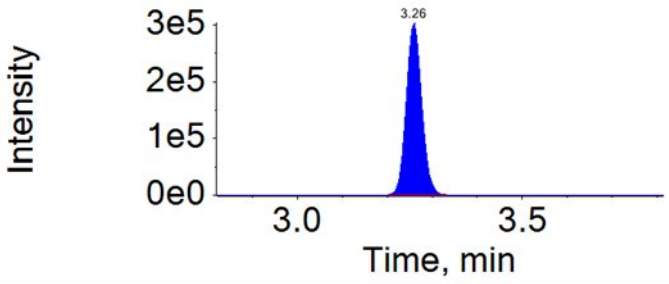


APPROVED
By MCD at 6:31 pm, 11/7/18

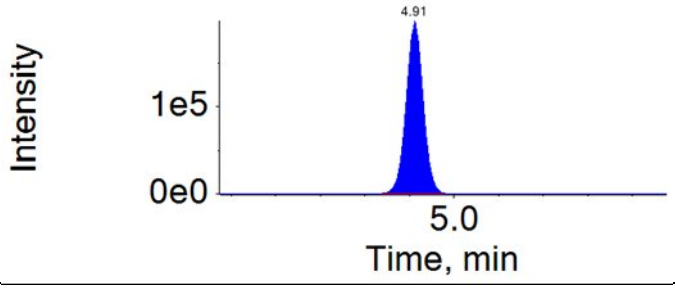
REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

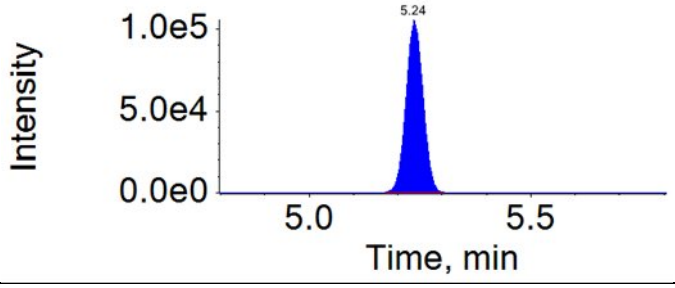
Injection Standard: 13C3-PFBA
216.0 / 172.0



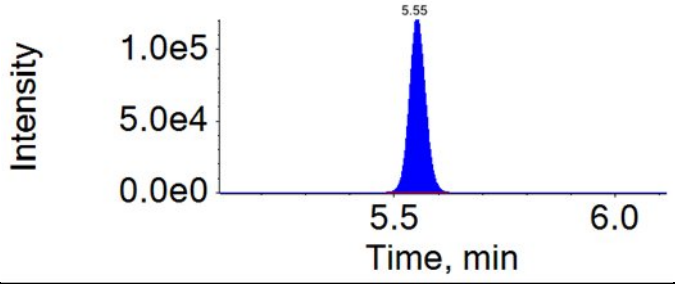
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

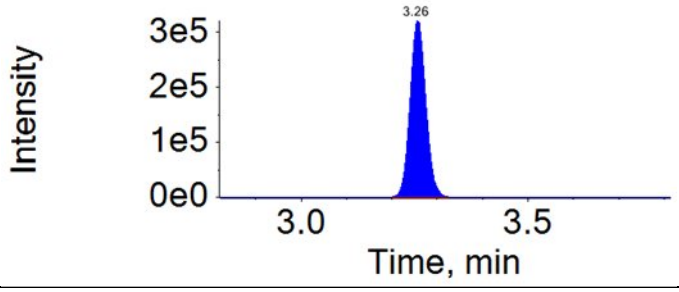


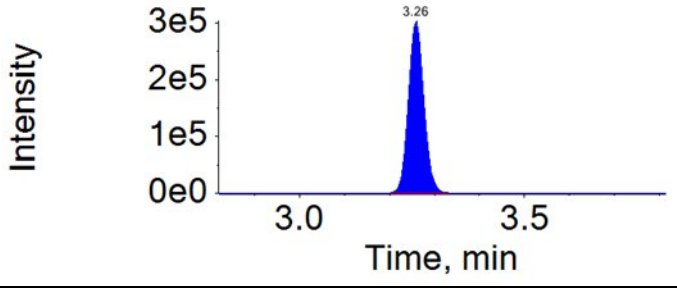
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

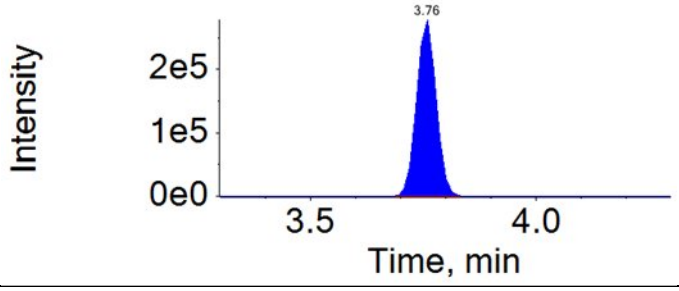
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

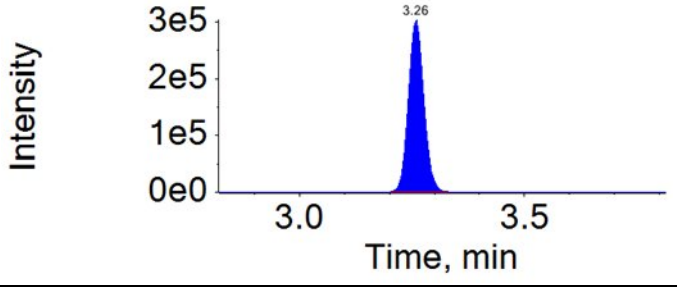
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



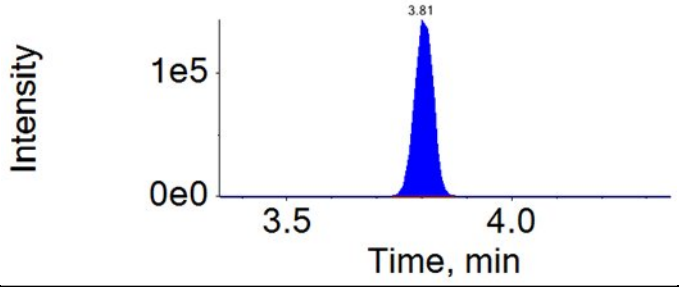


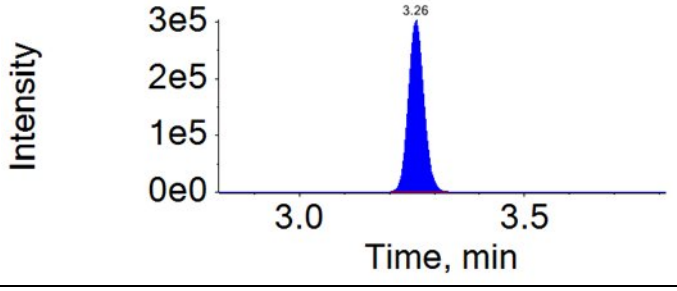
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



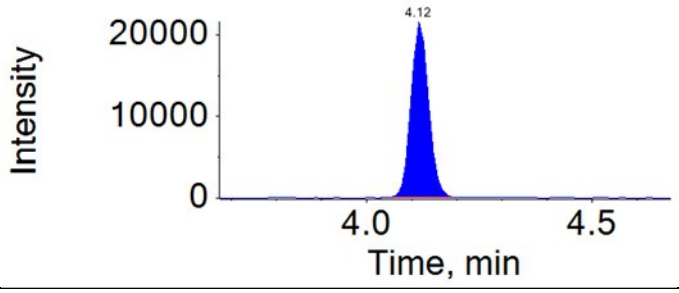


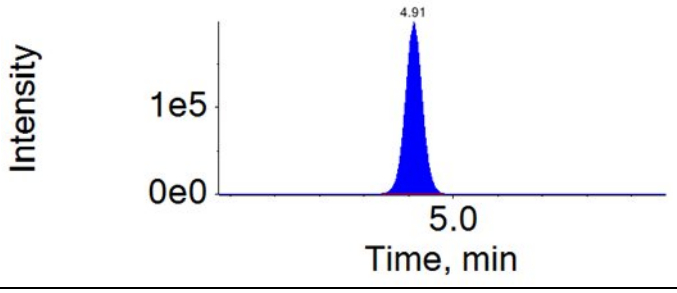
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



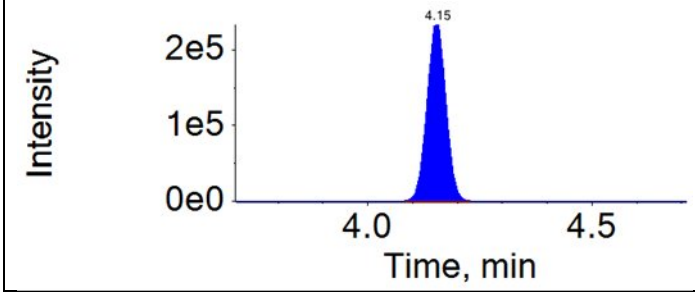


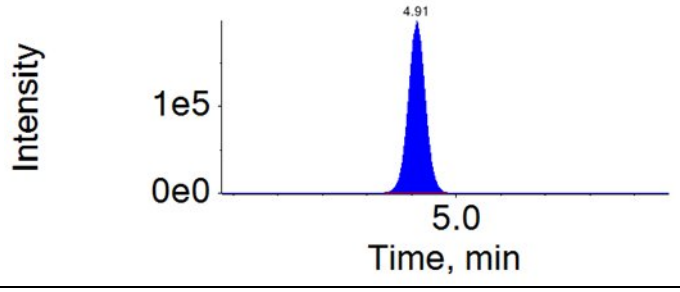
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

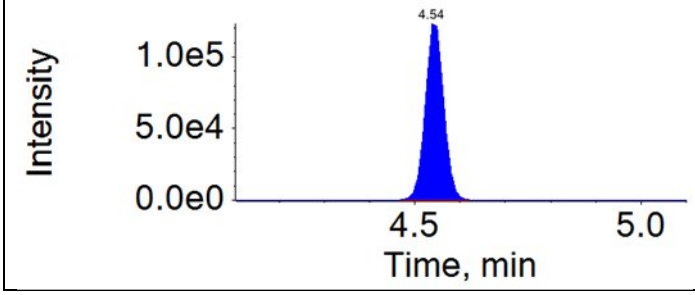
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

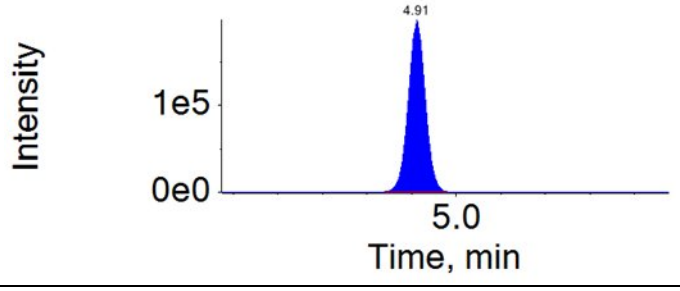
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



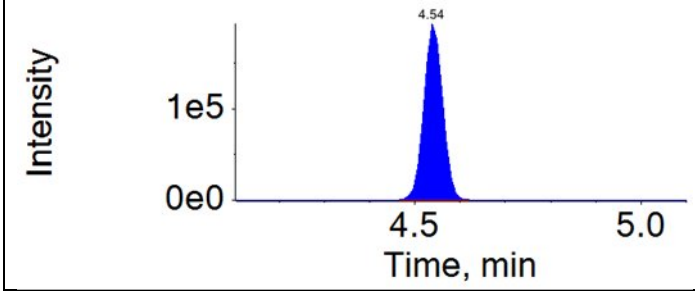


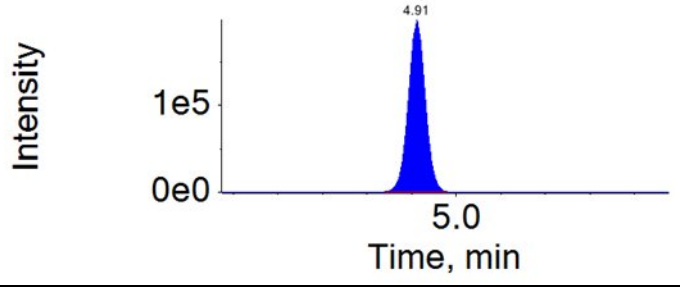
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



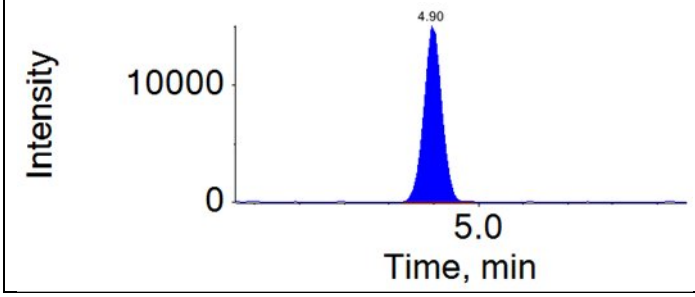


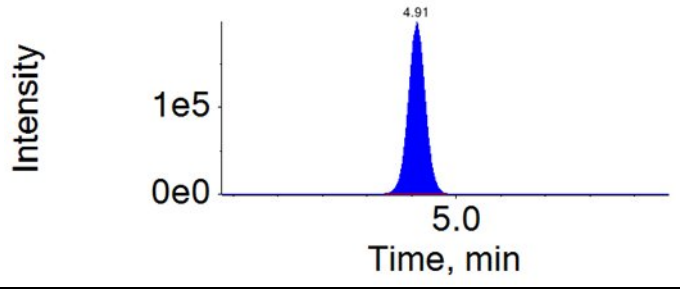
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



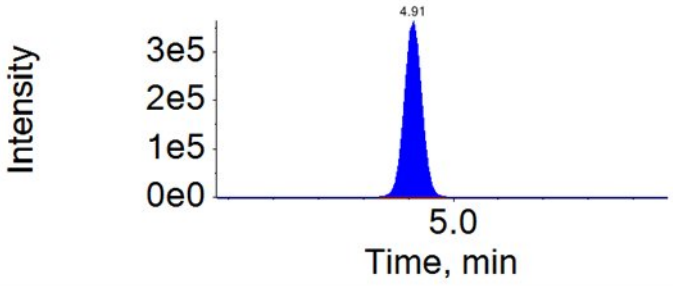


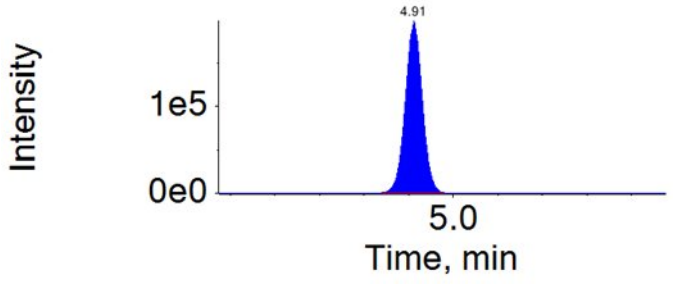
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

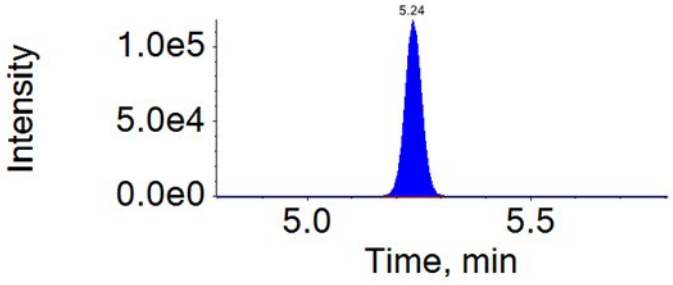
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

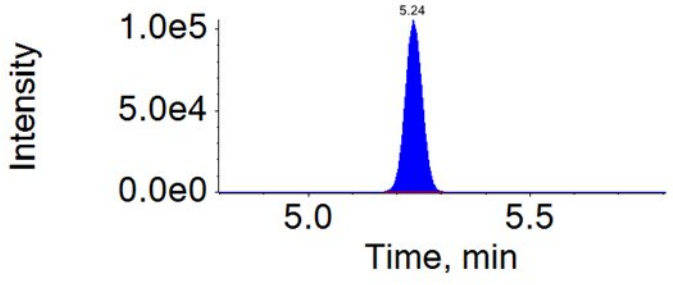
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



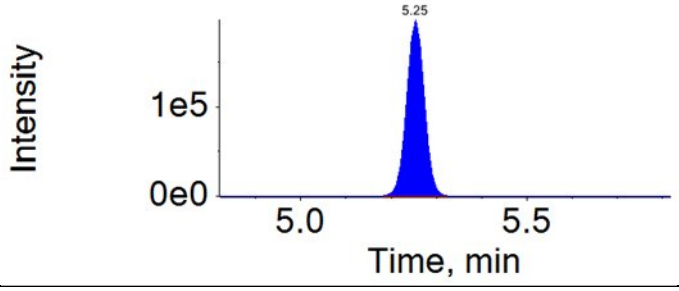


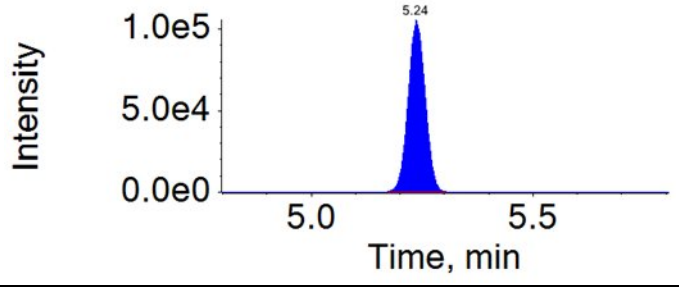
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



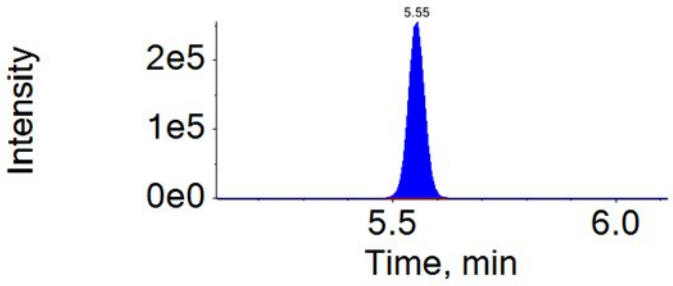


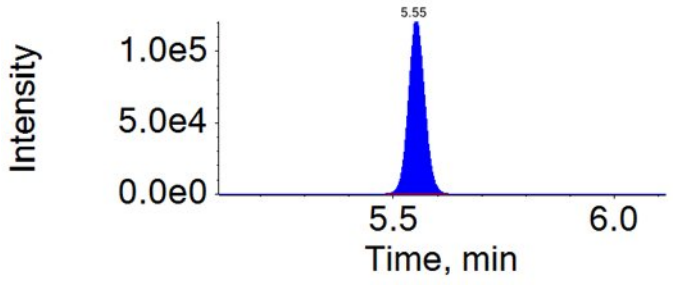
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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



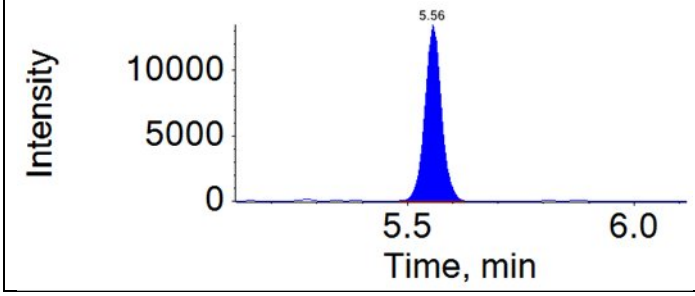


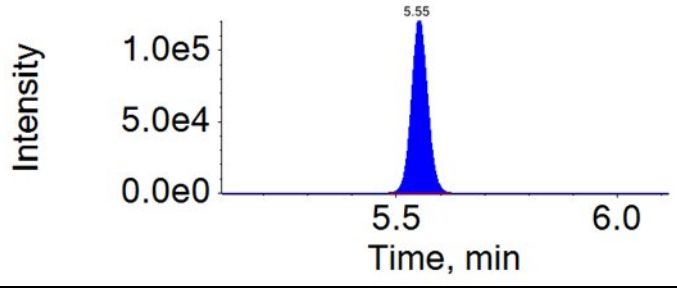
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

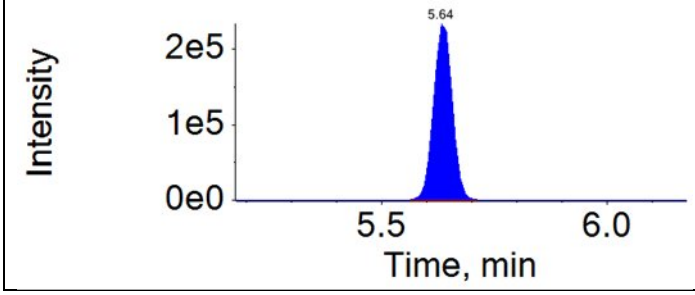
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

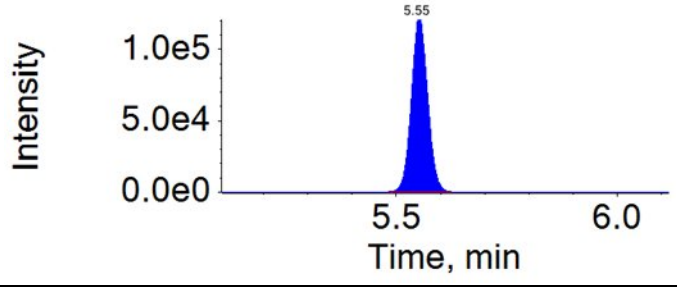
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



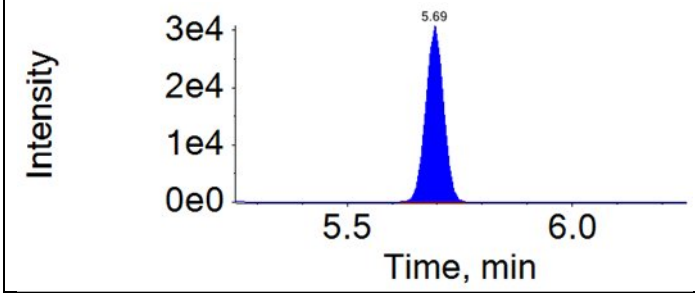


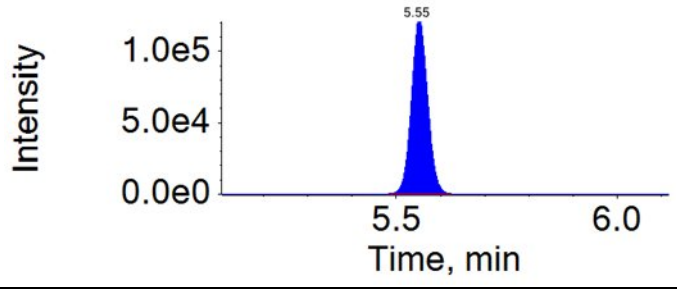
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



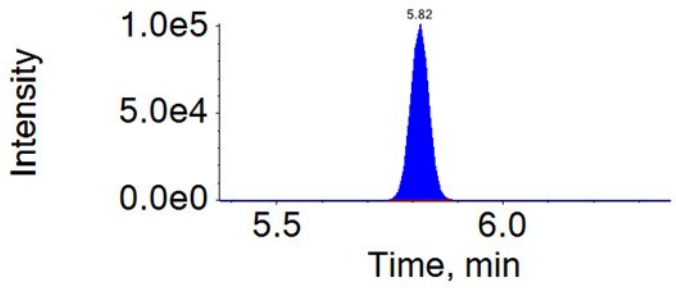


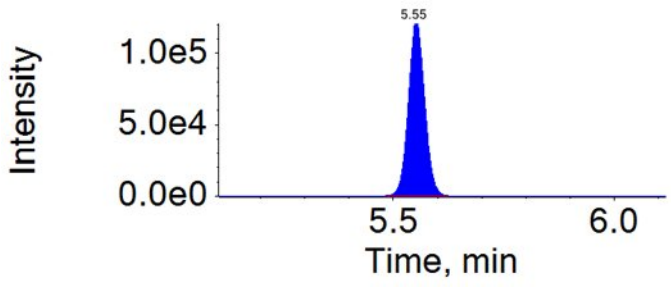
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





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



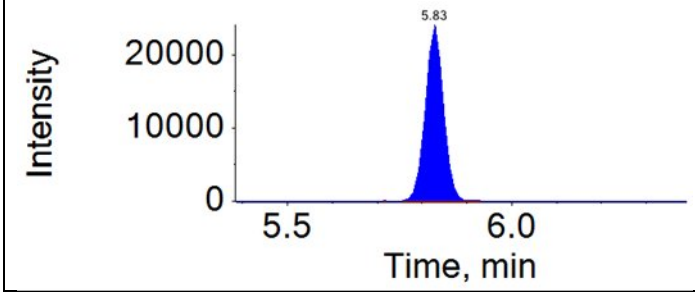


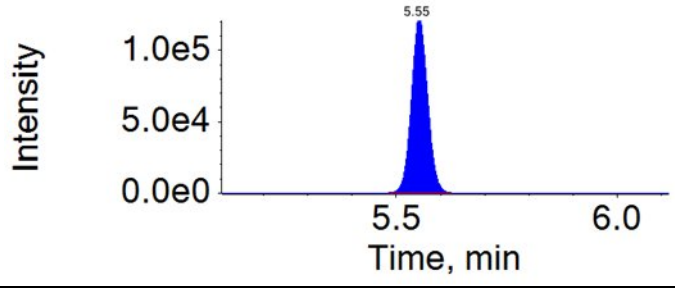
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

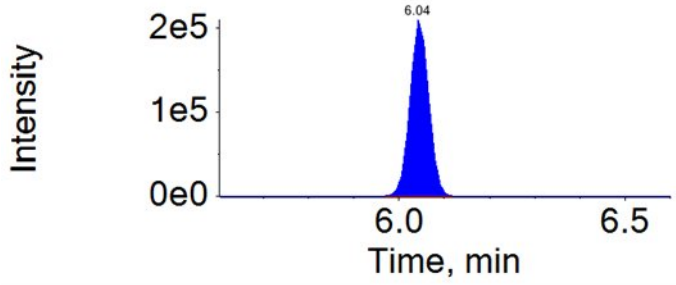
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

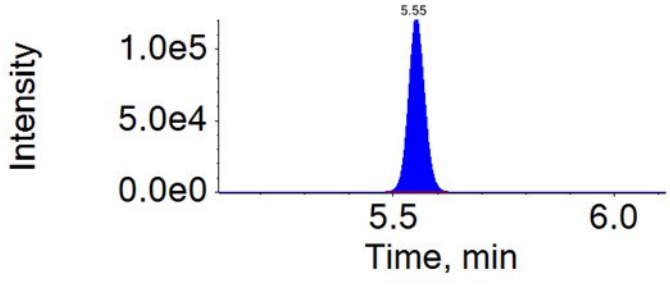
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



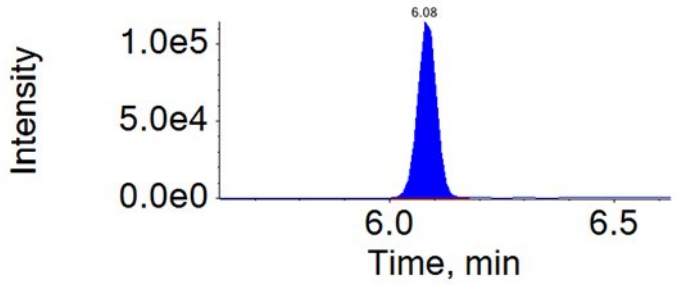


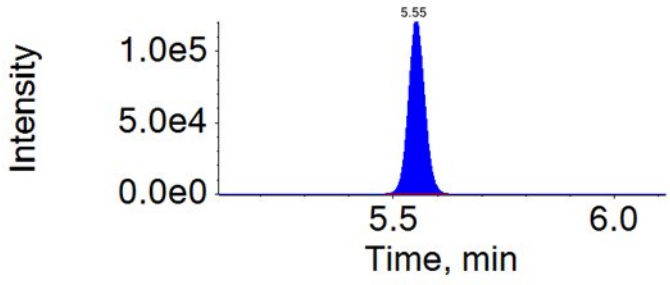
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



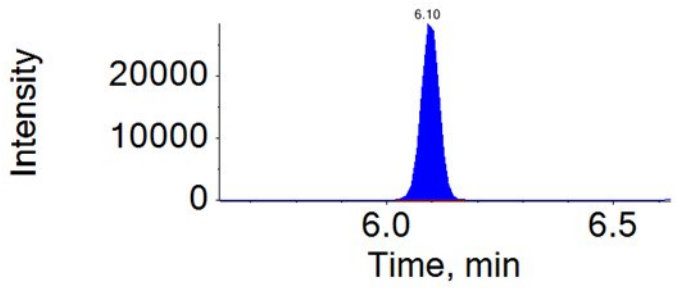


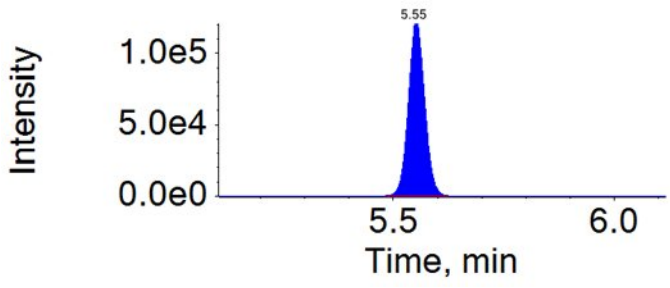
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



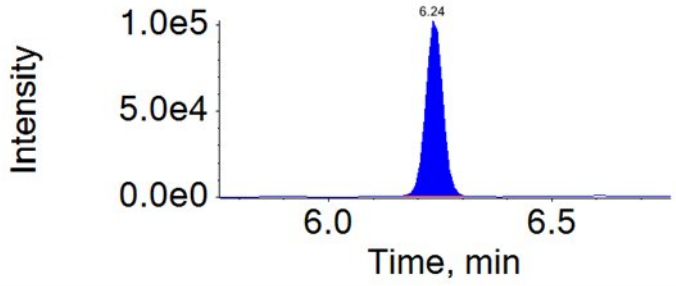


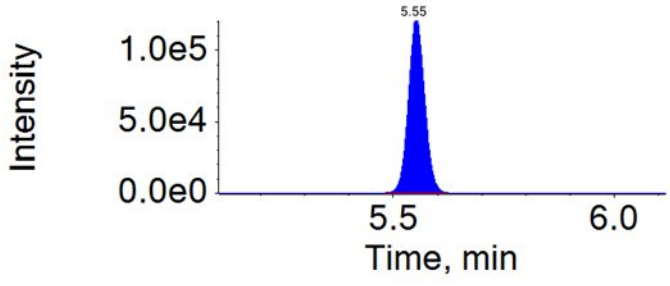
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

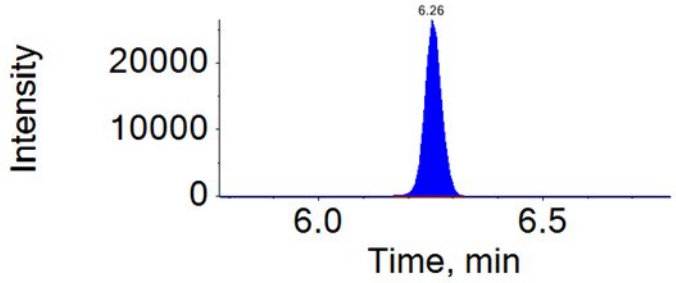
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

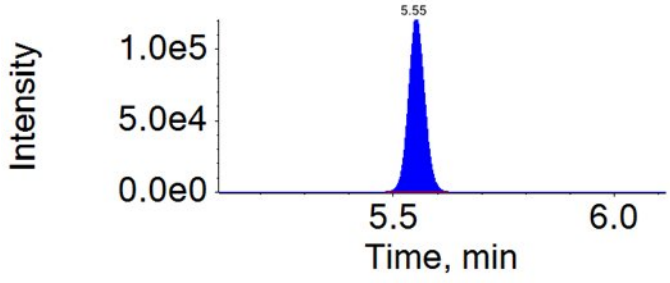
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



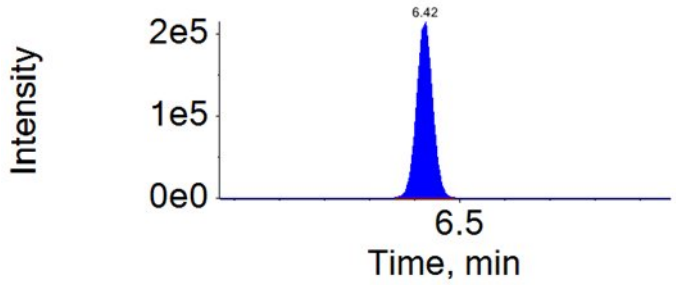


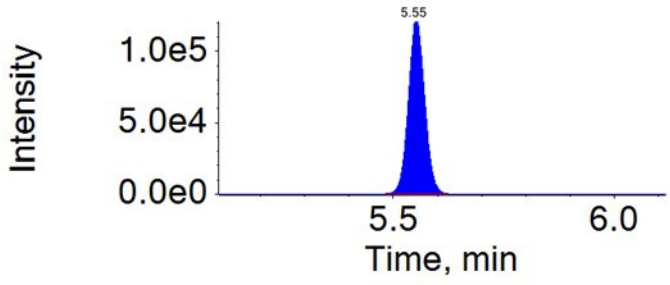
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



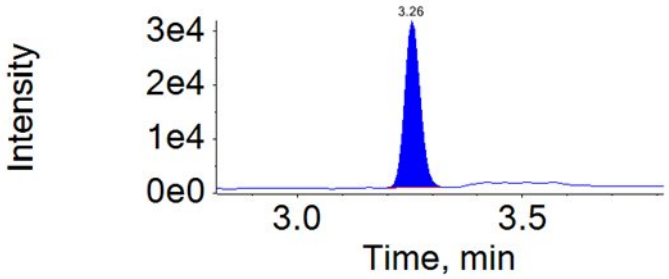


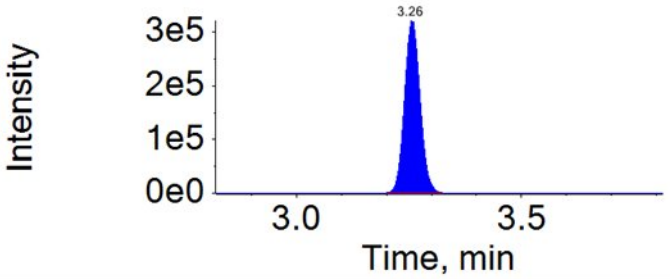
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

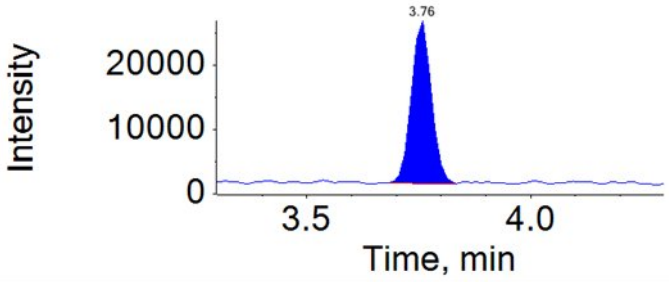
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

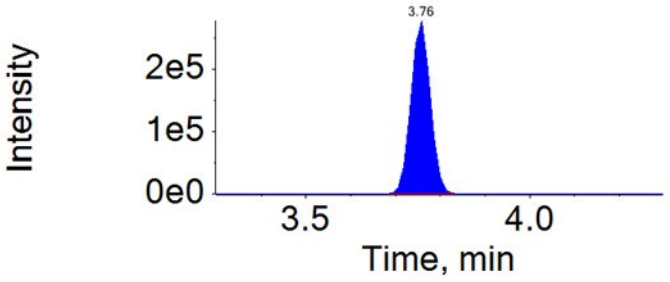
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



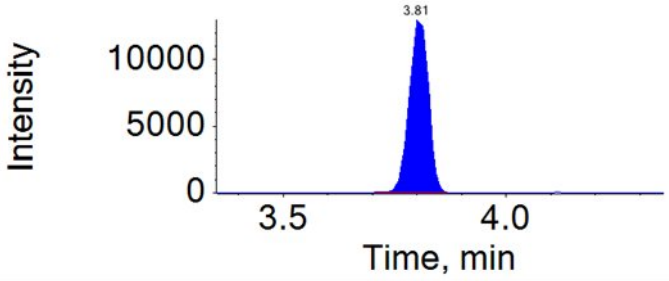


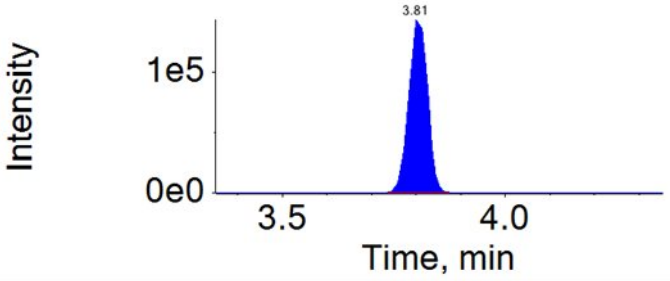
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



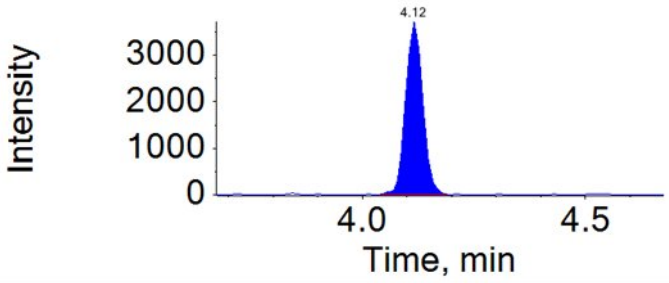


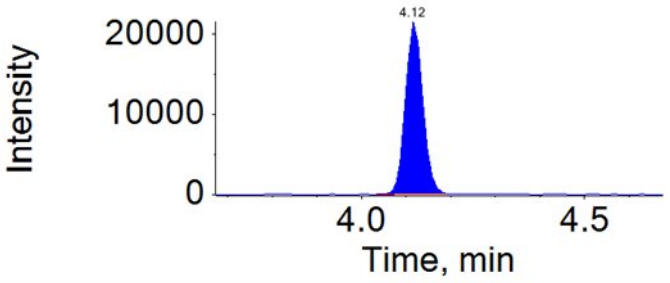
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



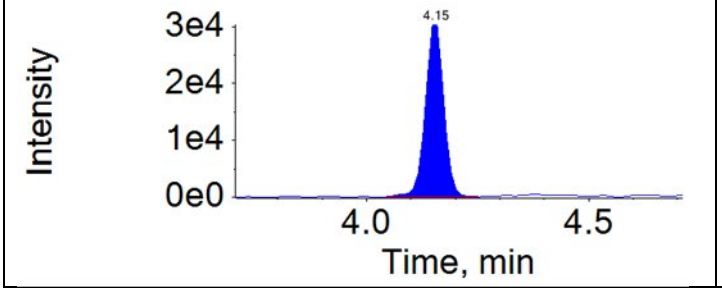


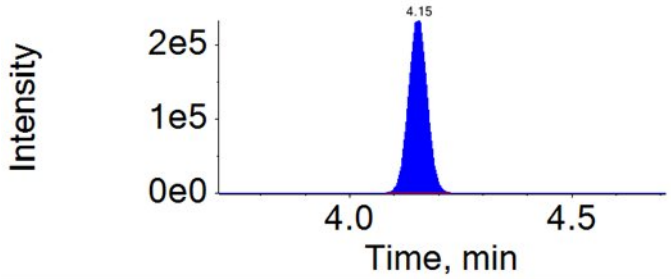
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

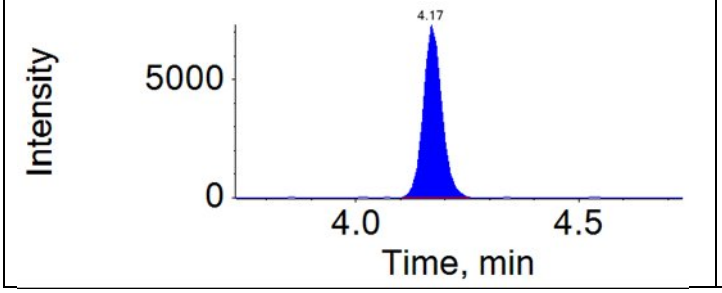
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

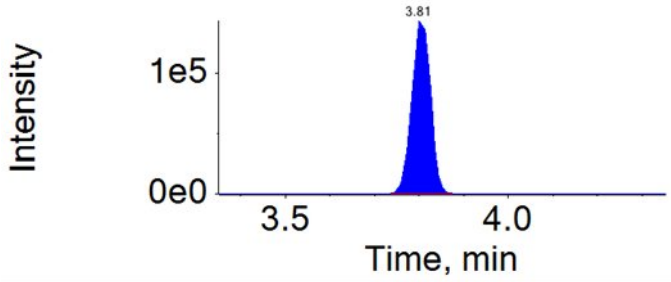
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



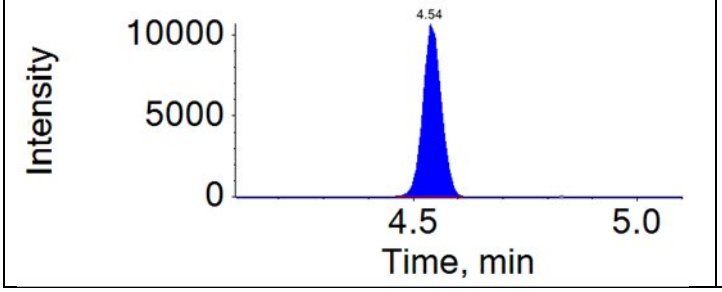


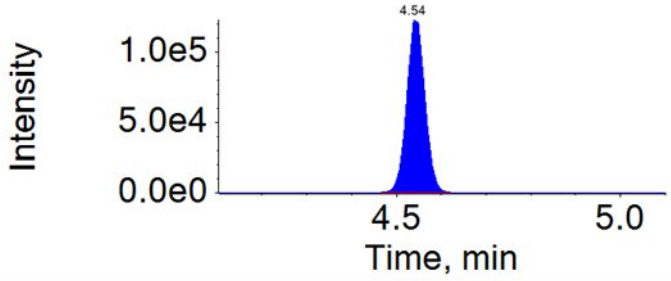
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



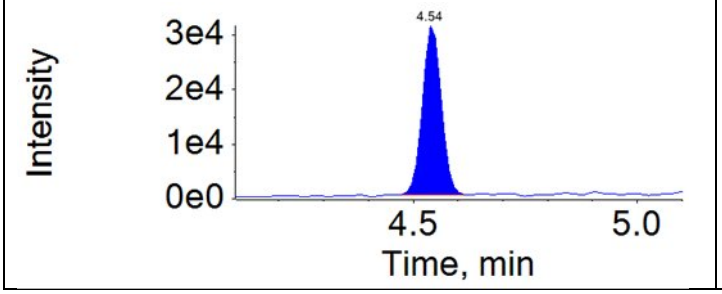


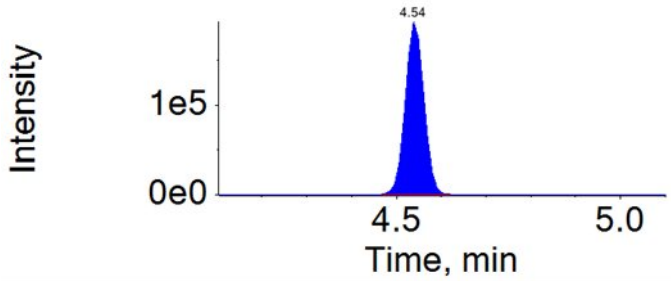
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



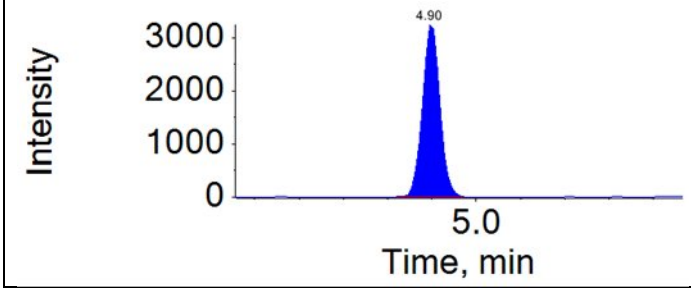


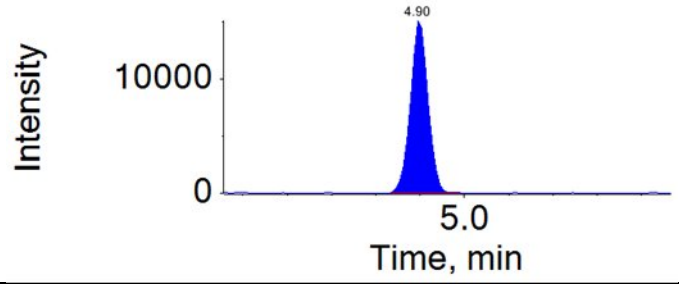
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

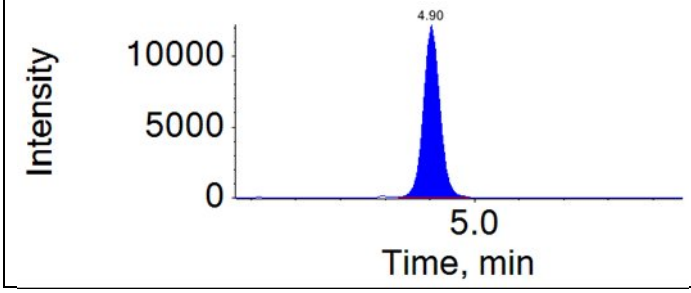
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

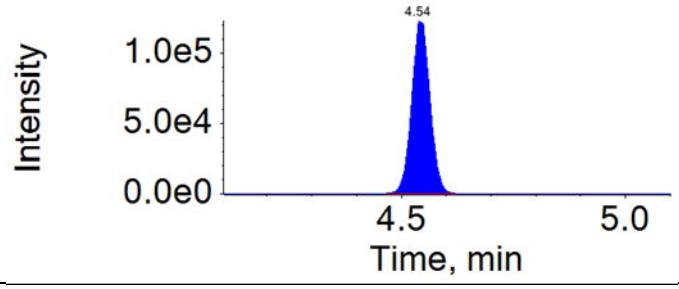
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



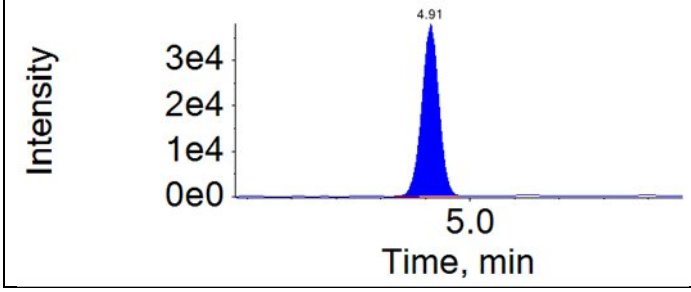


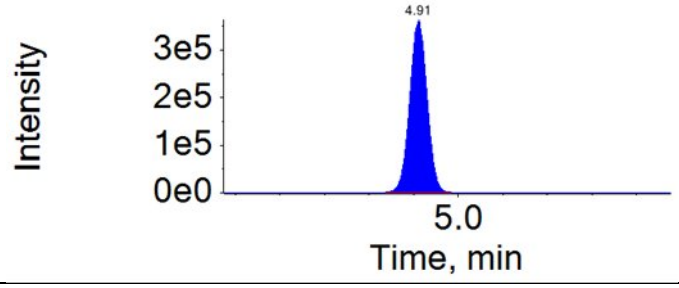
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



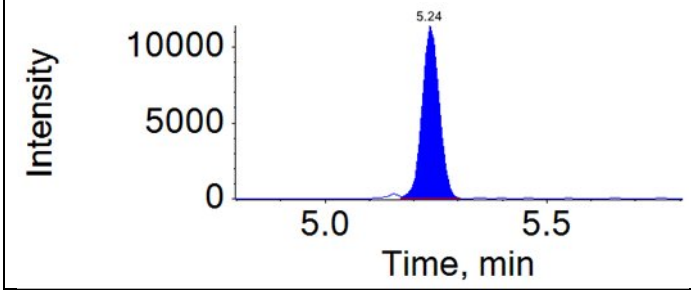


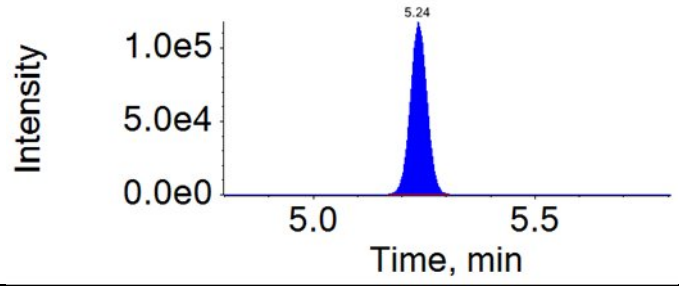
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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



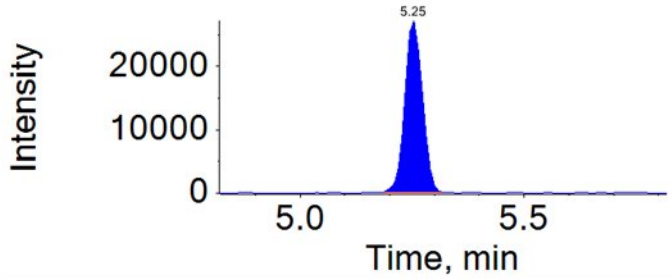


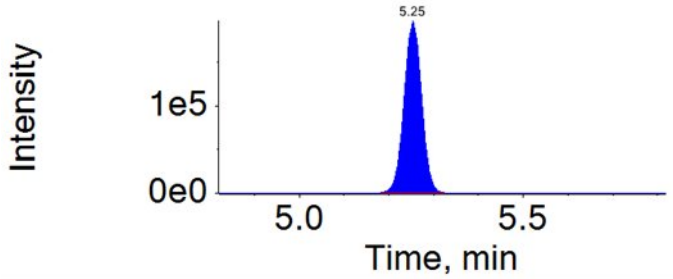
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

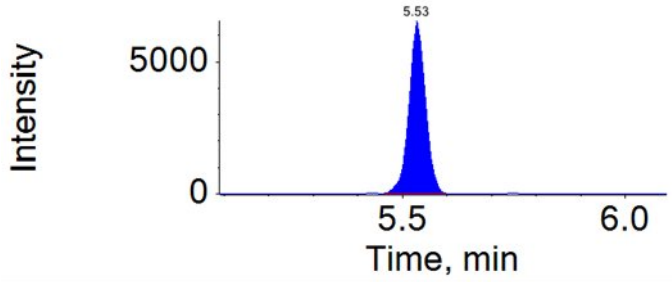
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

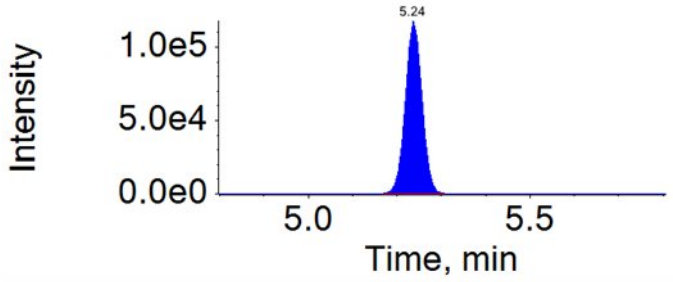
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



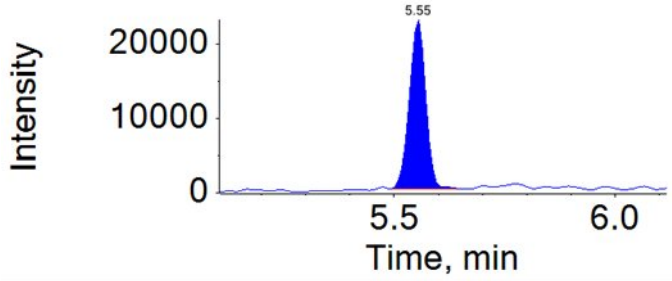


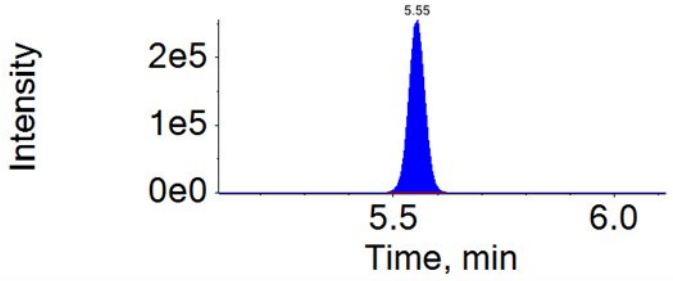
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



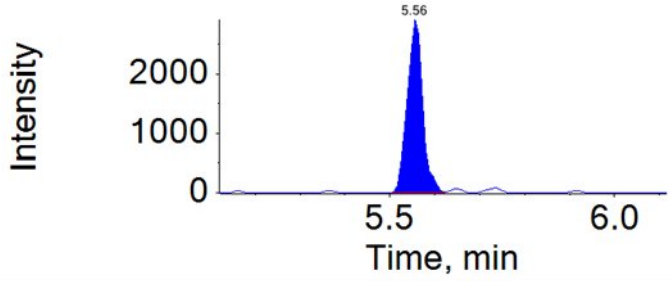


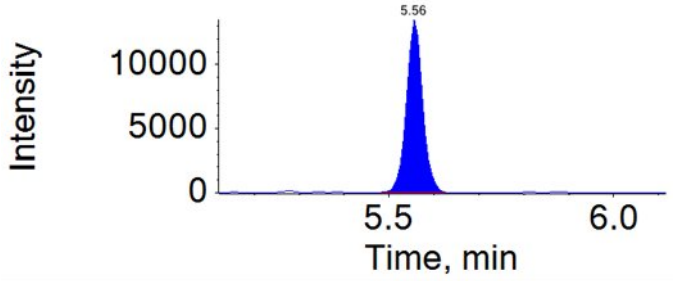
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



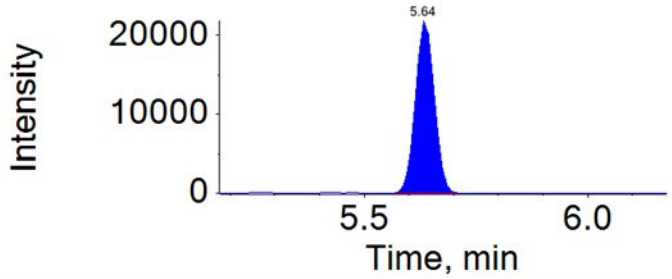


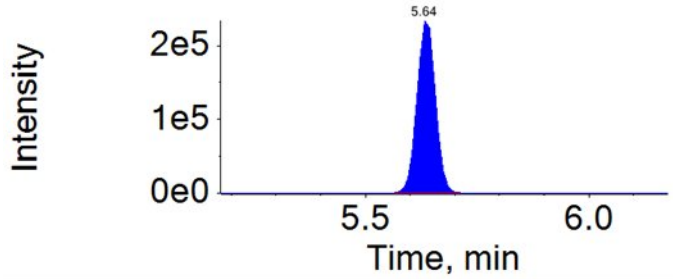
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

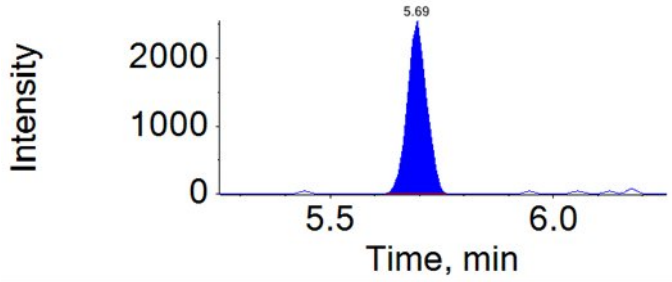
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

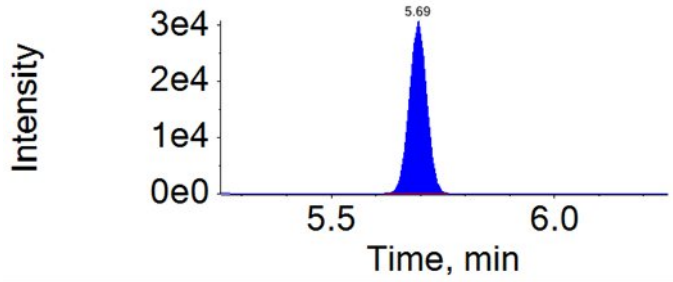
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



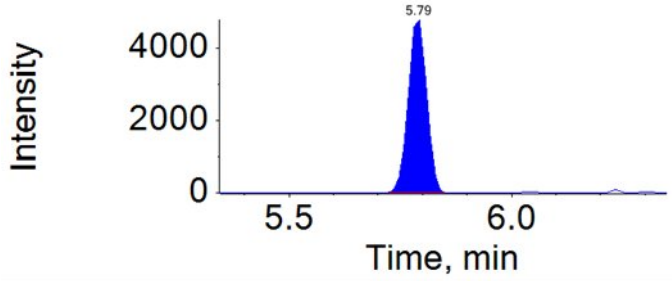


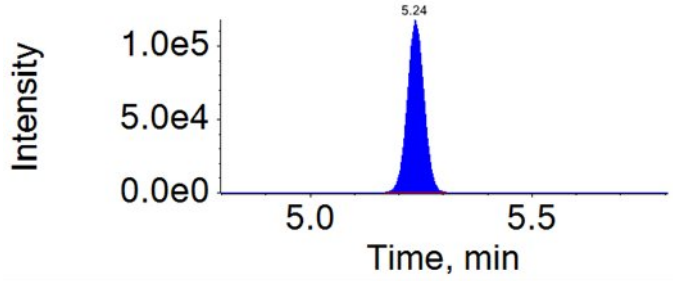
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



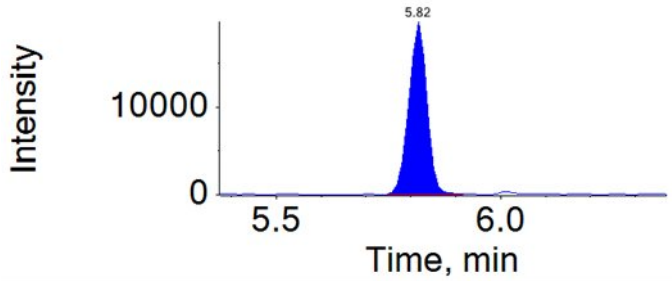


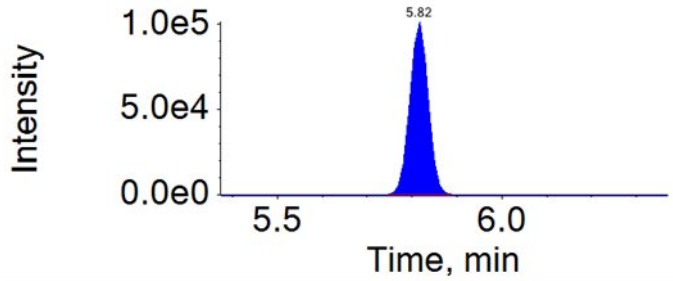
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



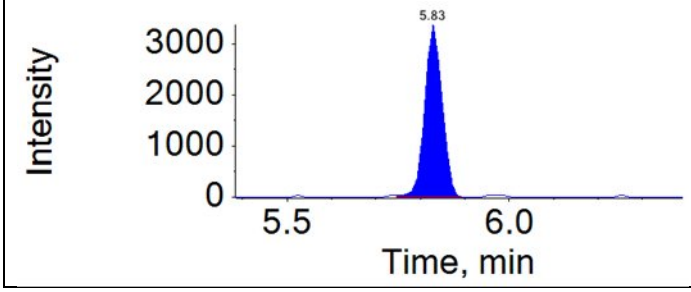


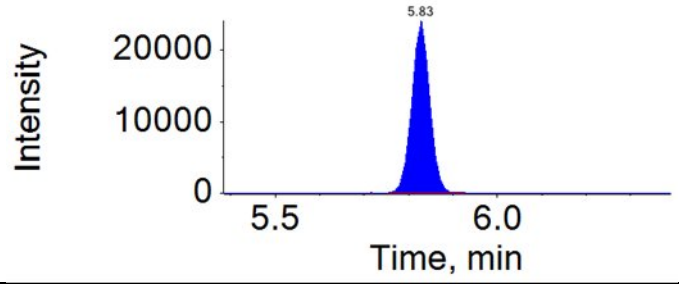
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

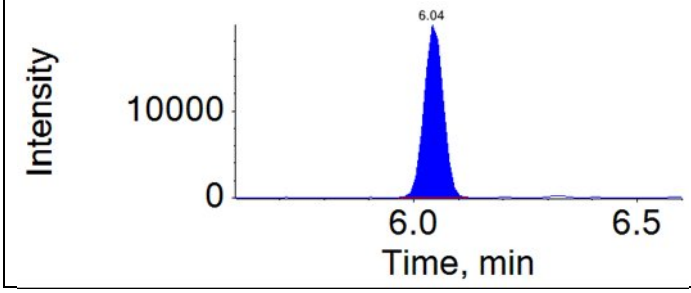
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

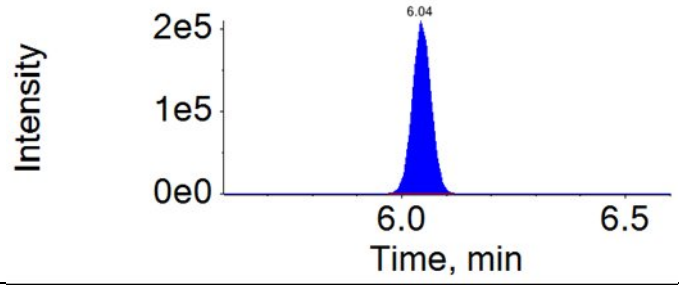
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



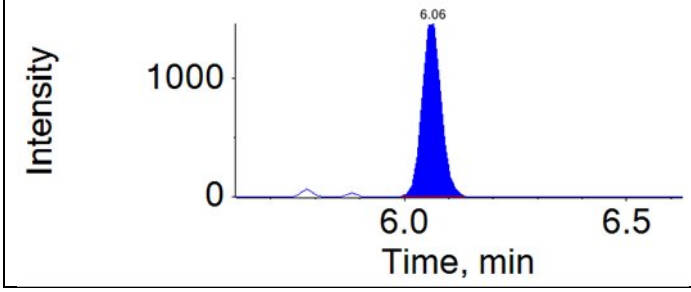


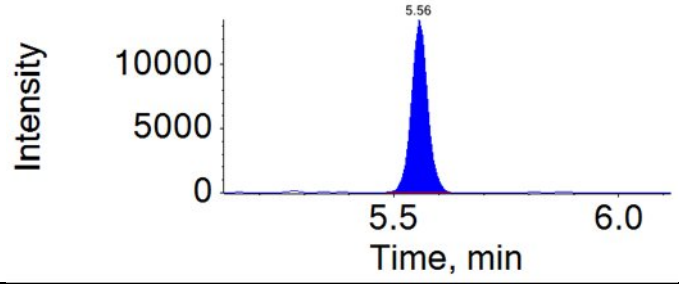
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



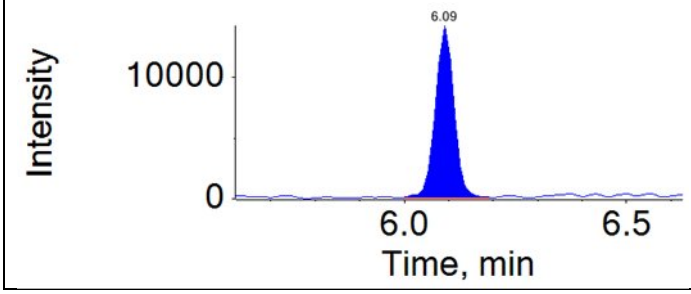


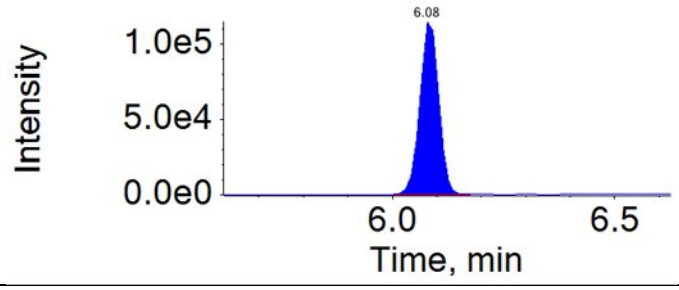
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



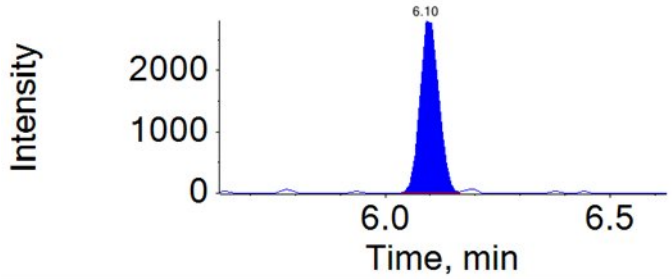


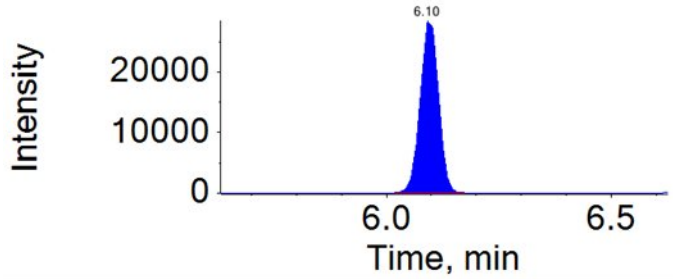
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

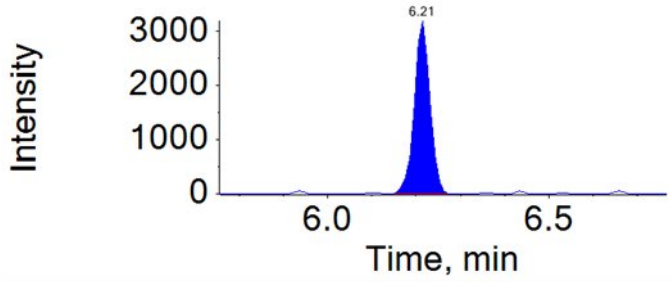
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

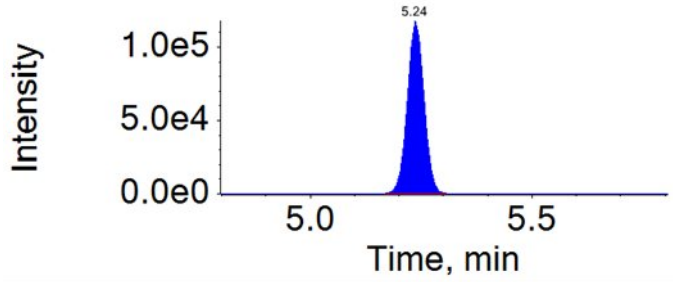
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



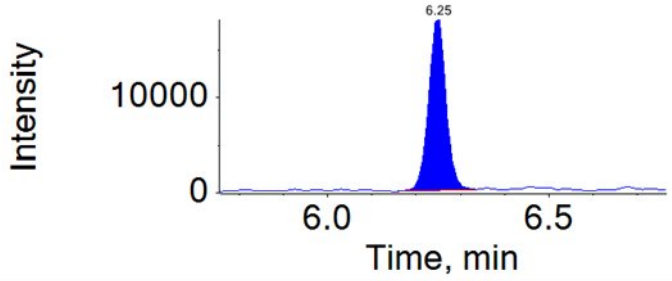


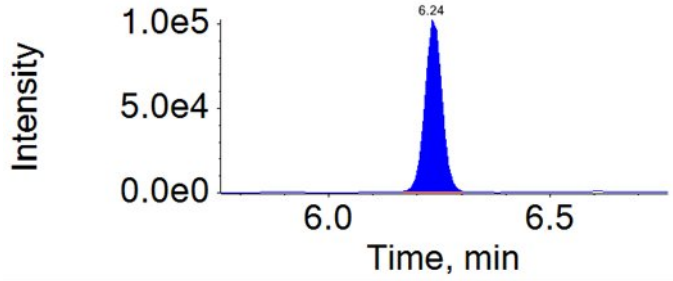
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



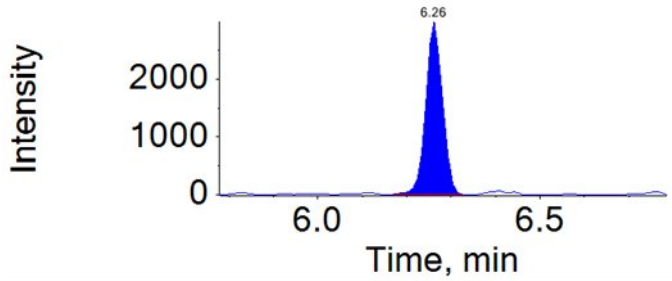


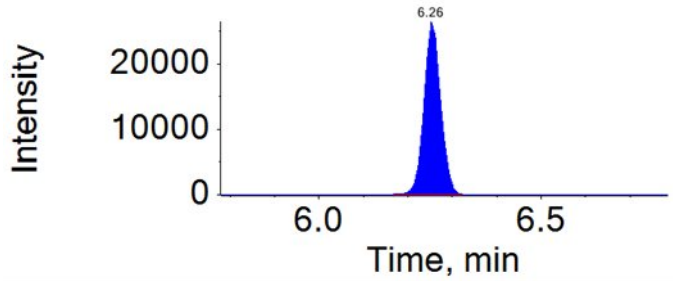
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

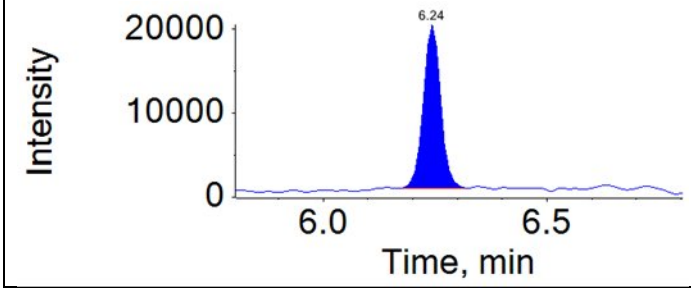
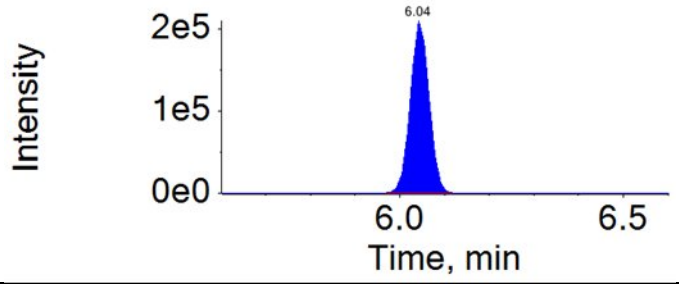


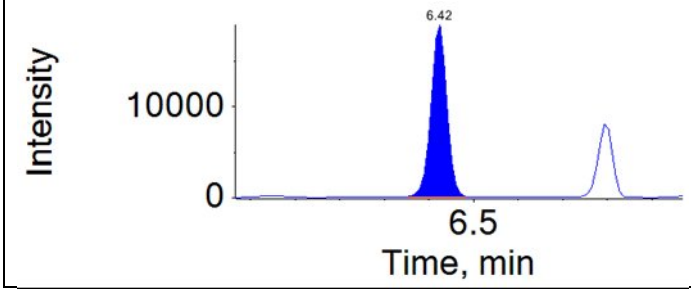
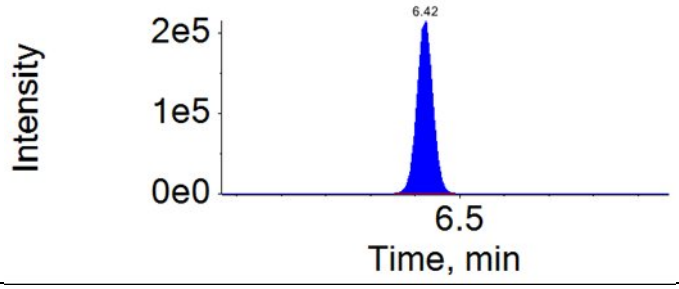


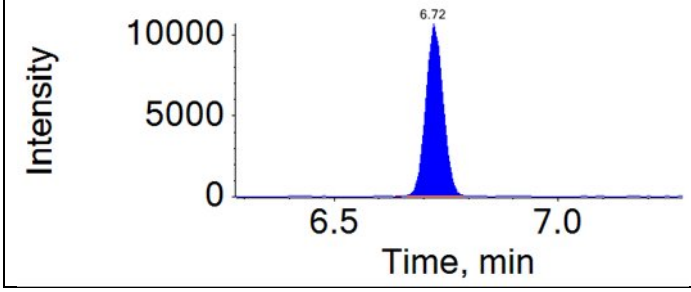
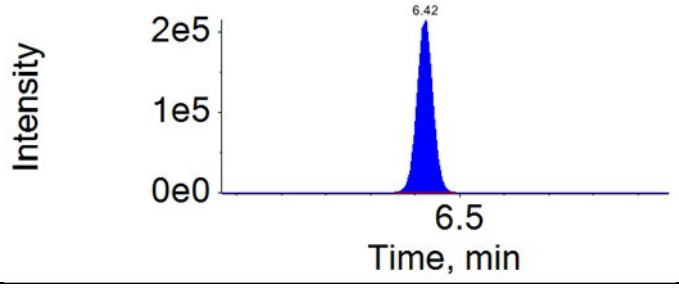
APPROVED
By MCD at 6:31 pm, 11/7/18

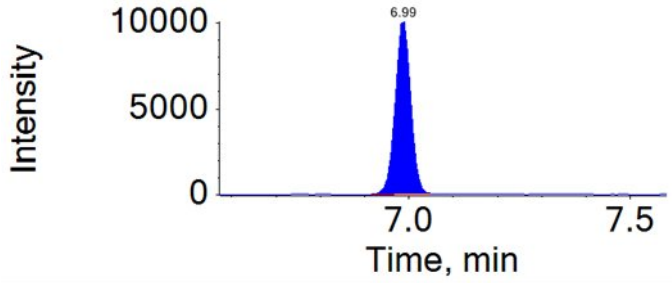
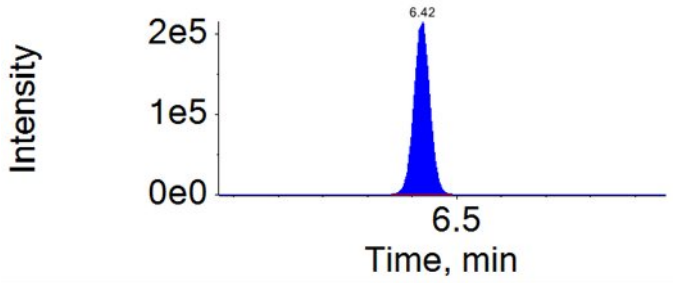
REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **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
	

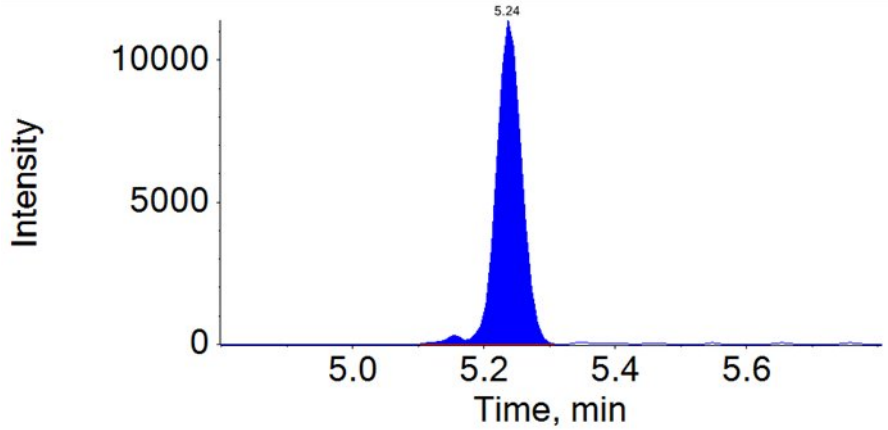
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

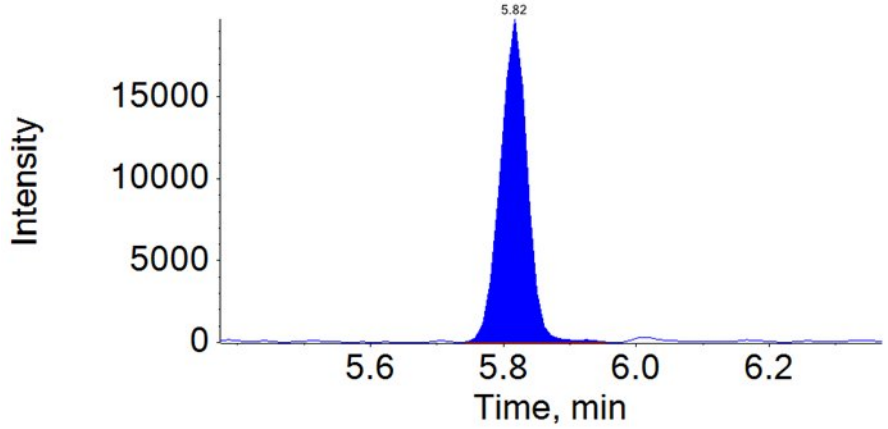
Results Table Name: 18NOV07DCCV1-4_DOD
Results Table Date: 11/7/2018 6:26:02 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
31140.2
Mass Range:
499.0 / 80.0
File Name:
18NOV07D-05.wiff
Sample Name:
CCV1_ISC_CAL2



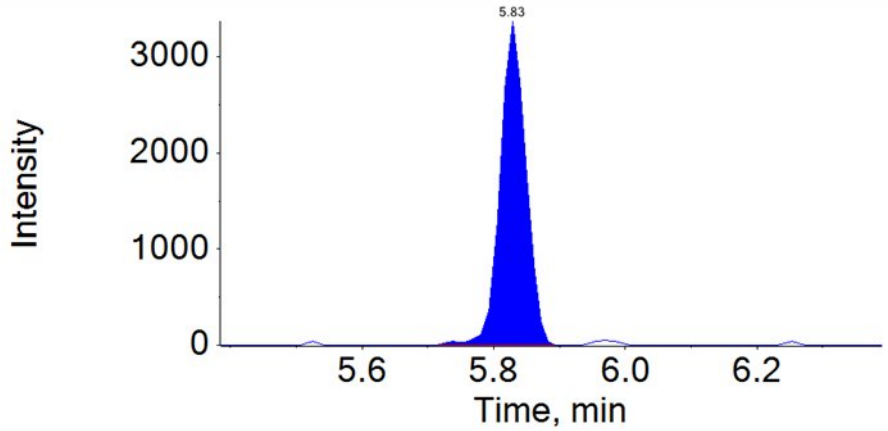
Integration Comment: incorrect integration

Component Name:
PFUnDA
RT (min.):
5.82
Peak Area:
55378.6
Mass Range:
563.0 / 519.0
File Name:
18NOV07D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
9166.7
Mass Range:
584.0 / 419.0
File Name:
18NOV07D-05.wiff
Sample Name:
CCV1_ISC_CAL2



Integration Comment: incorrect integration

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Results Table Name: 18NOV07DCCV1-4_DOD
Results Table Date: 11/7/2018 6:26:02 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Ion Ratio Report

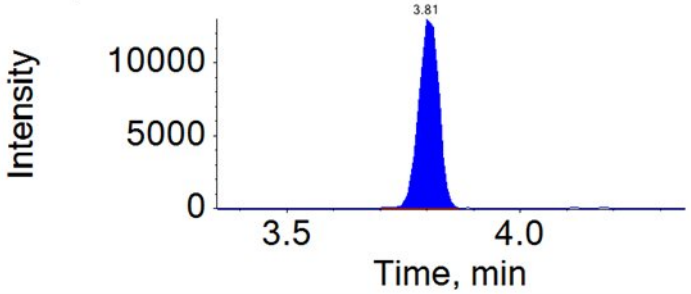
Sample Name: CCV1_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV07D-05.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	39168.4	A	N/A	0.3818			
PFBS_2	3.80	1.00	14954.7	A	N/A	0.3818	7	50	
4:2-FTS	4.12	1.00	9925.9	A	N/A	0.7140			
4:2-FTS_2	4.12	1.00	7086.7	A	N/A	0.7140	11	50	
PFHxA	4.15	1.00	88074.7	A	N/A	0.0131			
PFHxA_2	4.15	1.00	1154.7	A	N/A	0.0131	16	50	
PFPeS	4.17	1.10	20913.0	A	N/A	0.5407			
PFPeS_2	4.17	1.10	11308.3	A	N/A	0.5407	0	50	
PFHxS	4.54	1.00	30387.3	A	N/A	0.3536			
PFHxS_2	4.54	1.00	10746.4	A	N/A	0.3536	-1	50	
PFHpA	4.54	1.00	90462.4	A	N/A	0.0662			
PFHpA_2	4.54	1.00	5987.6	A	N/A	0.0662	15	50	
6:2-FTS	4.90	1.00	8938.2	A	N/A	0.6565			
6:2-FTS_2	4.90	1.00	5867.6	A	N/A	0.6565	-4	50	
PFHpS	4.90	1.08	30992.6	A	N/A	0.3879			
PFHpS_2	4.91	1.08	12021.9	A	N/A	0.3879	-2	50	
PFOA	4.91	1.00	99629.5	A	N/A	0.0517			
PFOA_2	4.91	1.00	5145.9	A	N/A	0.0517	-19	50	
PFOS	5.24	1.00	30525.5	M	N/A	0.3260			
PFOS_2	5.24	1.00	9952.4	A	N/A	0.3260	-7	50	
PFNA	5.25	1.00	74628.2	A	N/A	0.0235			
PFNA_2	5.25	1.00	1751.5	A	N/A	0.0235	14	50	
PFNS	5.53	1.06	16672.5	A	N/A	0.4591			
PFNS_2	5.53	1.06	7655.1	A	N/A	0.4591	-6	50	
PFDA	5.55	1.00	58204.1	A	N/A	0.0020			
PFDA_2	5.36	0.97	118.0	A	N/A	0.0020	-63	50	OOS
8:2-FTS	5.56	1.00	6912.4	A	N/A	0.6715			
8:2-FTS_2	5.56	1.00	4641.6	A	N/A	0.6715	8	50	
NMeFOSAA	5.69	1.00	7609.0	A	N/A	0.2968			
NMeFOSAA_2	5.70	1.00	2258.1	A	N/A	0.2968	37	50	
PFDS	5.79	1.11	13804.1	A	N/A	0.5109			
PFDS_2	5.80	1.11	7052.9	A	N/A	0.5109	11	50	
PFUnDA	5.82	1.00	55119.4	M	N/A	0.0076			
PFUnDA_2	5.82	1.00	417.9	A	N/A	0.0076	149	50	OOS
NEtFOSAA	5.83	1.00	9115.6	M	N/A	0.3688			
NEtFOSAA_2	5.84	1.00	3362.1	A	N/A	0.3688	-39	50	
PFDoDA	6.04	1.00	59030.8	A	N/A	0.0085			
PFDoDA_2	6.05	1.00	502.7	A	N/A	0.0085	-19	50	
10:2-FTS	6.06	1.09	4422.0	A	N/A	1.0135			
10:2-FTS_2	6.07	1.09	4481.6	A	N/A	1.0135	42	50	
PFTrDA	6.24	1.03	52443.4	A	N/A	0.0130			
PFTrDA_2	6.26	1.03	681.3	A	N/A	0.0130	36	50	
PFTeDA	6.42	1.00	46434.9	A	N/A	0.0073			
PFTeDA_2	6.42	1.00	340.9	A	N/A	0.0073	36	50	
PFHxDA	6.72	1.05	28219.3	A	N/A	0.0551			
PFHxDA_2	6.72	1.05	1554.7	A	N/A	0.0551	-7	50	
PFODA	6.99	1.09	24584.2	A	N/A	0.0228			
PFODA_2	6.98	1.09	560.9	A	N/A	0.0228	-11	50	

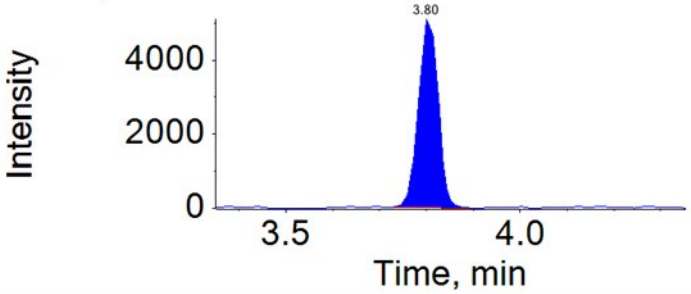
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

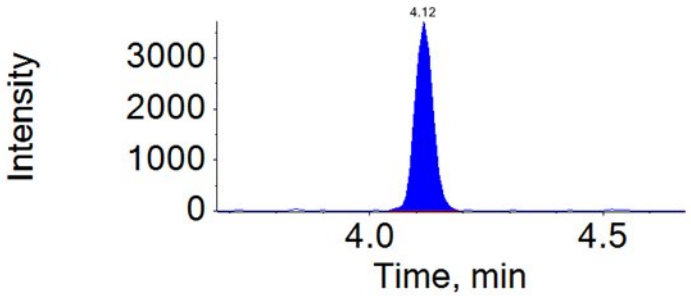
Component: PFBS
Primary Mass: 299.0 / 80.0



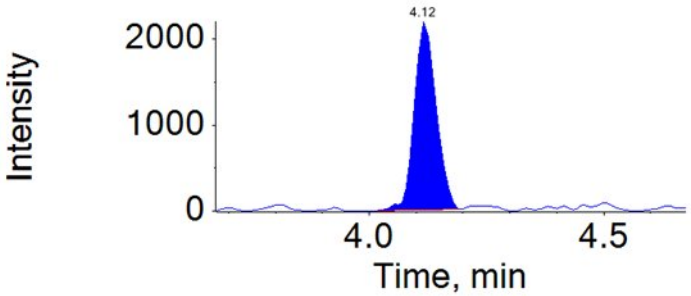
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



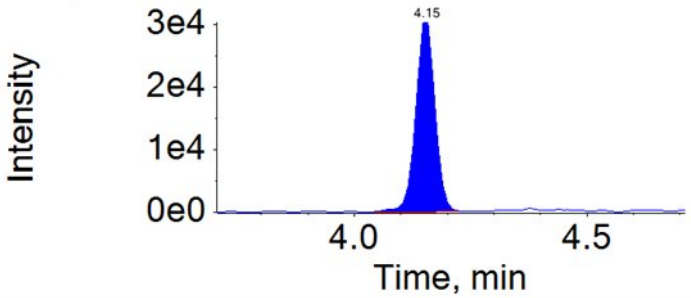
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



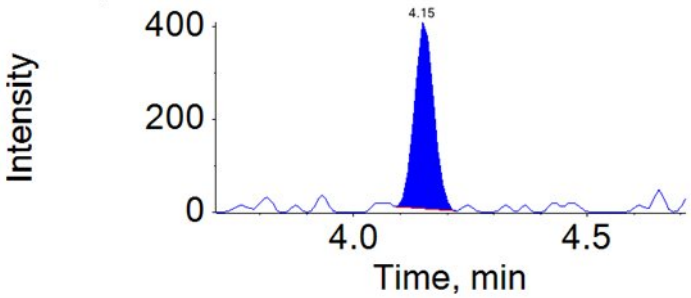
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



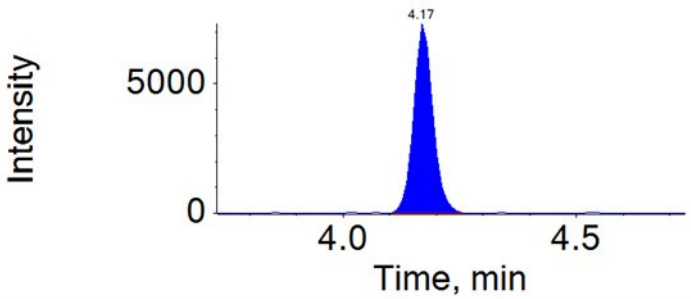
Component: PFHxA
Primary Mass: 313.0 / 269.0



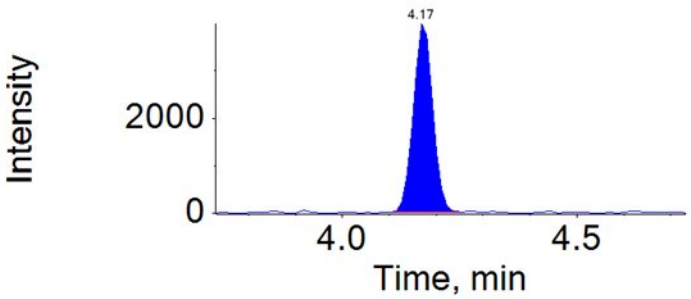
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



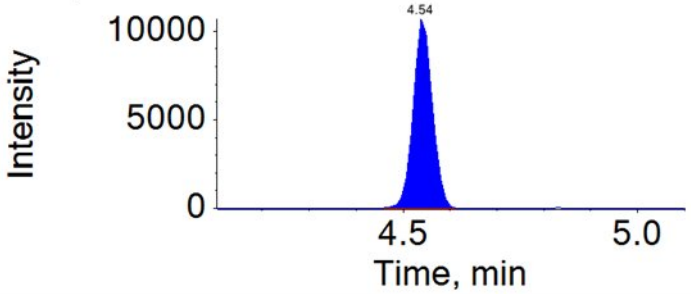
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



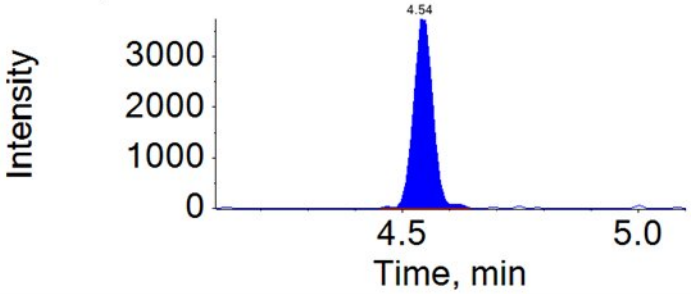
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

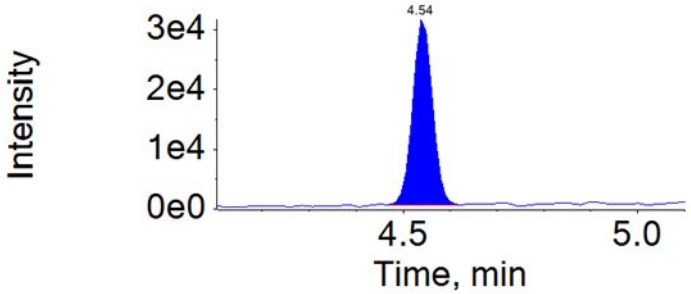
Component: PFHxS
Primary Mass: 399.0 / 80.0



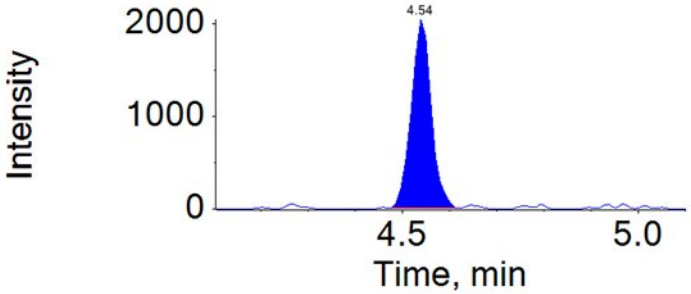
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



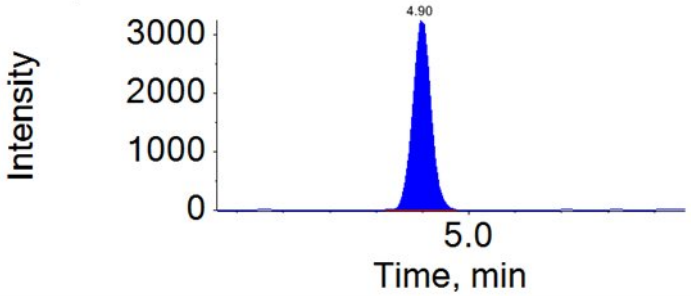
Component: PFHpA
Primary Mass: 363.0 / 319.0



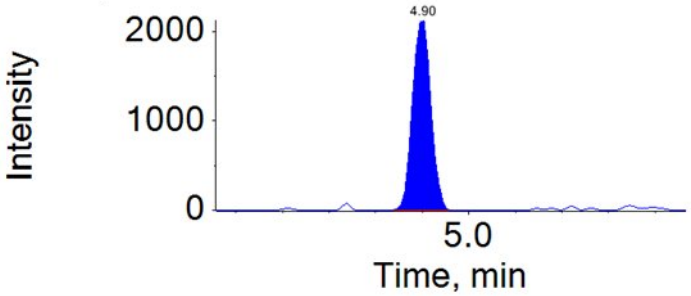
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



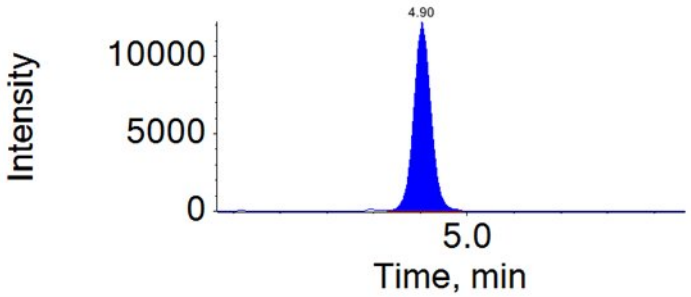
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



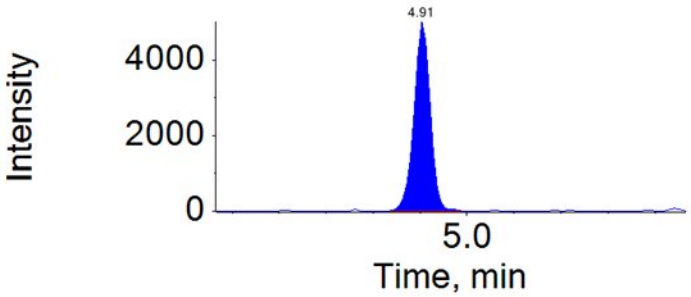
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



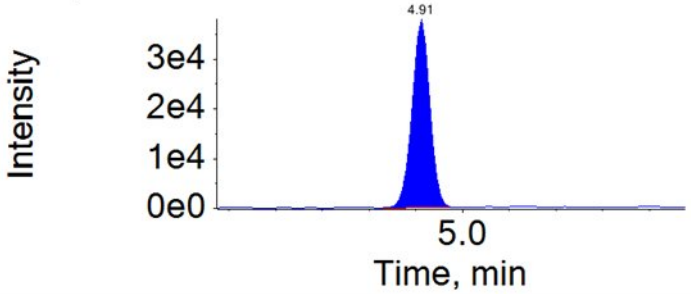
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



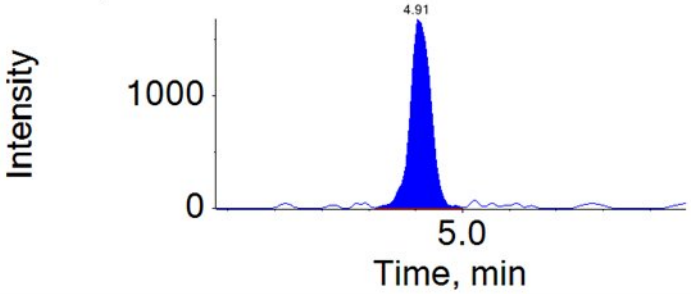
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

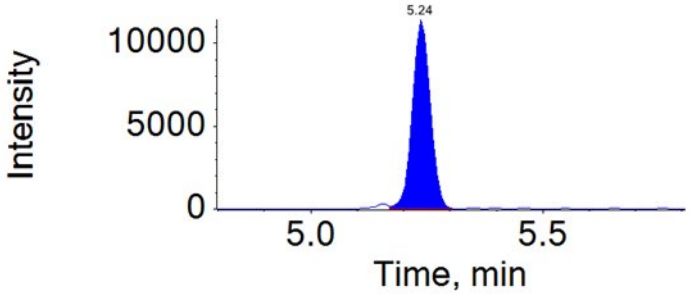
Component: PFOA
Primary Mass: 413.0 / 369.0



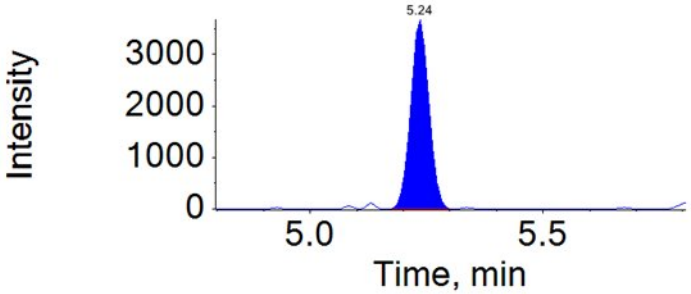
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



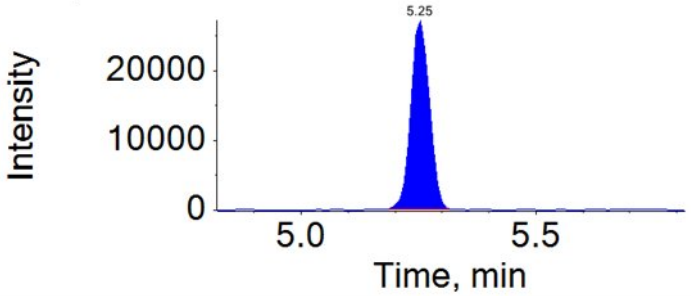
Component: PFOS
Primary Mass: 499.0 / 80.0



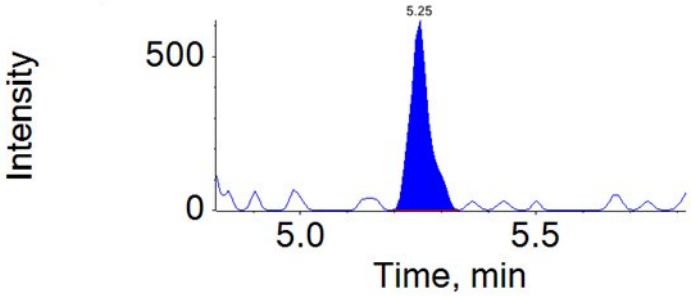
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



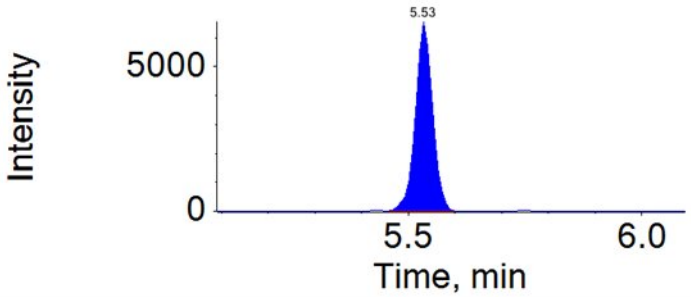
Component: PFNA
Primary Mass: 463.0 / 419.0



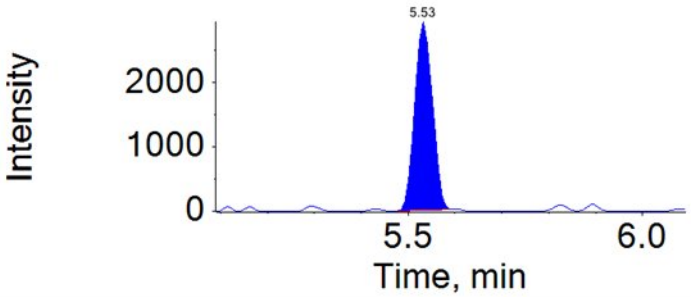
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



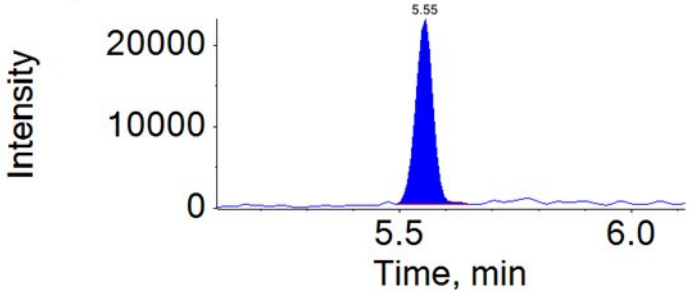
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



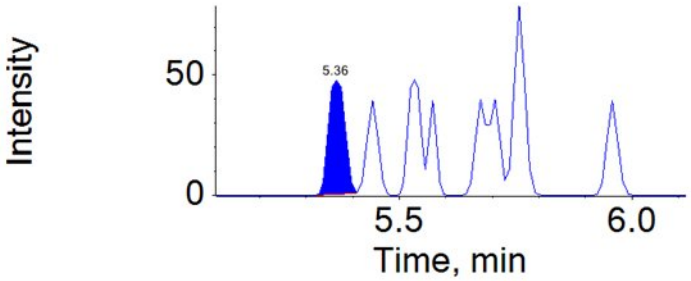
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

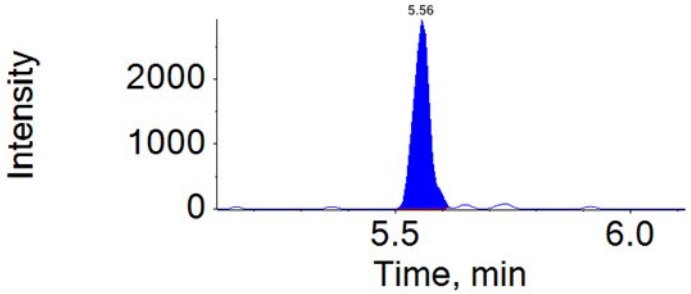
Component: PFDA
Primary Mass: 513.0 / 469.0



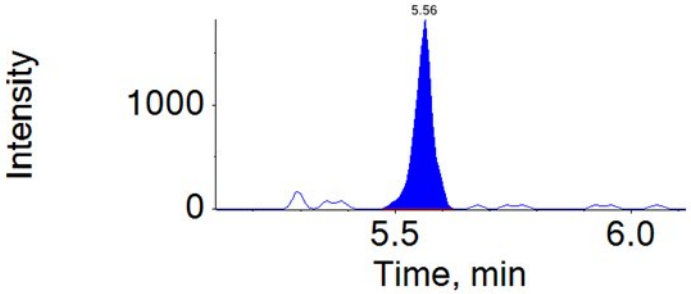
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



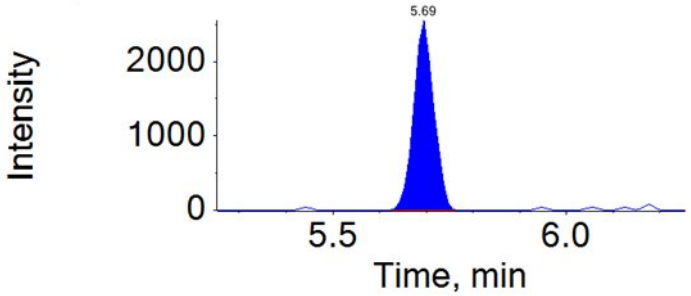
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



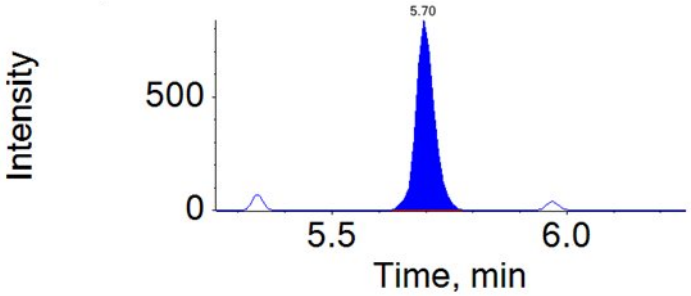
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



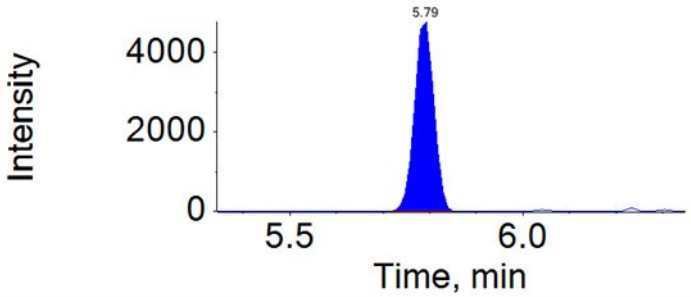
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



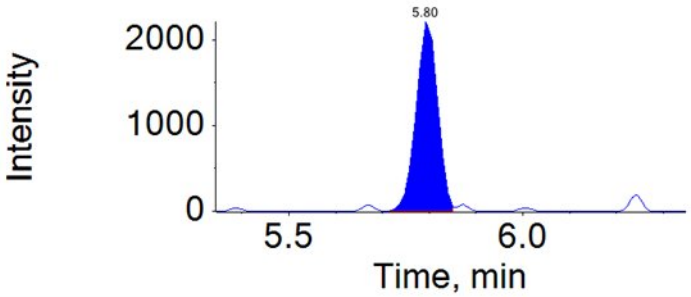
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



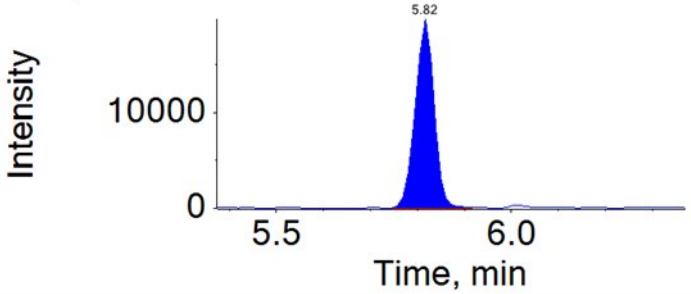
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



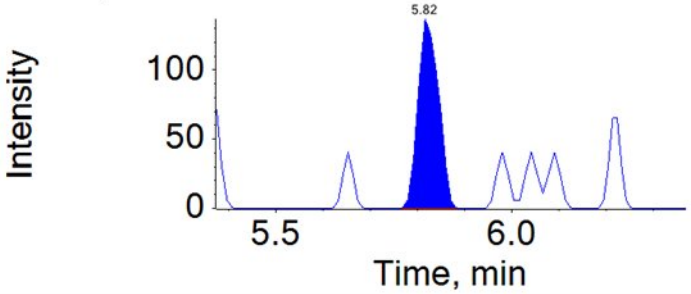
APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

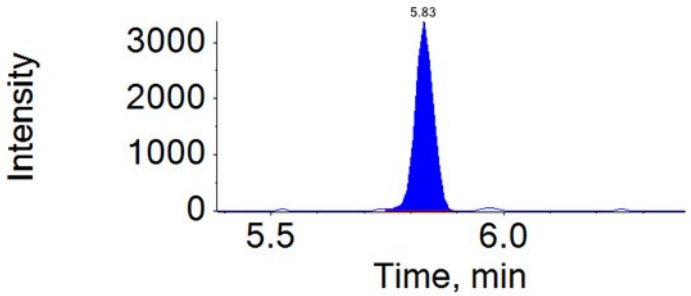
Component: PFUnDA
Primary Mass: 563.0 / 519.0



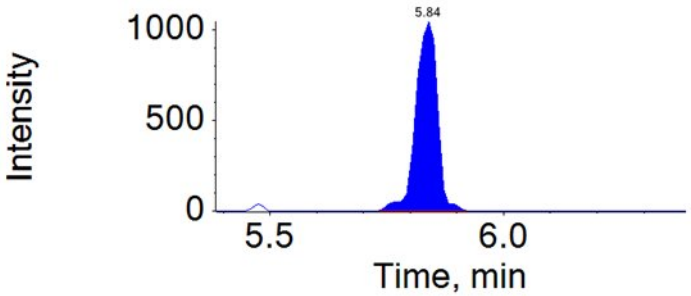
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



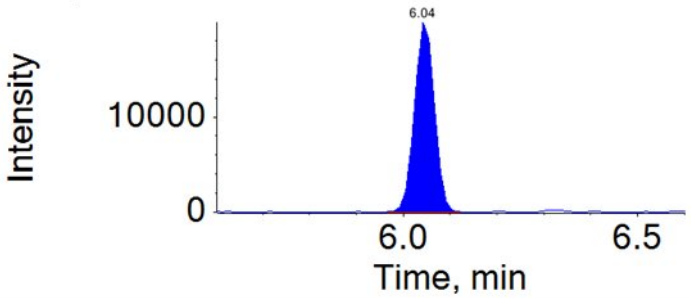
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



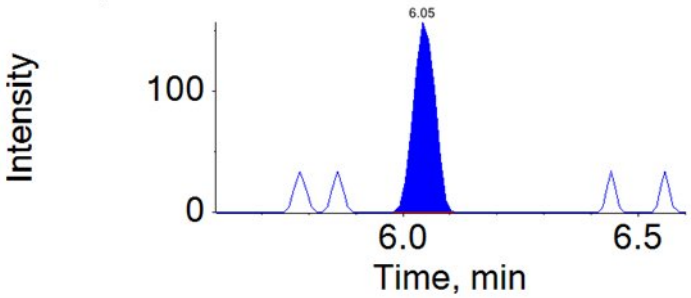
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



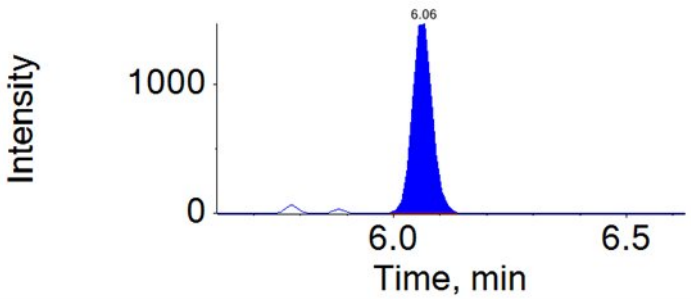
Component: PFDoDA
Primary Mass: 613.0 / 569.0



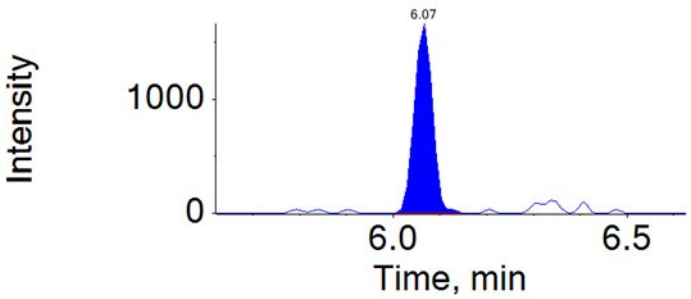
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



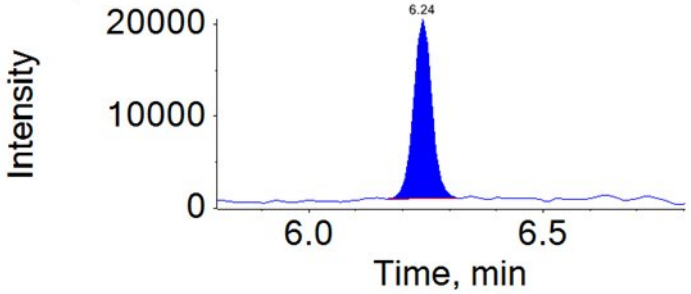
Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



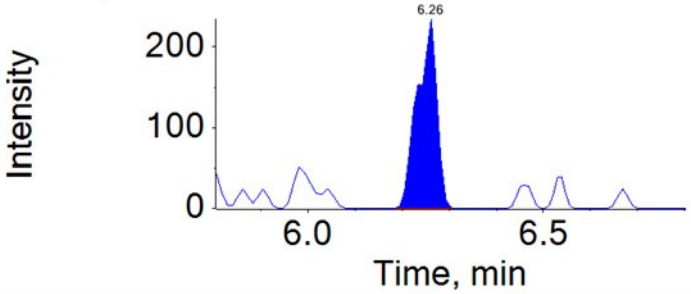
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



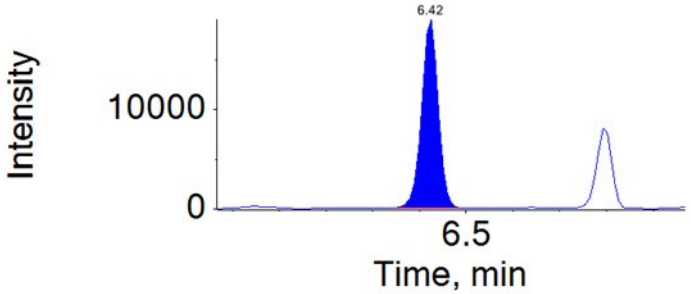
Component: PFTrDA
Primary Mass: 663.0 / 619.0



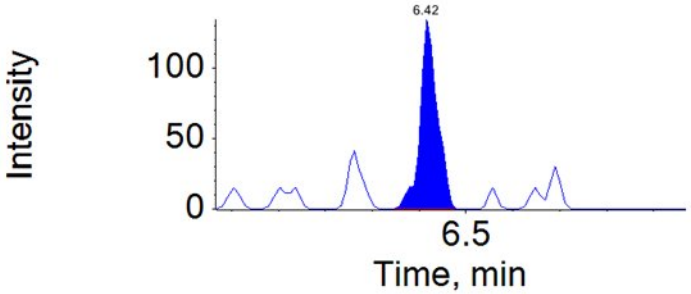
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



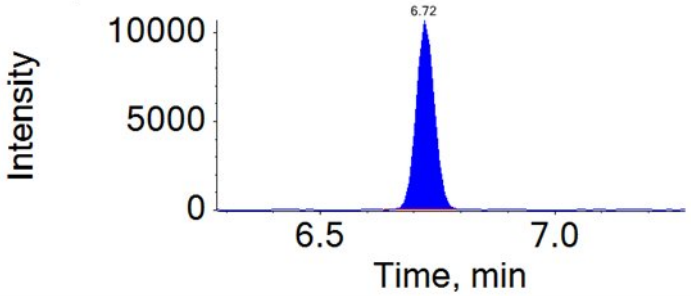
Component: PFTeDA
Primary Mass: 713.0 / 669.0



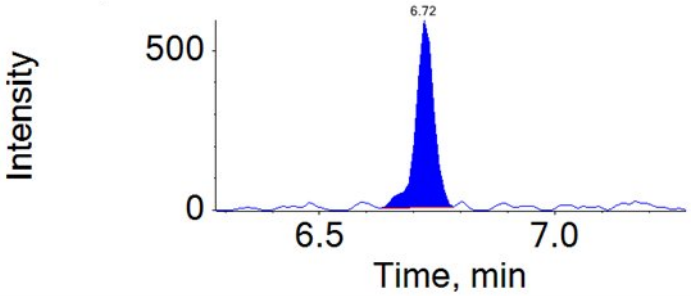
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



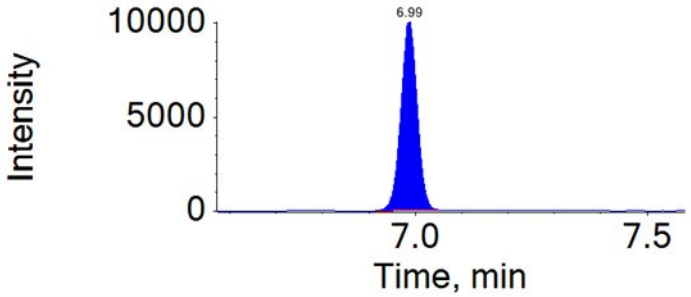
Component: PFHxDA
Primary Mass: 813.0 / 769.0



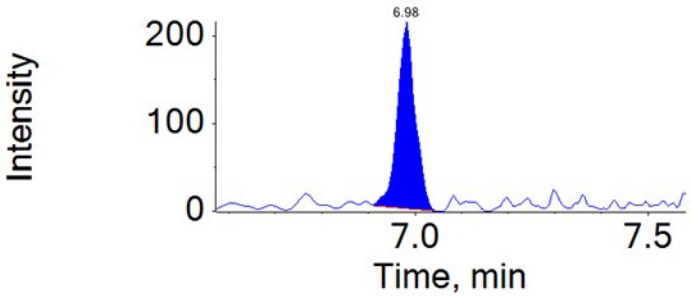
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 6:31 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	INBLK			**Data File:**		18NOV07D-06.wiff
Sample ID:	methanol+labels			**Acquis Date:**		2018-11-07T12:05:44
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	1			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCCV1-4_DOD
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
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: 18NOV07DCAL-12

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	746238.1	730410.6	2	50	
13C2-PFOA	5.0	543666.1	524423.6	4	50	
13C4-PFOS	4.8	282394.6	274061.7	3	50	
13C2-PFDA	5.0	338571.3	311442.1	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	824364.1	13C3-PFBA	746238.1	1.105	5.000	5.112	102	70-130	
E13C5-PFPeA	839122.9	13C3-PFBA	746238.1	1.124	5.000	4.899	98	70-130	
E13C3-PFBS	464310.5	13C3-PFBA	746238.1	0.622	4.650	4.566	98	70-130	
E13C2-4:2-FTS	63811.1	13C2-PFOA	543666.1	0.117	4.670	5.296	113	70-130	
E13C5-PFHxA	730598.3	13C2-PFOA	543666.1	1.344	5.000	4.943	99	70-130	
E13C3-PFHxS	366105.3	13C2-PFOA	543666.1	0.673	4.730	4.834	102	70-130	
E13C4-PFHpA	597749.6	13C2-PFOA	543666.1	1.099	5.000	5.002	100	70-130	
E13C2-6:2-FTS	48976.3	13C2-PFOA	543666.1	0.090	4.750	6.007	126	70-130	
E13C8-PFOA	1026003.0	13C2-PFOA	543666.1	1.887	5.000	5.263	105	70-130	
E13C8-PFOS	306326.4	13C4-PFOS	282394.6	1.085	4.780	4.797	100	70-130	
E13C9-PFNA	571605.8	13C4-PFOS	282394.6	2.024	5.000	5.529	111	70-130	
E13C6-PFDA	698490.6	13C2-PFDA	338571.3	2.063	5.000	5.188	104	70-130	
E13C2-8:2-FTS	33421.3	13C2-PFDA	338571.3	0.099	4.790	5.223	109	70-130	
E13C8-PFOSA	735116.3	13C2-PFDA	338571.3	2.171	5.000	4.738	95	70-130	
Ed3-NMeFOSAA	88965.9	13C2-PFDA	338571.3	0.263	5.000	4.886	98	70-130	
E13C7-PFUnDA	283954.2	13C2-PFDA	338571.3	0.839	5.000	4.838	97	70-130	
Ed5-NEtFOSAA	75152.6	13C2-PFDA	338571.3	0.222	5.000	5.137	103	70-130	
E13C2-PFDoDA	650229.2	13C2-PFDA	338571.3	1.921	5.000	5.177	104	70-130	
Ed7-NMePFOSAE	365056.2	13C2-PFDA	338571.3	1.078	5.000	5.014	100	70-130	
Ed3-NMePFOSA	86049.6	13C2-PFDA	338571.3	0.254	5.000	4.653	93	70-130	
Ed9-NEtPFOSAE	297852.1	13C2-PFDA	338571.3	0.880	5.000	5.024	100	70-130	
Ed5-NEtPFOSA	65421.9	13C2-PFDA	338571.3	0.193	5.000	4.474	89	70-130	
E13C2-PFTeDA	504217.0	13C2-PFDA	338571.3	1.489	5.000	5.361	107	70-130	

APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

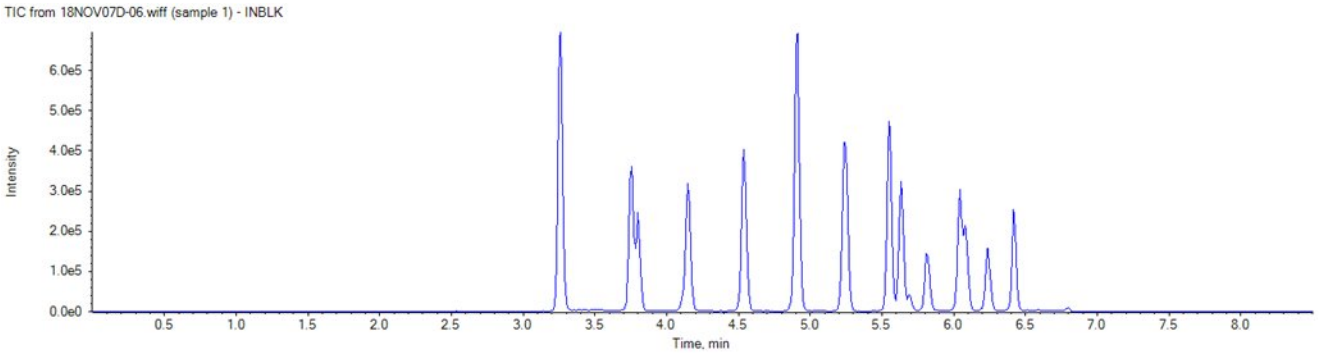
Analyte Quantitation Peak Table

Sample Name: INBLK **Instrument Name:** LM27631 **File Name:** 18NOV07D-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	824364.1	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.75	839122.9	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	464310.5	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.11	63811.1	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	730598.3	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.80	464310.5	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	366105.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	597749.7	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.90	48976.3	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	366105.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	1026003.0	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	306326.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	571605.8	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.23	306326.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	698490.6	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	33421.3	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.63	735116.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	88965.9	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.23	306326.4	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	283954.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	75152.6	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	650229.2	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.56	33421.3	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	365056.2	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.09	86049.6	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.23	306326.4	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.24	297852.1	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.25	65421.9	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	650229.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	504217.0	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	504217.0	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	504217.0	N/A	

Total Ion Chromatogram

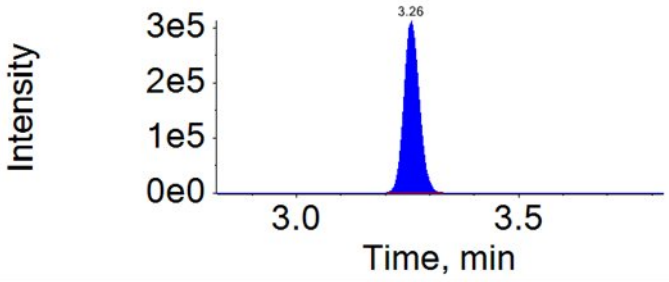


APPROVED
By MCD at 6:32 pm, 11/7/18

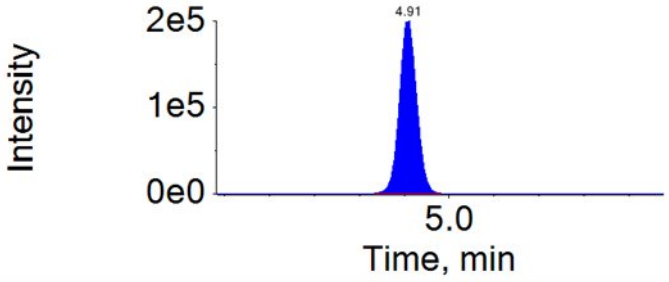
REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

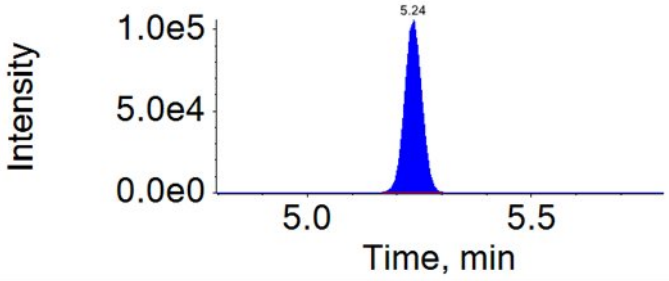
Injection Standard: 13C3-PFBA
216.0 / 172.0



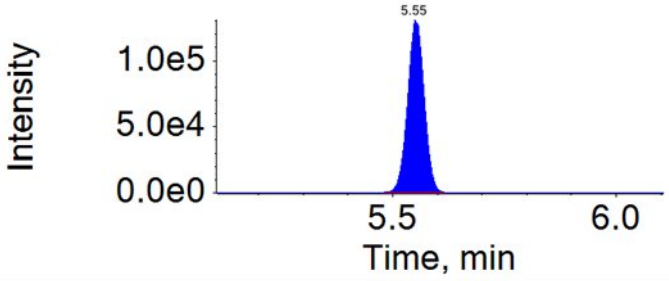
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

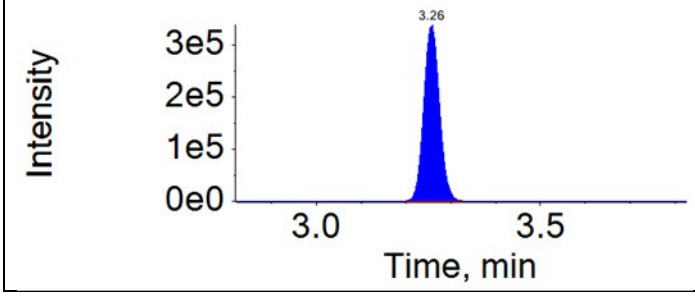


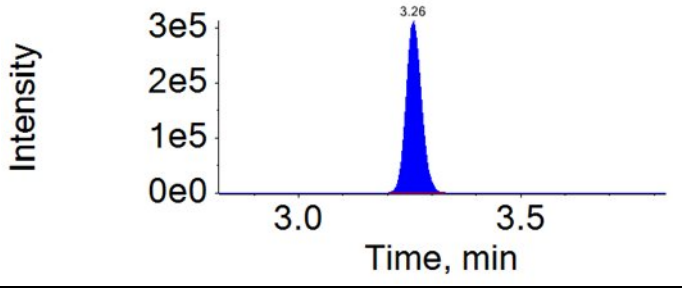
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

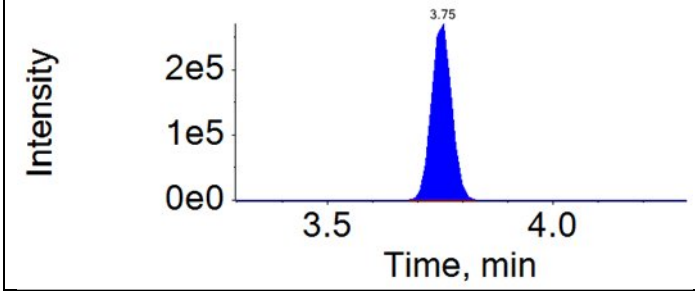
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

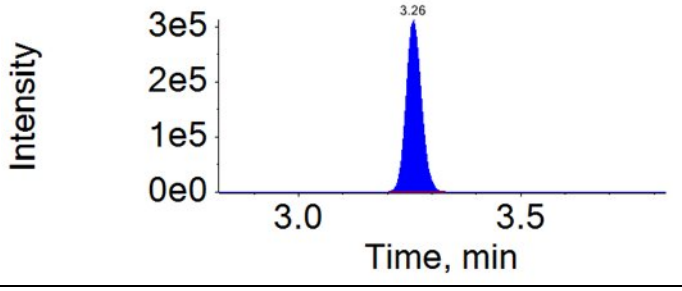
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



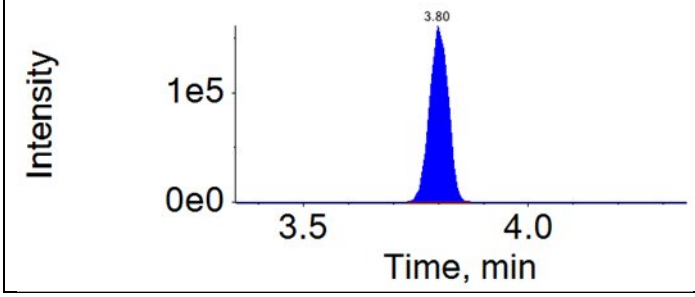


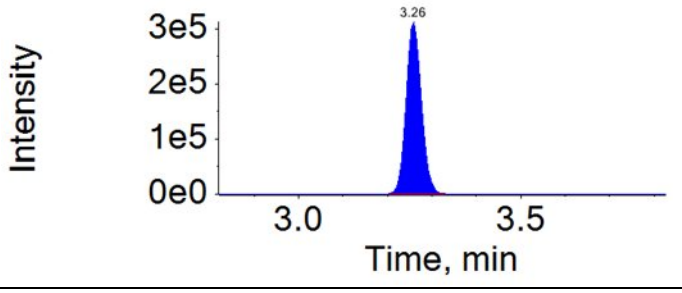
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



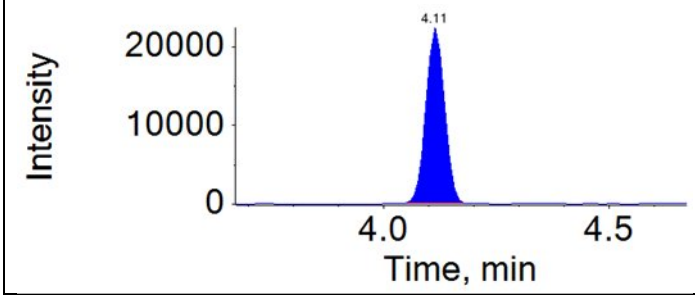


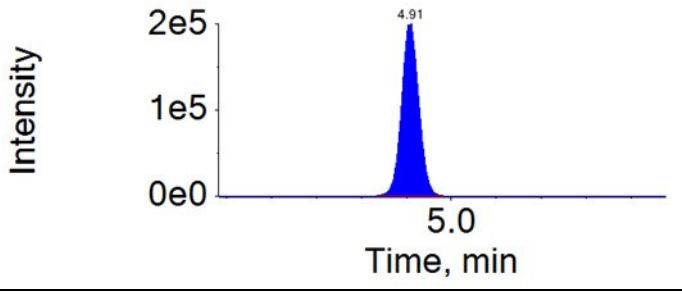
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



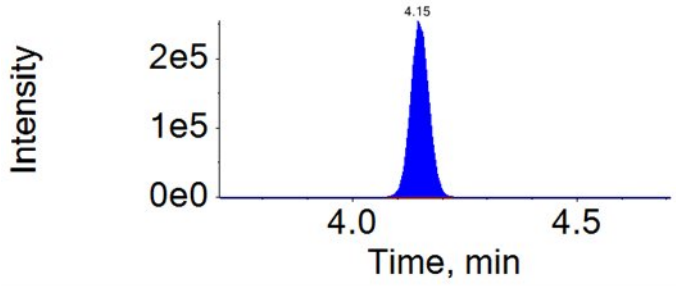


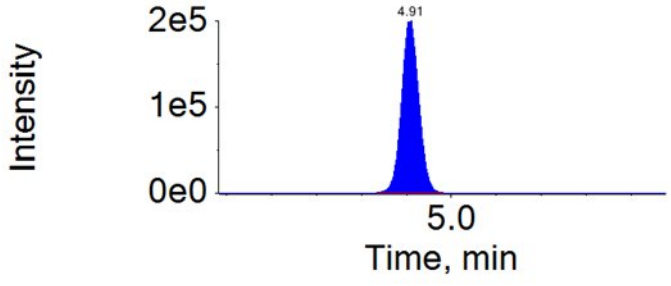
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

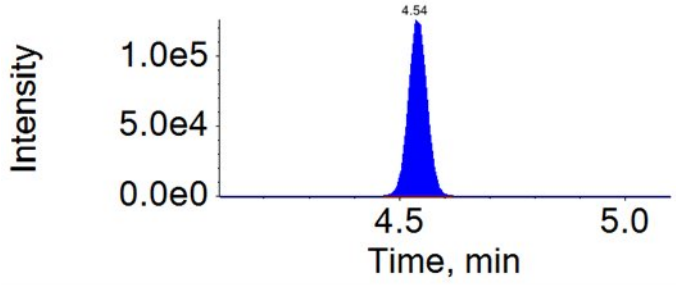
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

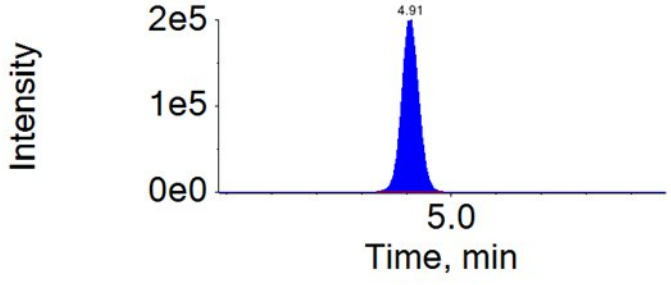
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



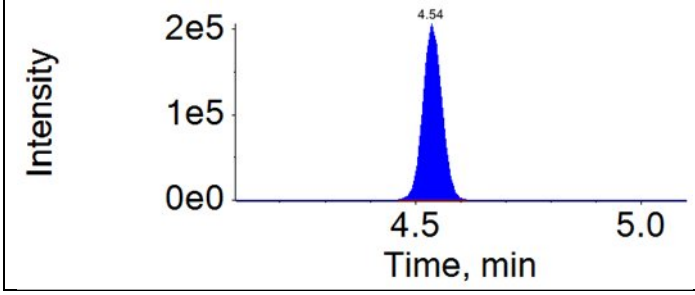


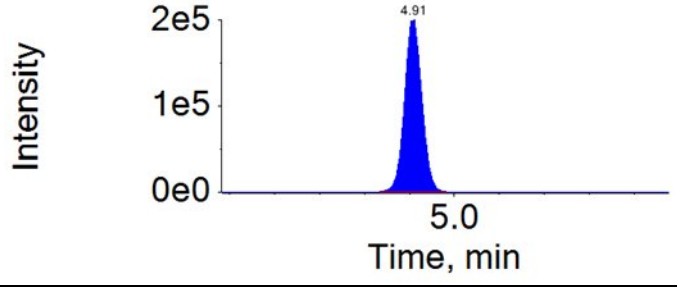
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



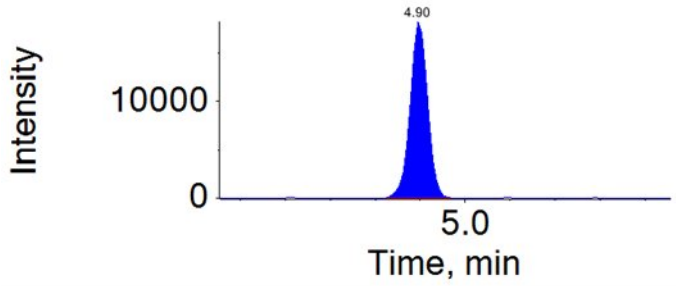


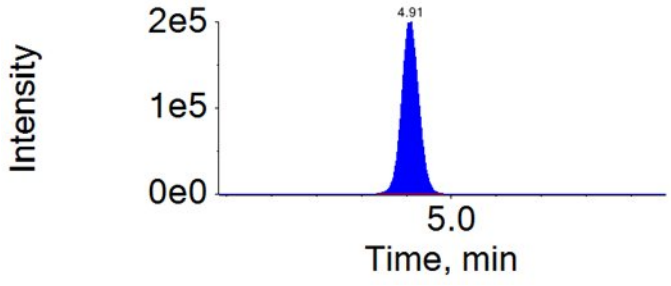
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





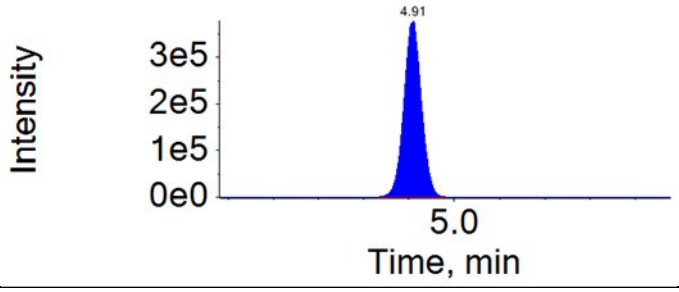
Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

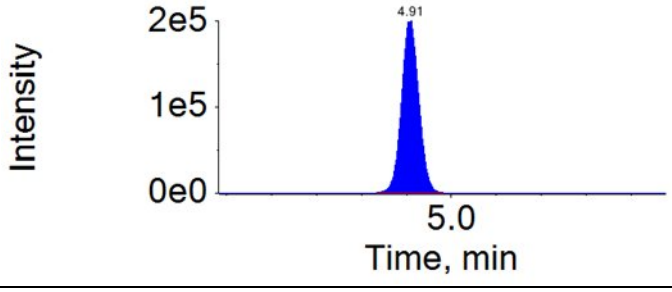




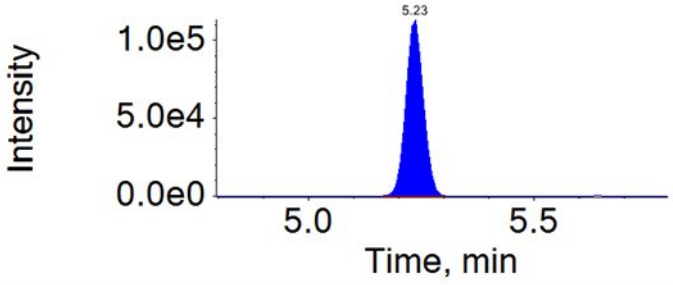
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

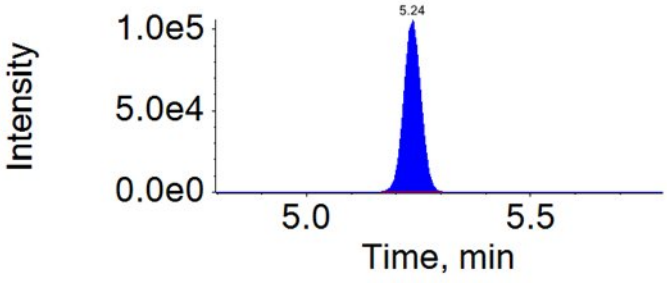
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



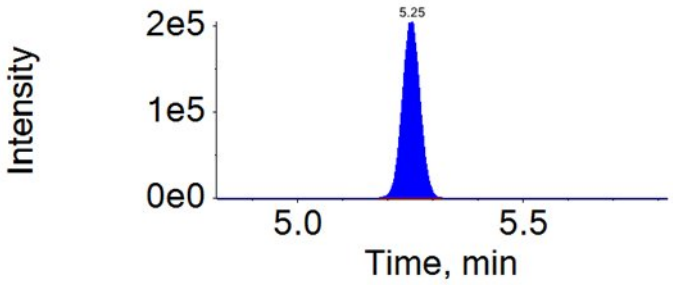


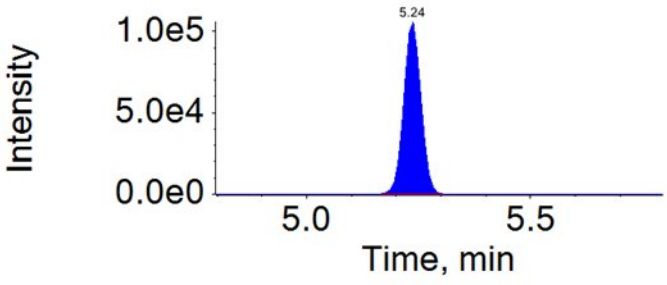
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



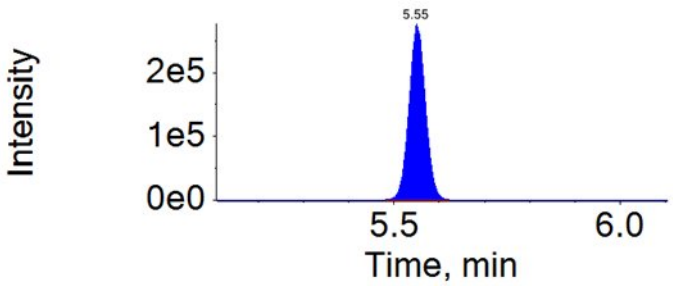


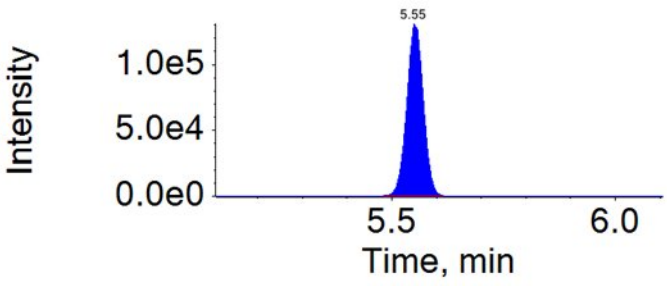
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





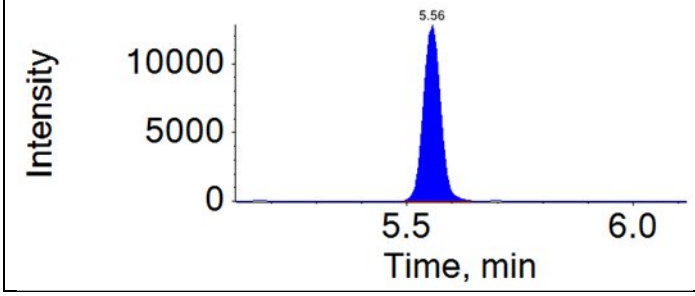
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0

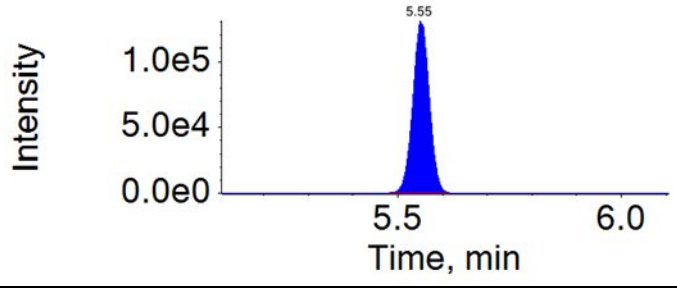




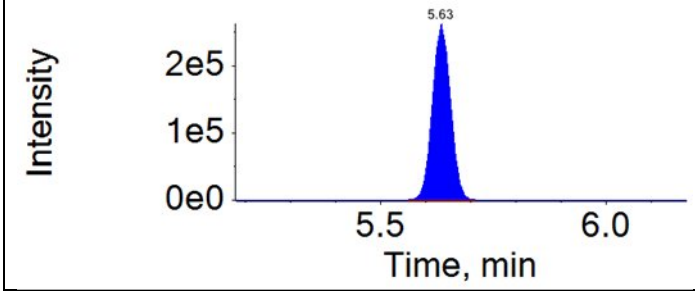
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

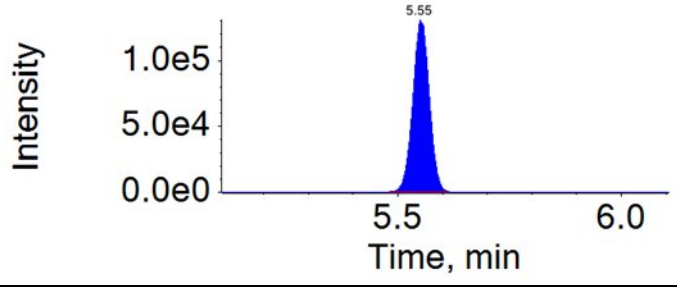
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



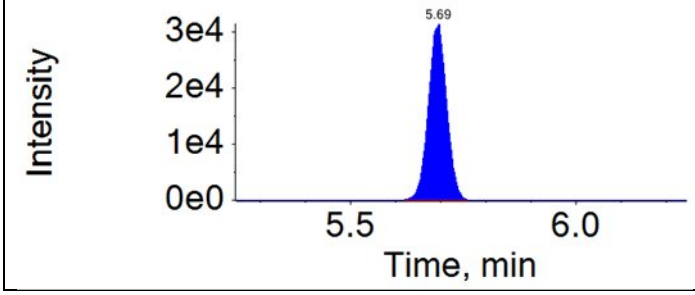


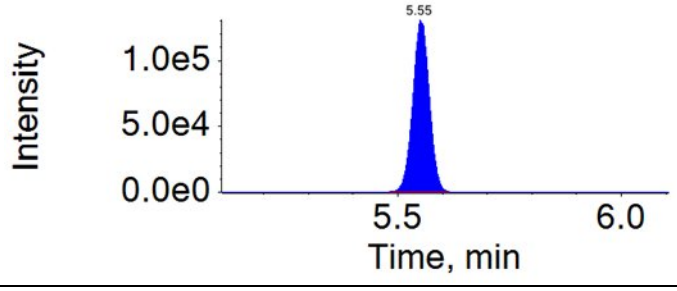
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



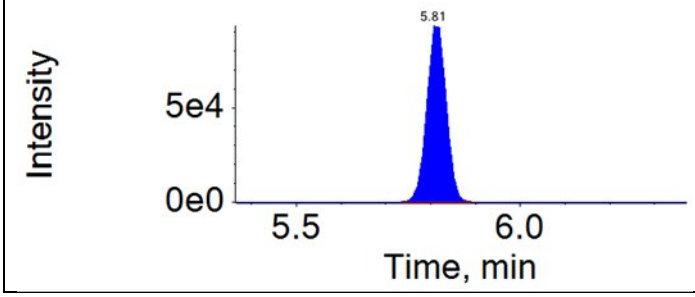


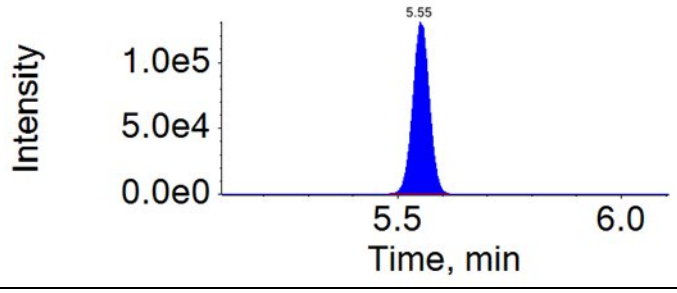
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





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

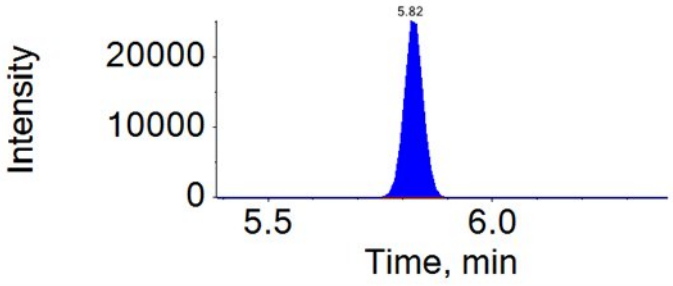
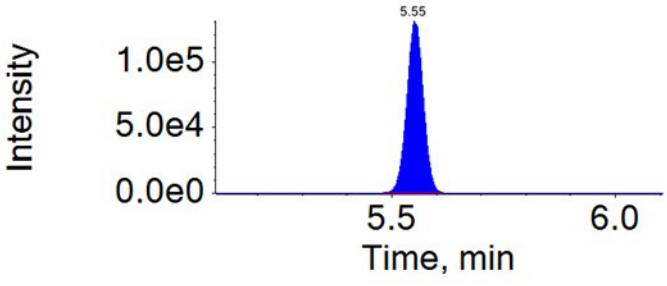


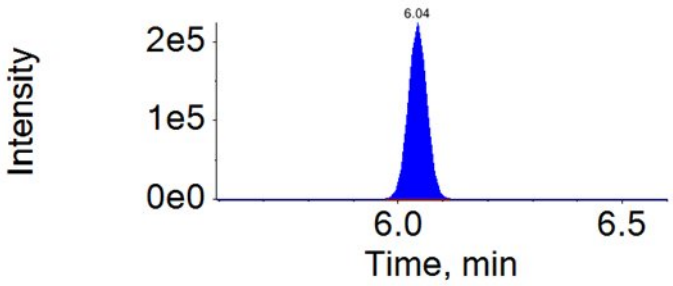
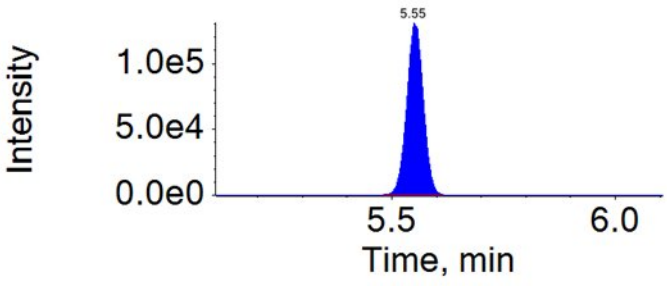


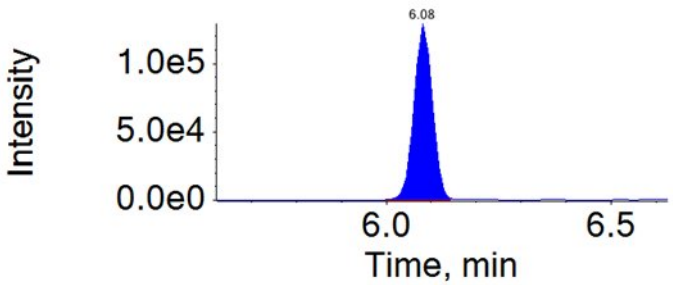
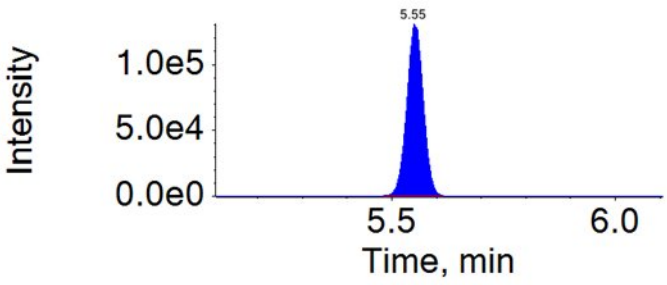
APPROVED
By MCD at 6:32 pm, 11/7/18

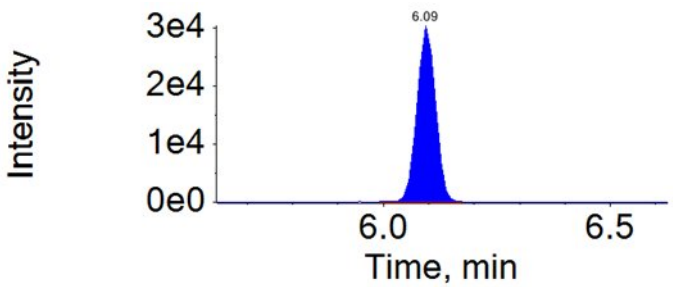
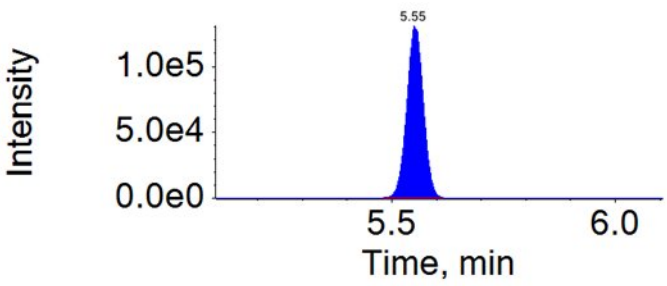
REVIEWED
By HMK at 2:57 pm, 11/11/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

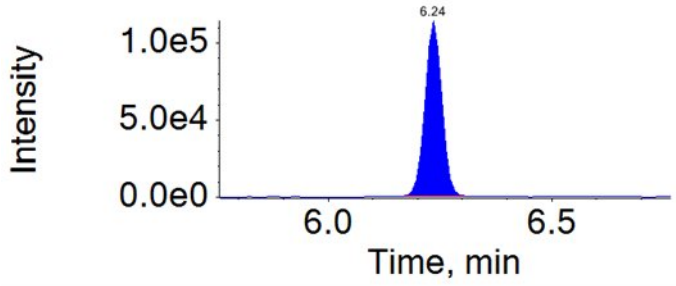
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

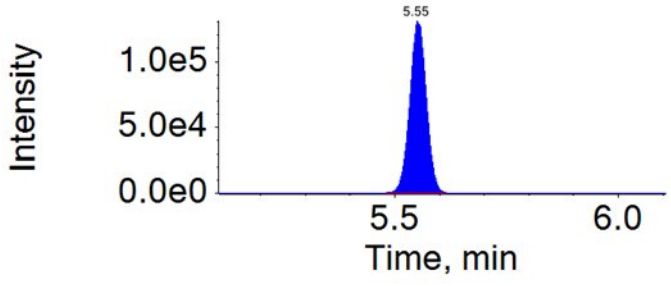
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0
	

Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

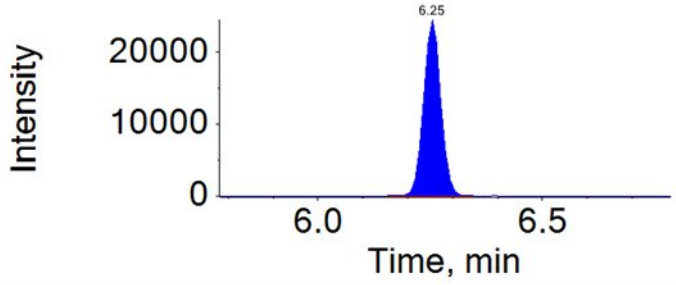
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

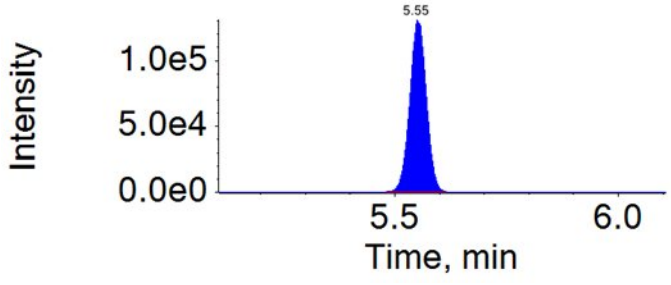
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



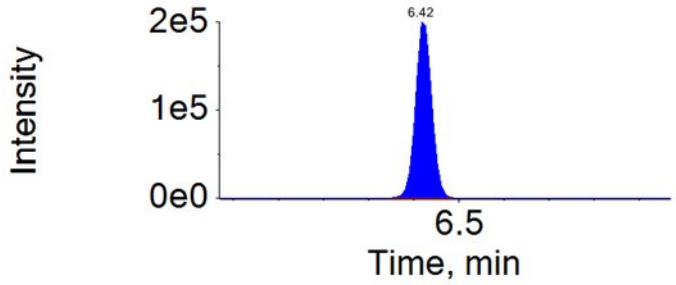


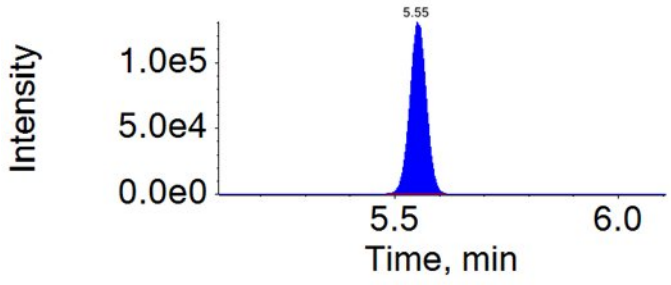
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



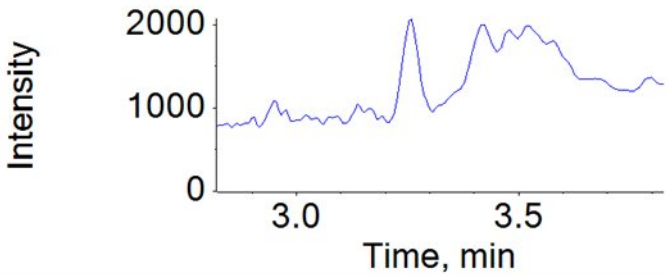


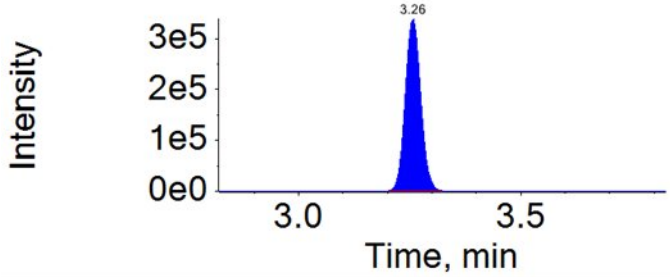
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

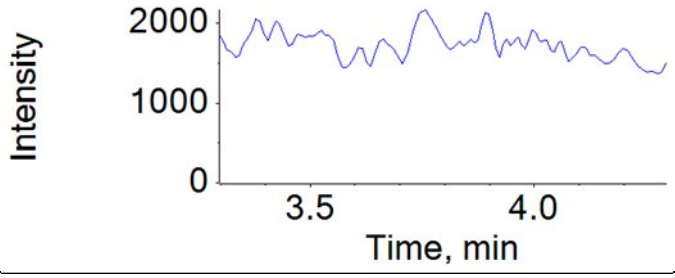
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

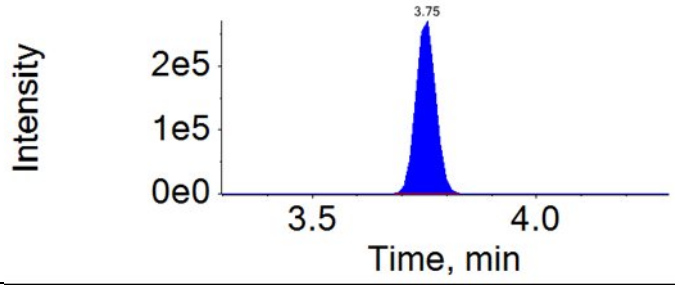
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



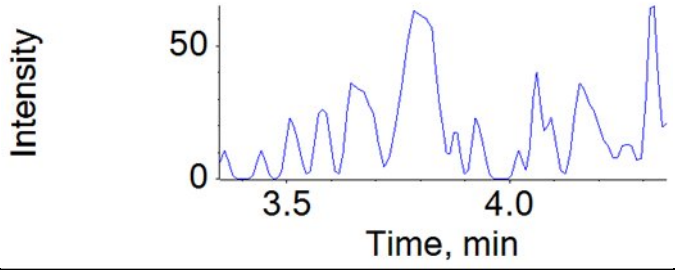


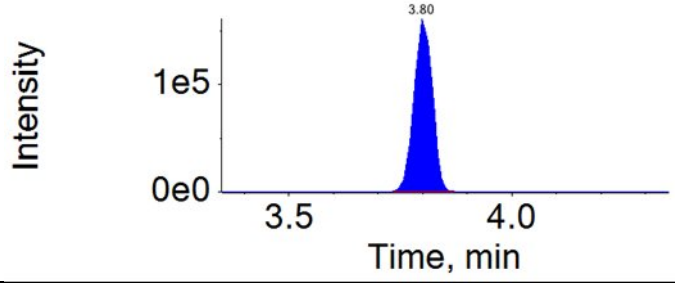
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



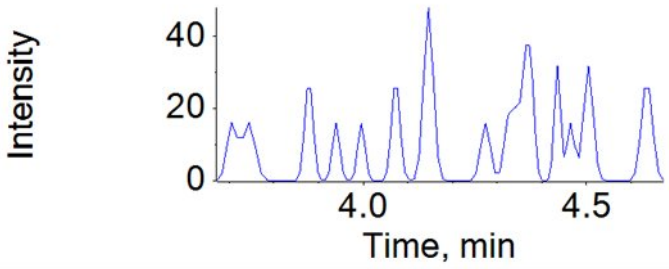


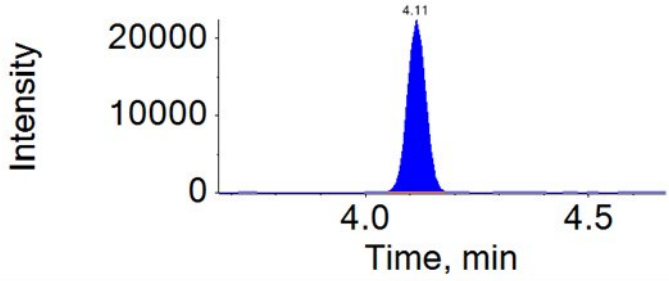
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



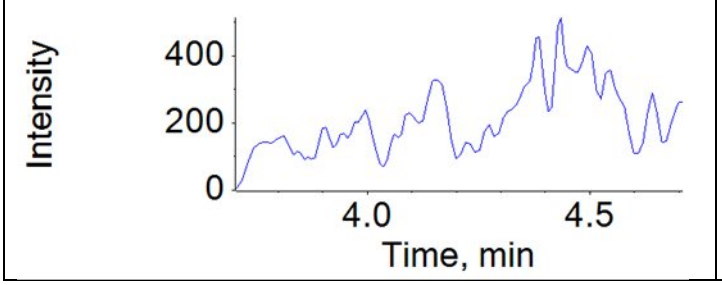


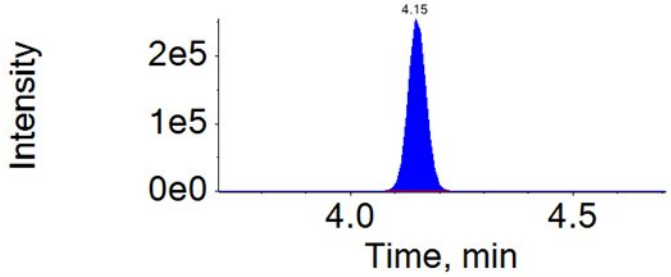
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

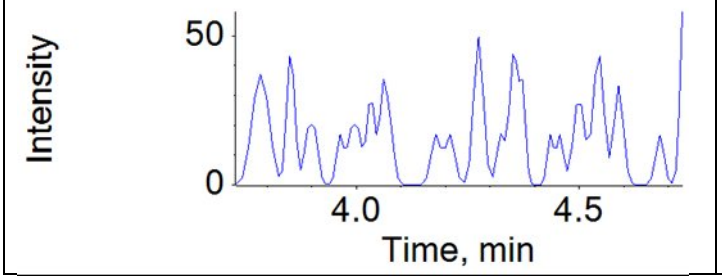
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

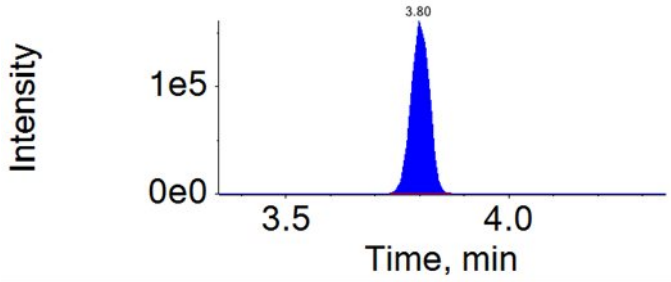
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



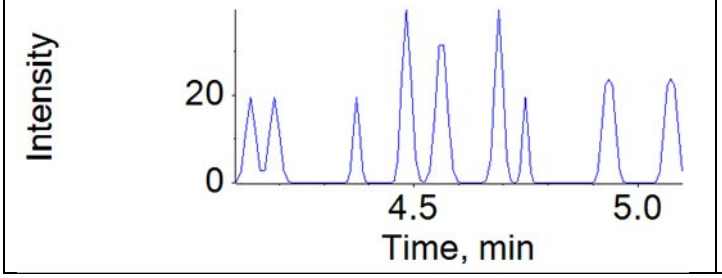


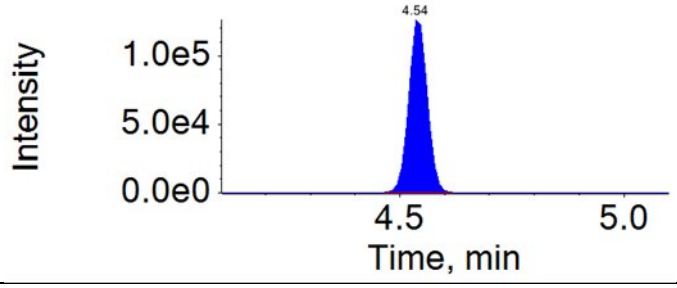
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



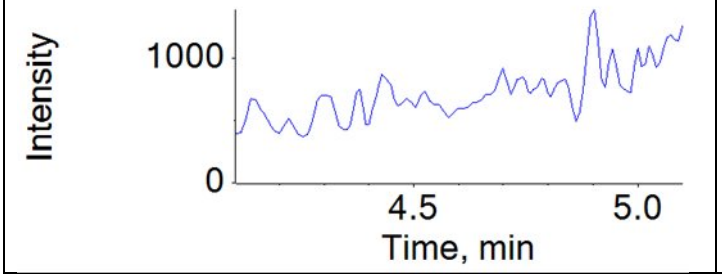


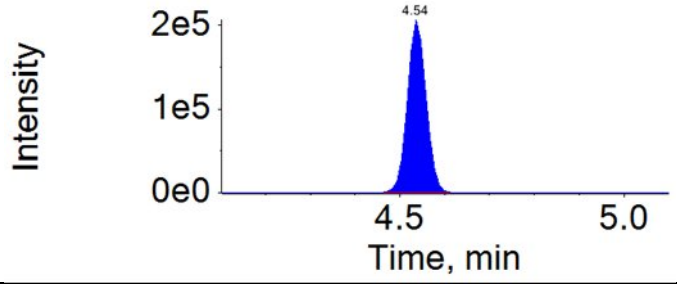
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



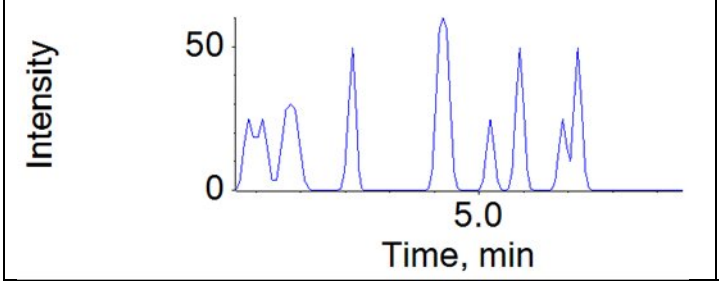


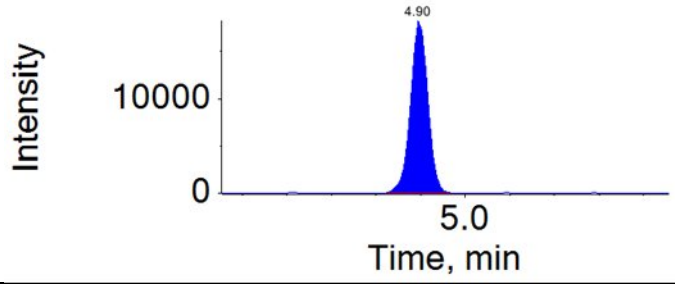
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

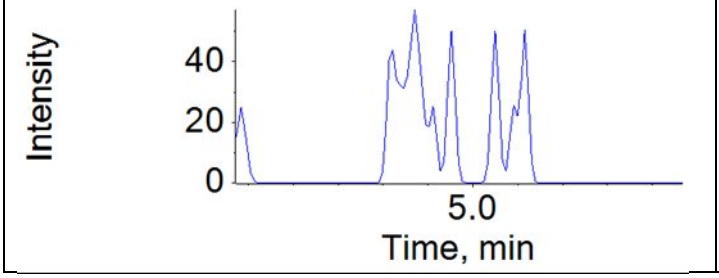
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

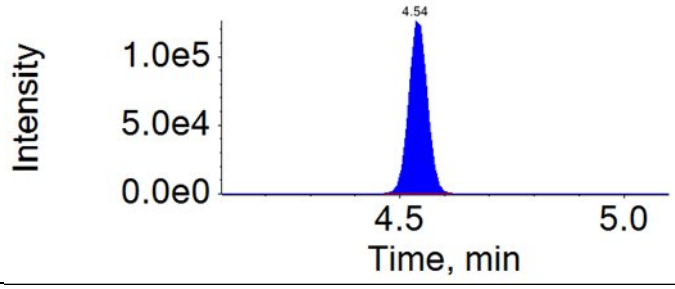
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



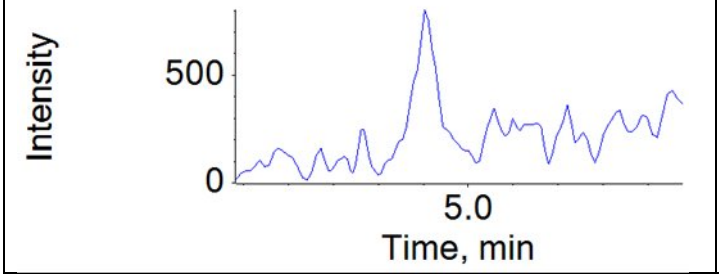


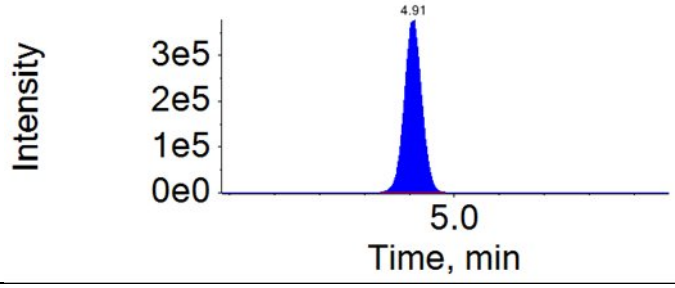
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



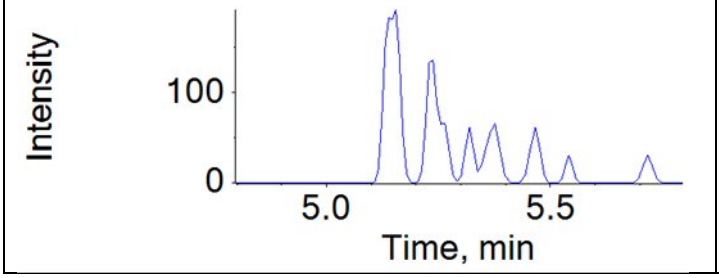


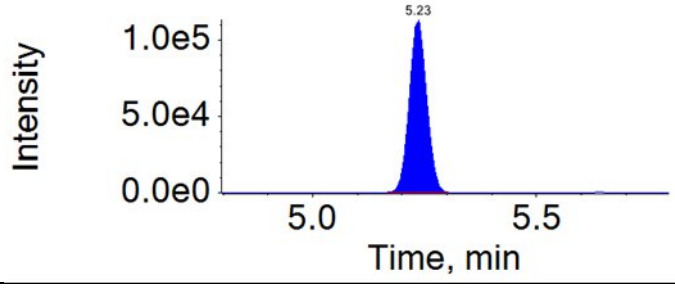
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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



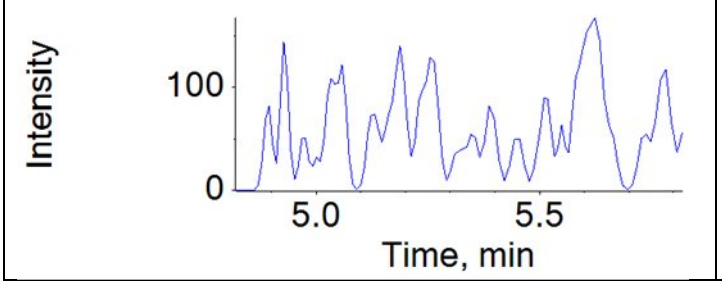


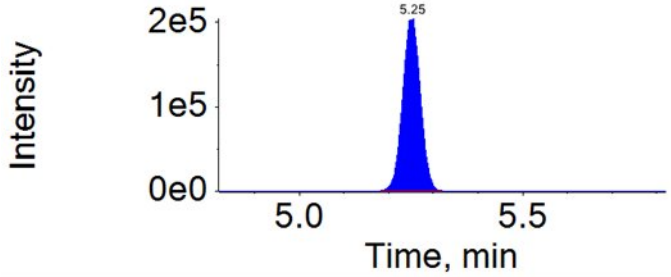
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

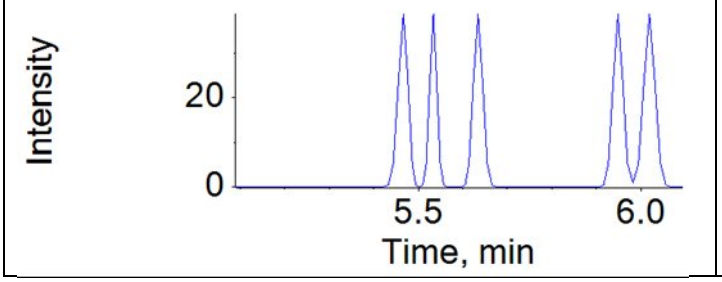
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

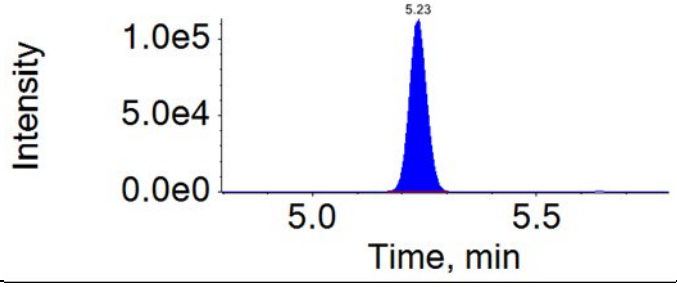
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



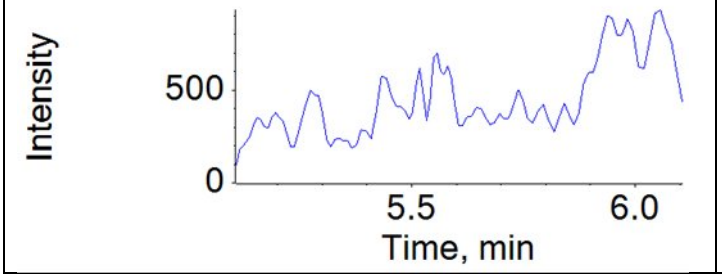


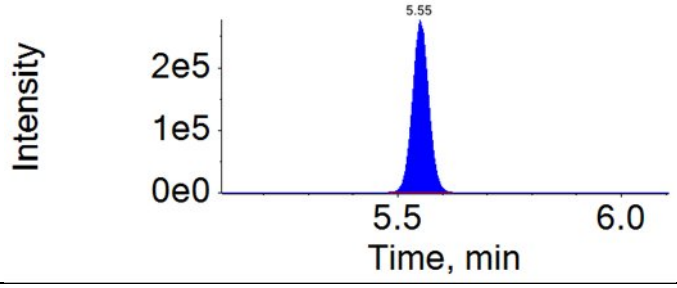
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



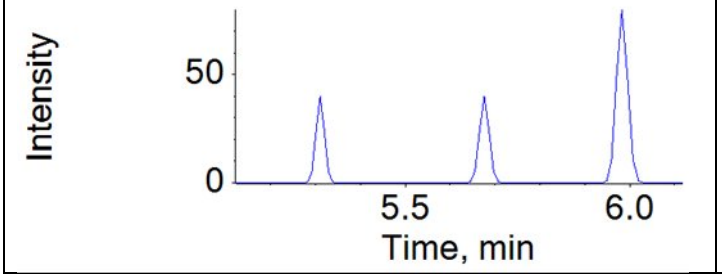


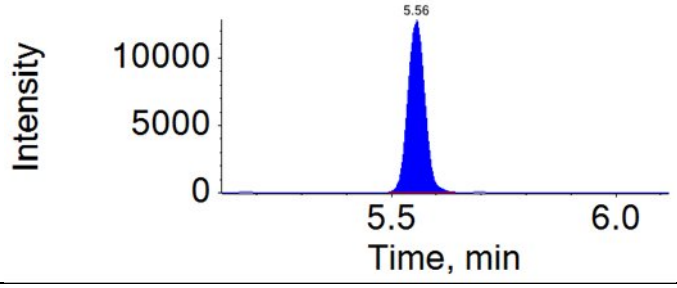
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



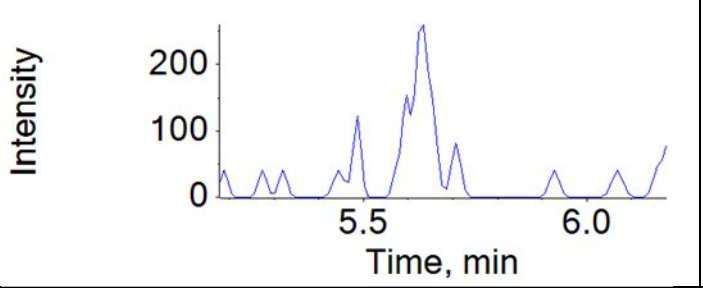


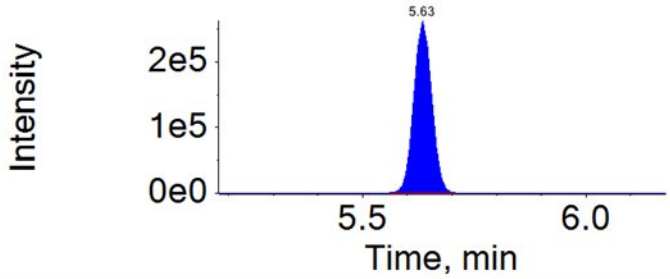
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

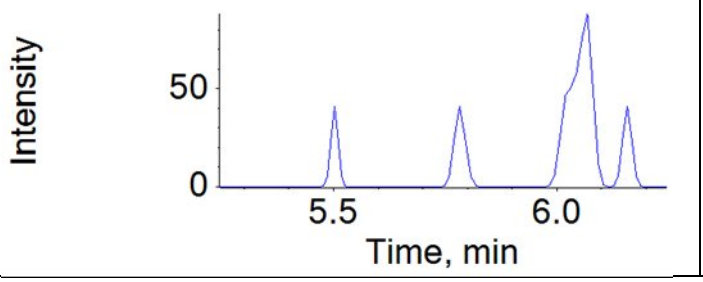
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

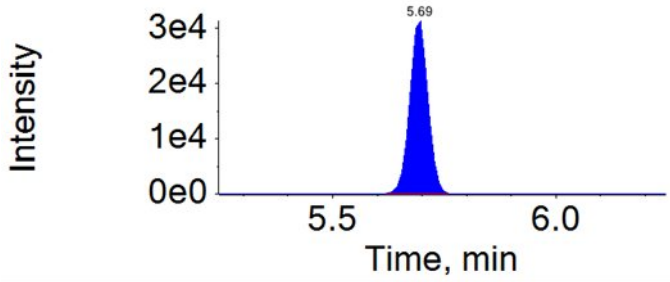
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



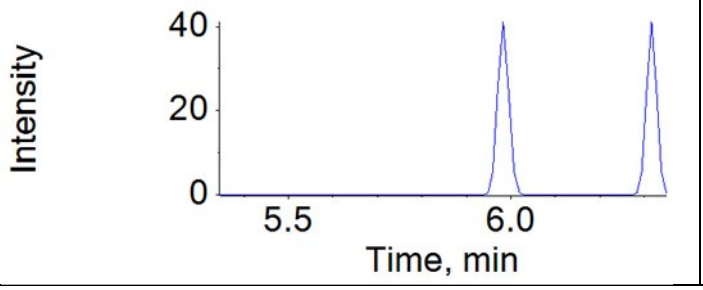


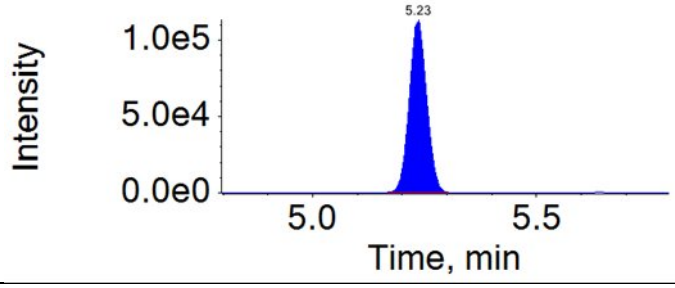
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



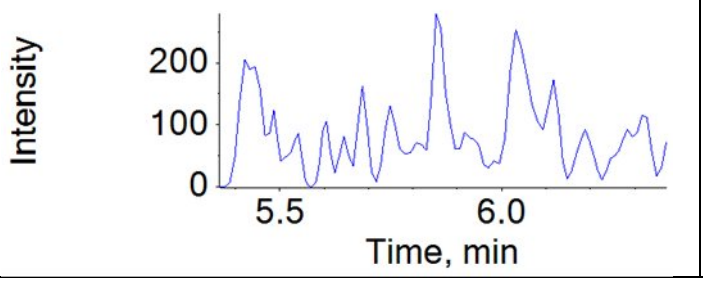


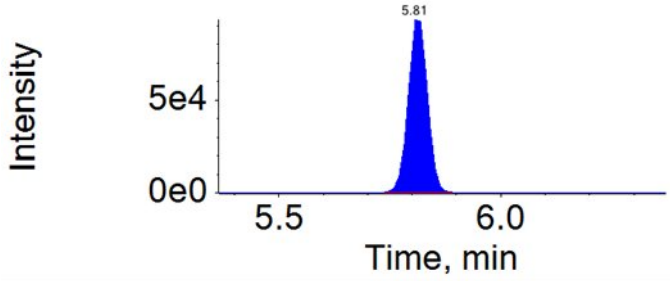
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



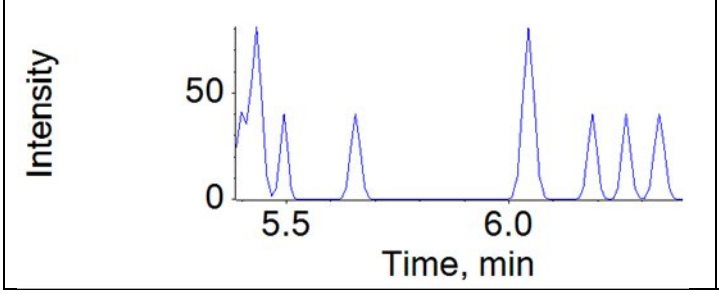


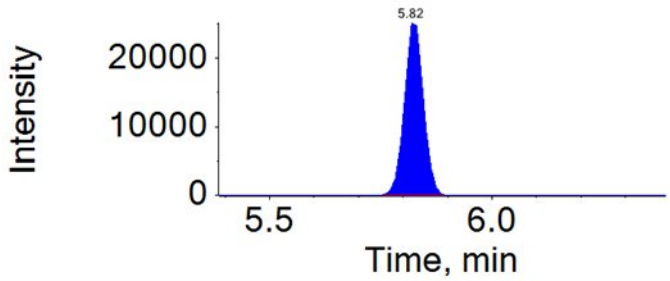
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

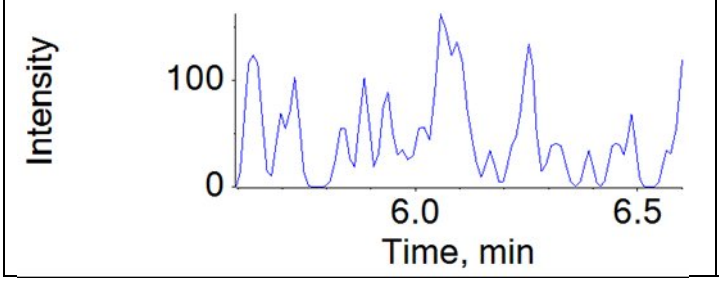
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

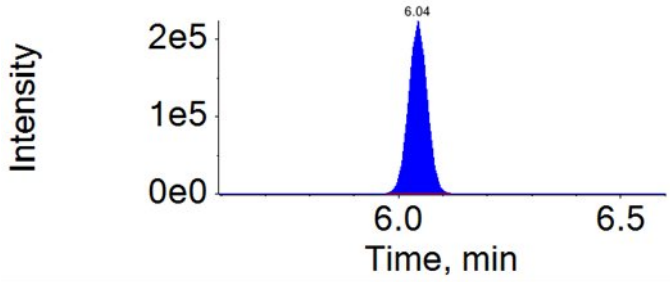
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



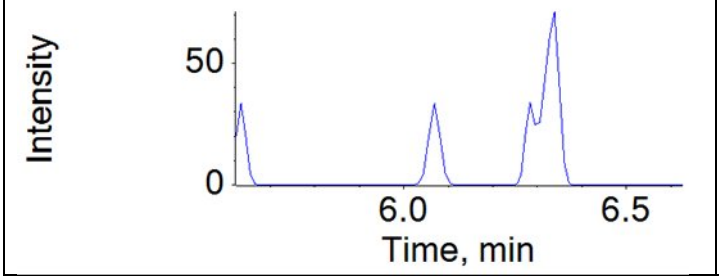


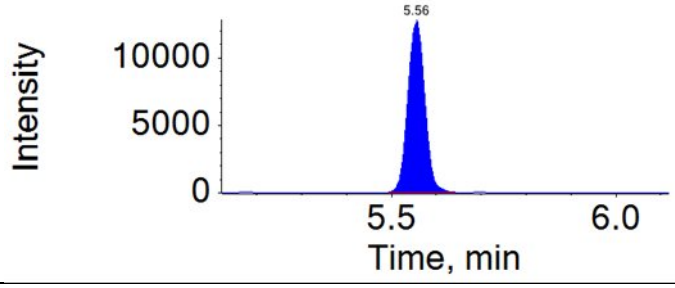
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



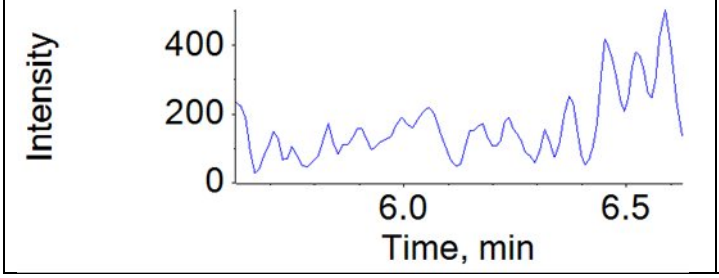


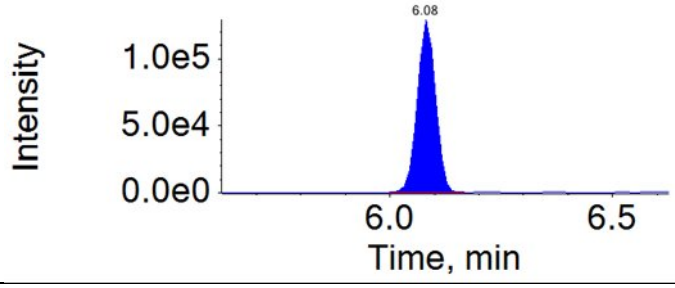
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



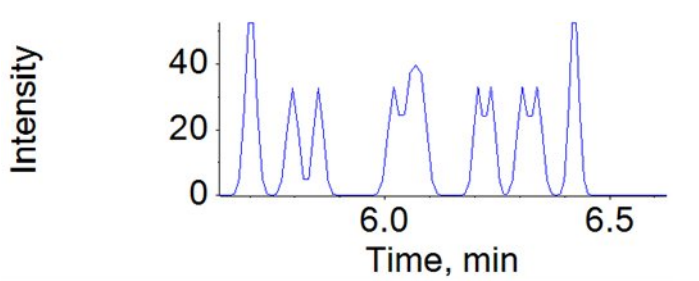


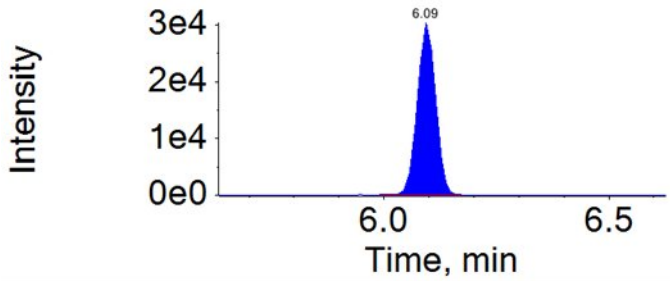
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

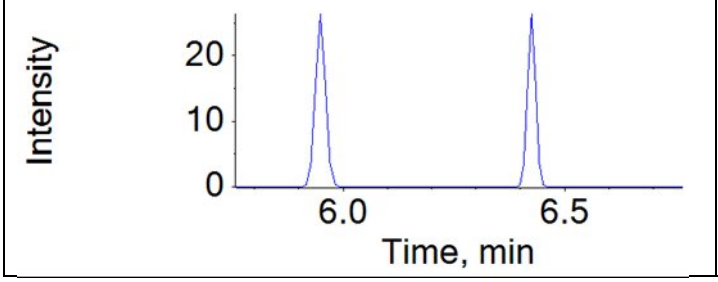
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

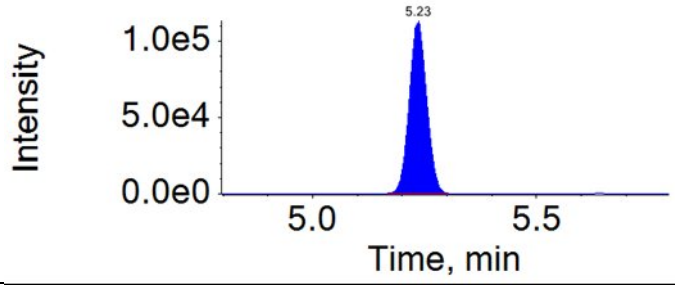
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



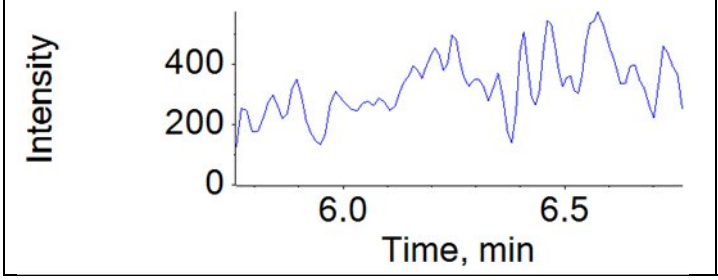


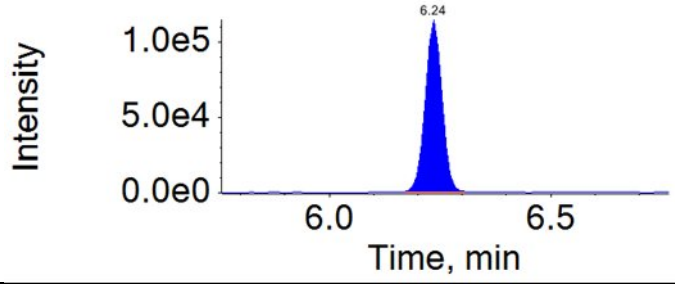
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



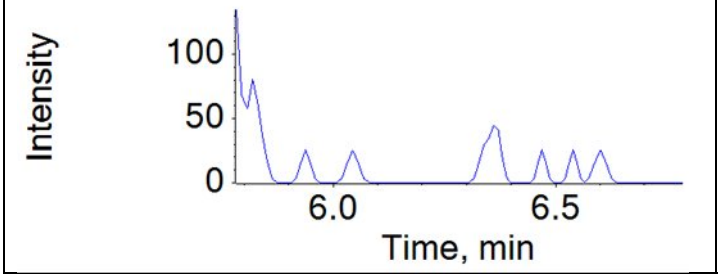


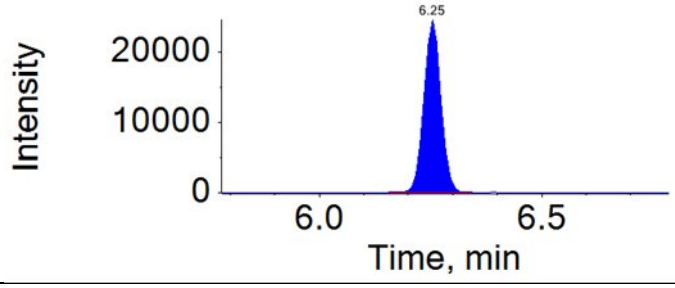
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



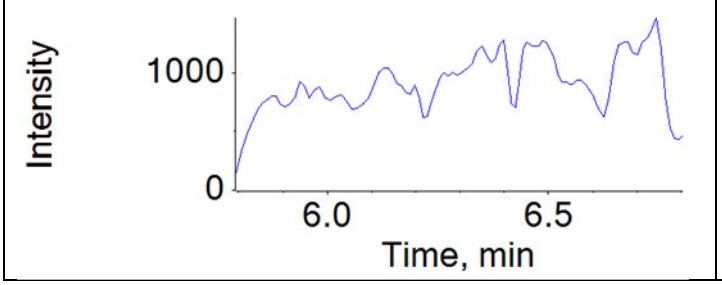


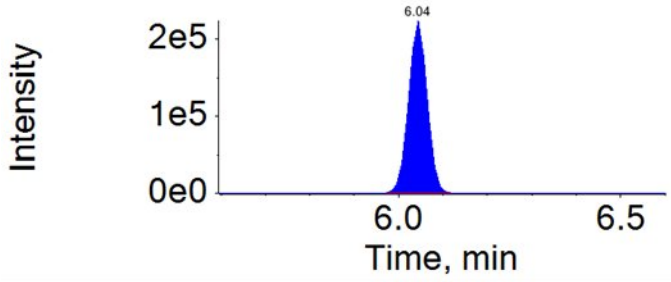
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

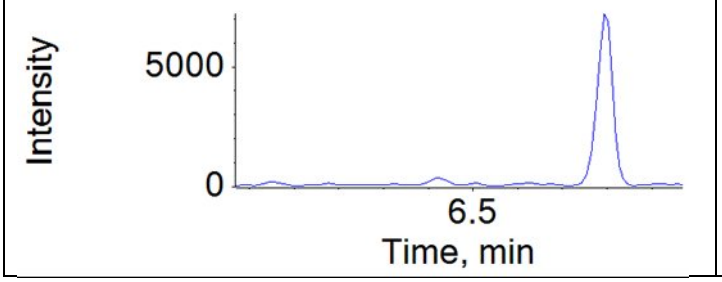
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV1-4_DOD 11/7/2018 6:26:02 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

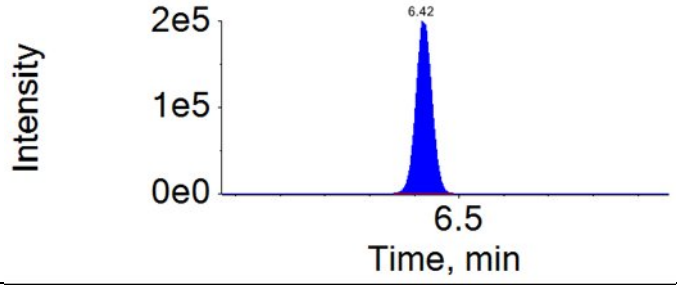
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



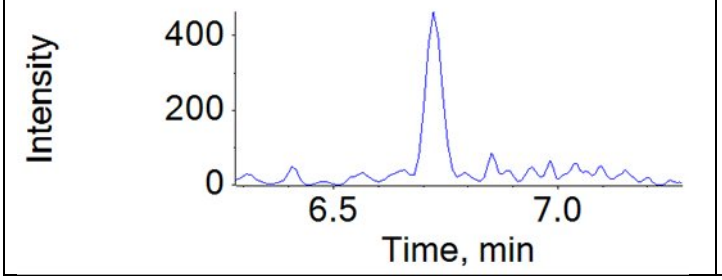


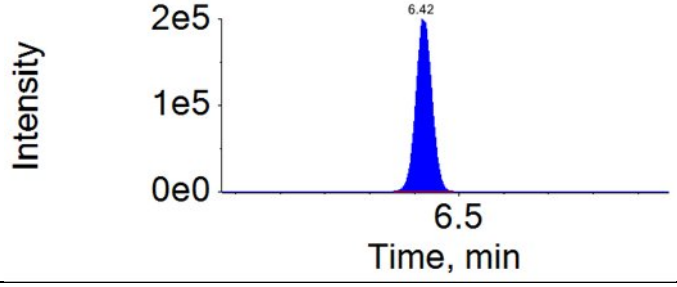
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



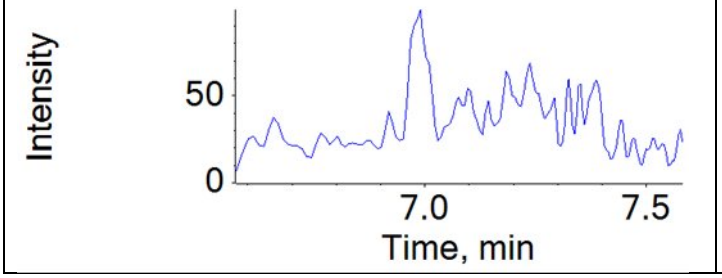


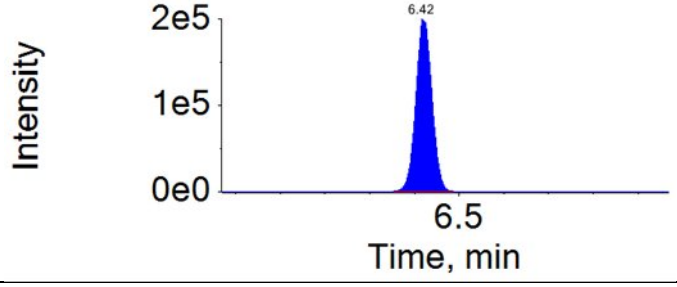
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Ion Ratio Report

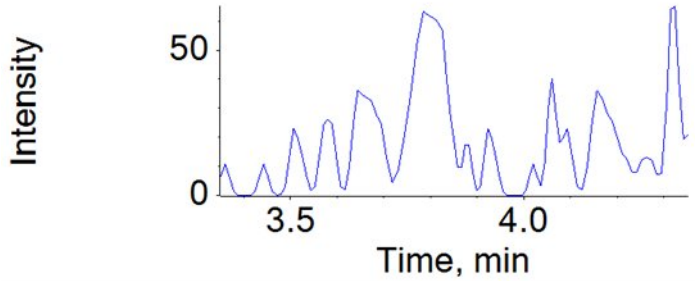
Sample Name: INBLK **Instrument Name:** LM27631 **File Name:** 18NOV07D-06.wiff

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	
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	
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	
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	

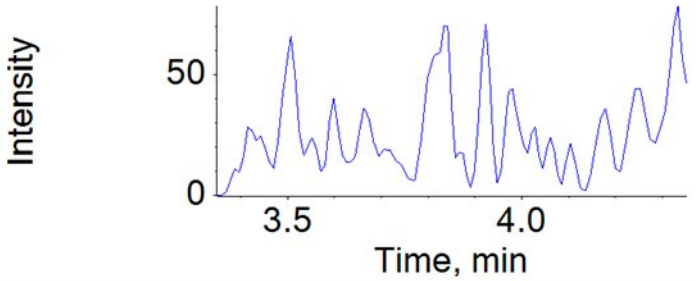
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

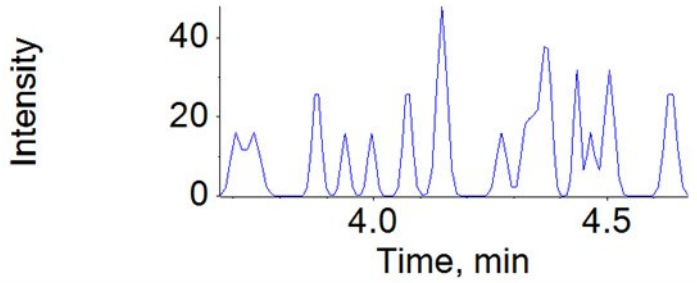
Component: PFBS
Primary Mass: 299.0 / 80.0



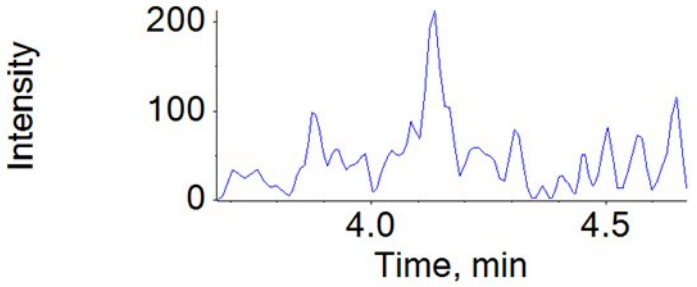
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



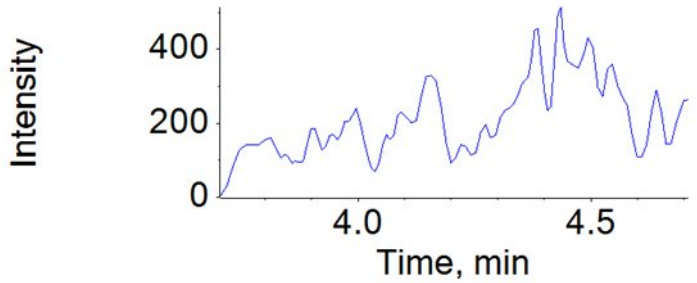
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



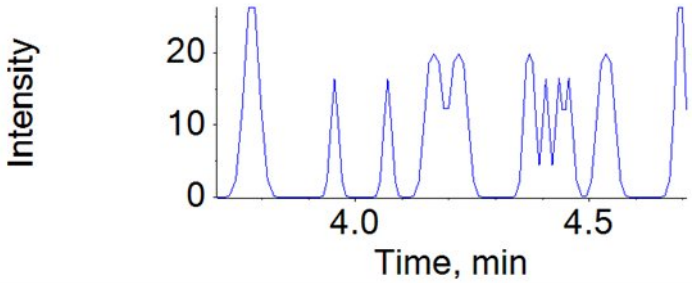
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



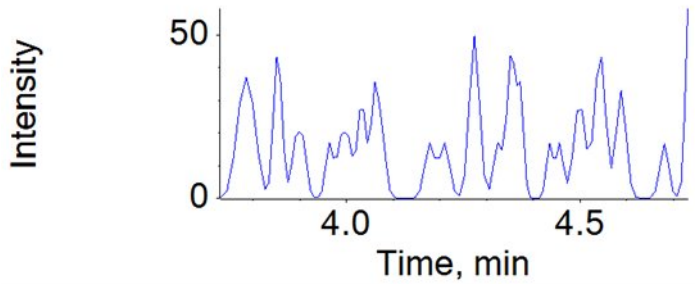
Component: PFHxA
Primary Mass: 313.0 / 269.0



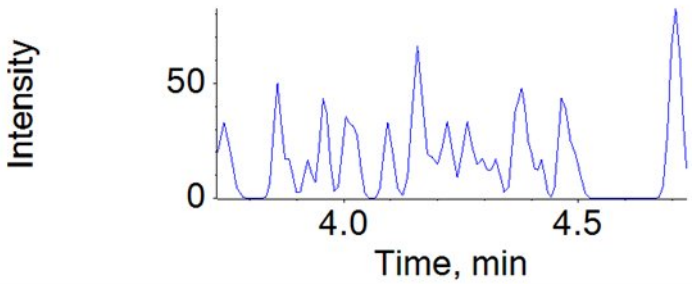
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



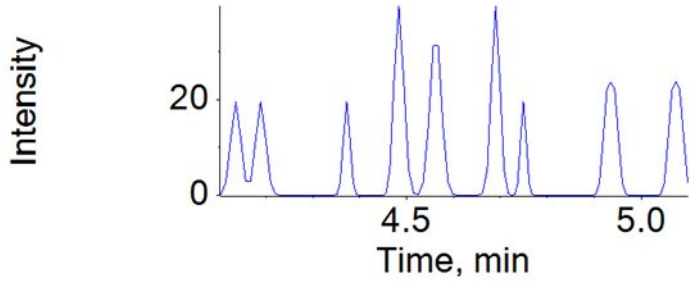
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Secondary Mass: 349.0 / 99.0



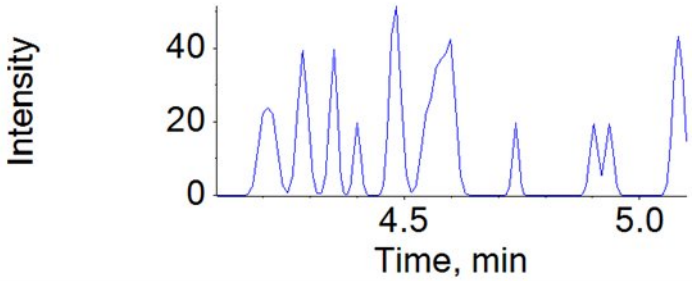
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

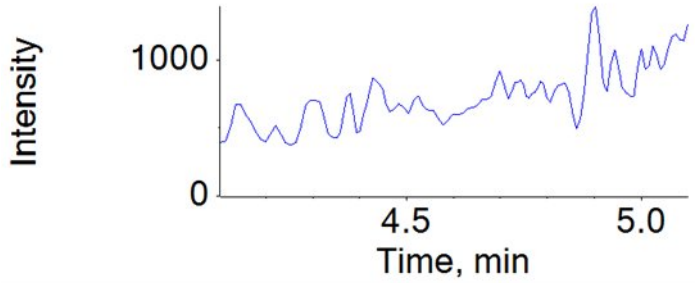
Component: PFHxS
Primary Mass: 399.0 / 80.0



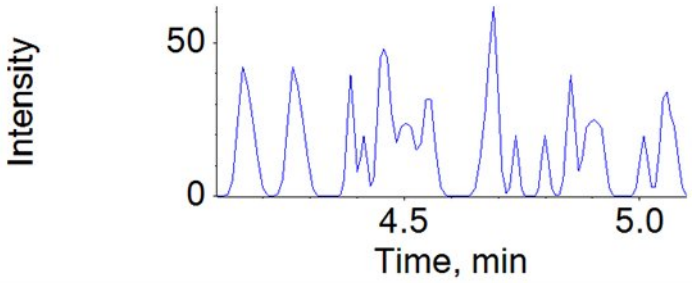
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



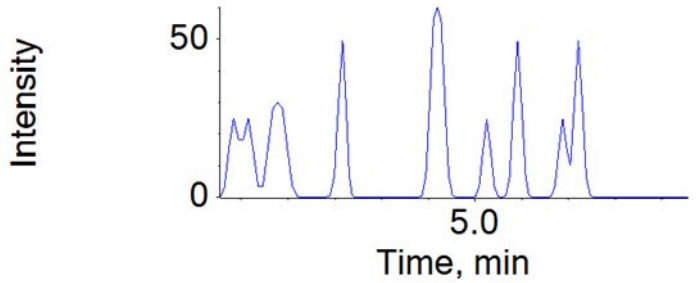
Component: PFHpA
Primary Mass: 363.0 / 319.0



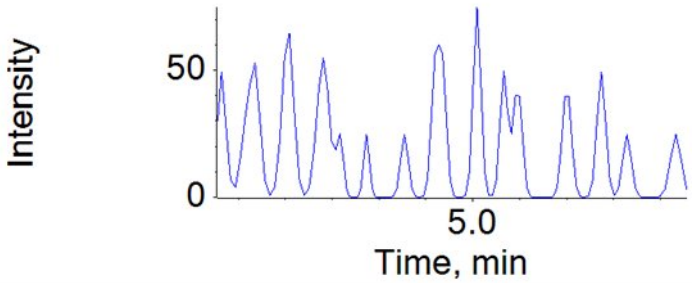
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



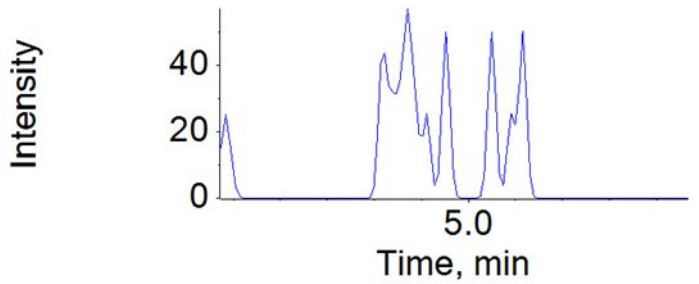
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



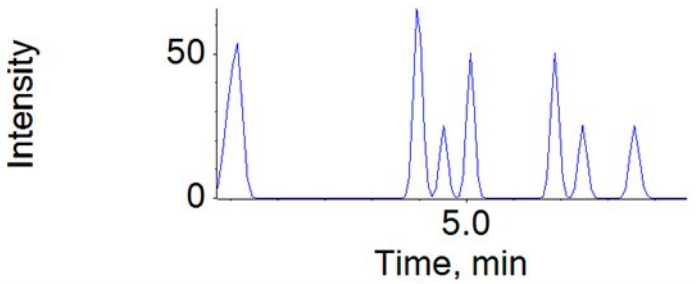
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



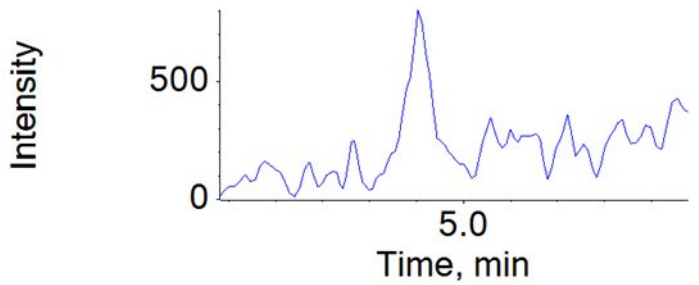
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



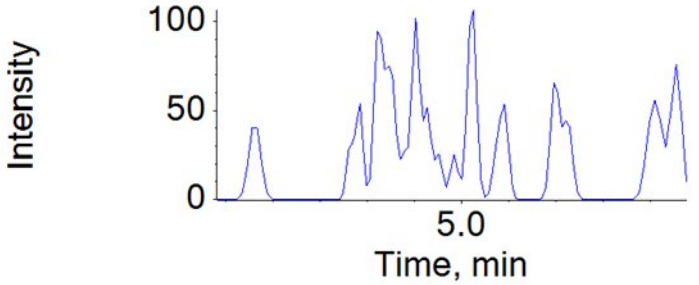
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

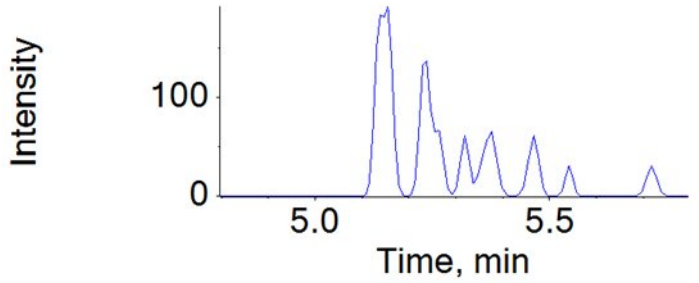
Component: PFOA
Primary Mass: 413.0 / 369.0



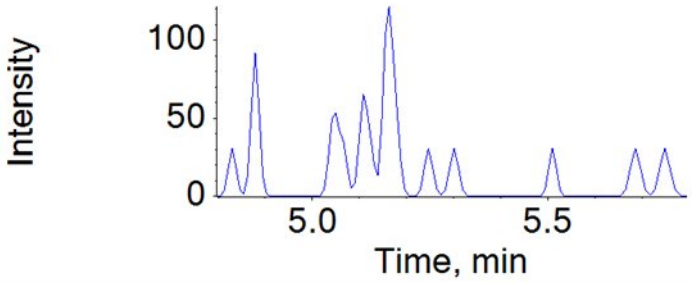
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



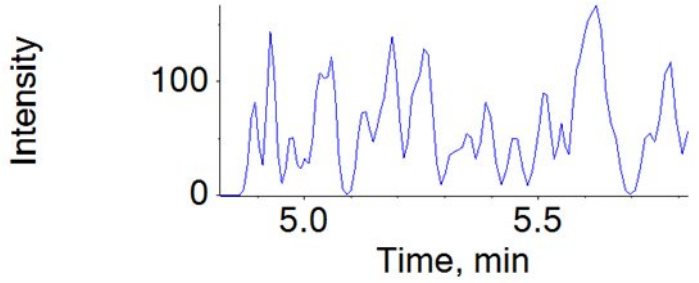
Component: PFOS
Primary Mass: 499.0 / 80.0



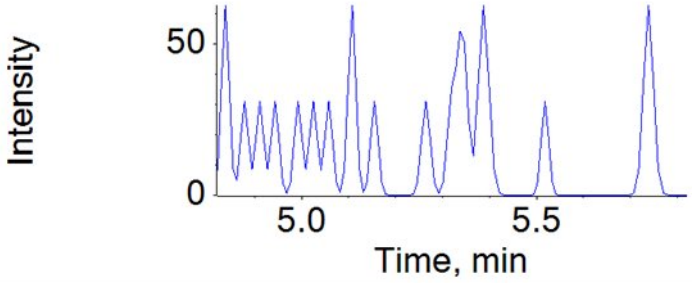
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



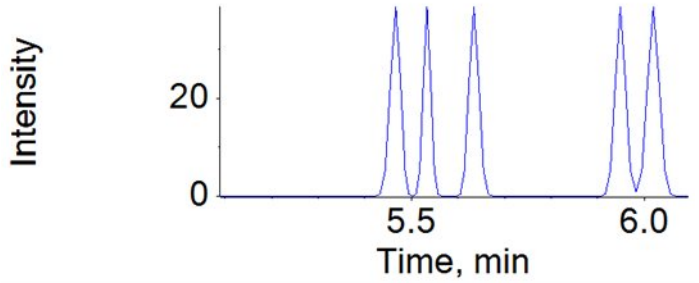
Component: PFNA
Primary Mass: 463.0 / 419.0



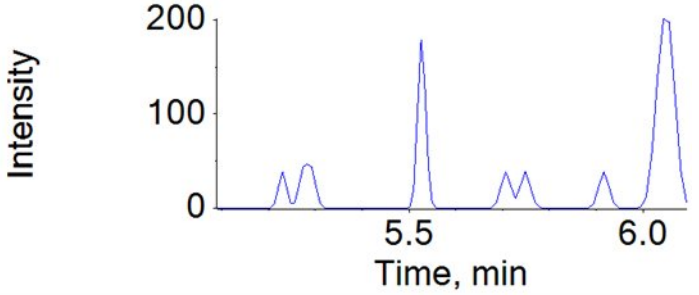
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



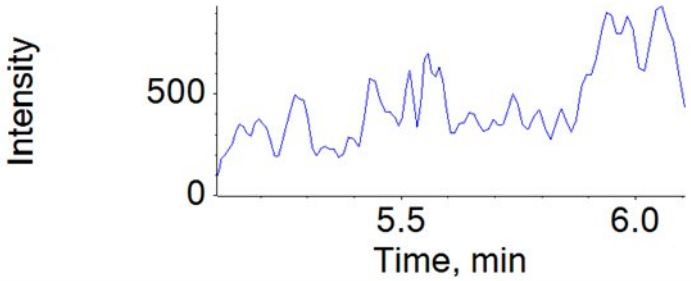
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



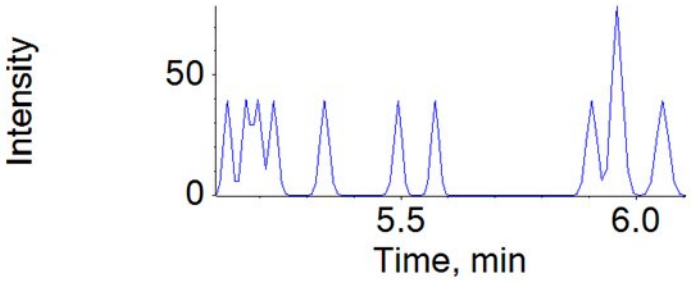
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

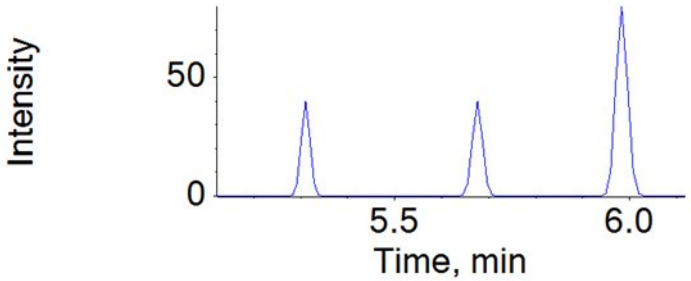
Component: PFDA
Primary Mass: 513.0 / 469.0



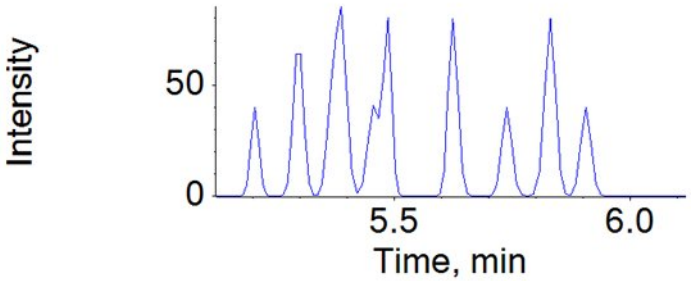
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



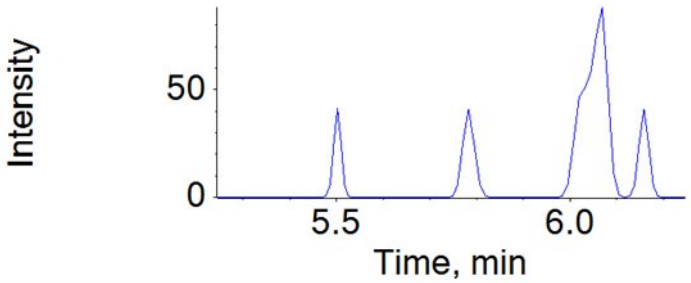
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



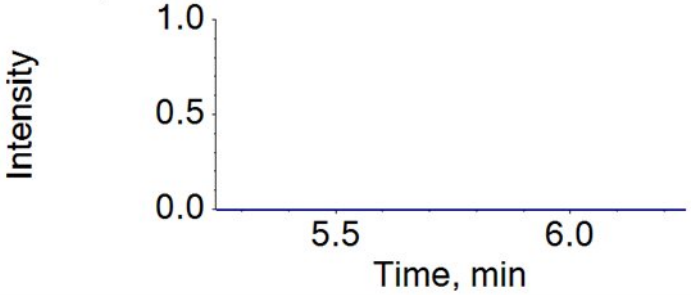
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



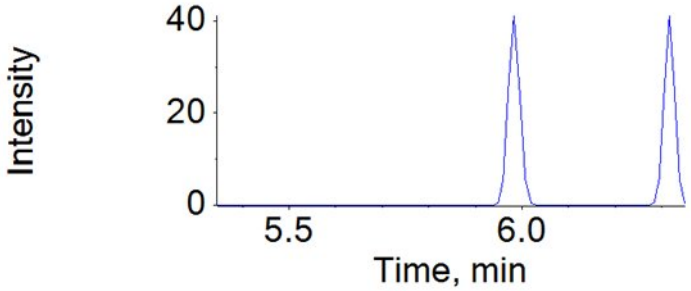
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



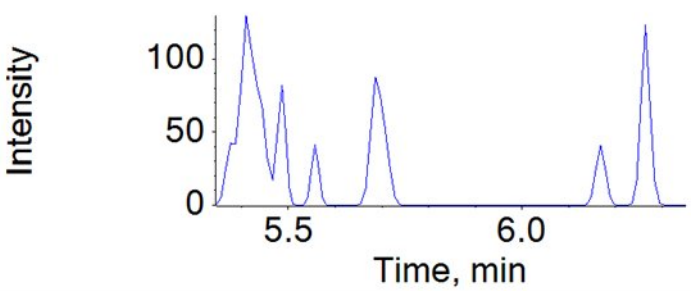
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



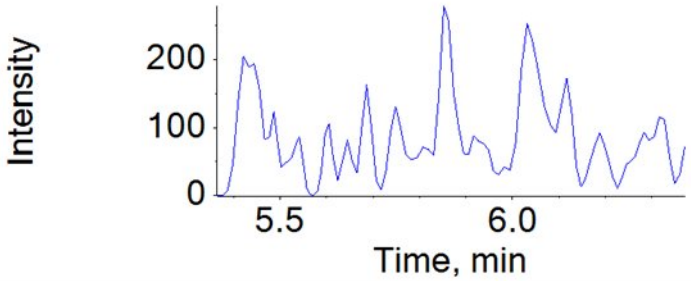
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



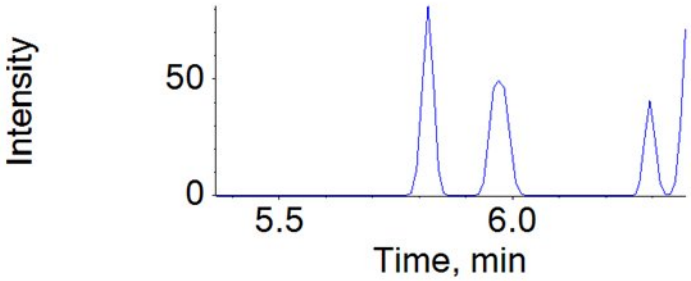
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

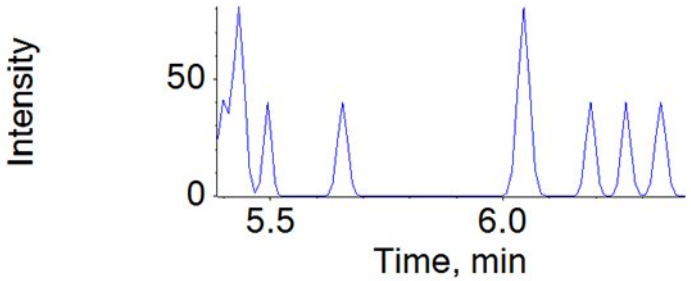
Component: PFUnDA
Primary Mass: 563.0 / 519.0



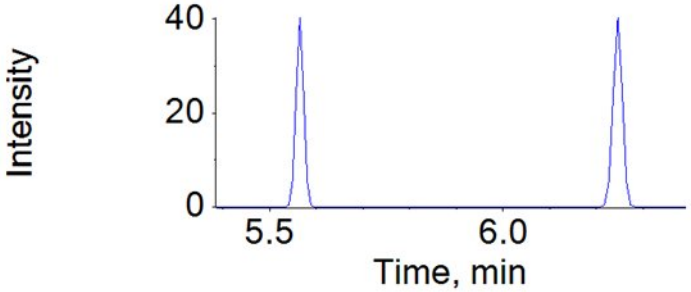
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



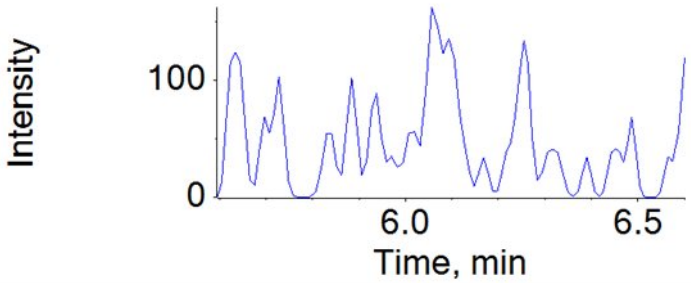
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



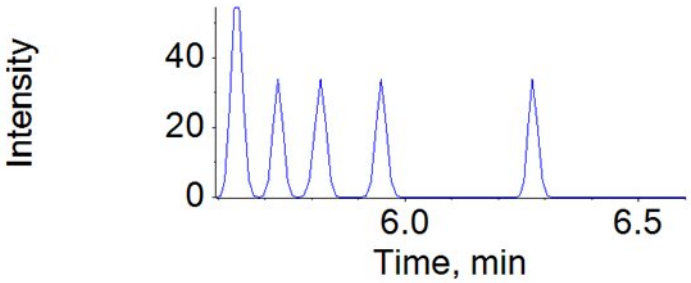
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



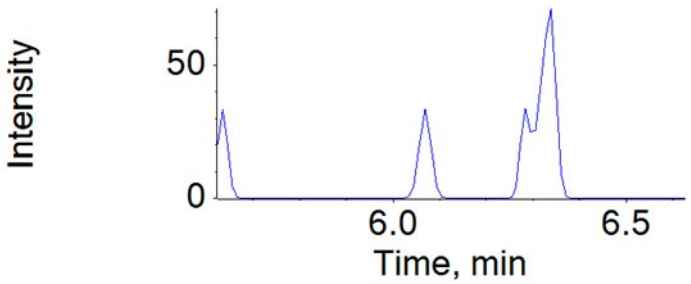
Component: PFDoDA
Primary Mass: 613.0 / 569.0



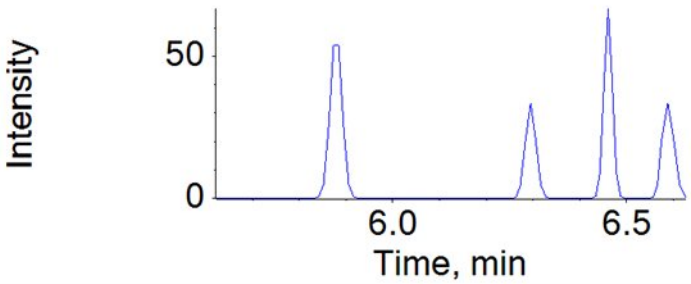
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



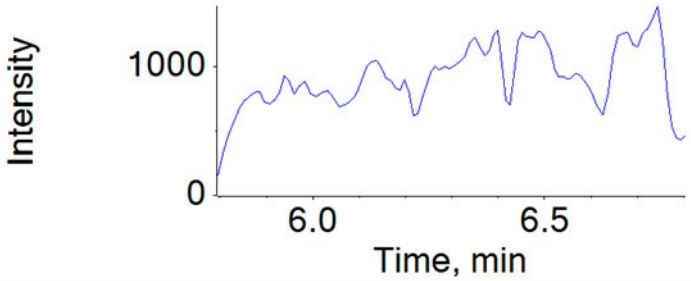
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



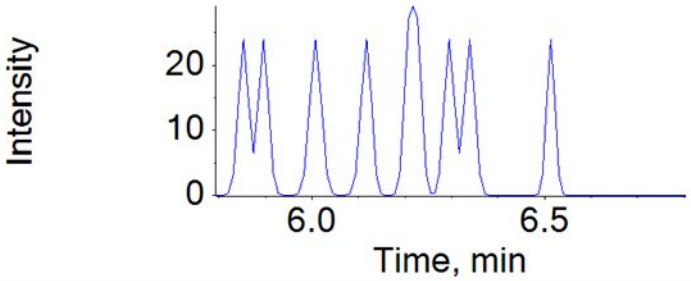
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

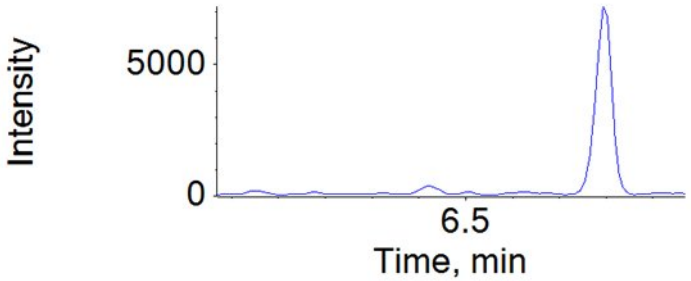
Component: PFTrDA
Primary Mass: 663.0 / 619.0



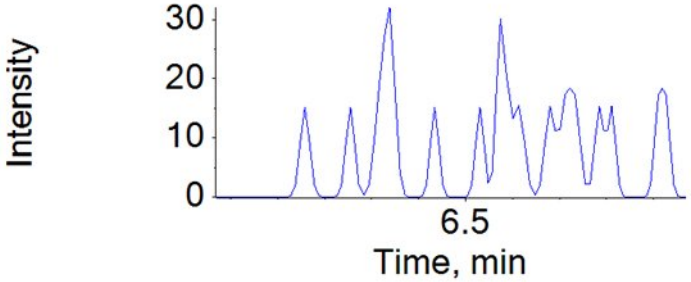
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



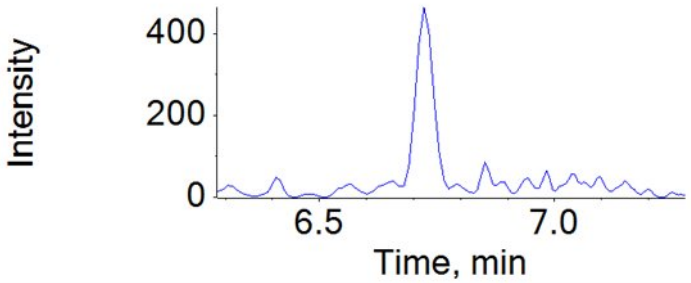
Component: PFTeDA
Primary Mass: 713.0 / 669.0



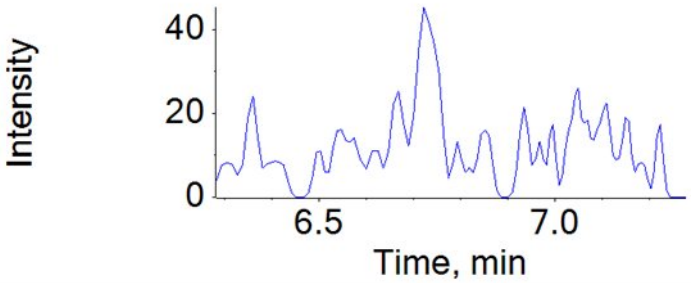
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



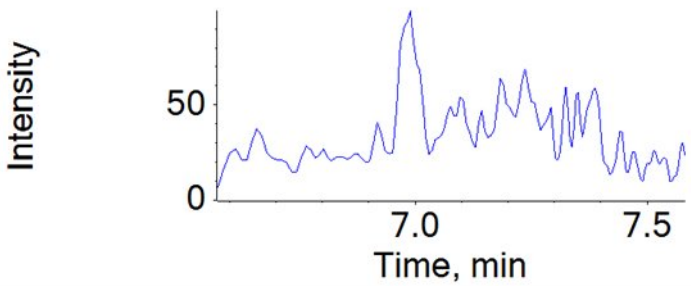
Component: PFHxDA
Primary Mass: 813.0 / 769.0



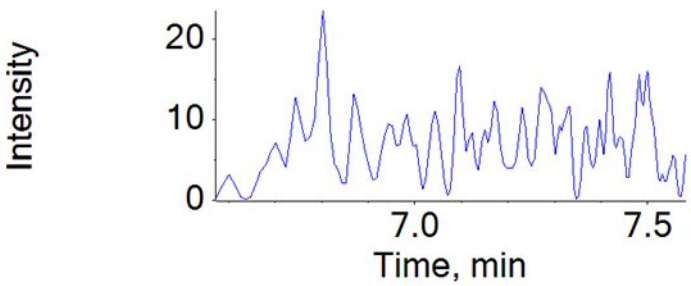
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



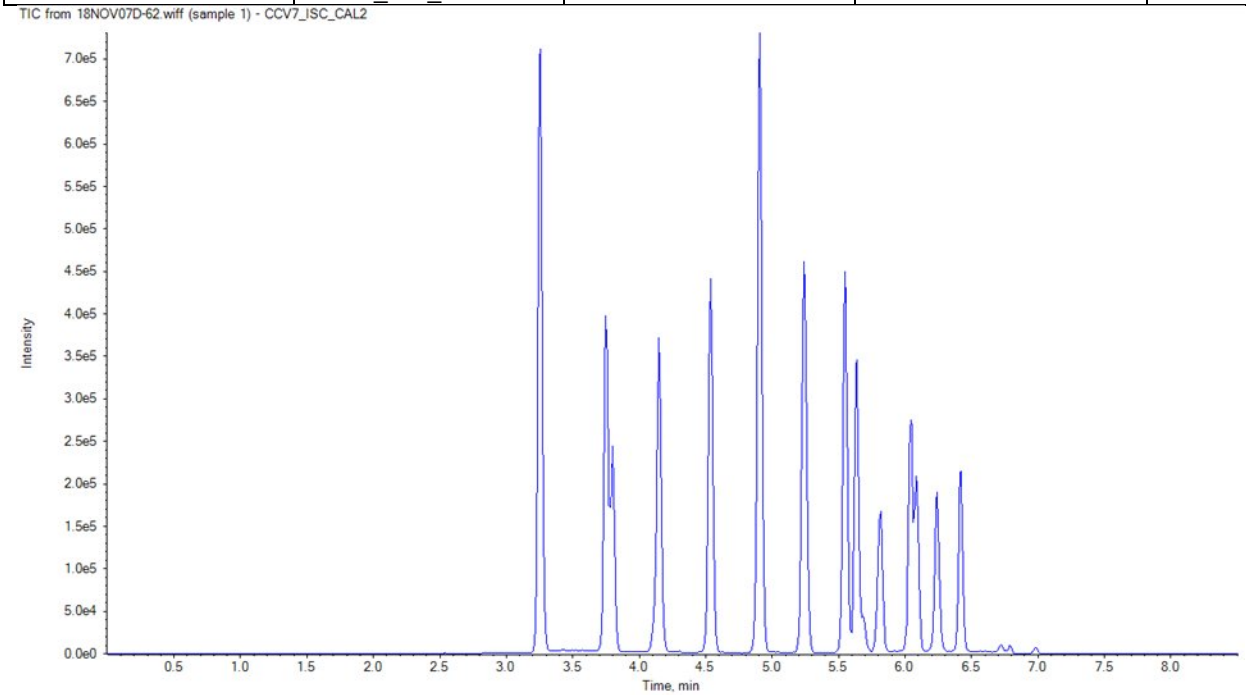
APPROVED
By MCD at 6:32 pm, 11/7/18

REVIEWED
By HMK at 2:57 pm, 11/11/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALMOD21833F	18NOV07D-62.wiff	2018-11-07T20:34:09



Injection Standard Area Reference File: 18NOV07DCAL-12

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	718630.0	730410.6	-2	50	
13C2-PFOA	5.0	517659.0	524423.6	-1	50	
13C4-PFOS	4.8	270625.6	274061.7	-1	50	
13C2-PFDA	5.0	309076.7	311442.1	-1	50	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV7_ISC_CAL2	CALMOD21833F	18NOV07D-62.wiff	2018-11-07T20:34:09

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	73719.4	10	13C4-PFBA	783524.6	5.0	0.094	3.25	1.000	0.500	0.551	10	30	
PFPeA	76136.5	12	13C5-PFPeA	840483.6	5.0	0.091	3.75	1.000	0.500	0.538	8	30	
PFBS	40450.0	12	13C3-PFBS	425367.6	4.7	0.095	3.80	1.000	0.440	0.479	9	30	
4:2-FTS	9609.0	12	13C2-4:2-FTS	53311.7	4.7	0.180	4.11	1.000	0.467	0.485	4	30	
PFHxA	90847.4	12	13C5-PFHxA	709175.5	5.0	0.128	4.15	1.000	0.500	0.549	10	30	
PFPeS	20180.0	11	13C3-PFBS	425367.6	4.7	0.047	4.17	1.100	0.469	0.468	0	30	
PFHxS	29140.2	12	13C3-PFHxS	349010.4	4.7	0.083	4.54	1.000	0.473	0.423	-11	30	
PFHpA	94802.6	12	13C4-PFHpA	565181.9	5.0	0.168	4.54	1.000	0.500	0.564	13	30	
6:2-FTS	8330.3	11	13C2-6:2-FTS	37583.6	4.8	0.222	4.89	1.000	0.474	0.553	17	30	
PFHpS	31454.1	11	13C3-PFHxS	349010.4	4.7	0.090	4.90	1.080	0.476	0.472	-1	30	
PFOA	96030.6	11	13C8-PFOA	947994.4	5.0	0.101	4.91	1.000	0.500	0.570	14	30	
PFOS	26165.2	11	13C8-PFOS	291322.4	4.8	0.090	5.23	1.000	0.478	0.466	-3	30	
PFNA	79343.6	11	13C9-PFNA	519631.3	5.0	0.153	5.25	1.000	0.500	0.571	14	30	
PFNS	17909.9	11	13C8-PFOS	291322.4	4.8	0.061	5.53	1.060	0.480	0.487	2	30	
PFDA	56501.0	11	13C6-PFDA	614246.9	5.0	0.092	5.55	1.000	0.500	0.506	1	30	
8:2-FTS	6684.0	11	13C2-8:2-FTS	27951.7	4.8	0.239	5.55	1.000	0.479	0.539	13	30	
PFOSA	70505.3	11	13C8-PFOSA	709272.1	5.0	0.099	5.64	1.000	0.500	0.537	7	30	
NMeFOSAA	9089.8	12	d3-NMeFOSAA	79804.3	5.0	0.114	5.69	1.000	0.500	0.586	17	30	
PFDS	16309.7	12	13C8-PFOS	291322.4	4.8	0.056	5.78	1.110	0.482	0.535	11	30	
PFUnDA	53286.0	12	13C7-PFUnDA	291261.3	5.0	0.183	5.81	1.000	0.500	0.525	5	30	
NEtFOSAA	7355.8	12	d5-NEtFOSAA	65731.3	5.0	0.112	5.83	1.000	0.500	0.481	-4	30	
PFDoDA	53284.1	12	13C2-PFDoDA	566639.3	5.0	0.094	6.04	1.000	0.500	0.510	2	30	
10:2-FTS	5549.2	12	13C2-8:2-FTS	27951.7	4.8	0.199	6.06	1.090	0.482	0.618	28	30	
NMePFOSAE	41232.6	11	d7-NMePFOSAE	340801.5	5.0	0.121	6.09	1.000	0.500	0.542	8	30	
NMePFOSA	10877.5	12	d3-NMePFOSA	79291.8	5.0	0.137	6.10	1.000	0.500	0.768	54	30	OOS
PFDoS	6354.7	11	13C8-PFOS	291322.4	4.8	0.022	6.21	1.190	0.484	0.421	-13	30	
NEtPFOSAE	47451.6	11	d9-NEtPFOSAE	273743.6	5.0	0.173	6.25	1.000	0.500	0.556	11	30	
NEtPFOSA	7308.1	11	d5-NEtPFOSA	64000.5	5.0	0.114	6.26	1.000	0.500	0.503	1	30	
PFTrDA	49257.3	12	13C2-PFDoDA	566639.3	5.0	0.087	6.24	1.030	0.500	0.548	10	30	
PFTeDA	41493.1	10	13C2-PFTeDA	413127.6	5.0	0.100	6.42	1.000	0.500	0.590	18	30	
PFHxDA	18477.8	11	13C2-PFTeDA	413127.6	5.0	0.045	6.72	1.050	0.500	0.555	11	30	
PFODA	16301.0	11	13C2-PFTeDA	413127.6	5.0	0.039	6.98	1.090	0.500	0.565	13	30	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

Instrument Sensitivity Check/ Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL
QMethod Name: 18OCT20QM
Result Table: 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV7_ISC_CAL2			**Data File:**		18NOV07D-62.wiff
Sample ID:	CALMOD21833F			**Acquis Date:**		2018-11-07T20:34:09
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	4			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCCV7-11_DOD
QMethod File:	18OCT20QM			**ICAL Name:**		18NOV07DCAL
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: 18NOV07DCAL-12

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	718630.0	730410.6	-2	50	
13C2-PFOA	5.0	517659.0	524423.6	-1	50	
13C4-PFOS	4.8	270625.6	274061.7	-1	50	
13C2-PFDA	5.0	309076.7	311442.1	-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	783524.6	13C3-PFBA	718630.0	1.090	5.000	5.046	101	70-130	
E13C5-PFPeA	840483.6	13C3-PFBA	718630.0	1.170	5.000	5.095	102	70-130	
E13C3-PFBS	425367.6	13C3-PFBA	718630.0	0.592	4.650	4.344	93	70-130	
E13C2-4:2-FTS	53311.7	13C2-PFOA	517659.0	0.103	4.670	4.647	100	70-130	
E13C5-PFHxA	709175.5	13C2-PFOA	517659.0	1.370	5.000	5.039	101	70-130	
E13C3-PFHxS	349010.4	13C2-PFOA	517659.0	0.674	4.730	4.840	102	70-130	
E13C4-PFHpA	565181.9	13C2-PFOA	517659.0	1.092	5.000	4.967	99	70-130	
E13C2-6:2-FTS	37583.6	13C2-PFOA	517659.0	0.073	4.750	4.841	102	70-130	
E13C8-PFOA	947994.4	13C2-PFOA	517659.0	1.831	5.000	5.107	102	70-130	
E13C8-PFOS	291322.4	13C4-PFOS	270625.6	1.076	4.780	4.760	100	70-130	
E13C9-PFNA	519631.3	13C4-PFOS	270625.6	1.920	5.000	5.245	105	70-130	
E13C6-PFDA	614246.9	13C2-PFDA	309076.7	1.987	5.000	4.998	100	70-130	
E13C2-8:2-FTS	27951.7	13C2-PFDA	309076.7	0.090	4.790	4.785	100	70-130	
E13C8-PFOSA	709272.1	13C2-PFDA	309076.7	2.295	5.000	5.008	100	70-130	
Ed3-NMeFOSAA	79804.3	13C2-PFDA	309076.7	0.258	5.000	4.802	96	70-130	
E13C7-PFUnDA	291261.3	13C2-PFDA	309076.7	0.942	5.000	5.436	109	70-130	
Ed5-NEtFOSAA	65731.3	13C2-PFDA	309076.7	0.213	5.000	4.922	98	70-130	
E13C2-PFDoDA	566639.3	13C2-PFDA	309076.7	1.833	5.000	4.942	99	70-130	
Ed7-NMePFOSAE	340801.5	13C2-PFDA	309076.7	1.103	5.000	5.128	103	70-130	
Ed3-NMePFOSA	79291.8	13C2-PFDA	309076.7	0.257	5.000	4.697	94	70-130	
Ed9-NEtPFOSAE	273743.6	13C2-PFDA	309076.7	0.886	5.000	5.058	101	70-130	
Ed5-NEtPFOSA	64000.5	13C2-PFDA	309076.7	0.207	5.000	4.795	96	70-130	
E13C2-PFTeDA	413127.6	13C2-PFDA	309076.7	1.337	5.000	4.812	96	70-130	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

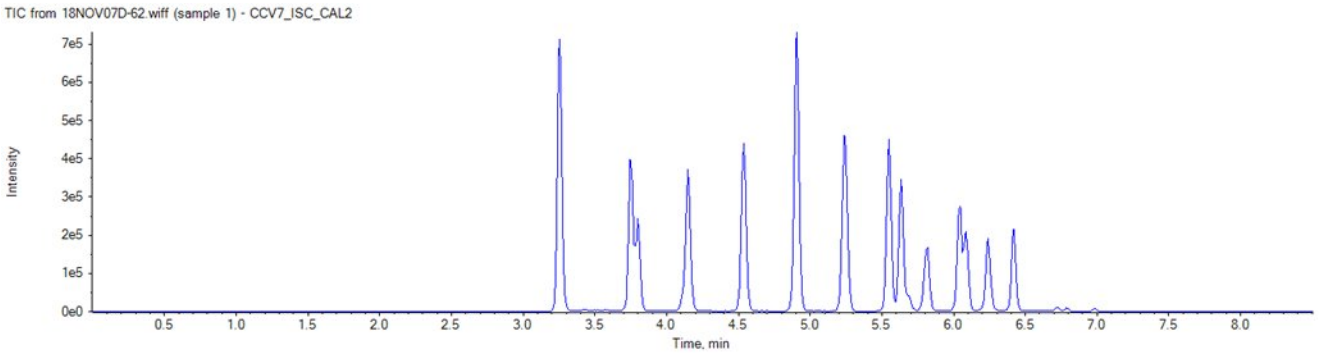
Analyte Quantitation Peak Table

Sample Name: CCV7_ISC_CAL2 **Instrument Name:** LM27631 **File Name:** 18NOV07D-62.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	73719.4		A	13C4-PFBA	3.25	783524.6	0.094	0.551
PFPeA	3.75	1.000	76136.5		A	13C5-PFPeA	3.75	840483.6	0.091	0.538
PFBS	3.80	1.000	40450.0		A	13C3-PFBS	3.80	425367.6	0.095	0.479
4:2-FTS	4.11	1.000	9609.0		A	13C2-4:2-FTS	4.11	53311.7	0.180	0.485
PFHxA	4.15	1.000	90847.4		A	13C5-PFHxA	4.15	709175.5	0.128	0.549
PFPeS	4.17	1.100	20180.0		A	13C3-PFBS	3.80	425367.6	0.047	0.468
PFHxS	4.54	1.000	29140.2		A	13C3-PFHxS	4.54	349010.4	0.083	0.423
PFHpA	4.54	1.000	94802.6		A	13C4-PFHpA	4.54	565181.9	0.168	0.564
6:2-FTS	4.89	1.000	8330.3		A	13C2-6:2-FTS	4.89	37583.6	0.222	0.553
PFHpS	4.90	1.080	31454.1		A	13C3-PFHxS	4.54	349010.4	0.090	0.472
PFOA	4.91	1.000	96030.6		A	13C8-PFOA	4.91	947994.4	0.101	0.570
PFOS	5.23	1.000	26165.2		A	13C8-PFOS	5.23	291322.4	0.090	0.466
PFNA	5.25	1.000	79343.6		A	13C9-PFNA	5.25	519631.3	0.153	0.571
PFNS	5.53	1.060	17909.9		A	13C8-PFOS	5.23	291322.4	0.061	0.487
PFDA	5.55	1.000	56501.0		A	13C6-PFDA	5.55	614246.9	0.092	0.506
8:2-FTS	5.55	1.000	6684.0		A	13C2-8:2-FTS	5.55	27951.7	0.239	0.539
PFOSA	5.64	1.000	70505.3		A	13C8-PFOSA	5.63	709272.1	0.099	0.537
NMeFOSAA	5.69	1.000	9089.8		A	d3-NMeFOSAA	5.69	79804.3	0.114	0.586
PFDS	5.78	1.110	16309.7		A	13C8-PFOS	5.23	291322.4	0.056	0.535
PFUnDA	5.81	1.000	53286.0		A	13C7-PFUnDA	5.81	291261.3	0.183	0.525
NEtFOSAA	5.83	1.000	7355.8		A	d5-NEtFOSAA	5.82	65731.3	0.112	0.481
PFDoDA	6.04	1.000	53284.1		A	13C2-PFDoDA	6.04	566639.3	0.094	0.510
10:2-FTS	6.06	1.090	5549.2		A	13C2-8:2-FTS	5.55	27951.7	0.199	0.618
NMePFOSAE	6.09	1.000	41232.6		A	d7-NMePFOSAE	6.08	340801.5	0.121	0.542
NMePFOSA	6.10	1.000	10877.5		A	d3-NMePFOSA	6.10	79291.8	0.137	0.768
PFDoS	6.21	1.190	6354.7		A	13C8-PFOS	5.23	291322.4	0.022	0.421
NEtPFOSAE	6.25	1.000	47451.6		A	d9-NEtPFOSAE	6.24	273743.6	0.173	0.556
NEtPFOSA	6.26	1.000	7308.1		A	d5-NEtPFOSA	6.25	64000.5	0.114	0.503
PFTrDA	6.24	1.030	49257.3		A	13C2-PFDoDA	6.04	566639.3	0.087	0.548
PFTeDA	6.42	1.000	41493.1		A	13C2-PFTeDA	6.42	413127.6	0.100	0.590
PFHxDA	6.72	1.050	18477.8		A	13C2-PFTeDA	6.42	413127.6	0.045	0.555
PFODA	6.98	1.090	16301.0		A	13C2-PFTeDA	6.42	413127.6	0.039	0.565

Total Ion Chromatogram

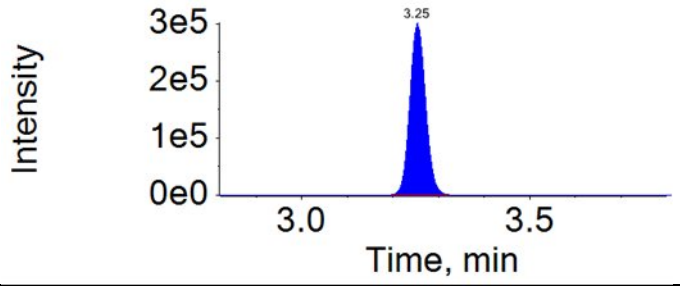


APPROVED
By MSM at 11:40 am, 11/8/18

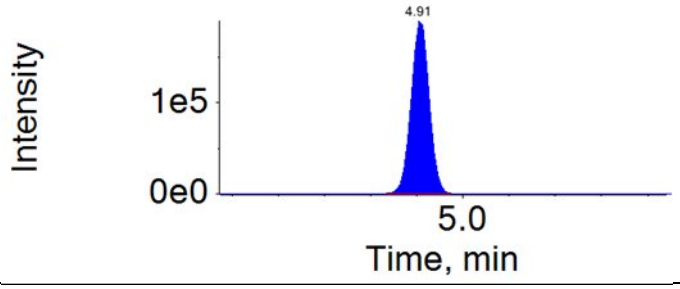
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

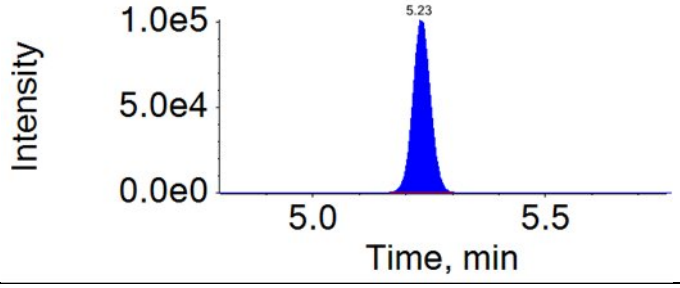
Injection Standard: 13C3-PFBA
216.0 / 172.0



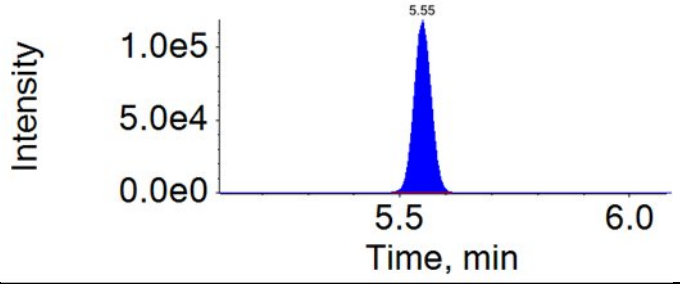
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



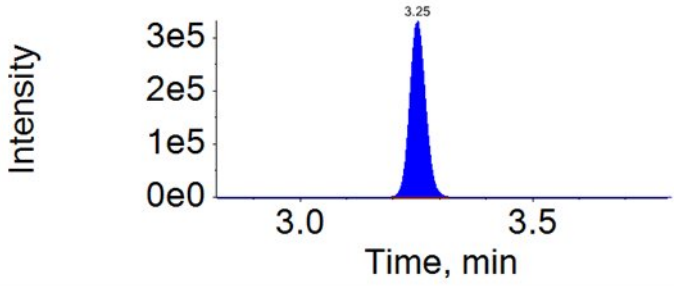
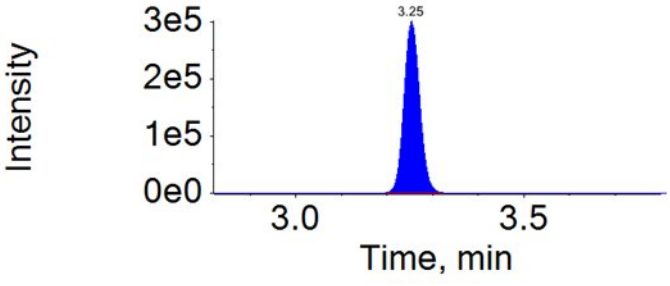
Injection Standard: 13C2-PFDA
515.0 / 470.0

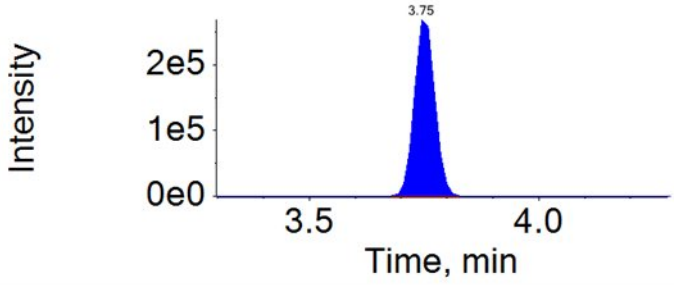
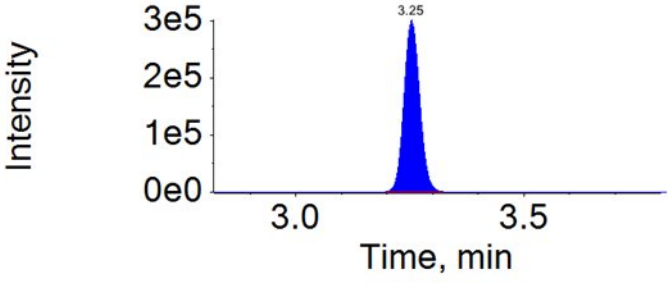


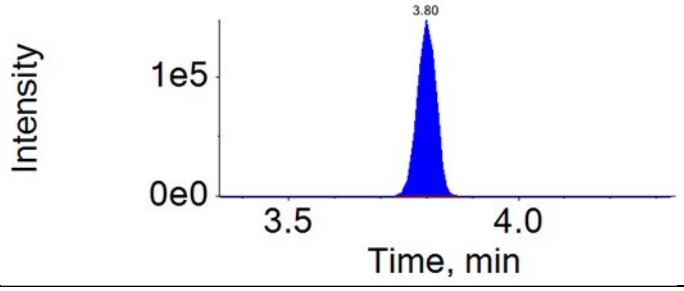
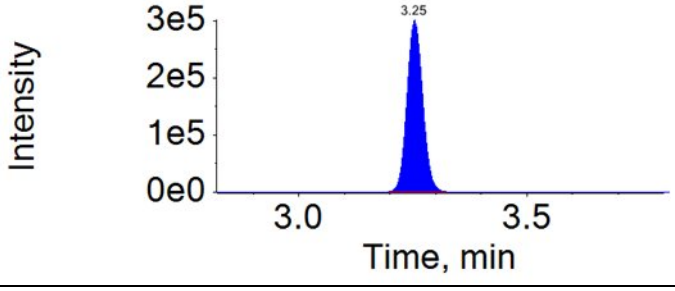
APPROVED
By MSM at 11:40 am, 11/8/18

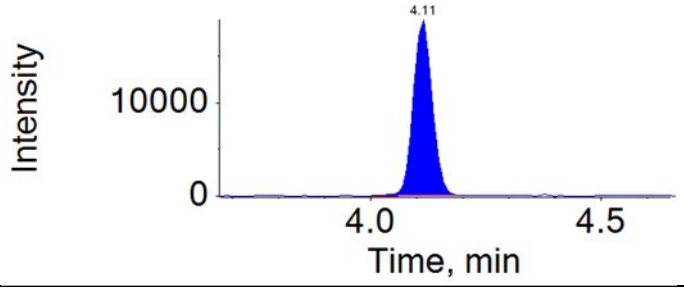
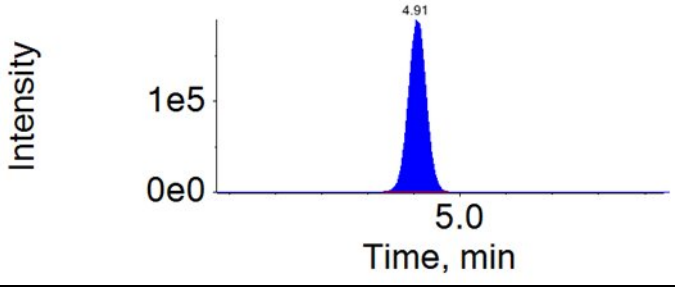
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

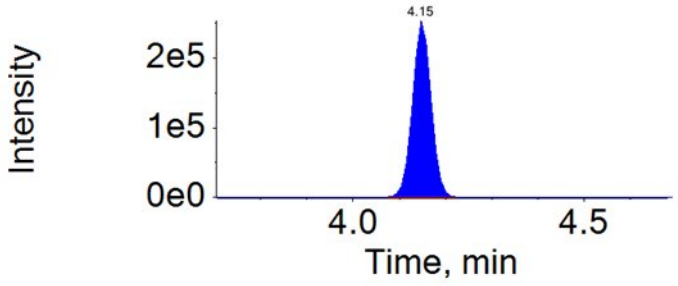
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0
	

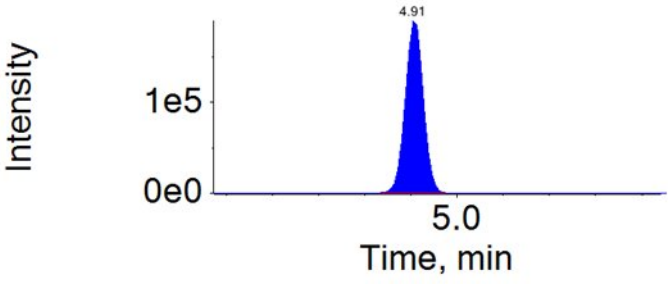
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

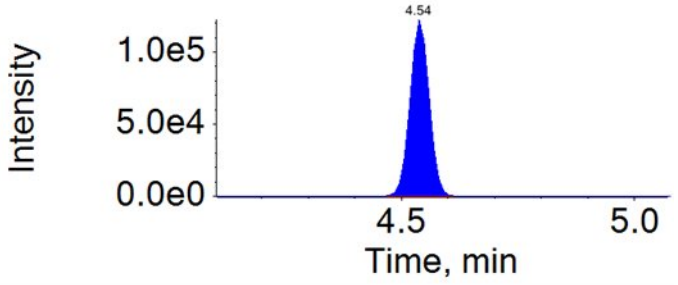
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

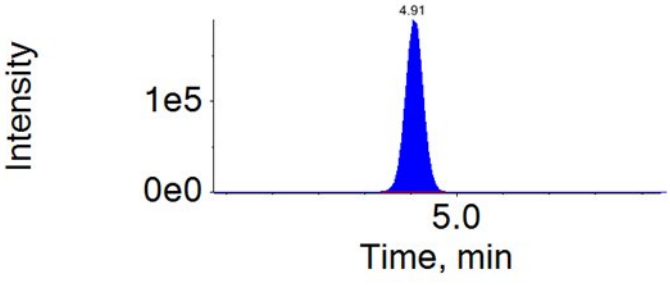
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



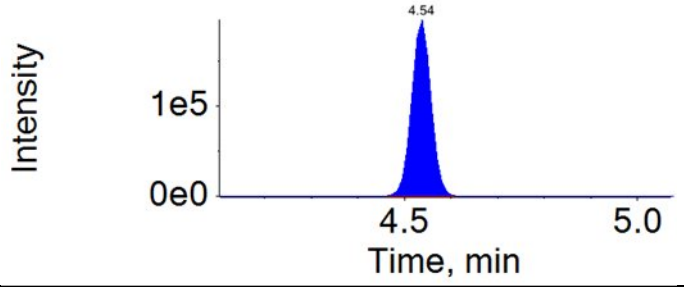


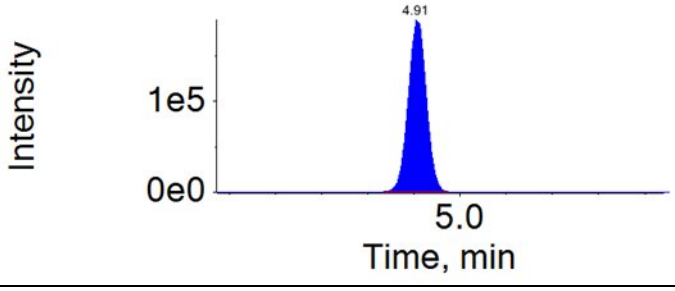
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



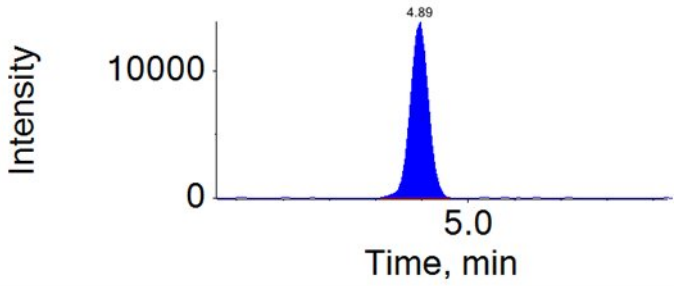


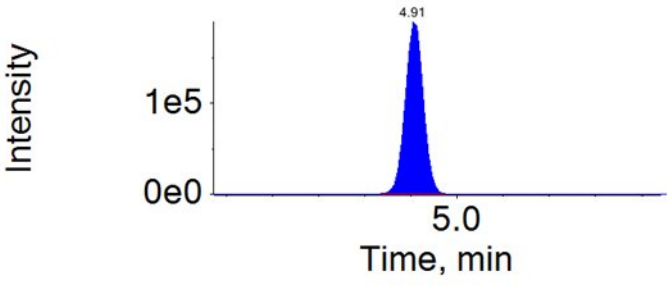
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



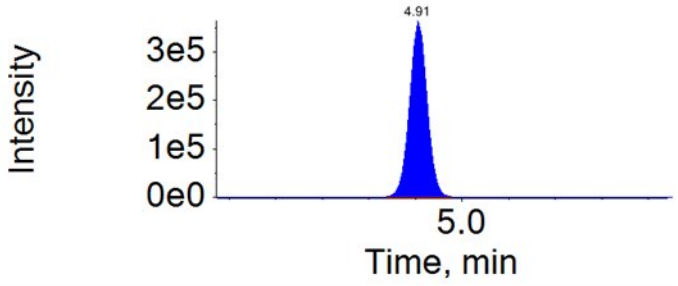


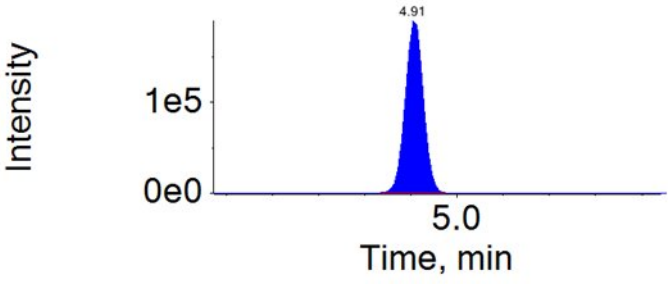
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

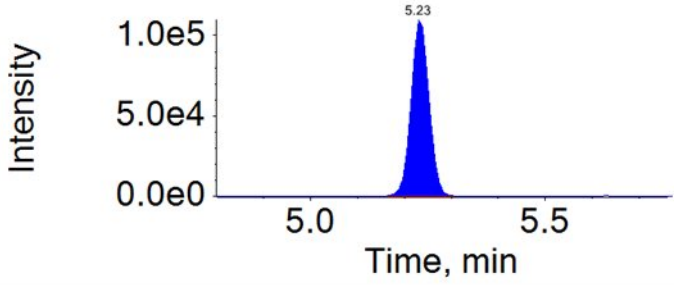
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

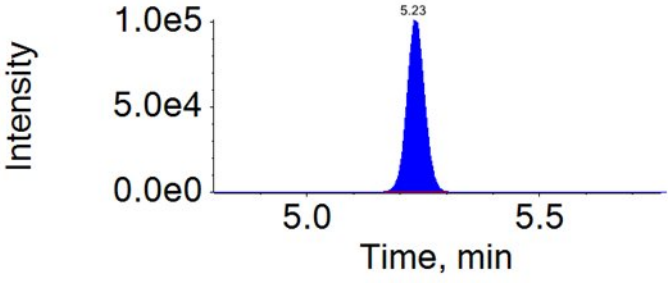
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



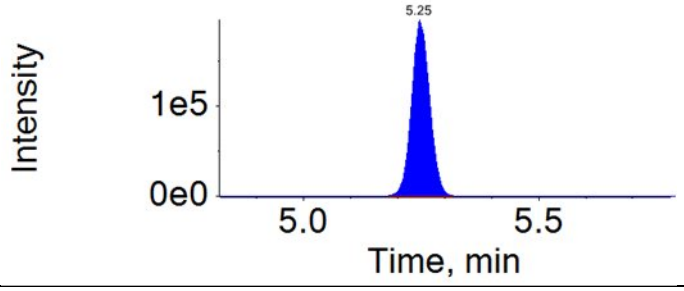


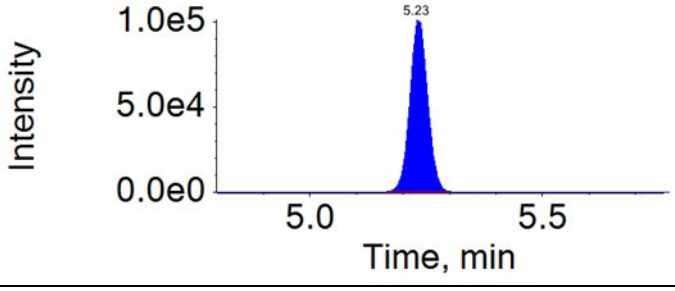
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



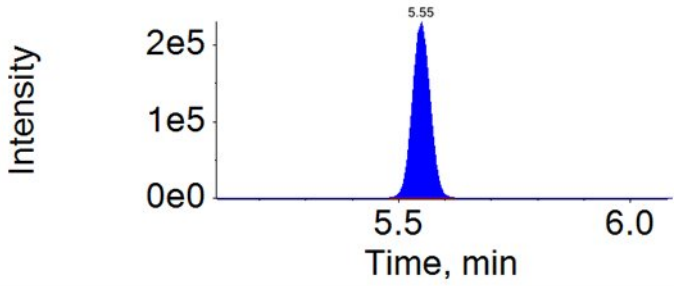


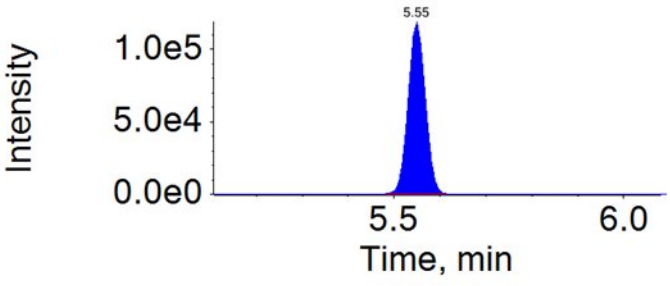
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

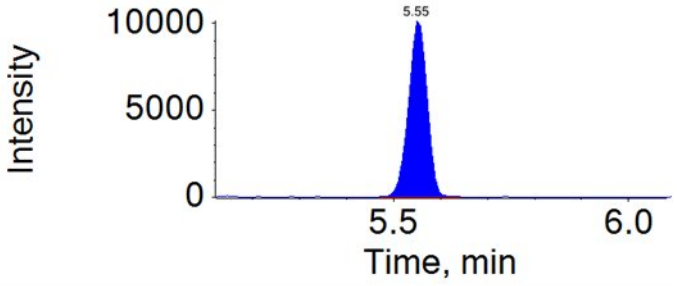
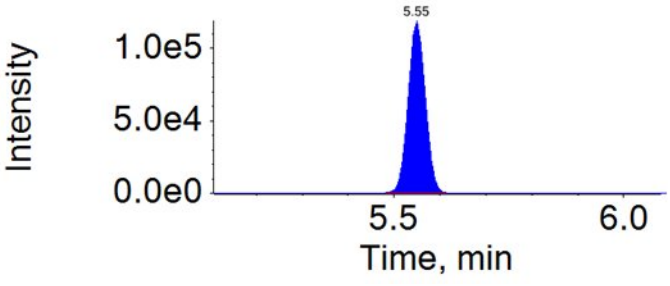


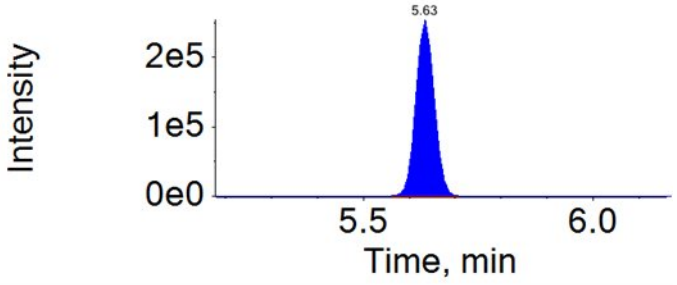
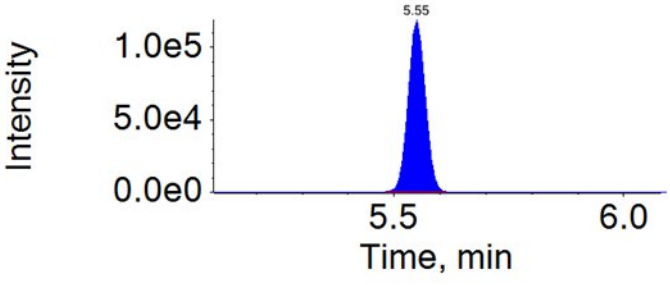


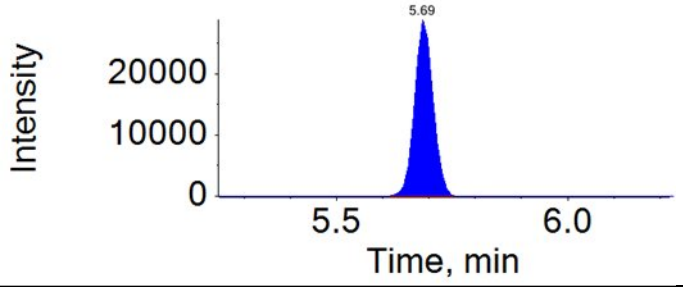
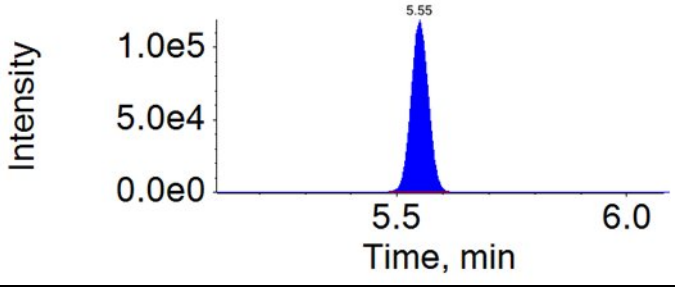
APPROVED
By MSM at 11:40 am, 11/8/18

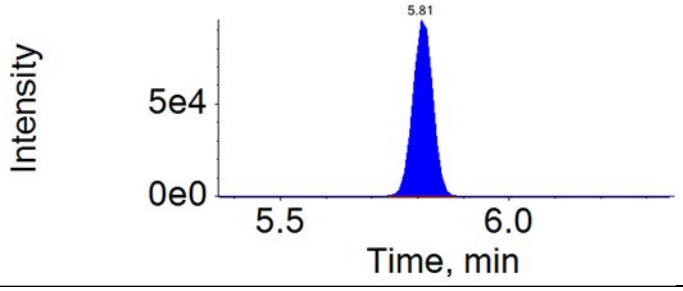
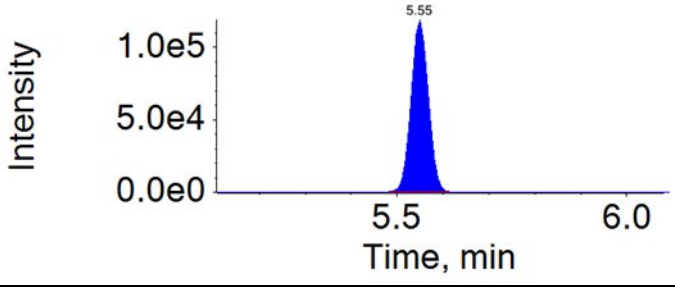
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0
	

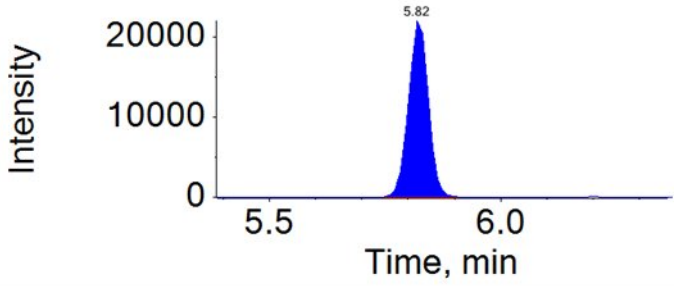
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0
	

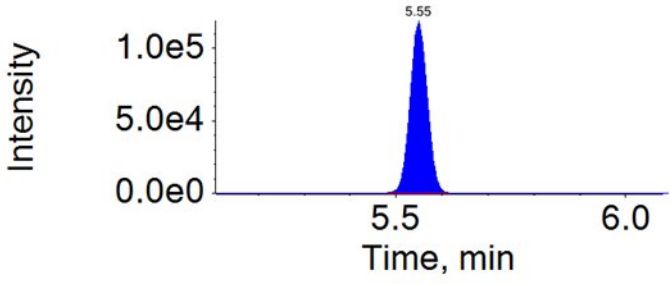
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0
	

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

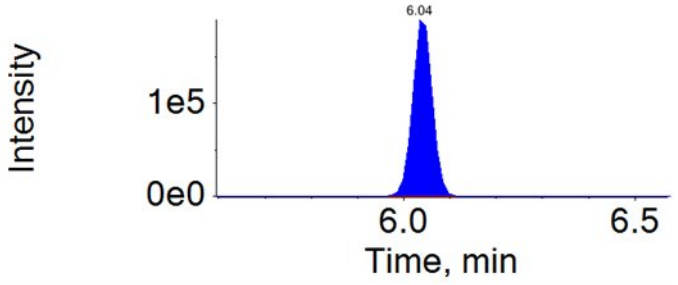
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

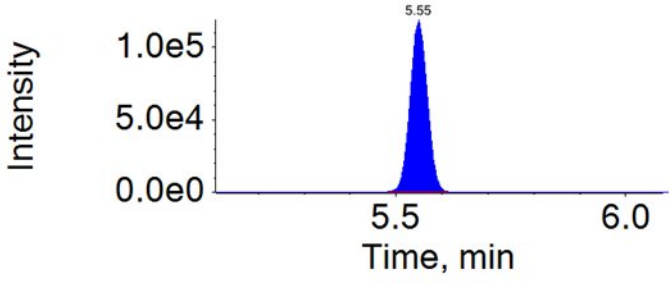
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



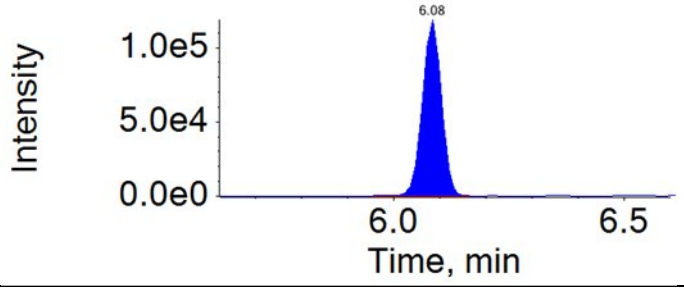


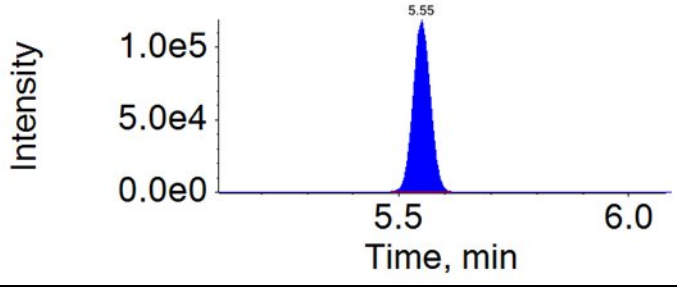
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



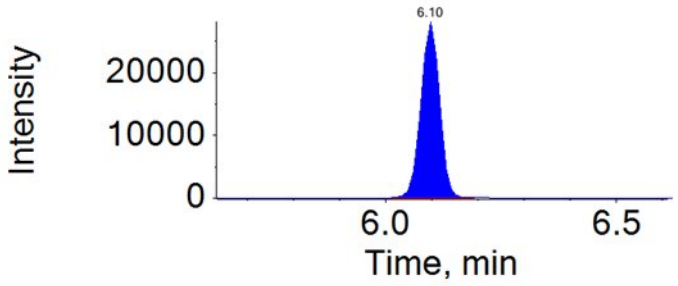


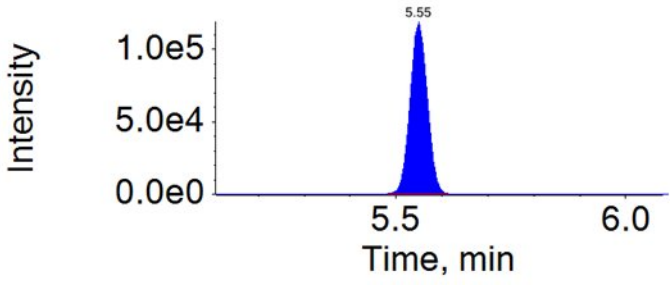
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





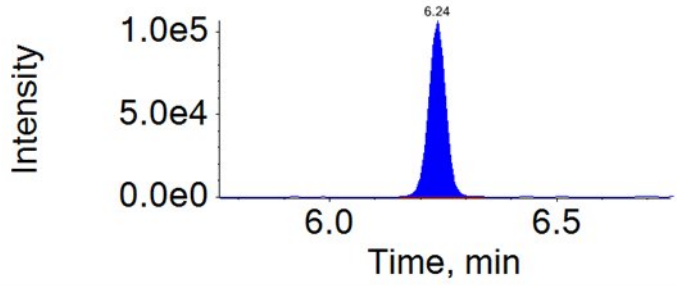
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

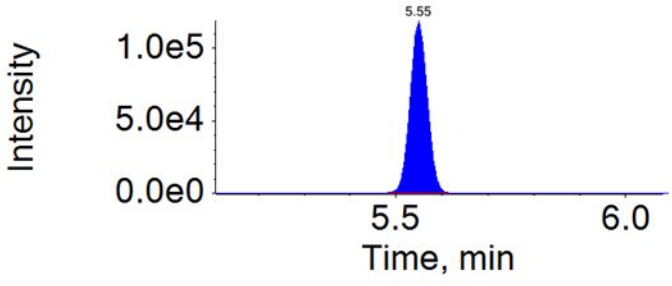




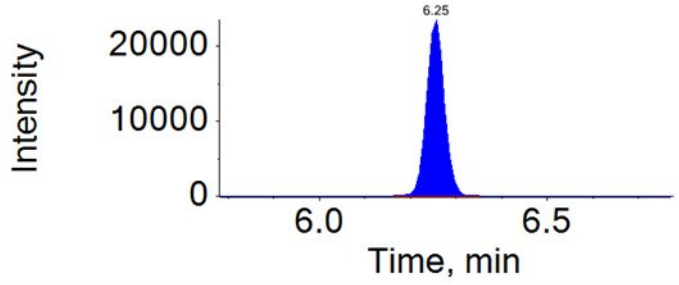
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

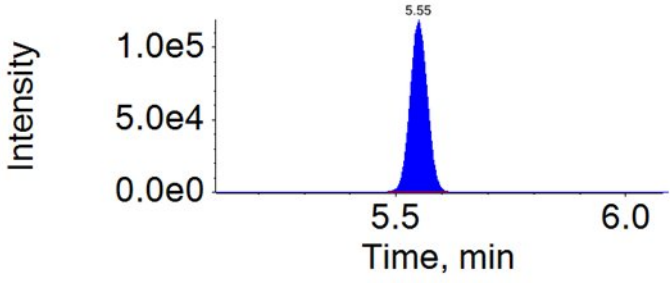
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



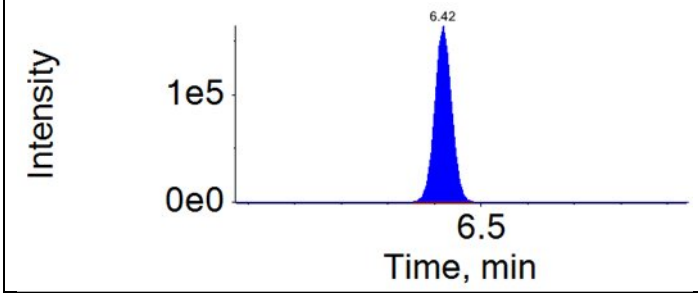


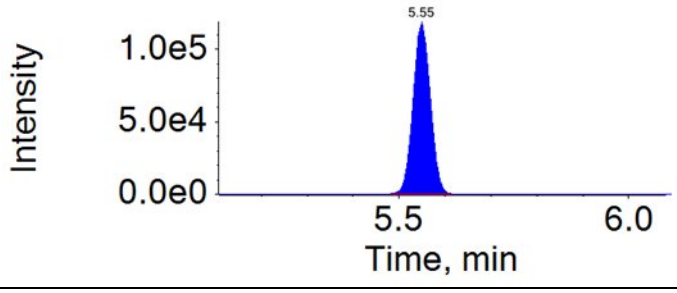
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





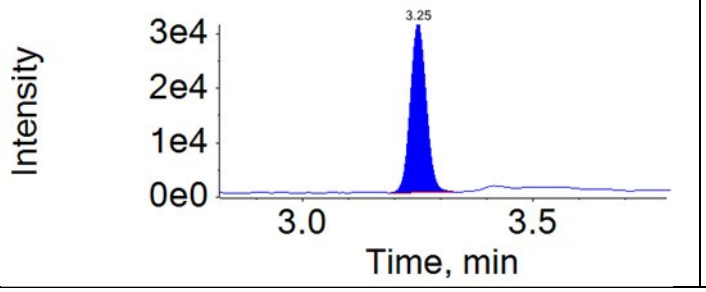
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

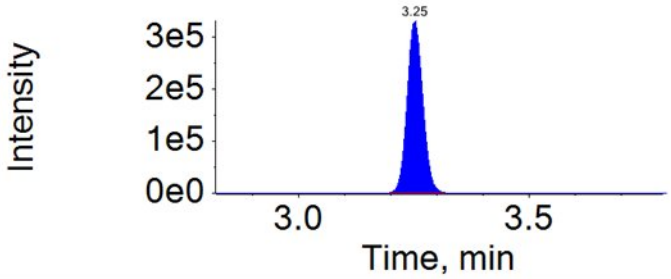




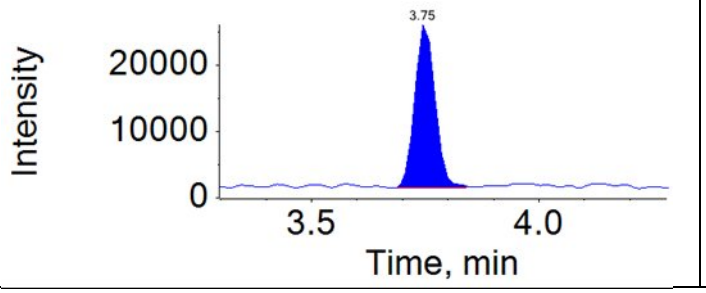
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

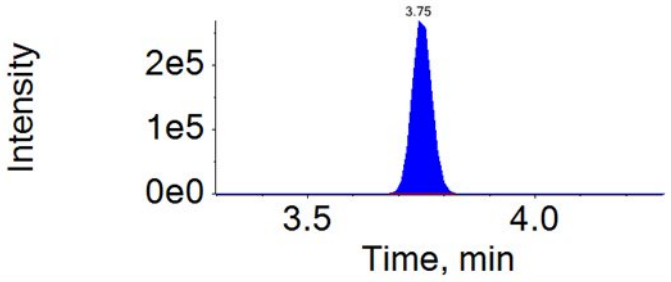
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



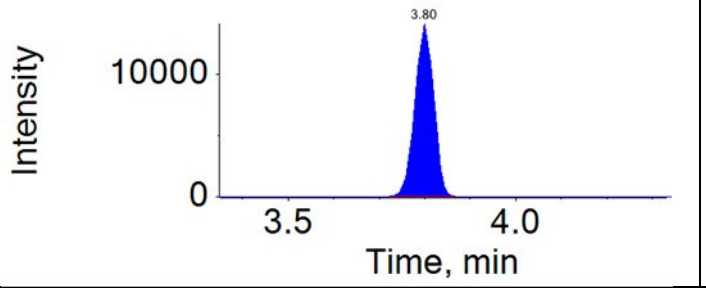


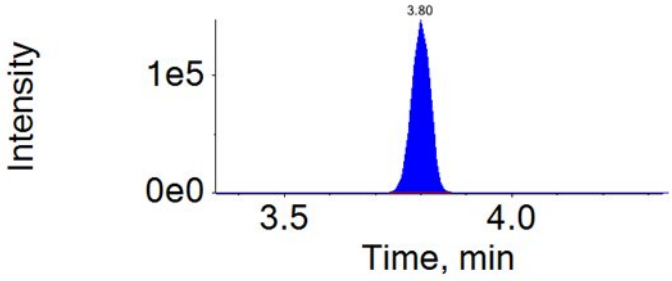
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



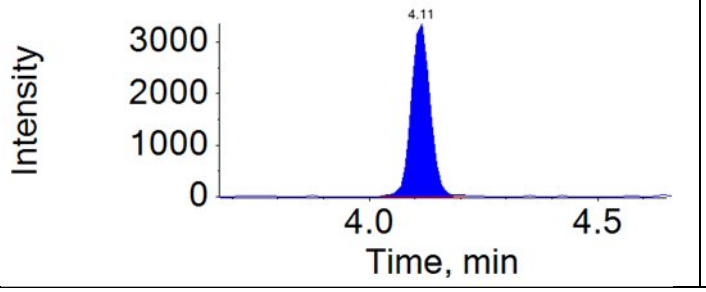


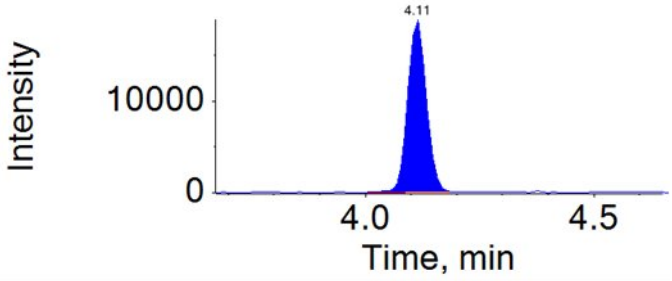
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



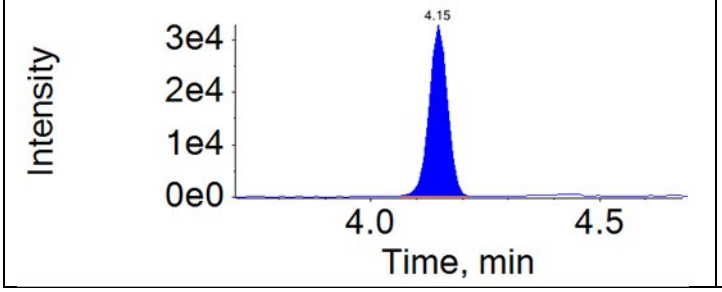


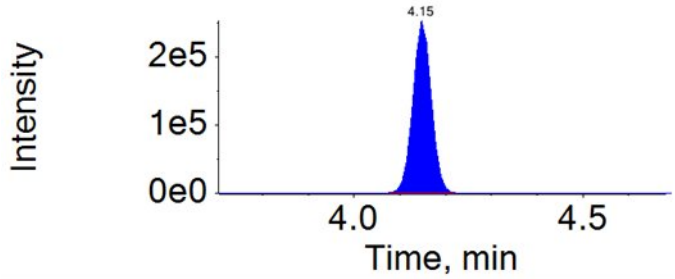
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

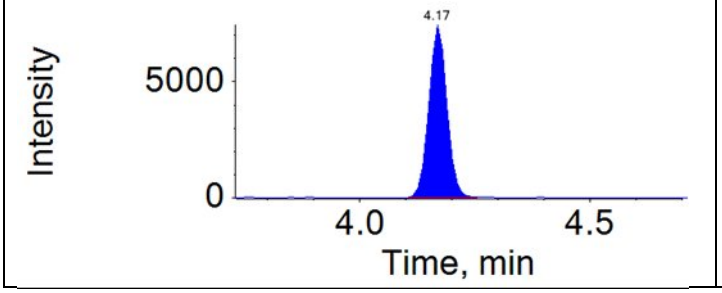
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

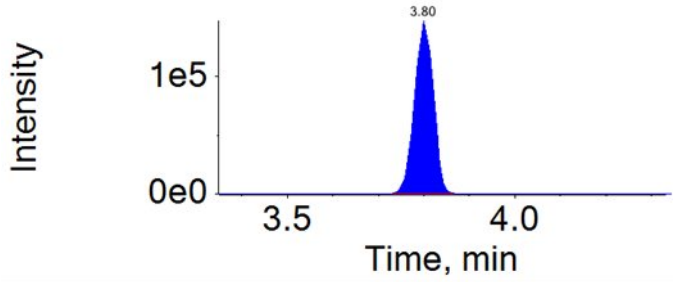
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



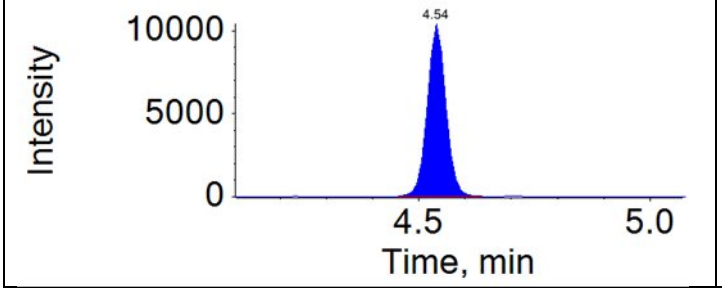


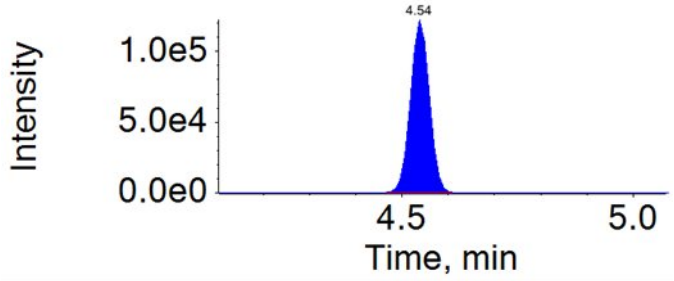
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



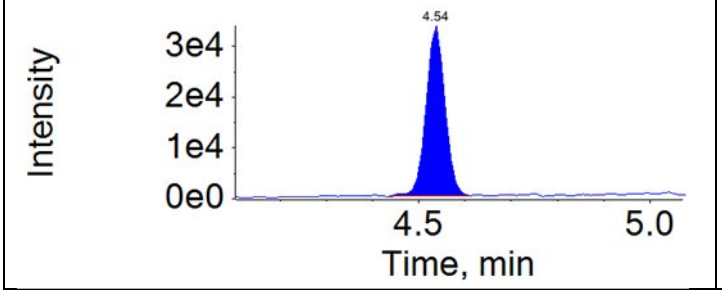


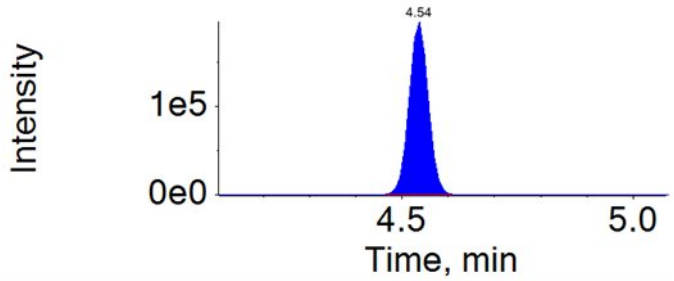
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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

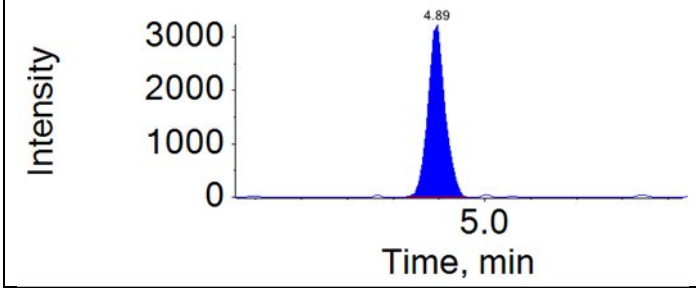
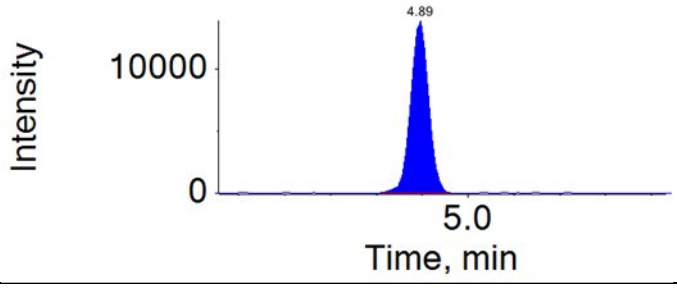


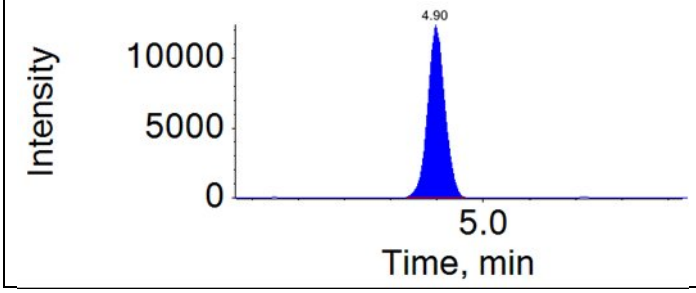
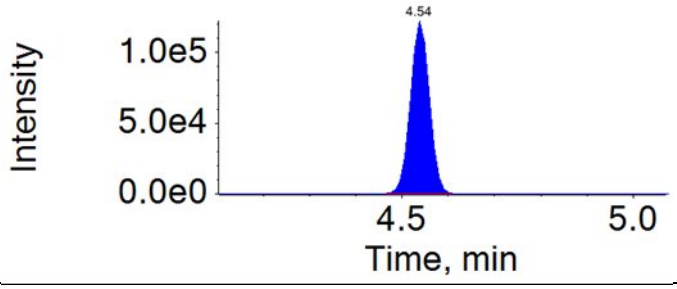


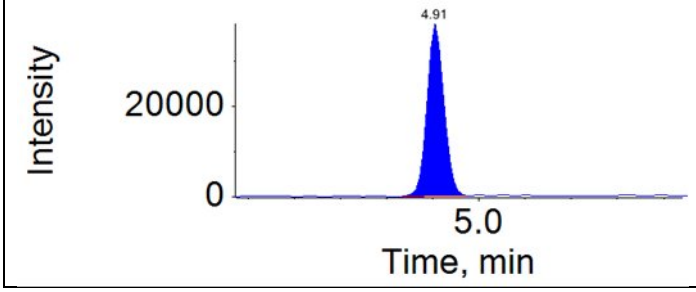
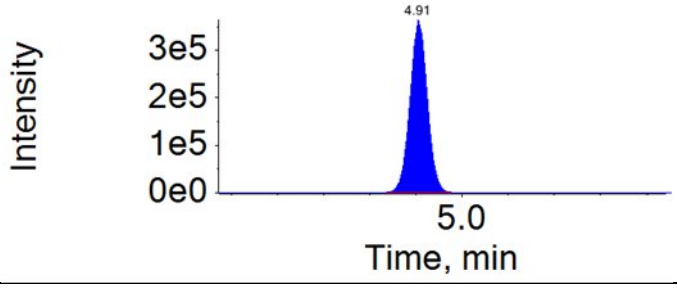
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By MSM at 11:40 am, 11/8/18

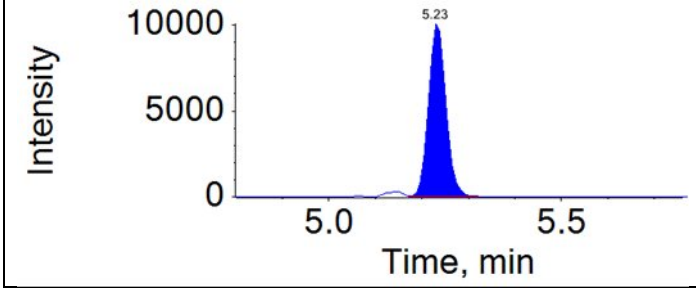
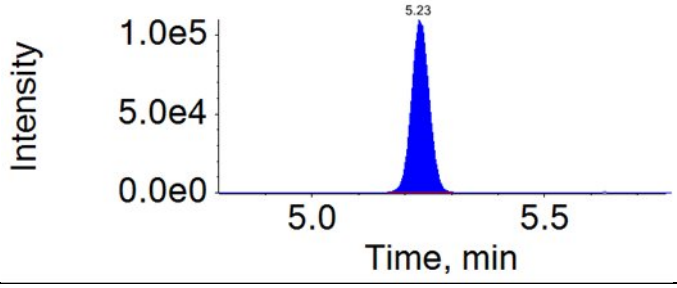
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

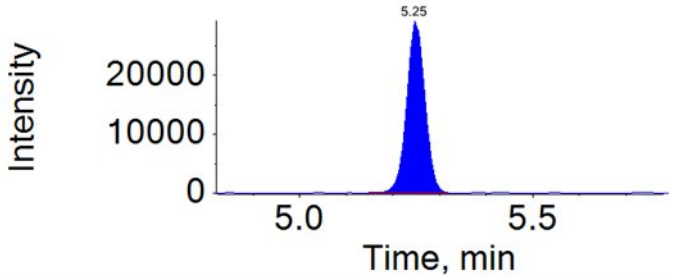
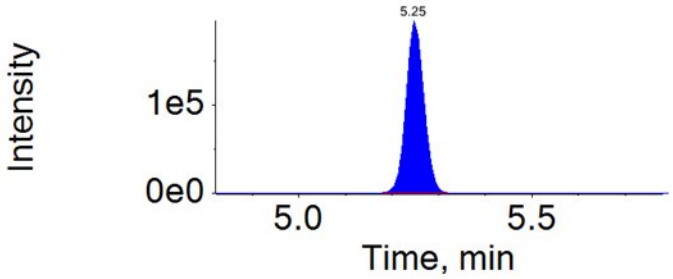
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

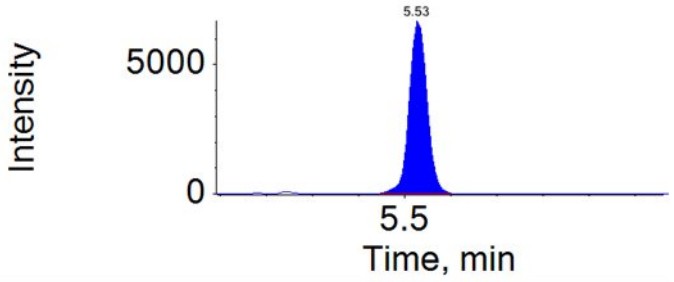
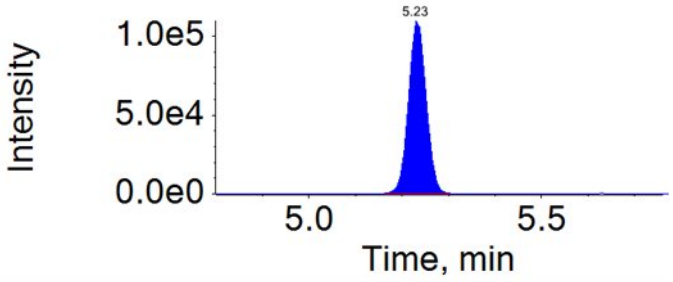
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

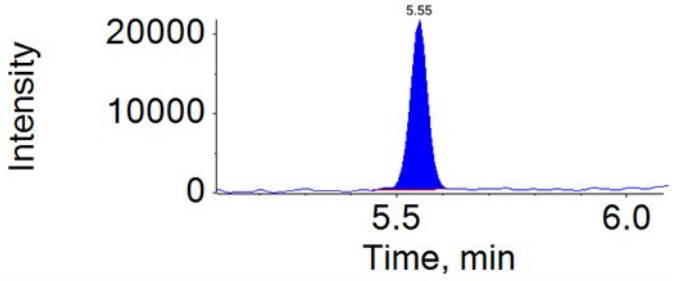
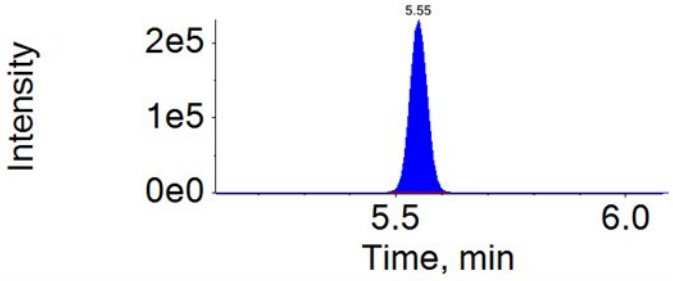
APPROVED
By MSM at 11:40 am, 11/8/18

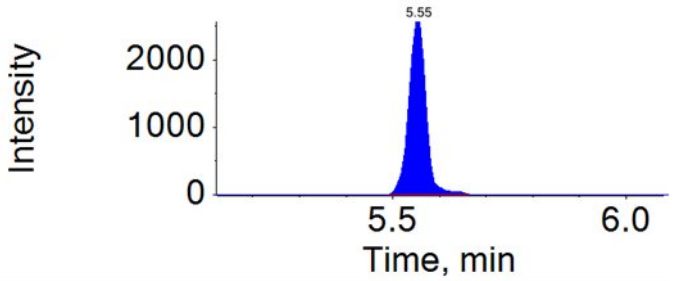
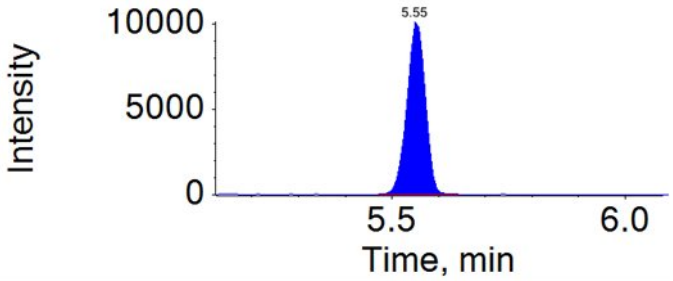
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

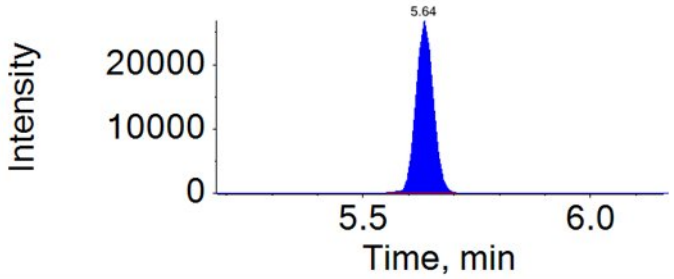
Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0
	

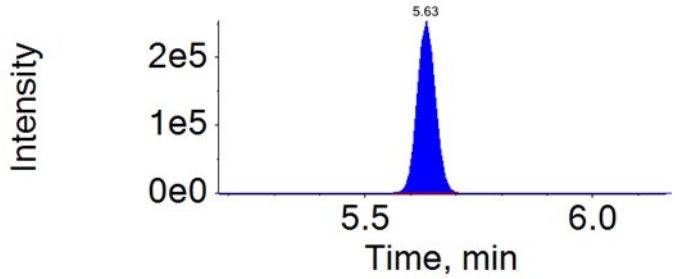
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

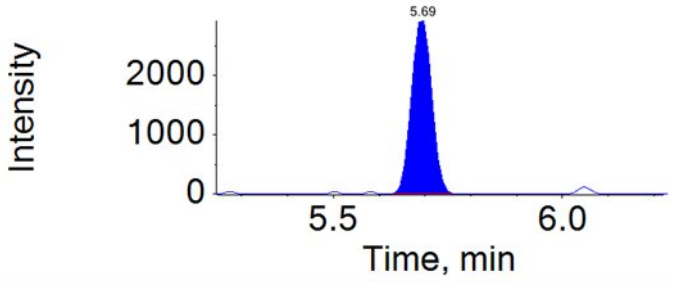
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

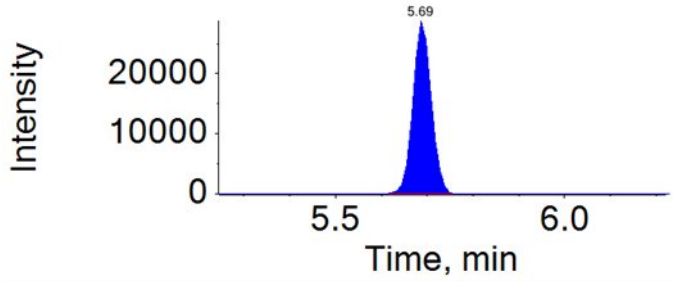
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



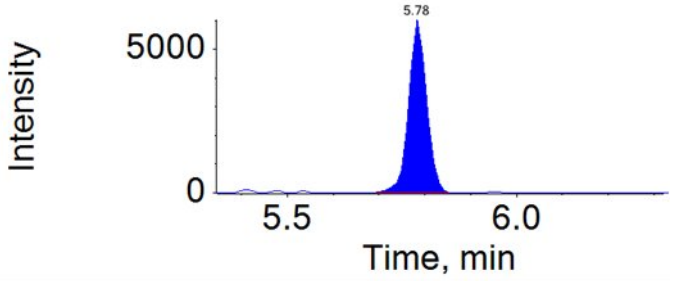


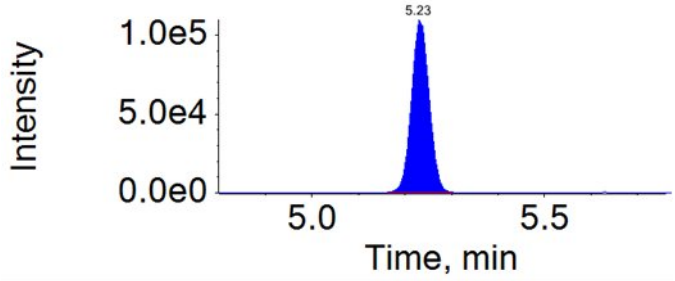
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



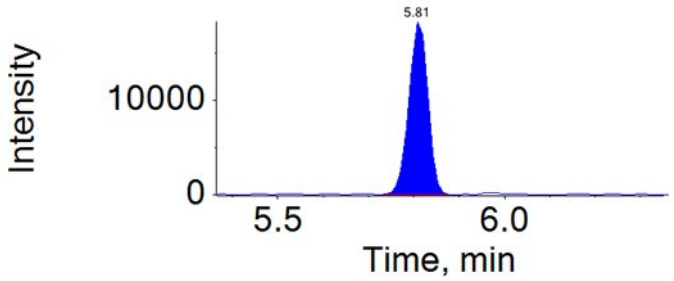


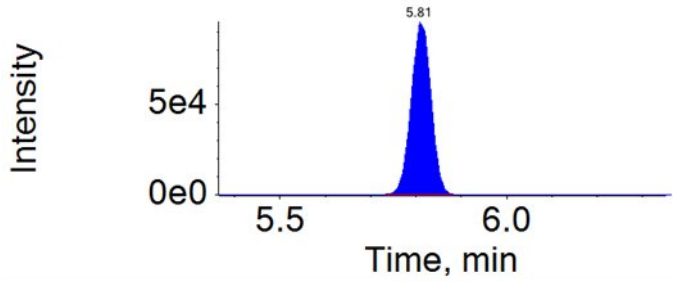
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



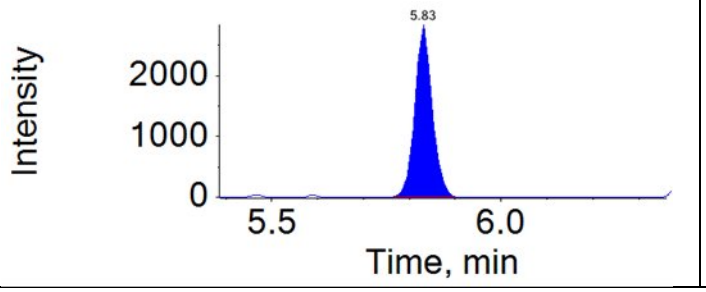


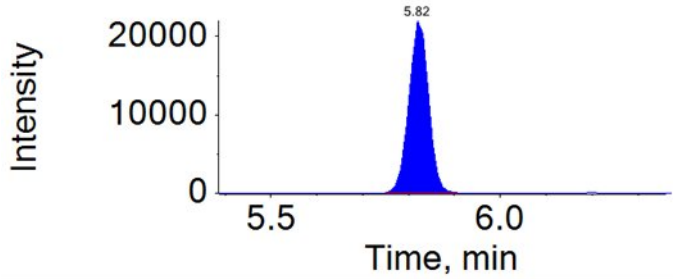
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

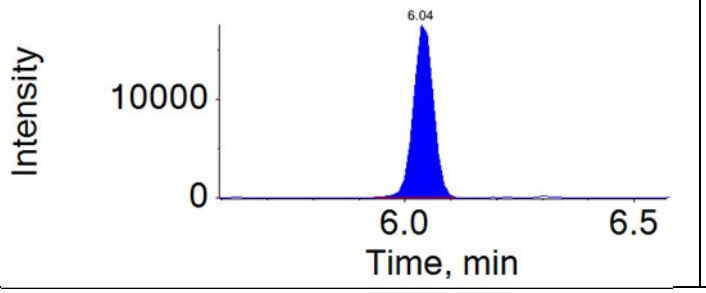
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

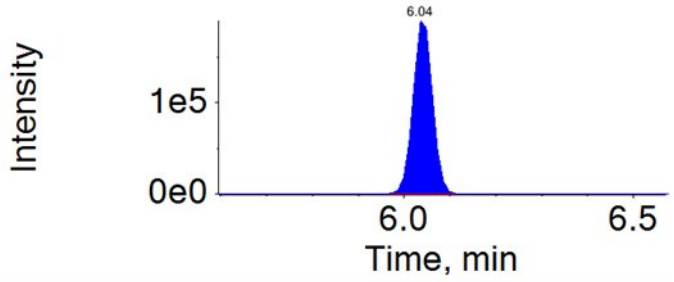
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



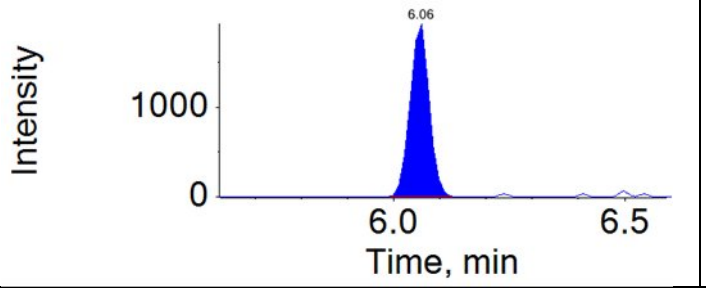


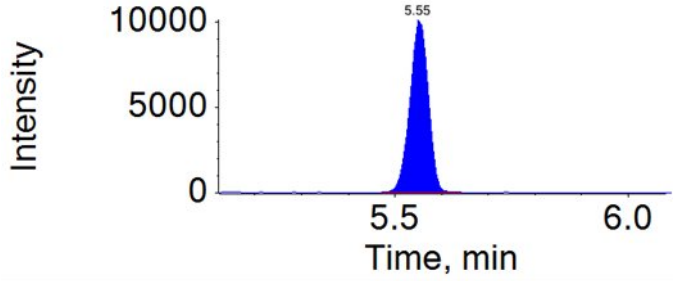
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



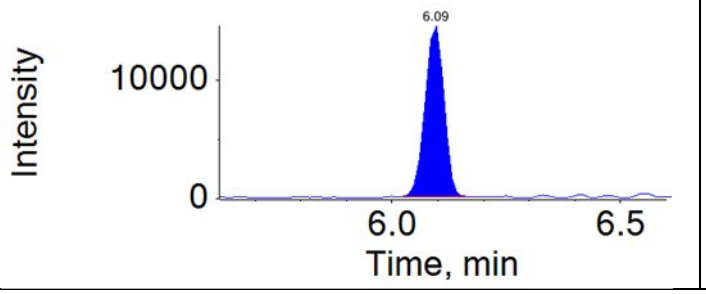


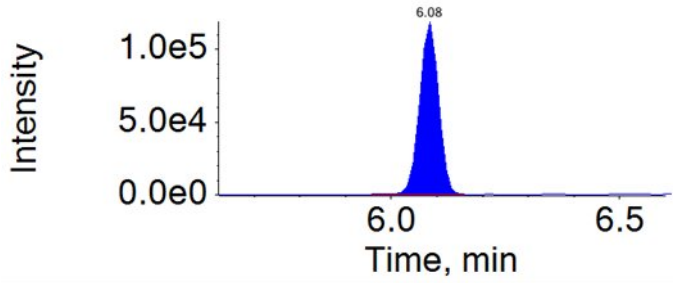
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



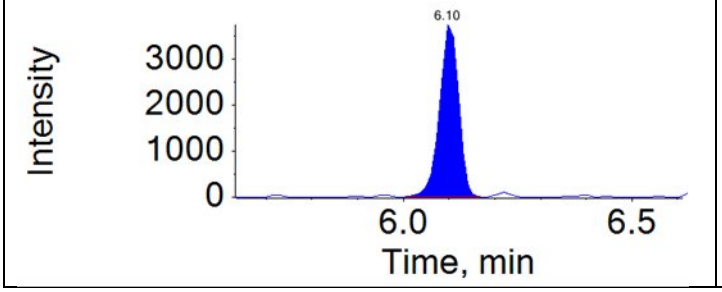


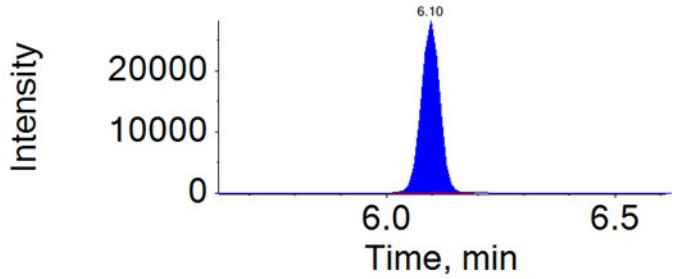
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

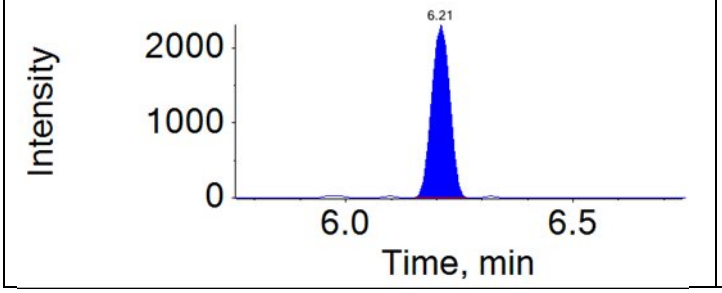
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

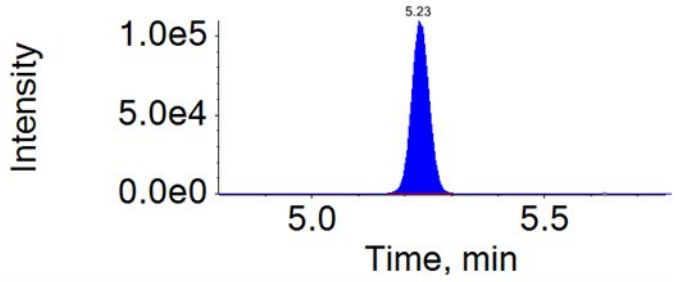
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



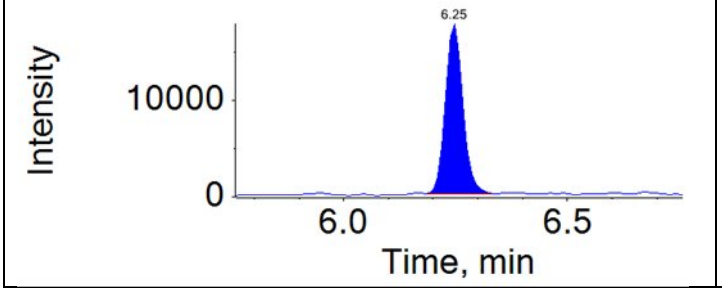


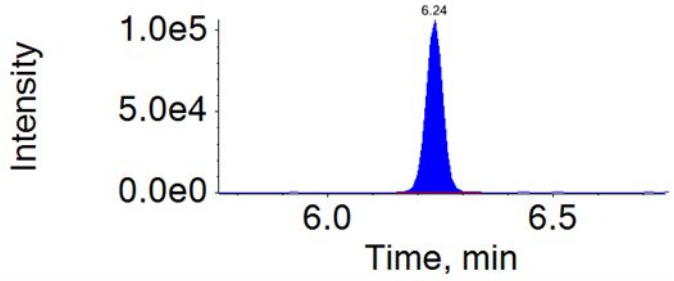
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



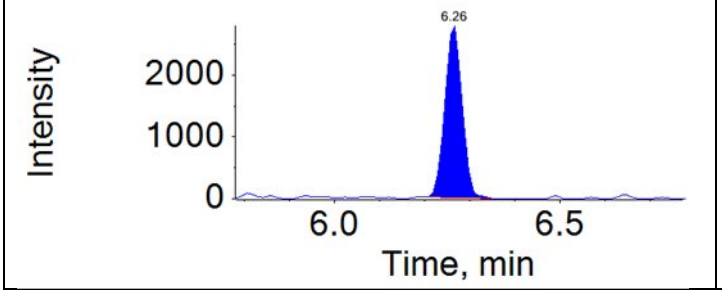


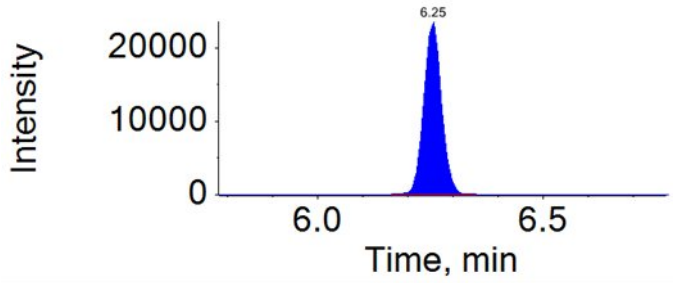
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

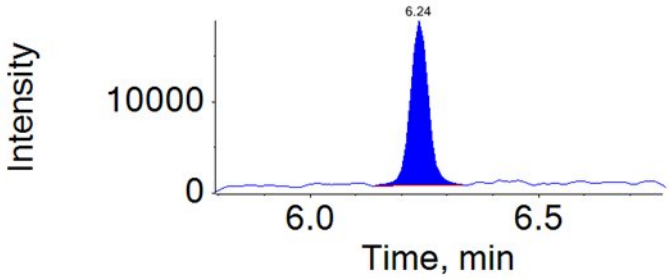
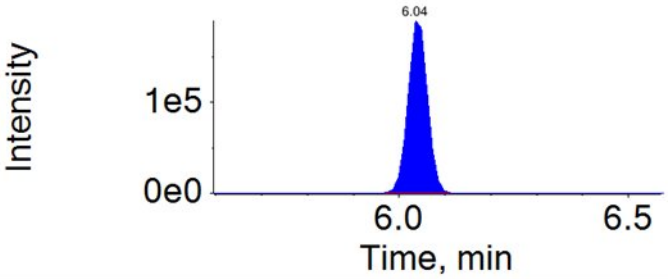


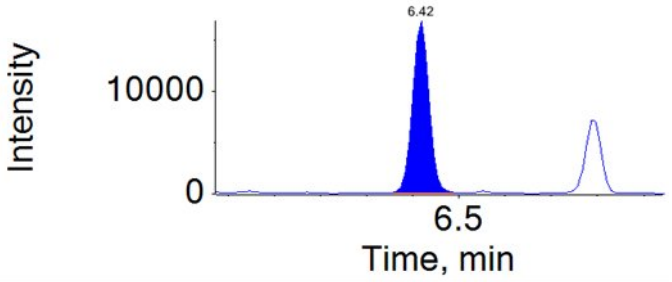
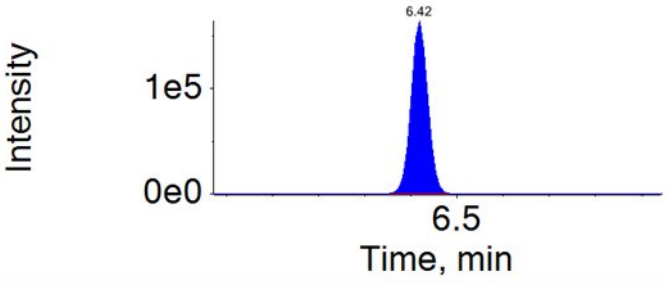


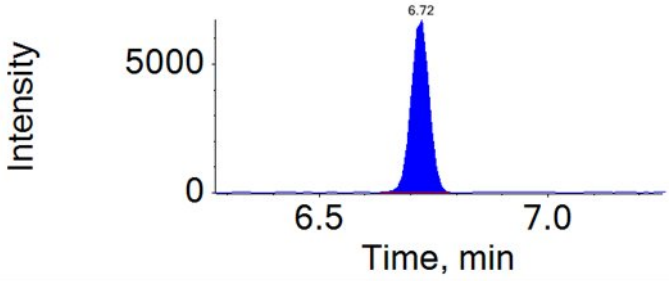
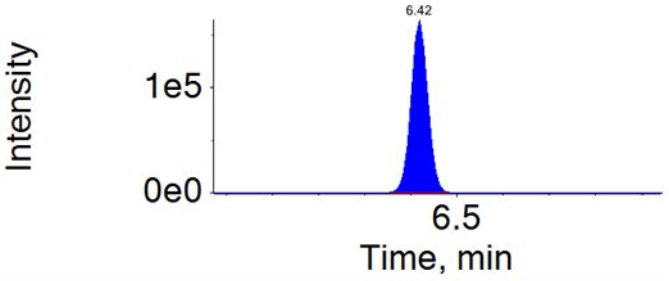
APPROVED
By MSM at 11:40 am, 11/8/18

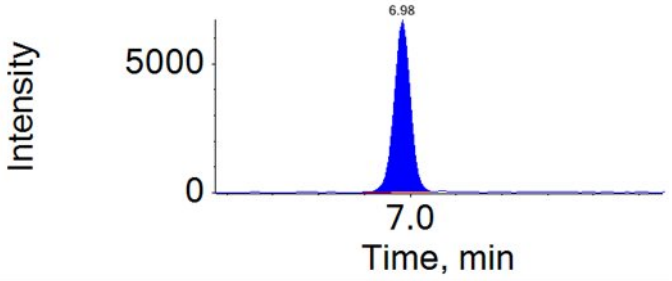
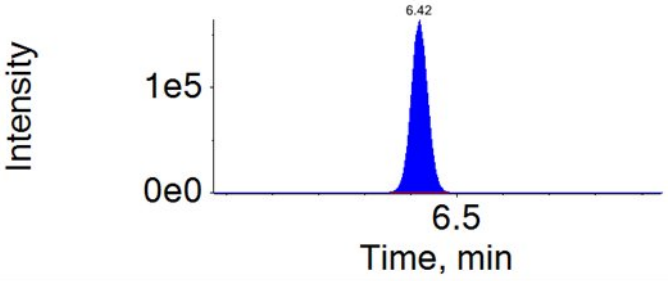
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

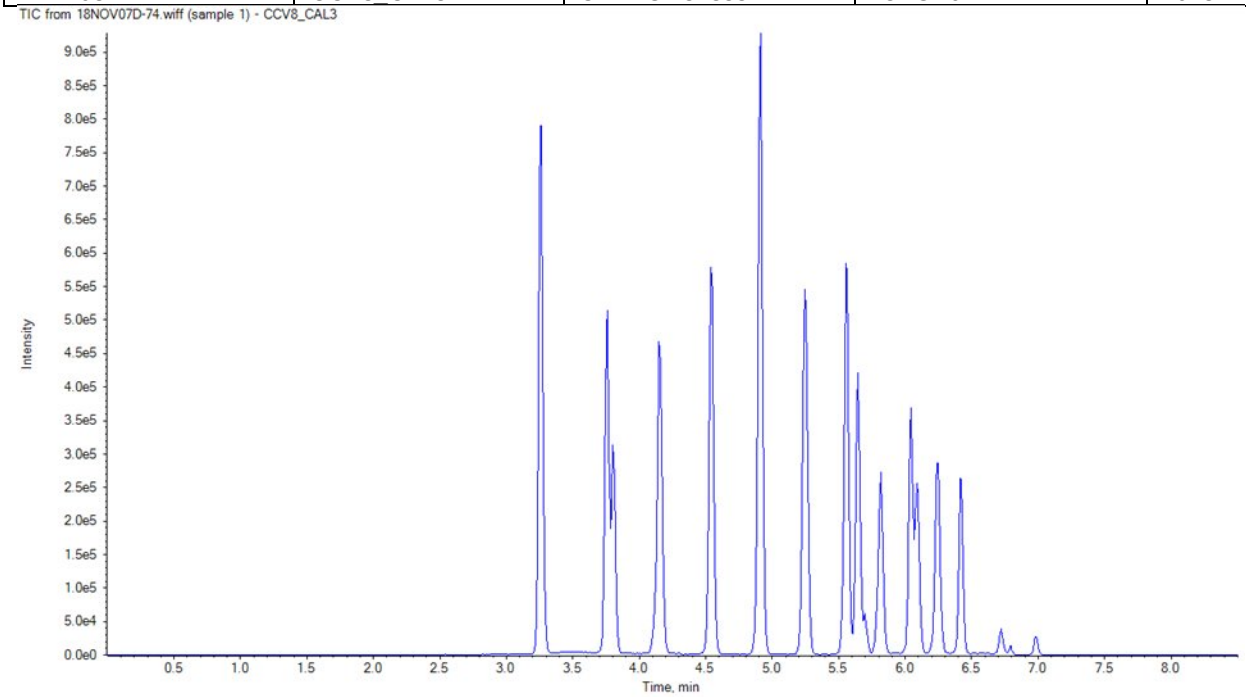
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV8_CAL3	CALMOD31833F	18NOV07D-74.wiff	2018-11-07T22:22:18



Injection Standard Area Reference File: 18NOV07DCAL-12

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	710427.7	730410.6	-3	50	
13C2-PFOA	5.0	537685.6	524423.6	3	50	
13C4-PFOS	4.8	278296.3	274061.7	2	50	
13C2-PFDA	5.0	323958.7	311442.1	4	50	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	CCV8_CAL3	CALMOD31833F	18NOV07D-74.wiff	2018-11-07T22:22:18

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	279254.8	10	13C4-PFBA	755710.0	5.0	0.370	3.26	1.000	2.000	2.163	8	30	
PFPeA	290422.2	12	13C5-PFPeA	818012.2	5.0	0.355	3.76	1.000	2.000	2.110	5	30	
PFBS	156734.9	11	13C3-PFBS	431631.7	4.7	0.363	3.81	1.000	1.770	1.831	3	30	
4:2-FTS	36095.6	11	13C2-4:2-FTS	52608.6	4.7	0.686	4.12	1.000	1.868	1.845	-1	30	
PFHxA	333874.0	12	13C5-PFHxA	682560.4	5.0	0.489	4.15	1.000	2.000	2.098	5	30	
PFPeS	79584.8	11	13C3-PFBS	431631.7	4.7	0.184	4.17	1.100	1.880	1.819	-3	30	
PFHxS	117124.6	12	13C3-PFHxS	327033.3	4.7	0.358	4.54	1.000	1.890	1.815	-4	30	
PFHpA	344281.4	12	13C4-PFHpA	545730.1	5.0	0.631	4.54	1.000	2.000	2.122	6	30	
6:2-FTS	33284.8	11	13C2-6:2-FTS	41228.6	4.8	0.807	4.90	1.000	1.896	2.014	6	30	
PFHpS	120063.8	11	13C3-PFHxS	327033.3	4.7	0.367	4.90	1.080	1.900	1.921	1	30	
PFOA	362395.3	11	13C8-PFOA	943110.0	5.0	0.384	4.91	1.000	2.000	2.164	8	30	
PFOS	110608.0	11	13C8-PFOS	282078.8	4.8	0.392	5.24	1.000	1.910	2.033	6	30	
PFNA	279123.1	12	13C9-PFNA	494473.9	5.0	0.564	5.26	1.000	2.000	2.110	5	30	
PFNS	69287.7	10	13C8-PFOS	282078.8	4.8	0.246	5.54	1.060	1.920	1.948	1	30	
PFDA	241065.8	11	13C6-PFDA	622514.4	5.0	0.387	5.56	1.000	2.000	2.130	7	30	
8:2-FTS	24573.9	11	13C2-8:2-FTS	25626.9	4.8	0.959	5.56	1.000	1.916	2.161	13	30	
PFOSA	264068.3	11	13C8-PFOSA	691219.1	5.0	0.382	5.65	1.000	2.000	2.065	3	30	
NMeFOSAA	29744.3	12	d3-NMeFOSAA	82870.5	5.0	0.359	5.70	1.000	2.000	1.847	-8	30	
PFDS	60506.9	12	13C8-PFOS	282078.8	4.8	0.215	5.79	1.110	1.930	2.049	6	30	
PFUnDA	197164.1	12	13C7-PFUnDA	286713.0	5.0	0.688	5.82	1.000	2.000	1.972	-1	30	
NEtFOSAA	26315.2	12	d5-NEtFOSAA	63540.6	5.0	0.414	5.83	1.000	2.000	1.780	-11	30	
PFDoDA	213517.0	12	13C2-PFDoDA	562441.3	5.0	0.380	6.04	1.000	2.000	2.057	3	30	
10:2-FTS	18699.3	12	13C2-8:2-FTS	25626.9	4.8	0.730	6.06	1.090	1.928	2.272	18	30	
NMePFOSAE	150684.6	12	d7-NMePFOSAE	332511.8	5.0	0.453	6.10	1.000	2.000	2.031	2	30	
NMePFOSA	27662.8	11	d3-NMePFOSA	82735.9	5.0	0.334	6.10	1.000	2.000	1.871	-6	30	
PFDoS	25931.8	11	13C8-PFOS	282078.8	4.8	0.092	6.21	1.190	1.940	1.774	-9	30	
NEtPFOSAE	180891.9	11	d9-NEtPFOSAE	269617.0	5.0	0.671	6.25	1.000	2.000	2.151	8	30	
NEtPFOSA	28549.9	11	d5-NEtPFOSA	66191.8	5.0	0.431	6.26	1.000	2.000	1.900	-5	30	
PFTrDA	185816.0	11	13C2-PFDoDA	562441.3	5.0	0.330	6.24	1.030	2.000	2.083	4	30	
PFTeDA	149555.9	10	13C2-PFTeDA	406521.5	5.0	0.368	6.42	1.000	2.000	2.160	8	30	
PFHxDA	72052.1	11	13C2-PFTeDA	406521.5	5.0	0.177	6.72	1.050	2.000	2.200	10	30	
PFODA	59080.1	10	13C2-PFTeDA	406521.5	5.0	0.145	6.98	1.090	2.000	2.082	4	30	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

Continuing Calibration Verfication

ICAL Name: 18NOV07DCAL
QMethod Name: 18OCT20QM
Result Table: 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	CCV8_CAL3			**Data File:**		18NOV07D-74.wiff
Sample ID:	CALMOD31833F			**Acquis Date:**		2018-11-07T22:22:18
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	5			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18NOV07DCCV7-11_DOD
QMethod File:	18OCT20QM			**ICAL Name:**		18NOV07DCAL
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: 18NOV07DCAL-12

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	710427.7	730410.6	-3	50	
13C2-PFOA	5.0	537685.6	524423.6	3	50	
13C4-PFOS	4.8	278296.3	274061.7	2	50	
13C2-PFDA	5.0	323958.7	311442.1	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	755710.0	13C3-PFBA	710427.7	1.064	5.000	4.923	98	70-130	
E13C5-PFPeA	818012.2	13C3-PFBA	710427.7	1.151	5.000	5.016	100	70-130	
E13C3-PFBS	431631.7	13C3-PFBA	710427.7	0.608	4.650	4.459	96	70-130	
E13C2-4:2-FTS	52608.6	13C2-PFOA	537685.6	0.098	4.670	4.415	95	70-130	
E13C5-PFHxA	682560.4	13C2-PFOA	537685.6	1.269	5.000	4.670	93	70-130	
E13C3-PFHxS	327033.3	13C2-PFOA	537685.6	0.608	4.730	4.366	92	70-130	
E13C4-PFHpA	545730.1	13C2-PFOA	537685.6	1.015	5.000	4.617	92	70-130	
E13C2-6:2-FTS	41228.6	13C2-PFOA	537685.6	0.077	4.750	5.113	108	70-130	
E13C8-PFOA	943110.0	13C2-PFOA	537685.6	1.754	5.000	4.891	98	70-130	
E13C8-PFOS	282078.8	13C4-PFOS	278296.3	1.014	4.780	4.482	94	70-130	
E13C9-PFNA	494473.9	13C4-PFOS	278296.3	1.777	5.000	4.853	97	70-130	
E13C6-PFDA	622514.4	13C2-PFDA	323958.7	1.922	5.000	4.832	97	70-130	
E13C2-8:2-FTS	25626.9	13C2-PFDA	323958.7	0.079	4.790	4.186	87	70-130	
E13C8-PFOSA	691219.1	13C2-PFDA	323958.7	2.134	5.000	4.656	93	70-130	
Ed3-NMeFOSAA	82870.5	13C2-PFDA	323958.7	0.256	5.000	4.757	95	70-130	
E13C7-PFUnDA	286713.0	13C2-PFDA	323958.7	0.885	5.000	5.106	102	70-130	
Ed5-NEtFOSAA	63540.6	13C2-PFDA	323958.7	0.196	5.000	4.539	91	70-130	
E13C2-PFDoDA	562441.3	13C2-PFDA	323958.7	1.736	5.000	4.680	94	70-130	
Ed7-NMePFOSAE	332511.8	13C2-PFDA	323958.7	1.026	5.000	4.773	95	70-130	
Ed3-NMePFOSA	82735.9	13C2-PFDA	323958.7	0.255	5.000	4.676	94	70-130	
Ed9-NEtPFOSAE	269617.0	13C2-PFDA	323958.7	0.832	5.000	4.753	95	70-130	
Ed5-NEtPFOSA	66191.8	13C2-PFDA	323958.7	0.204	5.000	4.731	95	70-130	
E13C2-PFTeDA	406521.5	13C2-PFDA	323958.7	1.255	5.000	4.517	90	70-130	

APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

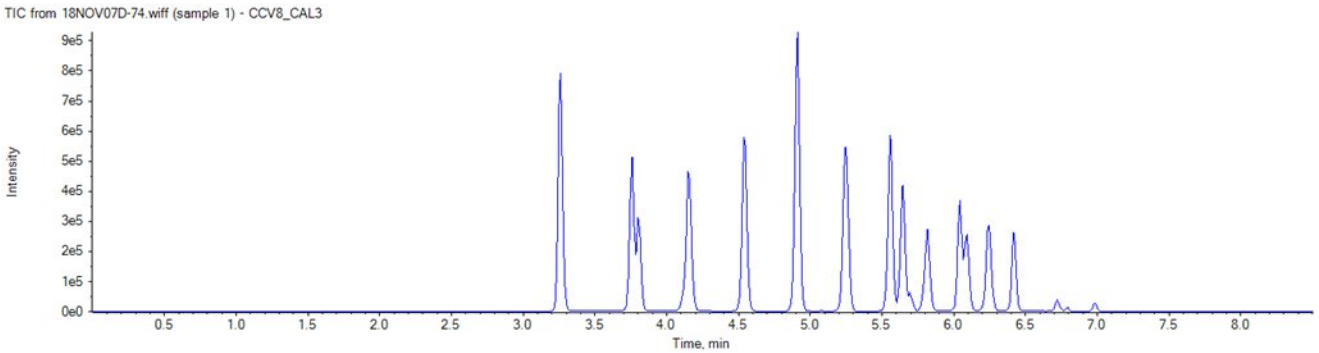
Analyte Quantitation Peak Table

Sample Name: CCV8_CAL3 **Instrument Name:** LM27631 **File Name:** 18NOV07D-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	3.26	1.000	279254.8		A	13C4-PFBA	3.26	755710.0	0.370	2.163
PFPeA	3.76	1.000	290422.2		A	13C5-PFPeA	3.76	818012.2	0.355	2.110
PFBS	3.81	1.000	156734.9		A	13C3-PFBS	3.81	431631.7	0.363	1.831
4:2-FTS	4.12	1.000	36095.6		A	13C2-4:2-FTS	4.12	52608.6	0.686	1.845
PFHxA	4.15	1.000	333874.0		A	13C5-PFHxA	4.15	682560.4	0.489	2.098
PFPeS	4.17	1.100	79584.8		A	13C3-PFBS	3.81	431631.7	0.184	1.819
PFHxS	4.54	1.000	117124.6		A	13C3-PFHxS	4.54	327033.3	0.358	1.815
PFHpA	4.54	1.000	344281.4		A	13C4-PFHpA	4.54	545730.1	0.631	2.122
6:2-FTS	4.90	1.000	33284.8		A	13C2-6:2-FTS	4.90	41228.6	0.807	2.014
PFHpS	4.90	1.080	120063.8		A	13C3-PFHxS	4.54	327033.3	0.367	1.921
PFOA	4.91	1.000	362395.3		A	13C8-PFOA	4.91	943110.0	0.384	2.164
PFOS	5.24	1.000	110608.0		A	13C8-PFOS	5.24	282078.8	0.392	2.033
PFNA	5.26	1.000	279123.1		A	13C9-PFNA	5.25	494473.9	0.564	2.110
PFNS	5.54	1.060	69287.7		A	13C8-PFOS	5.24	282078.8	0.246	1.948
PFDA	5.56	1.000	241065.8		A	13C6-PFDA	5.56	622514.4	0.387	2.130
8:2-FTS	5.56	1.000	24573.9		A	13C2-8:2-FTS	5.56	25626.9	0.959	2.161
PFOSA	5.65	1.000	264068.3		A	13C8-PFOSA	5.65	691219.1	0.382	2.065
NMeFOSAA	5.70	1.000	29744.3		A	d3-NMeFOSAA	5.70	82870.5	0.359	1.847
PFDS	5.79	1.110	60506.9		A	13C8-PFOS	5.24	282078.8	0.215	2.049
PFUnDA	5.82	1.000	197164.1		A	13C7-PFUnDA	5.82	286713.0	0.688	1.972
NEtFOSAA	5.83	1.000	26315.2		A	d5-NEtFOSAA	5.83	63540.6	0.414	1.780
PFDoDA	6.04	1.000	213517.0		A	13C2-PFDoDA	6.04	562441.3	0.380	2.057
10:2-FTS	6.06	1.090	18699.3		A	13C2-8:2-FTS	5.56	25626.9	0.730	2.272
NMePFOSAE	6.10	1.000	150684.6		A	d7-NMePFOSAE	6.09	332511.8	0.453	2.031
NMePFOSA	6.10	1.000	27662.8		A	d3-NMePFOSA	6.10	82735.9	0.334	1.871
PFDoS	6.21	1.190	25931.8		A	13C8-PFOS	5.24	282078.8	0.092	1.774
NEtPFOSAE	6.25	1.000	180891.9		A	d9-NEtPFOSAE	6.24	269617.0	0.671	2.151
NEtPFOSA	6.26	1.000	28549.9		A	d5-NEtPFOSA	6.26	66191.8	0.431	1.900
PFTrDA	6.24	1.030	185816.0		A	13C2-PFDoDA	6.04	562441.3	0.330	2.083
PFTeDA	6.42	1.000	149555.9		A	13C2-PFTeDA	6.42	406521.5	0.368	2.160
PFHxDA	6.72	1.050	72052.1		A	13C2-PFTeDA	6.42	406521.5	0.177	2.200
PFODA	6.98	1.090	59080.1		A	13C2-PFTeDA	6.42	406521.5	0.145	2.082

Total Ion Chromatogram

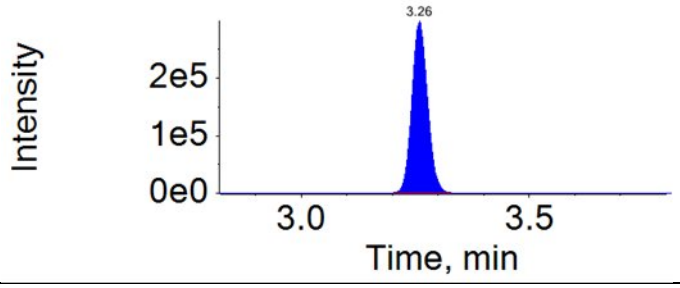


APPROVED
By MSM at 11:40 am, 11/8/18

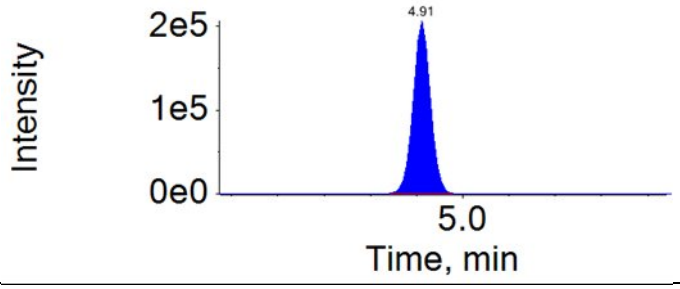
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

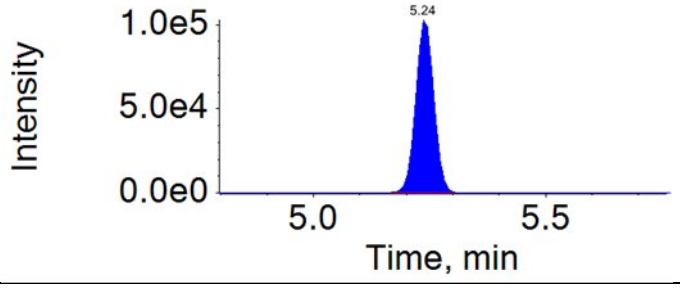
Injection Standard: 13C3-PFBA
216.0 / 172.0



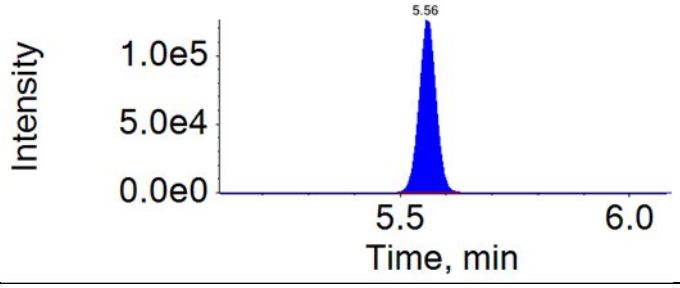
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

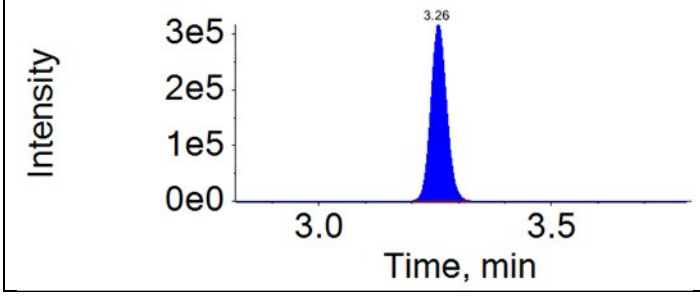


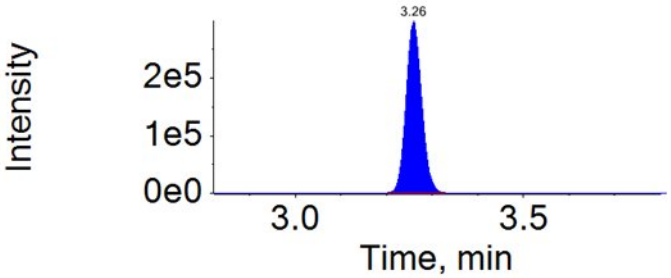
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

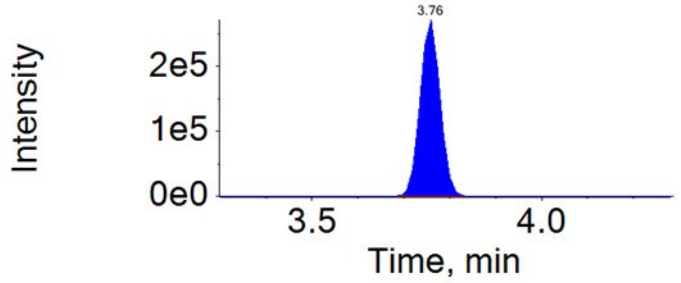
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

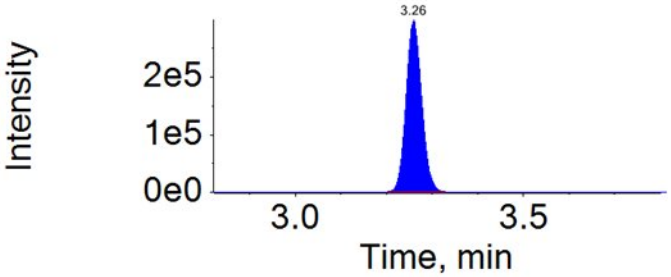
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



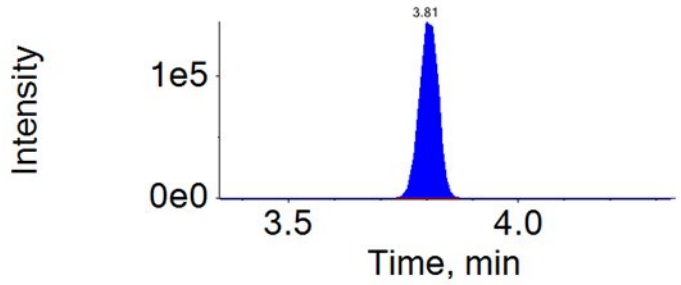


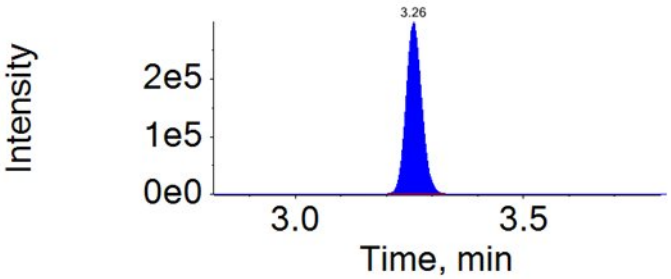
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



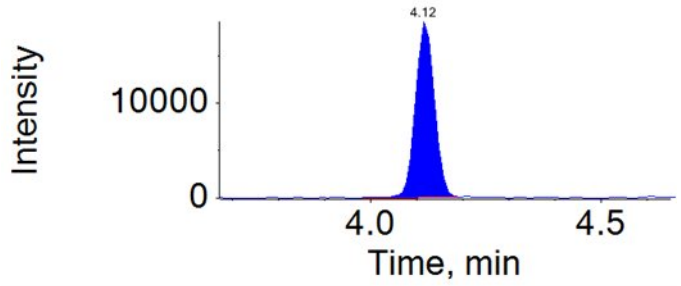


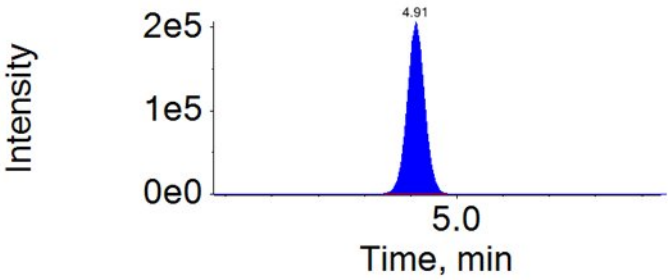
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





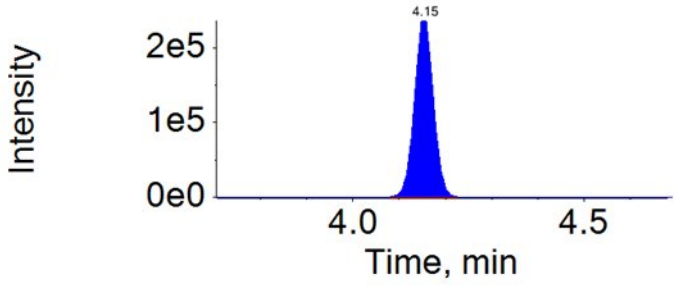
Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0

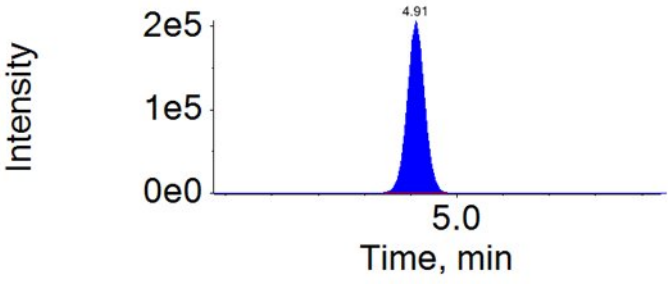




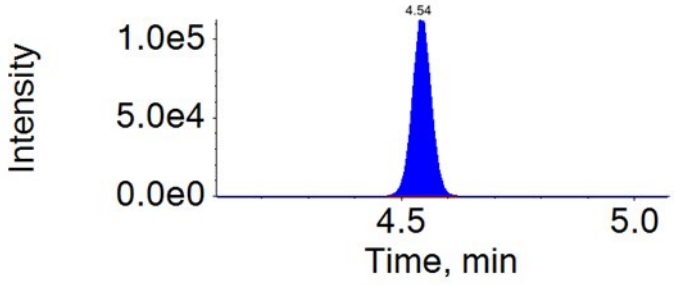
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

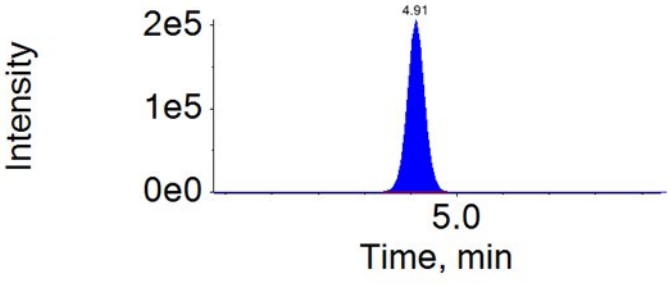
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



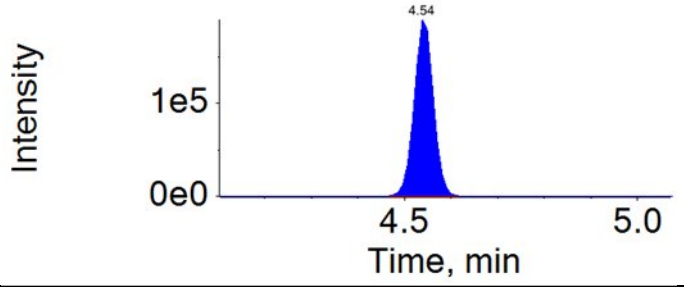


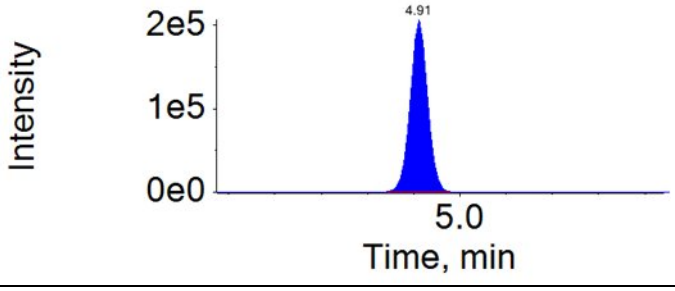
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



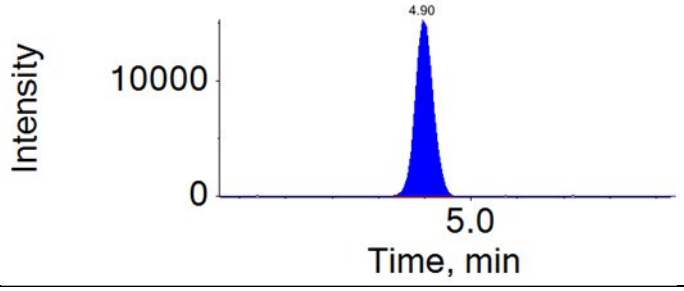


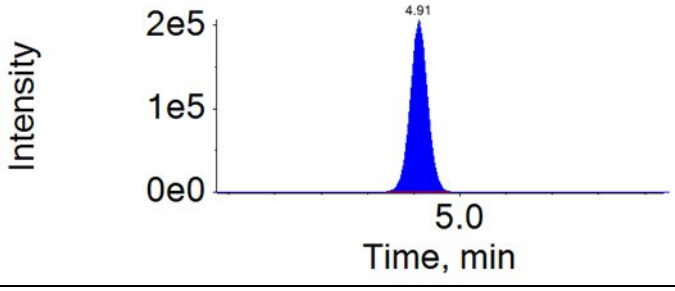
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

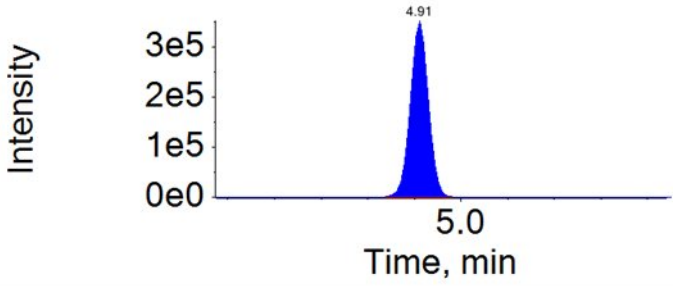
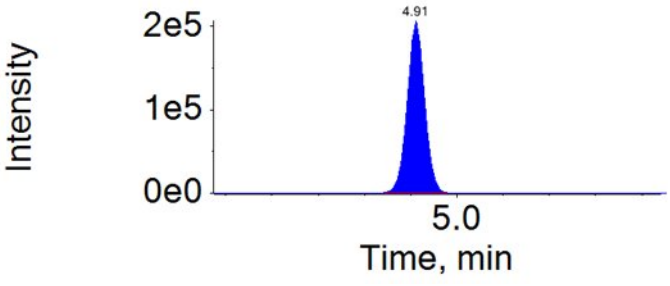


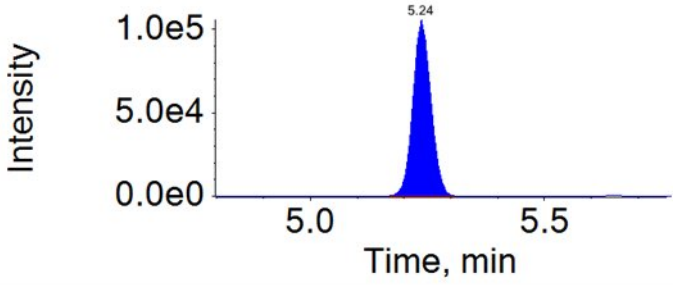
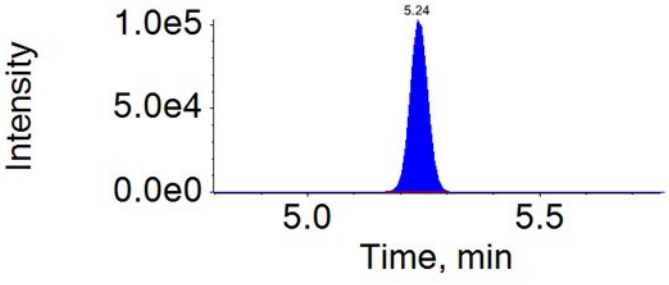


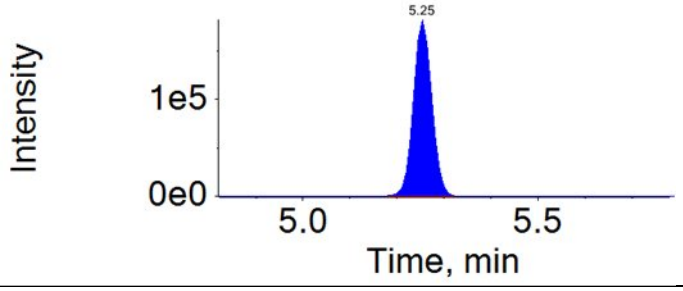
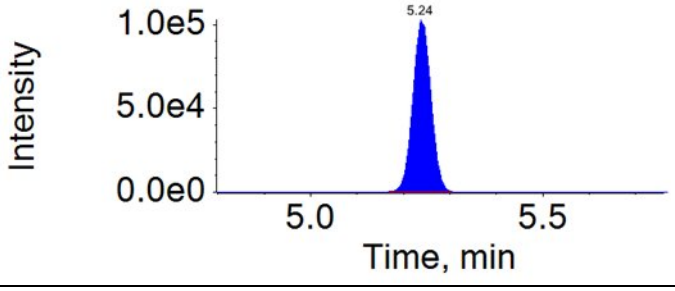
APPROVED
By MSM at 11:40 am, 11/8/18

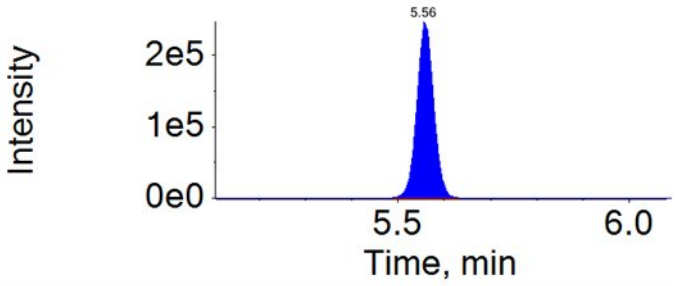
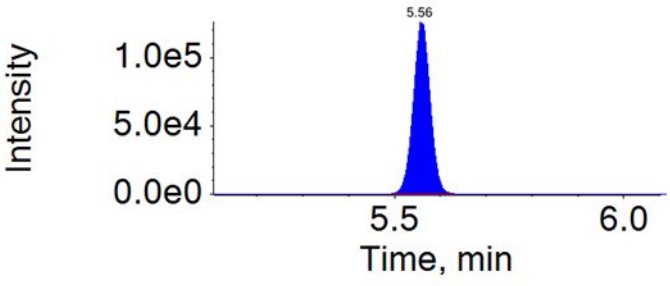
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

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

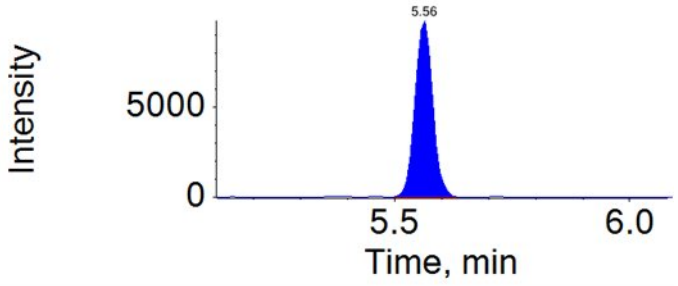
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0
	

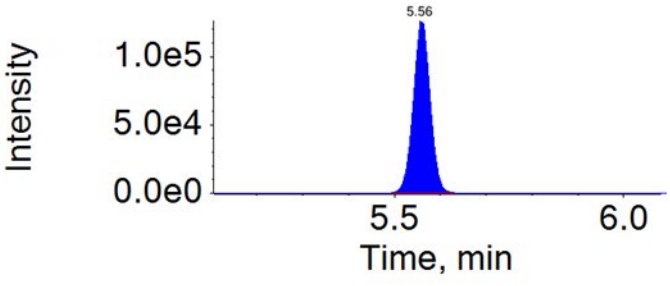
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

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

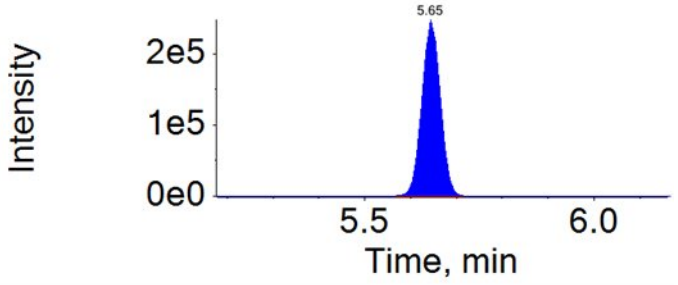
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

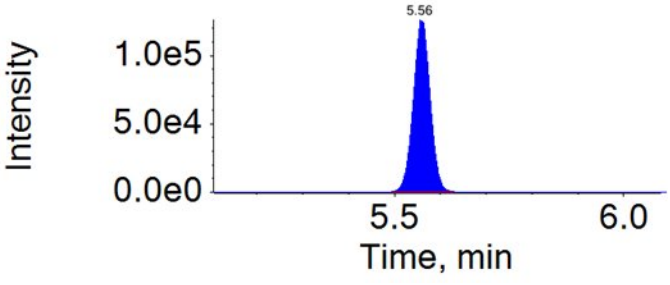
Extraction Standard: E13C2-8:2-FTS	Injection Standard: 13C2-PFDA
529.0 / 81.0	515.0 / 470.0



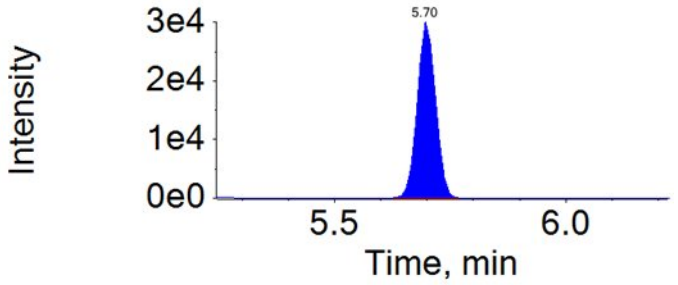


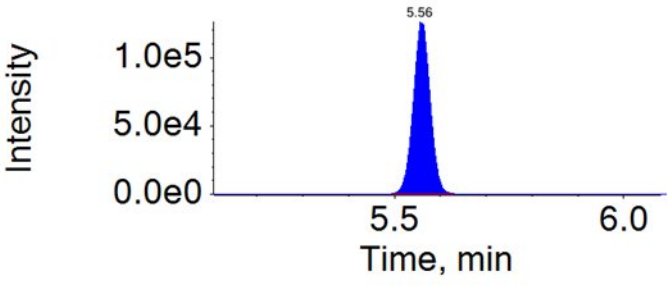
Extraction Standard: E13C8-PFOSA	Injection Standard: 13C2-PFDA
506.0 / 78.0	515.0 / 470.0



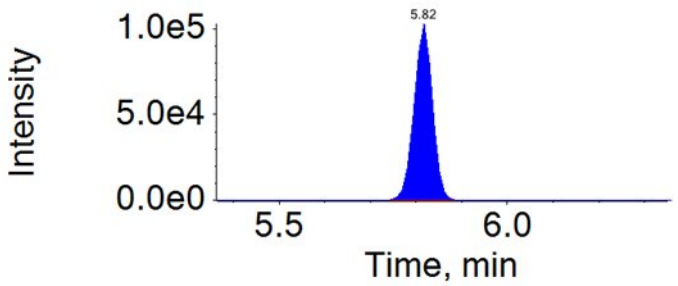


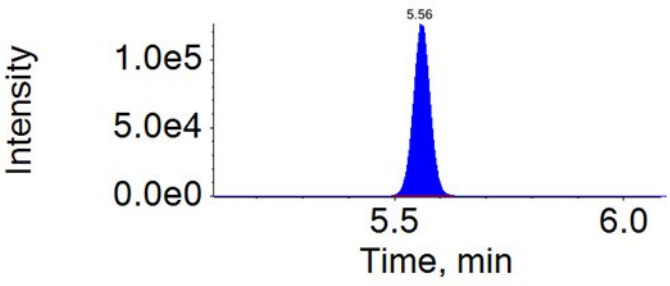
Extraction Standard: Ed3-NMeFOSAA	Injection Standard: 13C2-PFDA
573.0 / 419.0	515.0 / 470.0





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

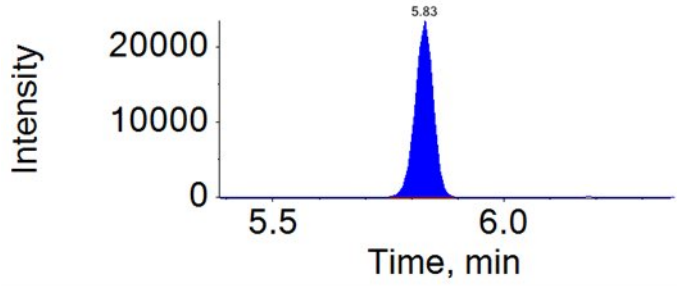
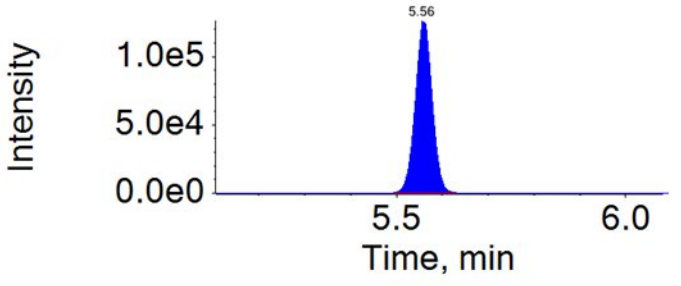


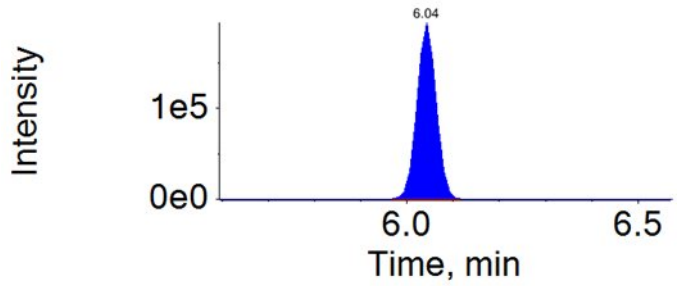
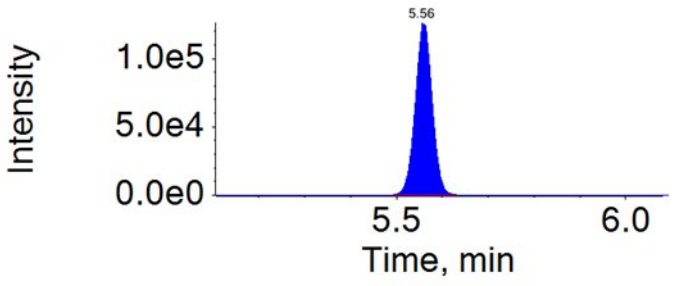


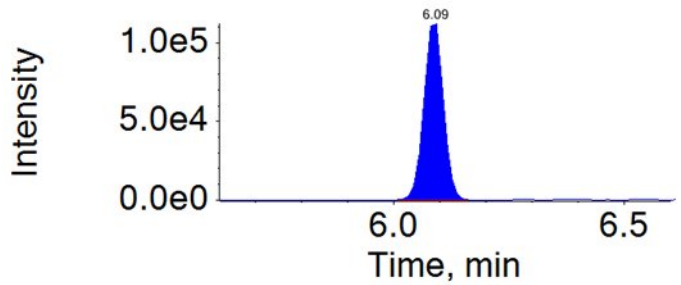
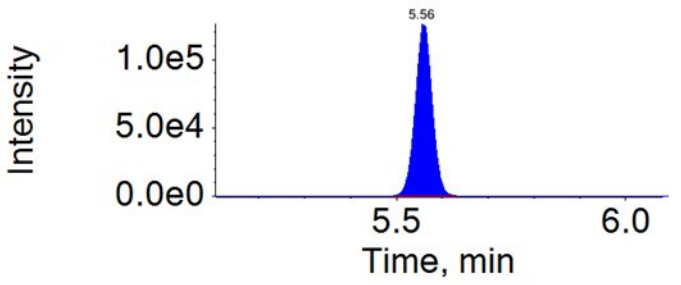
APPROVED
By MSM at 11:40 am, 11/8/18

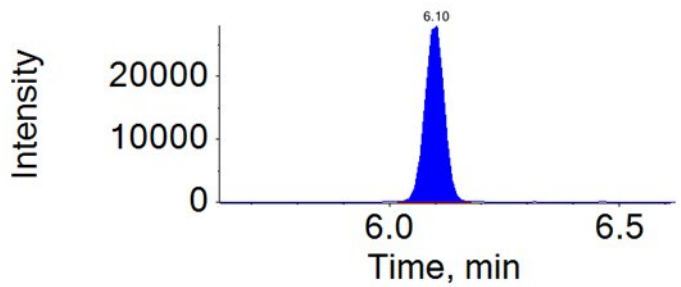
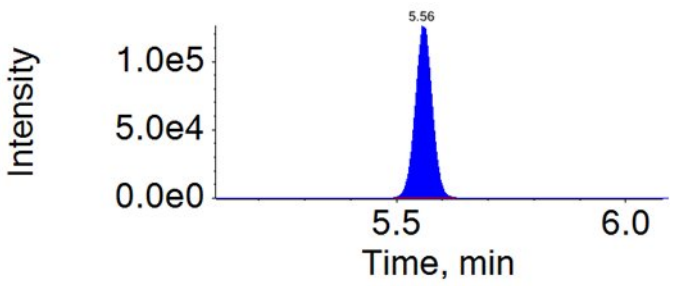
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

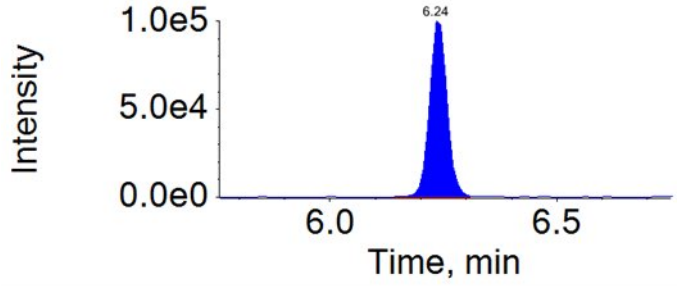
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0
	

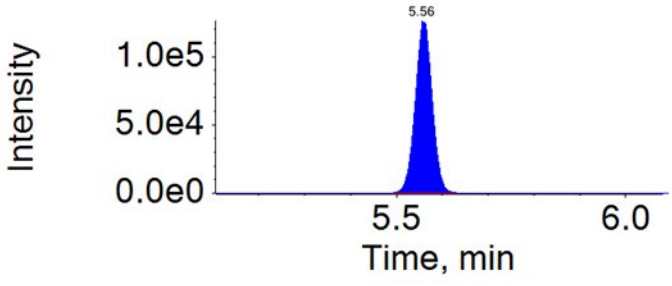
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

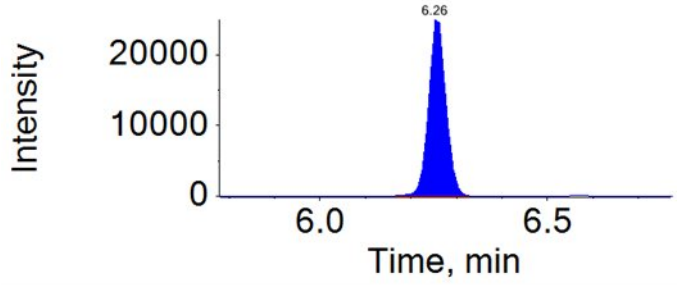
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

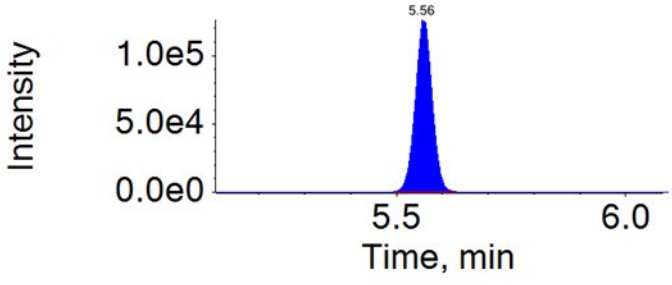
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



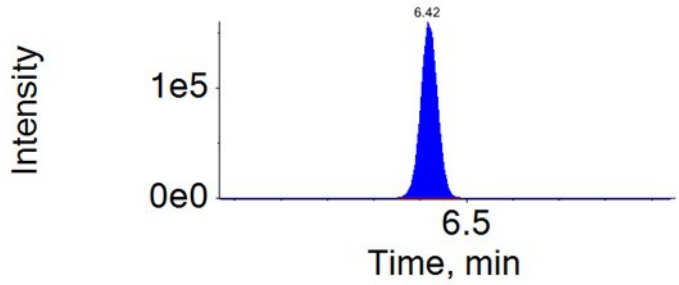


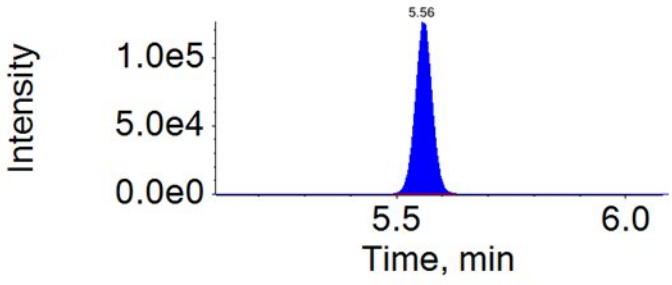
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





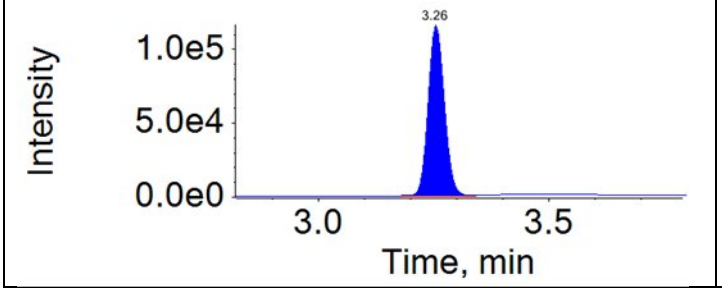
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0

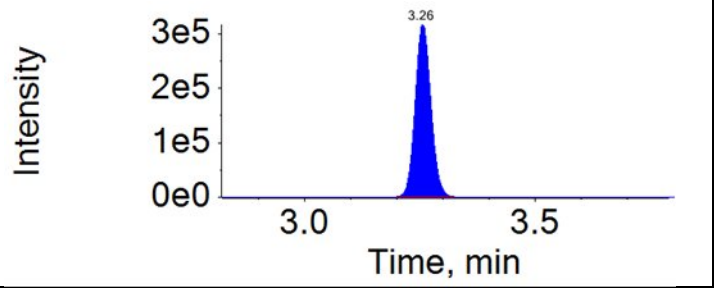




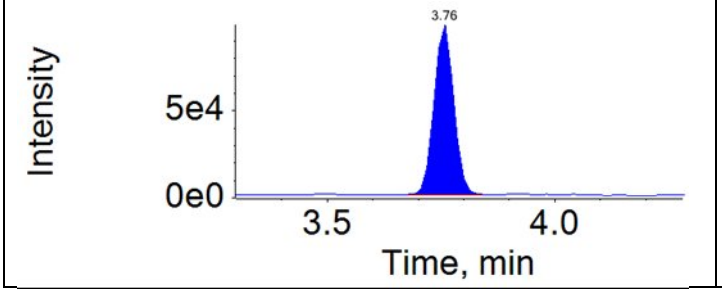
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

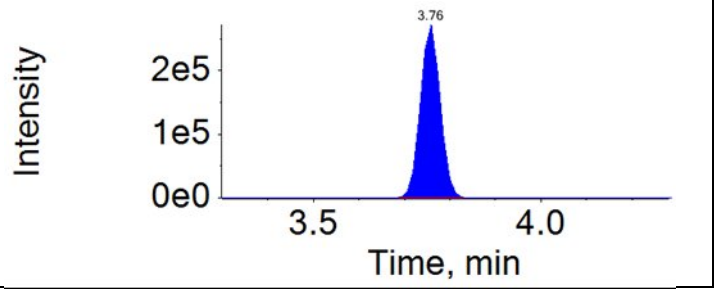
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



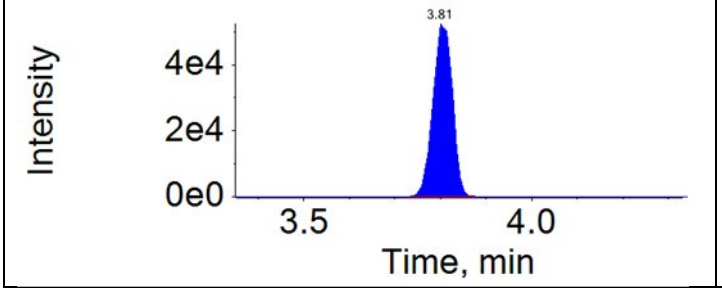


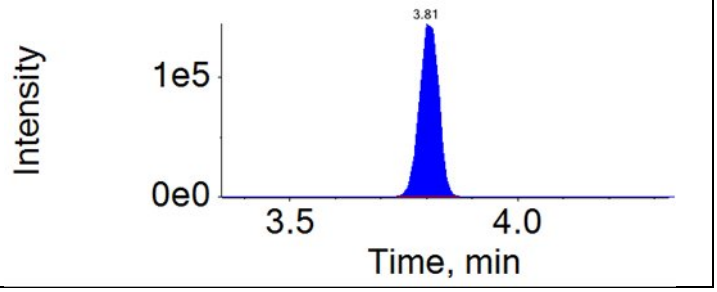
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



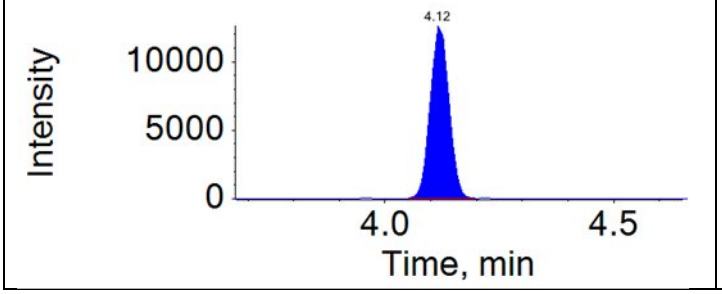


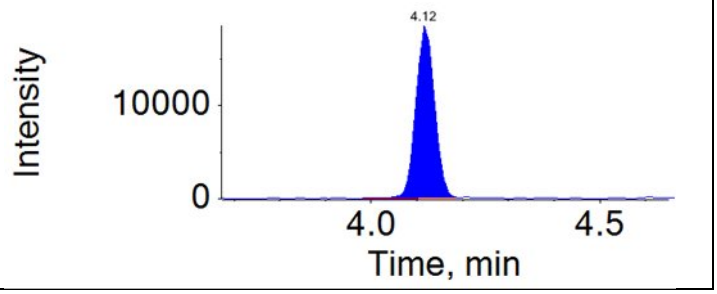
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0

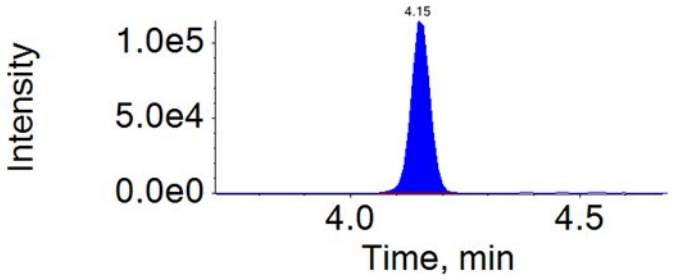
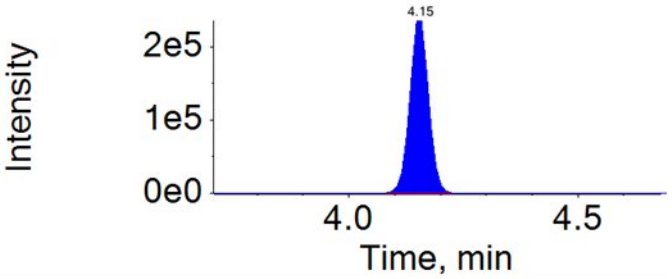


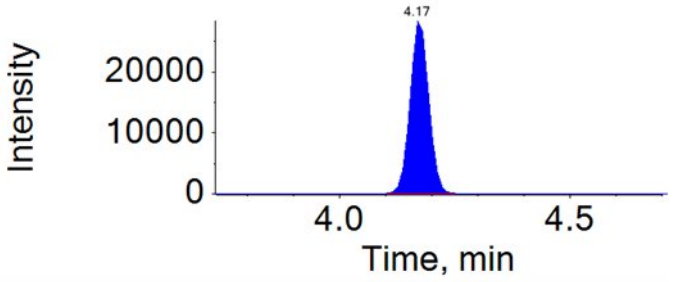
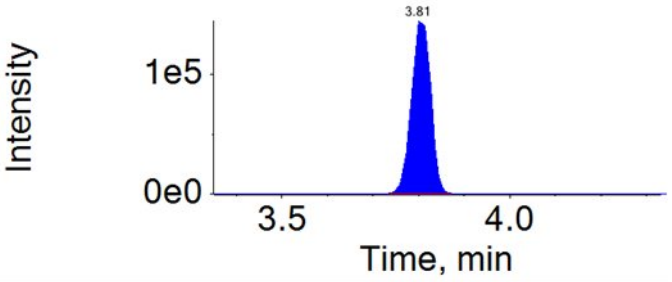


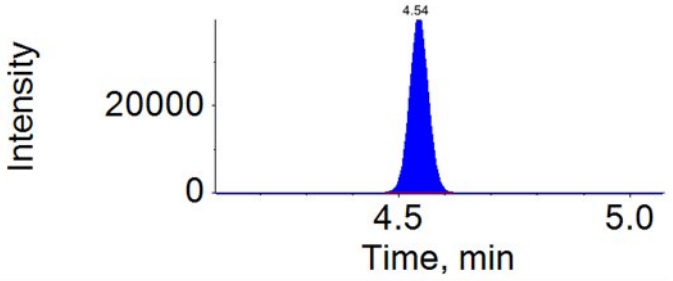
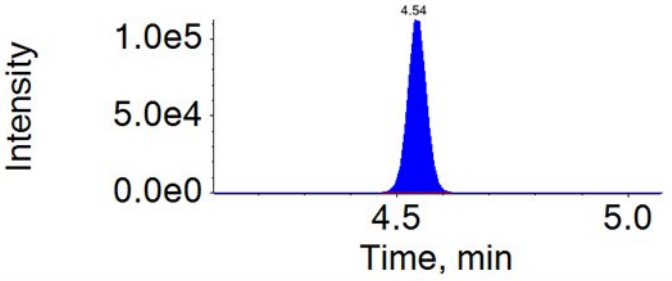
APPROVED
By MSM at 11:40 am, 11/8/18

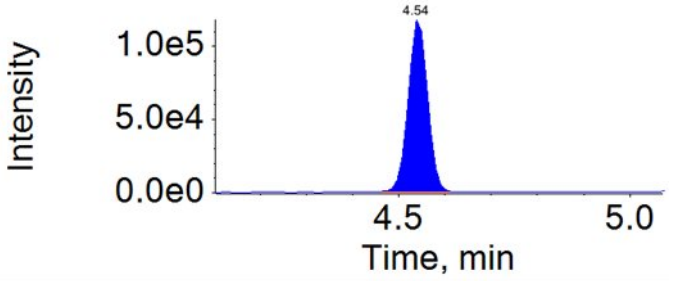
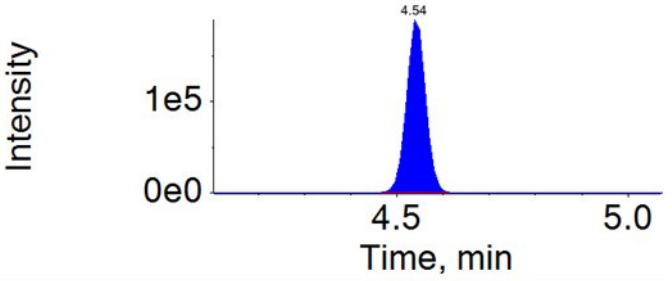
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **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
	

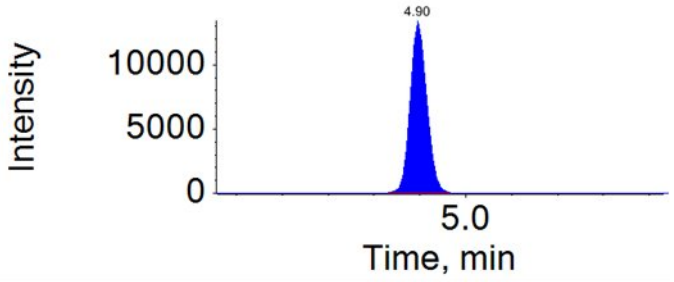
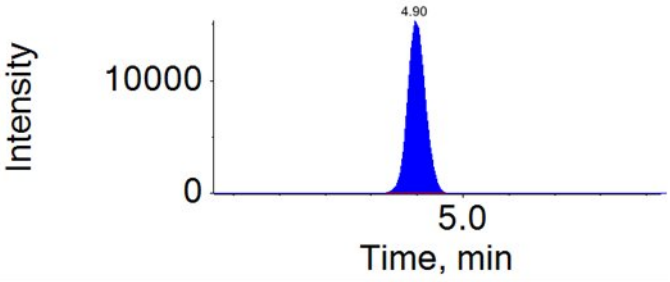
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0
	

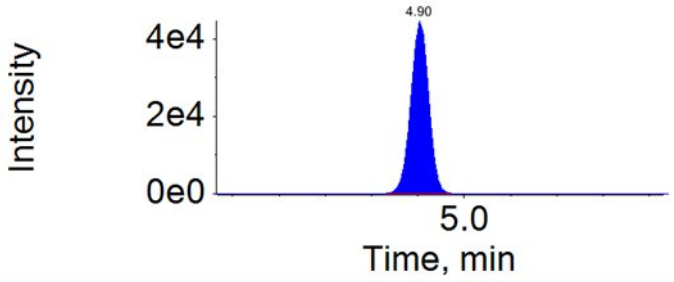
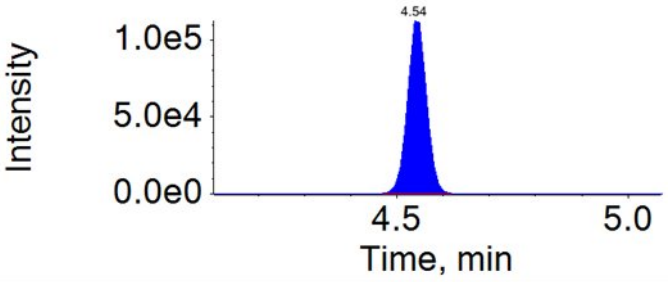
Analyte: PFHpA	Extraction Standard: 13C4-PFHpA
363.0 / 319.0	367.0 / 322.0
	

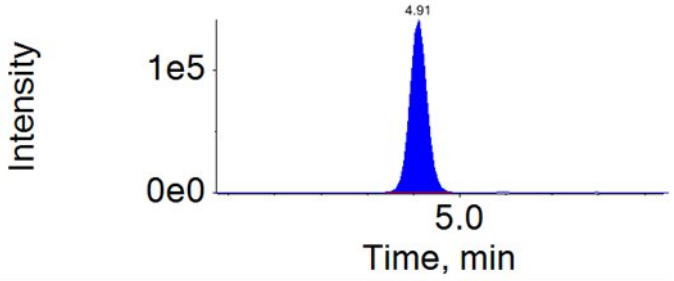
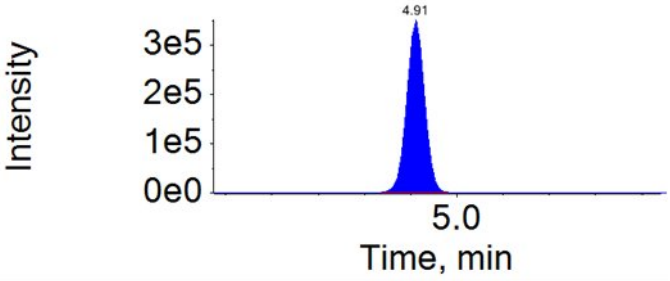
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By MSM at 11:40 am, 11/8/18

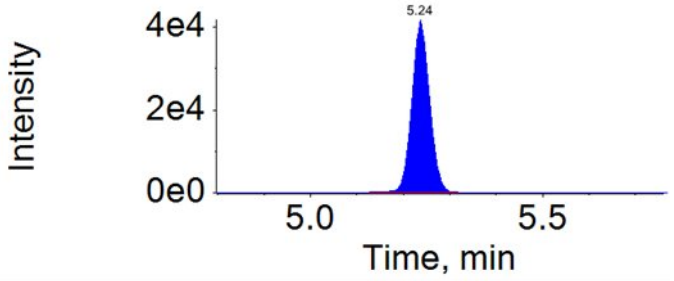
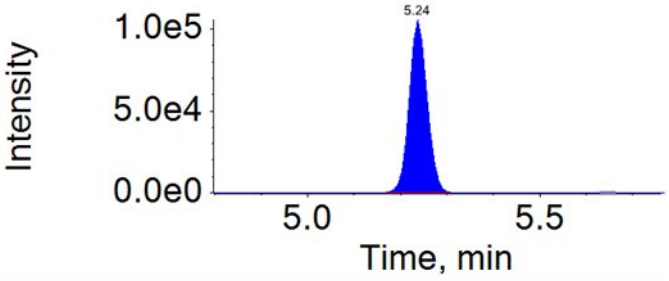
REVIEWED
By umar at 11:27 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0
	

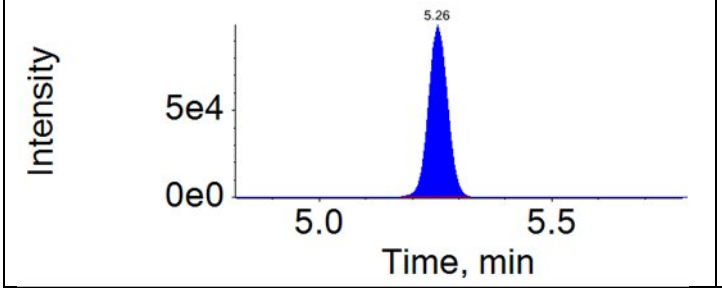
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0
	

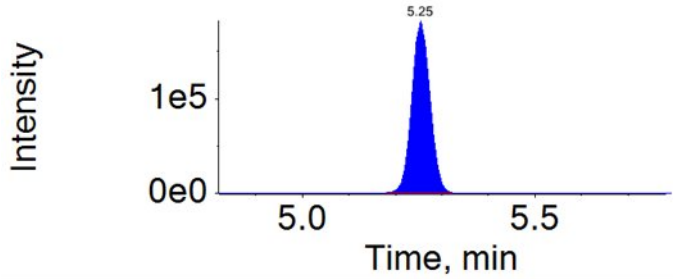
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0
	

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

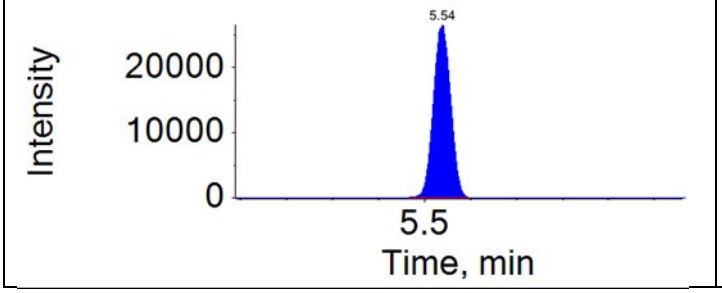
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

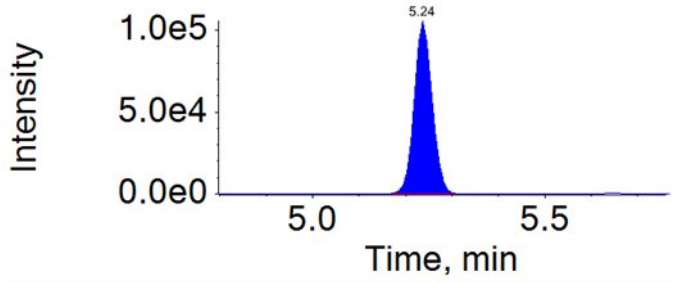
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



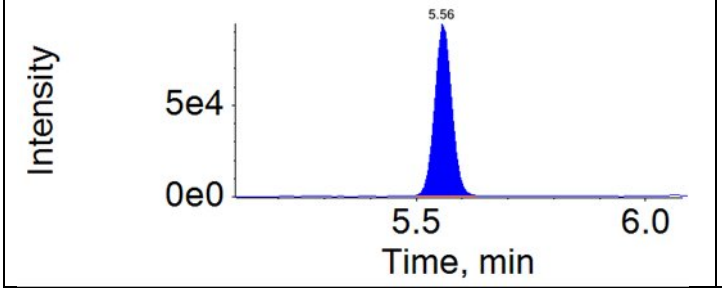


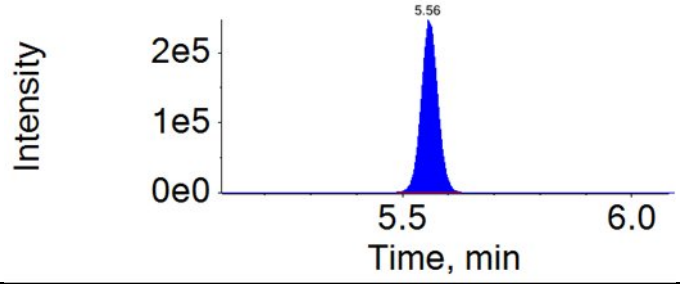
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



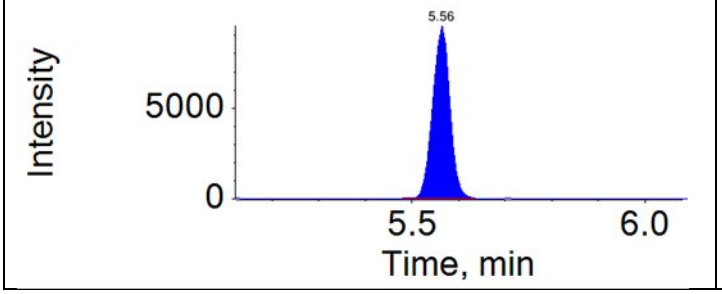


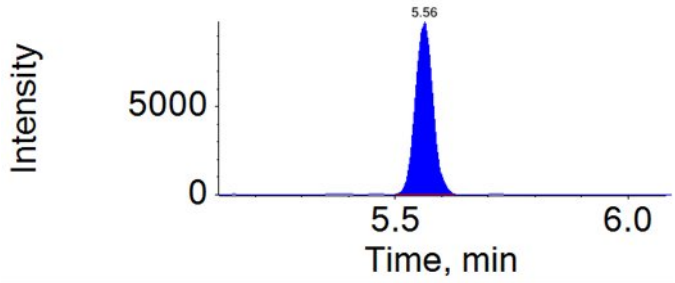
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



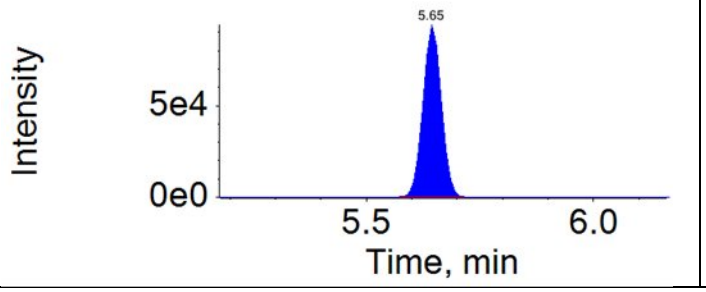


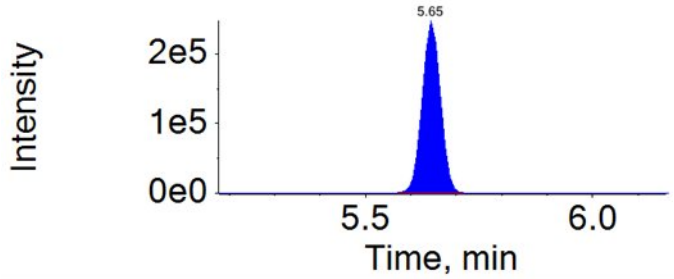
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

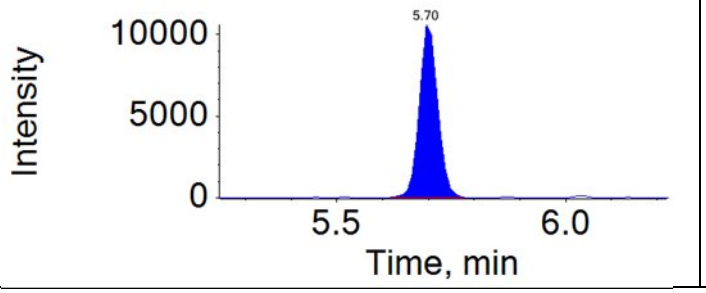
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

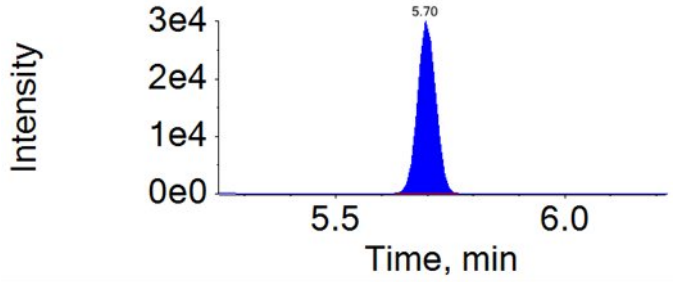
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



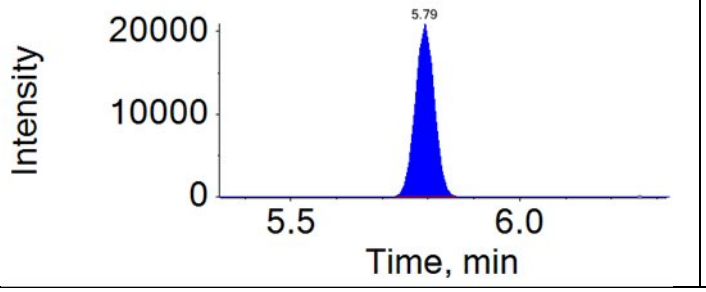


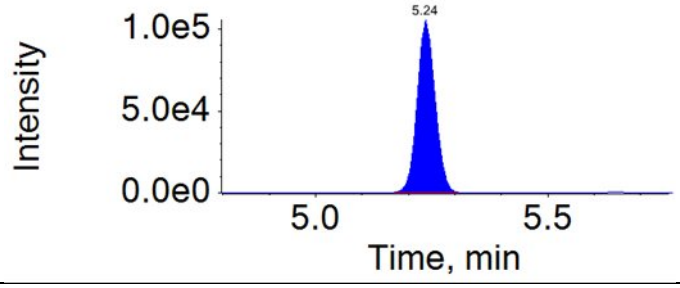
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



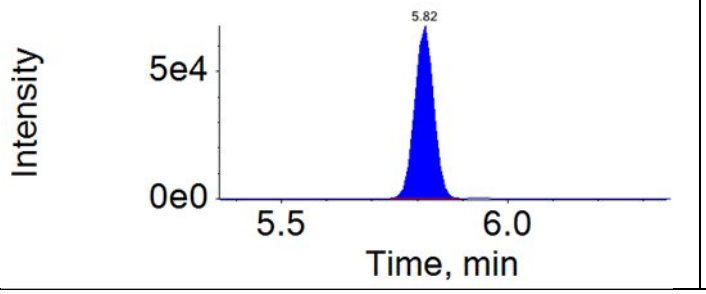


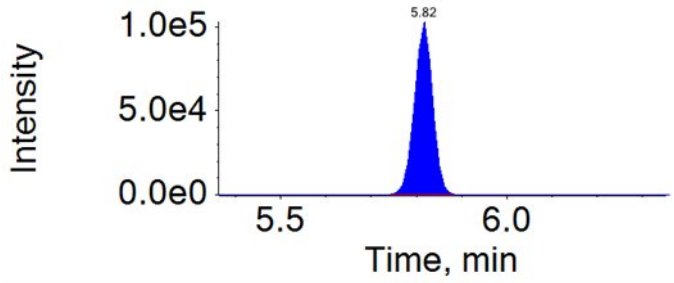
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



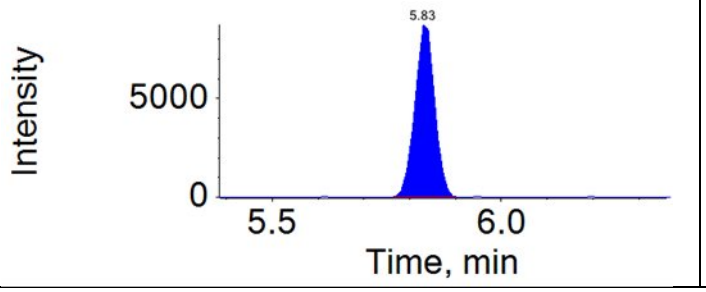


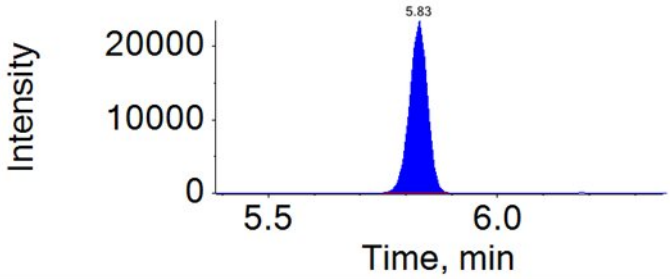
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REVIEWED
By umar at 11:27 am, 11/12/18

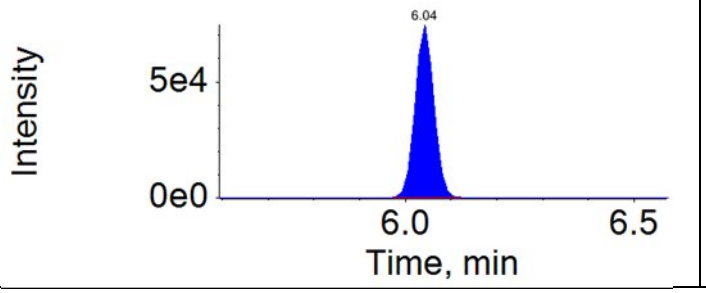
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

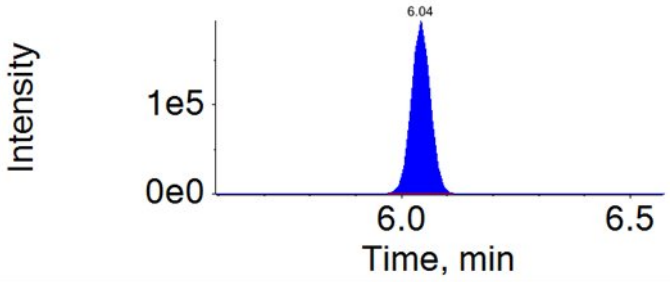
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



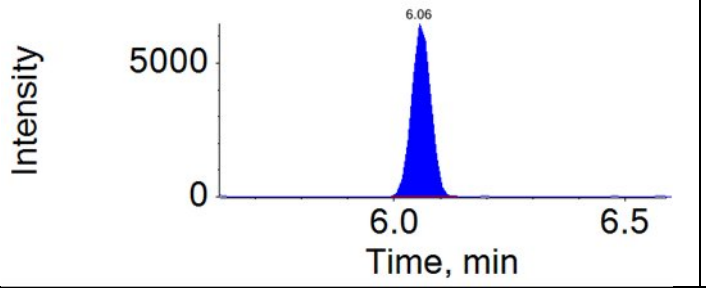


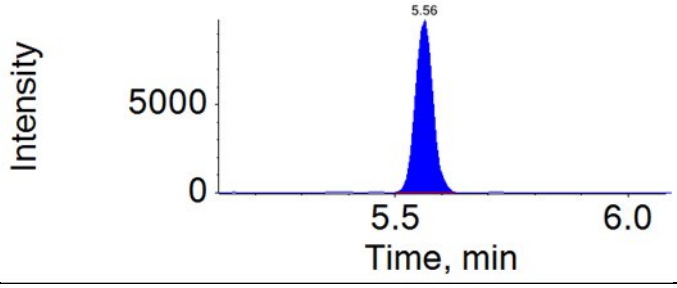
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



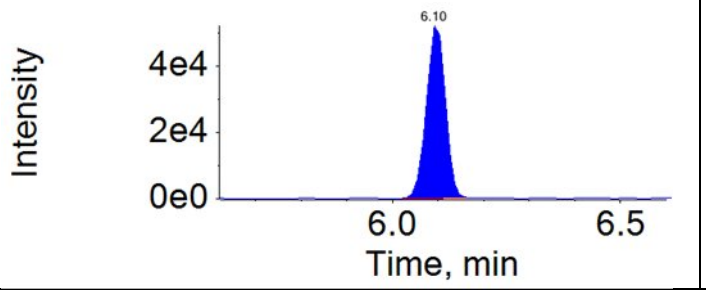


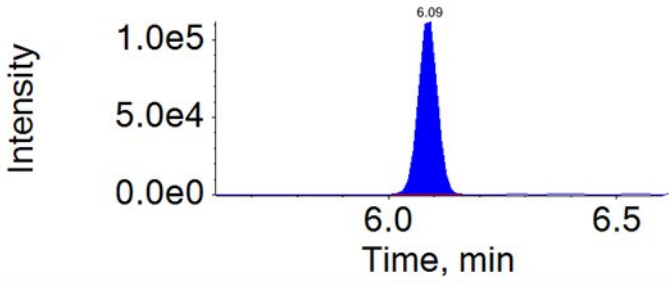
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



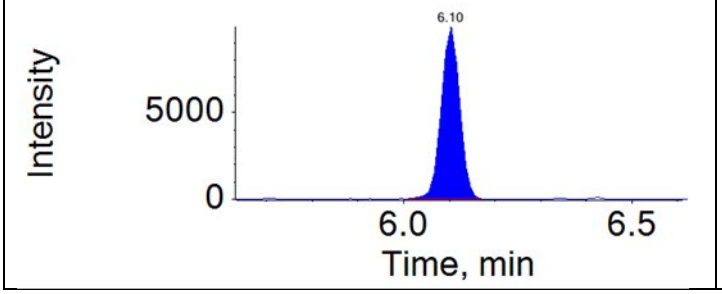


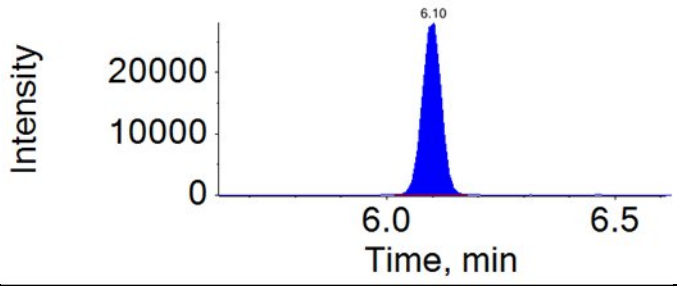
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

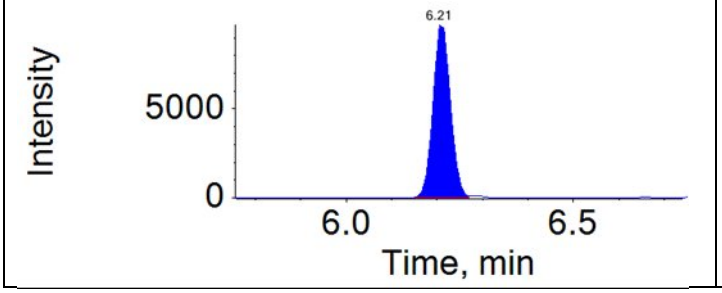
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

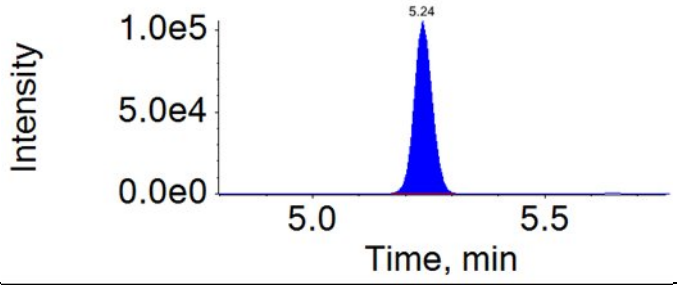
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



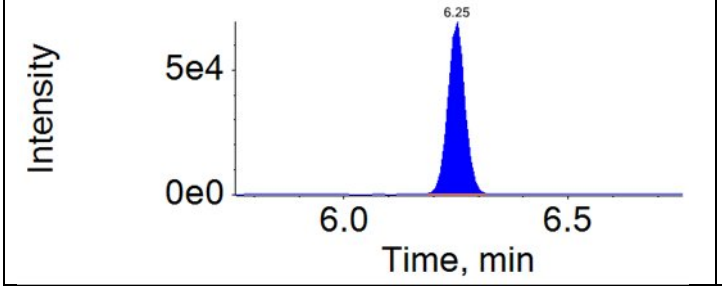


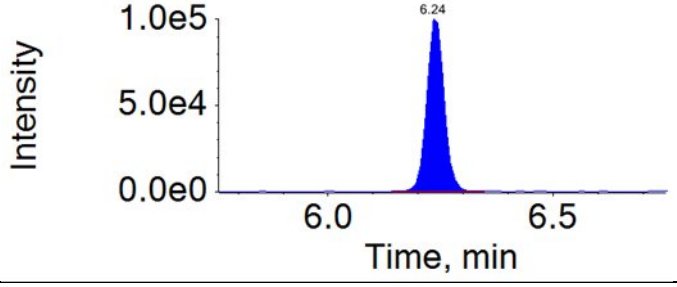
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



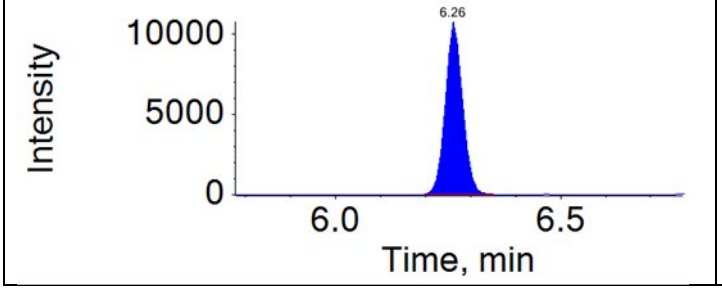


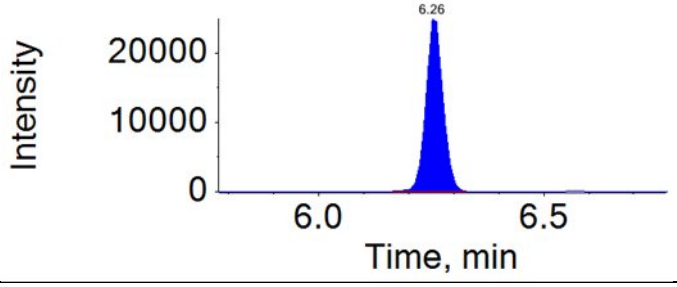
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0



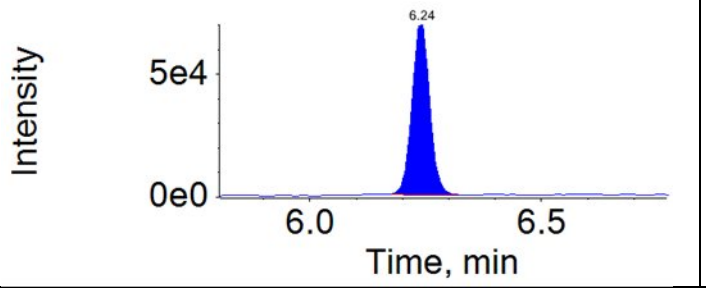


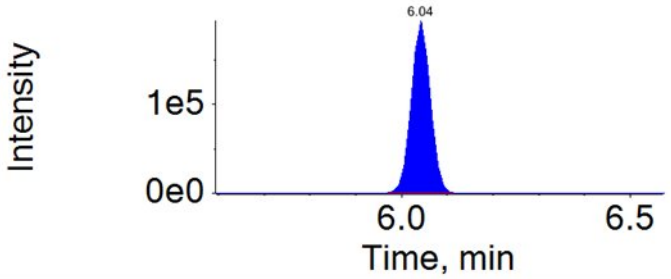
APPROVED
By MSM at 11:40 am, 11/8/18

REVIEWED
By umar at 11:27 am, 11/12/18

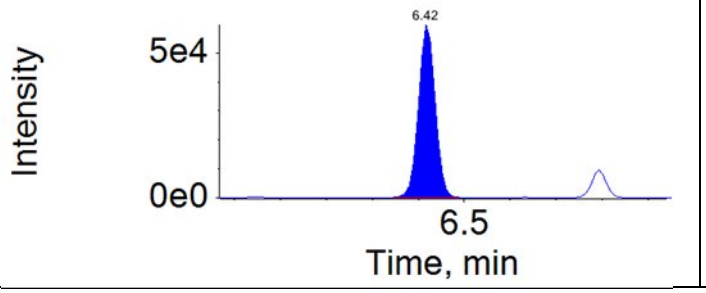
ICAL Name: 18NOV07DCAL **Result Table:** 18NOV07DCCV7-11_DOD 11/8/2018 11:28:48 AM
QMethod Name: 18OCT20QM **Acquisition Method:** 18AUG13_3uL.dam

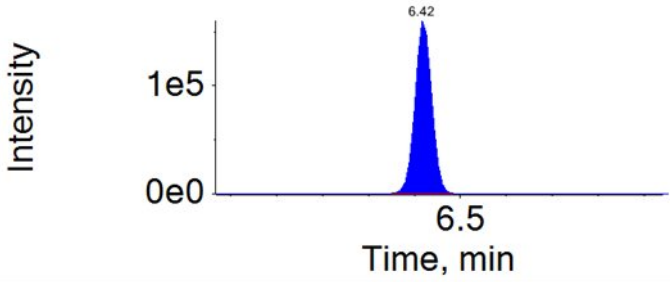
Analyte: PFTrDA	Extraction Standard: 13C2-PFDoDA
663.0 / 619.0	615.0 / 570.0



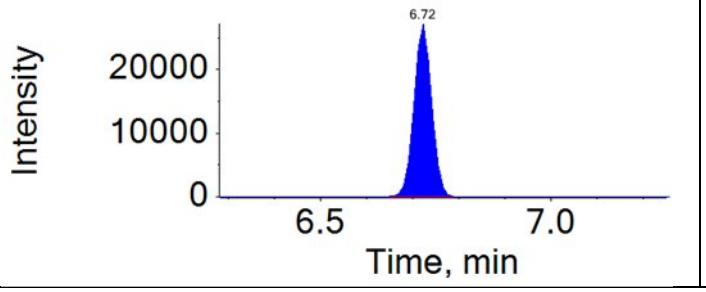


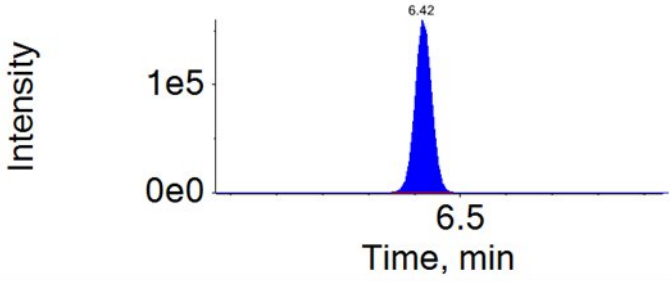
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0



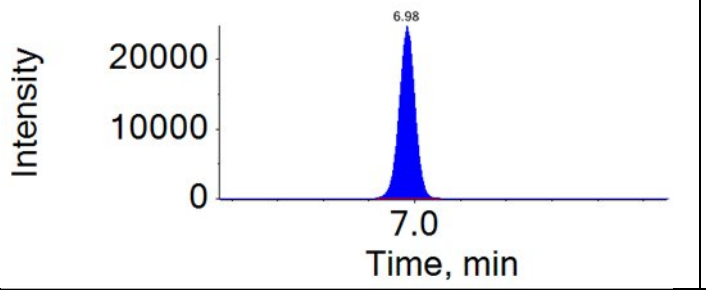


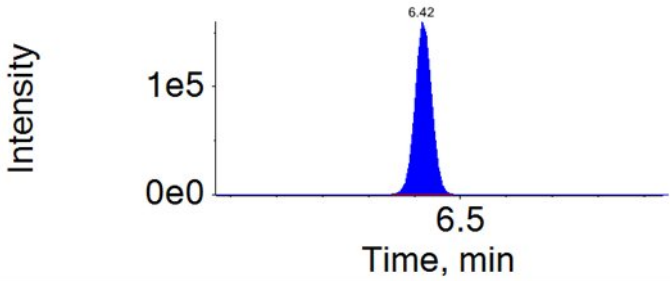
Analyte: PFHxDA	Extraction Standard: 13C2-PFTeDA
813.0 / 769.0	715.0 / 670.0





Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0





APPROVED
By MSM at 11:40 am, 11/8/18

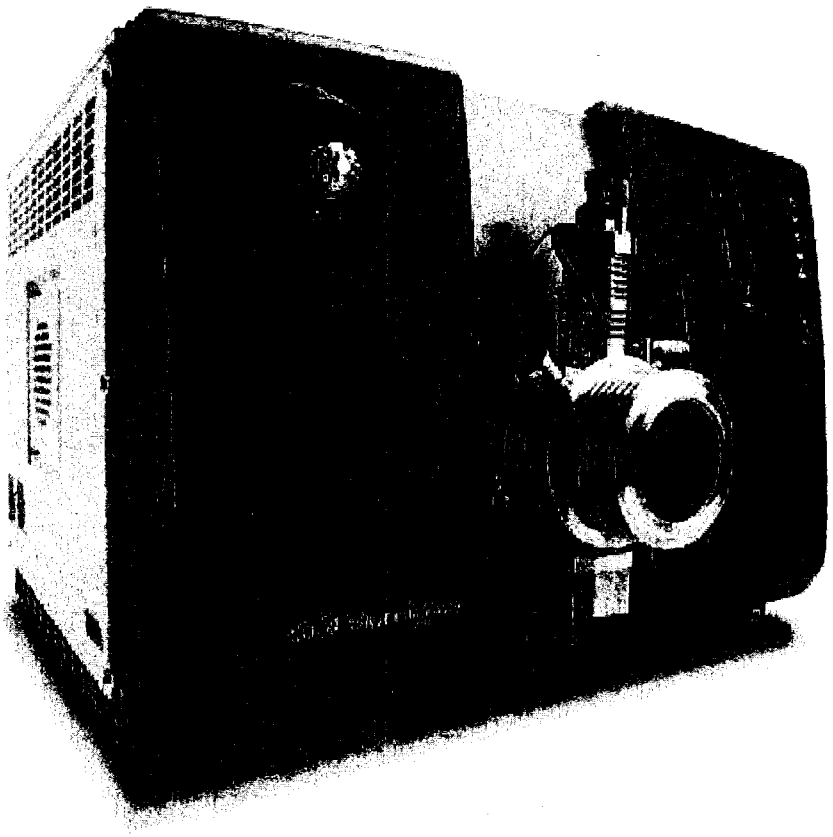
REVIEWED
By umar at 11:27 am, 11/12/18

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.	☑	

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	≥ 8.0×10^6	1.950[illegible]	0.6 to 0.8	0.6916
500.380	≥ 8.0×10^6	1.925[illegible]	0.6 to 0.8	0.7278
906.673	≥ 2.0×10^7	3.1634[illegible]	0.6 to 0.8	0.7403
1952.427	≥ 8.8×10^5	2.4968[illegible]	0.6 to 0.8	0.7828

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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	

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	

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.

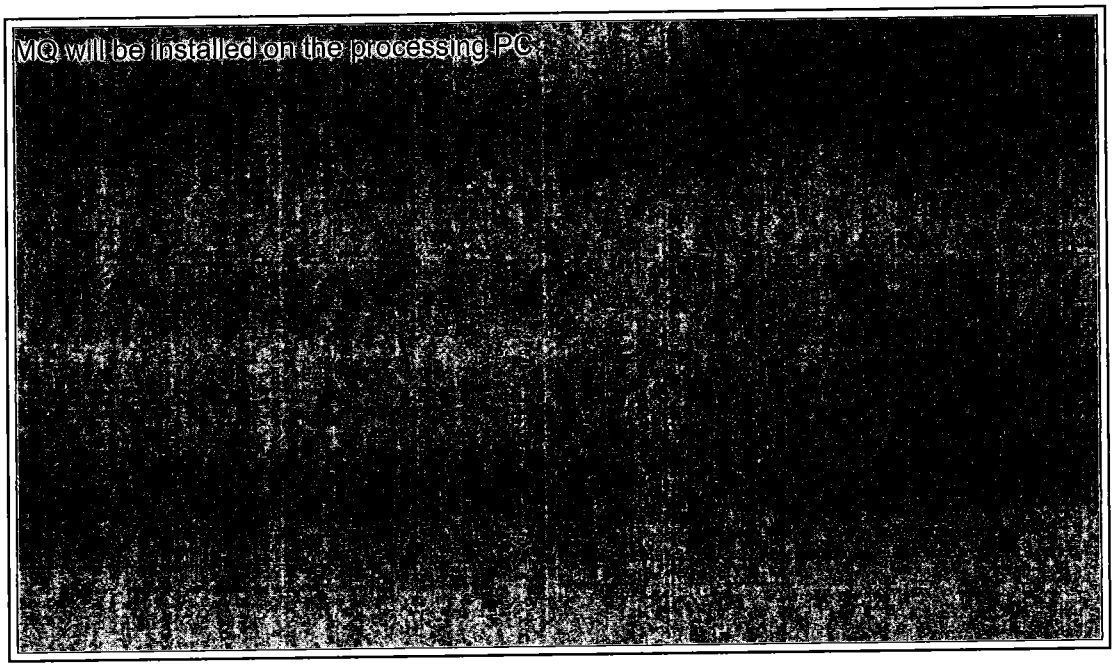
Test	Specification	Result
Vacuum chamber pressure with CAD gas off	0.4×10^{-5} torr ≤ $P_{CAD\ 0}$ ≤ 1.1×10^{-5} torr	0.4x10e-5torr
Vacuum chamber pressure with CAD gas set to Full	1.8×10^{-5} torr ≤ ($P_{CAD\ 12} - P_{CAD\ 0}$) ≤ 2.8×10^{-5} torr	2.1x10e-5torr

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

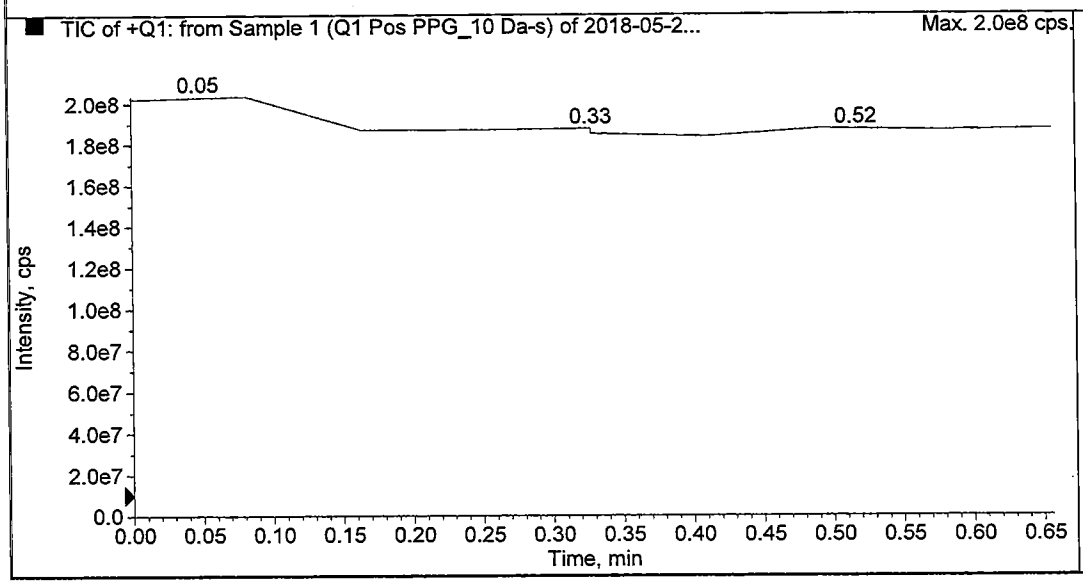
Mass Spectrometer Method Properties

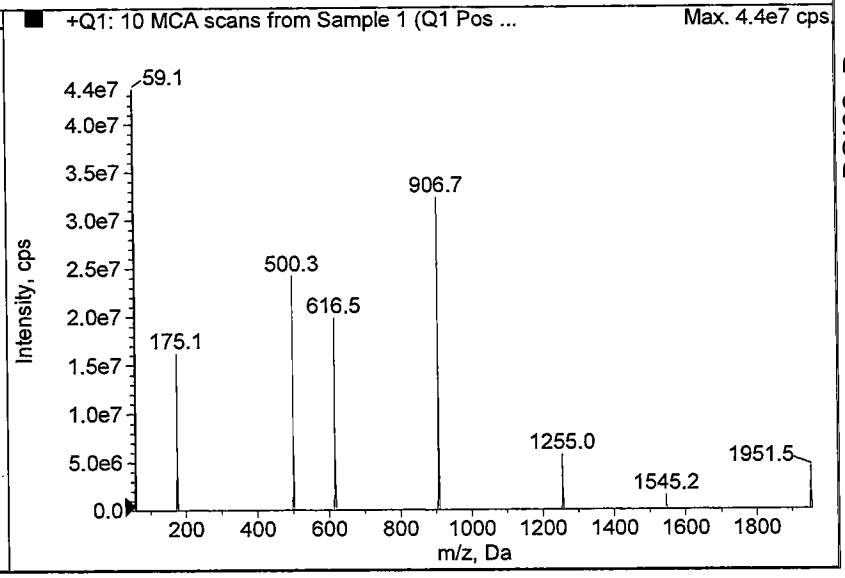
Period 1:

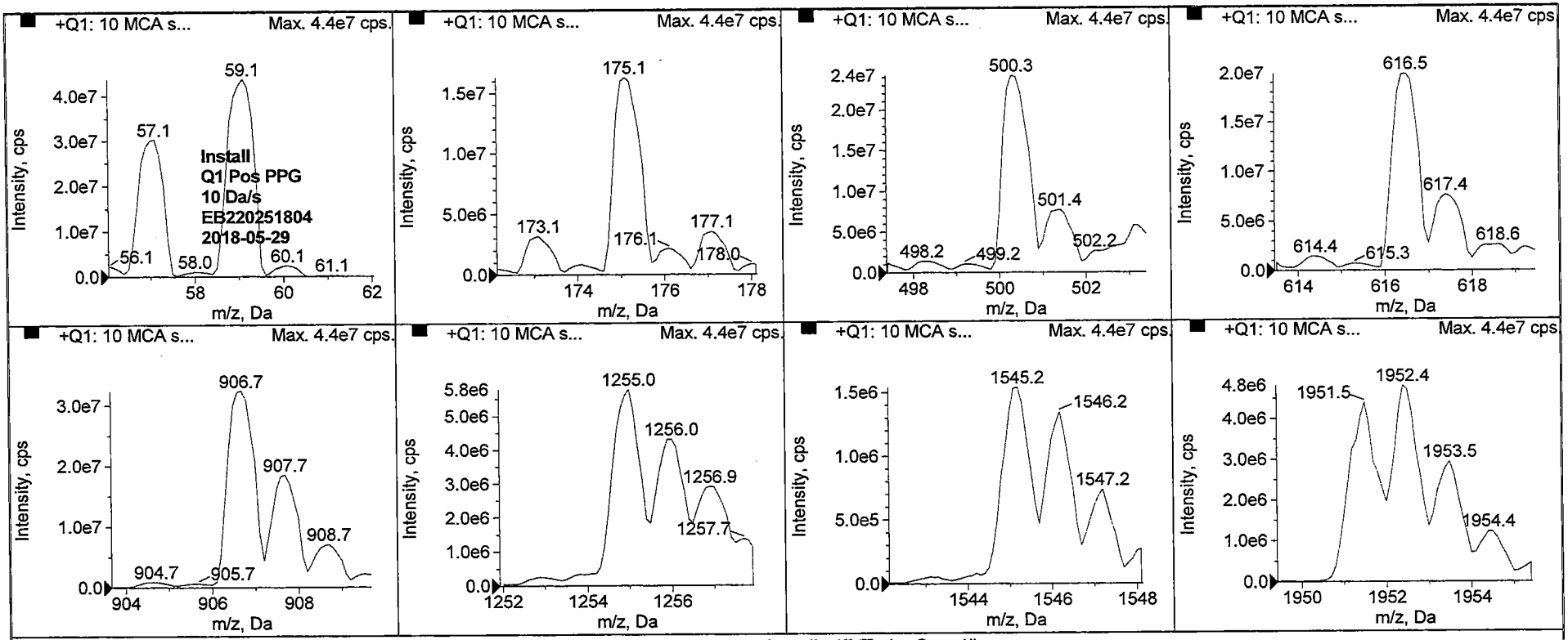
Scans in Period:	10
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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 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

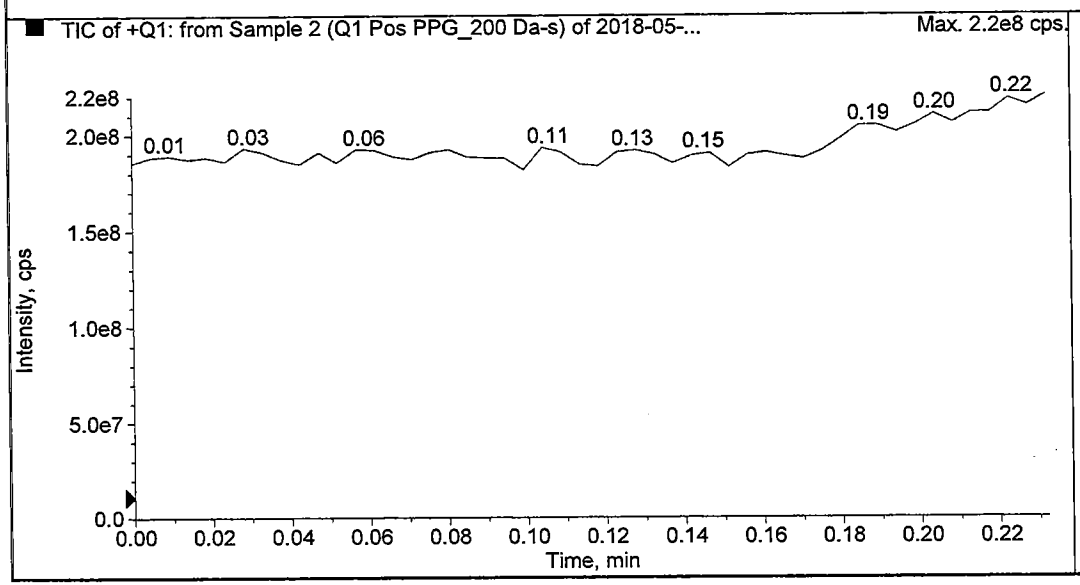
Mass Spectrometer Method Properties

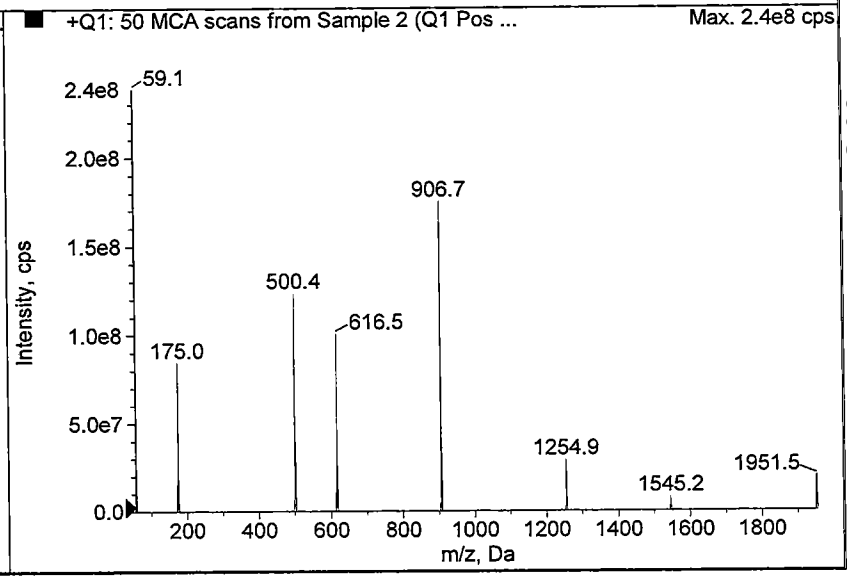
Period 1:

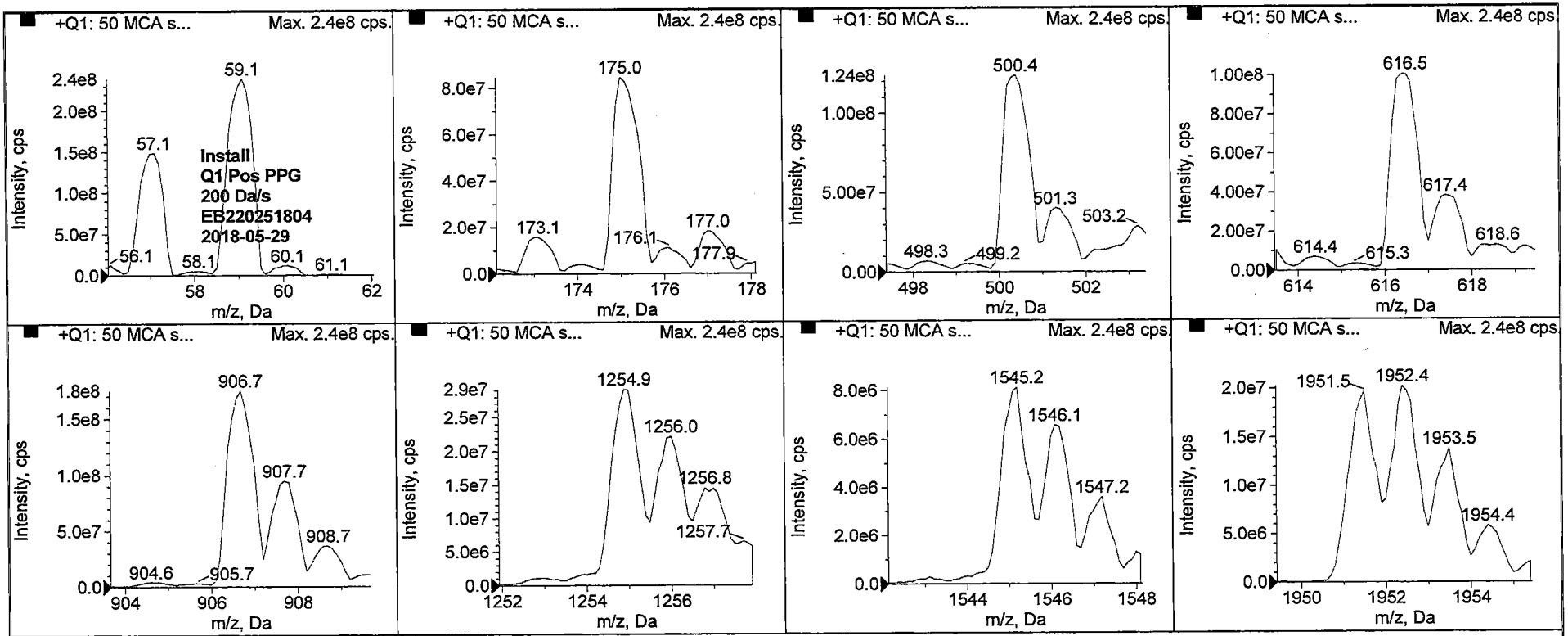
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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

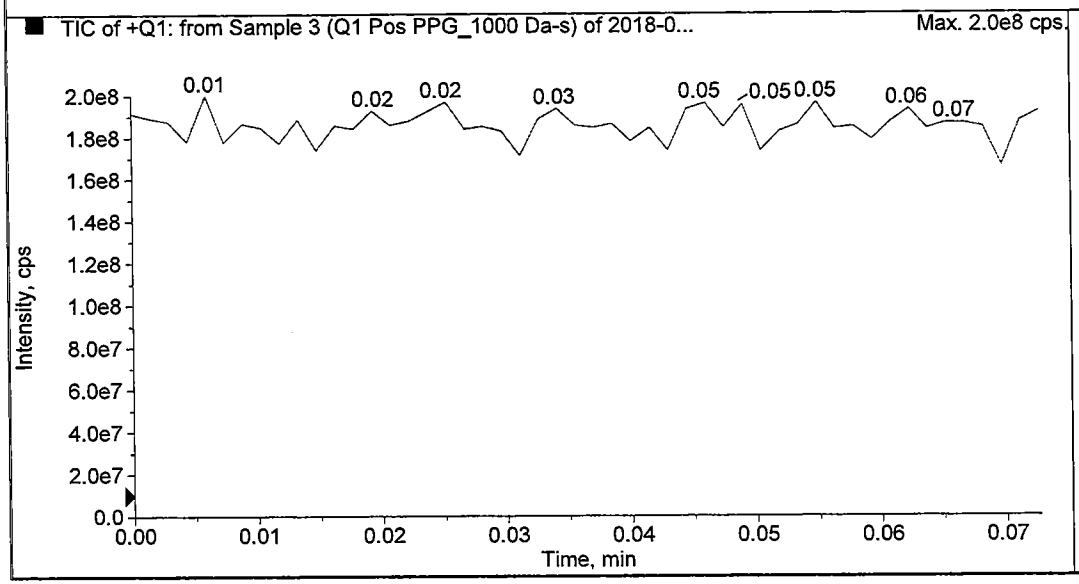
Mass Spectrometer Method Properties

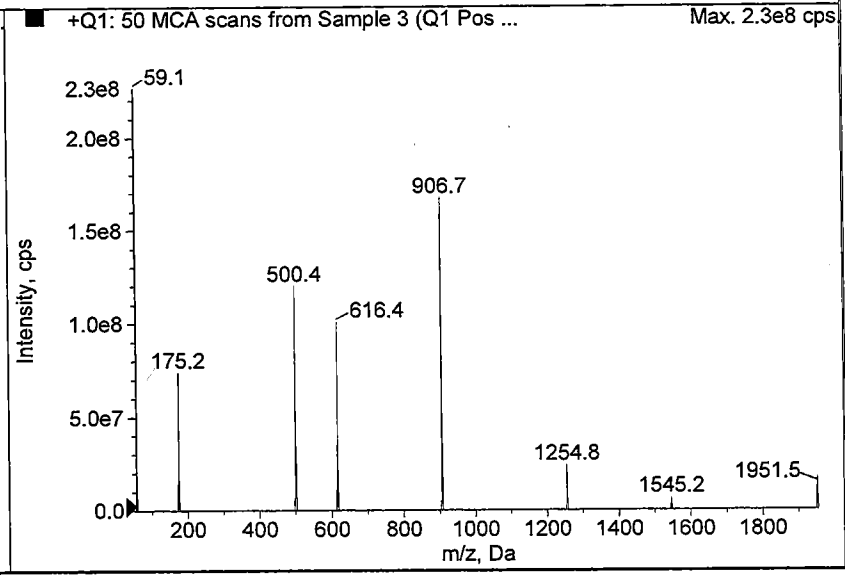
Period 1:

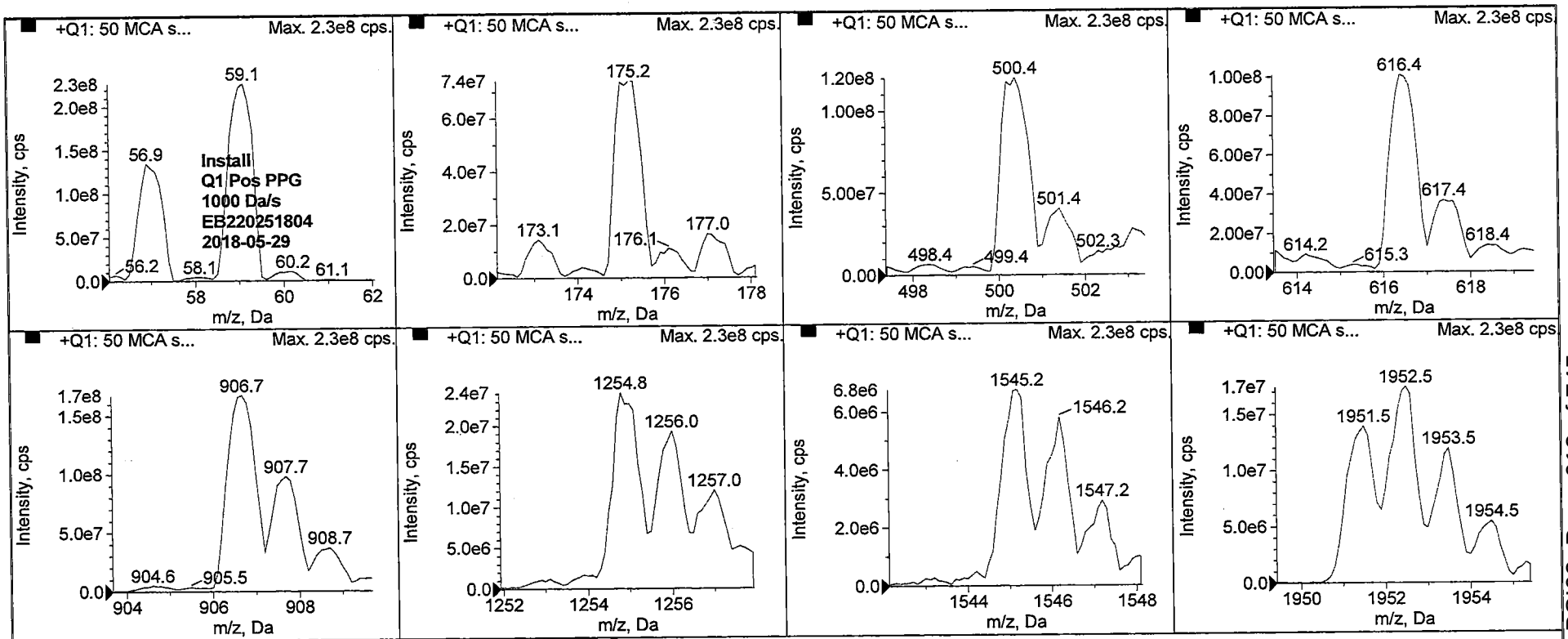
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

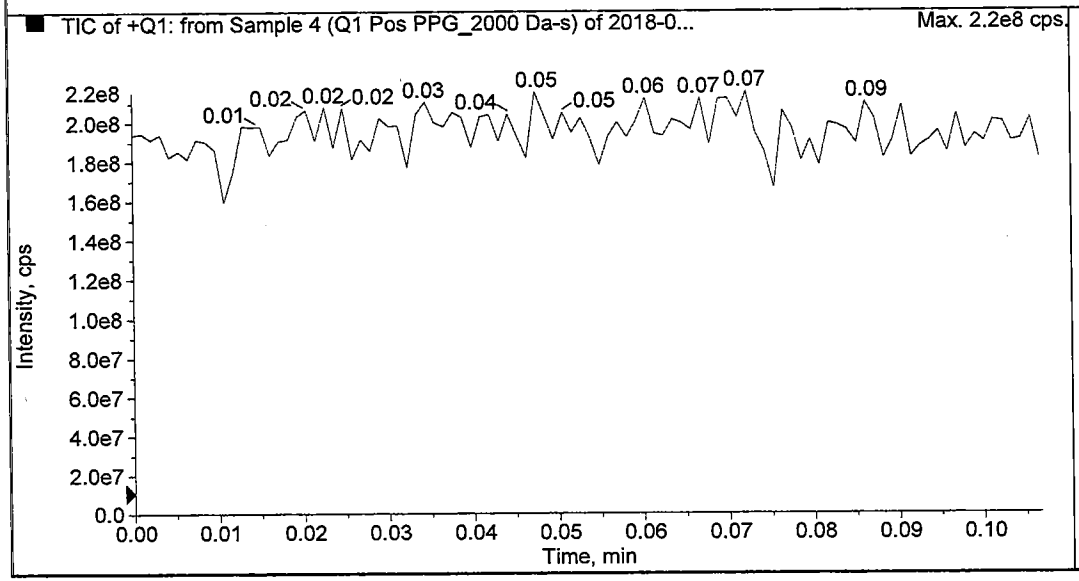
Mass Spectrometer Method Properties

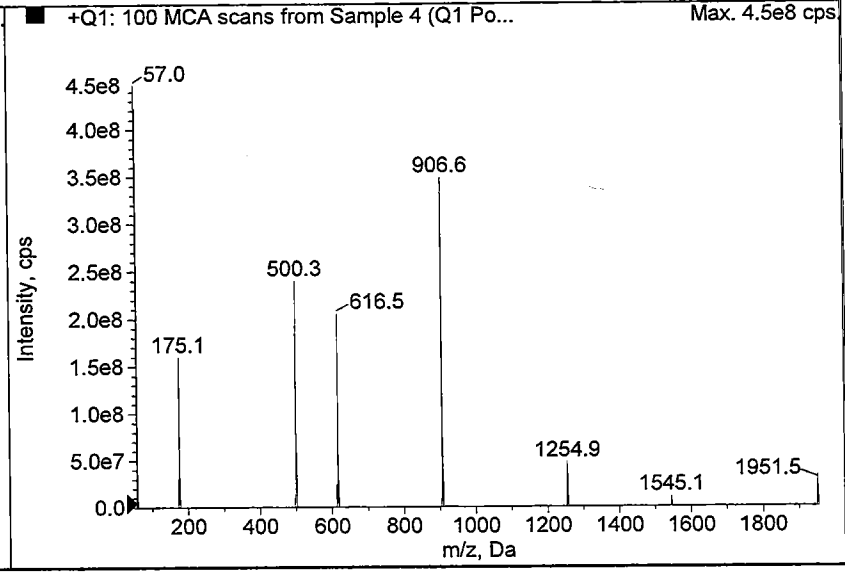
Period 1:

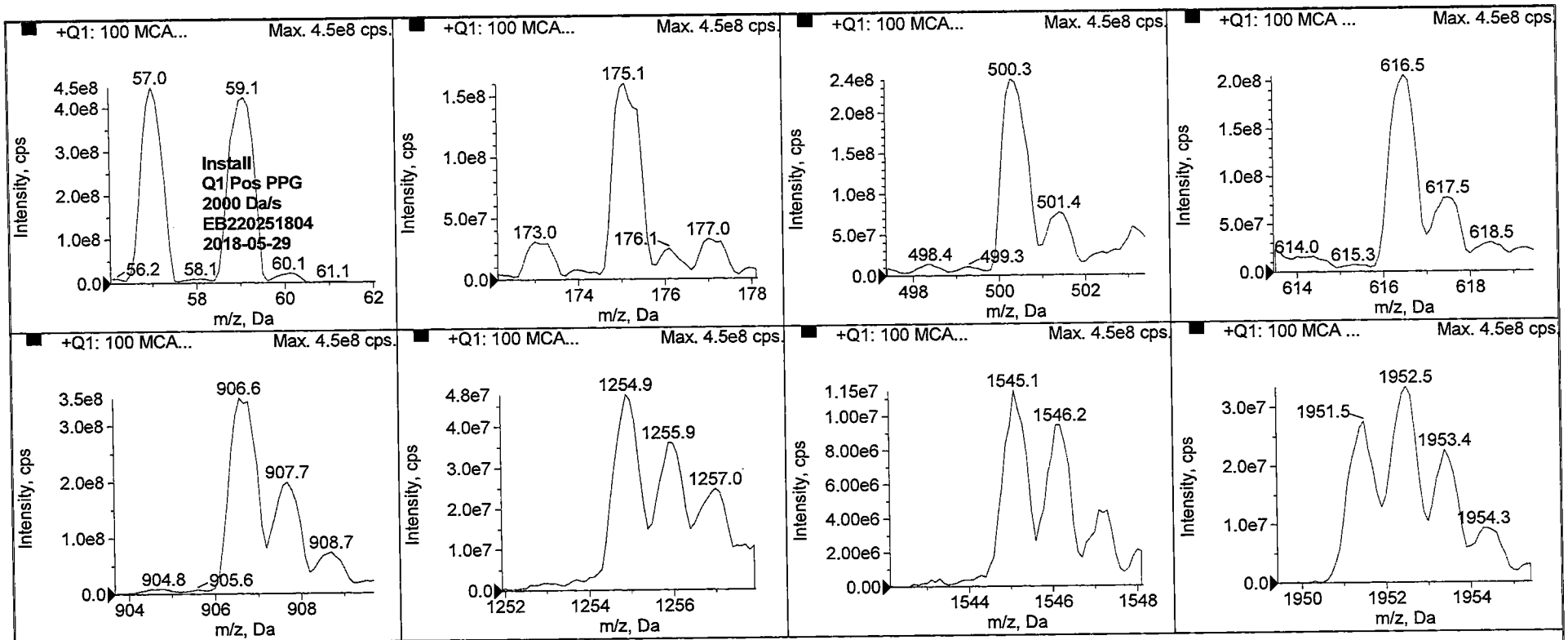
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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

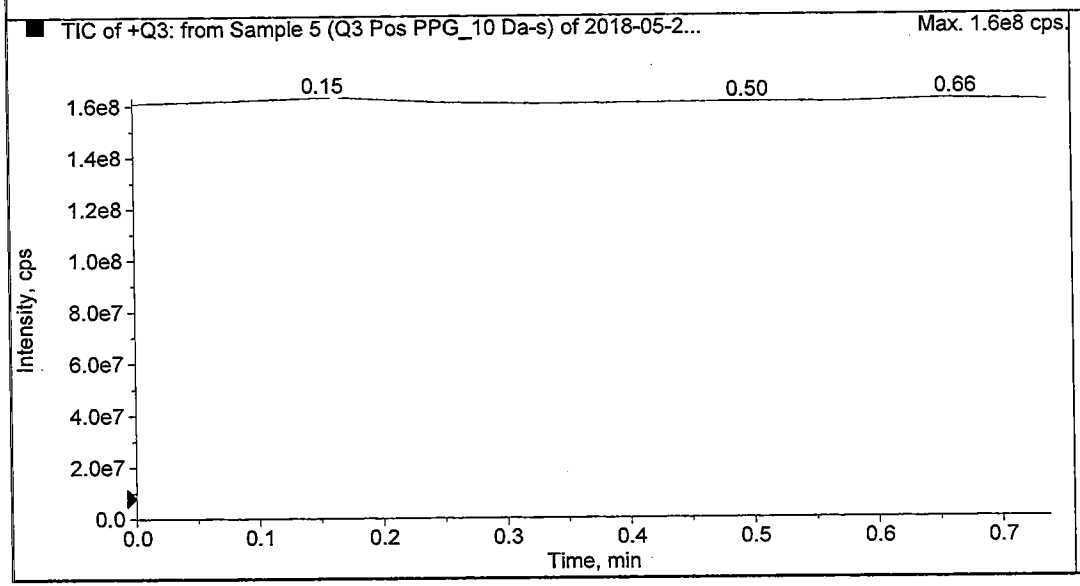
Mass Spectrometer Method Properties

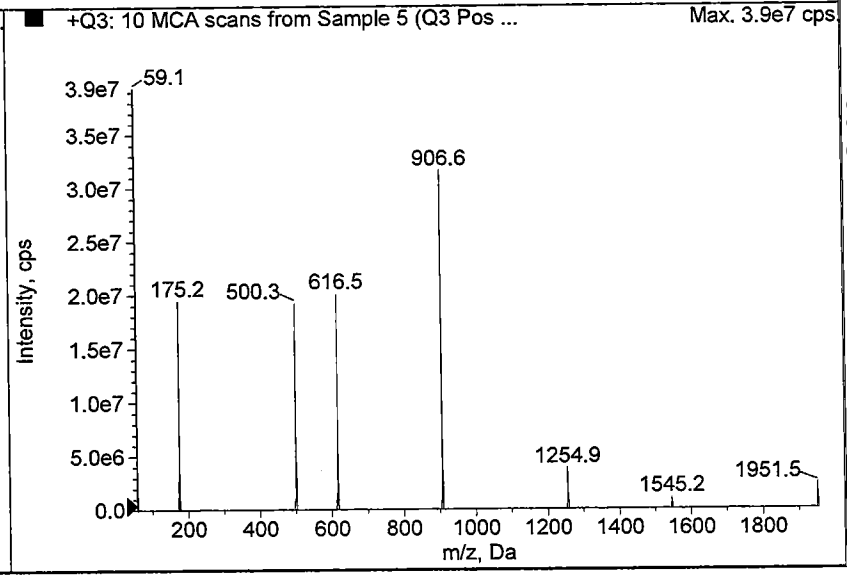
Period 1:

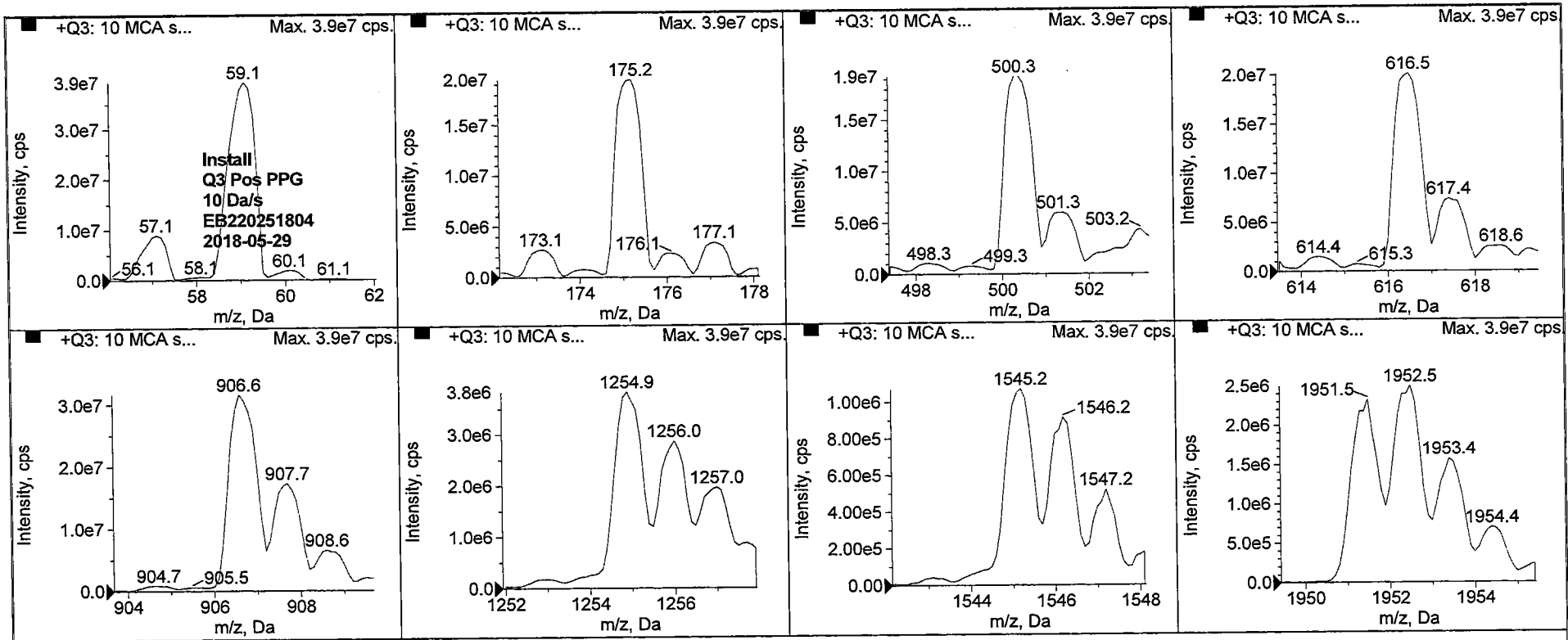
Scans in Period:	10
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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

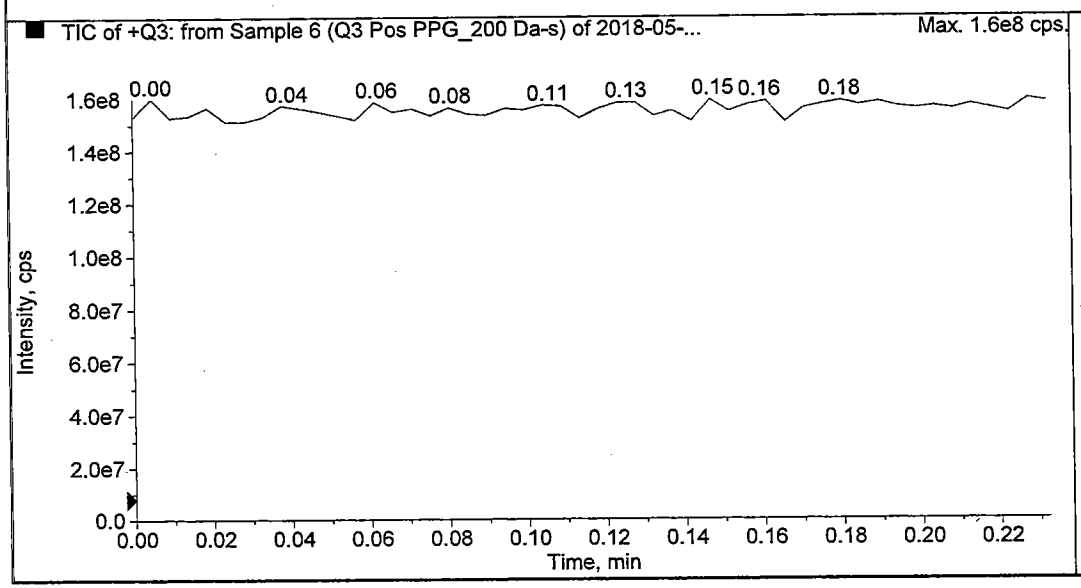
Mass Spectrometer Method Properties

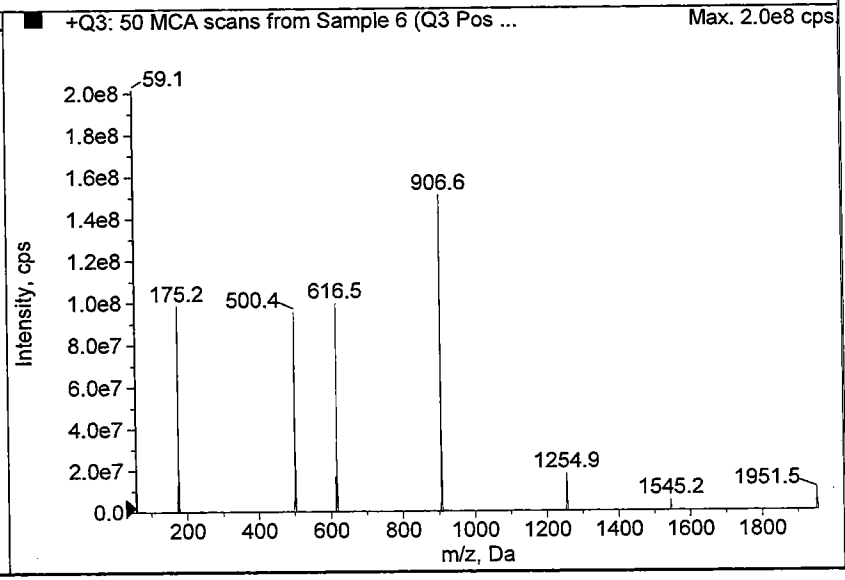
Period 1:

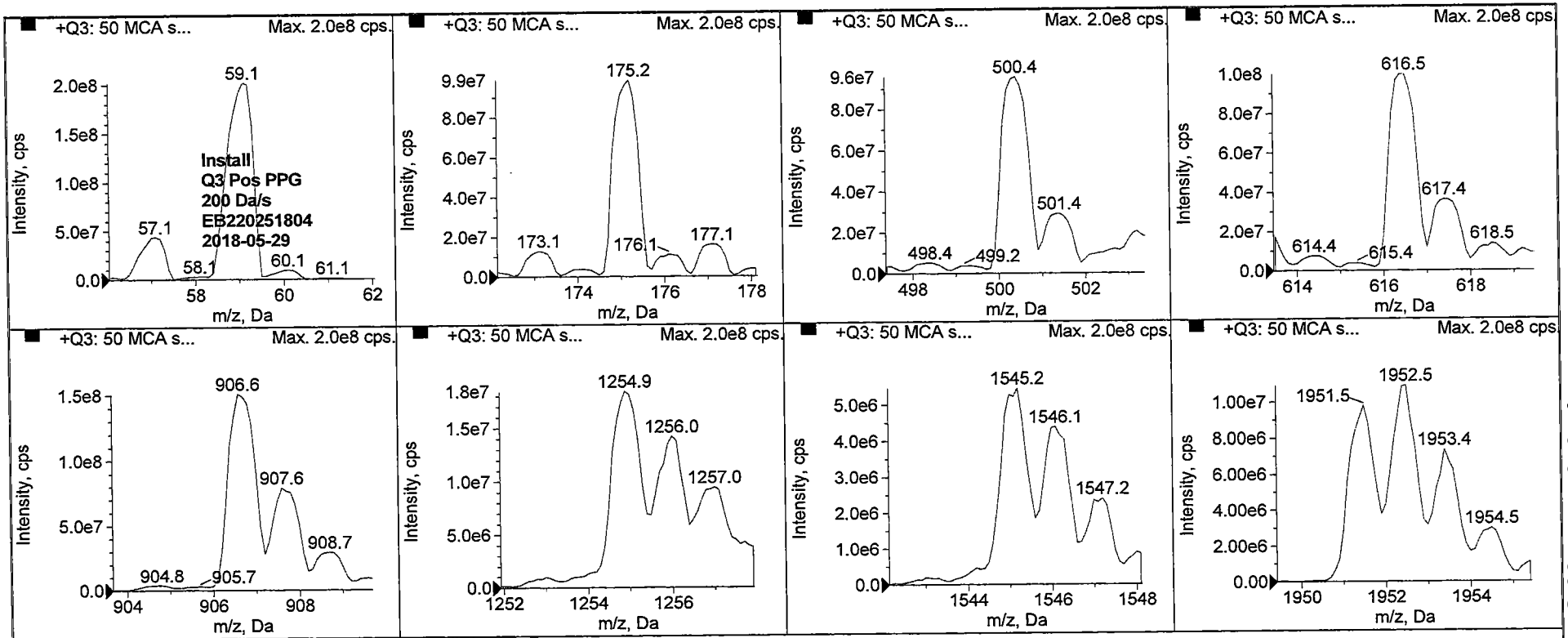
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

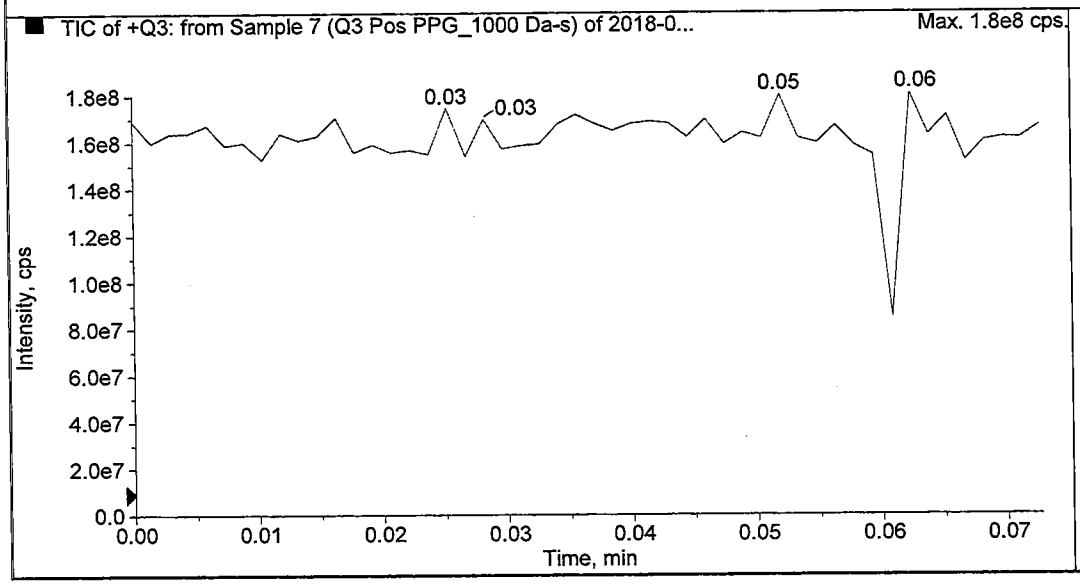
Mass Spectrometer Method Properties

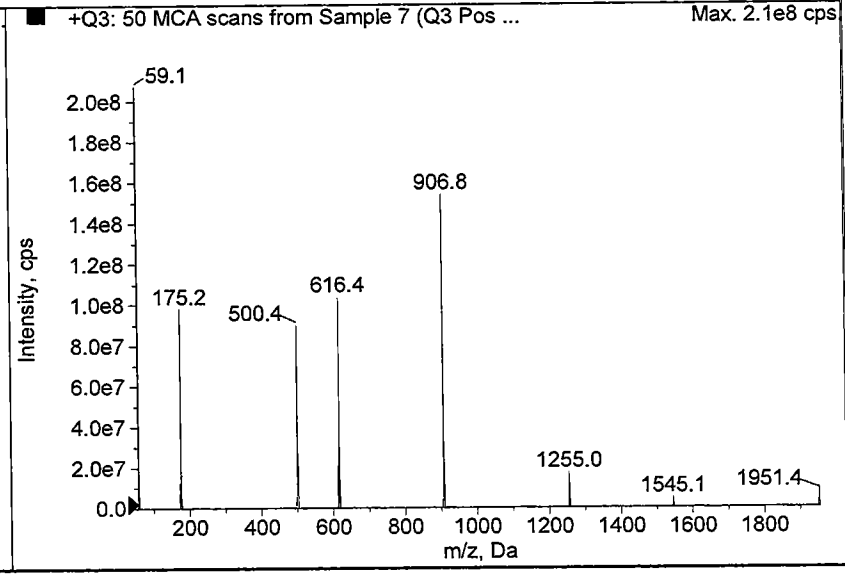
Period 1:

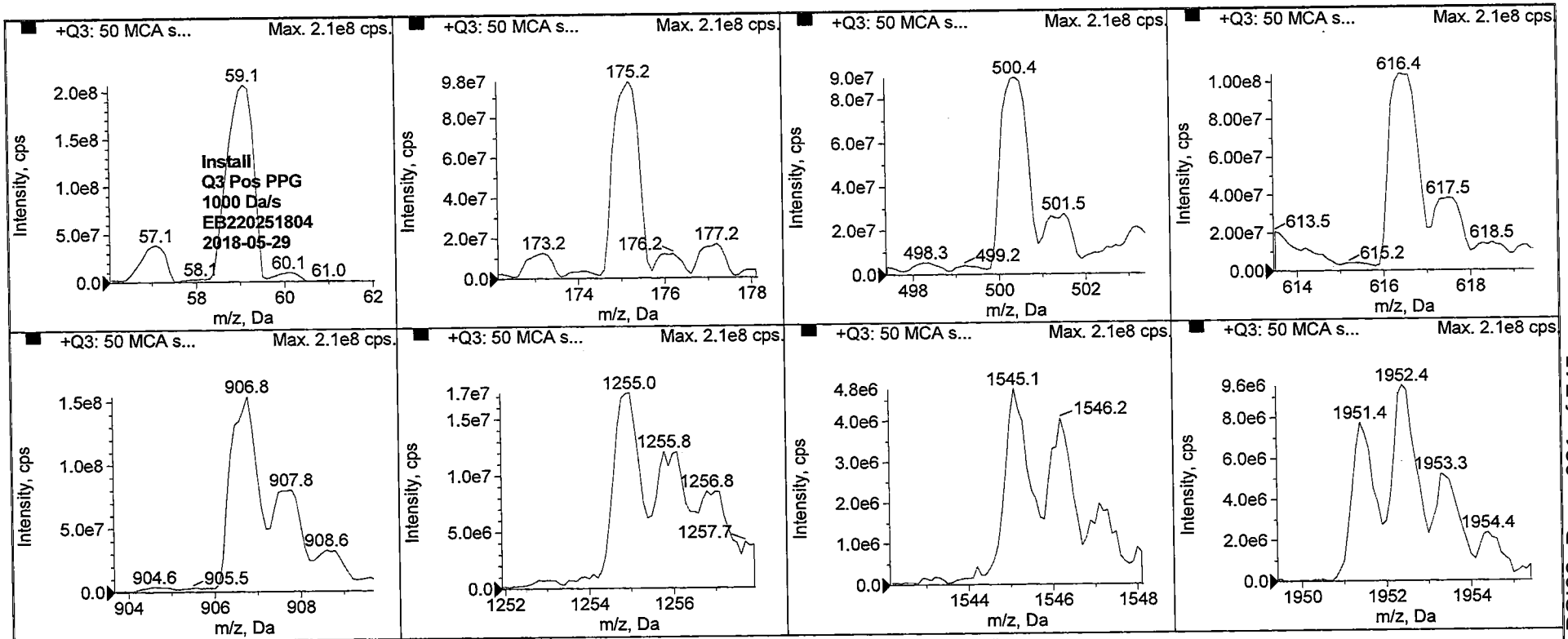
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

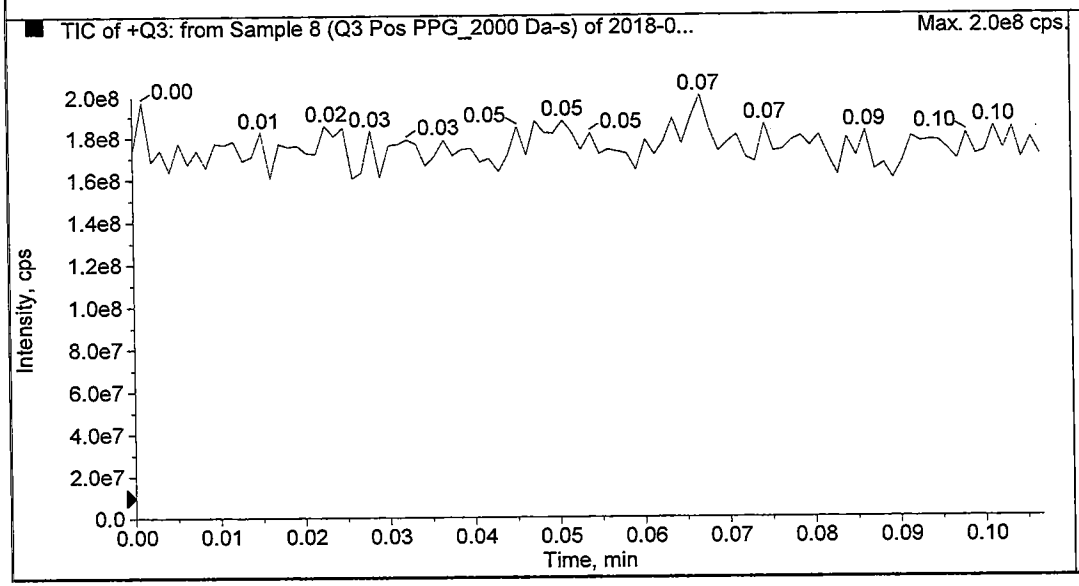
Mass Spectrometer Method Properties

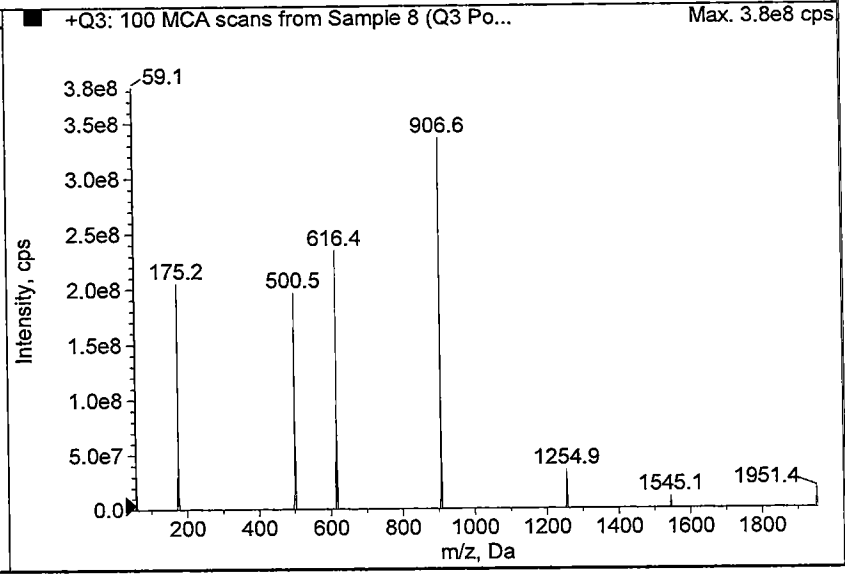
Period 1:

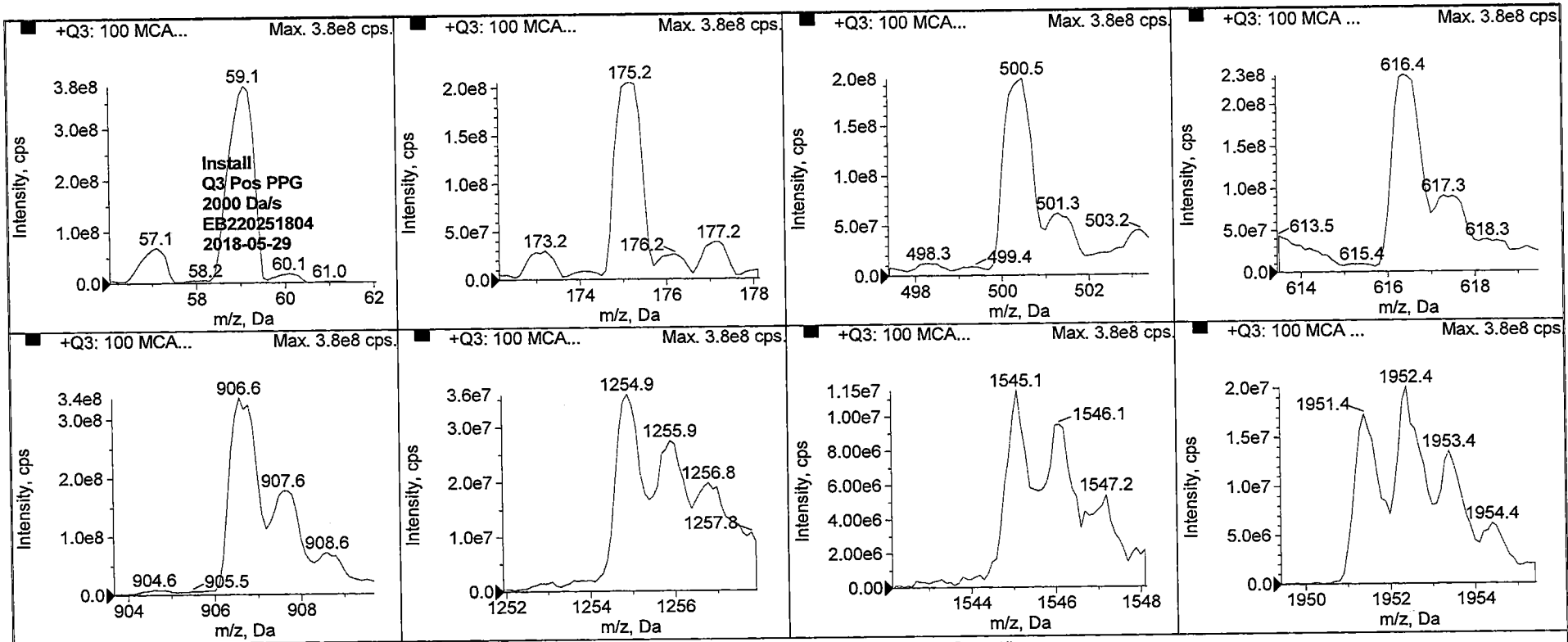
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

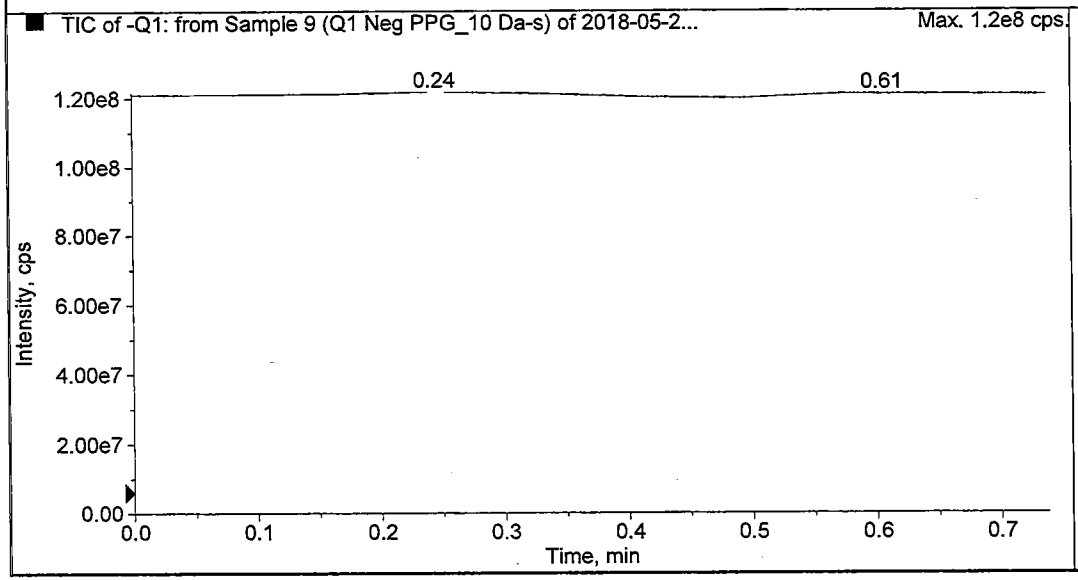
Mass Spectrometer Method Properties

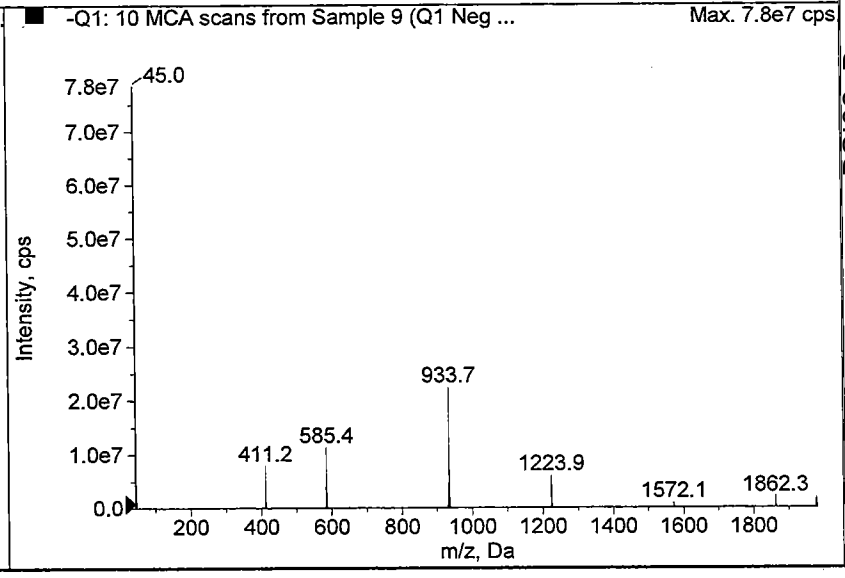
Period 1:

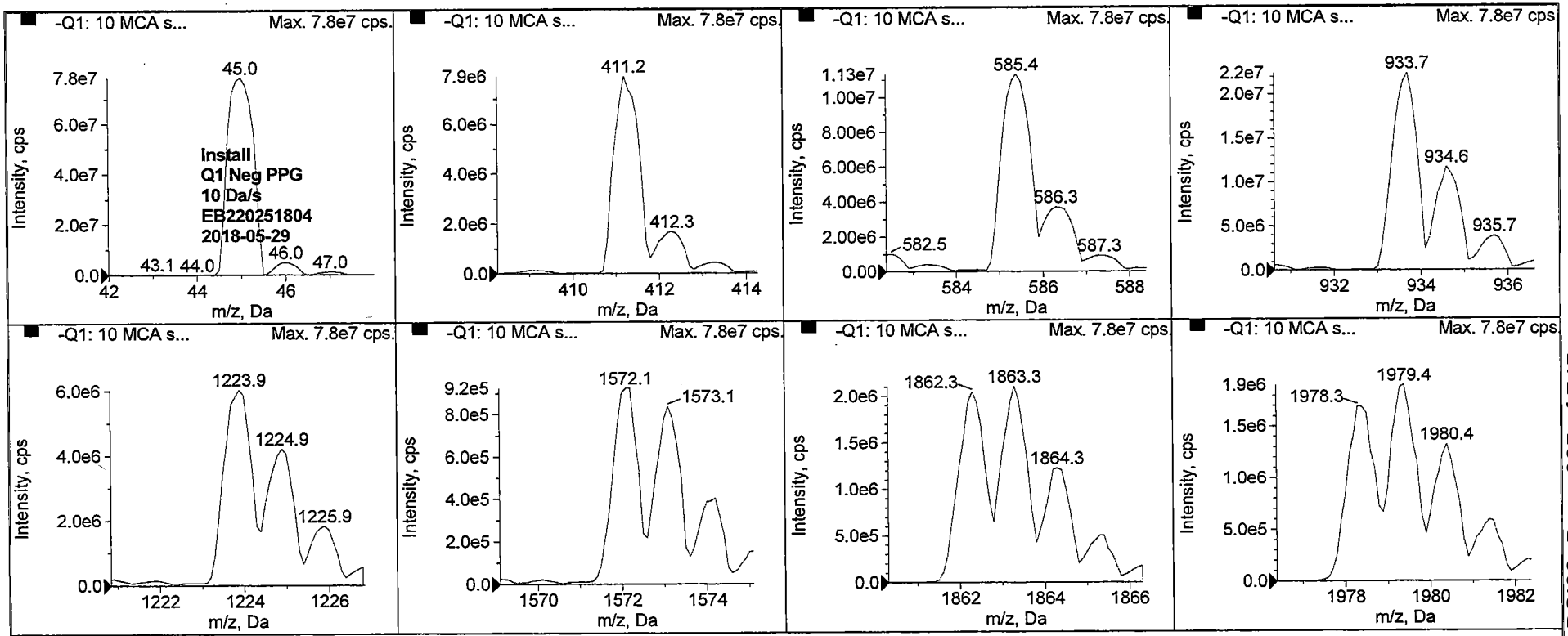
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

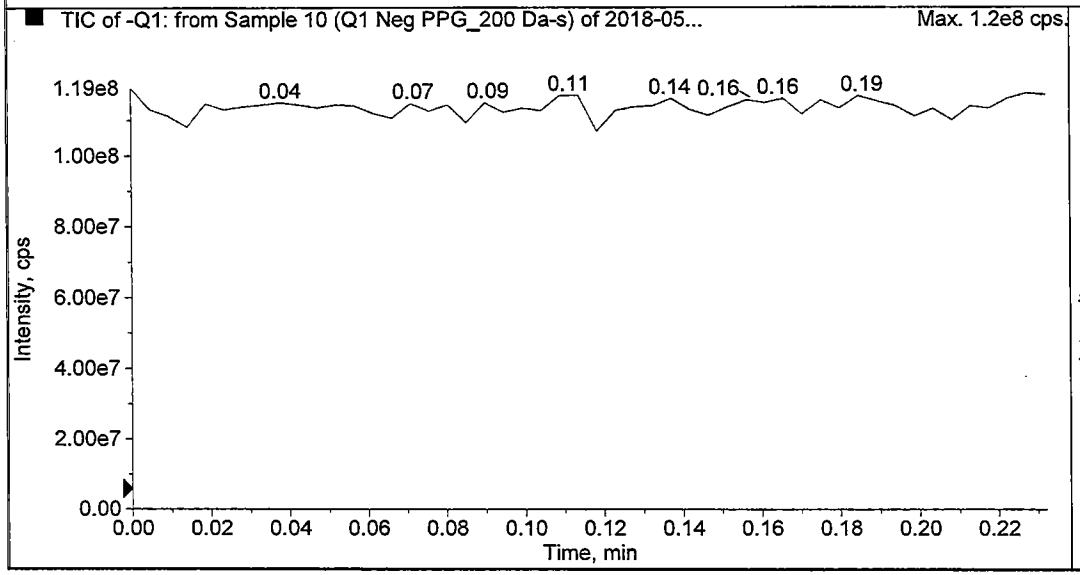
Mass Spectrometer Method Properties

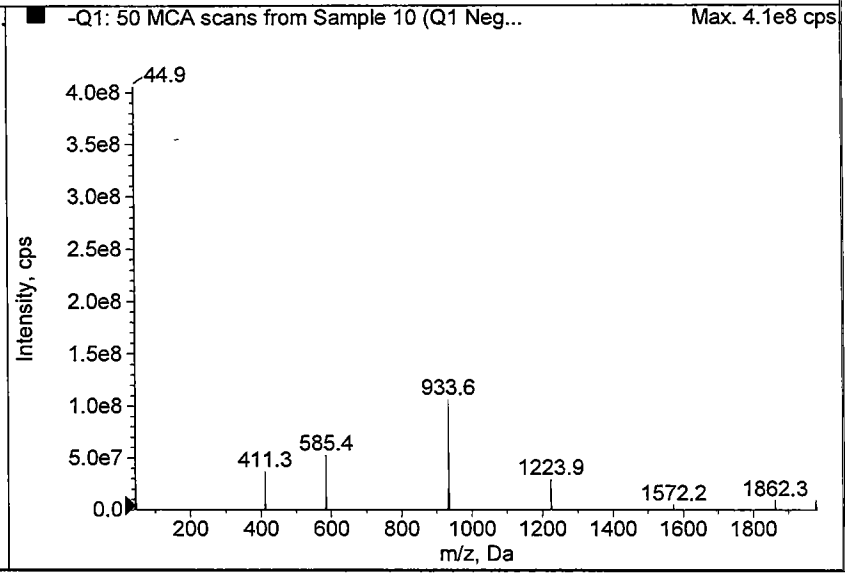
Period 1:

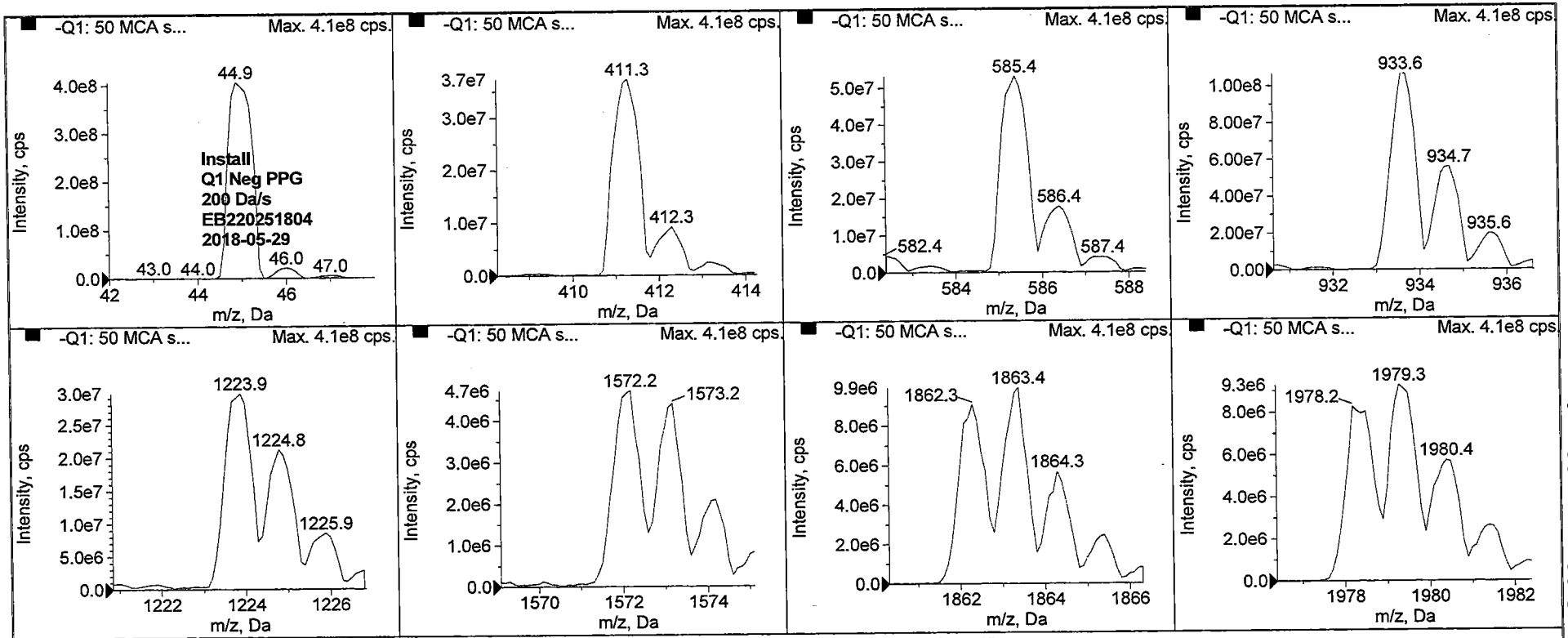
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

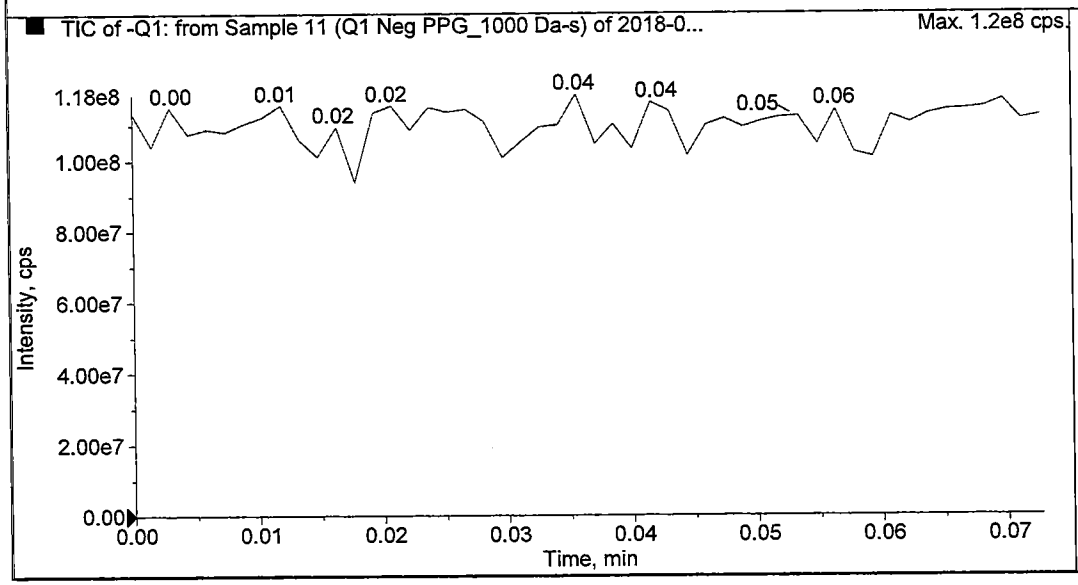
Mass Spectrometer Method Properties

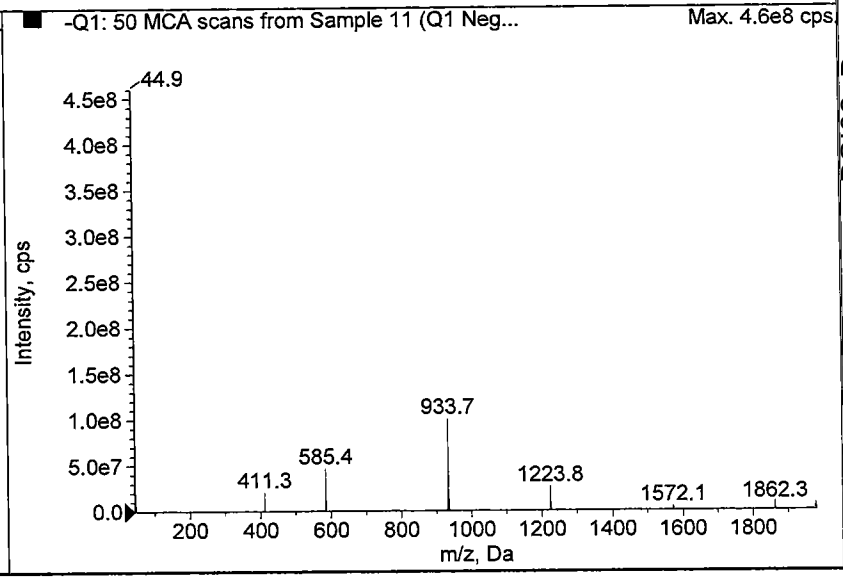
Period 1:

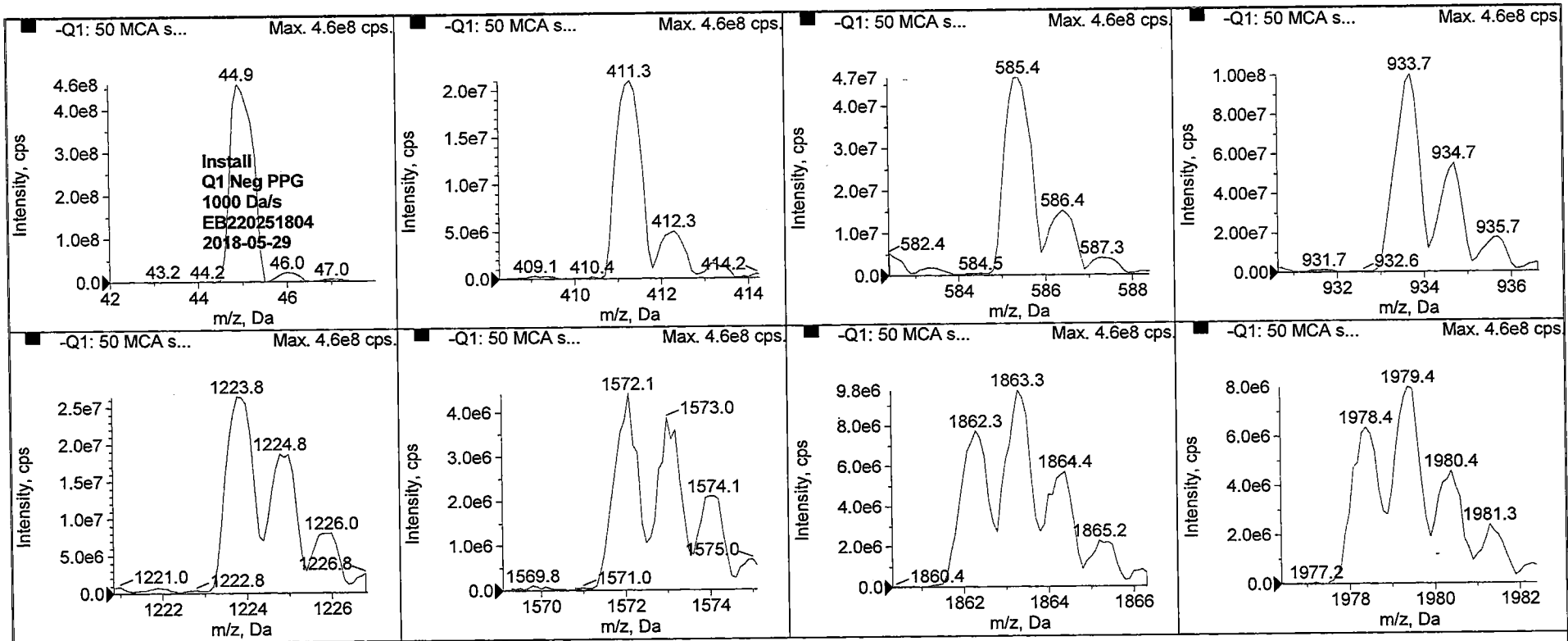
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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

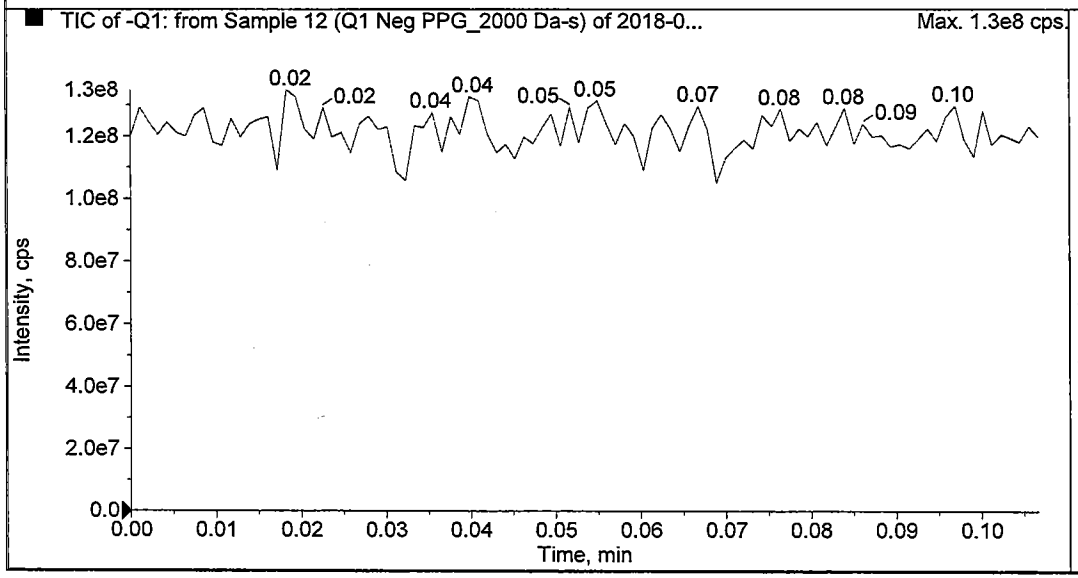
Mass Spectrometer Method Properties

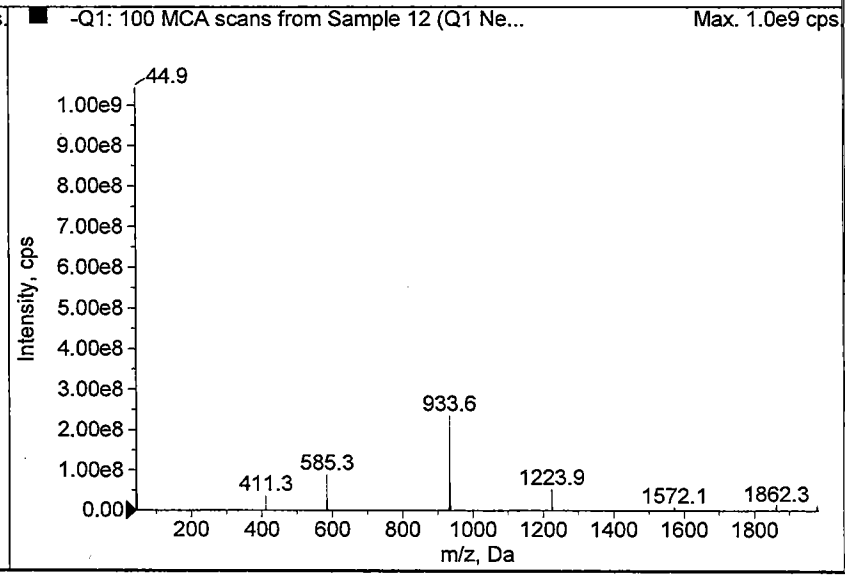
Period 1:

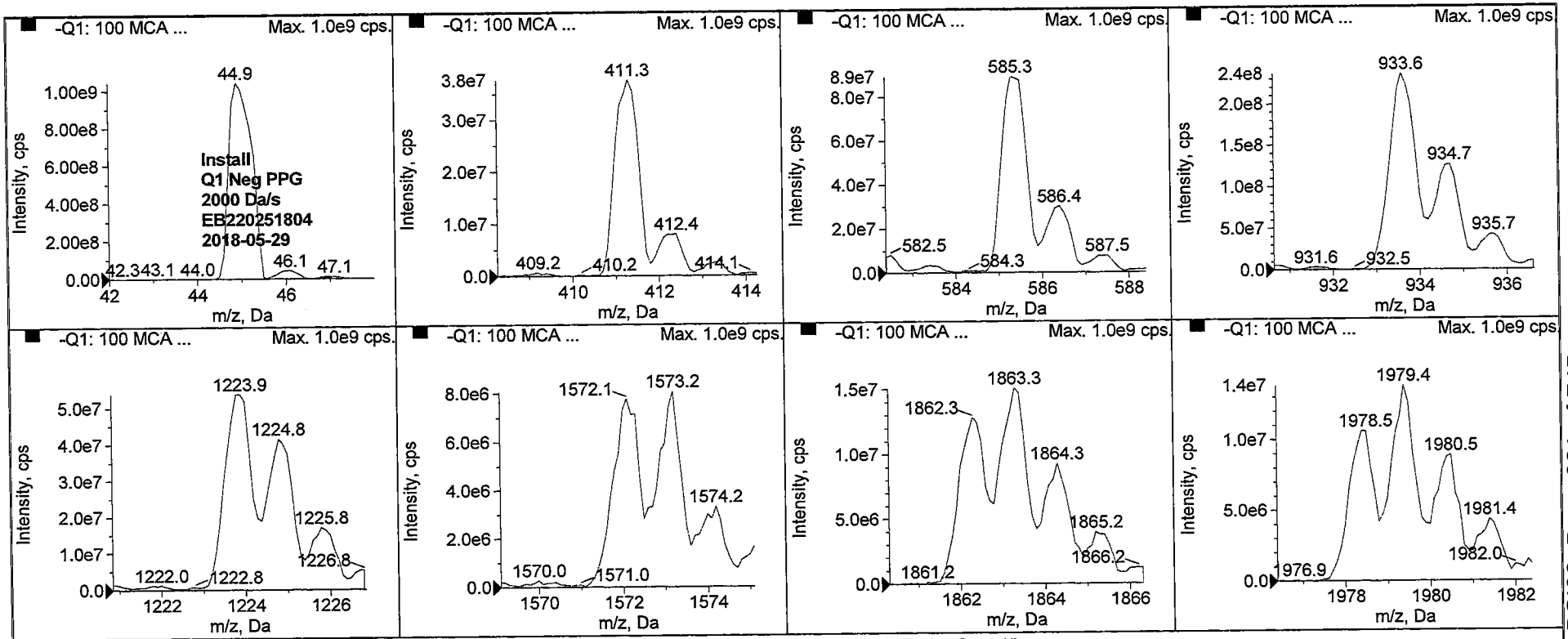
Scans in Period:	100
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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







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

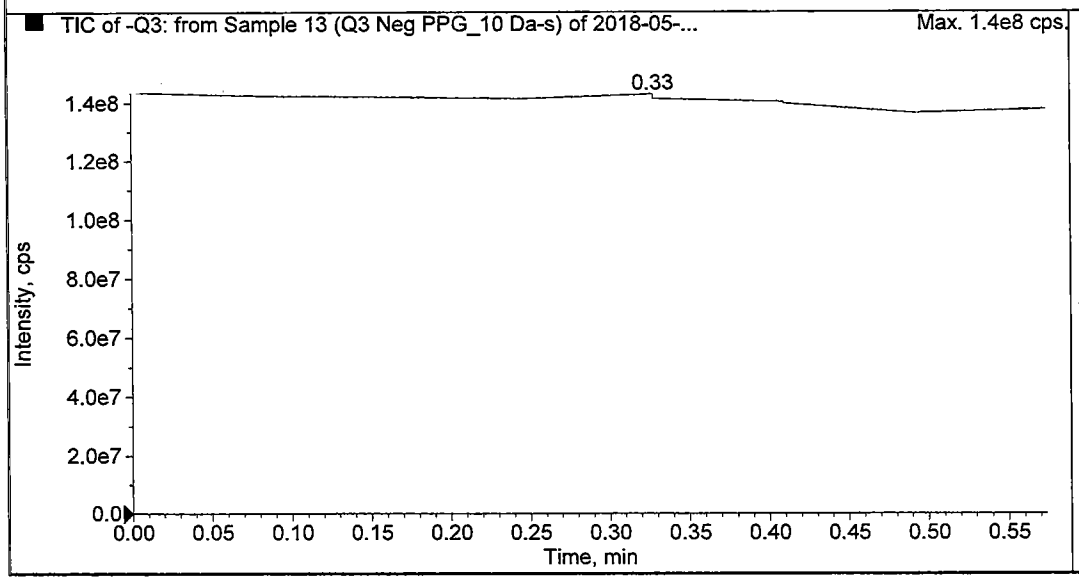
Mass Spectrometer Method Properties

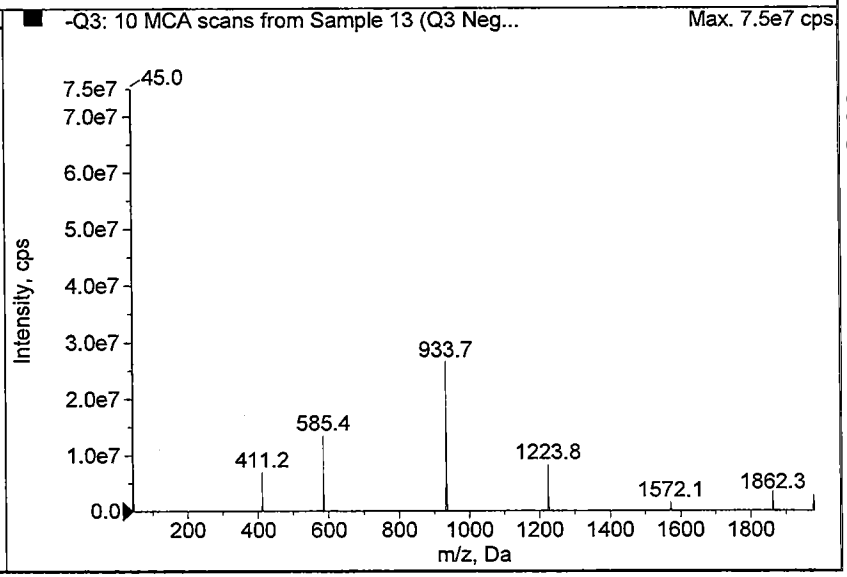
Period 1:

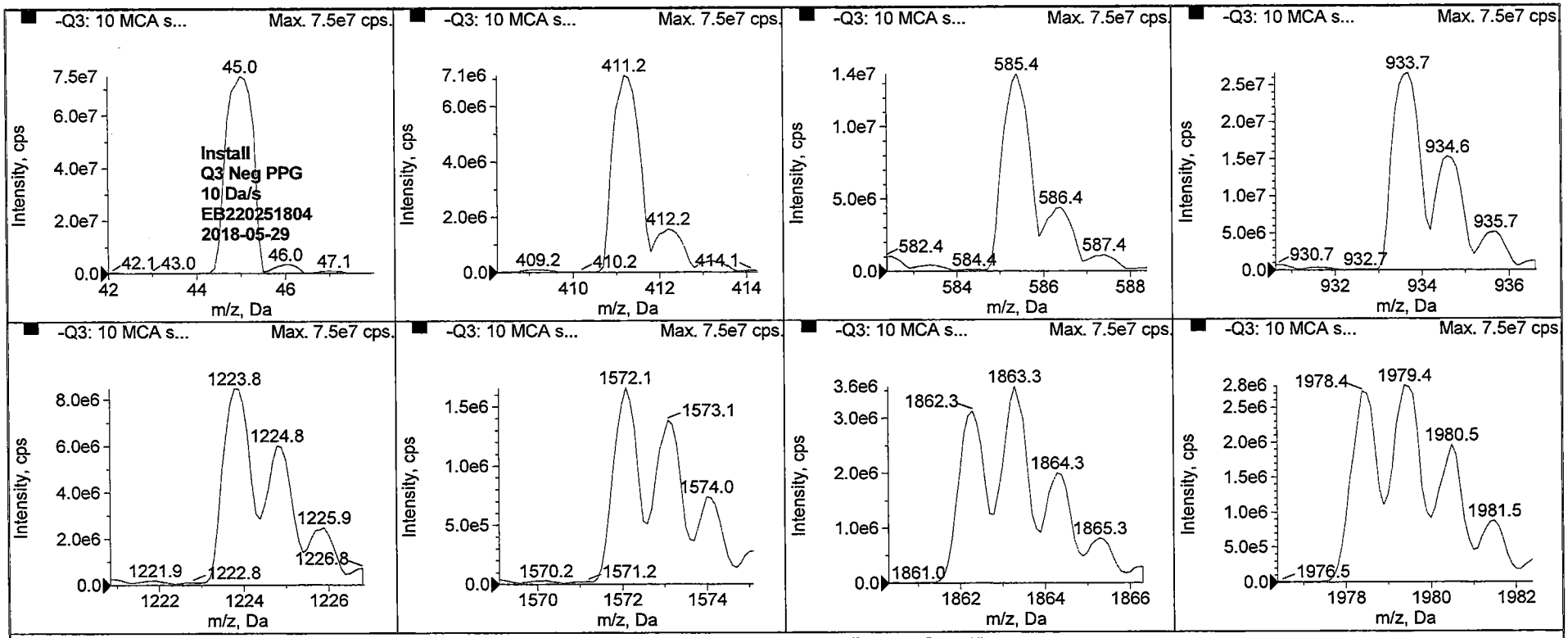
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

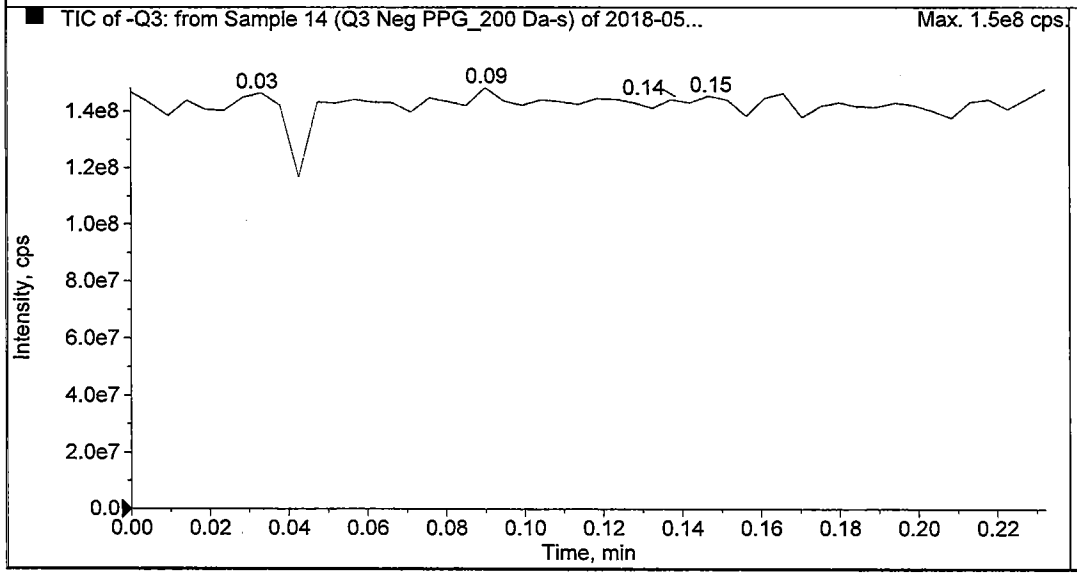
Mass Spectrometer Method Properties

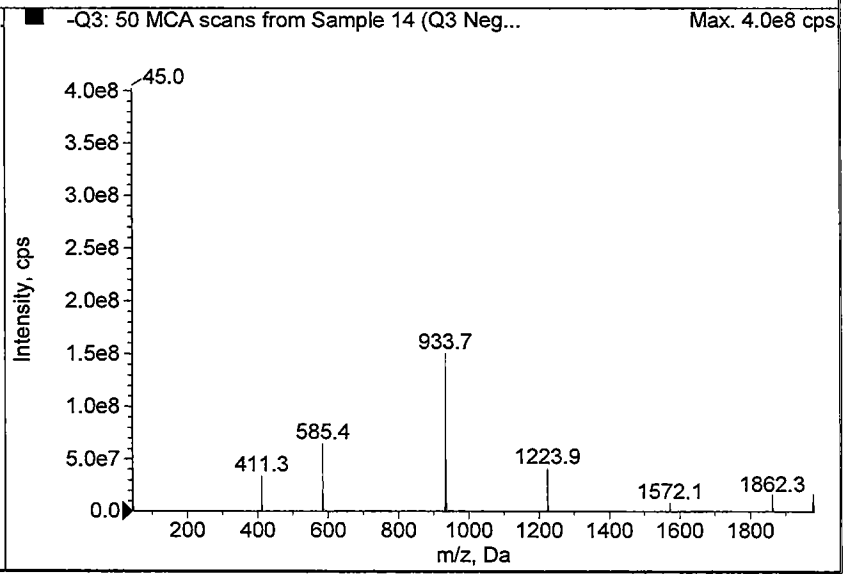
Period 1:

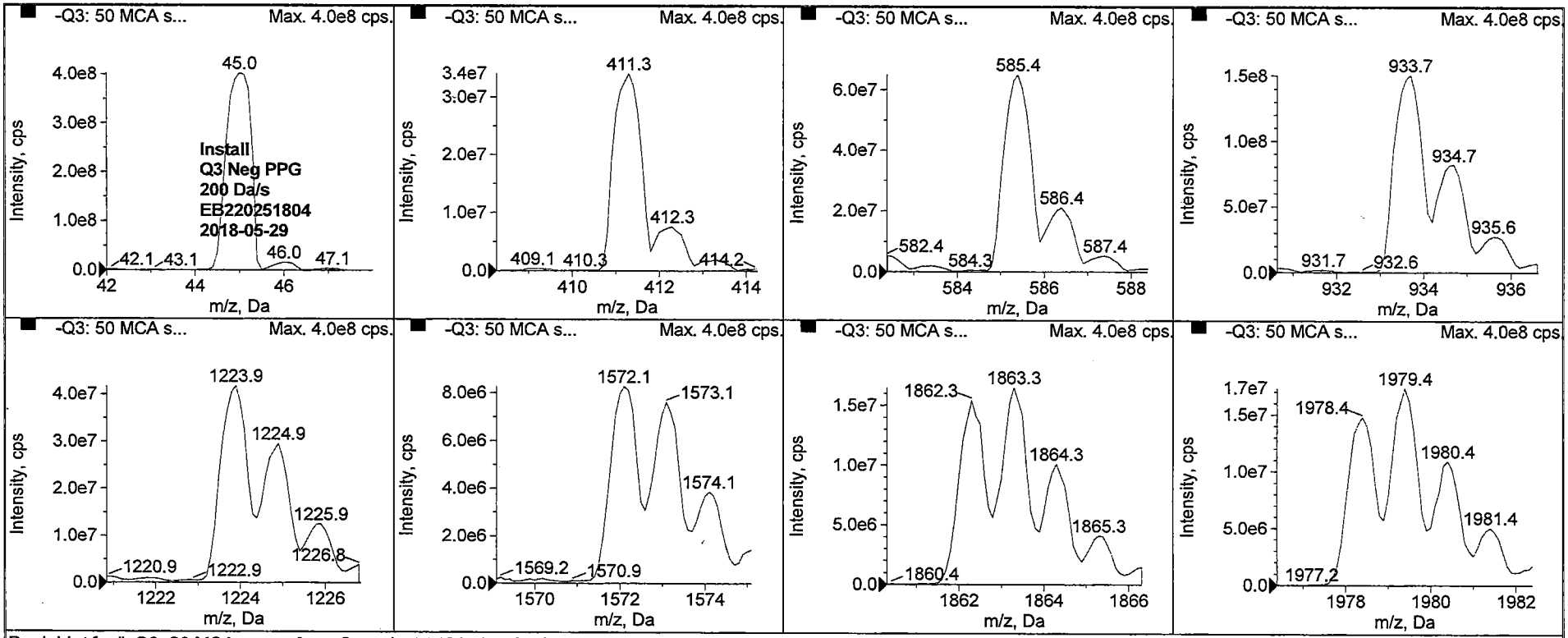
Scans in Period:	50
Relative Start Time:	0.00 msec
Scheduled Ionization:	Off
Experiments in Period:	1

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

Sate 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

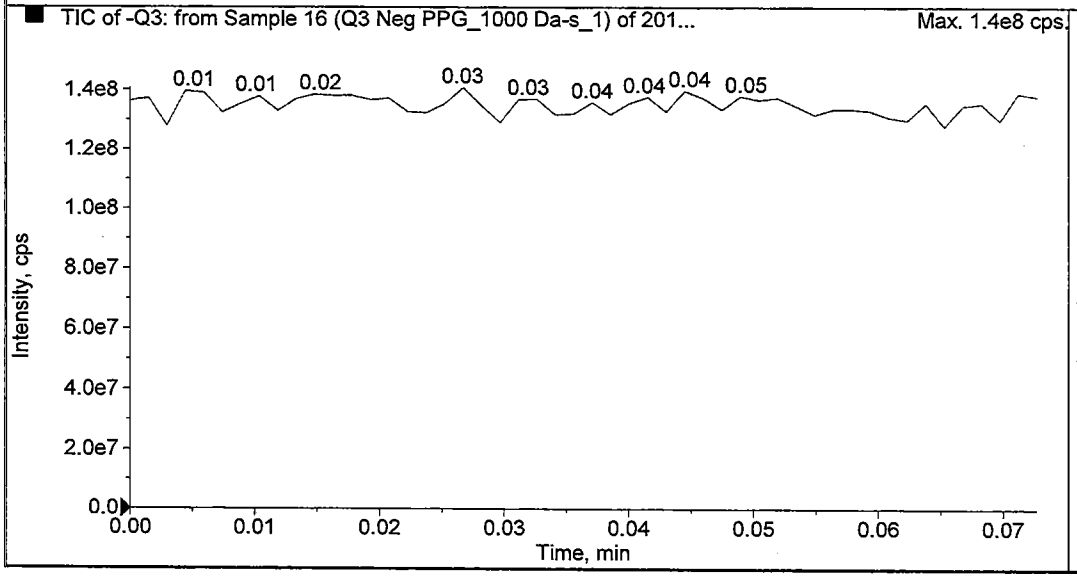
Mass Spectrometer Method Properties

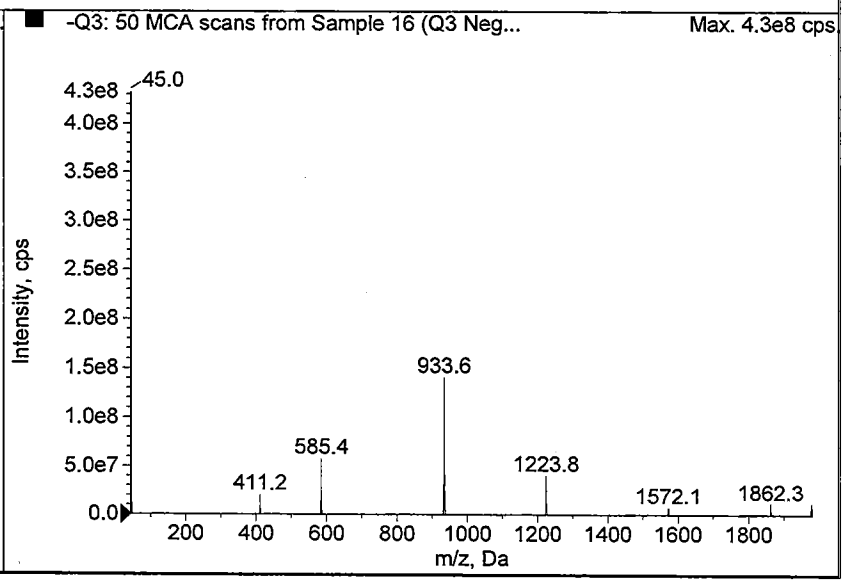
Period 1:

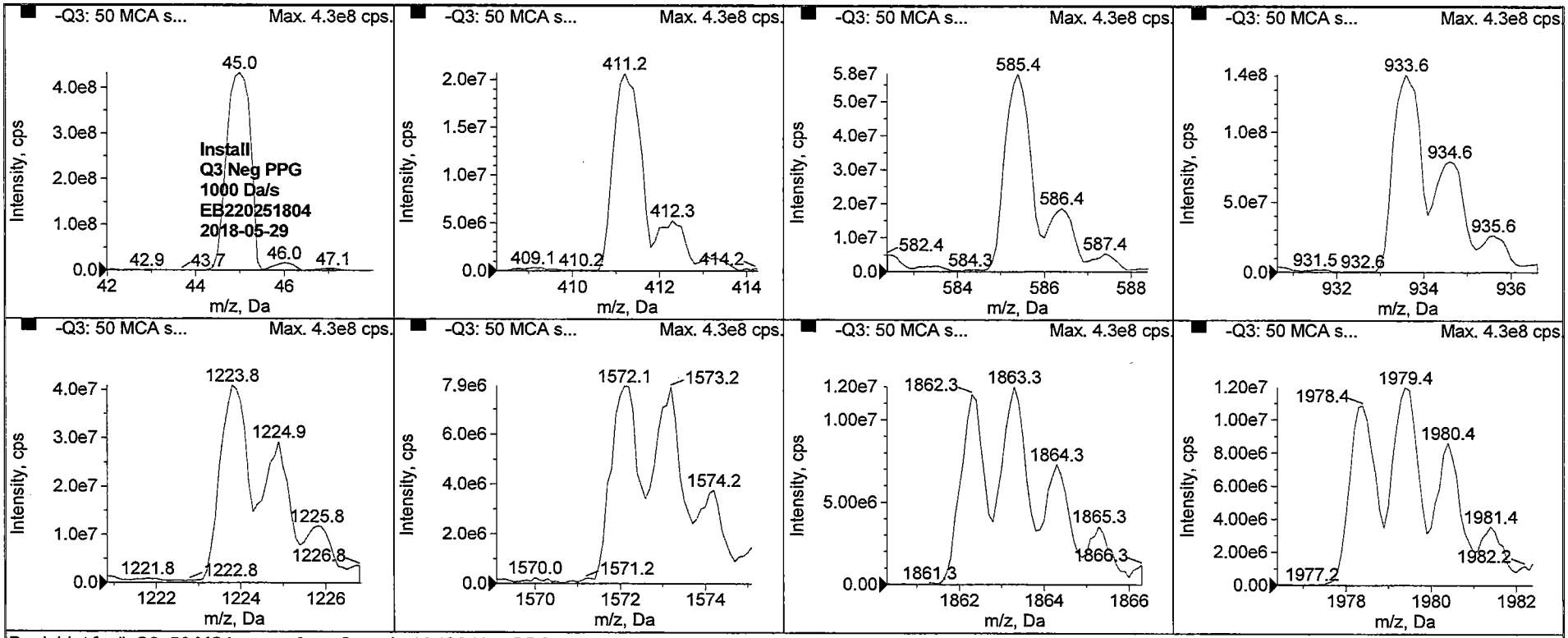
Scans in Period: 50
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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 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

Sate 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

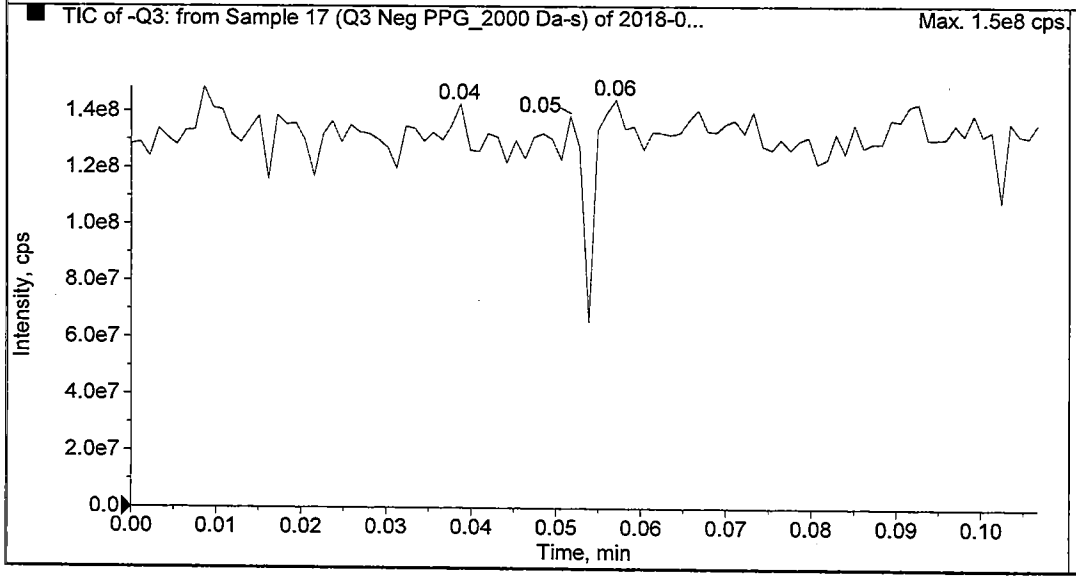
Mass Spectrometer Method Properties

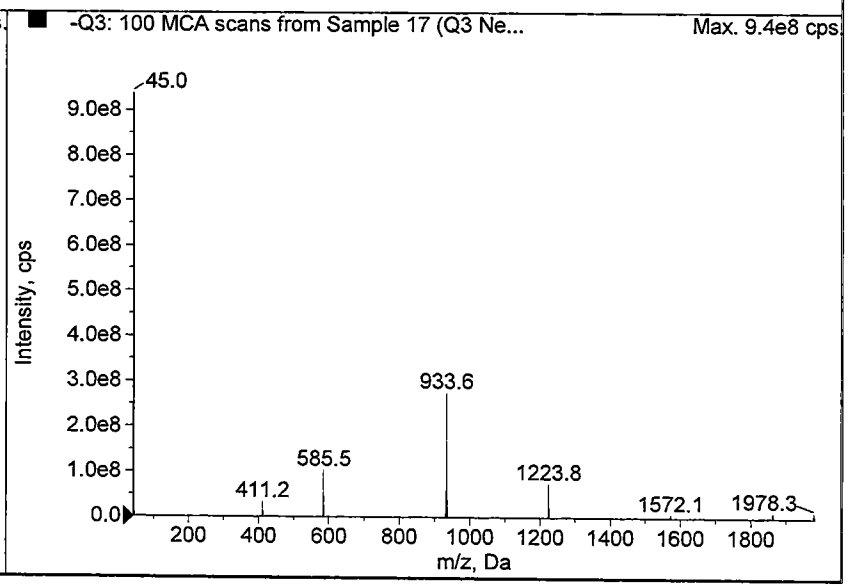
Period 1:

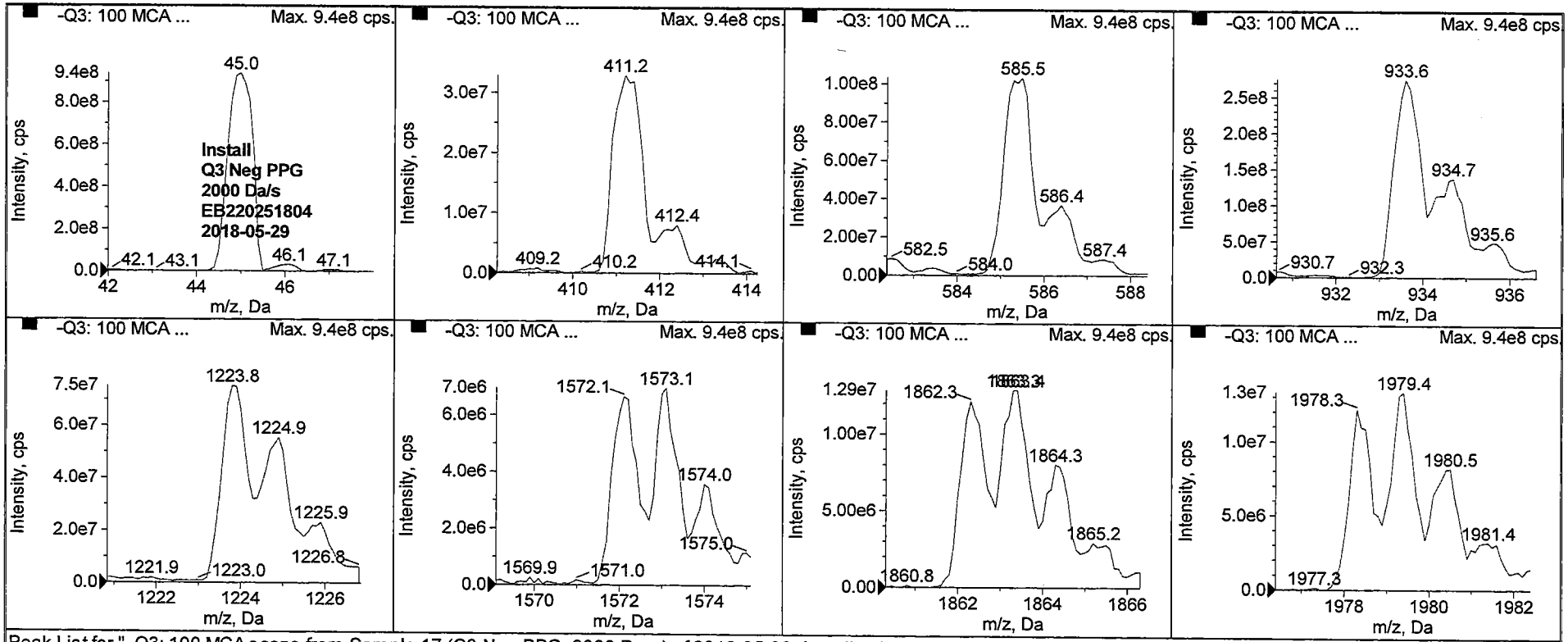
Scans in Period: 100
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

Sate 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

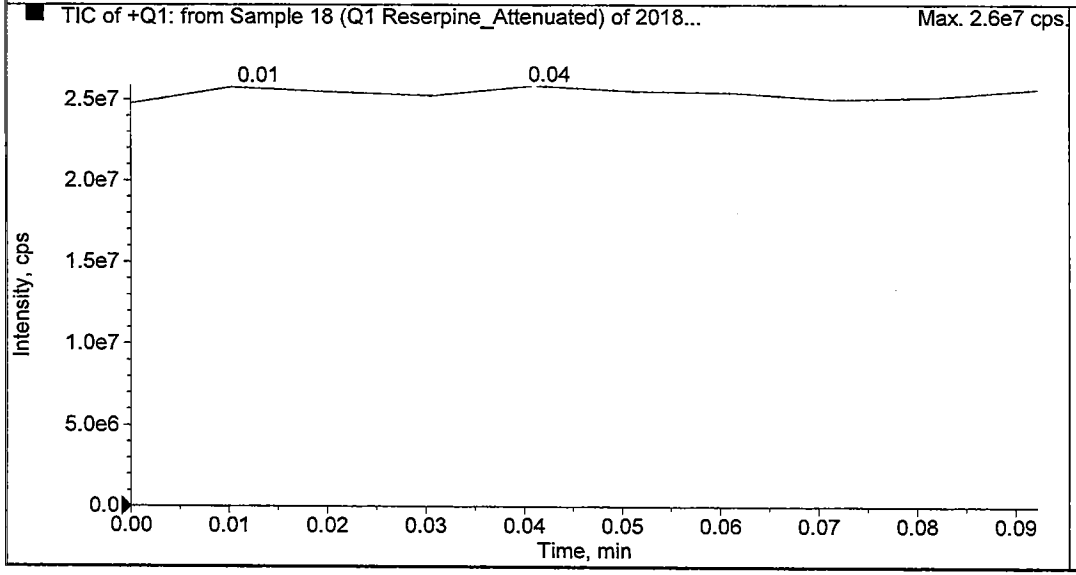
Mass Spectrometer Method Properties

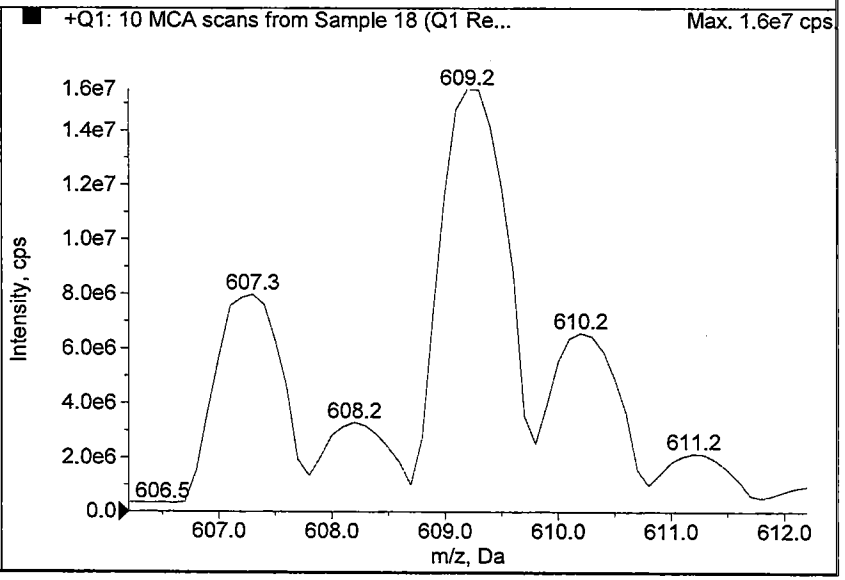
Period 1:

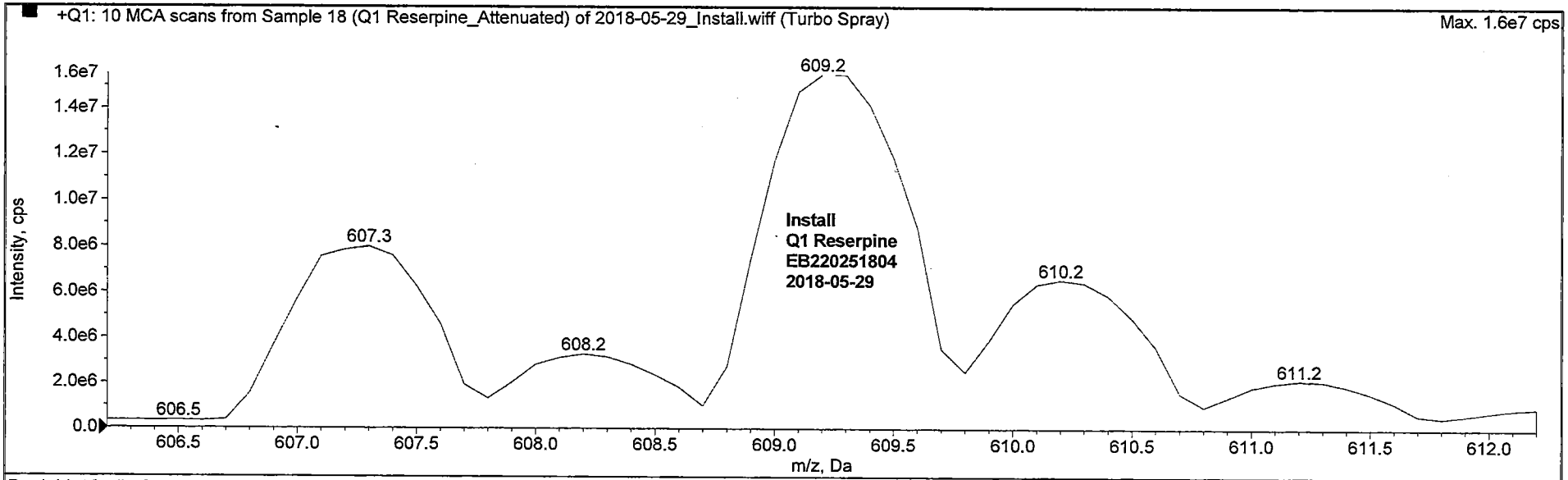
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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

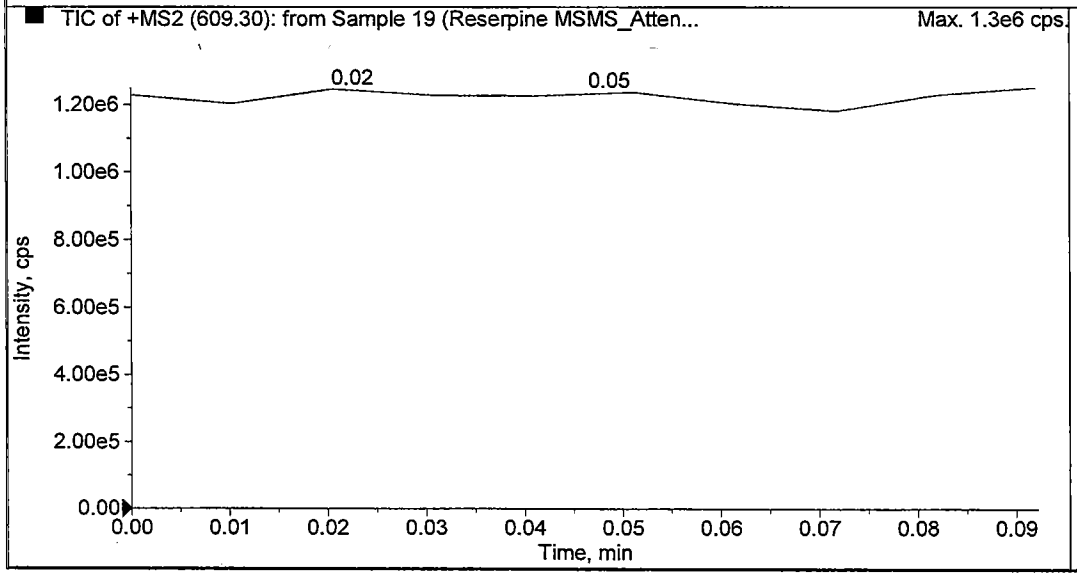
Mass Spectrometer Method Properties

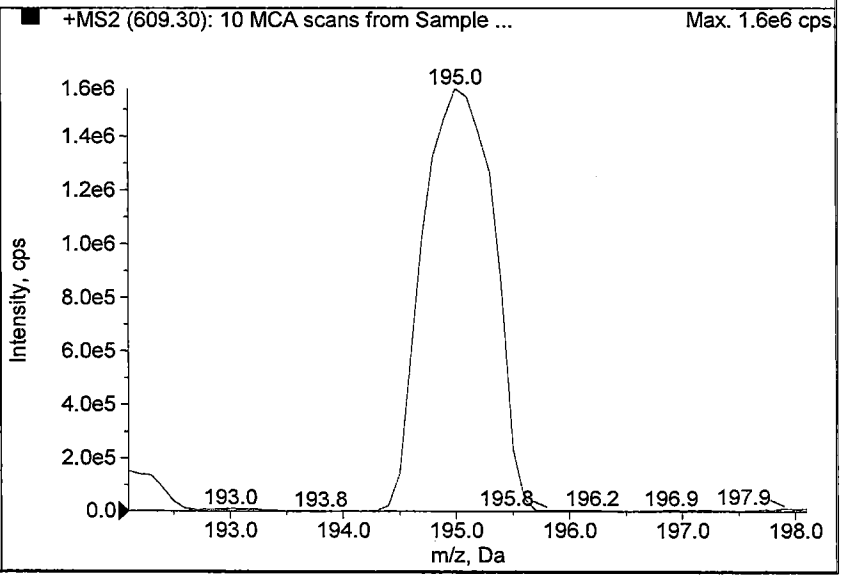
Period 1:

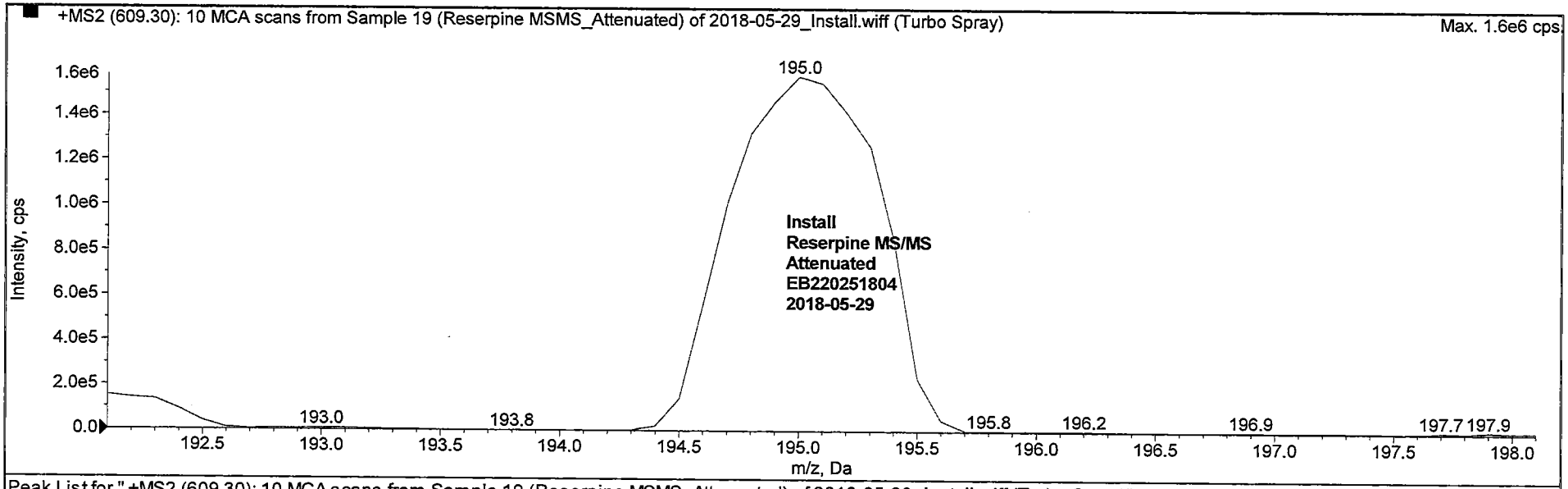
Scans in Period: 10
Relative Start Time: 0.00 msec
Scheduled Ionization: Off
Experiments in Period: 1

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: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	BLK309011			**Data File:**		18NOV07D-66.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011			**Acquis Date:**		2018-11-07T21:10:12
Sample Type:	Unknown			**Instrument:**		LM27631
Vial Position:	36			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	745925.7	730410.6	2	50	
13C2-PFOA	5.0	532550.4	524423.6	2	50	
13C4-PFOS	4.8	286418.7	274061.7	5	50	
13C2-PFDA	5.0	348184.7	311442.1	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	724594.4	13C3-PFBA	745925.7	0.971	10.000	8.991	90	50-150	
E13C5-PFPeA	748451.3	13C3-PFBA	745925.7	1.003	10.000	8.742	87	50-150	
E13C3-PFBS	407275.2	13C3-PFBA	745925.7	0.546	9.300	8.014	86	50-150	
E13C2-4:2-FTS	49303.4	13C2-PFOA	532550.4	0.093	9.340	8.355	89	50-150	
E13C5-PFHxA	644446.9	13C2-PFOA	532550.4	1.210	10.000	8.903	89	50-150	
E13C3-PFHxS	299619.5	13C2-PFOA	532550.4	0.563	9.460	8.078	85	50-150	
E13C4-PFHpA	520291.6	13C2-PFOA	532550.4	0.977	10.000	8.889	89	50-150	
E13C2-6:2-FTS	36158.7	13C2-PFOA	532550.4	0.068	9.500	9.055	95	50-150	
E13C8-PFOA	889512.1	13C2-PFOA	532550.4	1.670	10.000	9.316	93	50-150	
E13C8-PFOS	272339.5	13C4-PFOS	286418.7	0.951	9.560	8.409	88	50-150	
E13C9-PFNA	479074.0	13C4-PFOS	286418.7	1.673	10.000	9.138	91	50-150	
E13C6-PFDA	594583.2	13C2-PFDA	348184.7	1.708	10.000	8.589	86	50-150	
E13C2-8:2-FTS	25645.8	13C2-PFDA	348184.7	0.074	9.580	7.795	81	50-150	
E13C8-PFOSA	717232.1	13C2-PFDA	348184.7	2.060	10.000	8.990	90	50-150	
Ed3-NMeFOSAA	80984.9	13C2-PFDA	348184.7	0.233	10.000	8.651	87	50-150	
E13C7-PFUnDA	271490.4	13C2-PFDA	348184.7	0.780	10.000	8.996	90	50-150	
Ed5-NEtFOSAA	60183.1	13C2-PFDA	348184.7	0.173	10.000	8.000	80	50-150	
E13C2-PFDoDA	537461.3	13C2-PFDA	348184.7	1.544	10.000	8.323	83	50-150	
Ed7-NMePFOSAE	324541.0	13C2-PFDA	348184.7	0.932	10.000	8.669	87	50-150	
Ed3-NMePFOSA	80587.6	13C2-PFDA	348184.7	0.231	10.000	8.475	85	50-150	
Ed9-NEtPFOSAE	271186.4	13C2-PFDA	348184.7	0.779	10.000	8.896	89	50-150	
Ed5-NEtPFOSA	60698.1	13C2-PFDA	348184.7	0.174	10.000	8.073	81	50-150	
E13C2-PFTeDA	384538.6	13C2-PFDA	348184.7	1.104	10.000	7.952	80	50-150	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

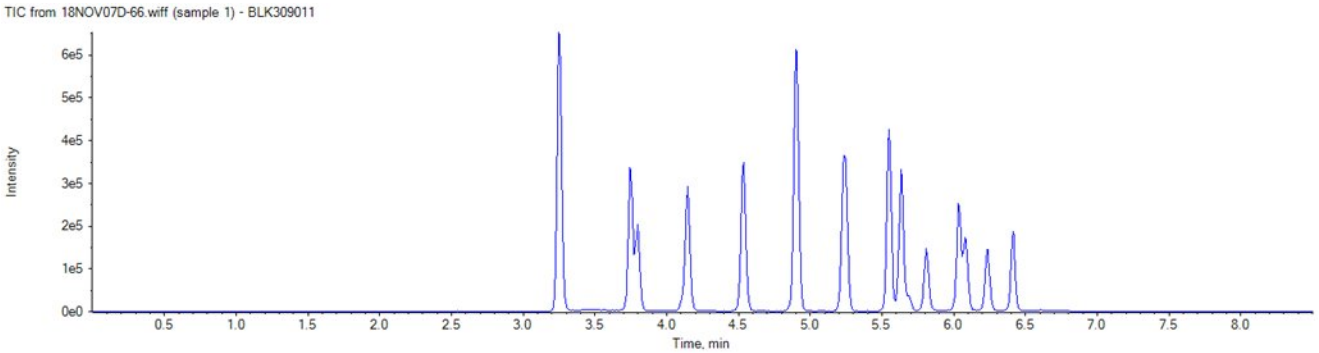
Analyte Quantitation Peak Table

Sample Name: BLK309011 **Instrument Name:** LM27631 **File Name:** 18NOV07D-66.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	2.000

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	3.25	724594.4	N/A	
PFPeA	N/A	N/A	N/A		A	13C5-PFPeA	3.75	748451.3	N/A	
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	407275.2	N/A	
4:2-FTS	N/A	N/A	N/A		A	13C2-4:2-FTS	4.11	49303.4	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.14	644446.9	N/A	
PFPeS	N/A	N/A	N/A		A	13C3-PFBS	3.80	407275.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.53	299619.5	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	520291.6	N/A	
6:2-FTS	N/A	N/A	N/A		A	13C2-6:2-FTS	4.89	36158.7	N/A	
PFHpS	N/A	N/A	N/A		A	13C3-PFHxS	4.53	299619.5	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	889512.1	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	272339.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	479074.0	N/A	
PFNS	N/A	N/A	N/A		A	13C8-PFOS	5.23	272339.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	594583.2	N/A	
8:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	25645.8	N/A	
PFOSA	N/A	N/A	N/A		A	13C8-PFOSA	5.63	717232.1	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	80984.9	N/A	
PFDS	N/A	N/A	N/A		A	13C8-PFOS	5.23	272339.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	271490.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	60183.1	N/A	
PFDoDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	537461.3	N/A	
10:2-FTS	N/A	N/A	N/A		A	13C2-8:2-FTS	5.55	25645.8	N/A	
NMePFOSAE	N/A	N/A	N/A		A	d7-NMePFOSAE	6.08	324541.0	N/A	
NMePFOSA	N/A	N/A	N/A		A	d3-NMePFOSA	6.09	80587.6	N/A	
PFDoS	N/A	N/A	N/A		A	13C8-PFOS	5.23	272339.5	N/A	
NEtPFOSAE	N/A	N/A	N/A		A	d9-NEtPFOSAE	6.23	271186.4	N/A	
NEtPFOSA	N/A	N/A	N/A		A	d5-NEtPFOSA	6.25	60698.1	N/A	
PFTrDA	N/A	N/A	N/A		A	13C2-PFDoDA	6.04	537461.3	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	384538.6	N/A	
PFHxDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	384538.6	N/A	
PFODA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	384538.6	N/A	

Total Ion Chromatogram

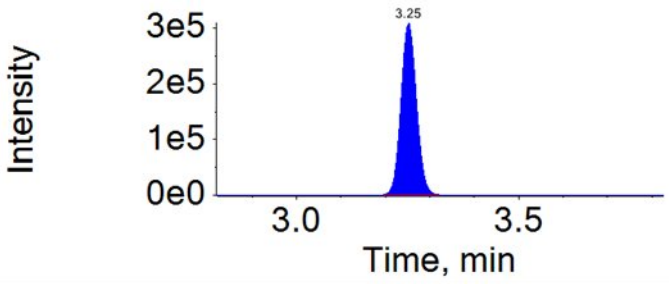


APPROVED
By MCD at 5:15 pm, 11/8/18

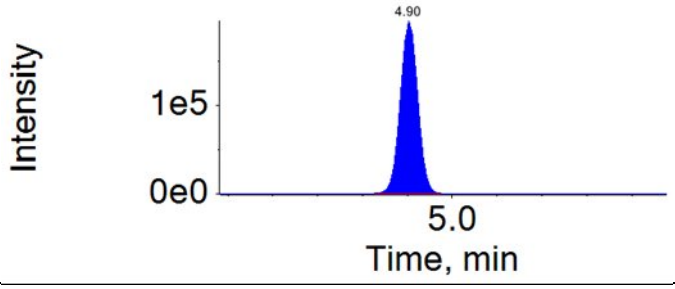
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

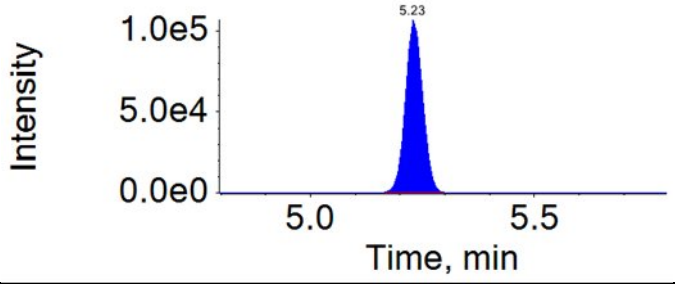
Injection Standard: 13C3-PFBA
216.0 / 172.0



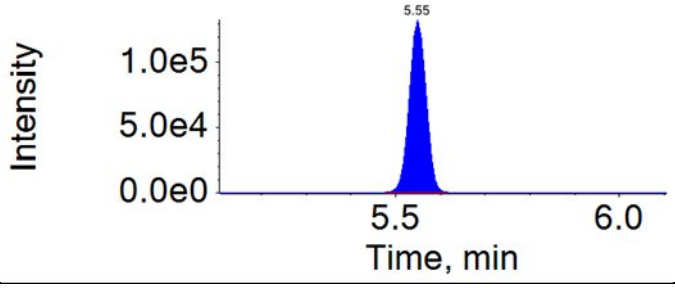
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

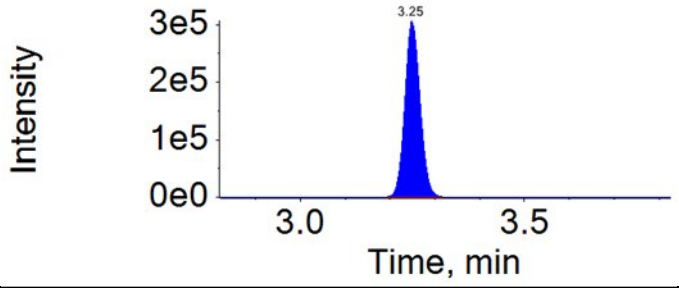


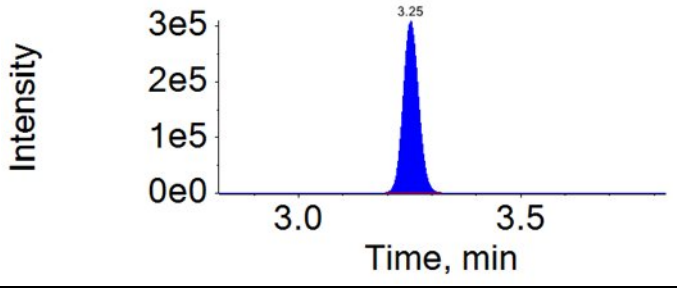
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

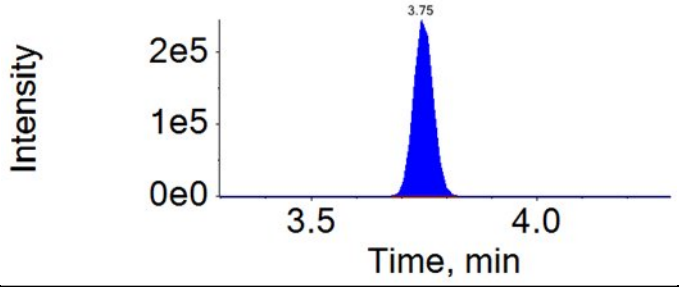
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

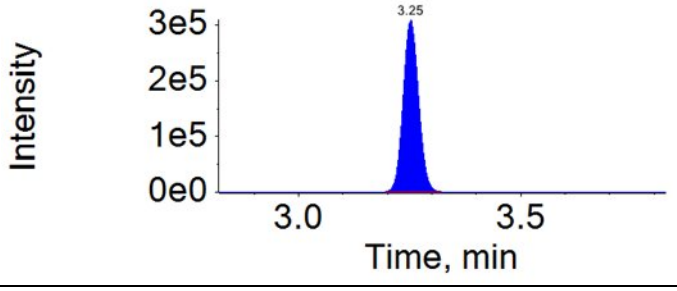
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



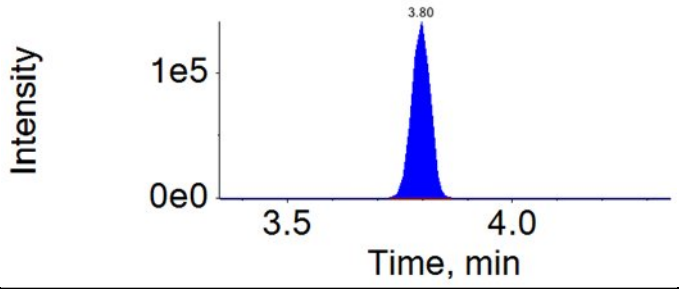


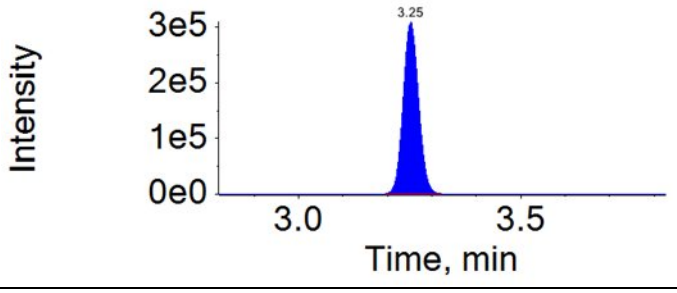
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



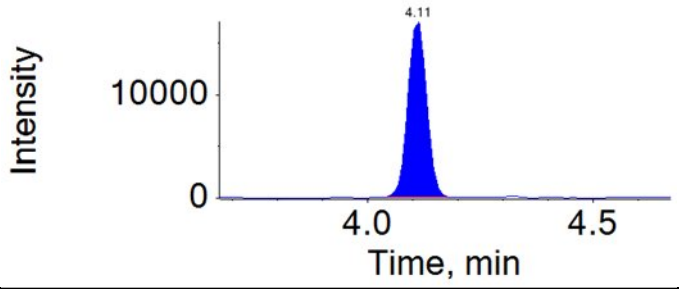


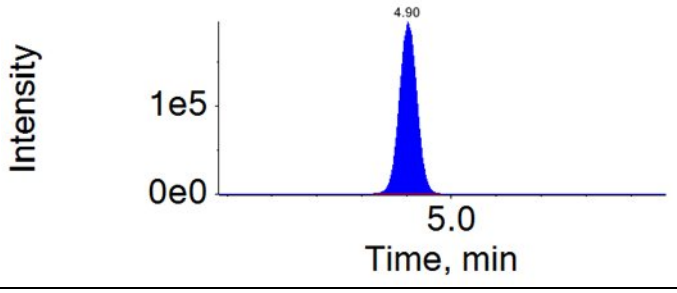
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



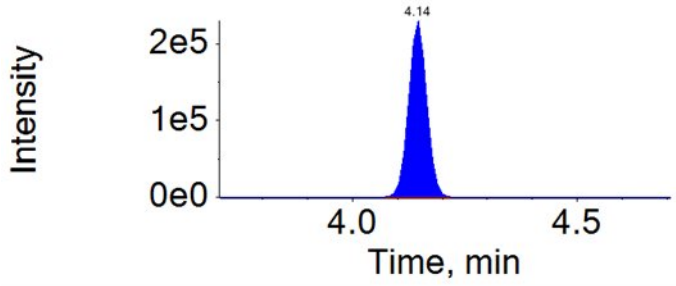


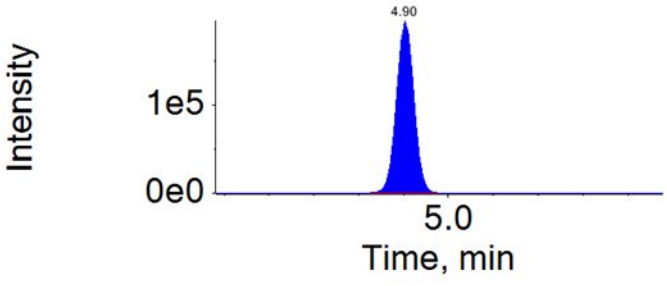
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

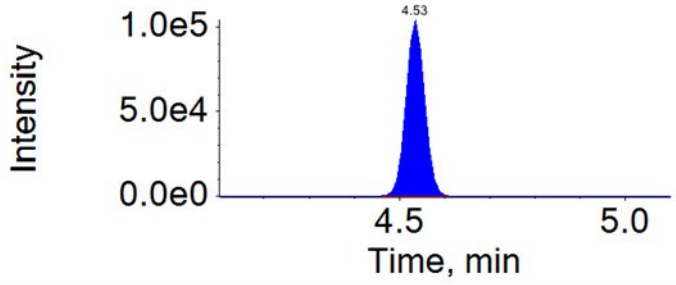
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

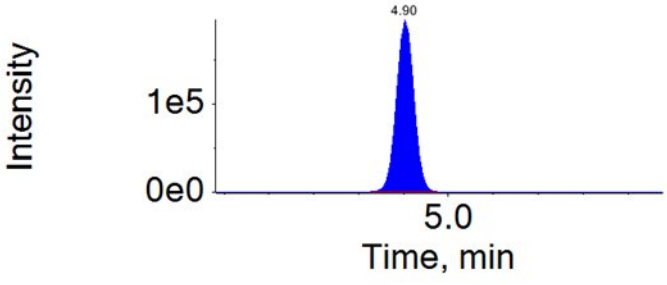
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



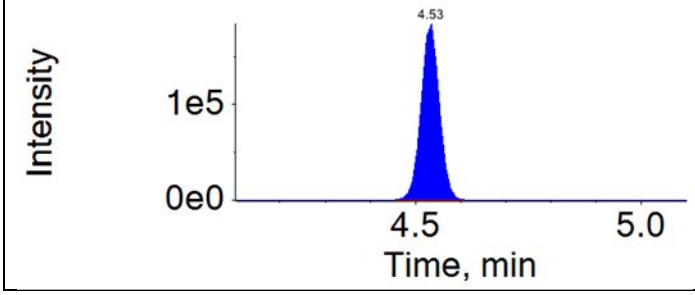


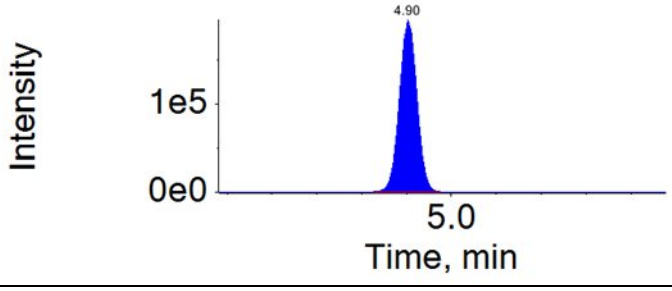
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



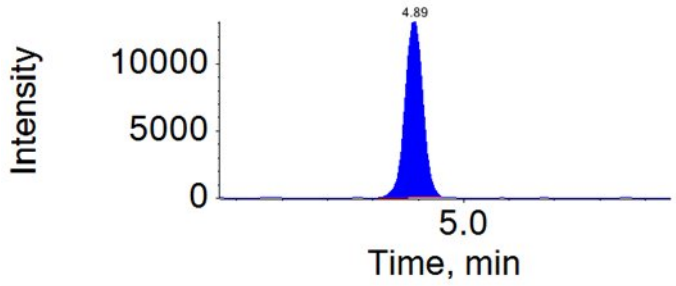


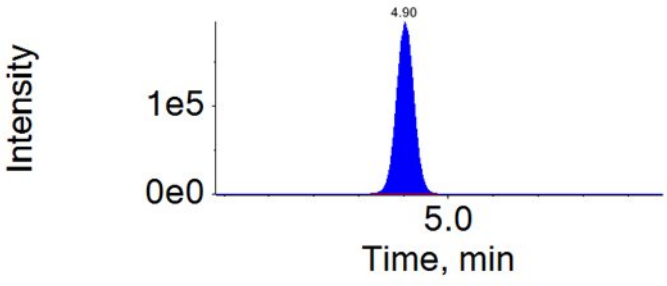
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0



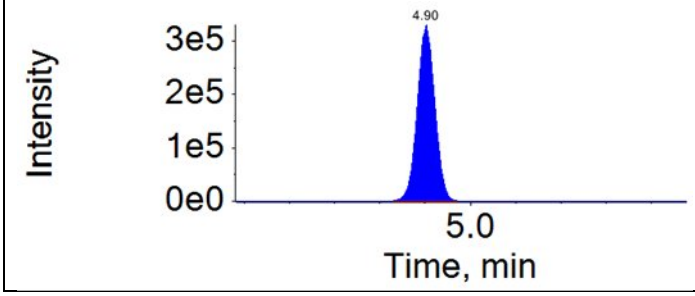


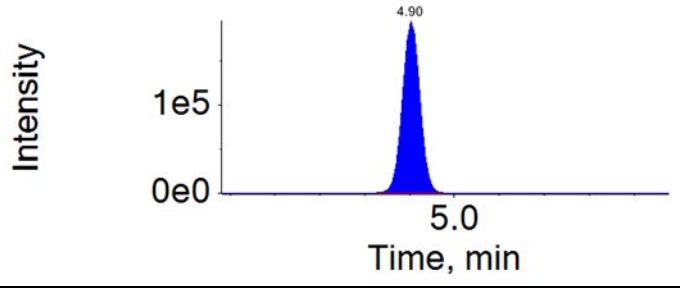
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

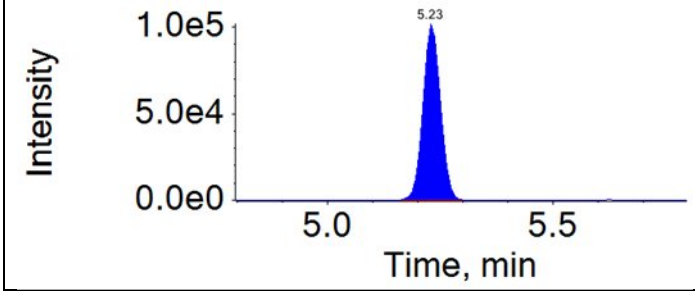
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

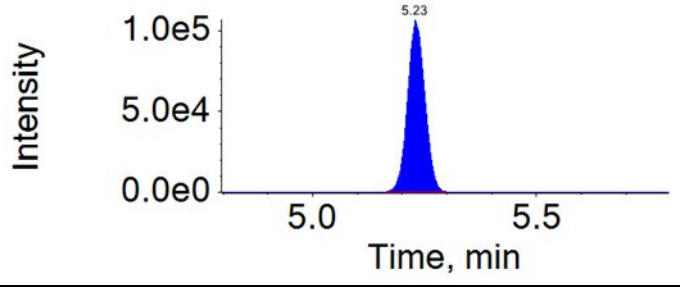
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



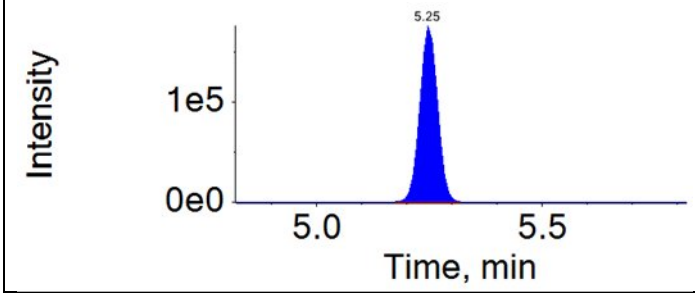


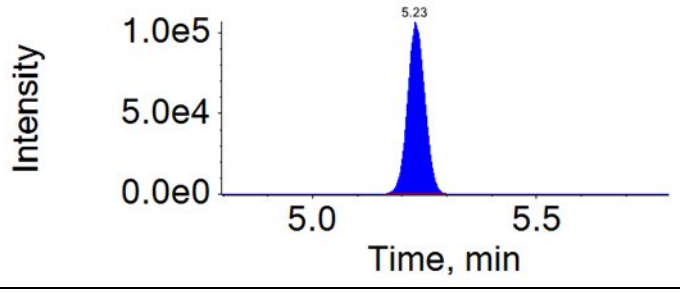
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



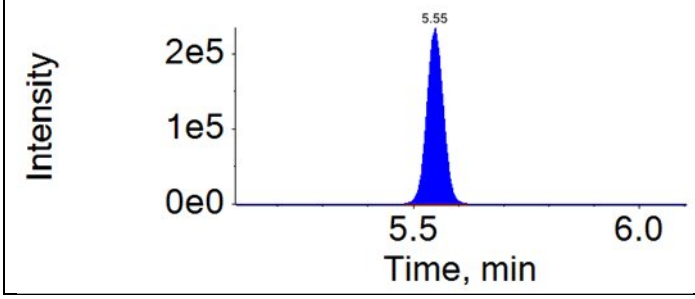


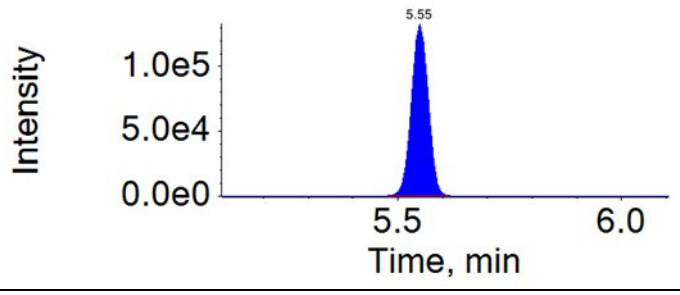
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

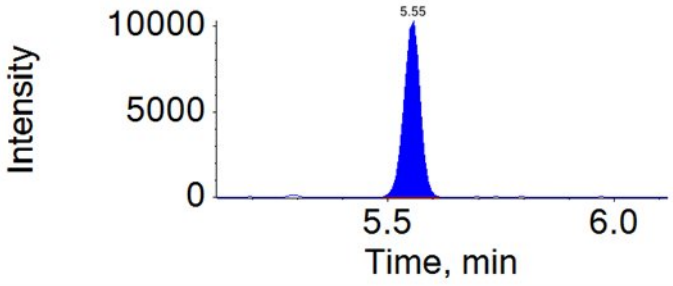
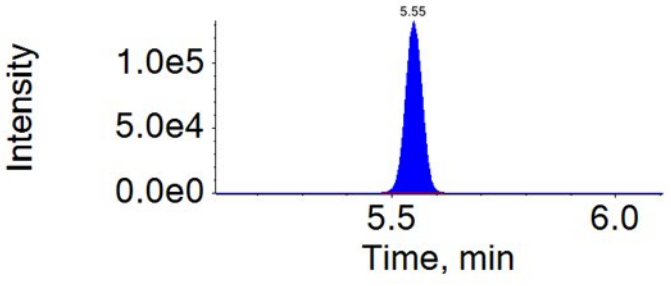


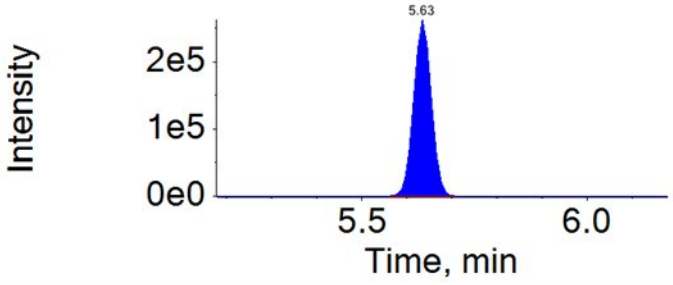
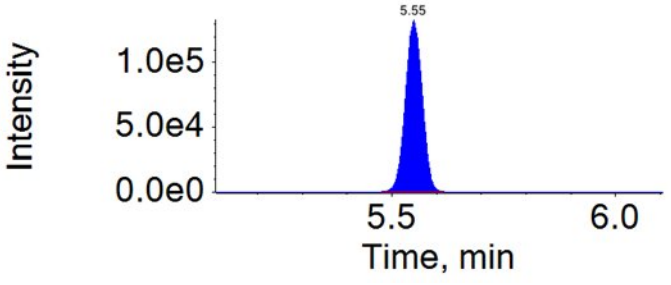


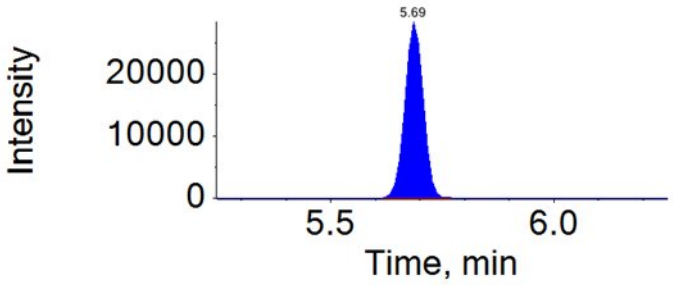
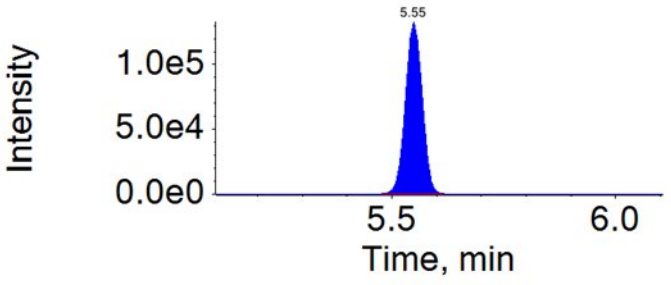
APPROVED
By MCD at 5:15 pm, 11/8/18

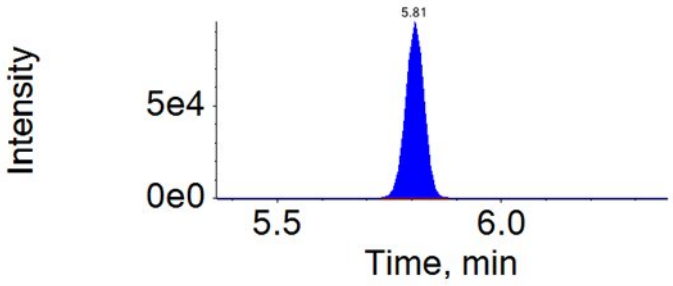
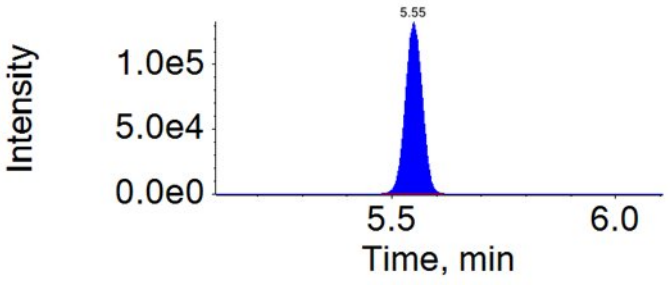
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

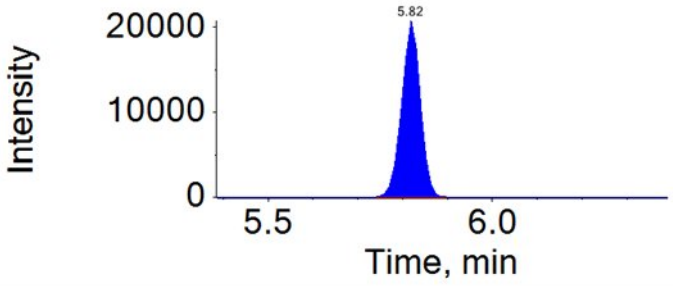
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

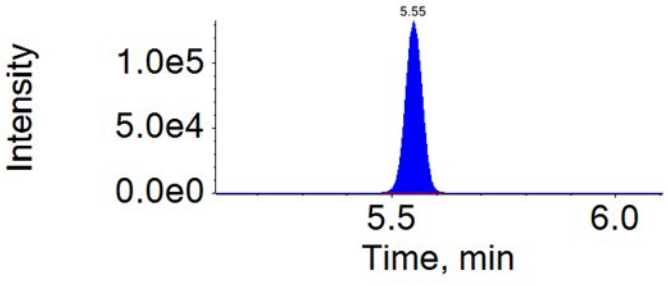
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

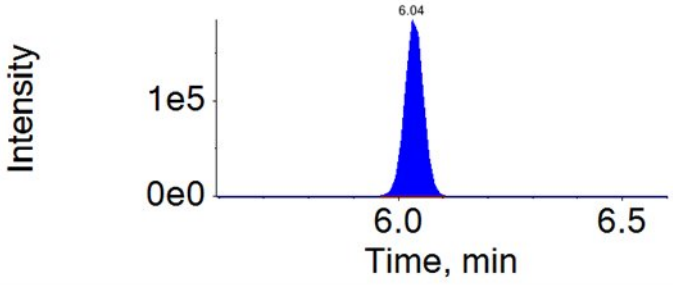
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

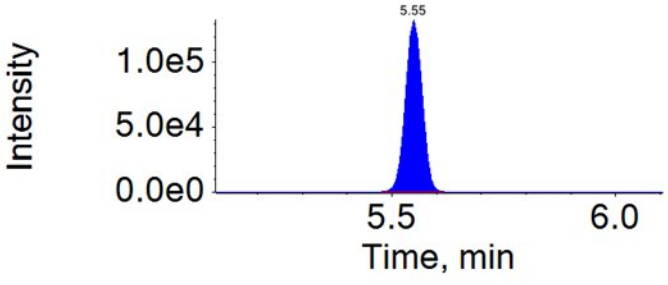
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



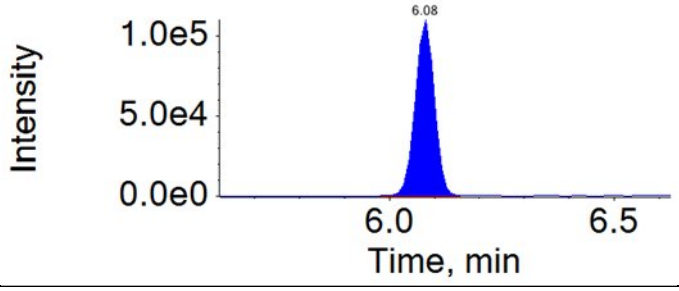


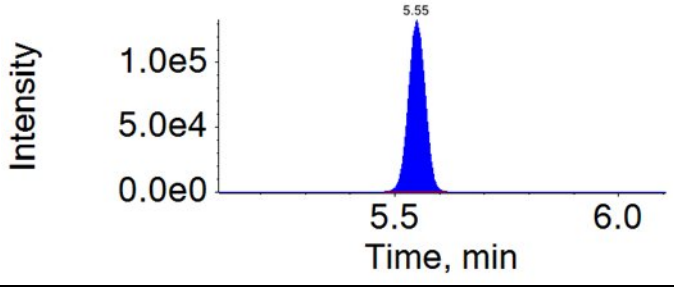
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



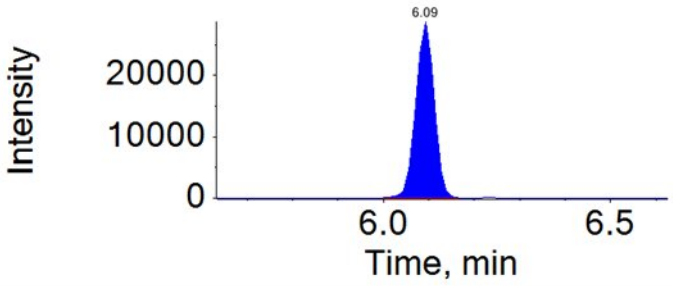


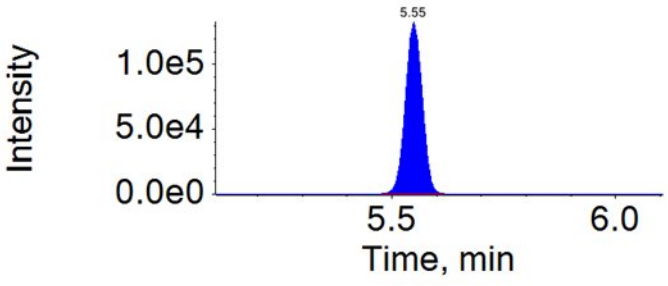
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





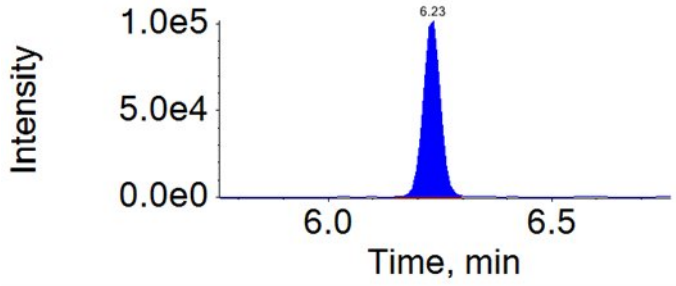
Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0

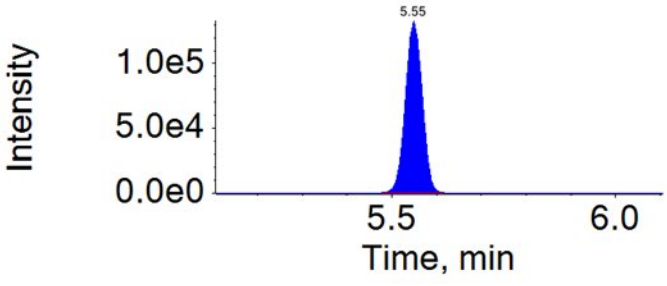




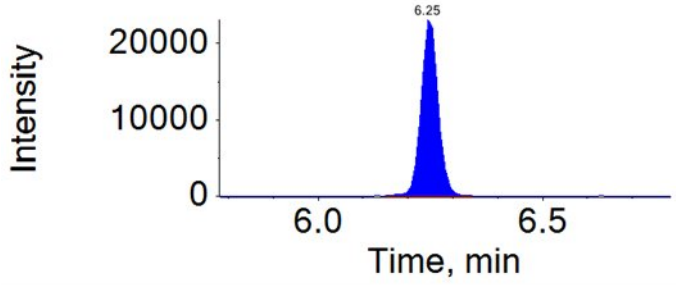
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

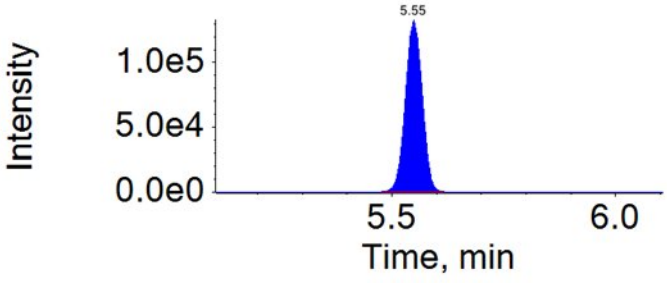
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



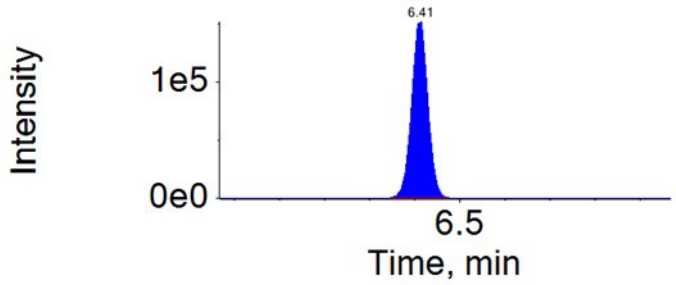


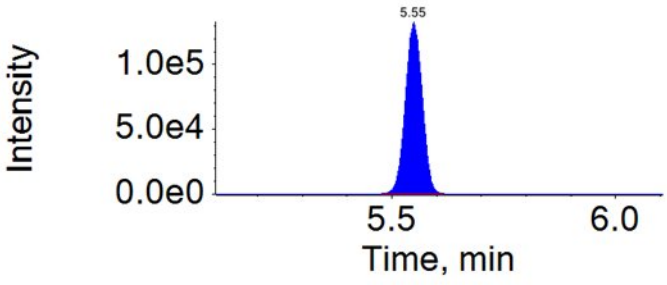
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



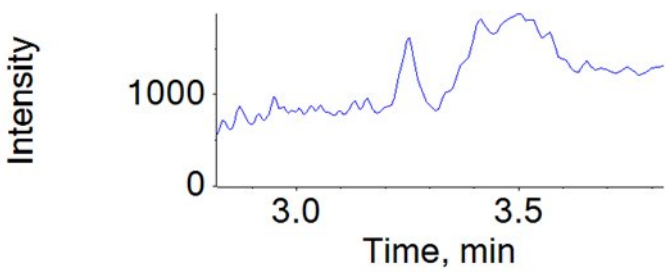


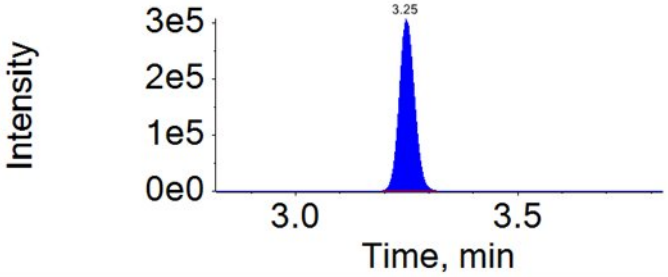
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

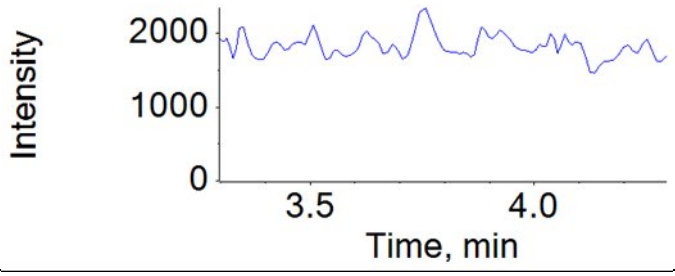
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

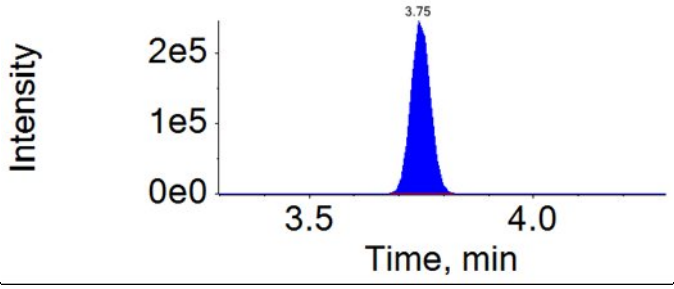
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



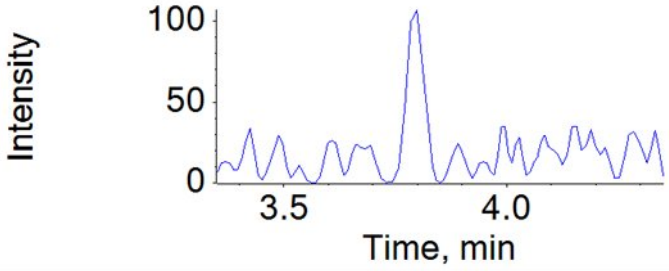


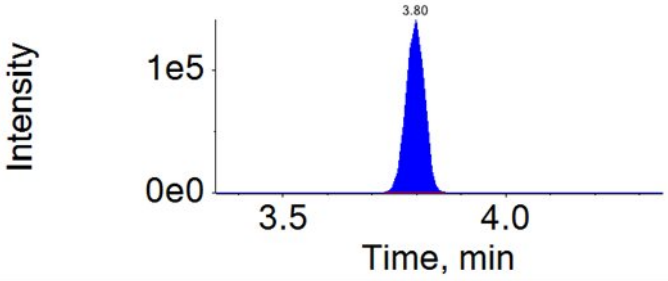
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



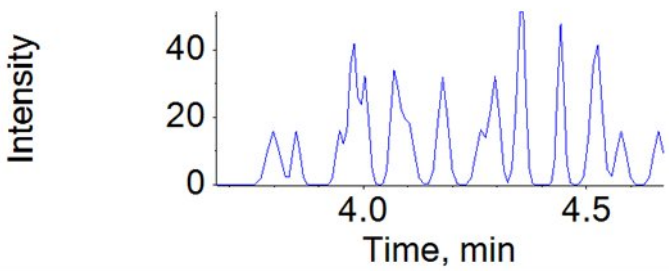


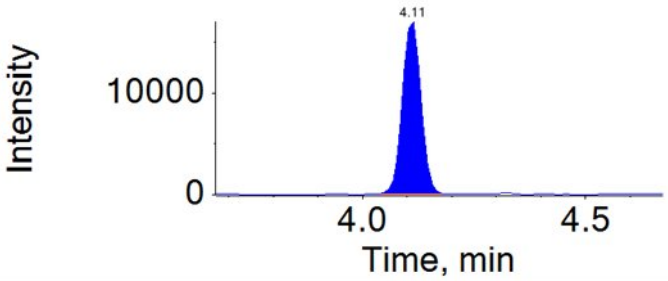
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



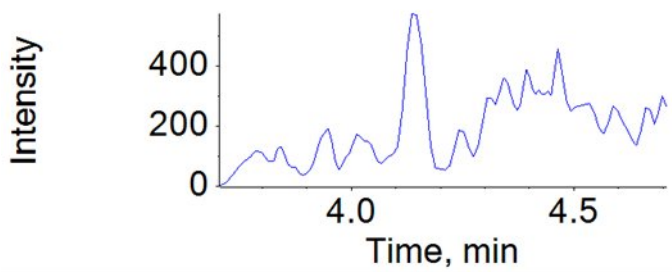


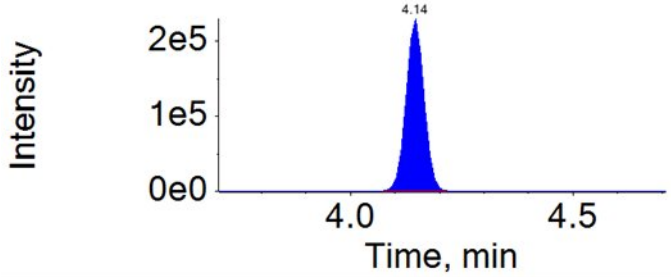
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

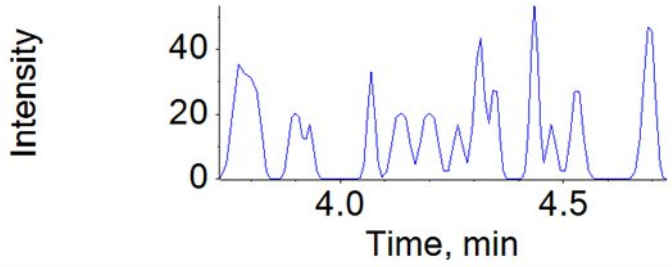
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

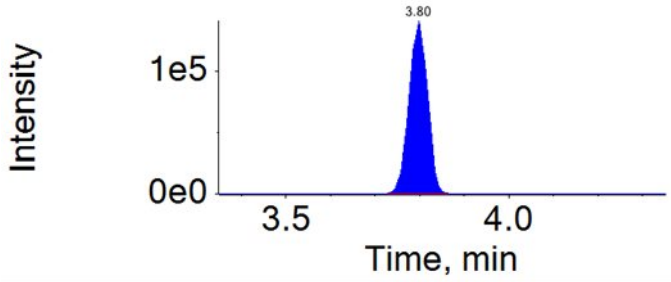
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



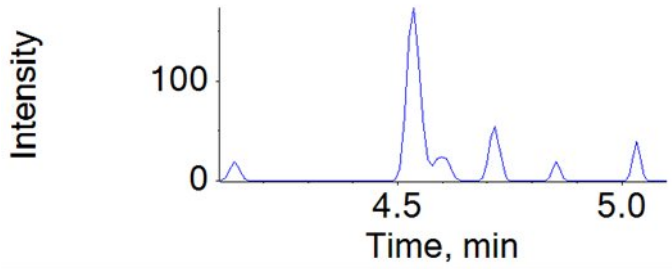


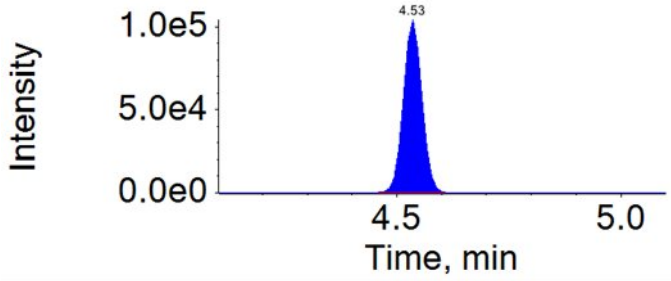
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



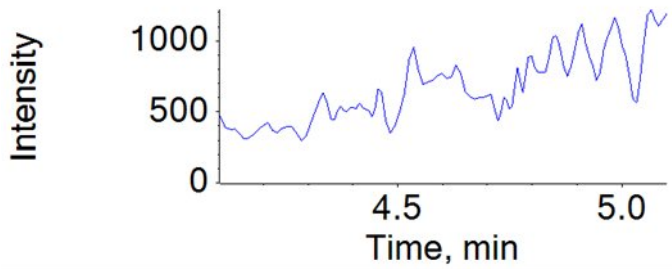


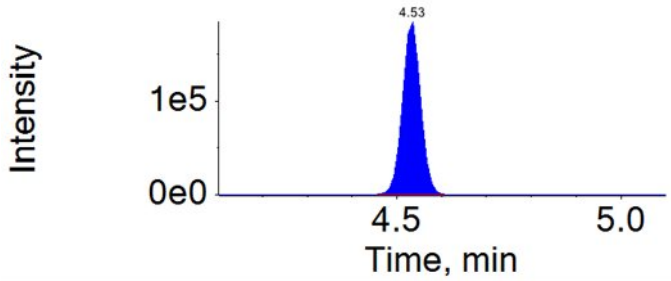
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



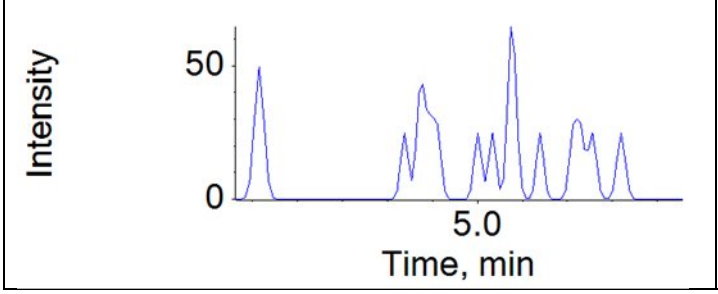


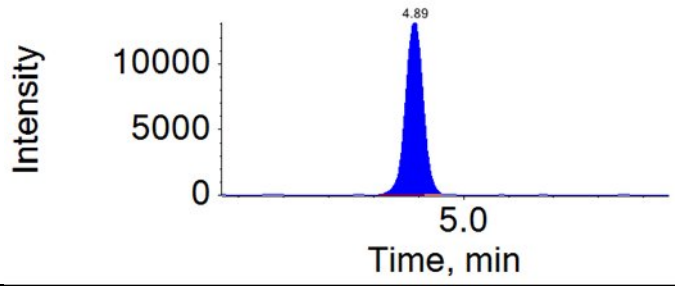
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

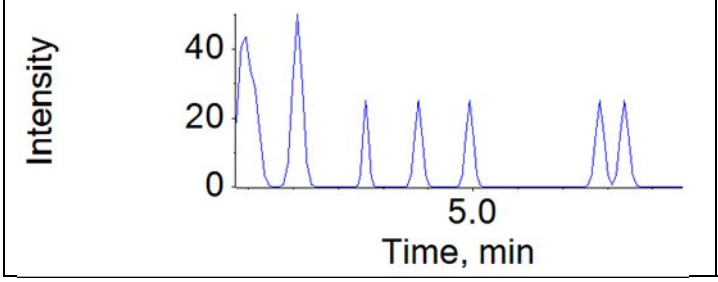
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

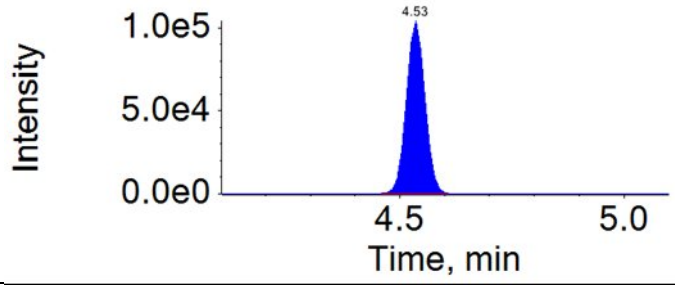
Analyte: 6:2-FTS	Extraction Standard: 13C2-6:2-FTS
427.0 / 407.0	429.0 / 81.0



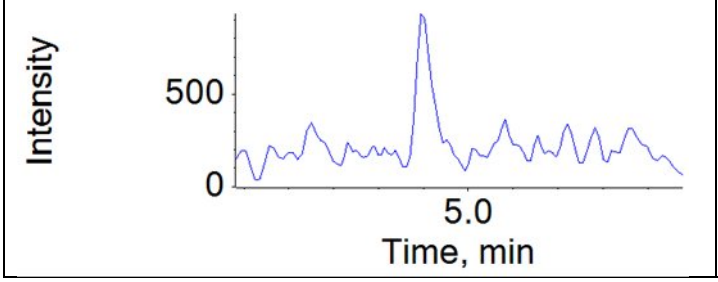


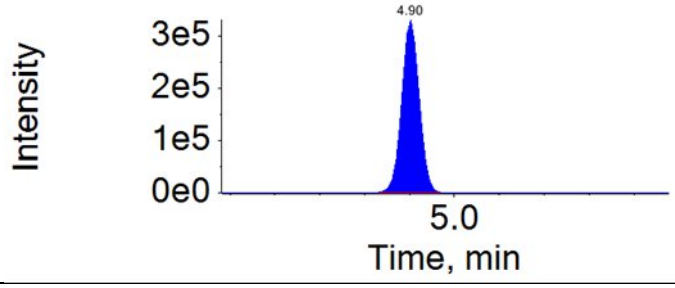
Analyte: PFHpS	Extraction Standard: 13C3-PFHxS
449.0 / 80.0	402.0 / 80.0



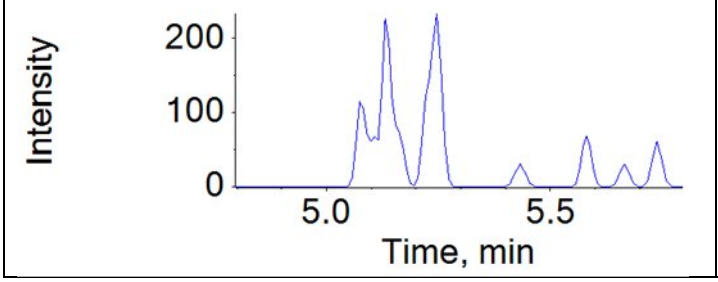


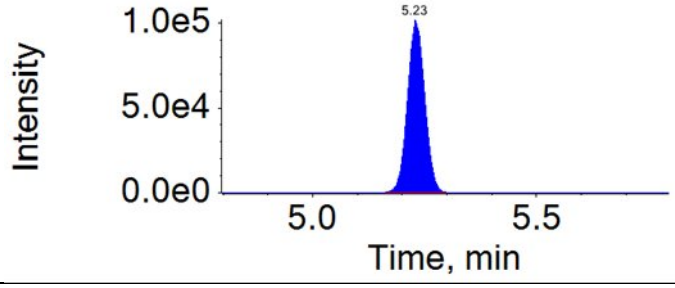
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0





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



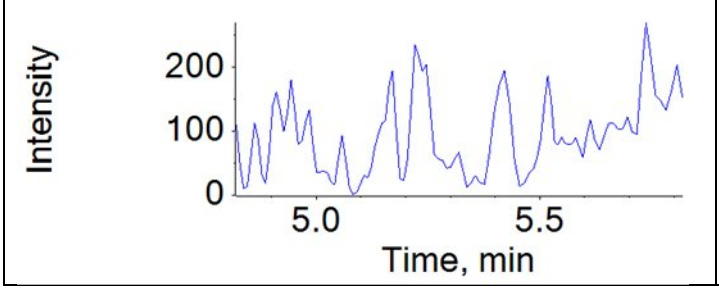


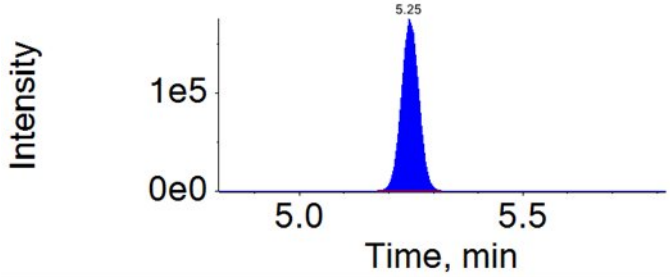
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

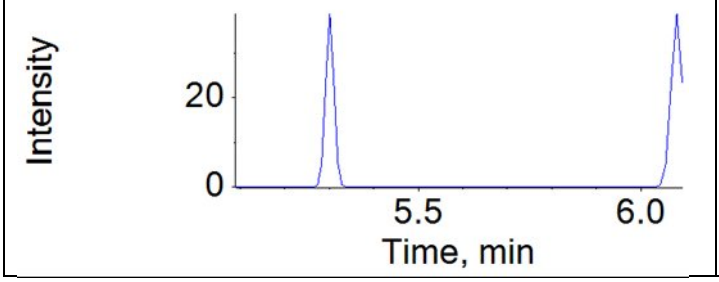
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

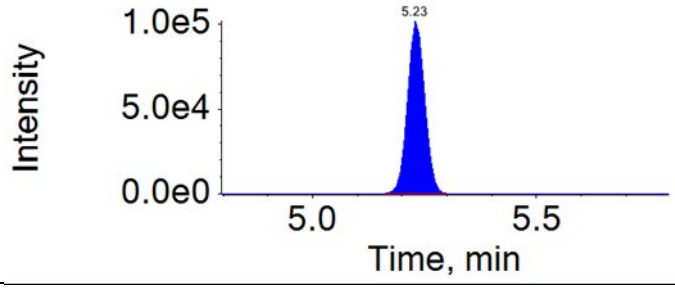
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



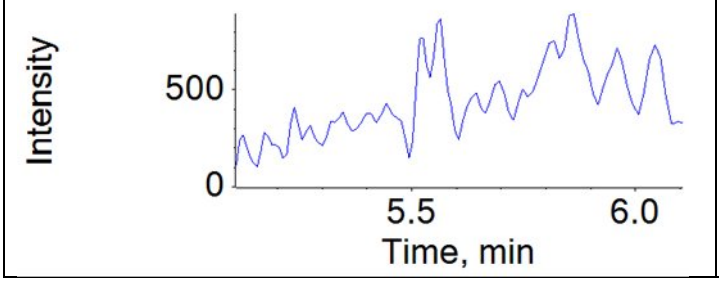


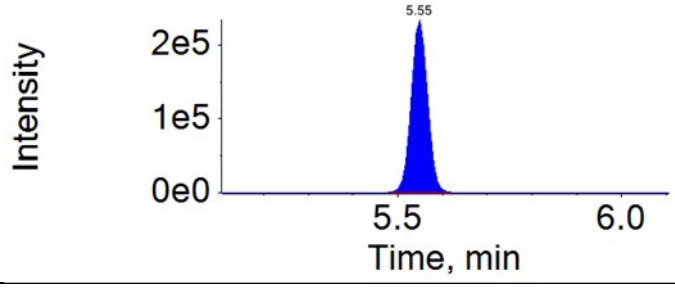
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



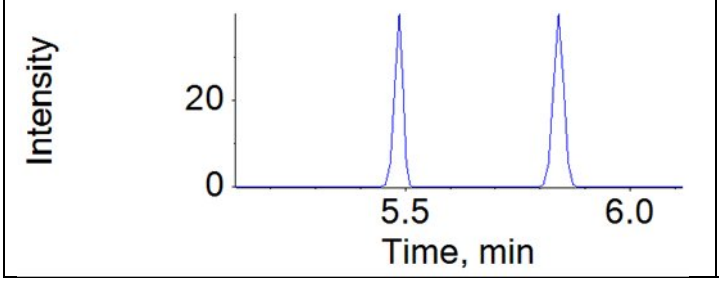


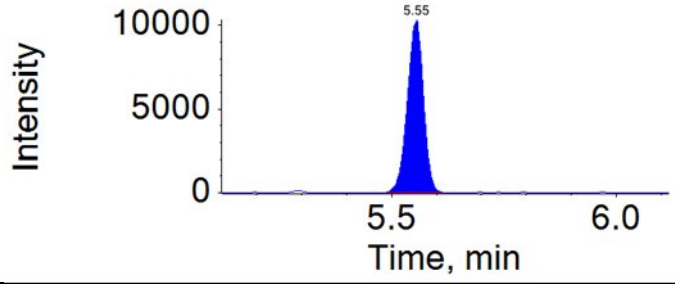
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



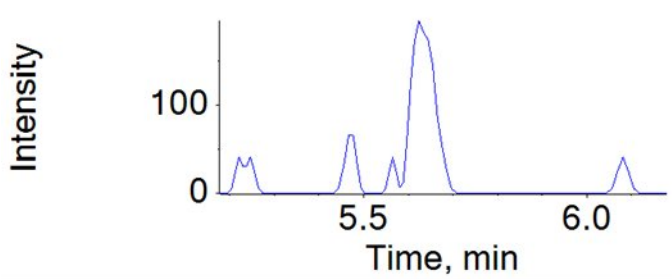


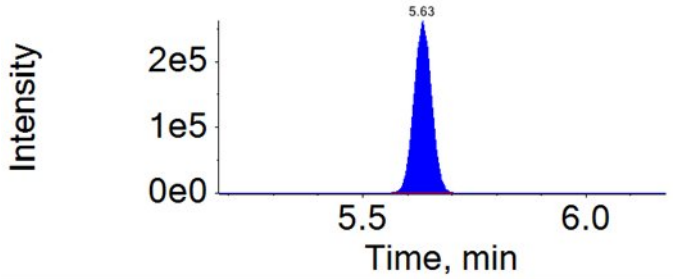
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

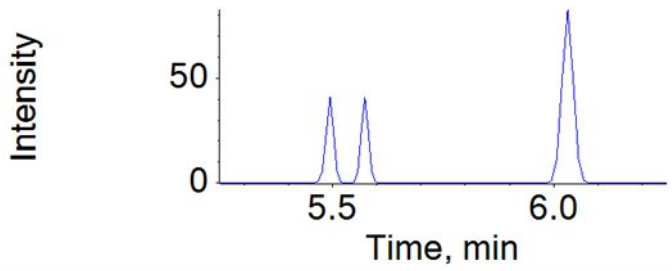
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

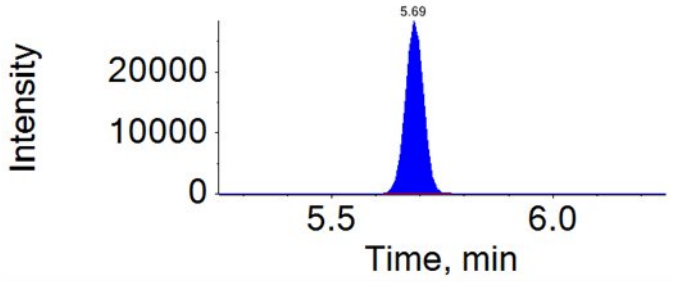
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



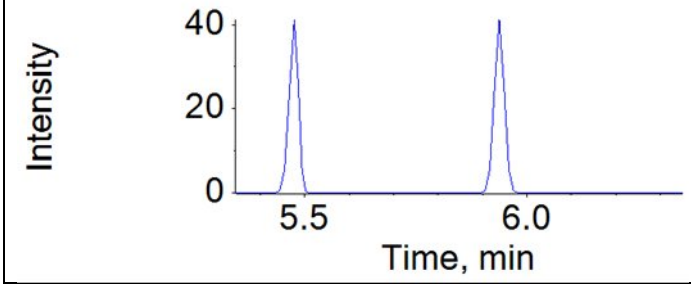


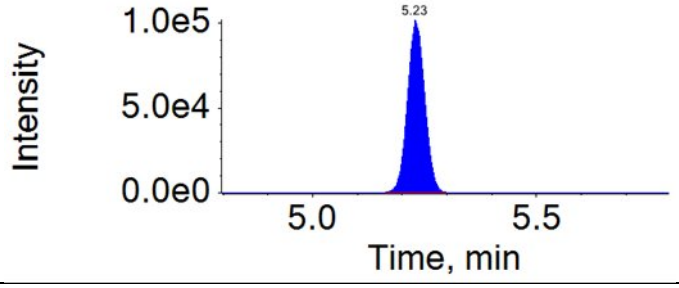
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



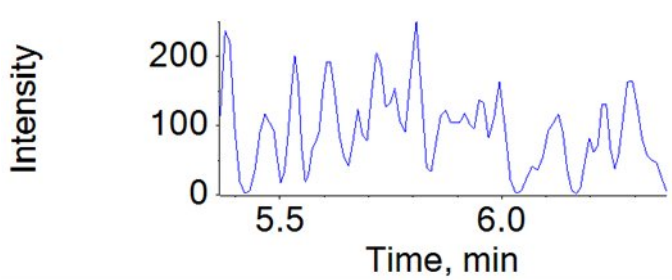


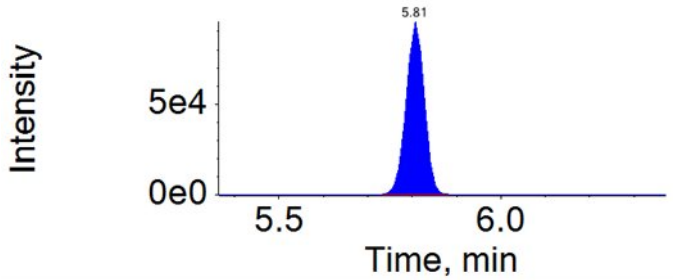
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



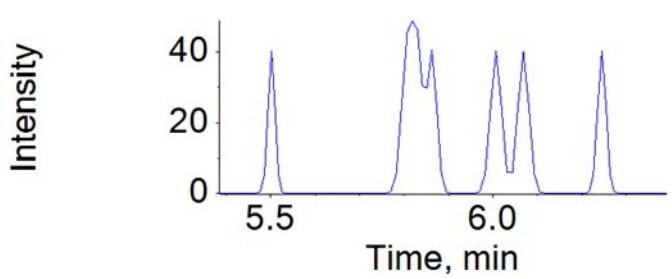


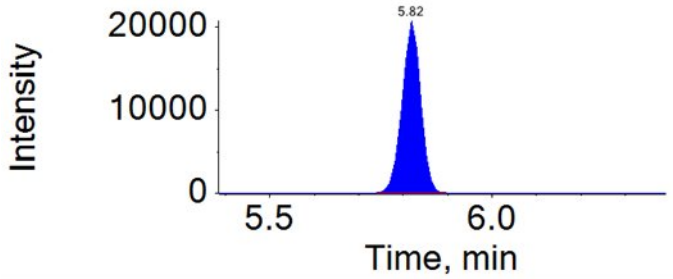
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

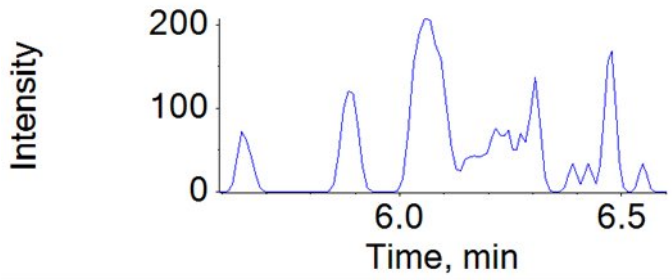
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

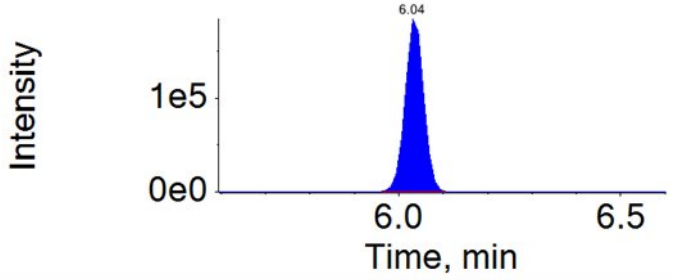
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



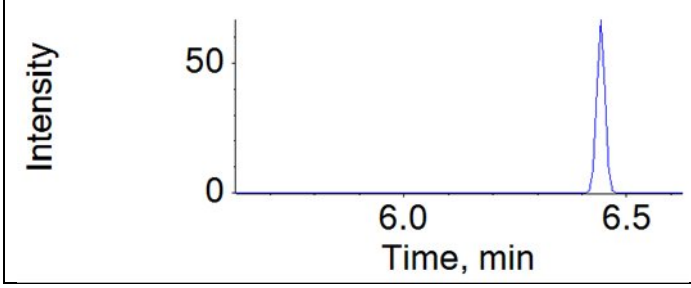


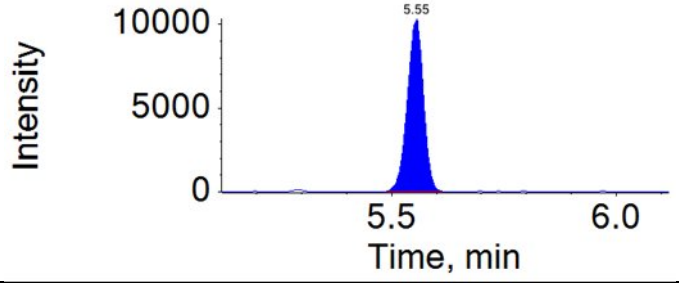
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



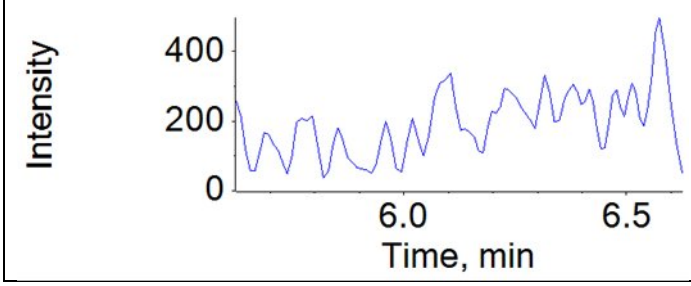


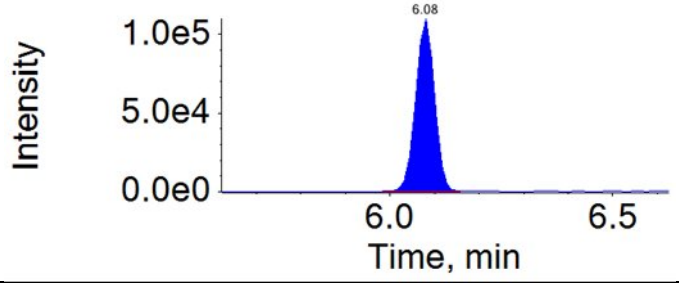
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



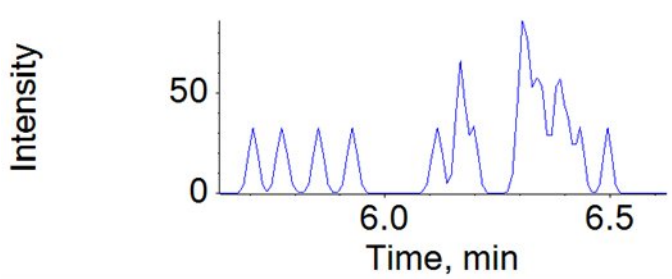


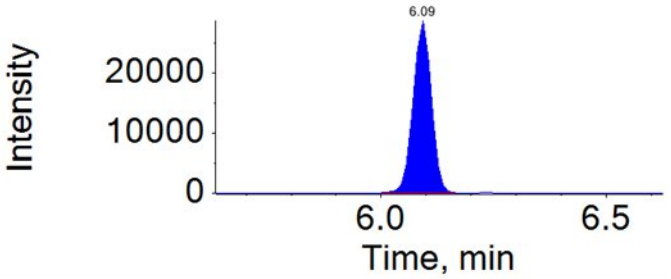
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

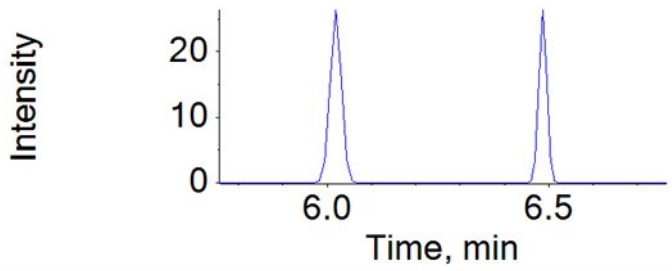
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

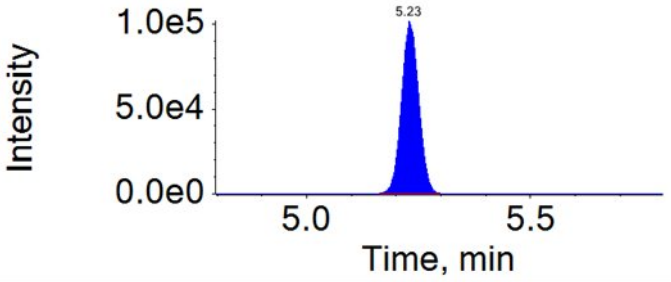
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



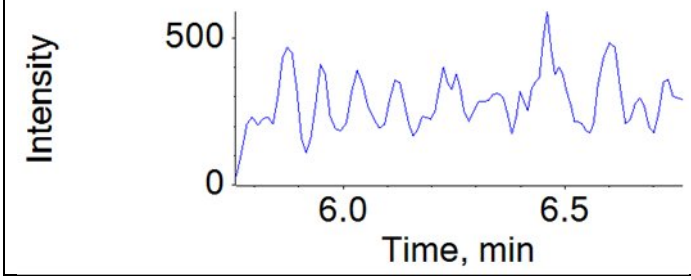


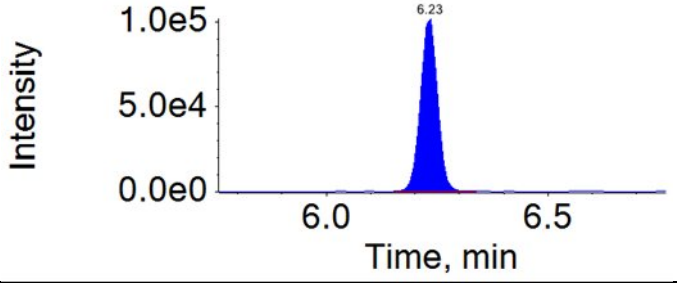
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



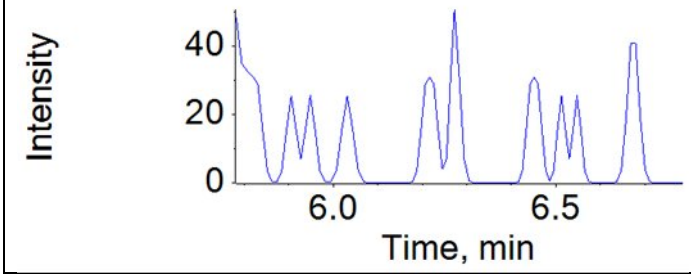


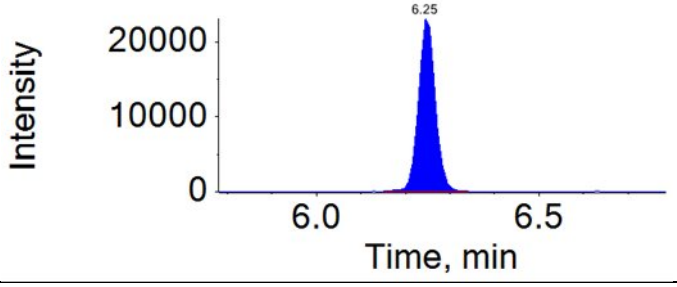
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

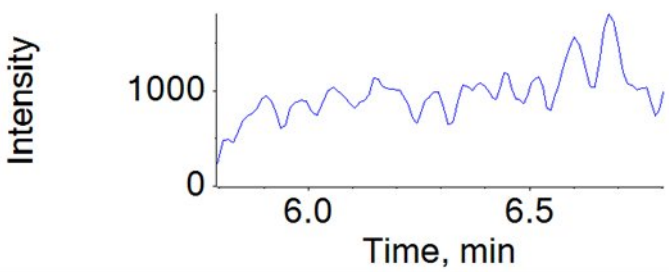
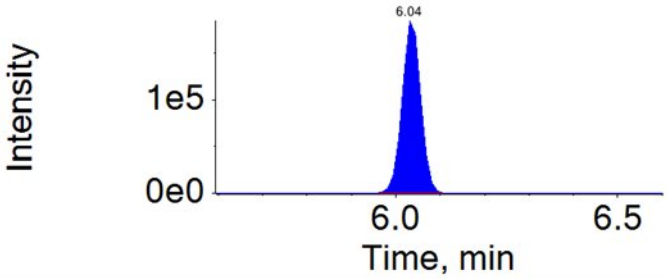


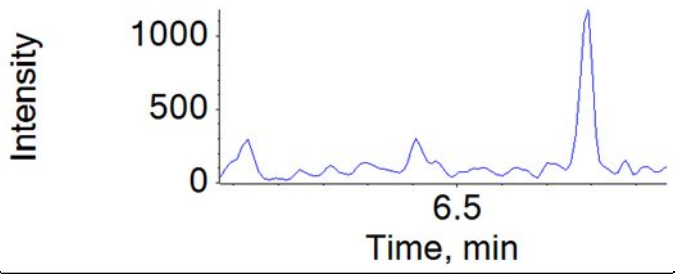
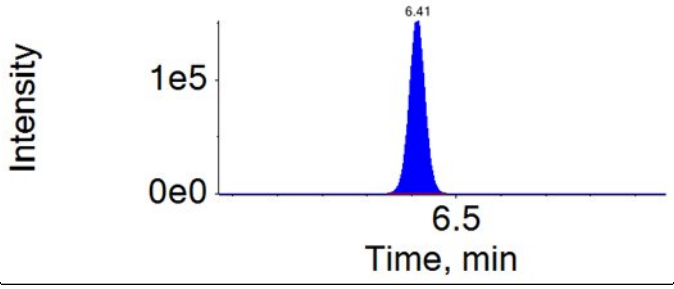


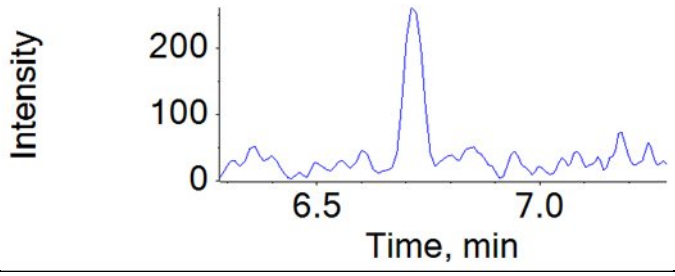
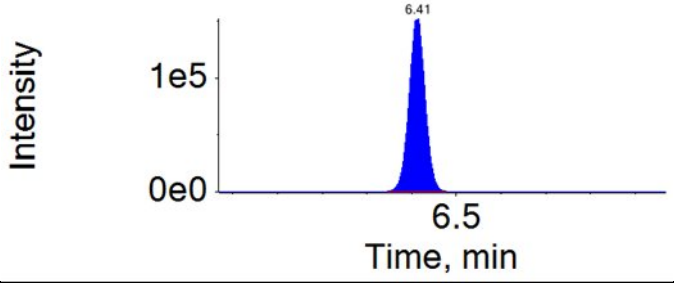
APPROVED
By MCD at 5:15 pm, 11/8/18

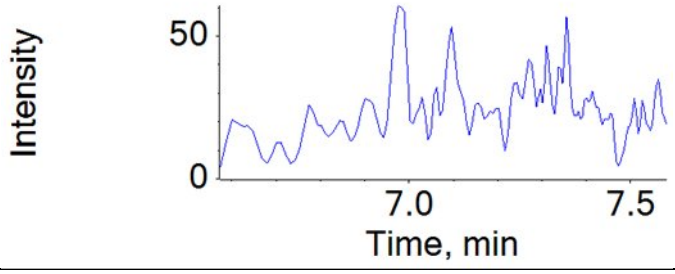
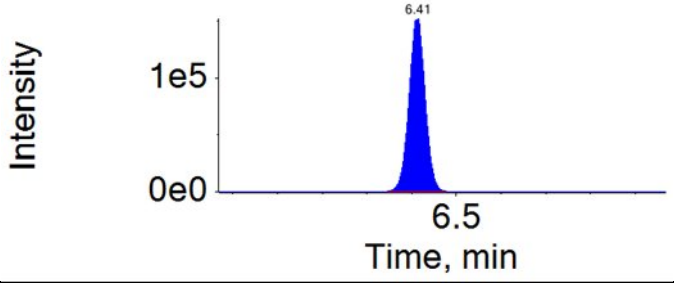
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Ion Ratio Report

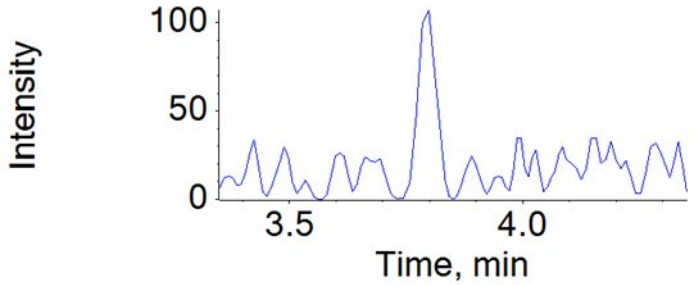
Sample Name: BLK309011 **Instrument Name:** LM27631 **File Name:** 18NOV07D-66.wiff

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	
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	
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	
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	

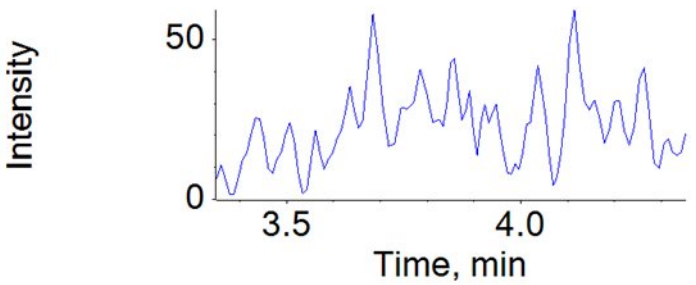
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By MCD at 5:15 pm, 11/8/18

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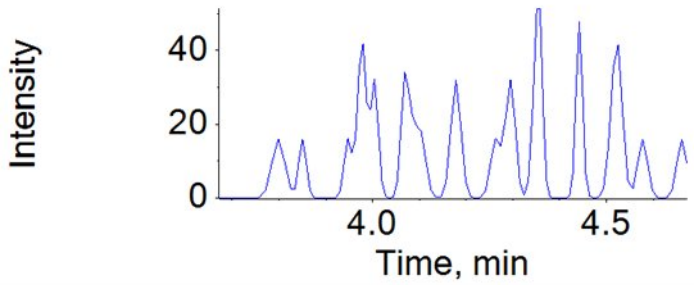
Component: PFBS
Primary Mass: 299.0 / 80.0



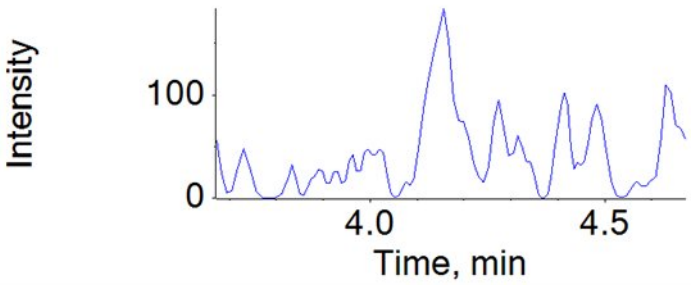
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



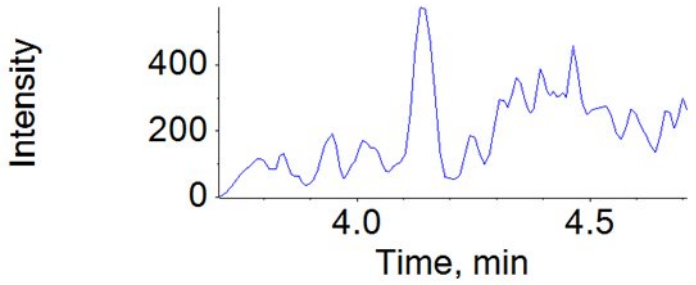
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



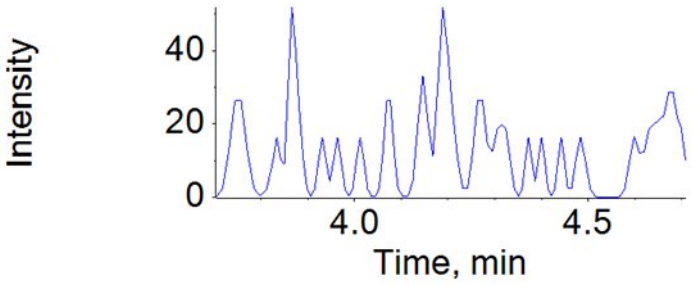
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



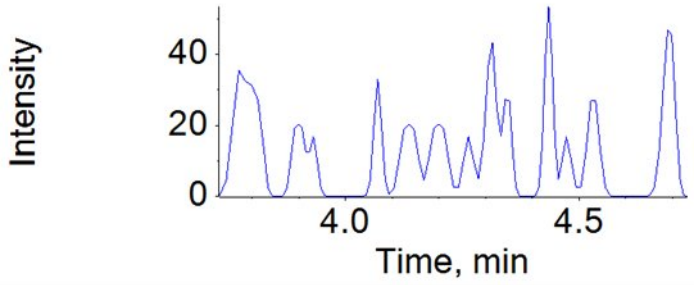
Component: PFHxA
Primary Mass: 313.0 / 269.0



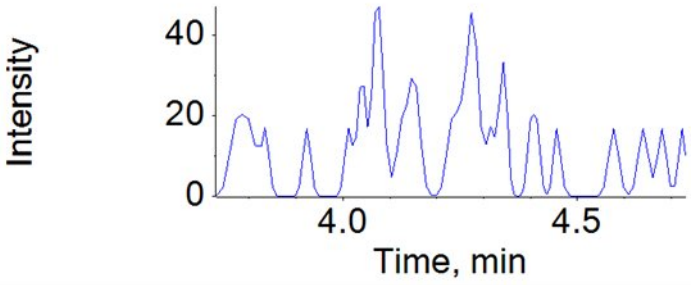
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



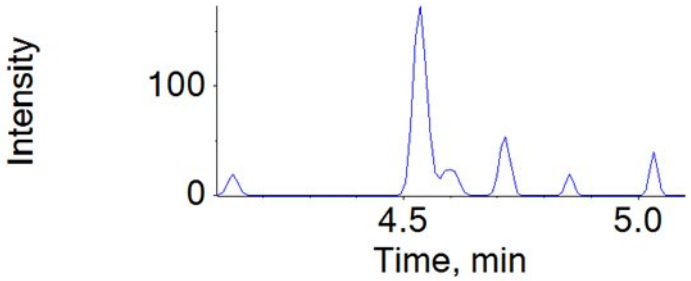
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



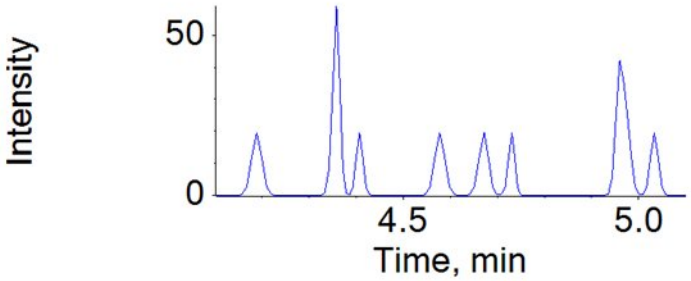
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

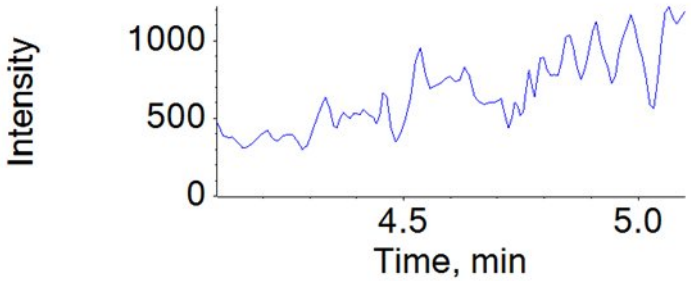
Component: PFHxS
Primary Mass: 399.0 / 80.0



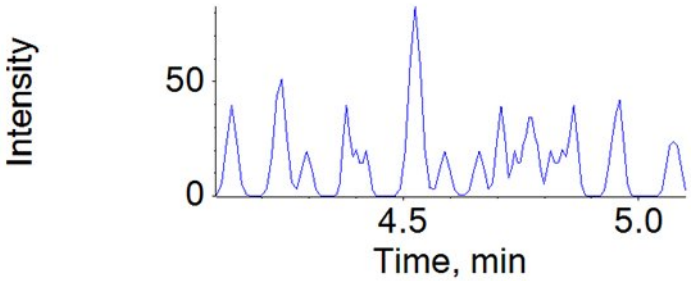
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



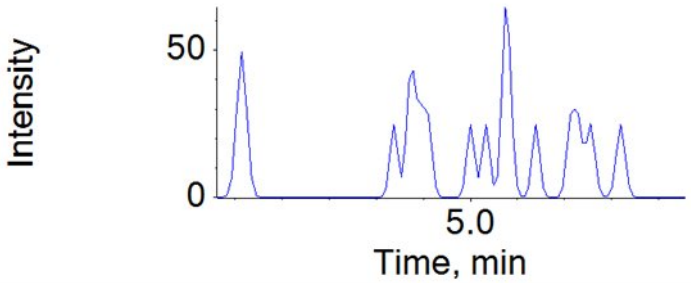
Component: PFHpA
Primary Mass: 363.0 / 319.0



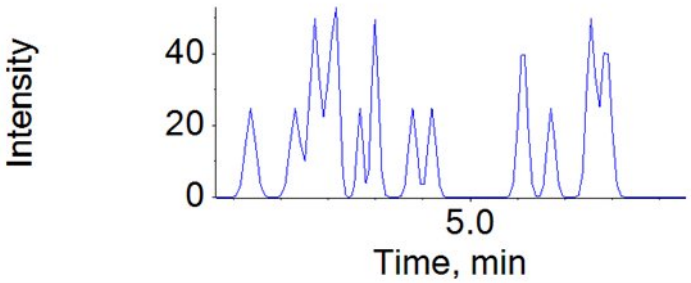
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



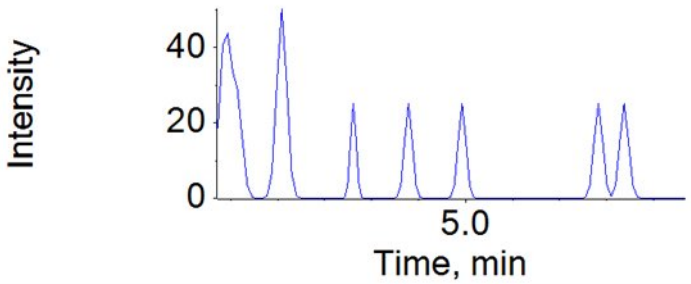
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



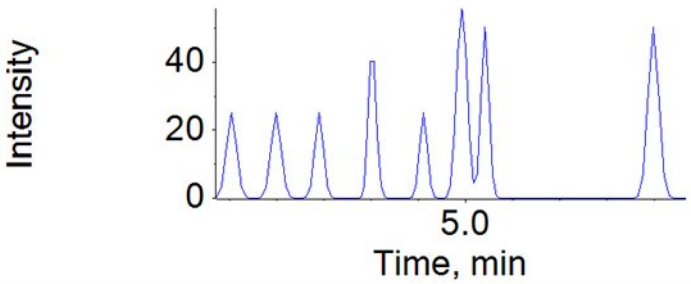
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



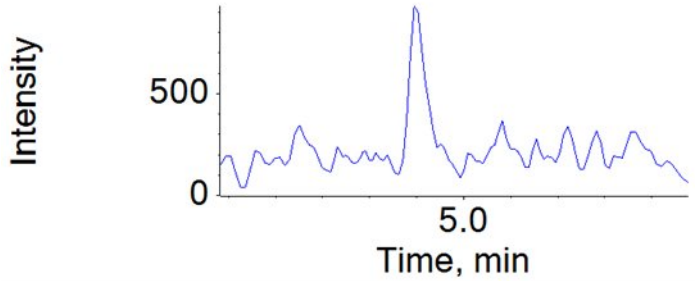
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



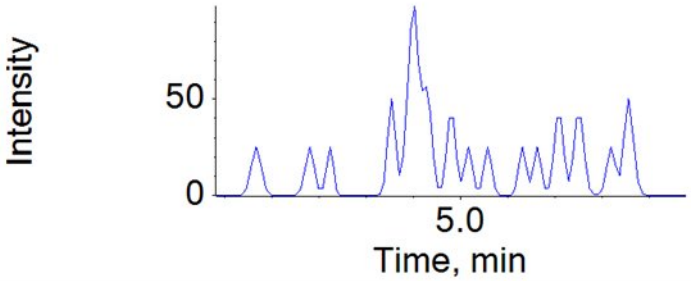
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

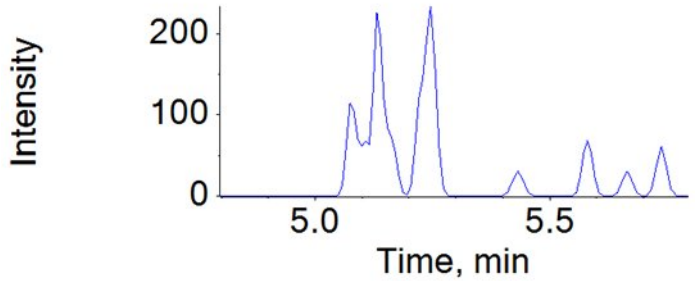
Component: PFOA
Primary Mass: 413.0 / 369.0



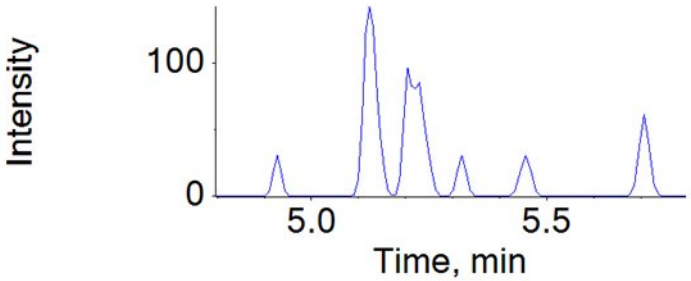
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



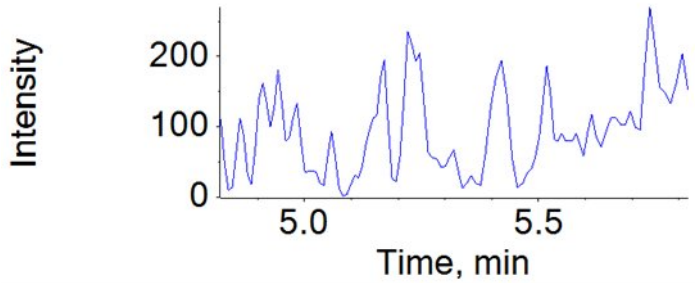
Component: PFOS
Primary Mass: 499.0 / 80.0



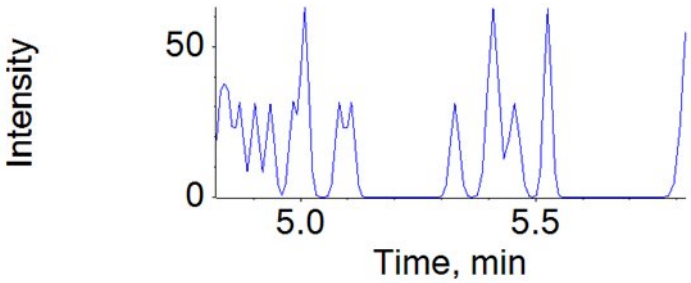
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



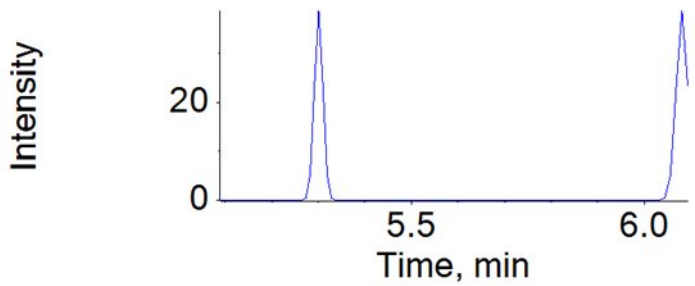
Component: PFNA
Primary Mass: 463.0 / 419.0



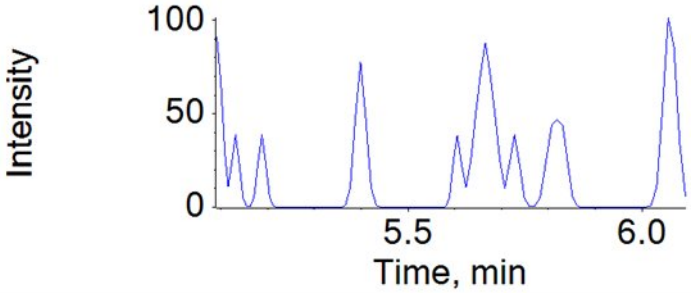
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



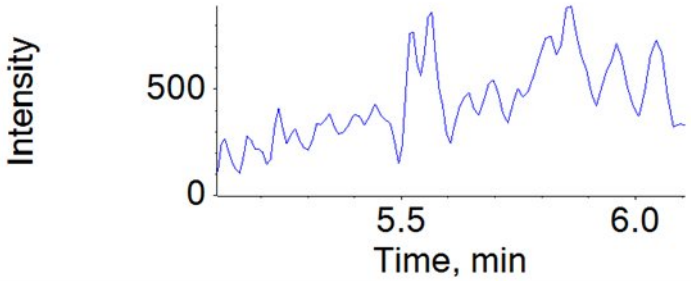
Component: PFNS_2
Secondary Mass: 549.0 / 99.0



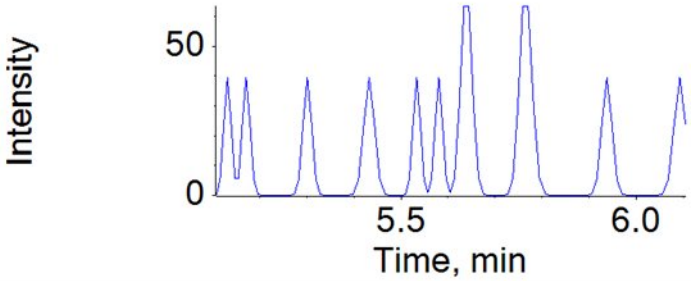
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

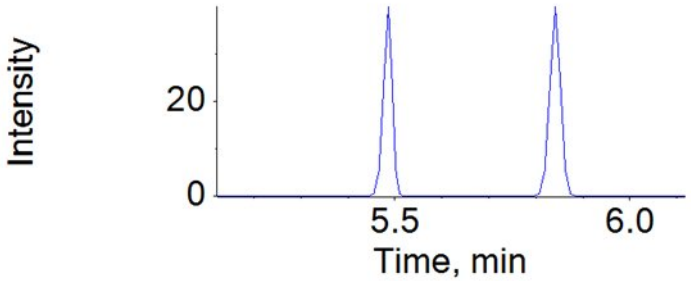
Component: PFDA
Primary Mass: 513.0 / 469.0



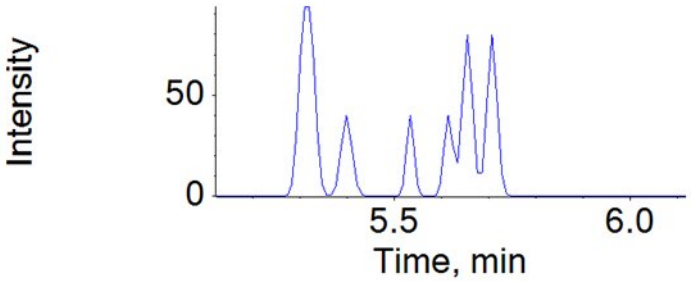
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



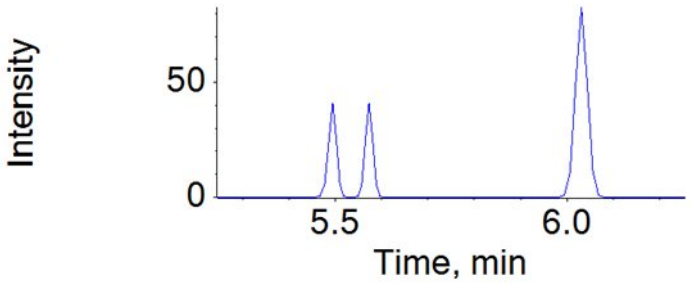
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



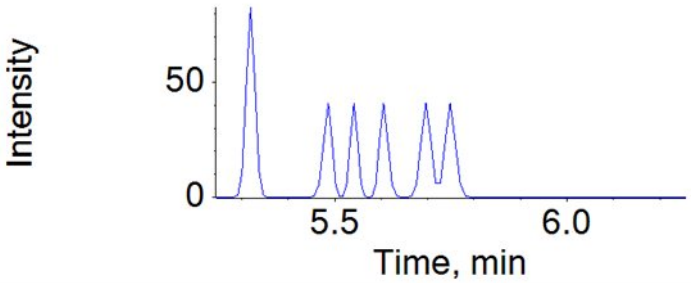
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



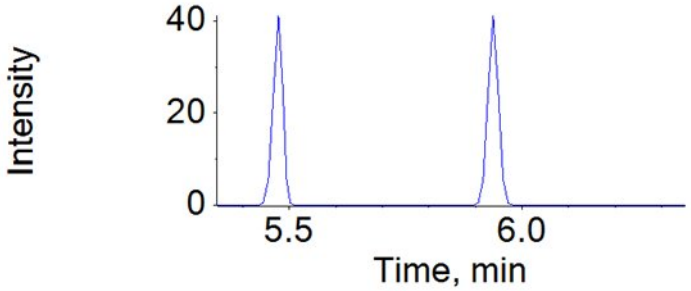
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



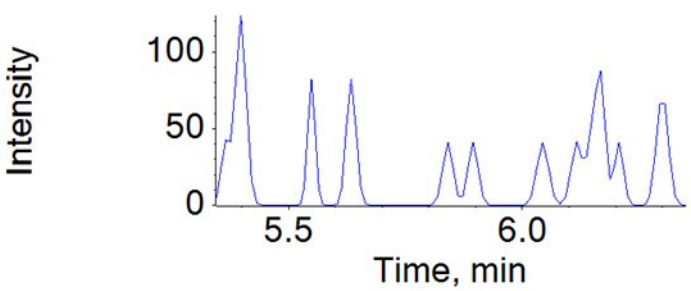
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



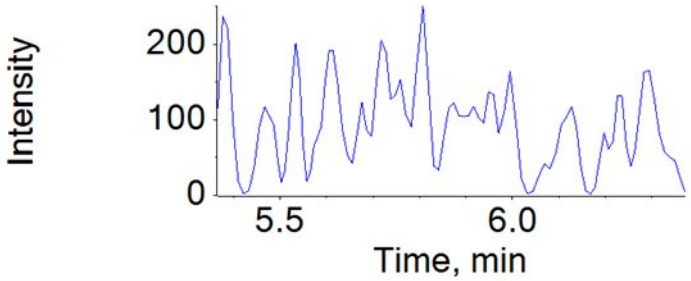
Component: PFDS_2
Secondary Mass: 599.0 / 99.0



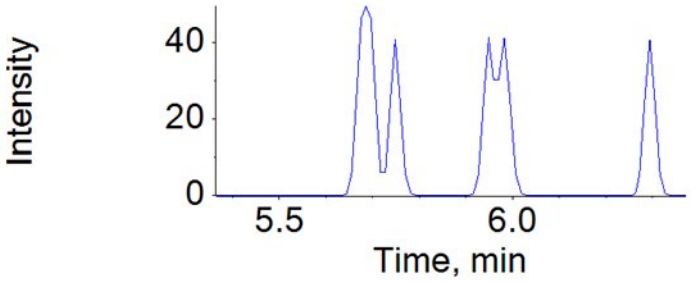
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

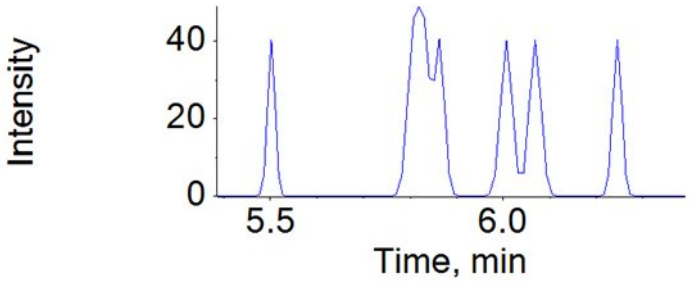
Component: PFUnDA
Primary Mass: 563.0 / 519.0



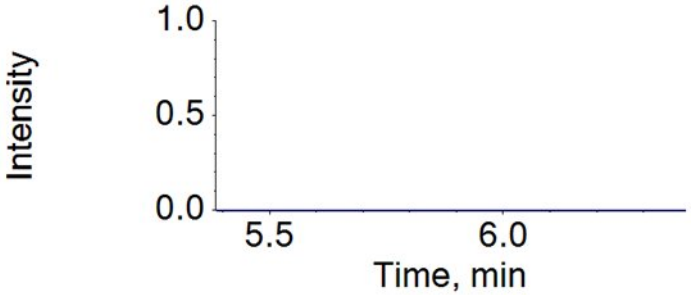
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



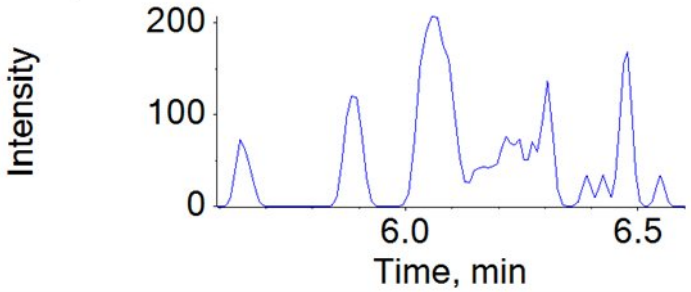
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



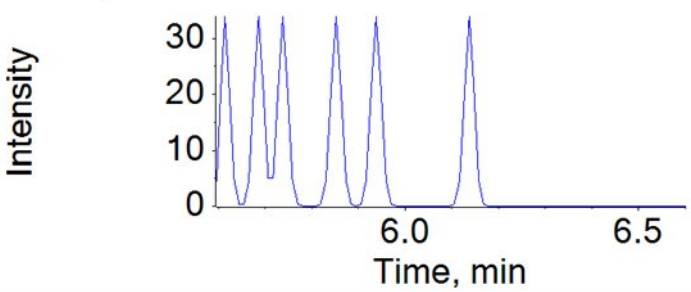
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



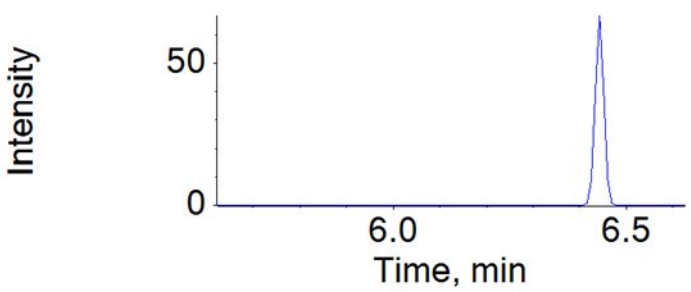
Component: PFDoDA
Primary Mass: 613.0 / 569.0



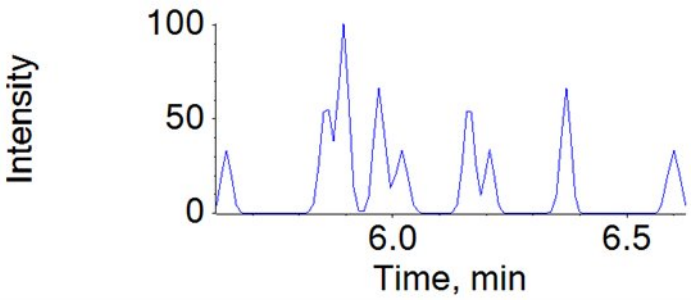
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



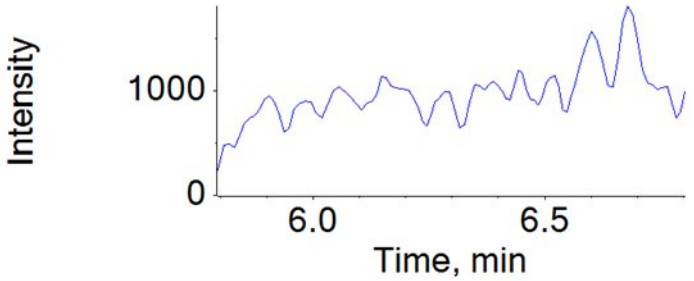
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



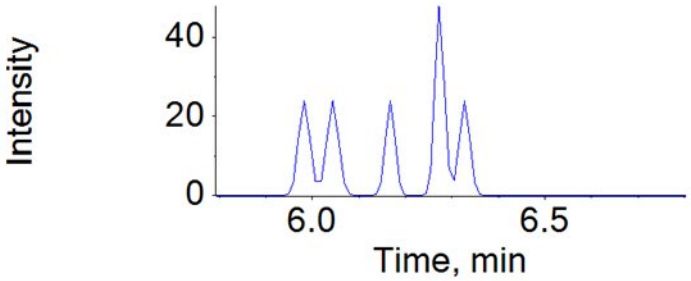
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

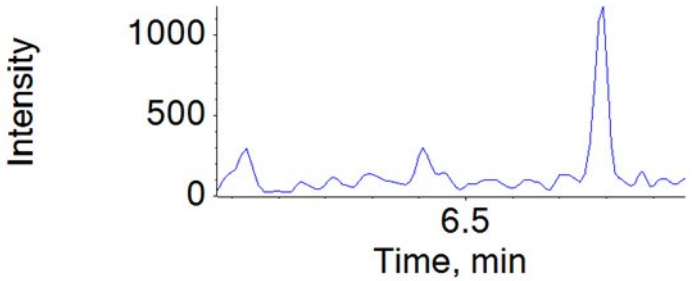
Component: PFTrDA
Primary Mass: 663.0 / 619.0



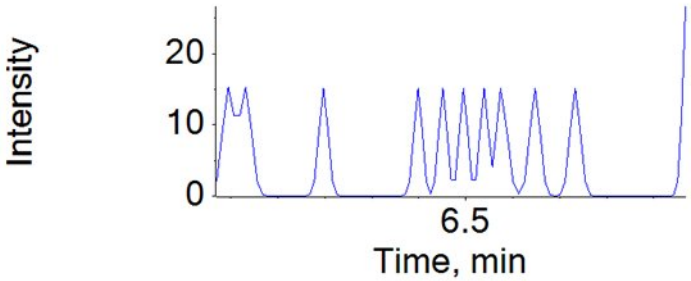
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



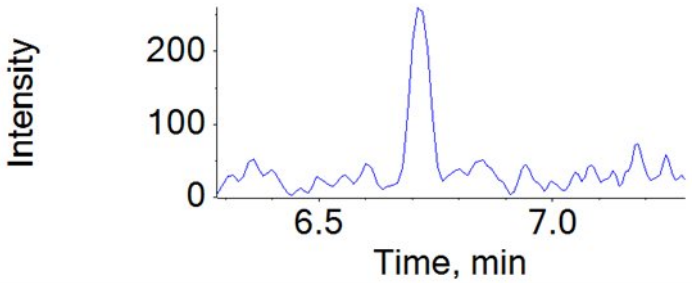
Component: PFTeDA
Primary Mass: 713.0 / 669.0



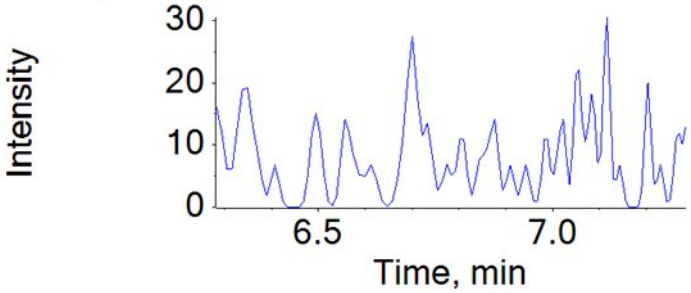
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



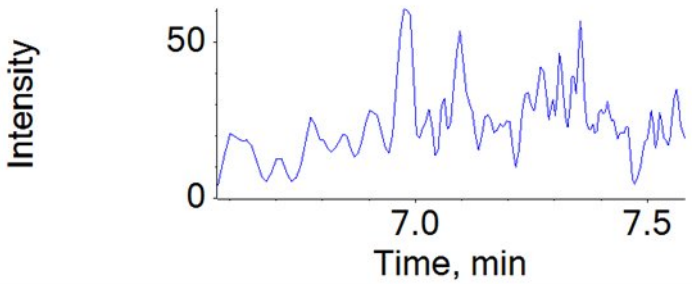
Component: PFHxDA
Primary Mass: 813.0 / 769.0



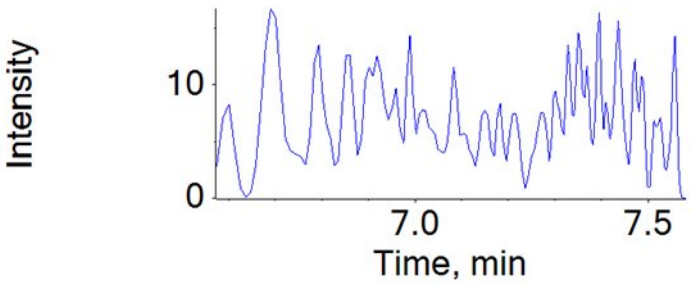
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



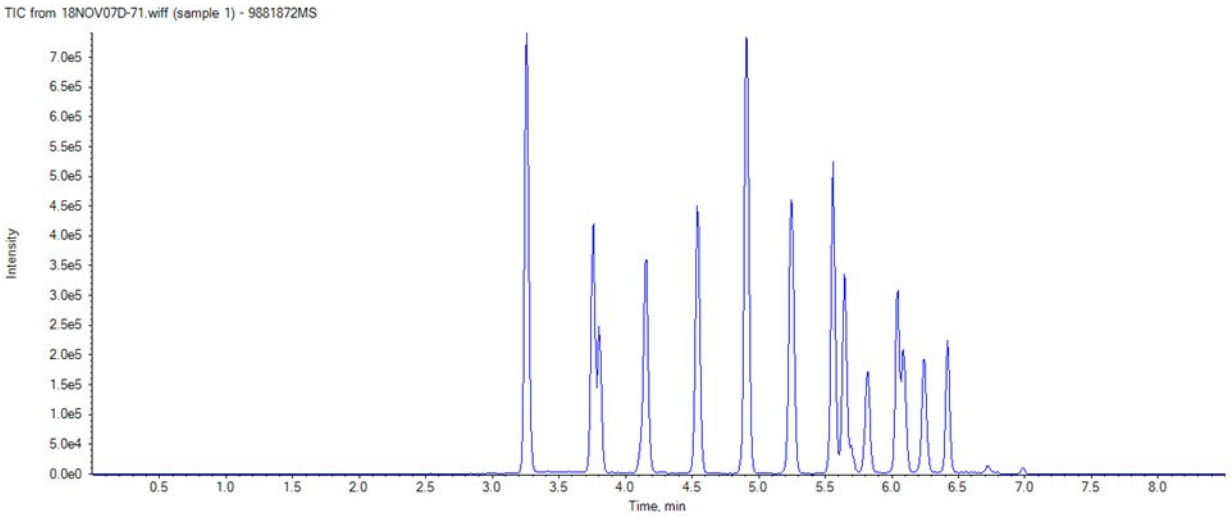
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9881872MS	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MS Grab Soil	18NOV07D-71.wiff	2018-11-07T21:55:15



Injection Standard Area Reference File**:** 18NOV07DCAL-12

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	790547.1	730410.6	8	50	
13C2-PFOA	5.00	575037.9	524423.6	10	50	
13C4-PFOS	4.78	301809.4	274061.7	10	50	
13C2-PFDA	5.00	328624.6	311442.1	6	50	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:06:52 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9881872MS	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MS Grab Soil	18NOV07D-71.wiff	2018-11-07T21:55:15

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	53514.8	419410.8	0.128	1.167	1.249	107	70-130	
PFHxA	122082.1	690509.1	0.177	1.320	1.472	112	70-130	
PFHxS	43613.2	328026.2	0.133	1.249	1.309	105	70-130	
PFHpA	125751.6	552939.3	0.227	1.320	1.485	112	70-130	
PFOA	135929.3	952441.5	0.143	1.320	1.560	118	70-130	
PFOS	40687.5	292567.2	0.139	1.262	1.400	111	70-130	
PFNA	103993.5	499636.0	0.208	1.320	1.510	114	70-130	
PFDA	83634.2	628513.1	0.133	1.320	1.422	108	70-130	
NMeFOSAA	9692.6	84418.2	0.115	1.320	1.147	87	70-130	
PFUnDA	68342.8	267195.7	0.256	1.320	1.424	108	70-130	
NEtFOSAA	8655.2	63202.5	0.137	1.320	1.143	87	70-130	
PFDoDA	71706.0	586151.9	0.122	1.320	1.287	97	70-130	
PFTrDA	61962.7	586151.9	0.106	1.320	1.294	98	70-130	
PFTeDA	53331.7	411406.5	0.130	1.320	1.478	112	70-130	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881872MS			**Data File:**		18NOV07D-71.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MS Grab Soil			**Acquis Date:**		2018-11-07T21:55:15
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	41			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.03000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	790547.1	730410.6	8	50	
13C2-PFOA	5.0	575037.9	524423.6	10	50	
13C4-PFOS	4.8	301809.4	274061.7	10	50	
13C2-PFDA	5.0	328624.6	311442.1	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	419410.8	13C3-PFBA	790547.1	0.531	9.029	7.560	84	50-150	
E13C5-PFHxA	690509.1	13C2-PFOA	575037.9	1.201	9.709	8.577	88	50-150	
E13C3-PFHxS	328026.2	13C2-PFOA	575037.9	0.570	9.184	7.952	87	50-150	
E13C4-PFHpA	552939.3	13C2-PFOA	575037.9	0.962	9.709	8.494	87	50-150	
E13C8-PFOA	952441.5	13C2-PFOA	575037.9	1.656	9.709	8.969	92	50-150	
E13C8-PFOS	292567.2	13C4-PFOS	301809.4	0.969	9.282	8.323	90	50-150	
E13C9-PFNA	499636.0	13C4-PFOS	301809.4	1.655	9.709	8.781	90	50-150	
E13C6-PFDA	628513.1	13C2-PFDA	328624.6	1.913	9.709	9.339	96	50-150	
Ed3-NMeFOSAA	84418.2	13C2-PFDA	328624.6	0.257	9.709	9.276	96	50-150	
E13C7-PFUnDA	267195.7	13C2-PFDA	328624.6	0.813	9.709	9.108	94	50-150	
Ed5-NEtFOSAA	63202.5	13C2-PFDA	328624.6	0.192	9.709	8.642	89	50-150	
E13C2-PFDoDA	586151.9	13C2-PFDA	328624.6	1.784	9.709	9.337	96	50-150	
E13C2-PFTeDA	411406.5	13C2-PFDA	328624.6	1.252	9.709	8.751	90	50-150	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

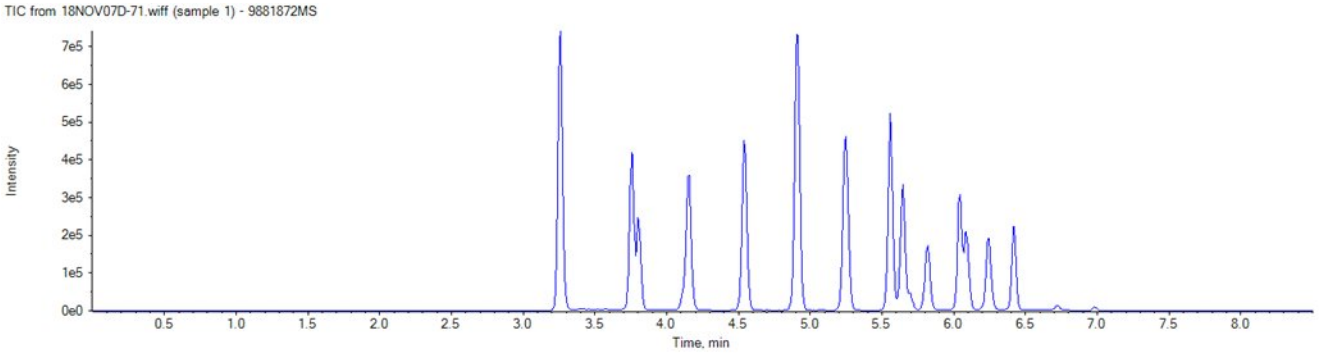
Analyte Quantitation Peak Table

Sample Name: 9881872MS **Instrument Name:** LM27631 **File Name:** 18NOV07D-71.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.03000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	3.80	1.000	53514.8		A	13C3-PFBS	3.81	419410.8	0.128	1.249
PFHxA	4.15	1.000	122082.1		A	13C5-PFHxA	4.15	690509.1	0.177	1.472
PFHxS	4.54	1.000	43613.2		M	13C3-PFHxS	4.54	328026.2	0.133	1.309
PFHpA	4.54	1.000	125751.6		A	13C4-PFHpA	4.54	552939.3	0.227	1.485
PFOA	4.91	1.000	135929.3		A	13C8-PFOA	4.91	952441.5	0.143	1.560
PFOS	5.24	1.000	40687.5		M	13C8-PFOS	5.24	292567.2	0.139	1.400
PFNA	5.26	1.000	103993.5		A	13C9-PFNA	5.25	499636.0	0.208	1.510
PFDA	5.56	1.000	83634.2		A	13C6-PFDA	5.56	628513.1	0.133	1.422
NMeFOSAA	5.70	1.000	9692.6		M	d3-NMeFOSAA	5.70	84418.2	0.115	1.147
PFUnDA	5.82	1.000	68342.8		A	13C7-PFUnDA	5.82	267195.7	0.256	1.424
NEtFOSAA	5.83	1.000	8655.2		M	d5-NEtFOSAA	5.83	63202.5	0.137	1.143
PFDoDA	6.04	1.000	71706.0		A	13C2-PFDoDA	6.04	586151.9	0.122	1.287
PFTrDA	6.24	1.030	61962.7		A	13C2-PFDoDA	6.04	586151.9	0.106	1.294
PFTeDA	6.42	1.000	53331.7		A	13C2-PFTeDA	6.42	411406.5	0.130	1.478

Total Ion Chromatogram

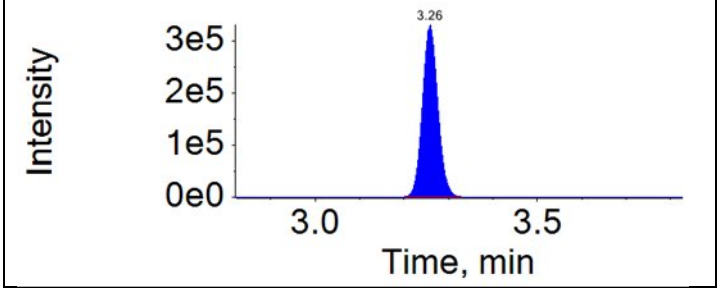


APPROVED
By MCD at 5:15 pm, 11/8/18

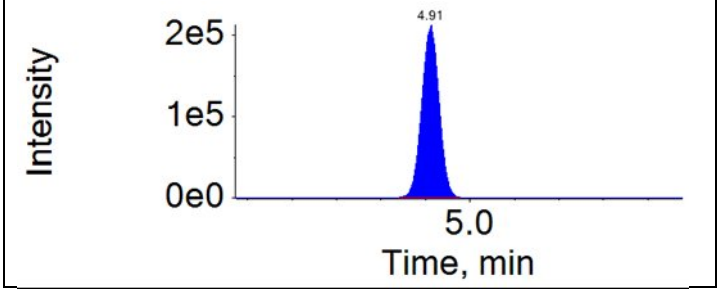
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

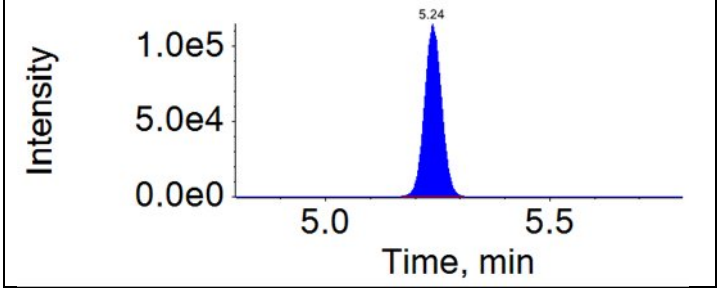
Injection Standard: 13C3-PFBA
216.0 / 172.0



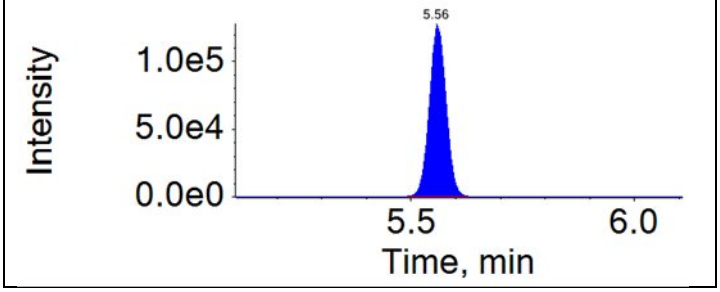
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

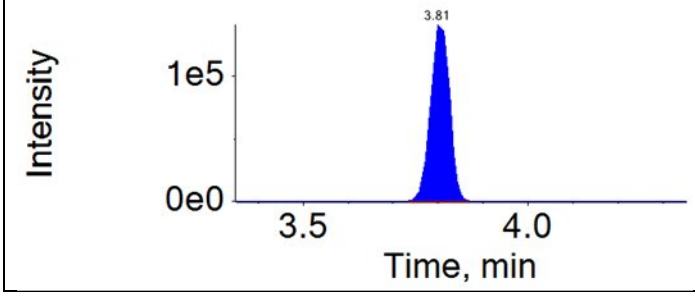


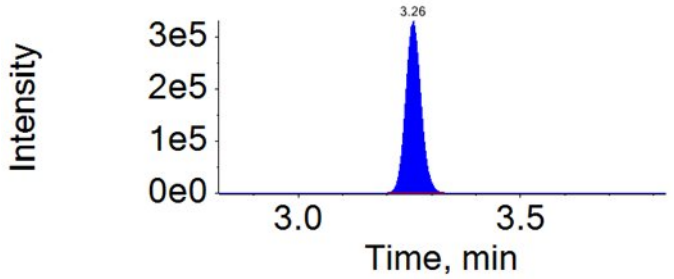
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

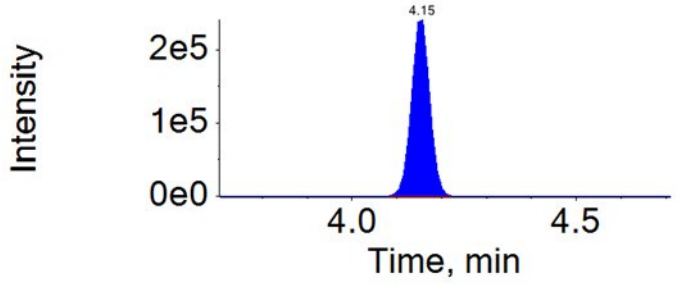
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

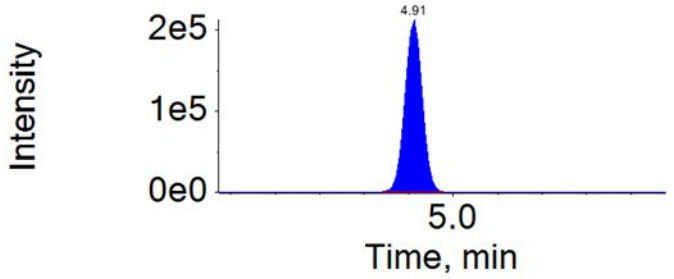
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0



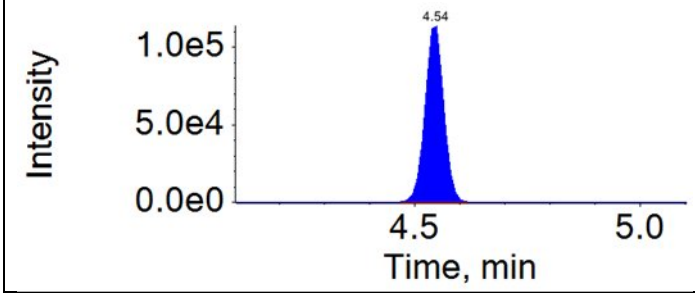


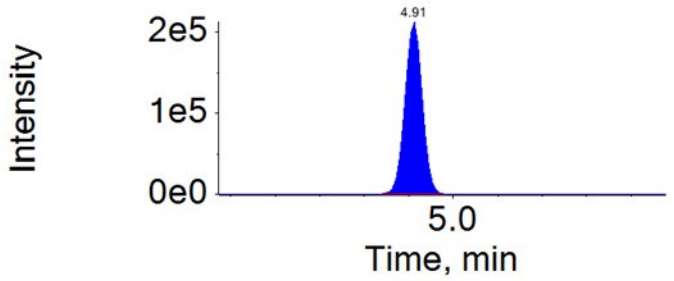
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



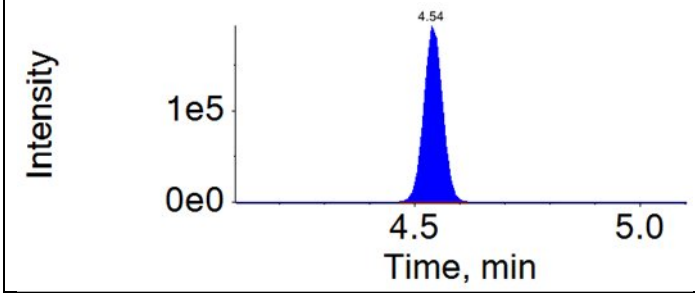


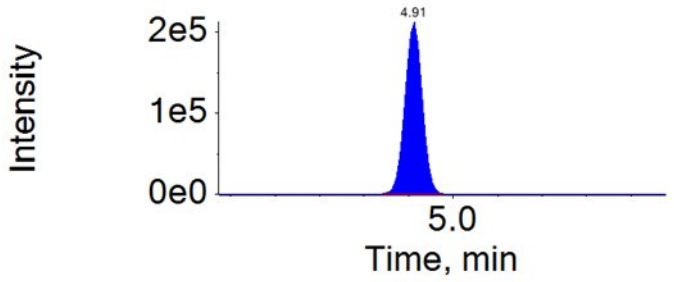
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0





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

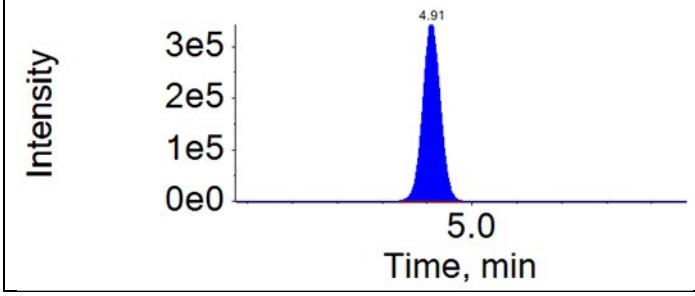
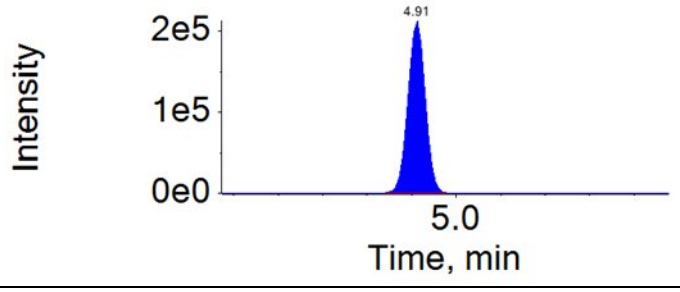


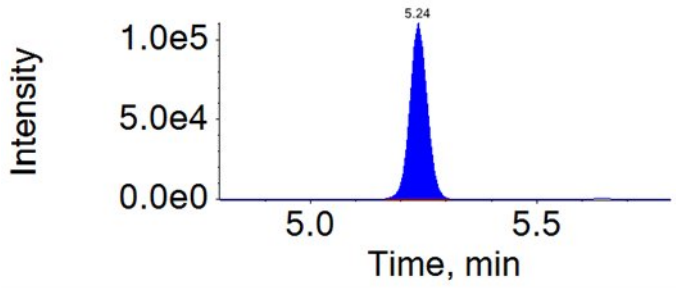
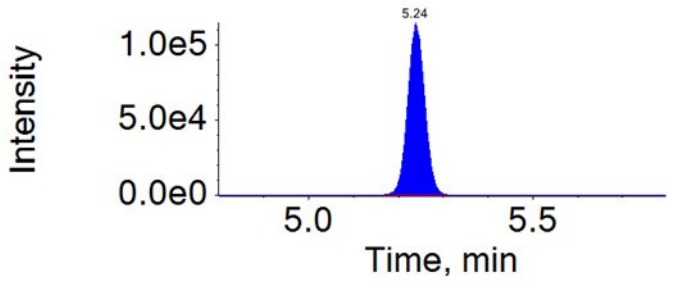


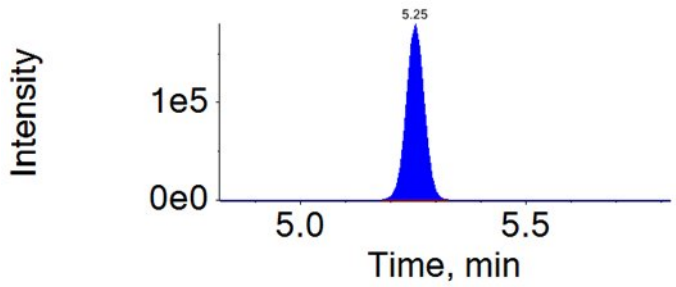
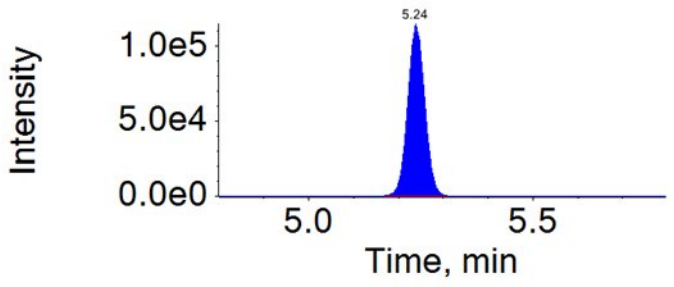
APPROVED
By MCD at 5:15 pm, 11/8/18

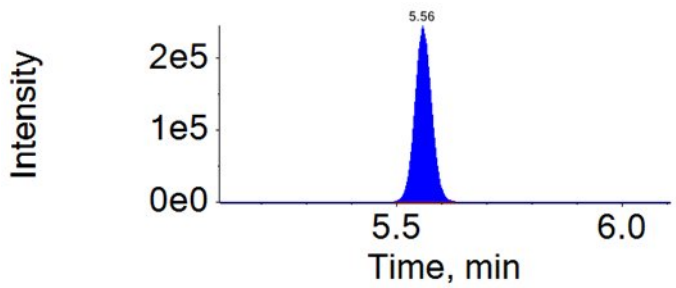
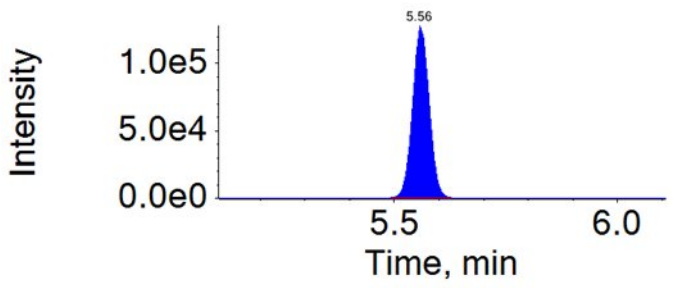
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

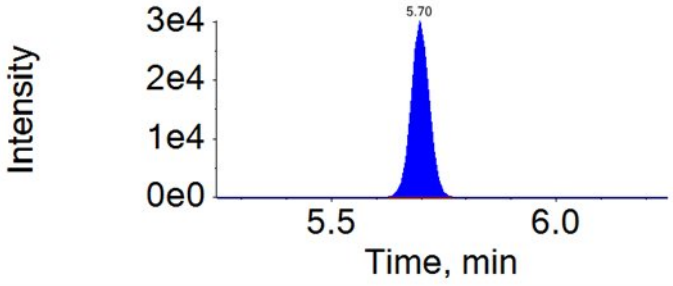
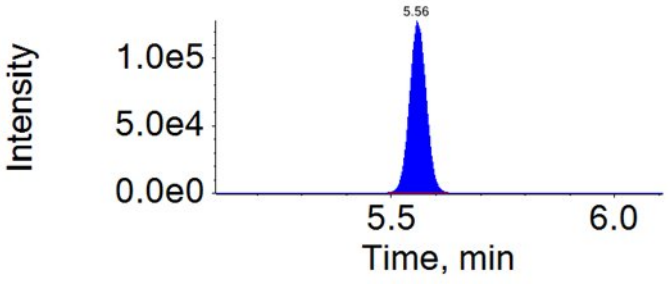
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

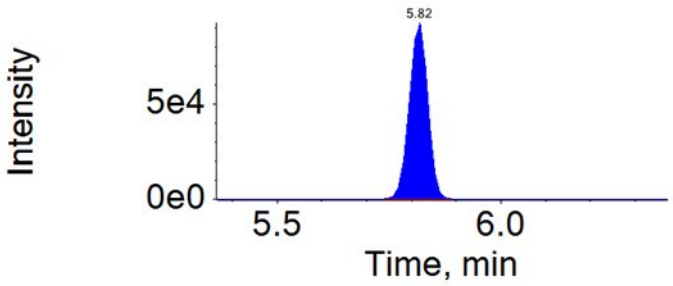
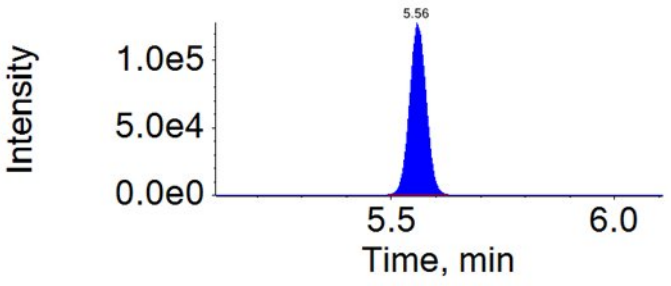
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

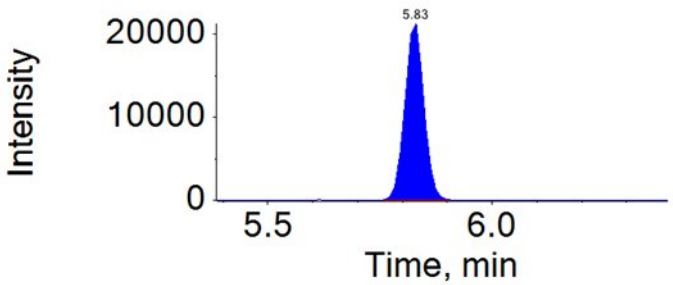
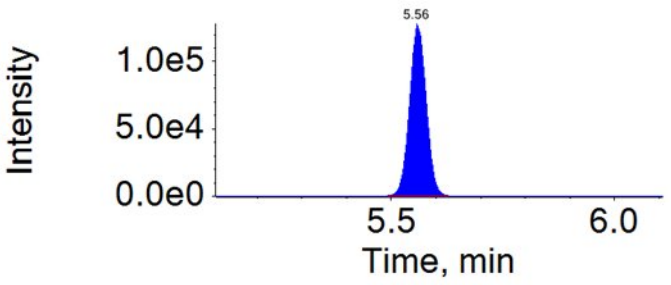
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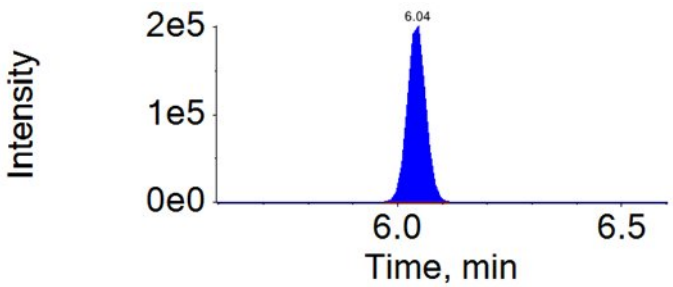
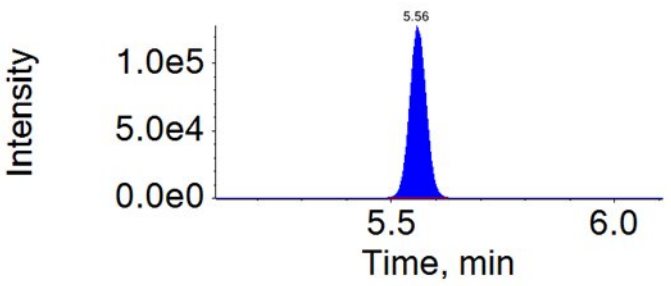
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

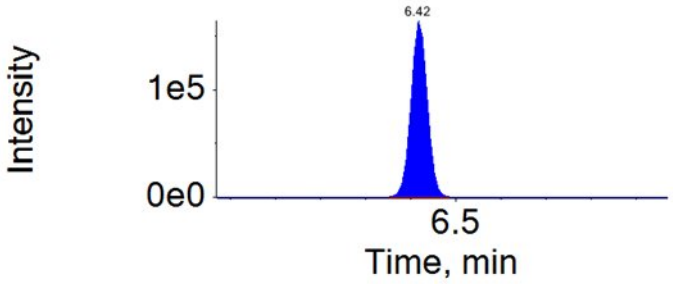
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0
	

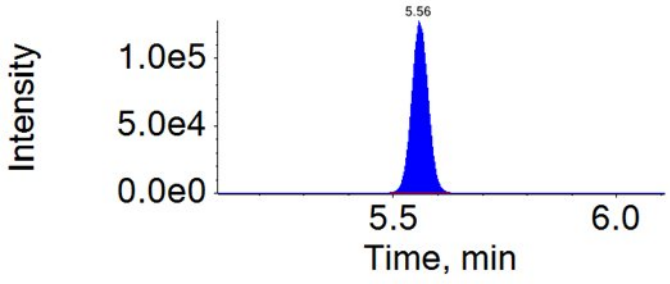
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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



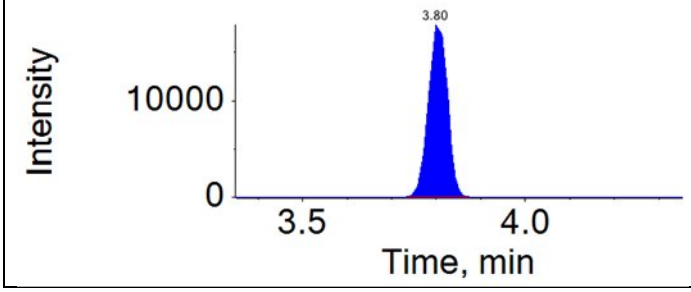


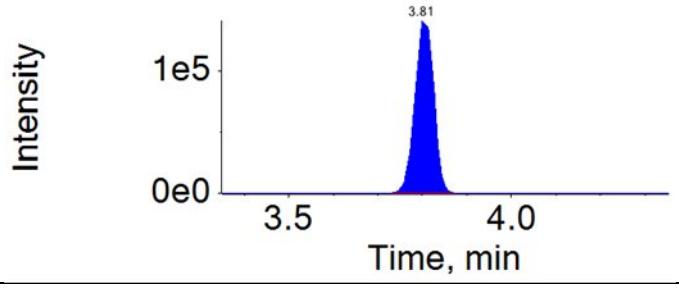
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

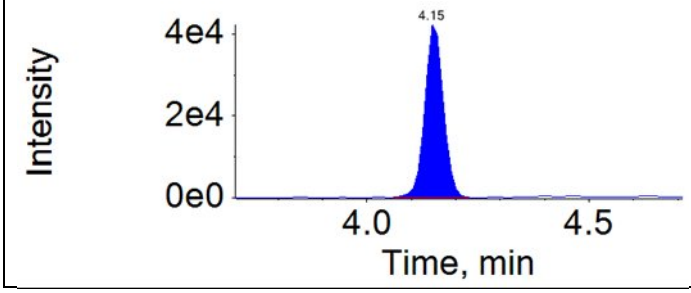
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

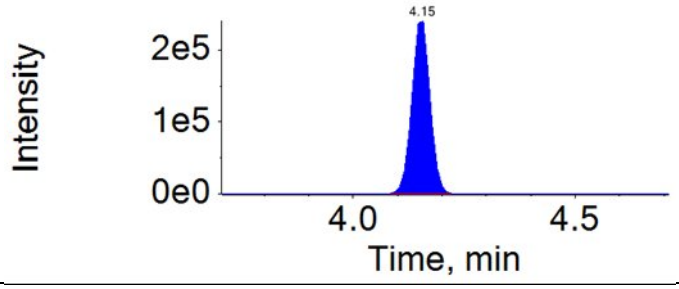
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



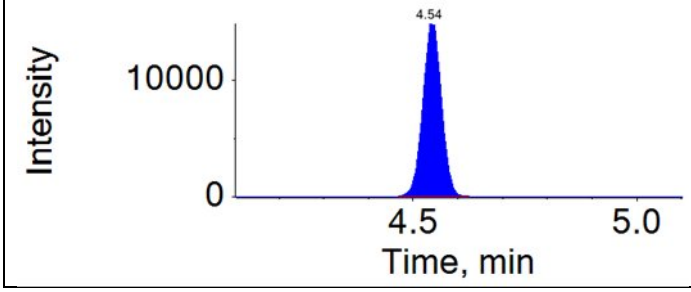


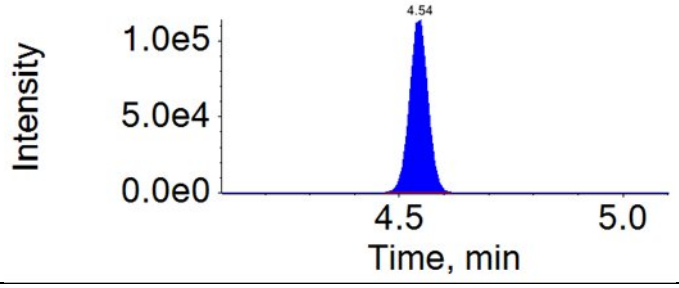
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



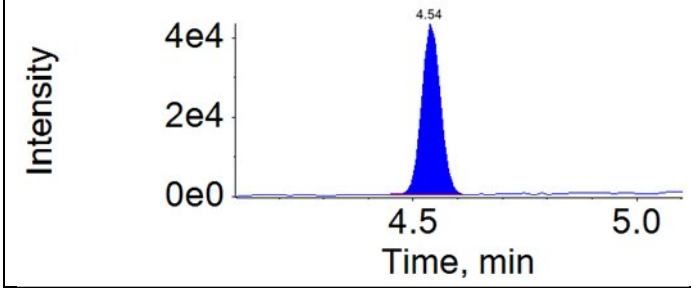


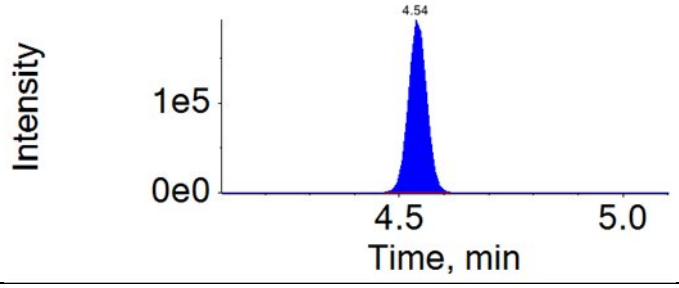
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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

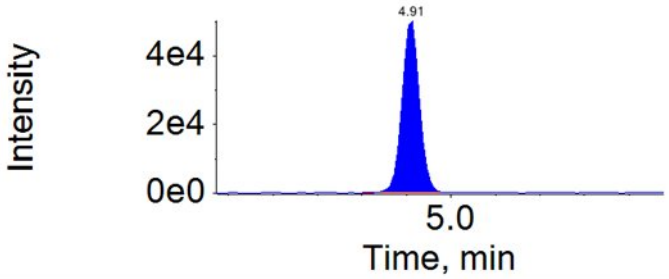
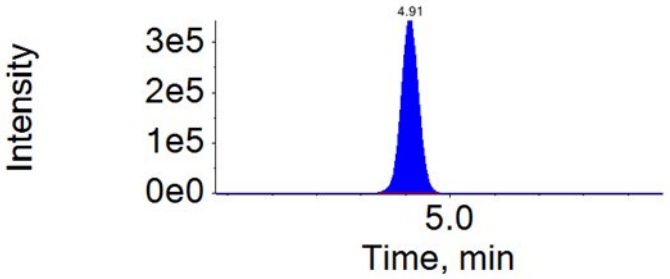


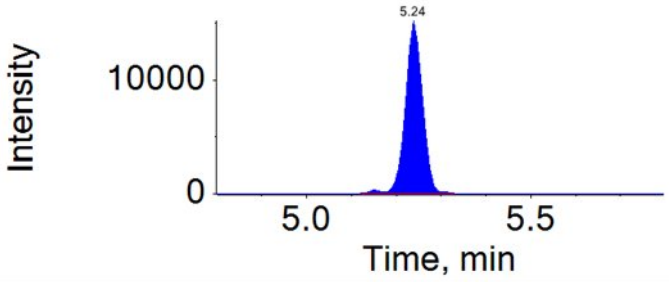
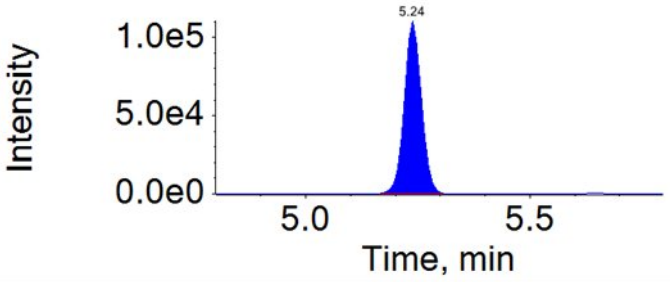


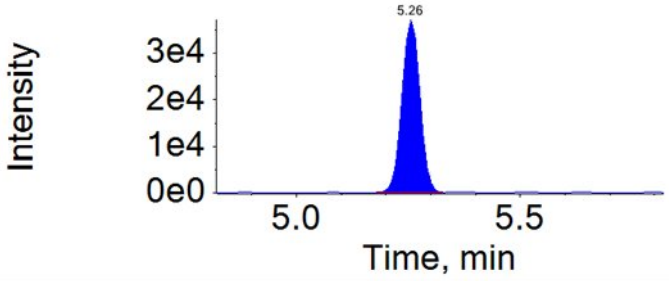
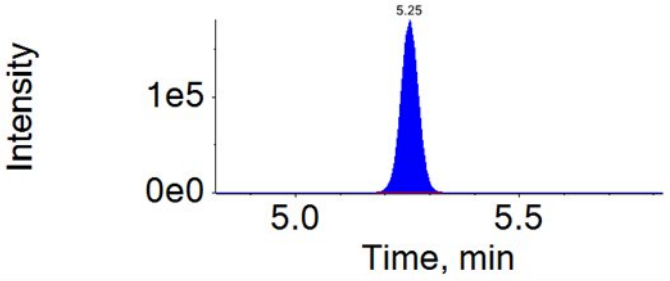
APPROVED
By MCD at 5:15 pm, 11/8/18

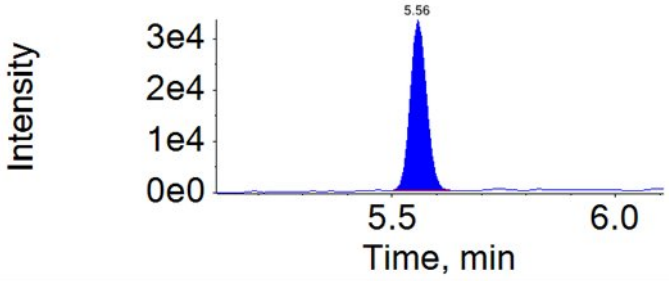
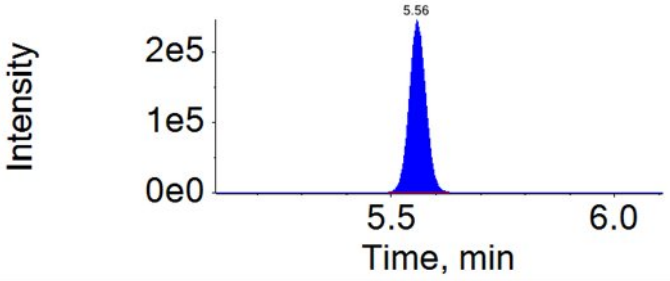
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

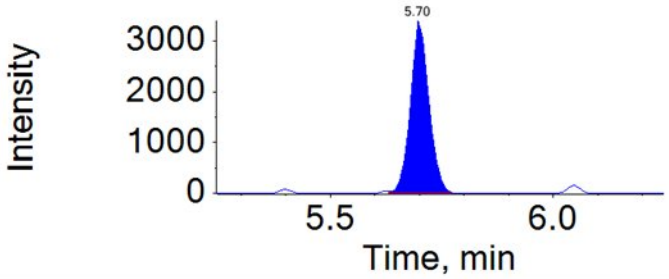
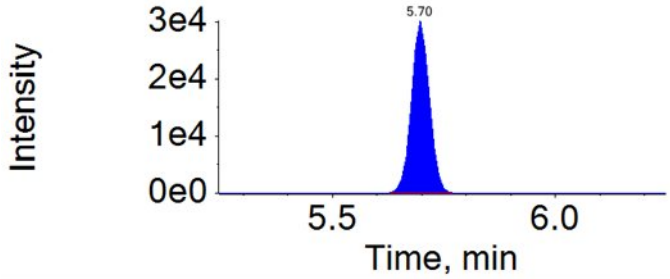
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0
	

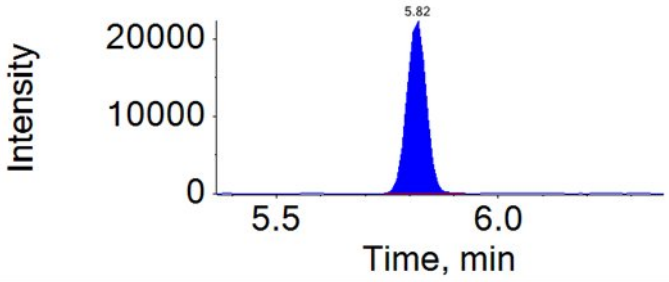
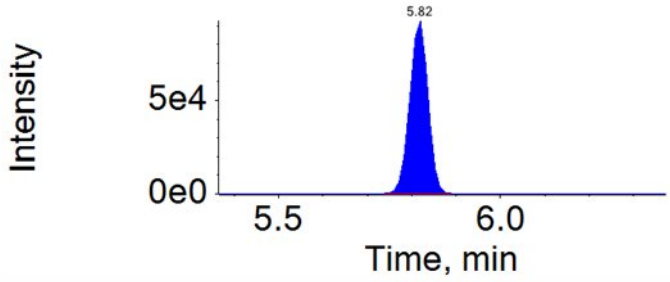
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0
	

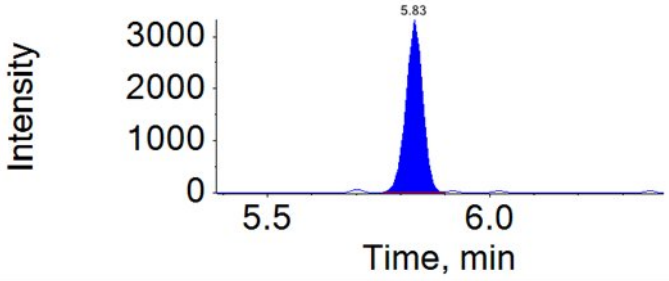
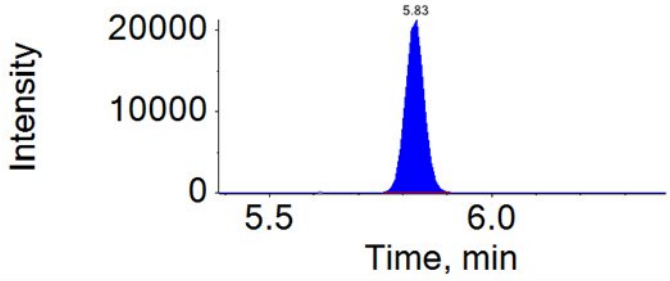
APPROVED
By MCD at 5:15 pm, 11/8/18

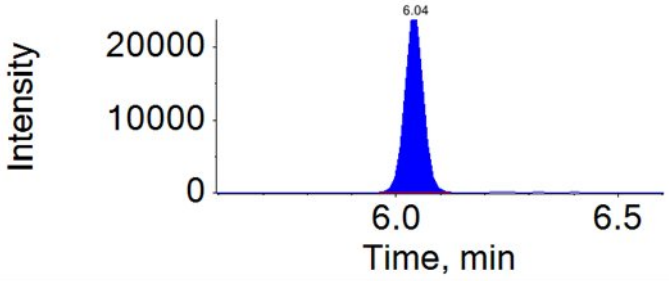
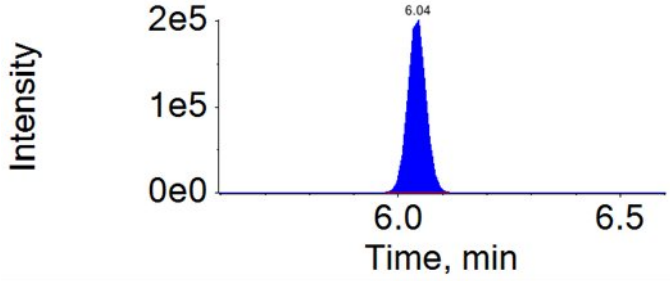
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

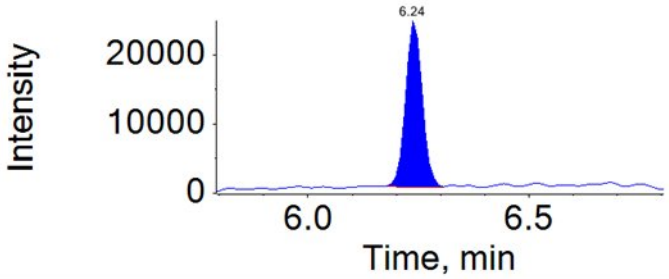
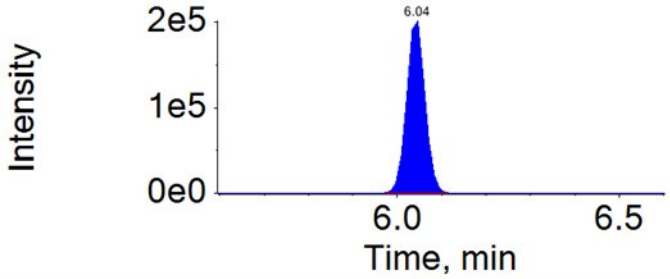
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

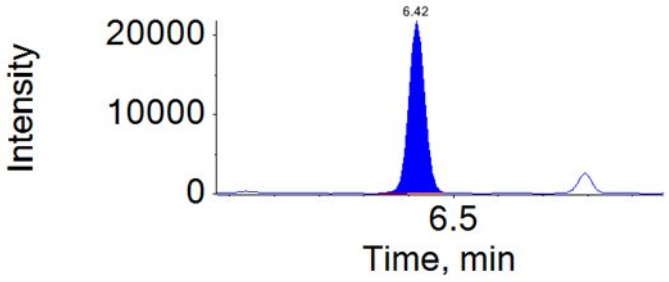
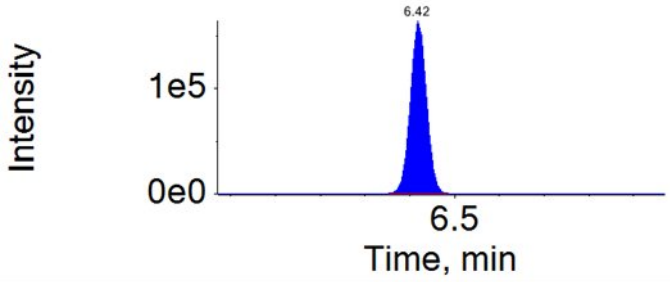
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

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

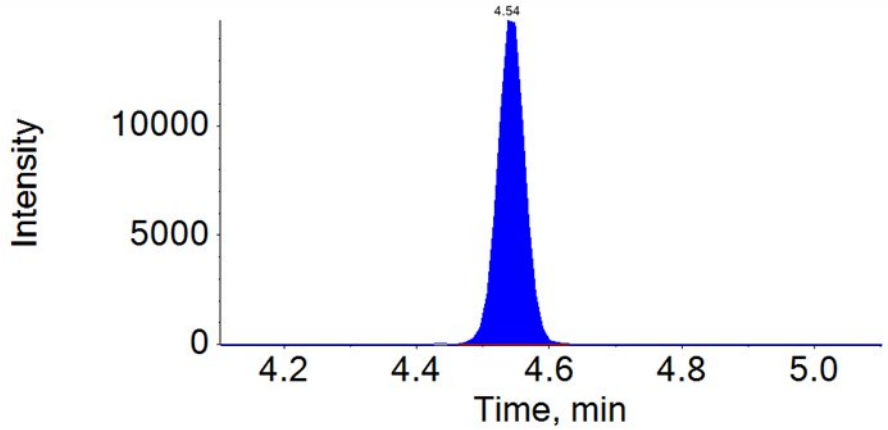
Analyte: PFTeDA	Extraction Standard: 13C2-PFTeDA
713.0 / 669.0	715.0 / 670.0
	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

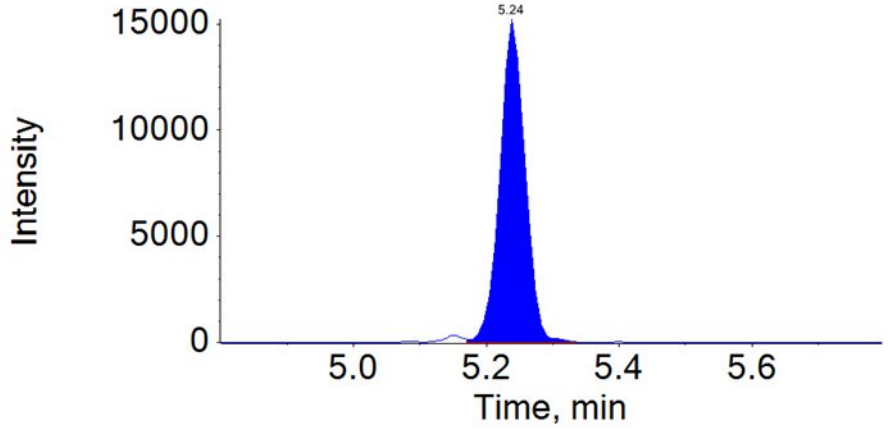
Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFHxS
RT (min.):
4.54
Peak Area:
43546.4
Mass Range:
399.0 / 80.0
File Name:
18NOV07D-71.wiff
Sample Name:
9881872MS



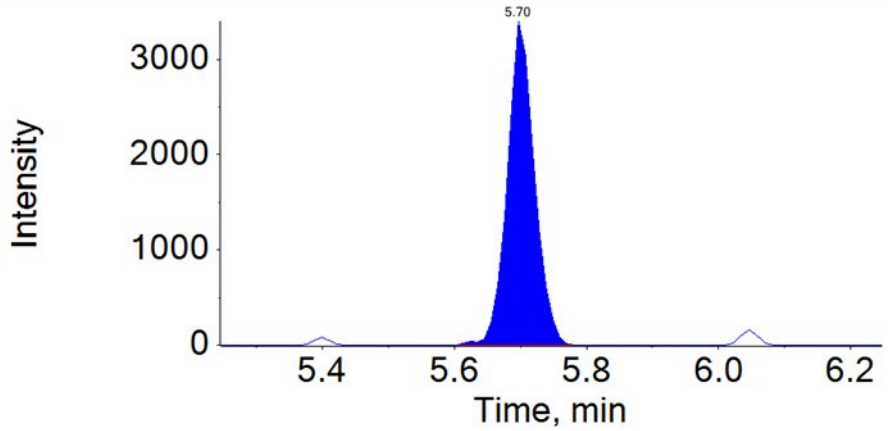
Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
39972.4
Mass Range:
499.0 / 80.0
File Name:
18NOV07D-71.wiff
Sample Name:
9881872MS



Integration Comment: incorrect integration

Component Name:
NMeFOSAA
RT (min.):
5.70
Peak Area:
9738.0
Mass Range:
570.0 / 419.0
File Name:
18NOV07D-71.wiff
Sample Name:
9881872MS



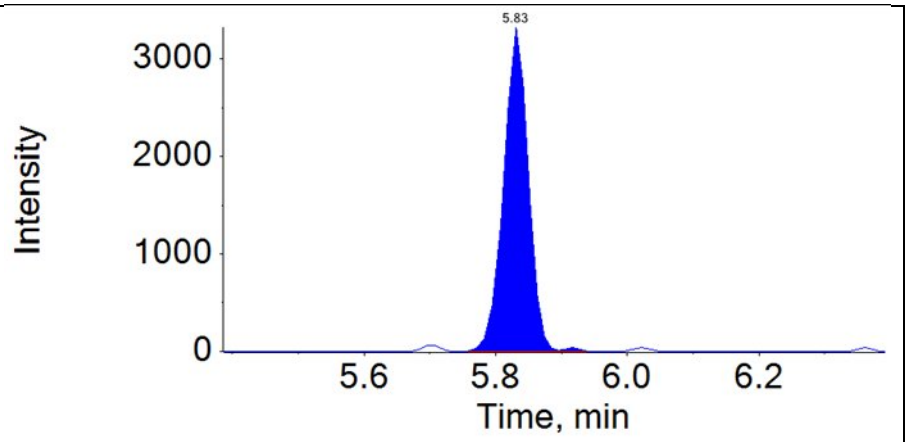
Integration Comment: incorrect integration

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

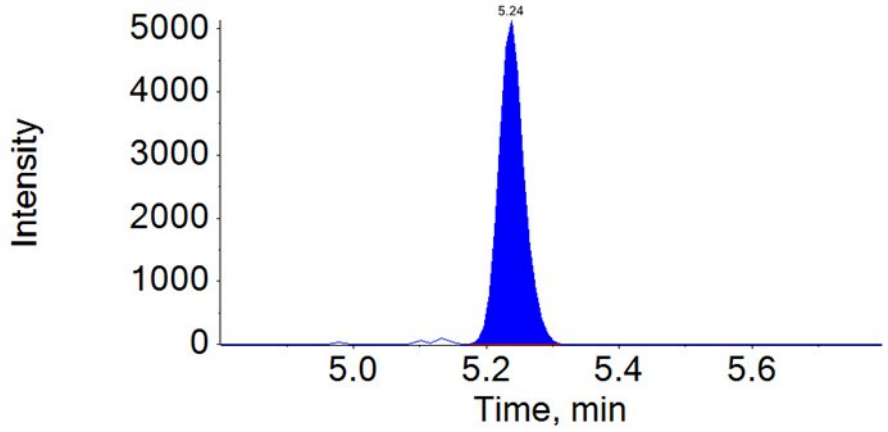
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Results Table Date: 11/8/2018 5:08:23 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
NEtFOSAA
RT (min.):
5.83
Peak Area:
8718.0
Mass Range:
584.0 / 419.0
File Name:
18NOV07D-71.wiff
Sample Name:
9881872MS



Integration Comment: incorrect integration

Component Name:
PFOS_2
RT (min.):
5.24
Peak Area:
13684.1
Mass Range:
499.0 / 99.0
File Name:
18NOV07D-71.wiff
Sample Name:
9881872MS



Integration Comment: incorrect integration

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Ion Ratio Report

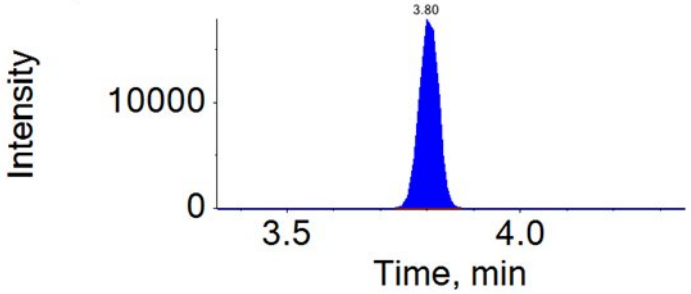
Sample Name: 9881872MS **Instrument Name:** LM27631 **File Name:** 18NOV07D-71.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	53514.8	A	N/A	0.3846			
PFBS_2	3.80	1.00	20584.0	A	N/A	0.3846	8	50	
PFHxA	4.15	1.00	122082.1	A	N/A	0.0124			
PFHxA_2	4.15	1.00	1508.2	A	N/A	0.0124	9	50	
PFHxS	4.54	1.00	43613.2	M	N/A	0.3518			
PFHxS_2	4.54	1.00	15344.4	A	N/A	0.3518	-2	50	
PFHpA	4.54	1.00	125751.6	A	N/A	0.0491			
PFHpA_2	4.54	1.00	6168.6	A	N/A	0.0491	-15	50	
PFOA	4.91	1.00	135929.3	A	N/A	0.0518			
PFOA_2	4.91	1.00	7047.8	A	N/A	0.0518	-19	50	
PFOS	5.24	1.00	40687.5	M	N/A	0.3417			
PFOS_2	5.24	1.00	13902.7	M	N/A	0.3417	-3	50	
PFNA	5.26	1.00	103993.5	A	N/A	0.0161			
PFNA_2	5.25	1.00	1671.1	A	N/A	0.0161	-22	50	
PFDA	5.56	1.00	83634.2	A	N/A	0.0150			
PFDA_2	5.56	1.00	1256.6	A	N/A	0.0150	176	50	OOS
NMeFOSAA	5.70	1.00	9692.6	M	N/A	0.3259			
NMeFOSAA_2	5.69	1.00	3159.1	A	N/A	0.3259	50	50	
PFUnDA	5.82	1.00	68342.8	A	N/A	0.0042			
PFUnDA_2	5.82	1.00	287.9	A	N/A	0.0042	38	50	
NEtFOSAA	5.83	1.00	8655.2	M	N/A	0.6952			
NEtFOSAA_2	5.83	1.00	6017.1	A	N/A	0.6952	15	50	
PFDoDA	6.04	1.00	71706.0	A	N/A	0.0184			
PFDoDA_2	6.04	1.00	1318.4	A	N/A	0.0184	75	50	OOS
PFTrDA	6.24	1.03	61962.7	A	N/A	0.0082			
PFTrDA_2	6.24	1.03	510.2	A	N/A	0.0082	-14	50	
PFTeDA	6.42	1.00	53331.7	A	N/A	0.0075			
PFTeDA_2	6.42	1.00	397.5	A	N/A	0.0075	38	50	

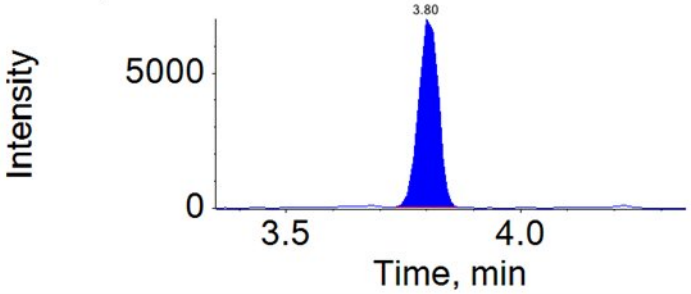
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

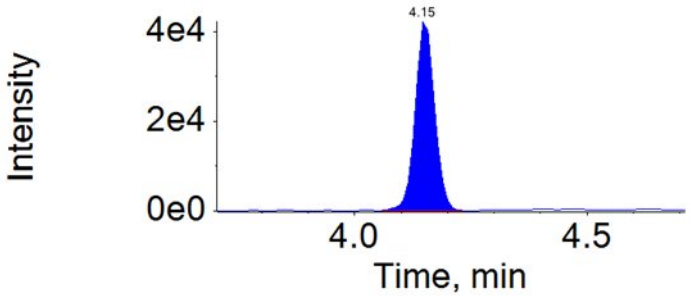
Component: PFBS
Primary Mass: 299.0 / 80.0



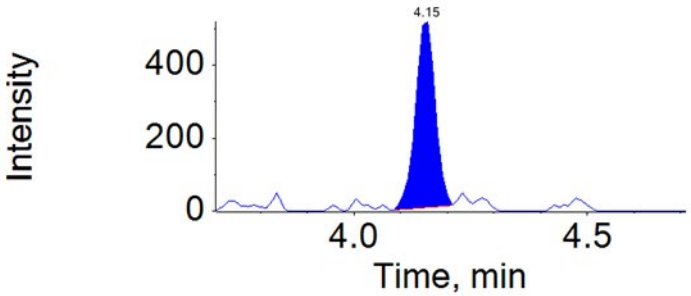
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



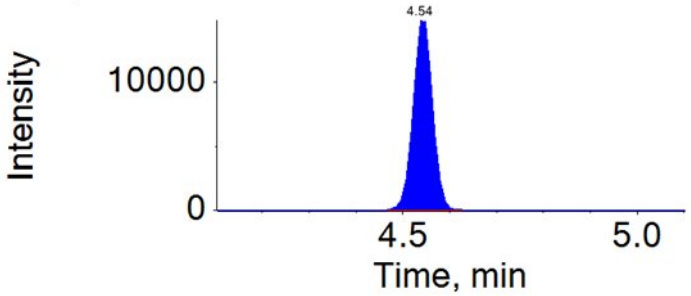
Component: PFHxA
Primary Mass: 313.0 / 269.0



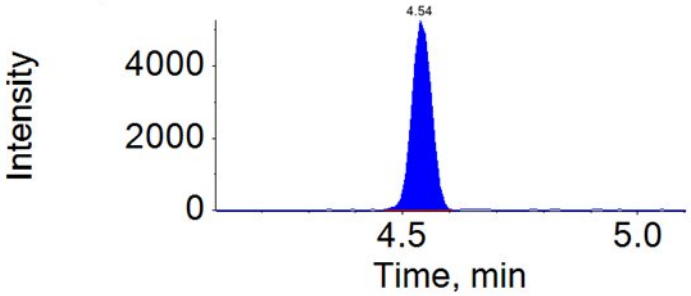
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



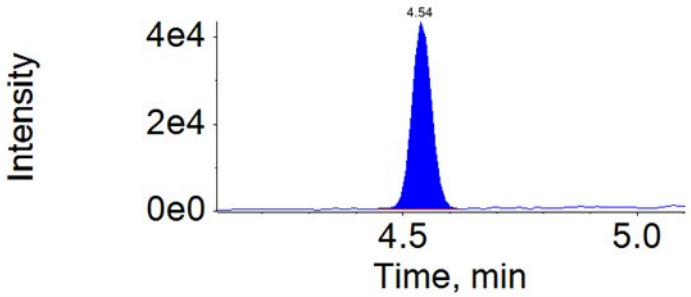
Component: PFHxS
Primary Mass: 399.0 / 80.0



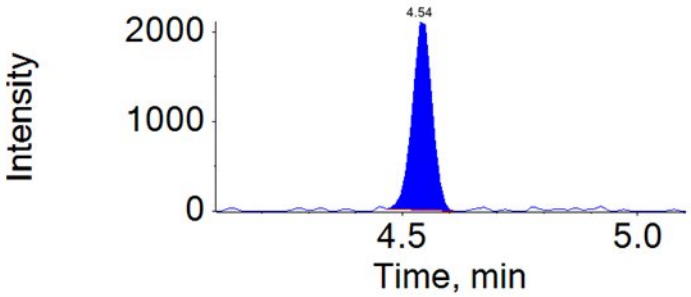
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



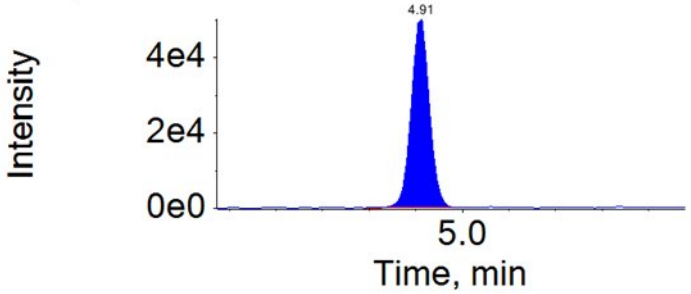
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



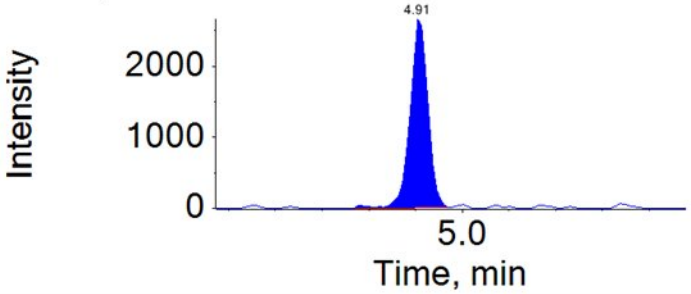
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

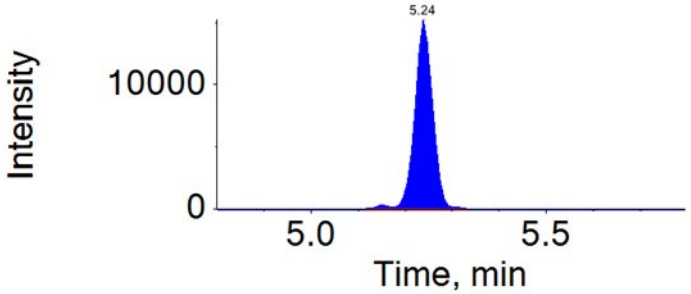
Component: PFOA
Primary Mass: 413.0 / 369.0



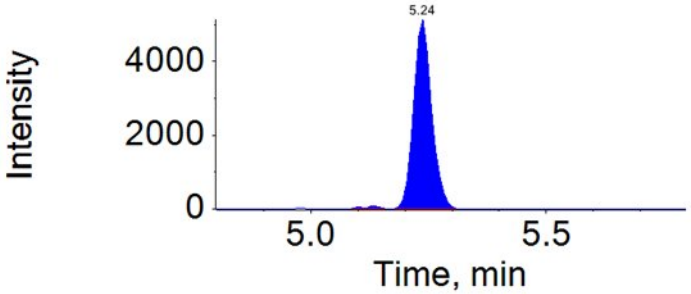
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



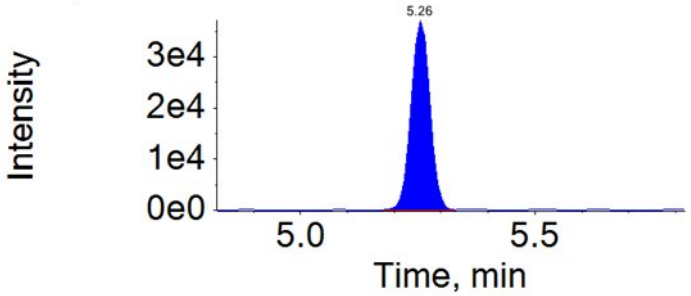
Component: PFOS
Primary Mass: 499.0 / 80.0



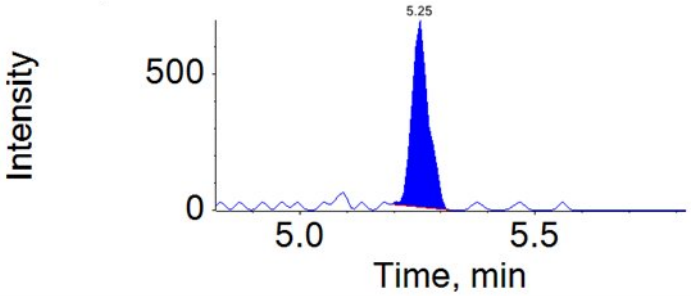
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



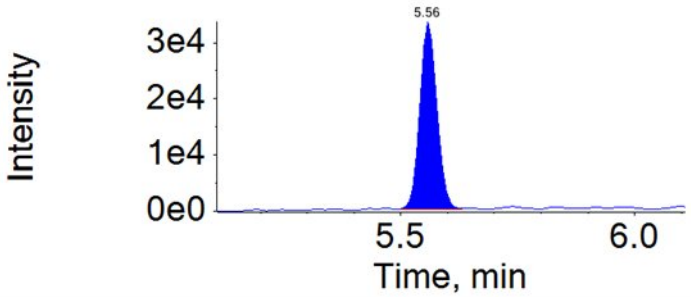
Component: PFNA
Primary Mass: 463.0 / 419.0



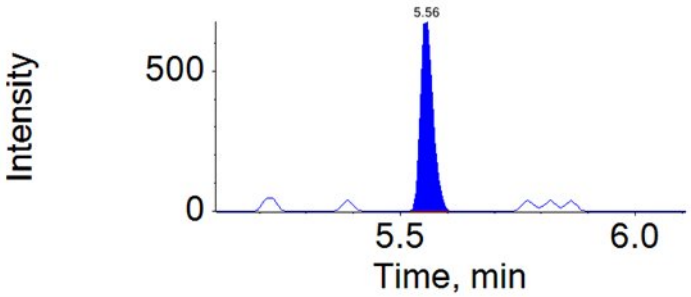
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



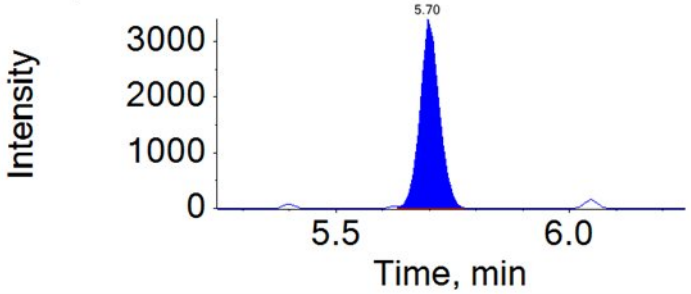
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



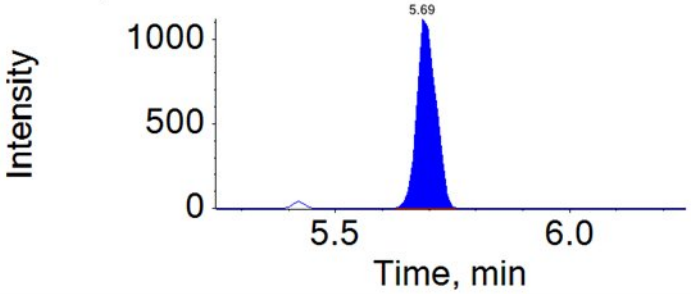
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

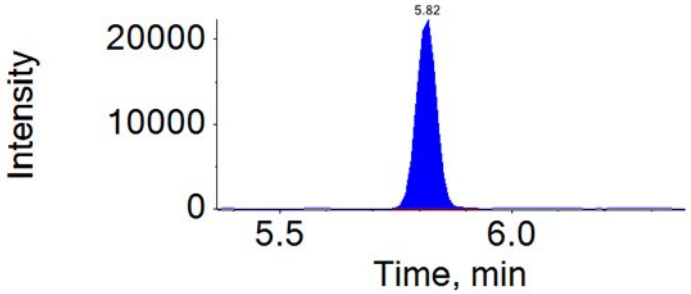
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



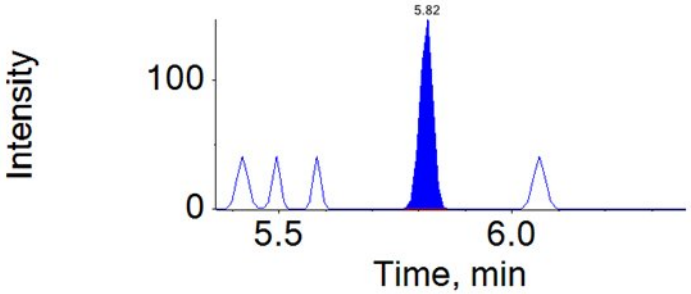
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



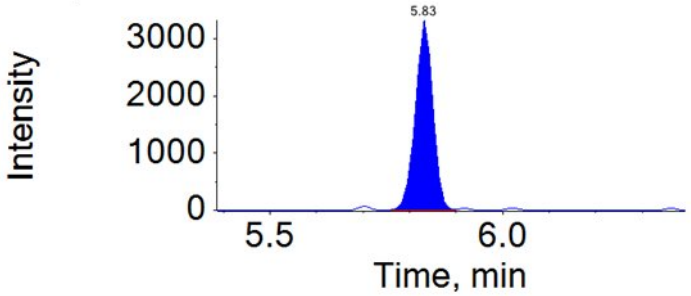
Component: PFUnDA
Primary Mass: 563.0 / 519.0



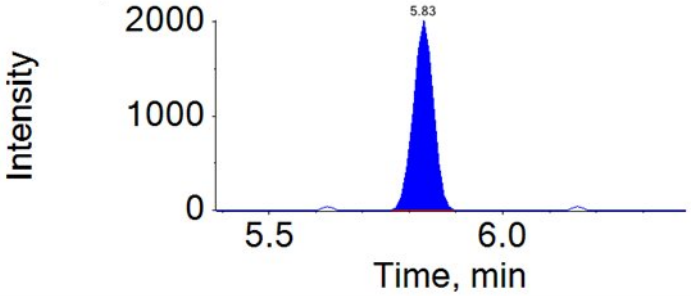
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



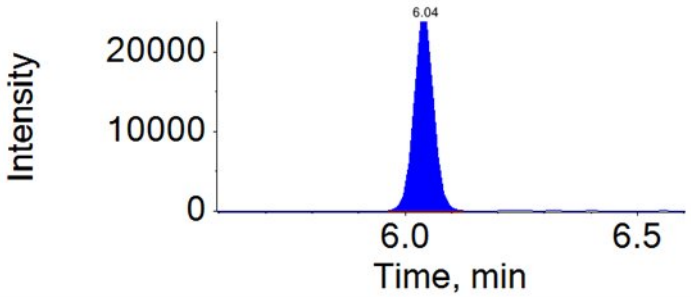
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



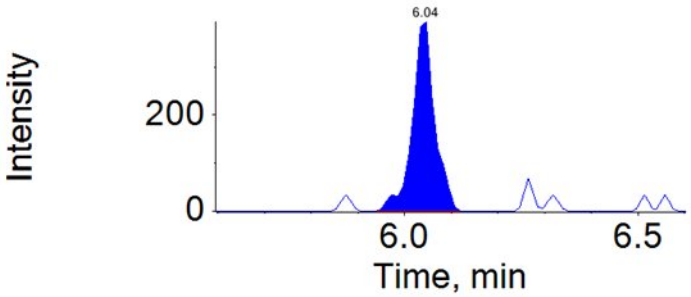
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



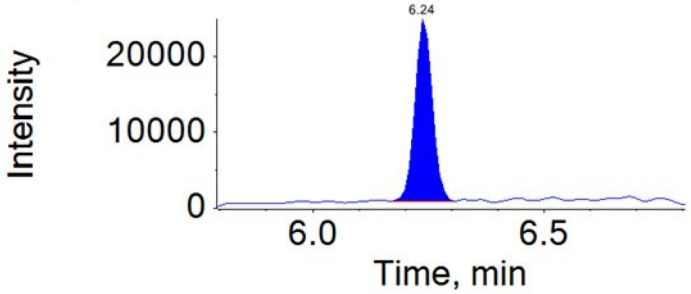
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



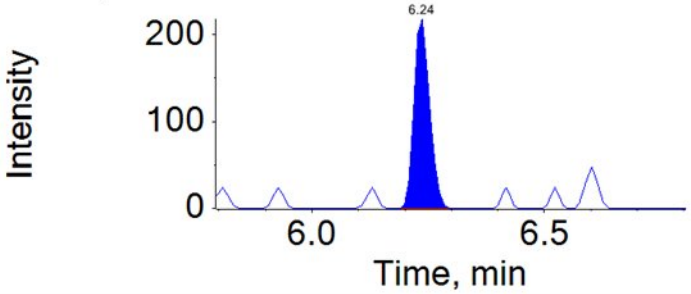
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

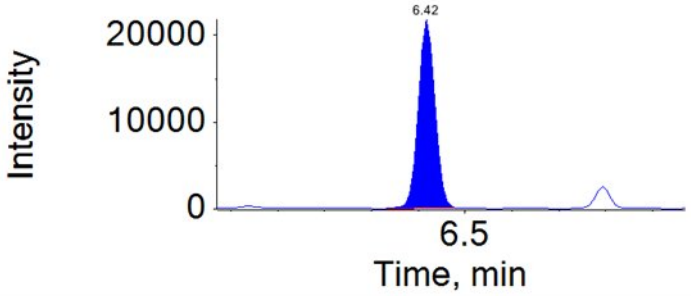
Component: PFTrDA
Primary Mass: 663.0 / 619.0



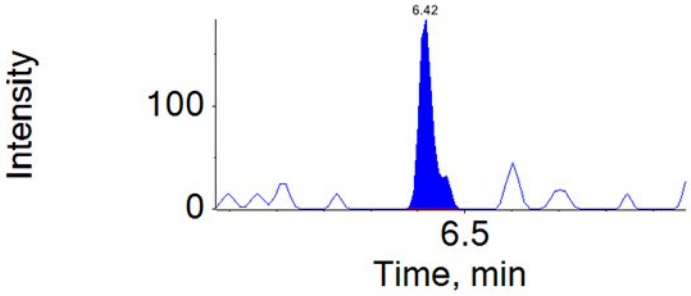
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



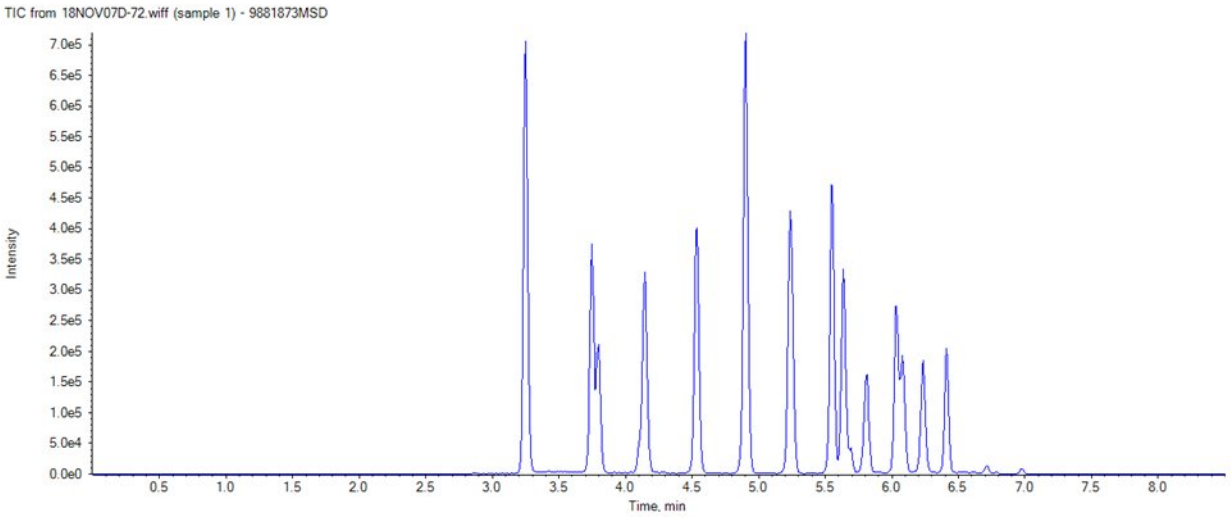
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9881873MSD	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MSD Grab Soil	18NOV07D-72.wiff	2018-11-07T22:04:15



Injection Standard Area Reference File**:** 18NOV07DCAL-12

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	783518.3	730410.6	7	50	
13C2-PFOA	5.00	554284.0	524423.6	6	50	
13C4-PFOS	4.78	298679.1	274061.7	9	50	
13C2-PFDA	5.00	330851.4	311442.1	6	50	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:06:52 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	9881873MSD	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MSD Grab Soil	18NOV07D-72.wiff	2018-11-07T22:04:15

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBS	52727.2	385872.2	0.137	1.145	1.312	115	70-130	
PFHxA	111789.1	605901.1	0.185	1.295	1.507	116	70-130	
PFHxS	40835.7	290185.1	0.141	1.225	1.359	111	70-130	
PFHpA	124122.0	501343.3	0.248	1.295	1.586	122	70-130	
PFOA	120647.1	856291.2	0.141	1.295	1.511	117	70-130	
PFOS	37636.2	261616.3	0.144	1.238	1.421	115	70-130	
PFNA	93803.7	452157.0	0.207	1.295	1.477	114	70-130	
PFDA	76862.9	566543.2	0.136	1.295	1.422	110	70-130	
NMeFOSAA	8847.4	78093.0	0.113	1.295	1.110	86	70-130	
PFUnDA	63993.4	243994.1	0.262	1.295	1.433	111	70-130	
NEtFOSAA	9144.5	59537.3	0.154	1.295	1.257	97	70-130	
PFDoDA	66853.2	532812.5	0.125	1.295	1.295	100	70-130	
PFTrDA	59514.8	532812.5	0.112	1.295	1.342	104	70-130	
PFTeDA	49659.8	379200.4	0.131	1.295	1.465	113	70-130	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Matrix Spike Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Sample Name:	9881873MSD			**Data File:**		18NOV07D-72.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011 OU1-BLDG573-S-06-05 MSD Grab Soil			**Acquis Date:**		2018-11-07T22:04:15
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	42			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.05000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	783518.3	730410.6	7	50	
13C2-PFOA	5.0	554284.0	524423.6	6	50	
13C4-PFOS	4.8	298679.1	274061.7	9	50	
13C2-PFDA	5.0	330851.4	311442.1	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	385872.2	13C3-PFBA	783518.3	0.492	8.857	6.885	78	50-150	
E13C5-PFHxA	605901.1	13C2-PFOA	554284.0	1.093	9.524	7.659	80	50-150	
E13C3-PFHxS	290185.1	13C2-PFOA	554284.0	0.524	9.010	7.159	79	50-150	
E13C4-PFHpA	501343.3	13C2-PFOA	554284.0	0.904	9.524	7.837	82	50-150	
E13C8-PFOA	856291.2	13C2-PFOA	554284.0	1.545	9.524	8.206	86	50-150	
E13C8-PFOS	261616.3	13C4-PFOS	298679.1	0.876	9.105	7.377	81	50-150	
E13C9-PFNA	452157.0	13C4-PFOS	298679.1	1.514	9.524	7.877	83	50-150	
E13C6-PFDA	566543.2	13C2-PFDA	330851.4	1.712	9.524	8.203	86	50-150	
Ed3-NMeFOSAA	78093.0	13C2-PFDA	330851.4	0.236	9.524	8.361	88	50-150	
E13C7-PFUnDA	243994.1	13C2-PFDA	330851.4	0.737	9.524	8.103	85	50-150	
Ed5-NEtFOSAA	59537.3	13C2-PFDA	330851.4	0.180	9.524	7.932	83	50-150	
E13C2-PFDoDA	532812.5	13C2-PFDA	330851.4	1.610	9.524	8.269	87	50-150	
E13C2-PFTeDA	379200.4	13C2-PFDA	330851.4	1.146	9.524	7.859	83	50-150	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

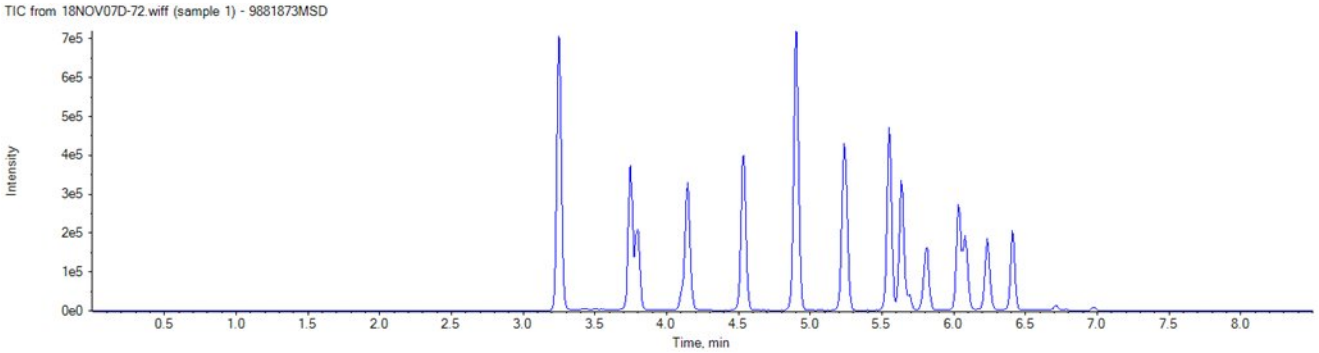
Analyte Quantitation Peak Table

Sample Name: 9881873MSD **Instrument Name:** LM27631 **File Name:** 18NOV07D-72.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.05000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	3.80	1.000	52727.2		A	13C3-PFBS	3.80	385872.2	0.137	1.312
PFHxA	4.14	1.000	111789.1		A	13C5-PFHxA	4.14	605901.1	0.185	1.507
PFHxS	4.54	1.000	40835.7		A	13C3-PFHxS	4.54	290185.1	0.141	1.359
PFHpA	4.53	1.000	124122.0		A	13C4-PFHpA	4.53	501343.3	0.248	1.586
PFOA	4.90	1.000	120647.1		A	13C8-PFOA	4.90	856291.2	0.141	1.511
PFOS	5.23	1.000	37636.2		A	13C8-PFOS	5.23	261616.3	0.144	1.421
PFNA	5.25	1.000	93803.7		A	13C9-PFNA	5.25	452157.0	0.207	1.477
PFDA	5.55	1.000	76862.9		A	13C6-PFDA	5.55	566543.2	0.136	1.422
NMeFOSAA	5.69	1.000	8847.4		M	d3-NMeFOSAA	5.69	78093.0	0.113	1.110
PFUnDA	5.81	1.000	63993.4		A	13C7-PFUnDA	5.81	243994.1	0.262	1.433
NEtFOSAA	5.82	1.000	9144.5		A	d5-NEtFOSAA	5.82	59537.3	0.154	1.257
PFDoDA	6.03	1.000	66853.2		A	13C2-PFDoDA	6.03	532812.5	0.125	1.295
PFTrDA	6.23	1.030	59514.8		A	13C2-PFDoDA	6.03	532812.5	0.112	1.342
PFTeDA	6.41	1.000	49659.8		A	13C2-PFTeDA	6.41	379200.4	0.131	1.465

Total Ion Chromatogram

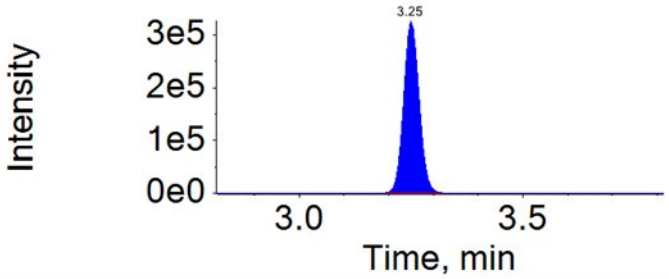


APPROVED
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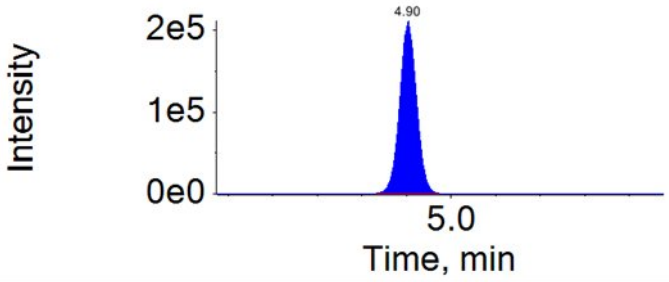
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

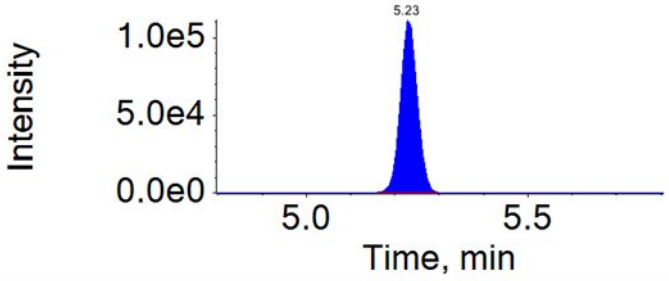
Injection Standard: 13C3-PFBA
216.0 / 172.0



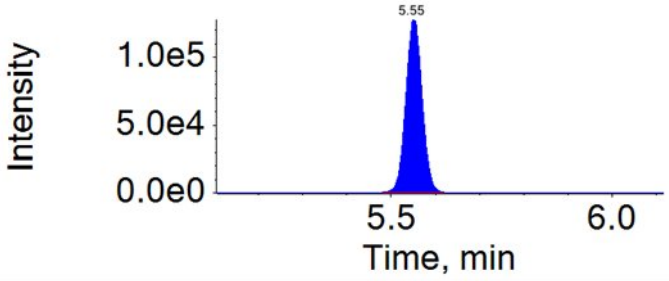
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



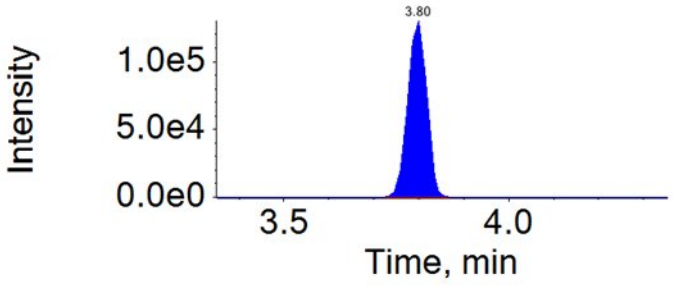
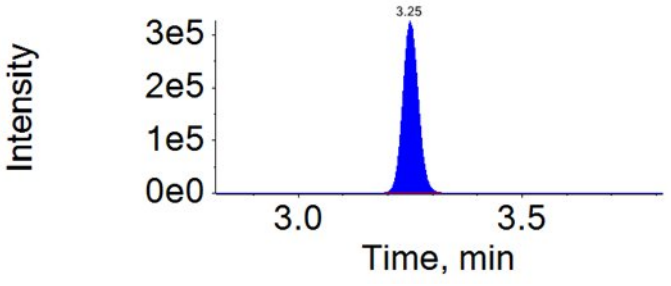
Injection Standard: 13C2-PFDA
515.0 / 470.0

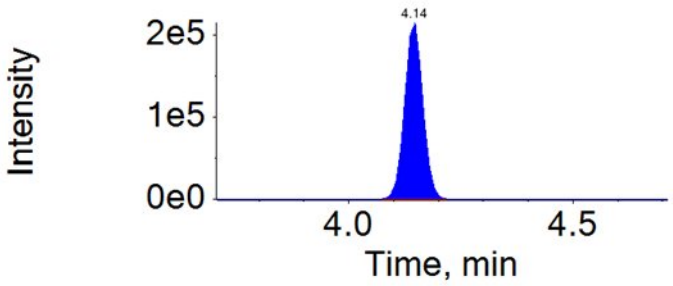
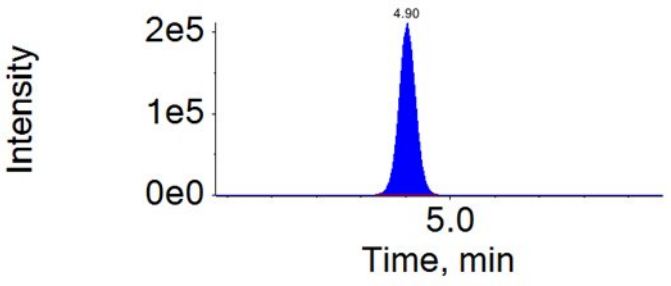


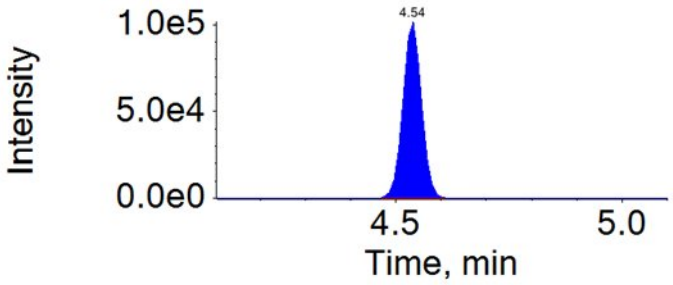
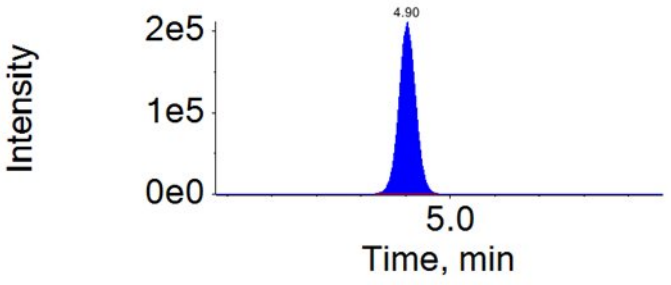
APPROVED
By MCD at 5:15 pm, 11/8/18

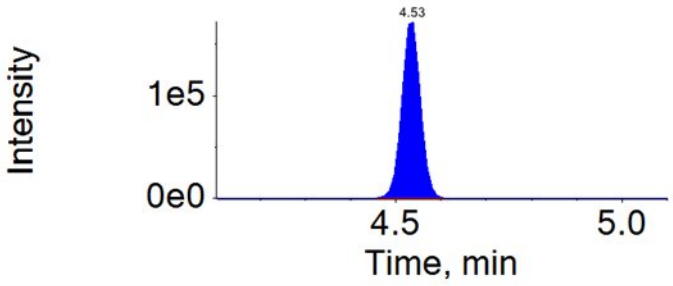
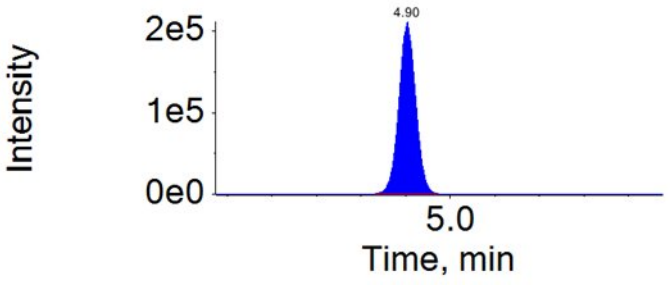
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

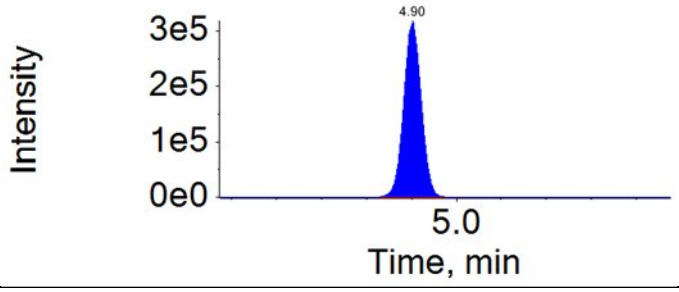
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0
	

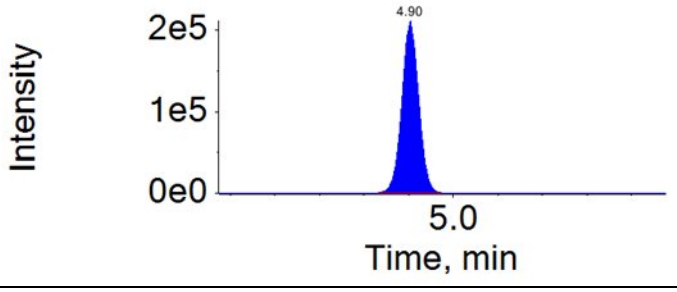
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

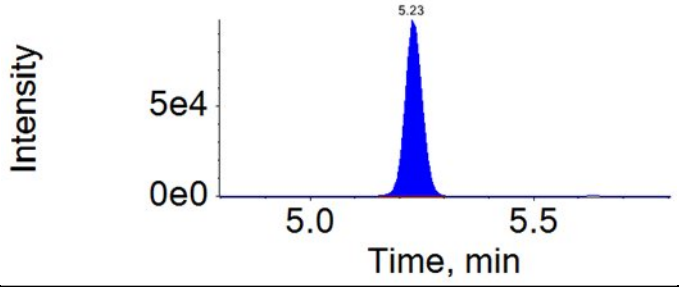
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

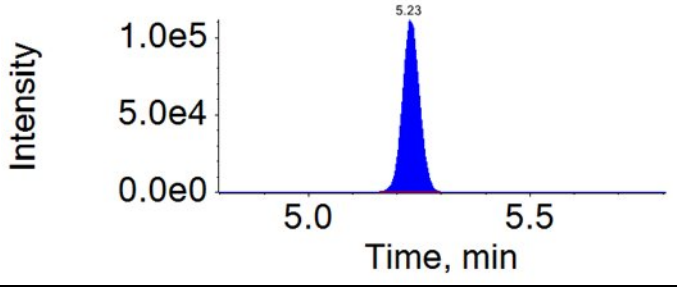
Extraction Standard: E13C8-PFOA	Injection Standard: 13C2-PFOA
421.0 / 376.0	415.0 / 370.0



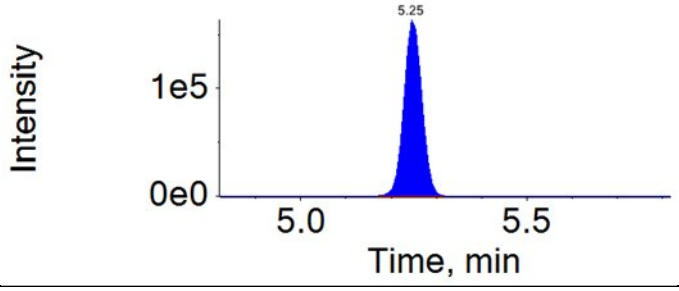


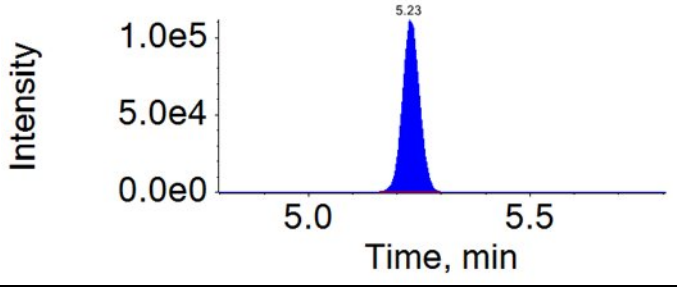
Extraction Standard: E13C8-PFOS	Injection Standard: 13C4-PFOS
507.0 / 80.0	503.0 / 80.0



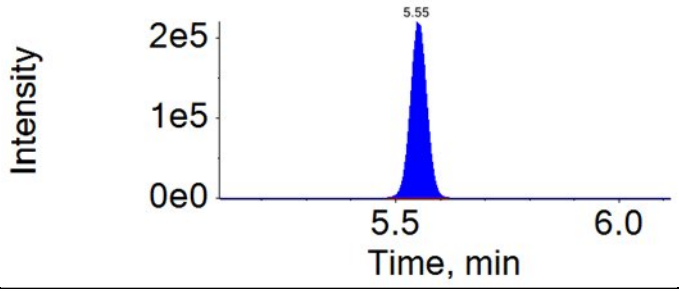


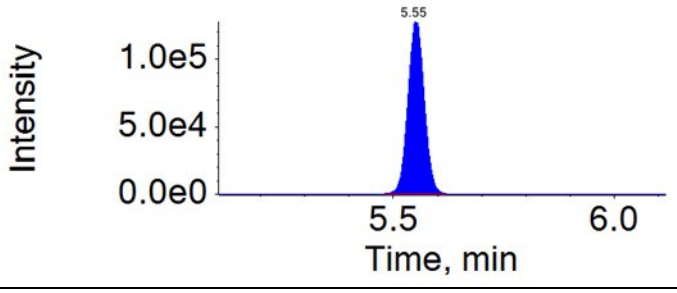
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0





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

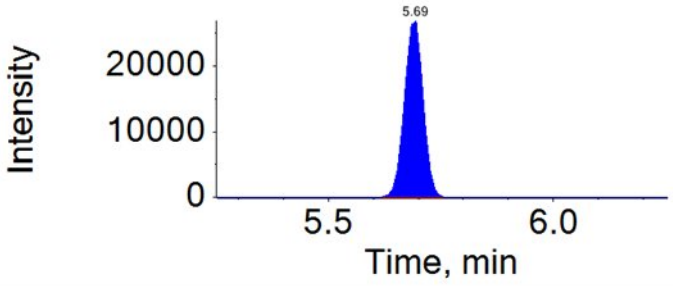
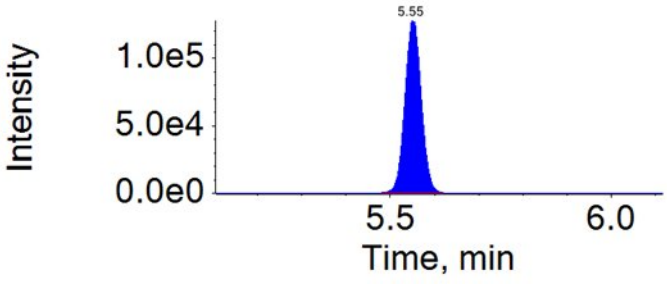


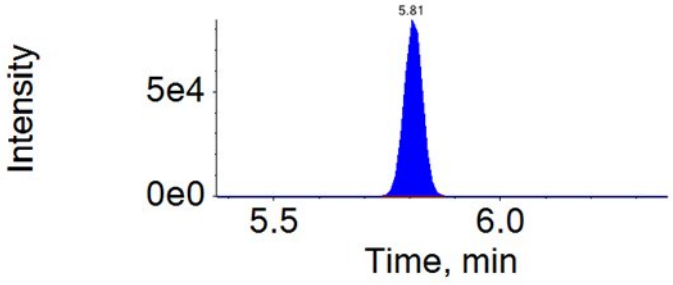
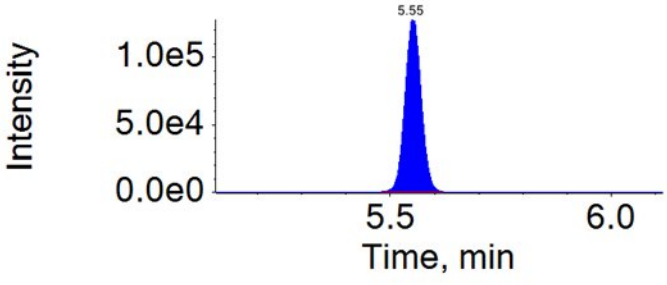


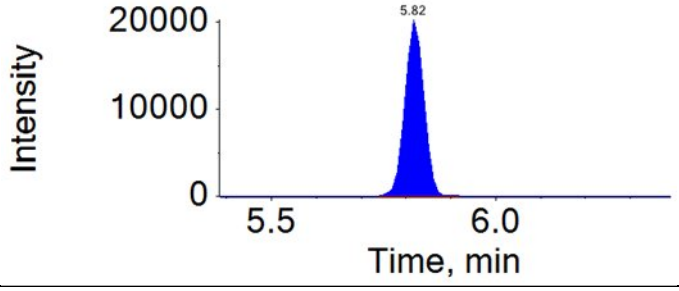
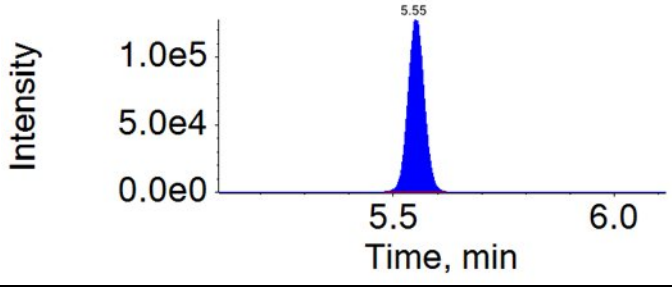
APPROVED
By MCD at 5:15 pm, 11/8/18

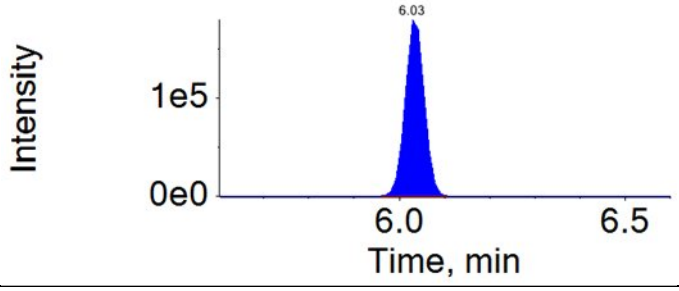
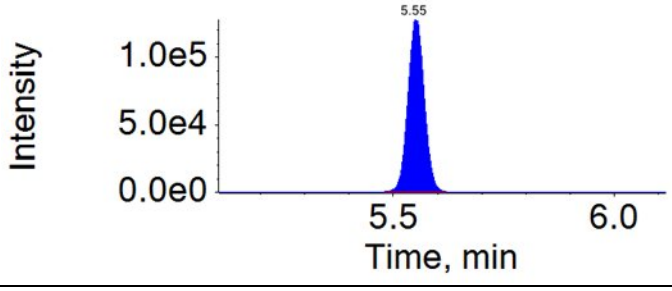
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

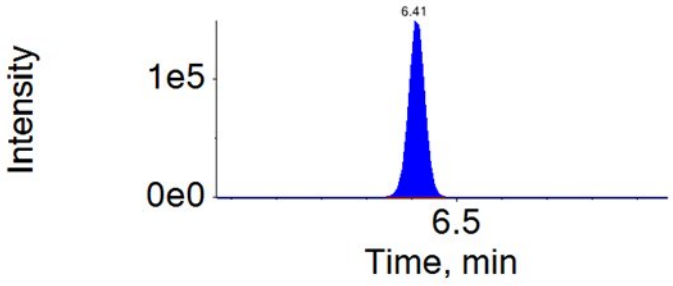
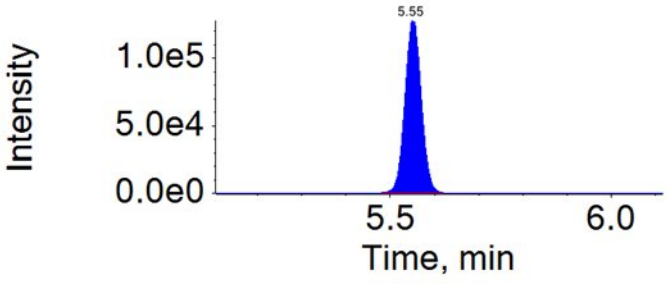
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0
	

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

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

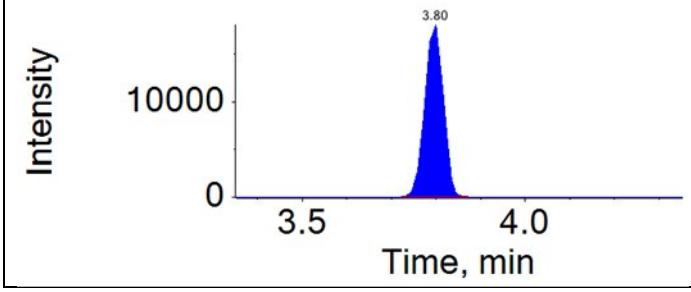
Extraction Standard: E13C2-PFTeDA	Injection Standard: 13C2-PFDA
715.0 / 670.0	515.0 / 470.0
	

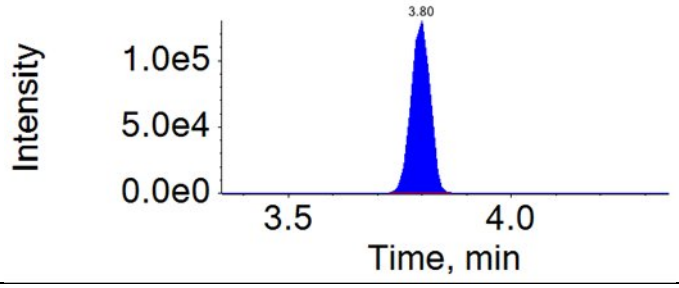
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

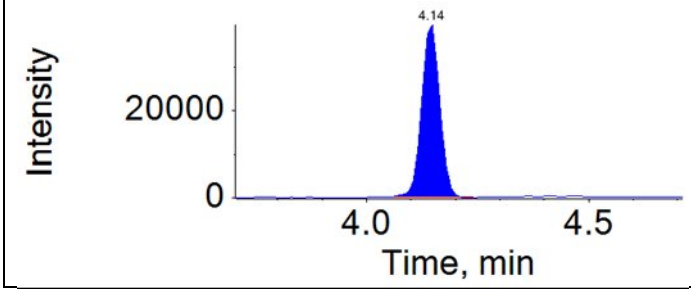
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

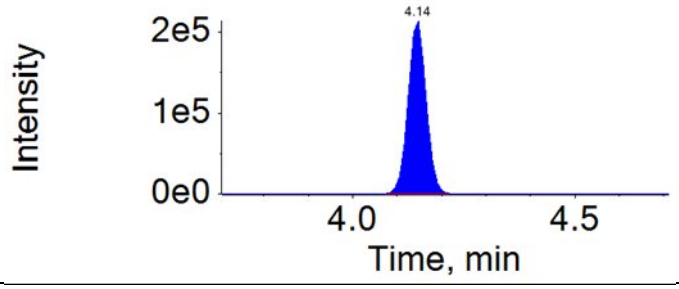
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0



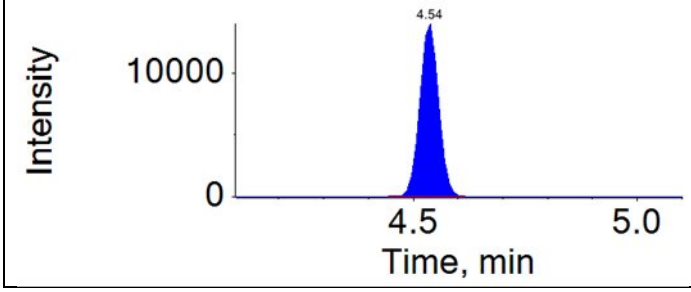


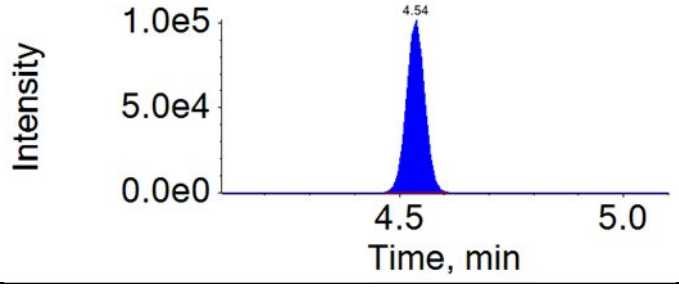
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



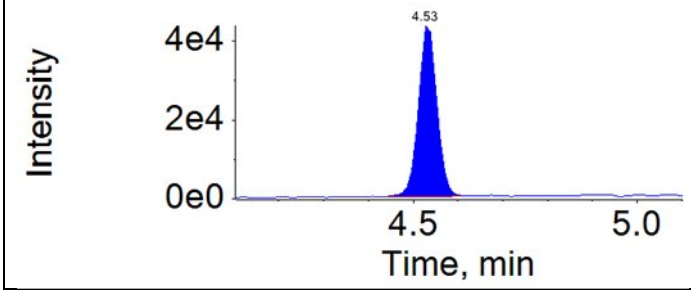


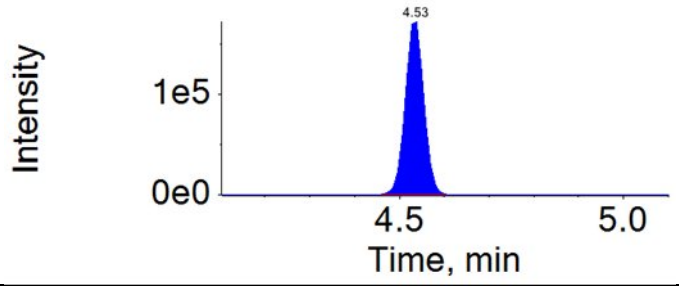
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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



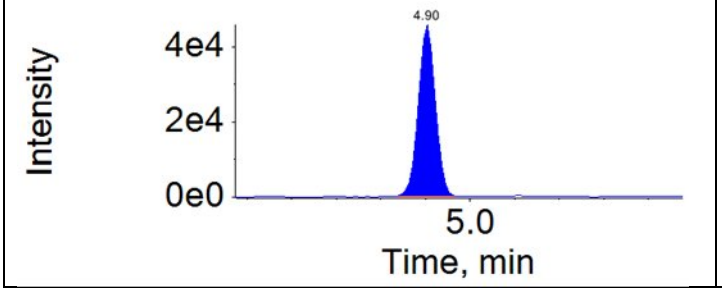


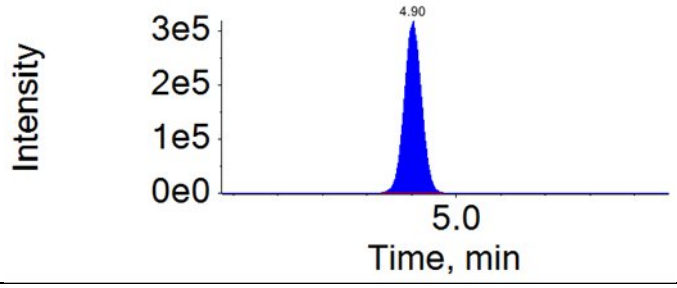
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

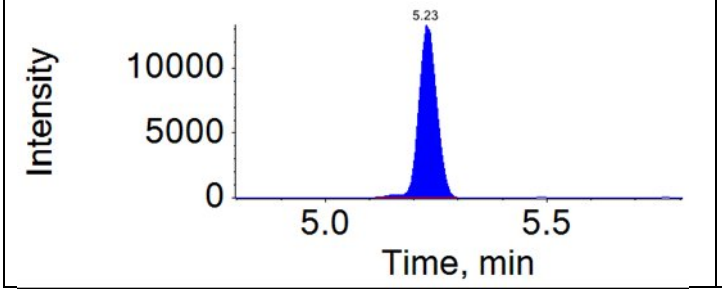
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

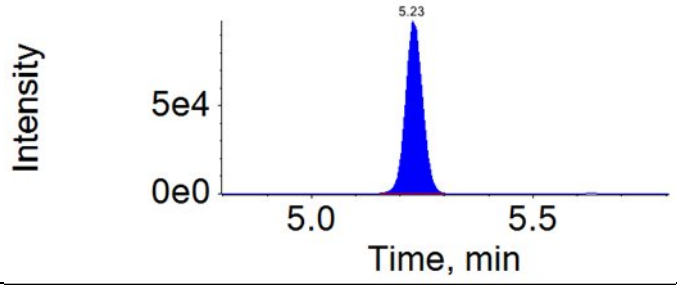
Analyte: PFOA	Extraction Standard: 13C8-PFOA
413.0 / 369.0	421.0 / 376.0



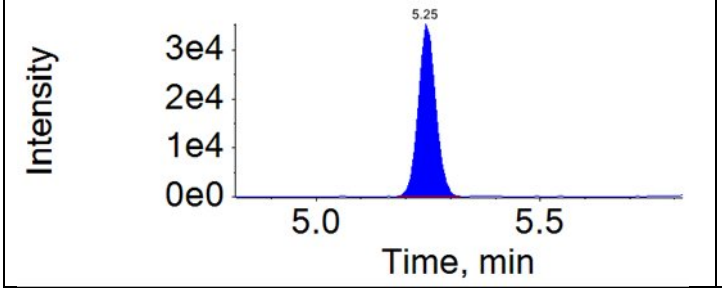


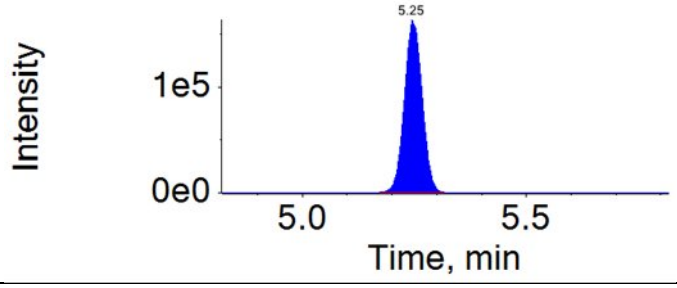
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0



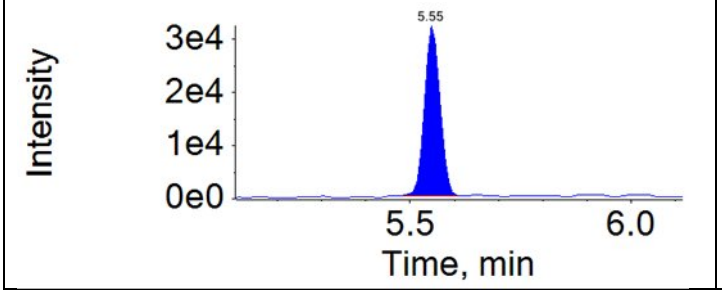


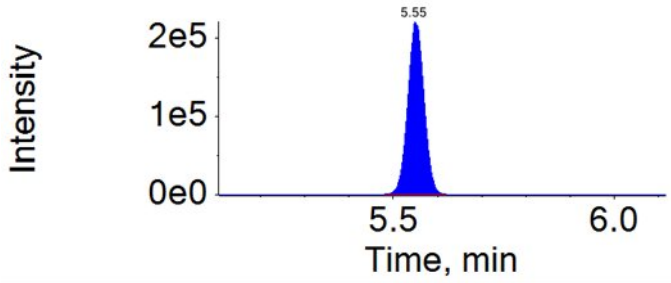
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0





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

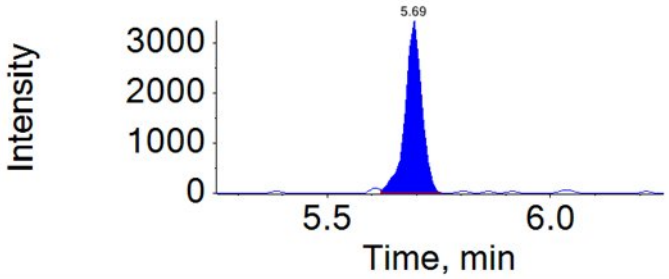
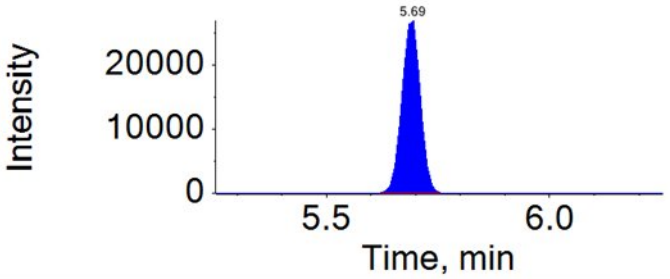


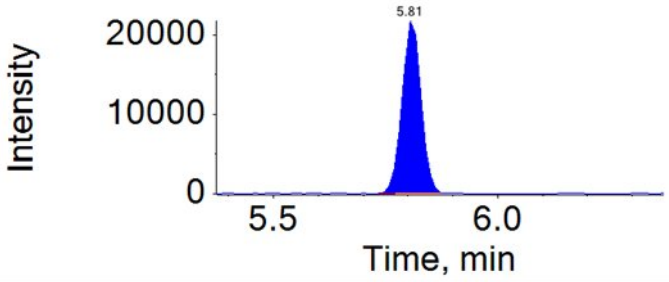
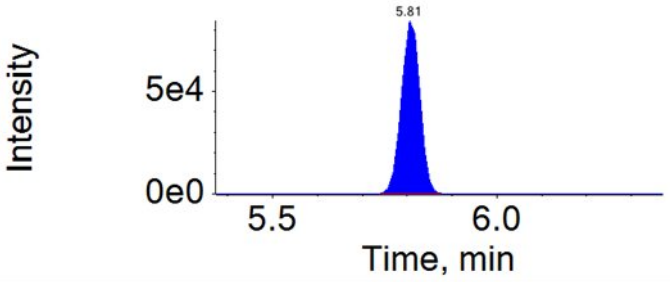


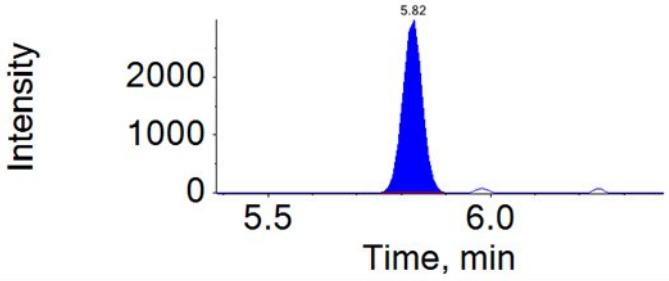
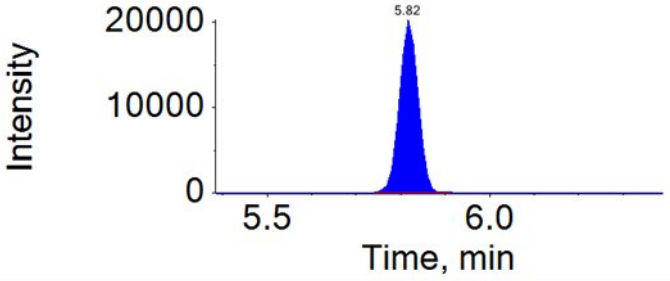
APPROVED
By MCD at 5:15 pm, 11/8/18

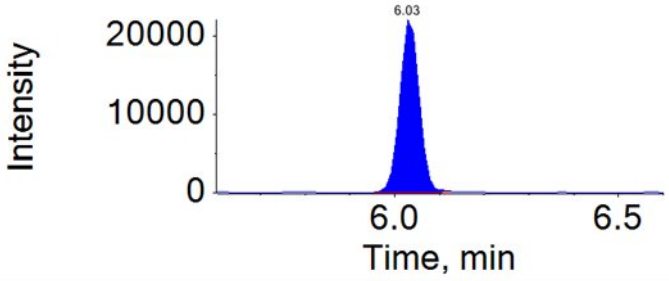
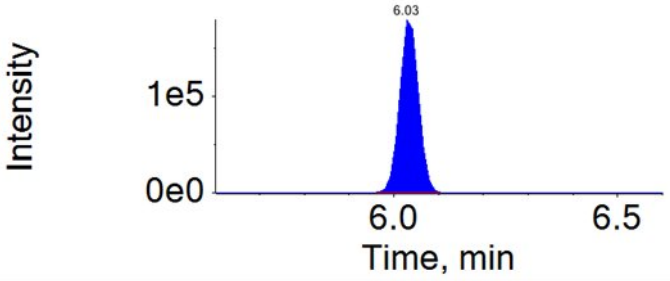
REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

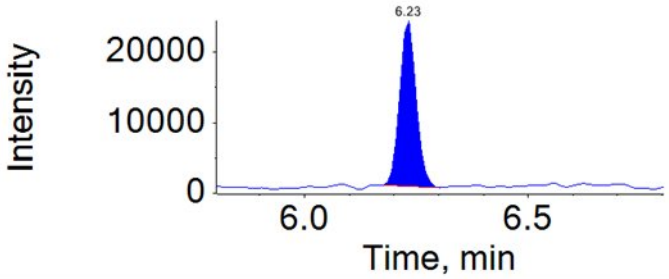
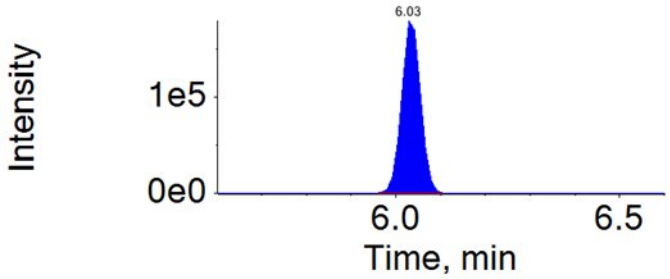
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0
	

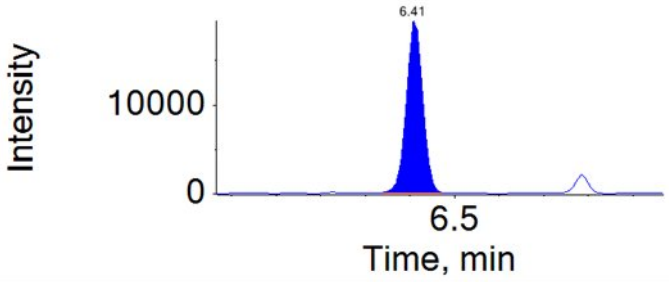
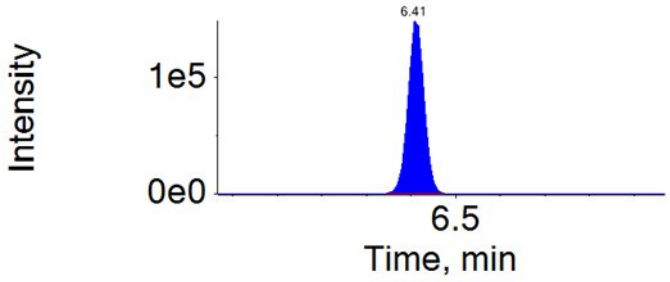
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0
	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

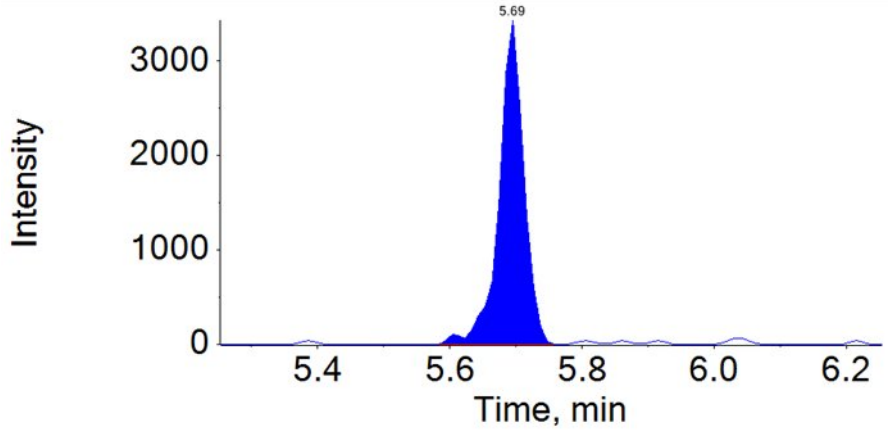
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By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

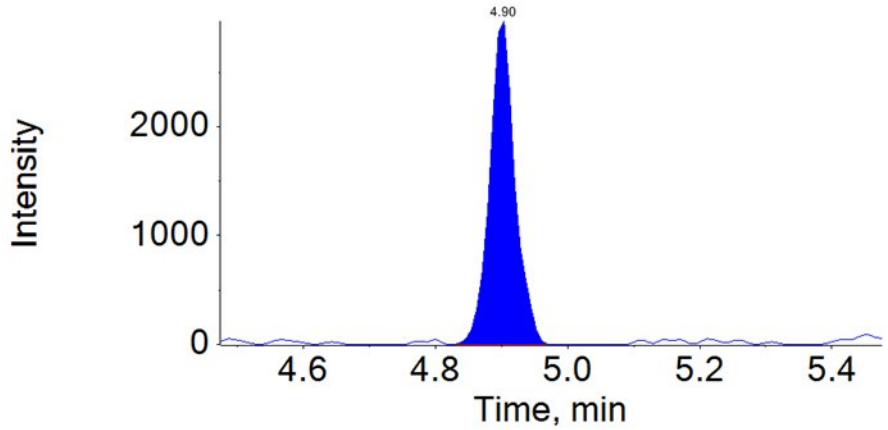
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
NMeFOSAA
RT (min.):
5.69
Peak Area:
8997.4
Mass Range:
570.0 / 419.0
File Name:
18NOV07D-72.wiff
Sample Name:
9881873MSD



Integration Comment: incorrect integration

Component Name:
PFOA_2
RT (min.):
4.90
Peak Area:
7941.2
Mass Range:
413.0 / 169.0
File Name:
18NOV07D-72.wiff
Sample Name:
9881873MSD



Integration Comment: incorrect integration

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Ion Ratio Report

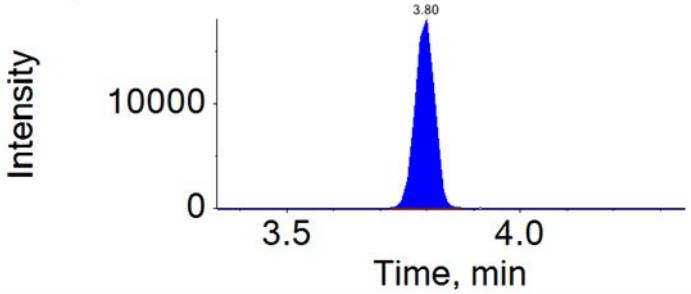
Sample Name: 9881873MSD **Instrument Name:** LM27631 **File Name:** 18NOV07D-72.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	52727.2	A	N/A	0.3819			
PFBS_2	3.80	1.00	20135.1	A	N/A	0.3819	7	50	
PFHxA	4.14	1.00	111789.1	A	N/A	0.0113			
PFHxA_2	4.14	1.00	1262.1	A	N/A	0.0113	0	50	
PFHxS	4.54	1.00	40835.7	A	N/A	0.4018			
PFHxS_2	4.53	1.00	16406.9	A	N/A	0.4018	12	50	
PFHpA	4.53	1.00	124122.0	A	N/A	0.0536			
PFHpA_2	4.53	1.00	6652.9	A	N/A	0.0536	-7	50	
PFOA	4.90	1.00	120647.1	A	N/A	0.0667			
PFOA_2	4.90	1.00	8044.7	M	N/A	0.0667	5	50	
PFOS	5.23	1.00	37636.2	A	N/A	0.3496			
PFOS_2	5.23	1.00	13158.1	A	N/A	0.3496	-1	50	
PFNA	5.25	1.00	93803.7	A	N/A	0.0175			
PFNA_2	5.24	1.00	1641.7	A	N/A	0.0175	-15	50	
PFDA	5.55	1.00	76862.9	A	N/A	0.0054			
PFDA_2	5.55	1.00	411.7	A	N/A	0.0054	-2	50	
NMeFOSAA	5.69	1.00	8847.4	M	N/A	0.2333			
NMeFOSAA_2	5.69	1.00	2064.3	A	N/A	0.2333	8	50	
PFUnDA	5.81	1.00	63993.4	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	5.82	1.00	9144.5	A	N/A	0.6409			
NEtFOSAA_2	5.83	1.00	5861.0	A	N/A	0.6409	6	50	
PFDoDA	6.03	1.00	66853.2	A	N/A	0.0132			
PFDoDA_2	6.04	1.00	882.2	A	N/A	0.0132	26	50	
PFTrDA	6.23	1.03	59514.8	A	N/A	0.0110			
PFTrDA_2	6.24	1.03	652.1	A	N/A	0.0110	15	50	
PFTeDA	6.41	1.00	49659.8	A	N/A	0.0039			
PFTeDA_2	6.41	1.00	194.0	A	N/A	0.0039	-28	50	

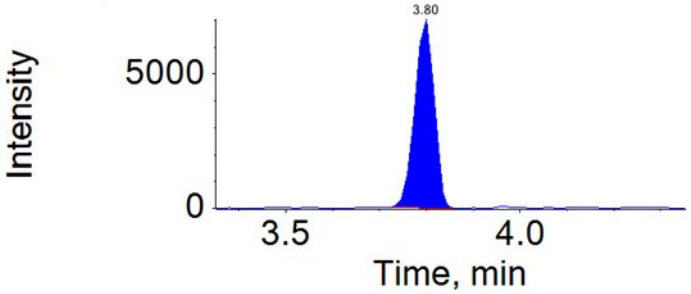
APPROVED
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REVIEWED
By umar at 11:35 am, 11/12/18

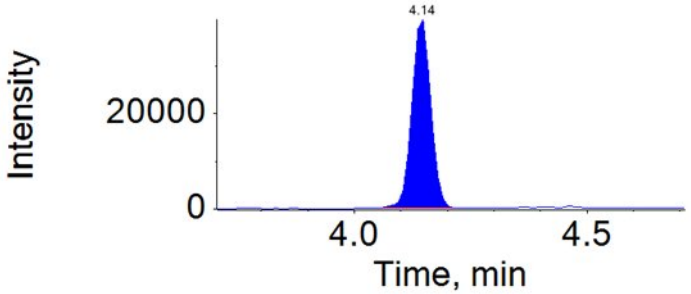
Component: PFBS
Primary Mass: 299.0 / 80.0



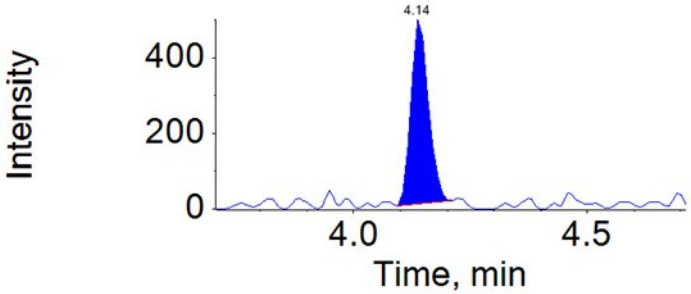
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



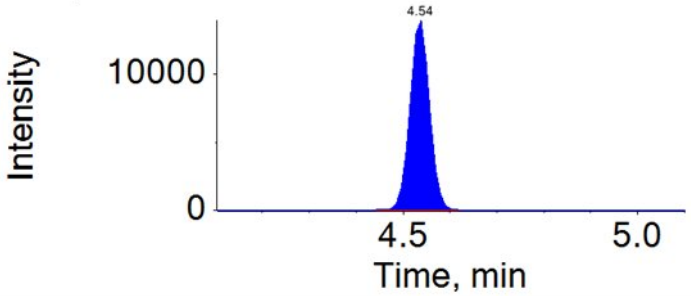
Component: PFHxA
Primary Mass: 313.0 / 269.0



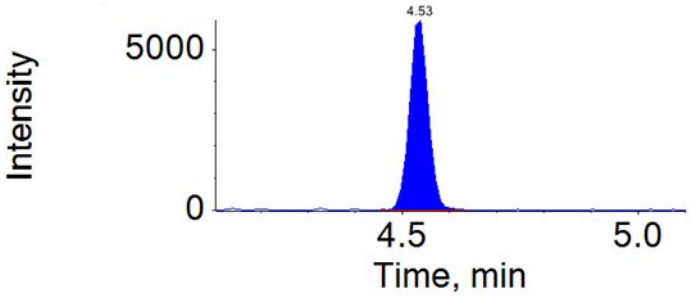
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



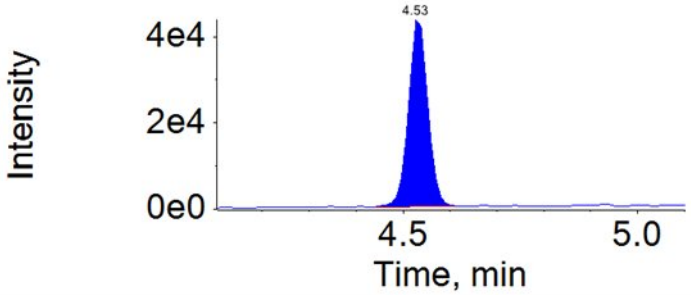
Component: PFHxS
Primary Mass: 399.0 / 80.0



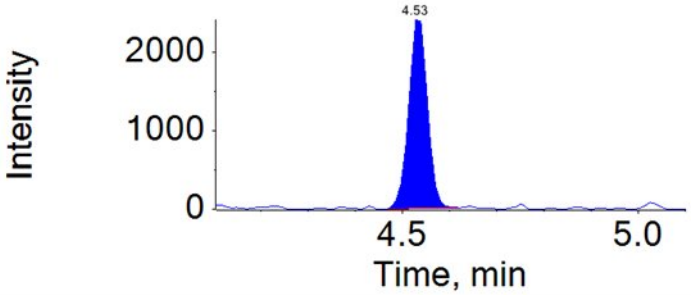
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



Component: PFHpA
Primary Mass: 363.0 / 319.0



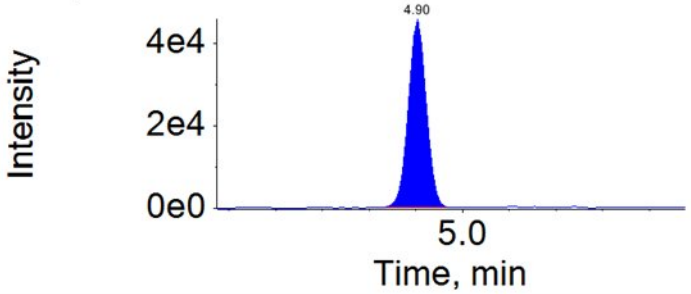
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



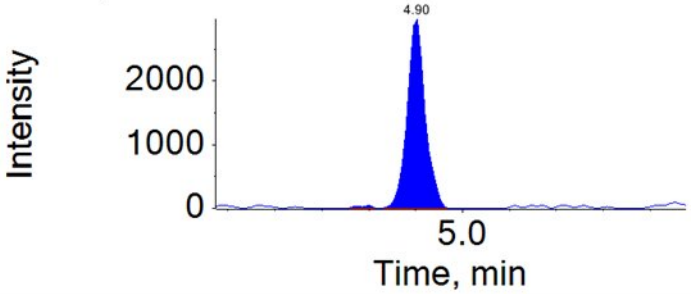
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

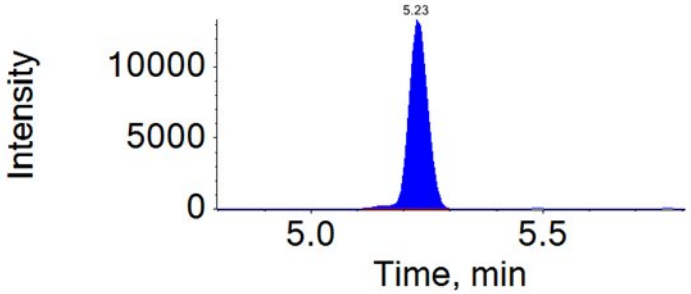
Component: PFOA
Primary Mass: 413.0 / 369.0



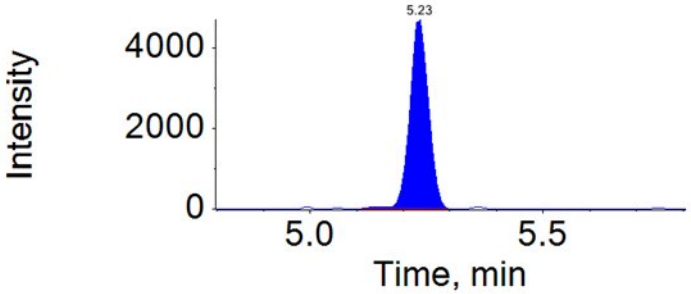
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Secondary Mass: 413.0 / 169.0



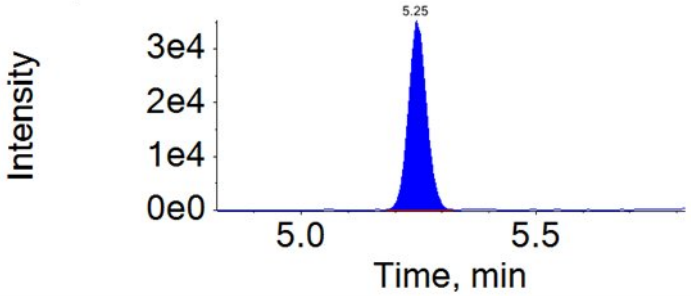
Component: PFOS
Primary Mass: 499.0 / 80.0



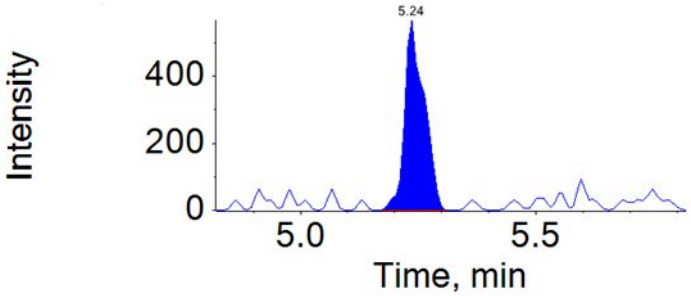
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



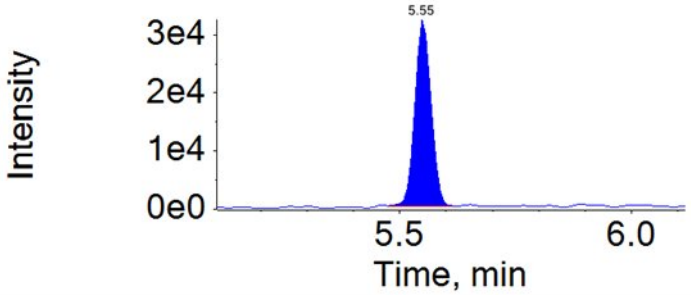
Component: PFNA
Primary Mass: 463.0 / 419.0



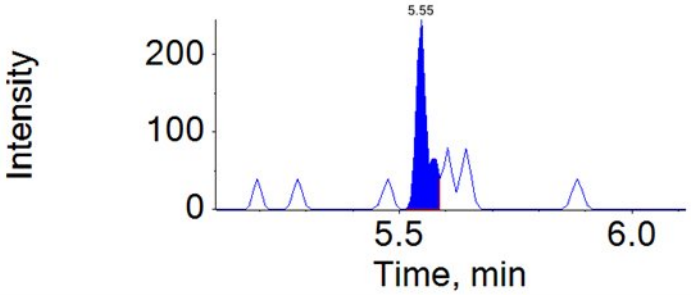
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFDA
Primary Mass: 513.0 / 469.0



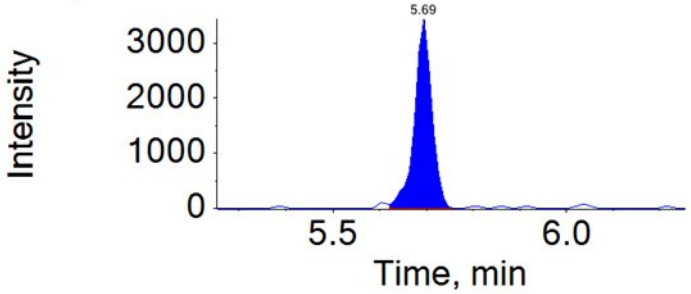
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



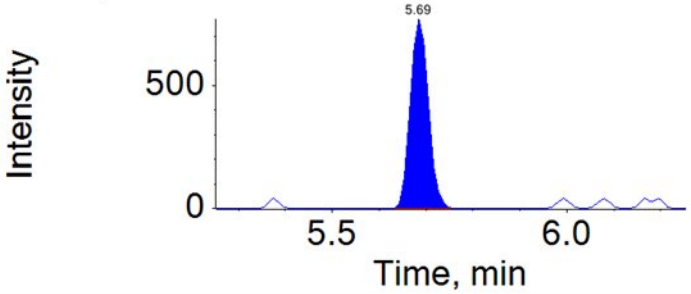
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REVIEWED
By umar at 11:35 am, 11/12/18

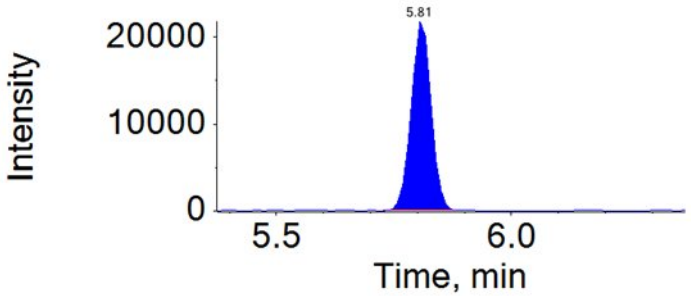
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



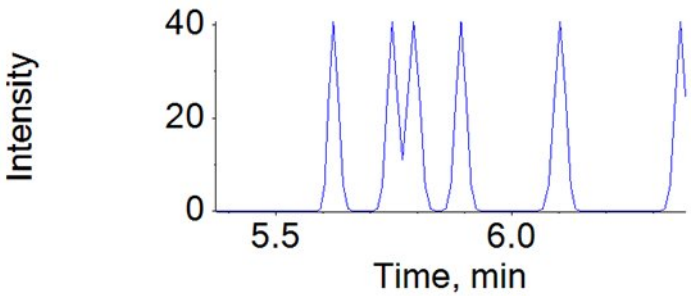
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Secondary Mass: 570.0 / 483.0



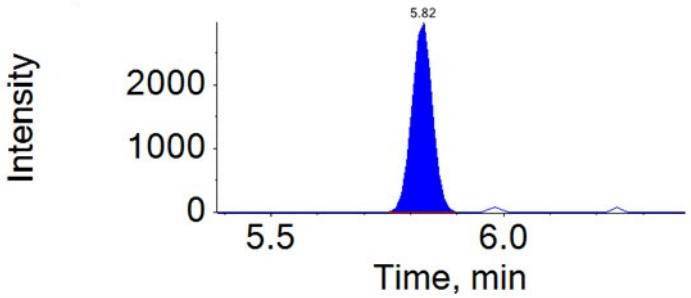
Component: PFUnDA
Primary Mass: 563.0 / 519.0



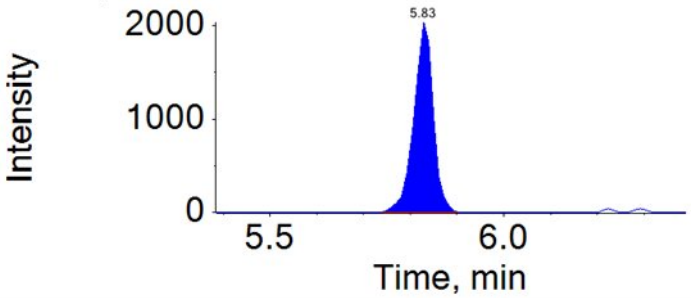
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



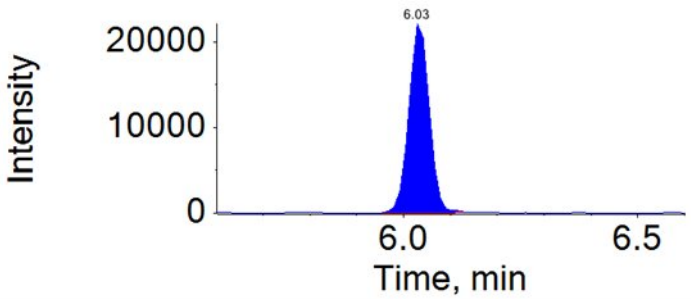
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



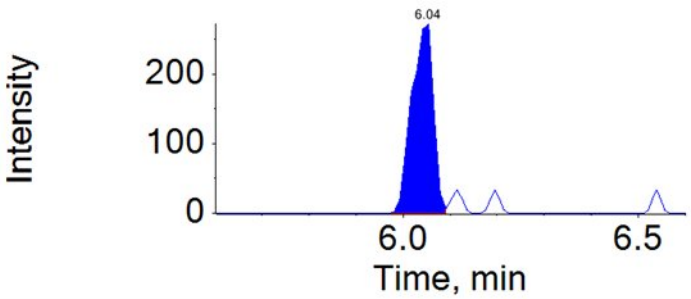
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



Component: PFDoDA
Primary Mass: 613.0 / 569.0



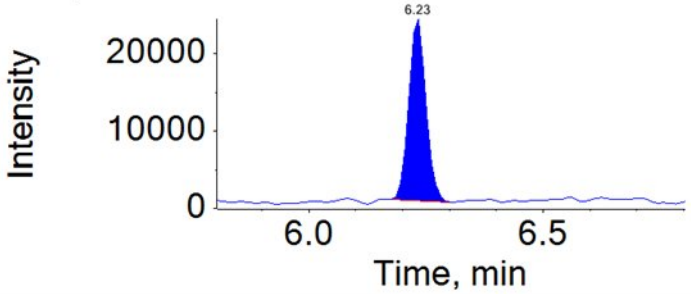
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



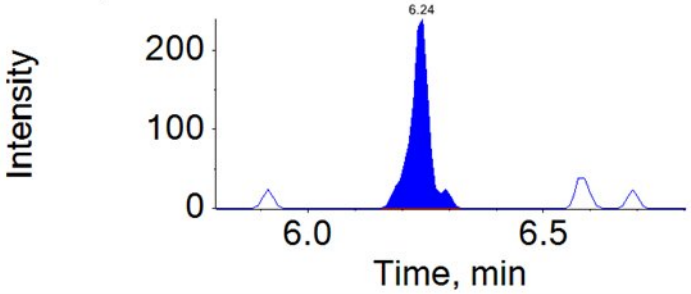
APPROVED
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REVIEWED
By umar at 11:35 am, 11/12/18

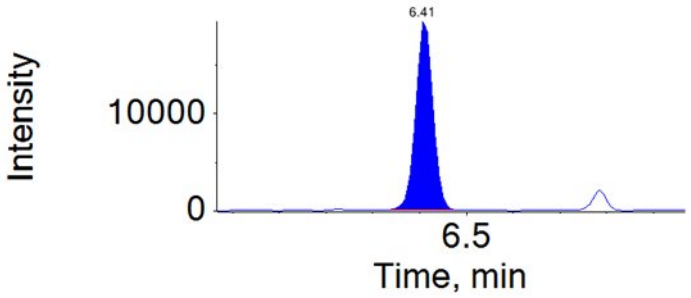
Component: PFTrDA
Primary Mass: 663.0 / 619.0



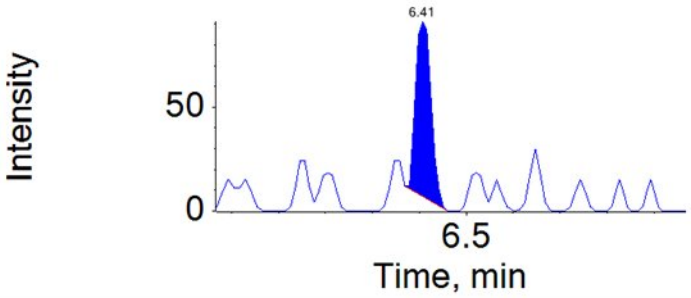
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



Component: PFTeDA
Primary Mass: 713.0 / 669.0



Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



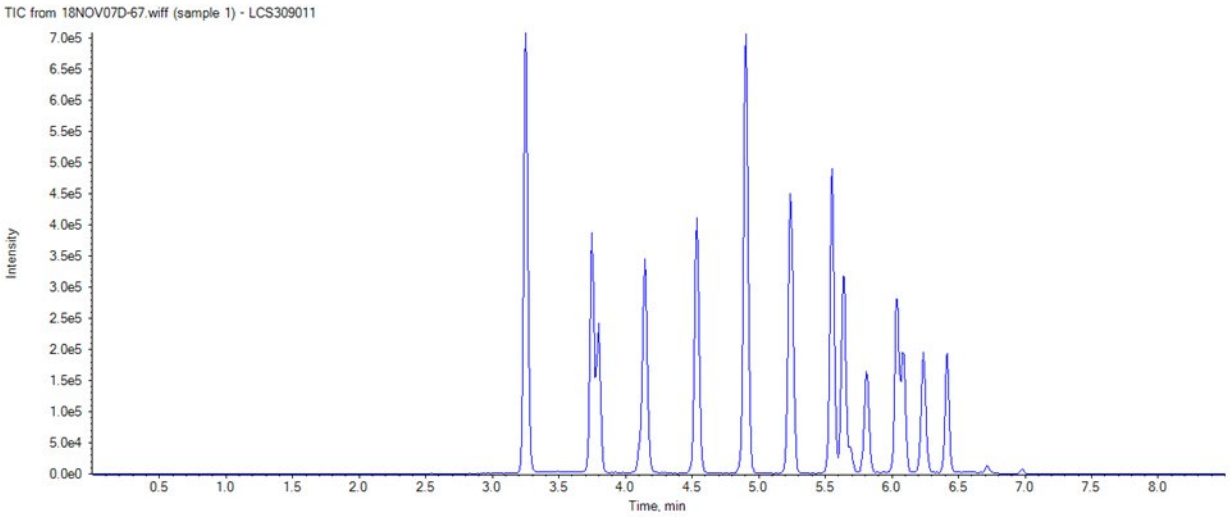
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:35 am, 11/12/18

Lab Control Sample Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS309011	EPA 537 mod QSM 5.1 table B-15 18309011	18NOV07D-67.wiff	2018-11-07T21:19:12



Injection Standard Area Reference File**:** 18NOV07DCAL-12

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	763019.0	730410.6	4	50	
13C2-PFOA	5.00	543889.8	524423.6	4	50	
13C4-PFOS	4.78	298006.2	274061.7	9	50	
13C2-PFDA	5.00	340617.1	311442.1	9	50	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Lab Control Sample Recovery

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:06:52 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

Instrument Name:	Sample Name:	Sample ID:	Sample File:	Acquisition Date:
LM27631	LCS309011	EPA 537 mod QSM 5.1 table B-15 18309011	18NOV07D-67.wiff	2018-11-07T21:19:12

Analyte Name	Analyte Area	Ext Std Area	Area Ratio	Adj Actual Conc	Sample Result	%REC	% REC Limit	%REC OOS
PFBA	92785.4	716703.2	0.129	1.360	1.515	111	70-130	
PFPeA	99426.3	757540.7	0.131	1.360	1.560	115	70-130	
PFBS	49543.4	403608.4	0.123	1.202	1.238	103	70-130	
4:2-FTS	33567.9	51876.3	0.647	3.736	3.479	93	70-130	
PFHxA	115926.0	641039.3	0.181	1.360	1.551	114	70-130	
PFPeS	25004.7	403608.4	0.062	1.276	1.222	96	70-130	
PFHxS	39326.3	303898.5	0.129	1.286	1.312	102	70-130	
PFHpA	120000.5	506697.7	0.237	1.360	1.593	117	70-130	
6:2-FTS	25530.1	36247.4	0.704	3.792	3.514	93	70-130	
PFHpS	39567.2	303898.5	0.130	1.294	1.362	105	70-130	
PFOA	124043.3	879739.2	0.141	1.360	1.588	117	70-130	
PFOS	36023.2	267122.5	0.135	1.300	1.399	108	70-130	
PFNA	97822.5	477230.6	0.205	1.360	1.532	113	70-130	
PFNS	21778.3	267122.5	0.082	1.306	1.293	99	70-130	
PFDA	82110.7	574759.7	0.143	1.360	1.572	116	70-130	
8:2-FTS	23880.9	26378.9	0.905	3.832	4.081	107	70-130	
PFOSA	91730.3	673120.9	0.136	1.360	1.473	108	70-130	
NMeFOSAA	10638.6	75731.4	0.140	1.360	1.446	106	70-130	
PFDS	19336.3	267122.5	0.072	1.310	1.383	106	70-130	
PFUnDA	63710.2	248961.1	0.256	1.360	1.468	108	70-130	
NEtFOSAA	7976.7	60809.4	0.131	1.360	1.127	83	70-130	
PFDoDA	67308.6	544195.2	0.124	1.360	1.341	99	70-130	
10:2-FTS	16076.4	26378.9	0.609	3.856	3.795	98	70-130	
NMePFOSAE	51159.2	328179.9	0.156	1.360	1.397	103	70-130	
NMePFOSA	9493.3	80636.9	0.118	1.360	1.318	97	70-130	
PFDoS	9729.5	267122.5	0.036	1.316	1.406	107	70-130	
NEtPFOSAE	55755.9	278635.7	0.200	1.360	1.283	94	70-130	
NEtPFOSA	8859.1	63423.6	0.140	1.360	1.230	90	70-130	
PFTrDA	62143.3	544195.2	0.114	1.360	1.440	106	70-130	
PFTeDA	48690.8	363617.8	0.134	1.360	1.573	116	70-130	
PFHxDA	21066.8	363617.8	0.058	1.360	1.438	106	70-130	
PFODA	16109.6	363617.8	0.044	1.360	1.269	93	70-130	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Lab Control Sample Recovery

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:06:52 PM
Acquisition Method: 18AUG13_3uL.dam

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13
Result Table: 18309011 11/8/2018 5:08:23 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	LCS309011			**Data File:**		18NOV07D-67.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18309011			**Acquis Date:**		2018-11-07T21:19:12
Sample Type:	Quality Control			**Instrument:**		LM27631
Vial Position:	37			**Acquis Method:**		18AUG13_3uL.dam
Injection Vol:	3.00			**Result Table:**		18309011
QMethod File:	MQ4-18AUG13			**ICAL Name:**		18NOV07DCAL
Batch Number:	18309011			**Operator:**		MCD7824
Sample Wt.:	1.00000			**Dilution Factor:**		1.00
Sample Vol.:	1.000			**Prep Factor:**		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

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	763019.0	730410.6	4	50	
13C2-PFOA	5.0	543889.8	524423.6	4	50	
13C4-PFOS	4.8	298006.2	274061.7	9	50	
13C2-PFDA	5.0	340617.1	311442.1	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	716703.2	13C3-PFBA	763019.0	0.939	10.000	8.694	87	50-150	
E13C5-PFPeA	757540.7	13C3-PFBA	763019.0	0.993	10.000	8.650	87	50-150	
E13C3-PFBS	403608.4	13C3-PFBA	763019.0	0.529	9.300	7.764	83	50-150	
E13C2-4:2-FTS	51876.3	13C2-PFOA	543889.8	0.095	9.340	8.608	92	50-150	
E13C5-PFHxA	641039.3	13C2-PFOA	543889.8	1.179	10.000	8.671	87	50-150	
E13C3-PFHxS	303898.5	13C2-PFOA	543889.8	0.559	9.460	8.022	85	50-150	
E13C4-PFHpA	506697.7	13C2-PFOA	543889.8	0.932	10.000	8.476	85	50-150	
E13C2-6:2-FTS	36247.4	13C2-PFOA	543889.8	0.067	9.500	8.888	94	50-150	
E13C8-PFOA	879739.2	13C2-PFOA	543889.8	1.617	10.000	9.021	90	50-150	
E13C8-PFOS	267122.5	13C4-PFOS	298006.2	0.896	9.560	7.927	83	50-150	
E13C9-PFNA	477230.6	13C4-PFOS	298006.2	1.601	10.000	8.749	87	50-150	
E13C6-PFDA	574759.7	13C2-PFDA	340617.1	1.687	10.000	8.487	85	50-150	
E13C2-8:2-FTS	26378.9	13C2-PFDA	340617.1	0.077	9.580	8.196	86	50-150	
E13C8-PFOSA	673120.9	13C2-PFDA	340617.1	1.976	10.000	8.625	86	50-150	
Ed3-NMeFOSAA	75731.4	13C2-PFDA	340617.1	0.222	10.000	8.269	83	50-150	
E13C7-PFUnDA	248961.1	13C2-PFDA	340617.1	0.731	10.000	8.433	84	50-150	
Ed5-NEtFOSAA	60809.4	13C2-PFDA	340617.1	0.179	10.000	8.263	83	50-150	
E13C2-PFDoDA	544195.2	13C2-PFDA	340617.1	1.598	10.000	8.614	86	50-150	
Ed7-NMePFOSAE	328179.9	13C2-PFDA	340617.1	0.963	10.000	8.961	90	50-150	
Ed3-NMePFOSA	80636.9	13C2-PFDA	340617.1	0.237	10.000	8.668	87	50-150	
Ed9-NEtPFOSAE	278635.7	13C2-PFDA	340617.1	0.818	10.000	9.343	93	50-150	
Ed5-NEtPFOSA	63423.5	13C2-PFDA	340617.1	0.186	10.000	8.623	86	50-150	
E13C2-PFTeDA	363617.8	13C2-PFDA	340617.1	1.068	10.000	7.686	77	50-150	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

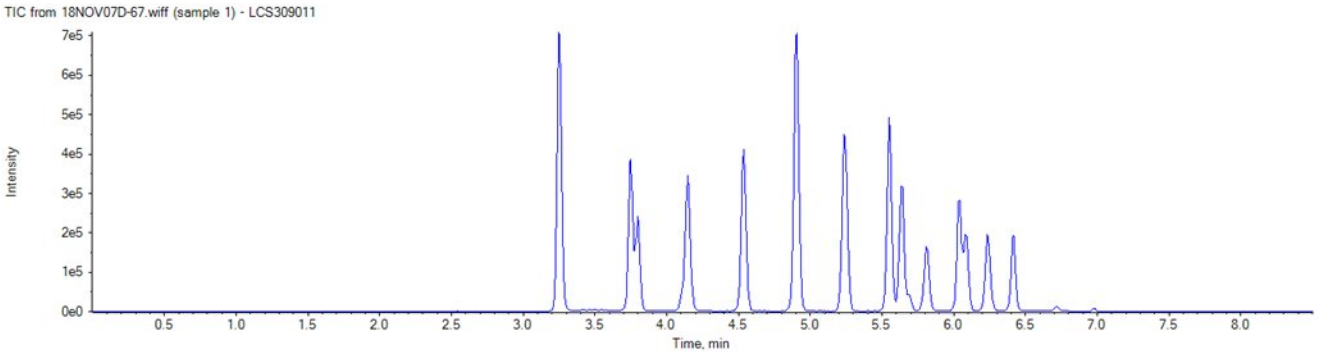
Analyte Quantitation Peak Table

Sample Name: LCS309011 **Instrument Name:** LM27631 **File Name:** 18NOV07D-67.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	2.000

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	92785.4		A	13C4-PFBA	3.25	716703.2	0.129	1.515
PFPeA	3.75	1.000	99426.3		A	13C5-PFPeA	3.75	757540.7	0.131	1.560
PFBS	3.80	1.000	49543.4		A	13C3-PFBS	3.80	403608.4	0.123	1.238
4:2-FTS	4.11	1.000	33567.9		A	13C2-4:2-FTS	4.11	51876.3	0.647	3.479
PFHxA	4.15	1.000	115926.0		A	13C5-PFHxA	4.15	641039.3	0.181	1.551
PFPeS	4.17	1.100	25004.7		A	13C3-PFBS	3.80	403608.4	0.062	1.222
PFHxS	4.54	1.000	39326.3		A	13C3-PFHxS	4.54	303898.5	0.129	1.312
PFHpA	4.53	1.000	120000.5		A	13C4-PFHpA	4.53	506697.7	0.237	1.593
6:2-FTS	4.89	1.000	25530.1		A	13C2-6:2-FTS	4.89	36247.4	0.704	3.514
PFHpS	4.90	1.080	39567.2		A	13C3-PFHxS	4.54	303898.5	0.130	1.362
PFOA	4.90	1.000	124043.3		A	13C8-PFOA	4.90	879739.2	0.141	1.588
PFOS	5.23	1.000	36023.2		A	13C8-PFOS	5.23	267122.5	0.135	1.399
PFNA	5.25	1.000	97822.5		A	13C9-PFNA	5.25	477230.6	0.205	1.532
PFNS	5.53	1.060	21778.3		A	13C8-PFOS	5.23	267122.5	0.082	1.293
PFDA	5.55	1.000	82110.7		A	13C6-PFDA	5.55	574759.7	0.143	1.572
8:2-FTS	5.55	1.000	23880.9		A	13C2-8:2-FTS	5.55	26378.9	0.905	4.081
PFOSA	5.64	1.000	91730.3		A	13C8-PFOSA	5.64	673120.9	0.136	1.473
NMeFOSAA	5.69	1.000	10638.6		A	d3-NMeFOSAA	5.69	75731.4	0.140	1.446
PFDS	5.78	1.110	19336.3		A	13C8-PFOS	5.23	267122.5	0.072	1.383
PFUnDA	5.81	1.000	63710.2		A	13C7-PFUnDA	5.81	248961.1	0.256	1.468
NEtFOSAA	5.83	1.000	7976.7		A	d5-NEtFOSAA	5.82	60809.4	0.131	1.127
PFDoDA	6.04	1.000	67308.6		A	13C2-PFDoDA	6.04	544195.2	0.124	1.341
10:2-FTS	6.05	1.090	16076.4		A	13C2-8:2-FTS	5.55	26378.9	0.609	3.795
NMePFOSAE	6.09	1.000	51159.2		A	d7-NMePFOSAE	6.08	328179.9	0.156	1.397
NMePFOSA	6.10	1.000	9493.3		A	d3-NMePFOSA	6.09	80636.9	0.118	1.318
PFDoS	6.21	1.190	9729.5		A	13C8-PFOS	5.23	267122.5	0.036	1.406
NEtPFOSAE	6.25	1.000	55755.9		A	d9-NEtPFOSAE	6.23	278635.7	0.200	1.283
NEtPFOSA	6.26	1.000	8859.1		A	d5-NEtPFOSA	6.25	63423.6	0.140	1.230
PFTrDA	6.23	1.030	62143.3		A	13C2-PFDoDA	6.04	544195.2	0.114	1.440
PFTeDA	6.41	1.000	48690.8		A	13C2-PFTeDA	6.41	363617.8	0.134	1.573
PFHxDA	6.72	1.050	21066.8		A	13C2-PFTeDA	6.41	363617.8	0.058	1.438
PFODA	6.98	1.090	16109.6		A	13C2-PFTeDA	6.41	363617.8	0.044	1.269

Total Ion Chromatogram

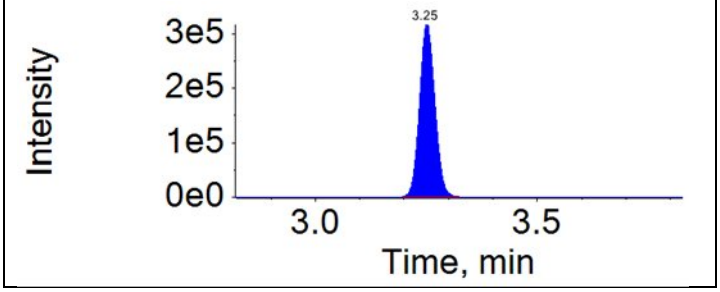


APPROVED
By MCD at 5:15 pm, 11/8/18

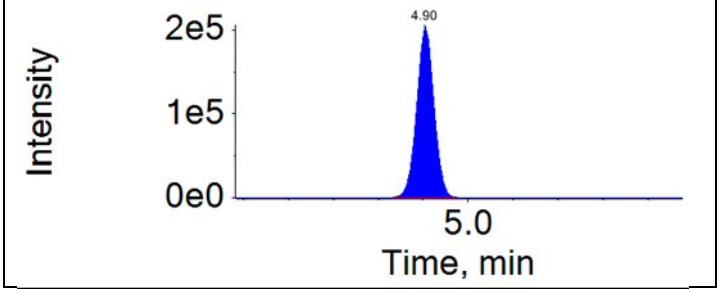
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

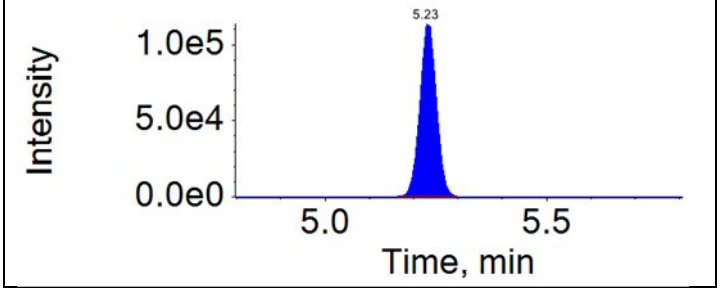
Injection Standard: 13C3-PFBA
216.0 / 172.0



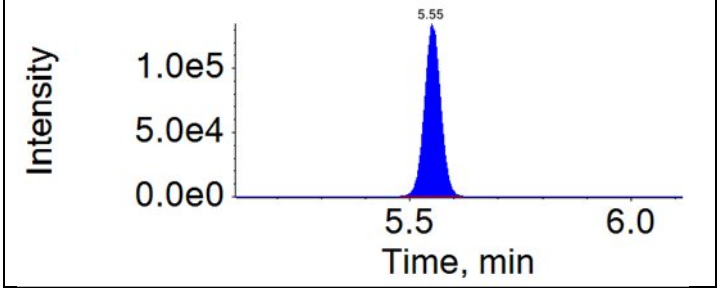
Injection Standard: 13C2-PFOA
415.0 / 370.0



Injection Standard: 13C4-PFOS
503.0 / 80.0



Injection Standard: 13C2-PFDA
515.0 / 470.0

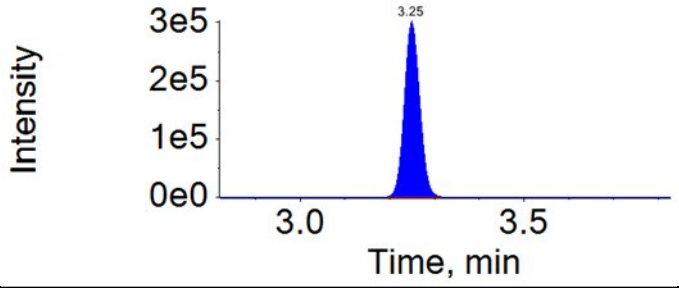


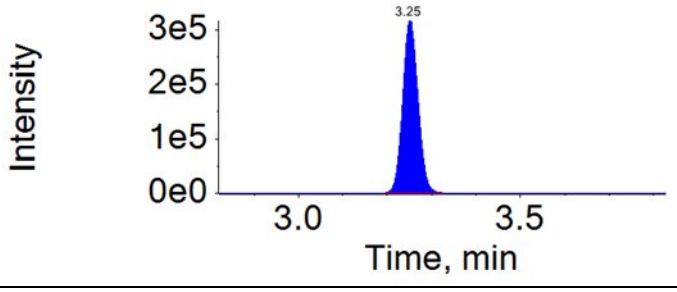
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

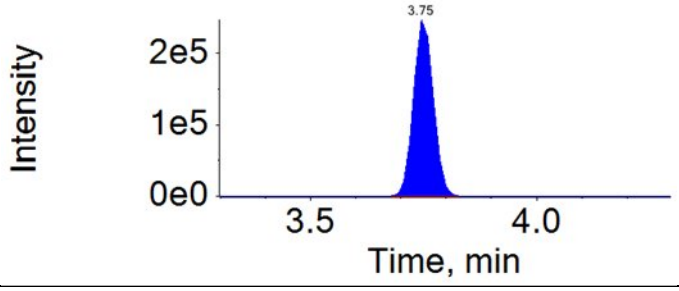
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

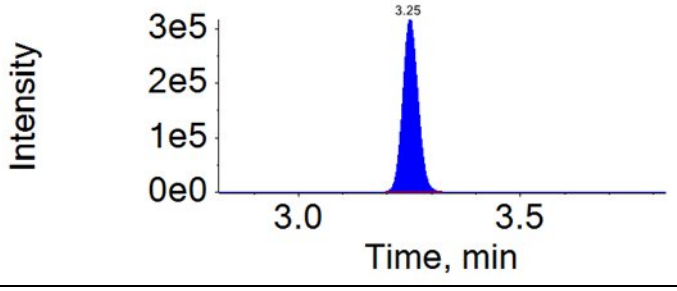
Extraction Standard: E13C4-PFBA	Injection Standard: 13C3-PFBA
217.0 / 172.0	216.0 / 172.0



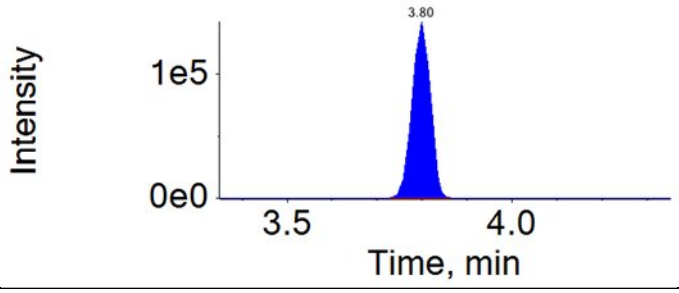


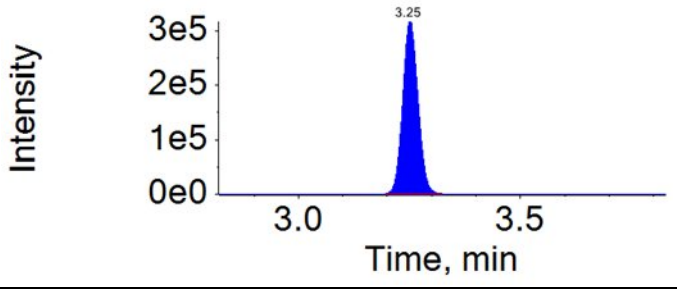
Extraction Standard: E13C5-PFPeA	Injection Standard: 13C3-PFBA
268.0 / 223.0	216.0 / 172.0



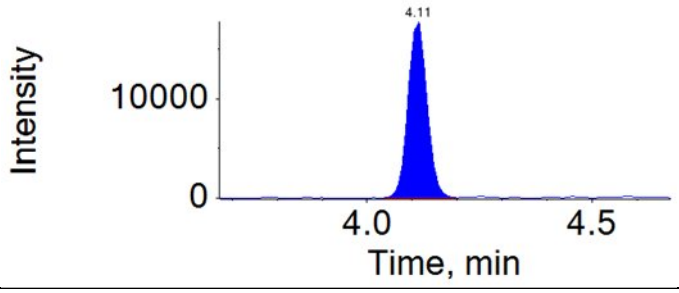


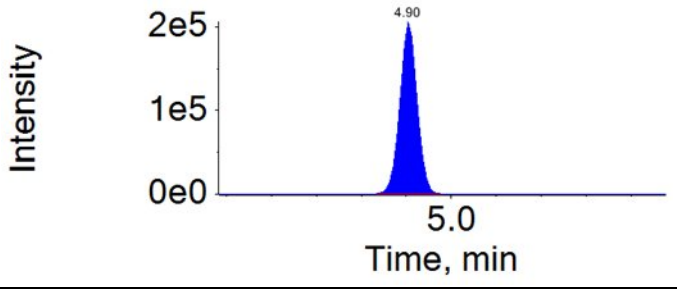
Extraction Standard: E13C3-PFBS	Injection Standard: 13C3-PFBA
302.0 / 80.0	216.0 / 172.0





Extraction Standard: E13C2-4:2-FTS	Injection Standard: 13C2-PFOA
329.0 / 81.0	415.0 / 370.0



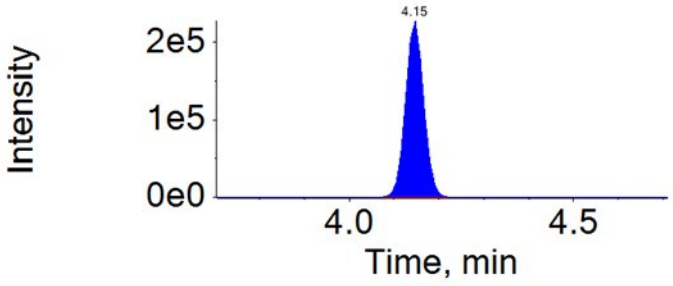


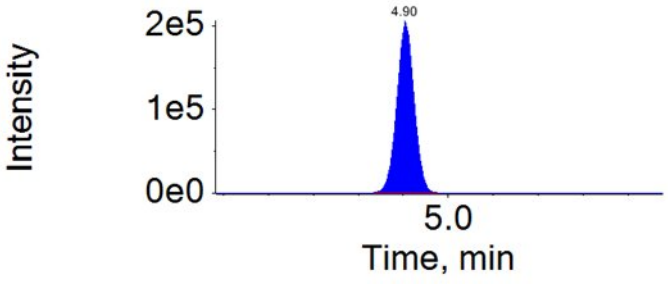
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

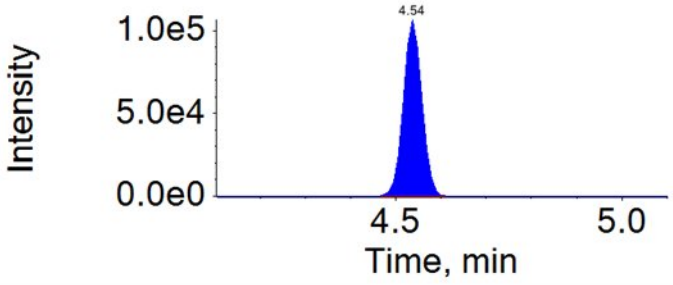
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

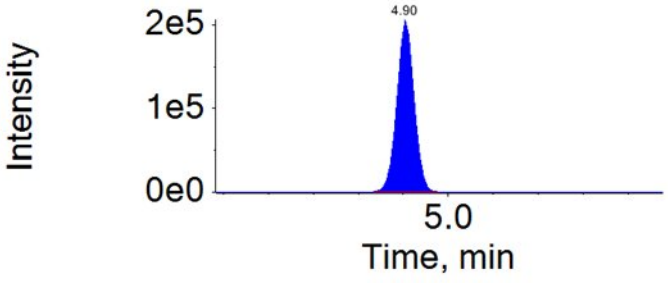
Extraction Standard: E13C5-PFHxA	Injection Standard: 13C2-PFOA
318.0 / 273.0	415.0 / 370.0



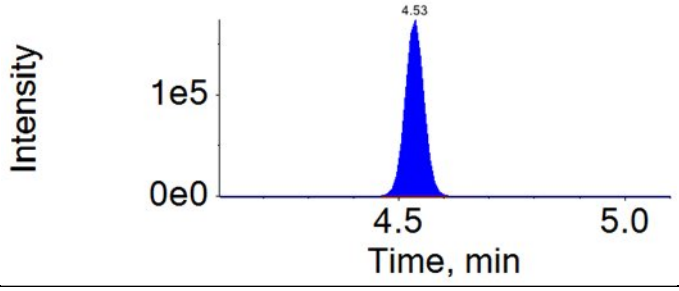


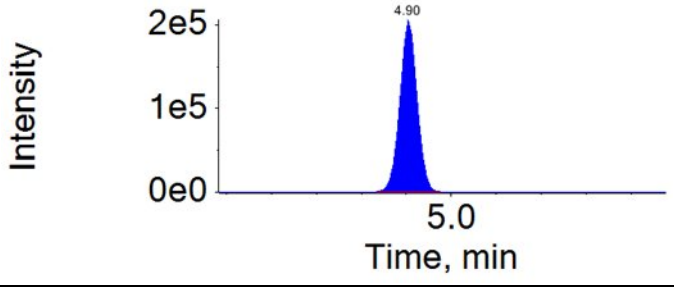
Extraction Standard: E13C3-PFHxS	Injection Standard: 13C2-PFOA
402.0 / 80.0	415.0 / 370.0



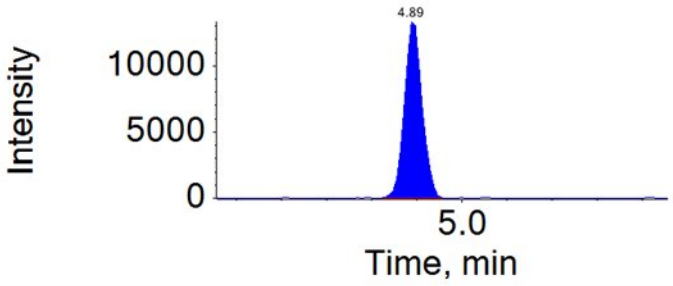


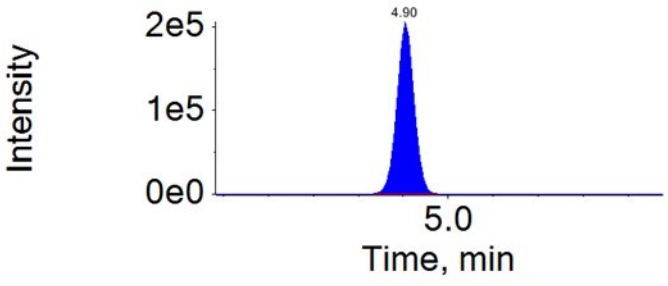
Extraction Standard: E13C4-PFHpA	Injection Standard: 13C2-PFOA
367.0 / 322.0	415.0 / 370.0





Extraction Standard: E13C2-6:2-FTS	Injection Standard: 13C2-PFOA
429.0 / 81.0	415.0 / 370.0

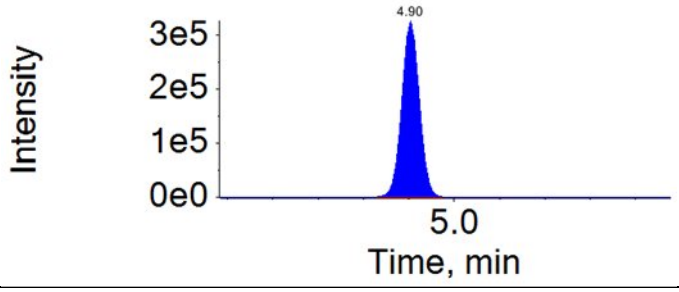
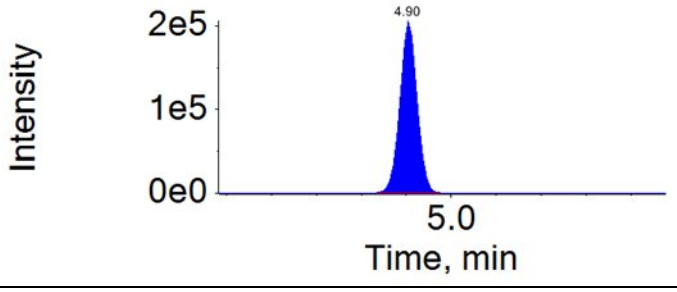


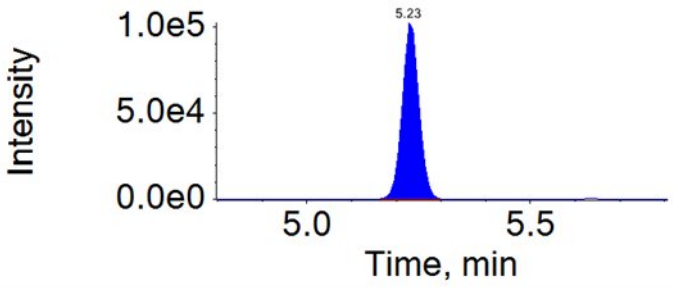
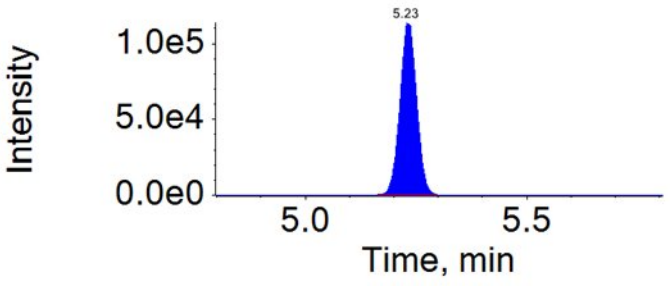


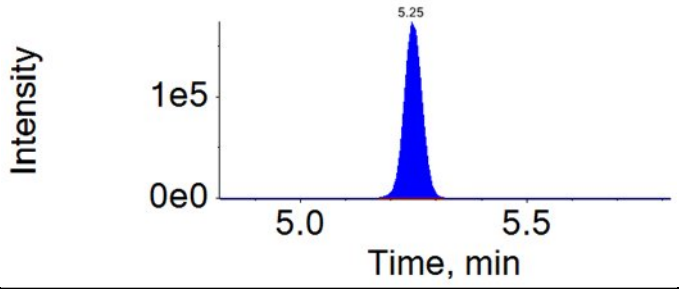
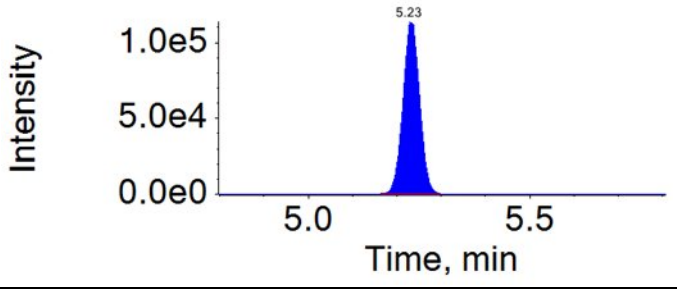
APPROVED
By MCD at 5:15 pm, 11/8/18

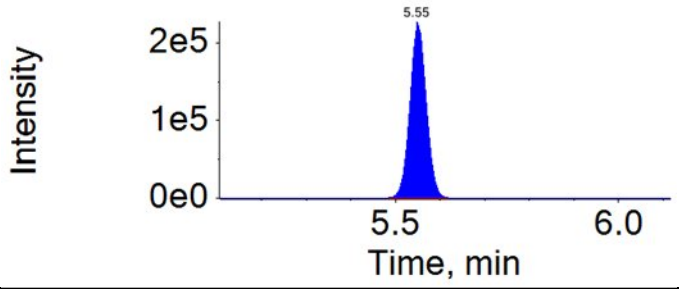
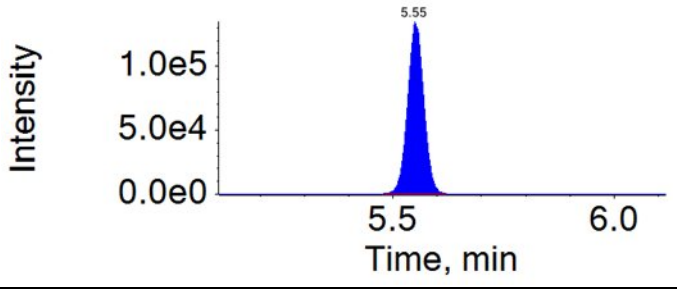
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

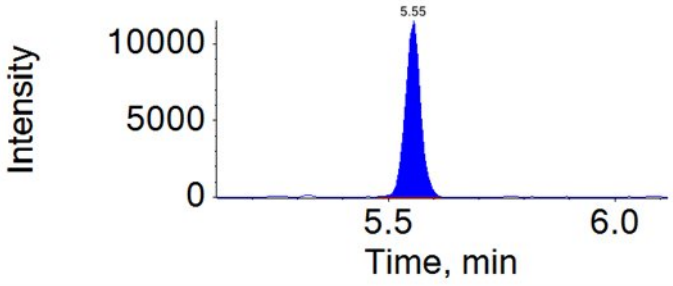
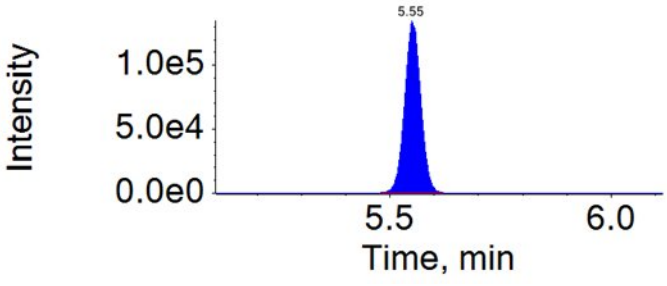
Extraction Standard: E13C9-PFNA	Injection Standard: 13C4-PFOS
472.0 / 427.0	503.0 / 80.0
	

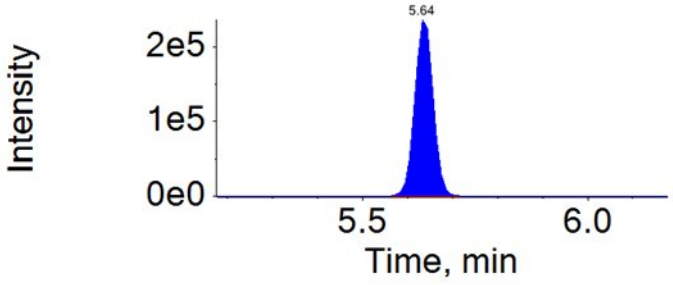
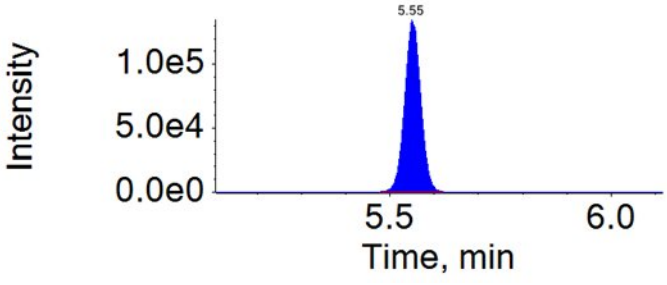
Extraction Standard: E13C6-PFDA	Injection Standard: 13C2-PFDA
519.0 / 474.0	515.0 / 470.0
	

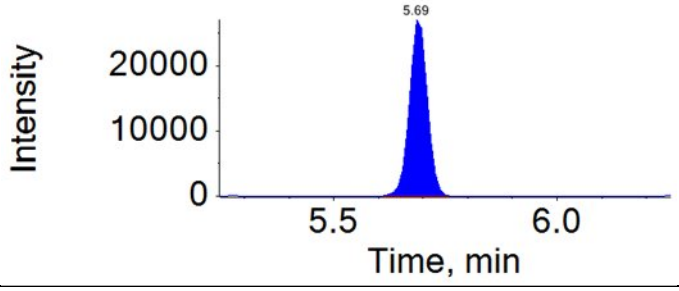
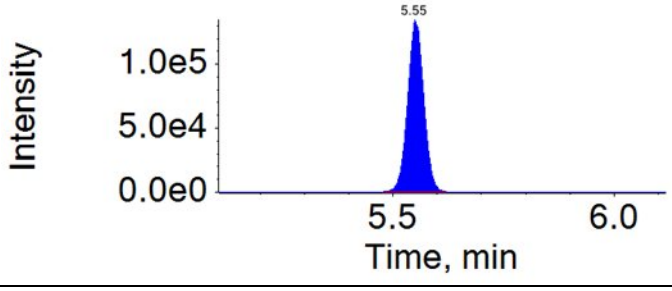
APPROVED
By MCD at 5:15 pm, 11/8/18

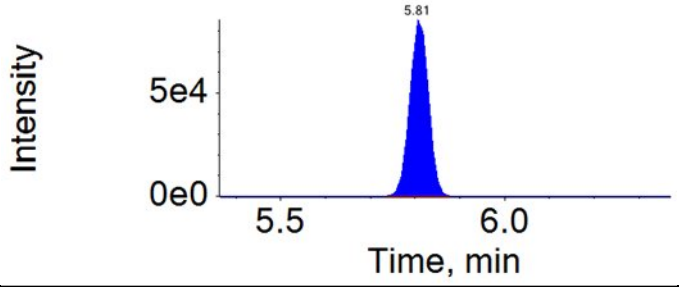
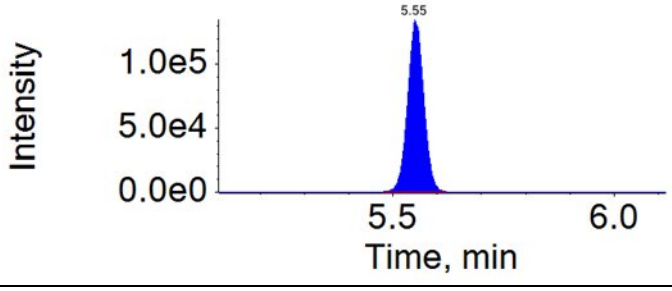
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

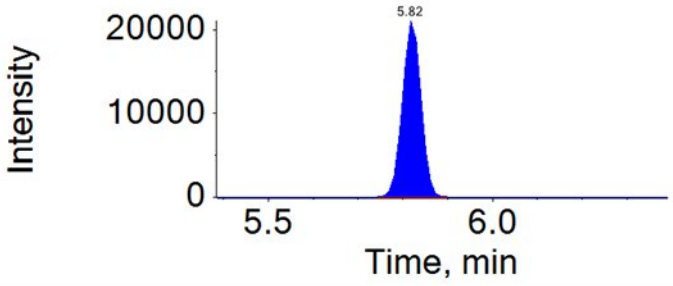
Extraction Standard: E13C7-PFUnDA	Injection Standard: 13C2-PFDA
570.0 / 525.0	515.0 / 470.0
	

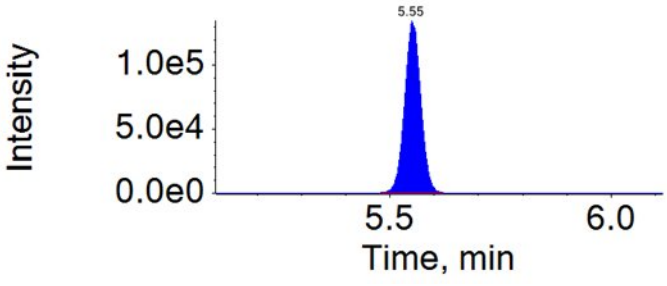
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

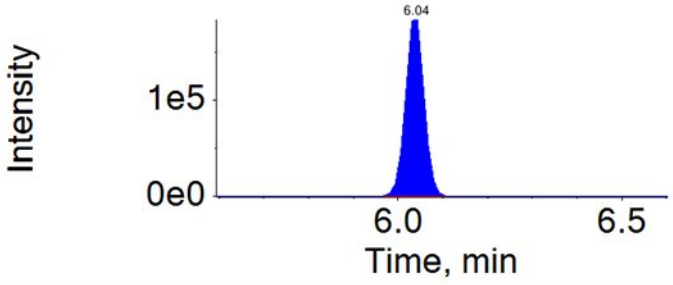
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

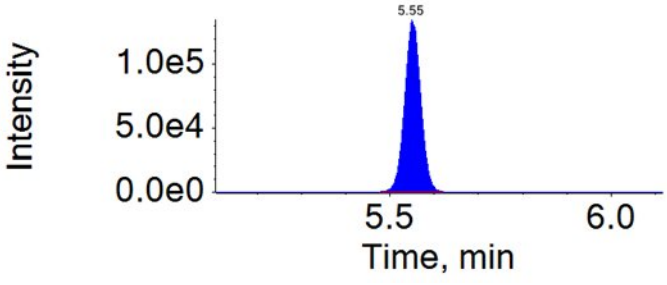
Extraction Standard: Ed5-NEtFOSAA	Injection Standard: 13C2-PFDA
589.0 / 419.0	515.0 / 470.0



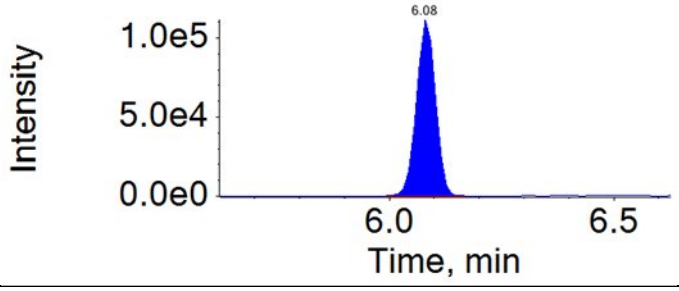


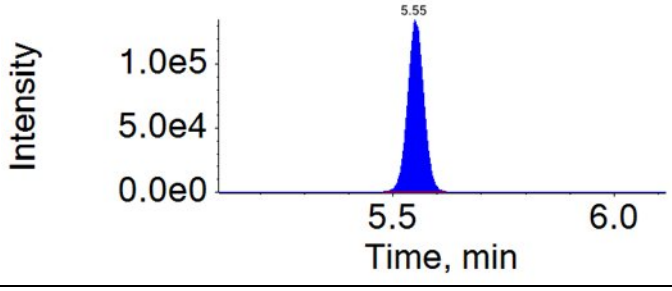
Extraction Standard: E13C2-PFDoDA	Injection Standard: 13C2-PFDA
615.0 / 570.0	515.0 / 470.0



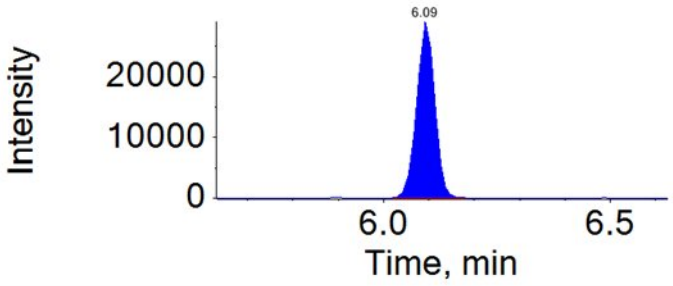


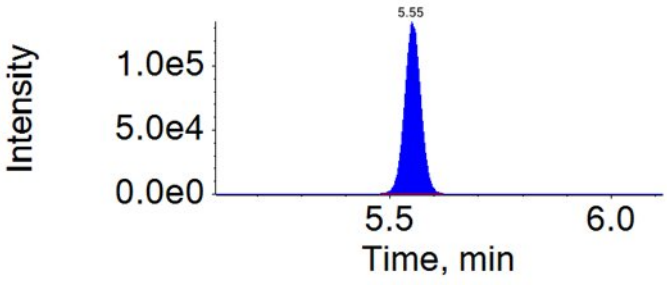
Extraction Standard: Ed7-NMePFOSAE	Injection Standard: 13C2-PFDA
623.0 / 59.0	515.0 / 470.0





Extraction Standard: Ed3-NMePFOSA	Injection Standard: 13C2-PFDA
515.0 / 169.0	515.0 / 470.0



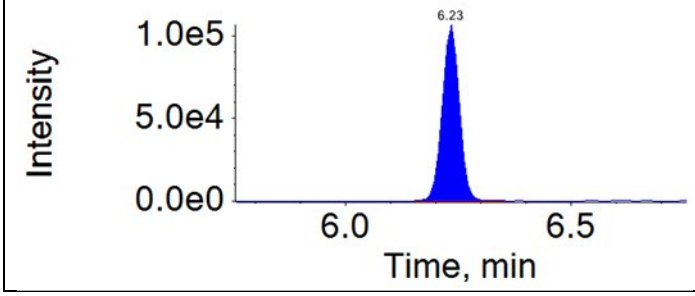


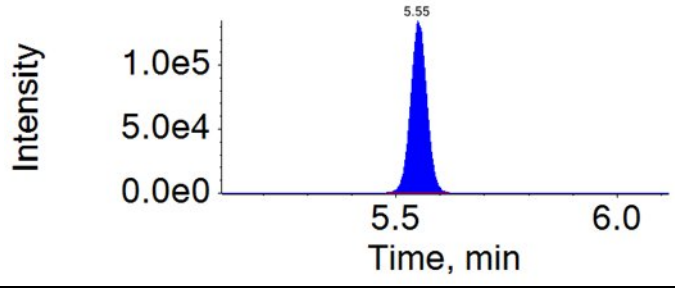
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

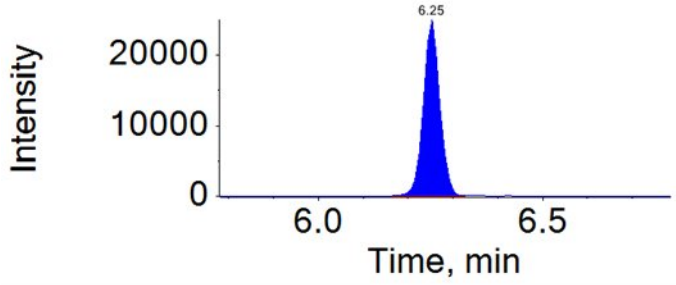
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

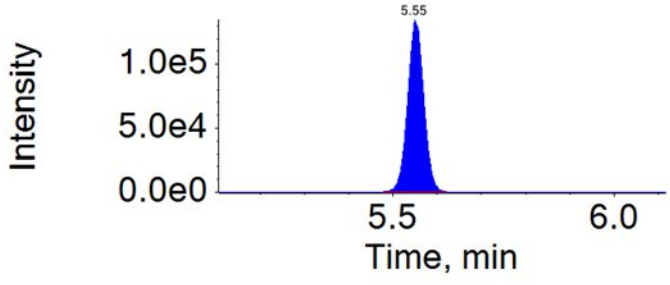
Extraction Standard: Ed9-NEtPFOSAE	Injection Standard: 13C2-PFDA
639.0 / 59.0	515.0 / 470.0



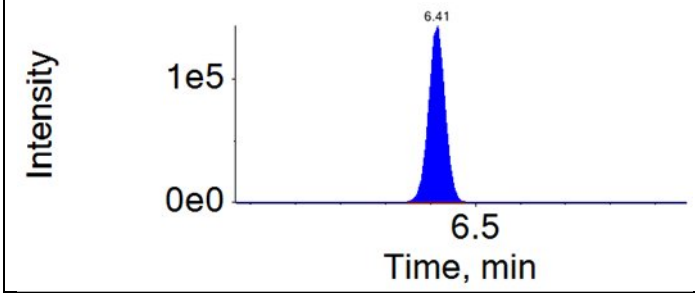


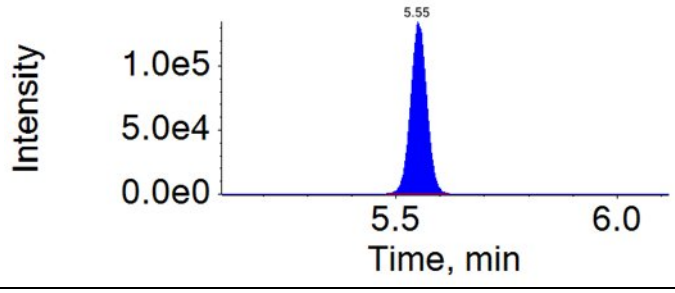
Extraction Standard: Ed5-NEtPFOSA	Injection Standard: 13C2-PFDA
531.0 / 169.0	515.0 / 470.0





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



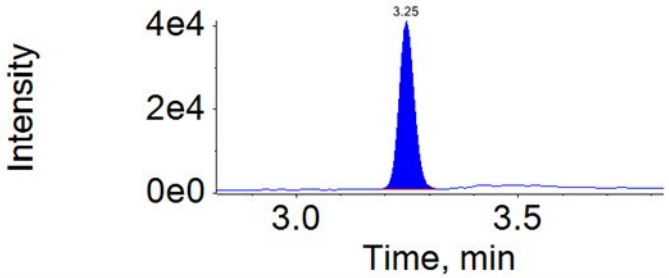


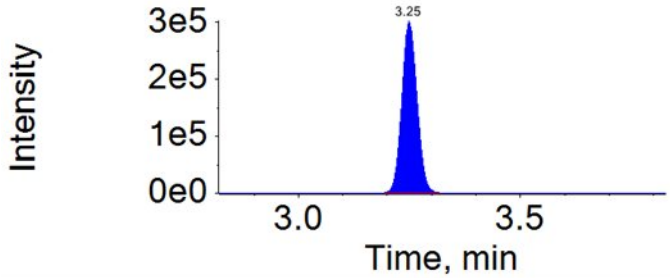
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

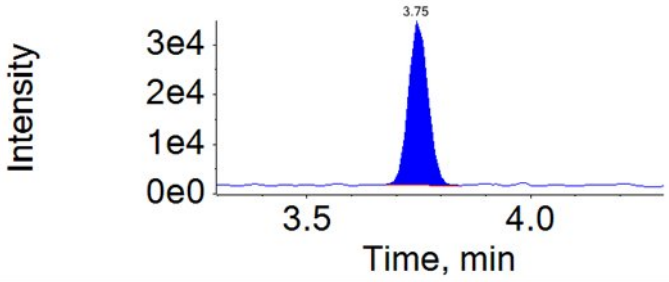
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

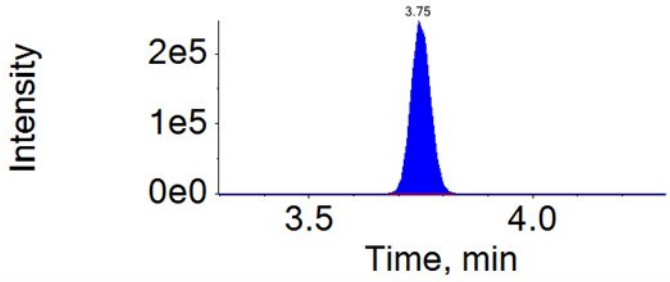
Analyte: PFBA	Extraction Standard: 13C4-PFBA
213.0 / 169.0	217.0 / 172.0



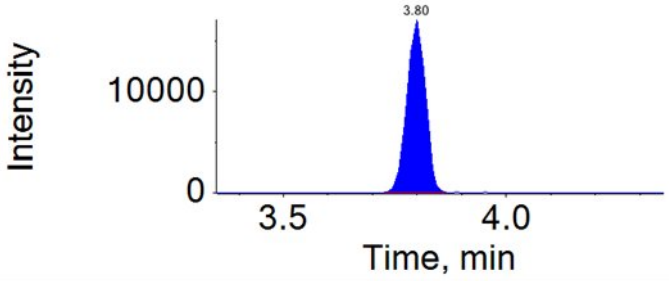


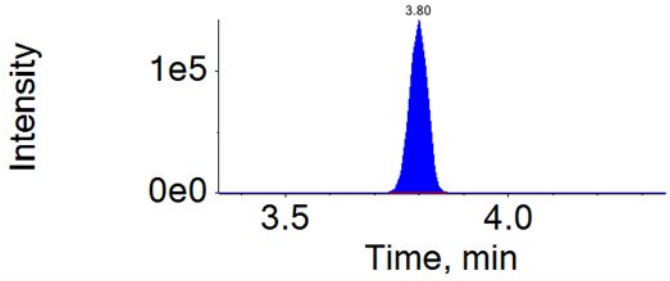
Analyte: PFPeA	Extraction Standard: 13C5-PFPeA
263.0 / 219.0	268.0 / 223.0



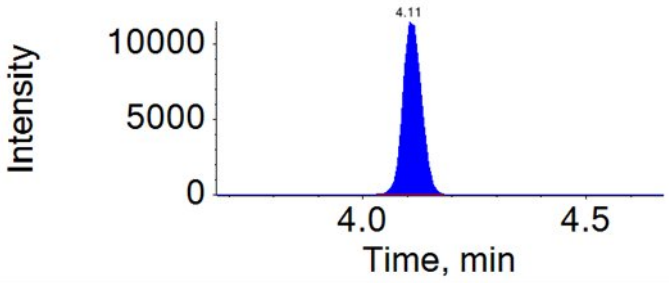


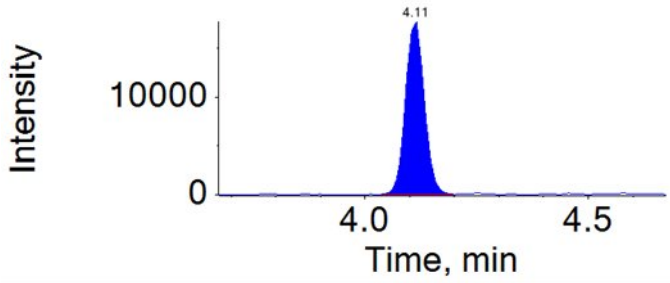
Analyte: PFBS	Extraction Standard: 13C3-PFBS
299.0 / 80.0	302.0 / 80.0





Analyte: 4:2-FTS	Extraction Standard: 13C2-4:2-FTS
327.0 / 307.0	329.0 / 81.0



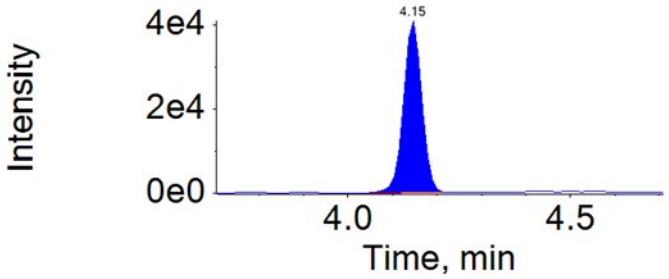


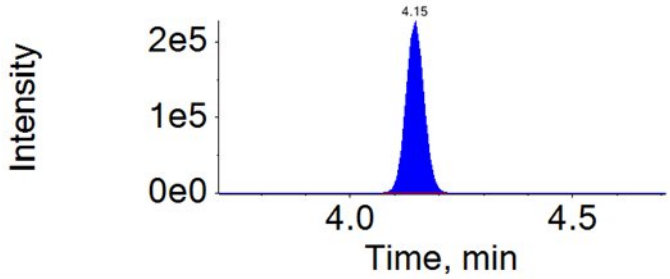
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

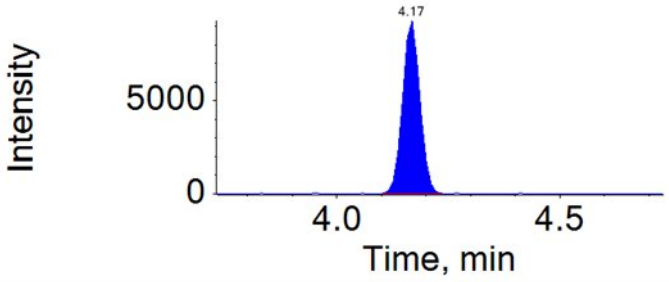
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

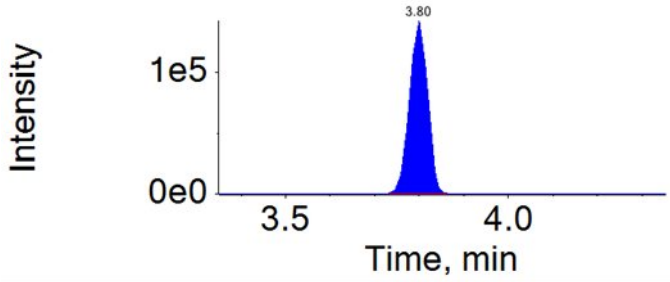
Analyte: PFHxA	Extraction Standard: 13C5-PFHxA
313.0 / 269.0	318.0 / 273.0



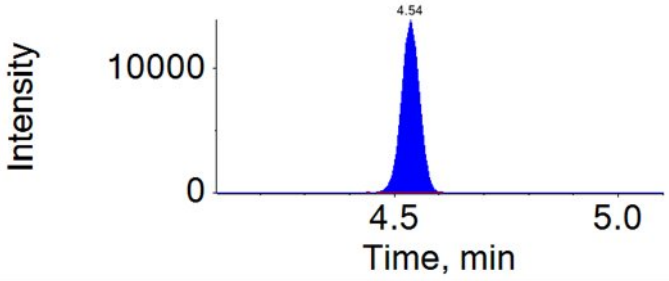


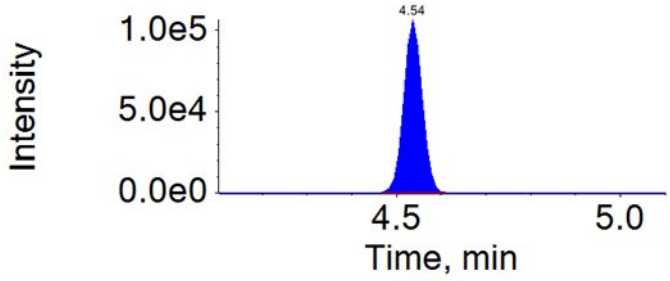
Analyte: PFPeS	Extraction Standard: 13C3-PFBS
349.0 / 80.0	302.0 / 80.0



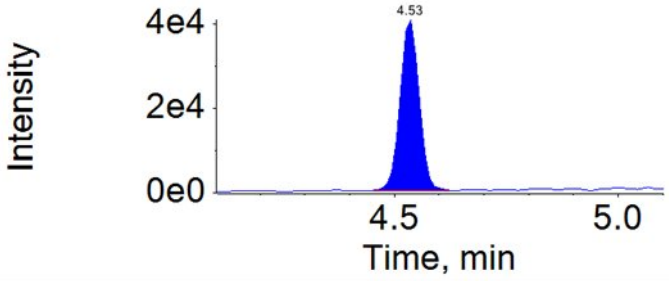


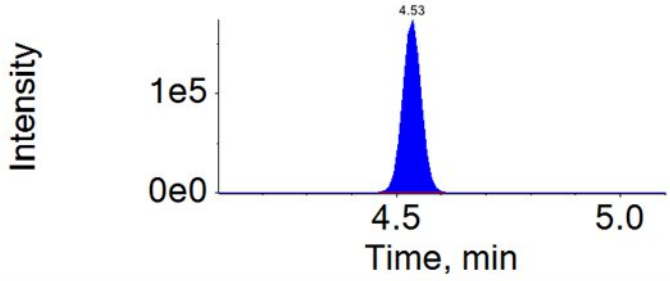
Analyte: PFHxS	Extraction Standard: 13C3-PFHxS
399.0 / 80.0	402.0 / 80.0





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

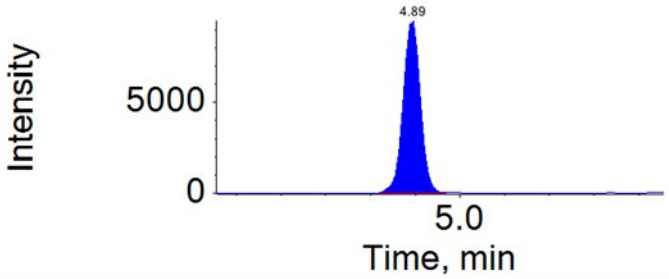
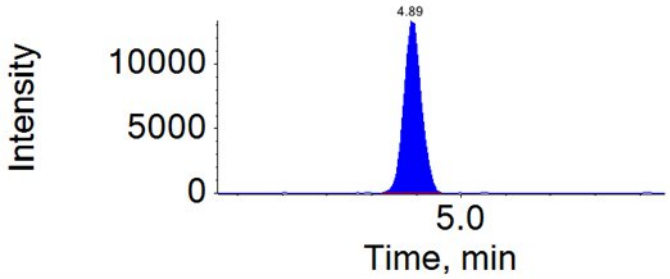


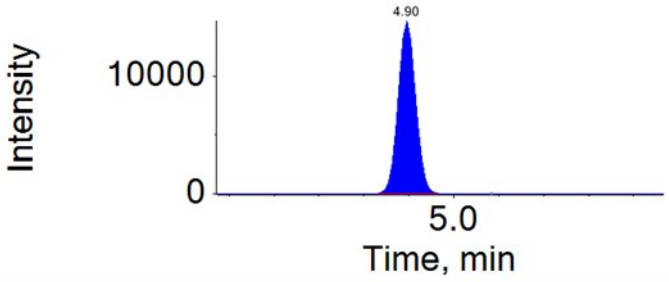
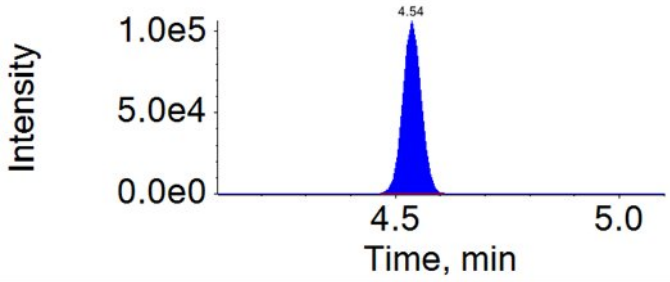


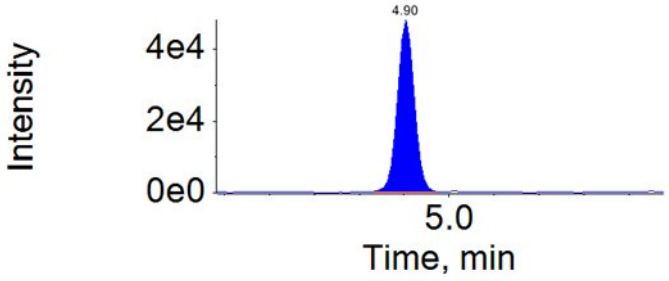
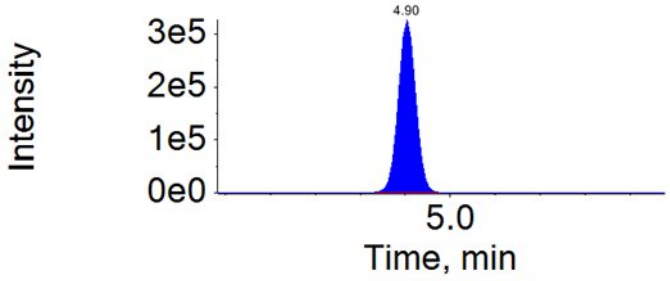
APPROVED
By MCD at 5:15 pm, 11/8/18

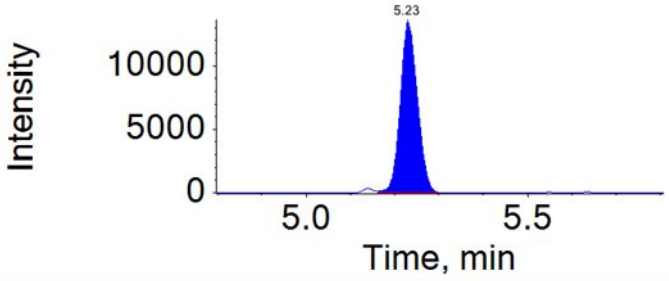
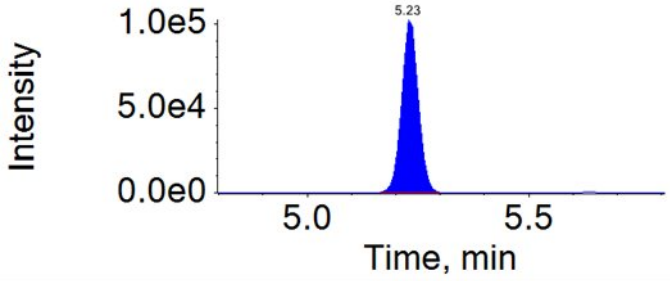
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

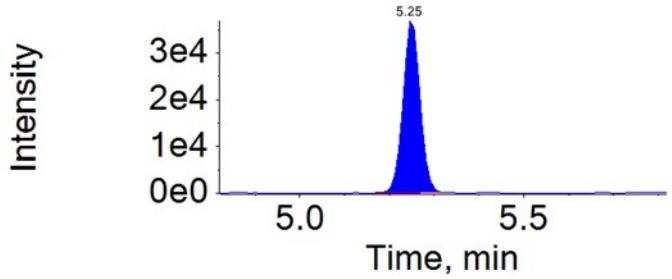
Analyte: PFOS	Extraction Standard: 13C8-PFOS
499.0 / 80.0	507.0 / 80.0
	

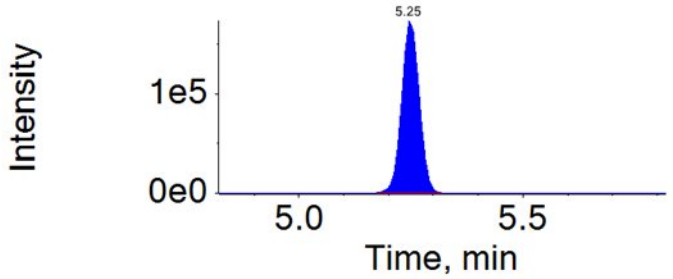
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

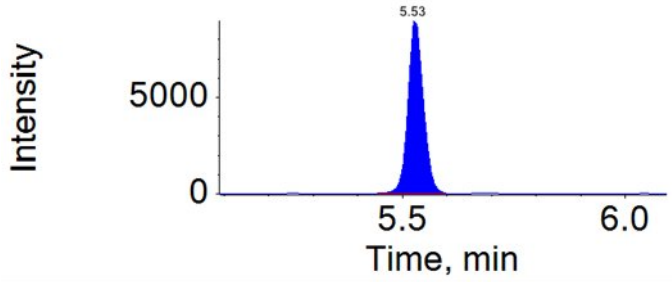
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

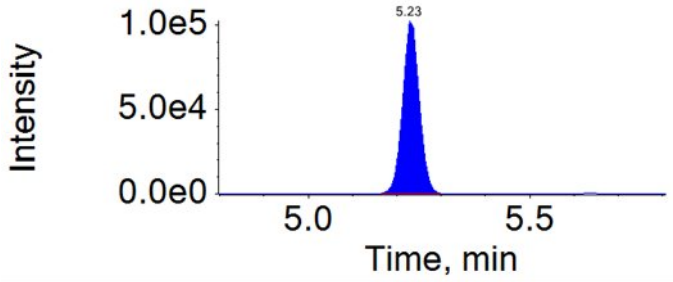
Analyte: PFNA	Extraction Standard: 13C9-PFNA
463.0 / 419.0	472.0 / 427.0



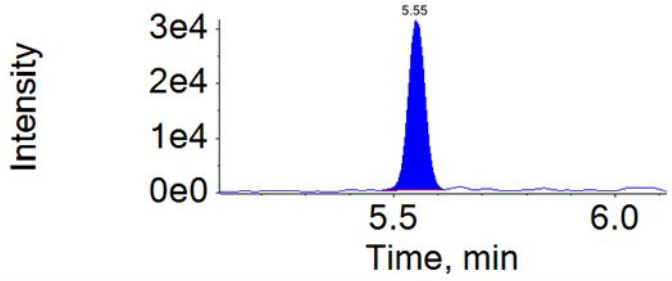


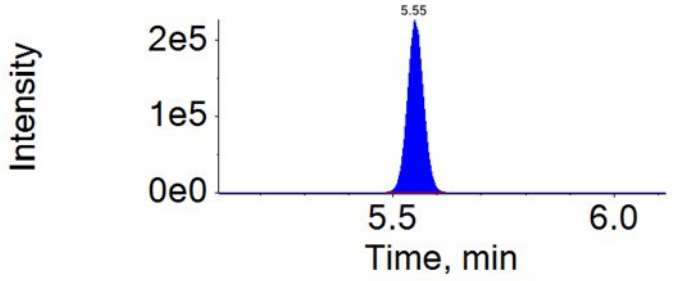
Analyte: PFNS	Extraction Standard: 13C8-PFOS
549.0 / 80.0	507.0 / 80.0



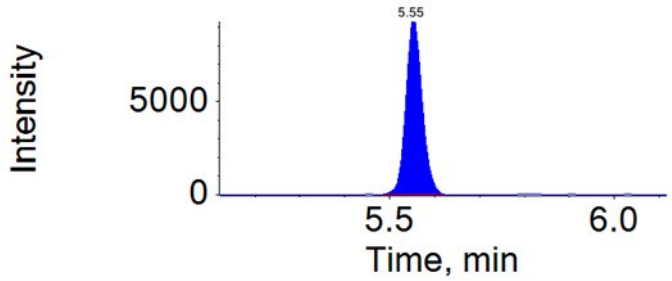


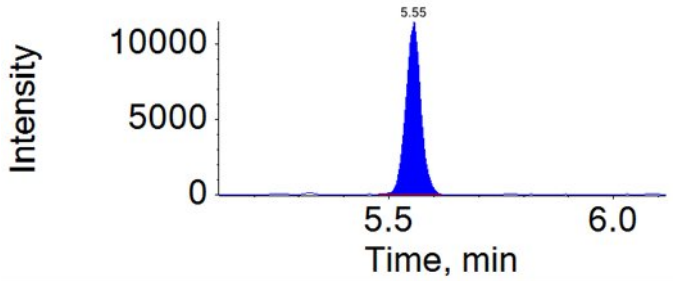
Analyte: PFDA	Extraction Standard: 13C6-PFDA
513.0 / 469.0	519.0 / 474.0





Analyte: 8:2-FTS	Extraction Standard: 13C2-8:2-FTS
527.0 / 507.0	529.0 / 81.0



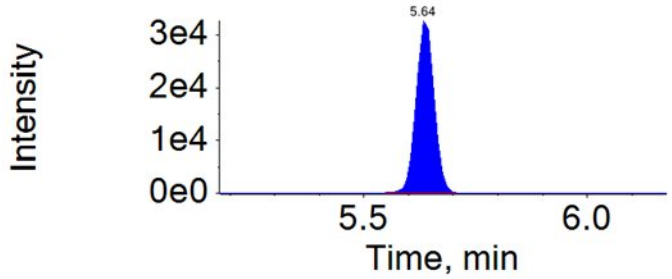


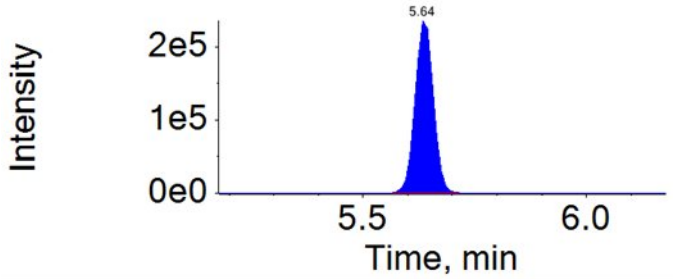
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

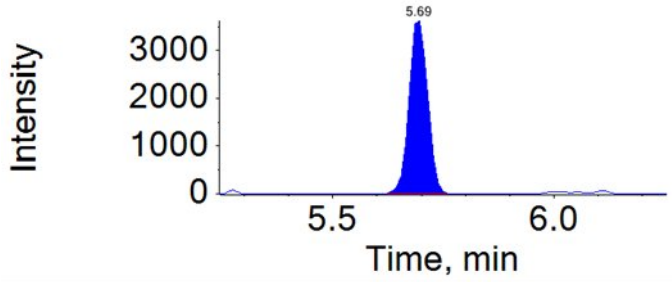
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

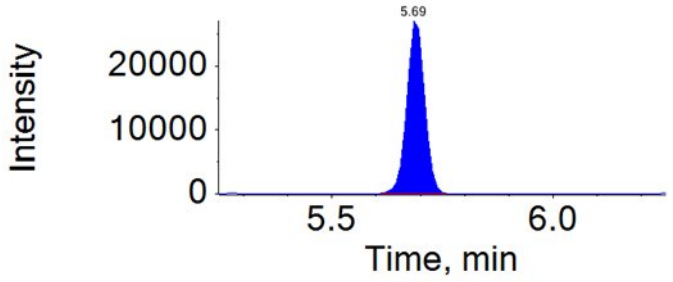
Analyte: PFOSA	Extraction Standard: 13C8-PFOSA
498.0 / 78.0	506.0 / 78.0



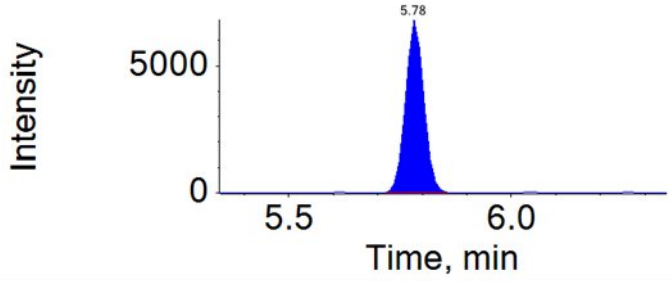


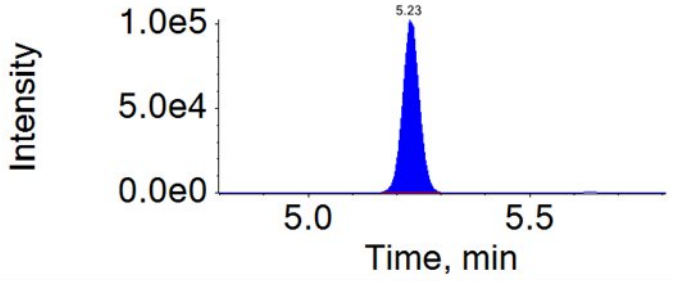
Analyte: NMeFOSAA	Extraction Standard: d3-NMeFOSAA
570.0 / 419.0	573.0 / 419.0



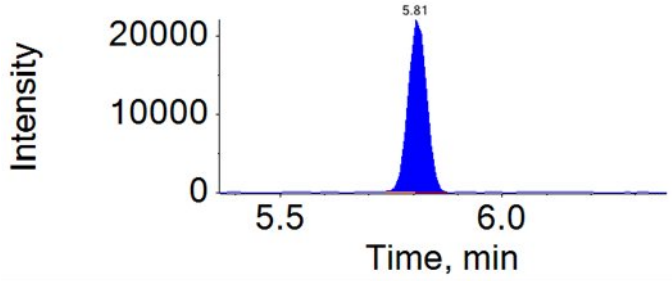


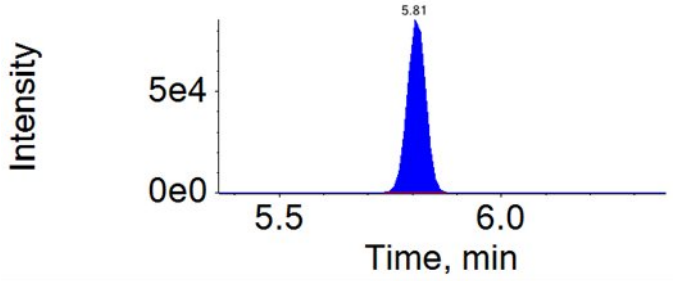
Analyte: PFDS	Extraction Standard: 13C8-PFOS
599.0 / 80.0	507.0 / 80.0





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



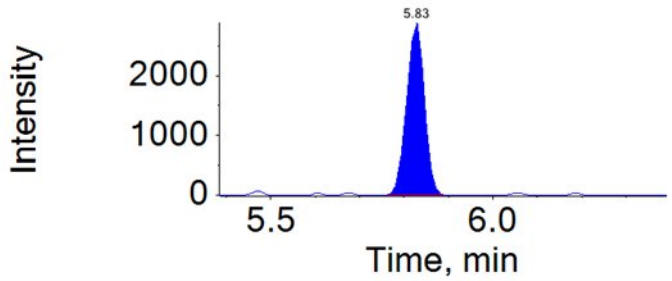


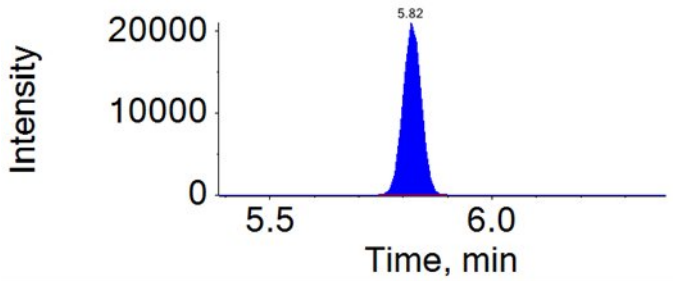
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

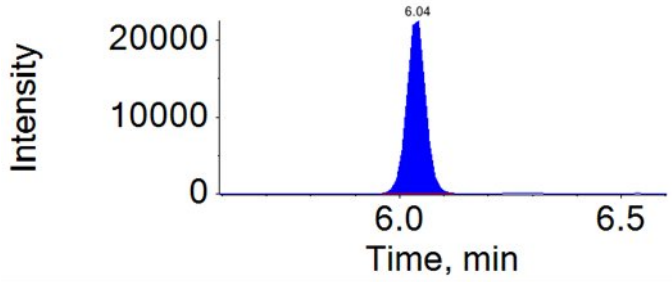
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

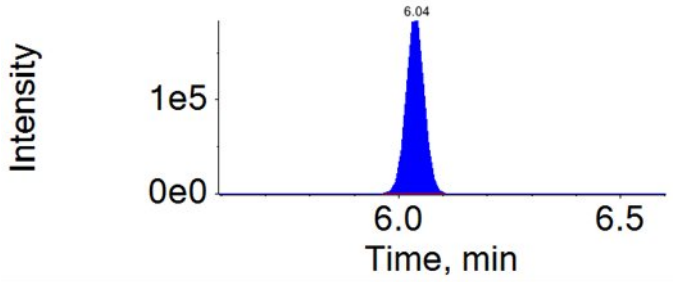
Analyte: NEtFOSAA	Extraction Standard: d5-NEtFOSAA
584.0 / 419.0	589.0 / 419.0



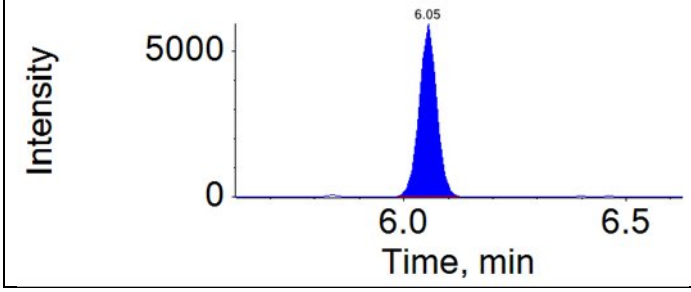


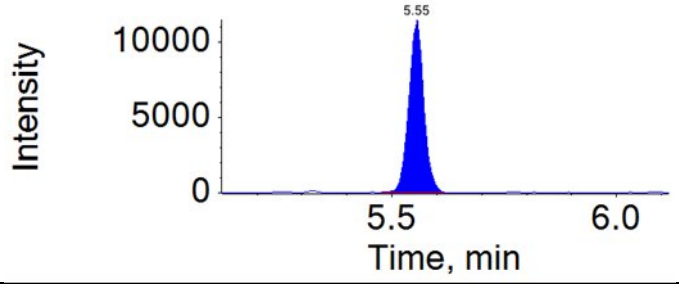
Analyte: PFDoDA	Extraction Standard: 13C2-PFDoDA
613.0 / 569.0	615.0 / 570.0



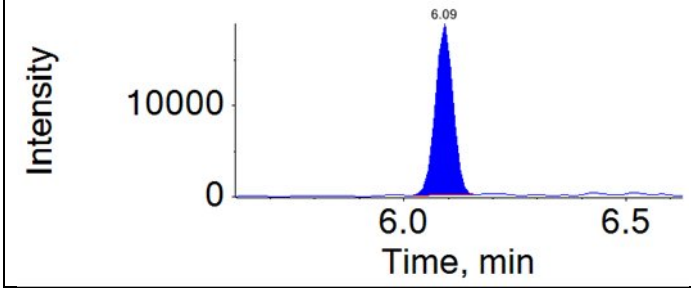


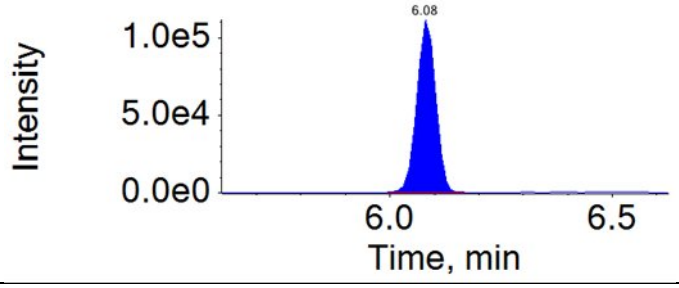
Analyte: 10:2-FTS	Extraction Standard: 13C2-8:2-FTS
627.0 / 607.0	529.0 / 81.0





Analyte: NMePFOSAE	Extraction Standard: d7-NMePFOSAE
616.0 / 59.0	623.0 / 59.0



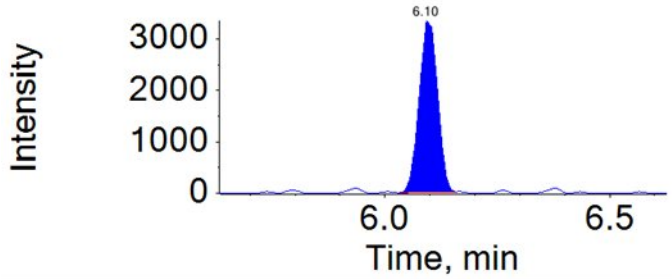


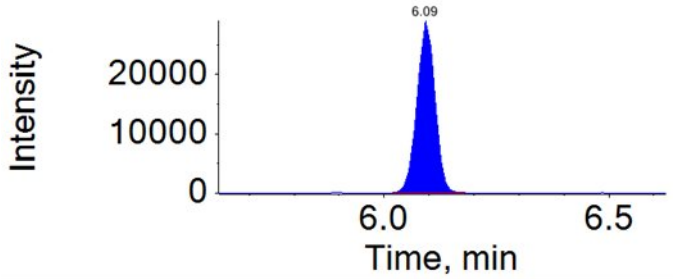
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

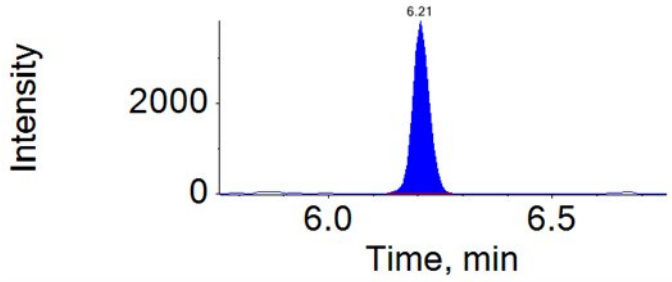
ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **Acquisition Method:** 18AUG13_3uL.dam

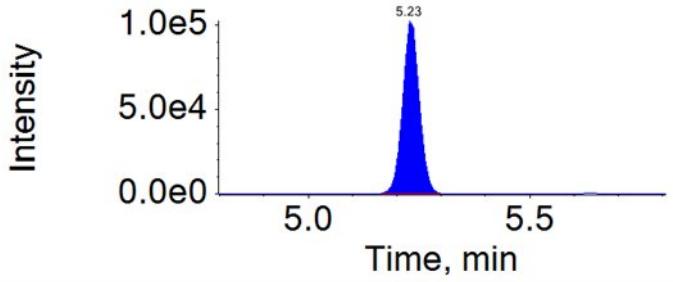
Analyte: NMePFOSA	Extraction Standard: d3-NMePFOSA
512.0 / 169.0	515.0 / 169.0



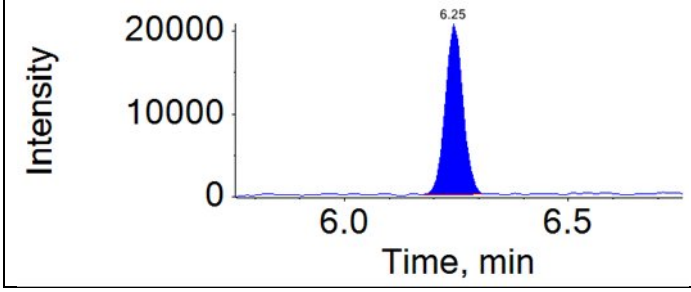


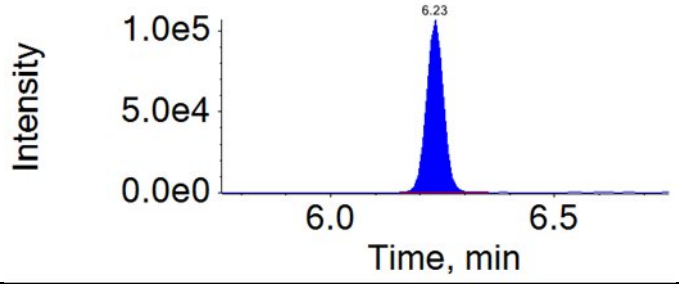
Analyte: PFDoS	Extraction Standard: 13C8-PFOS
699.0 / 80.0	507.0 / 80.0



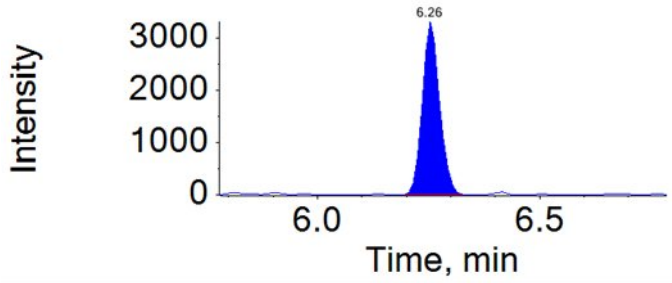


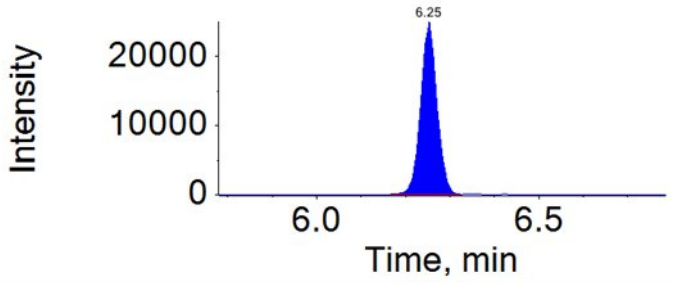
Analyte: NEtPFOSAE	Extraction Standard: d9-NEtPFOSAE
630.0 / 59.0	639.0 / 59.0





Analyte: NEtPFOSA	Extraction Standard: d5-NEtPFOSA
526.0 / 169.0	531.0 / 169.0

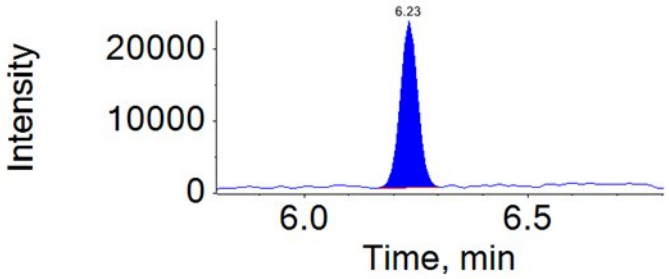
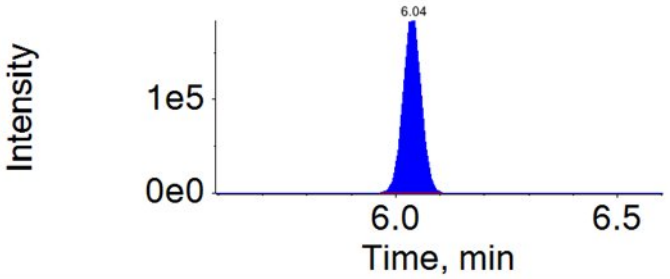


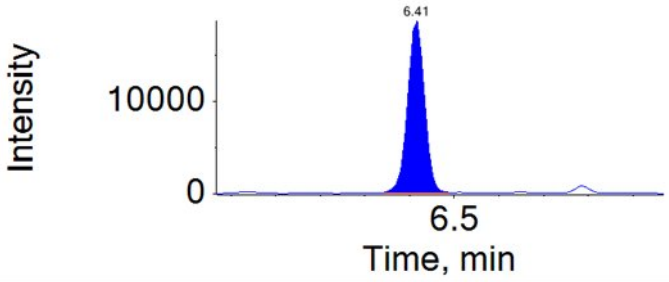
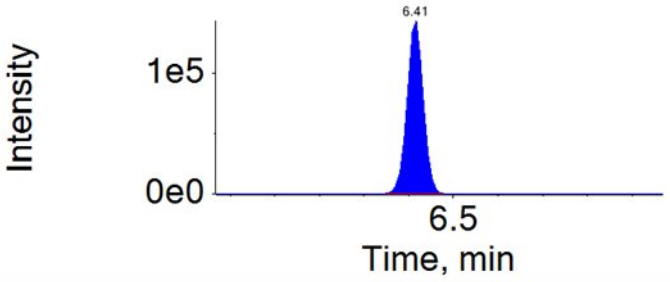


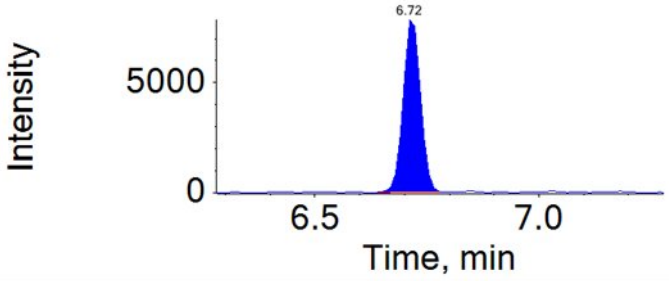
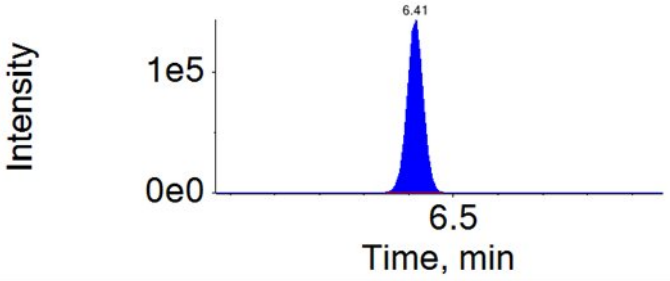
APPROVED
By MCD at 5:15 pm, 11/8/18

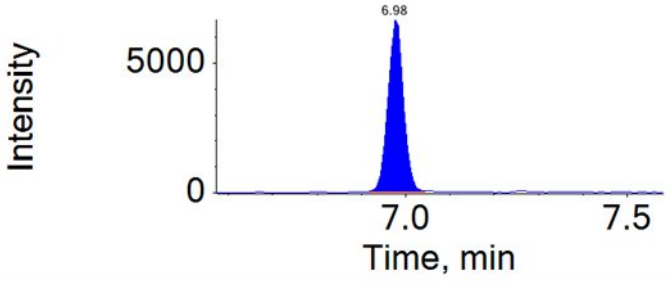
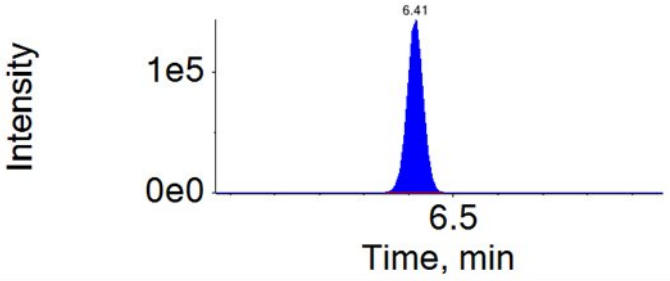
REVIEWED
By umar at 11:36 am, 11/12/18

ICAL Name: 18NOV07DCAL **Result Table:** 18309011 11/8/2018 5:08:23 PM
QMethod Name: MQ4-18AUG13 **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
	

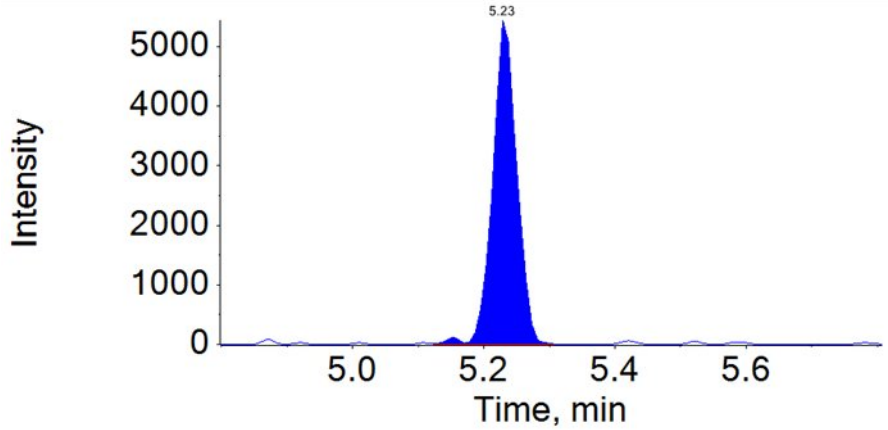
Analyte: PFODA	Extraction Standard: 13C2-PFTeDA
913.0 / 869.0	715.0 / 670.0
	

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

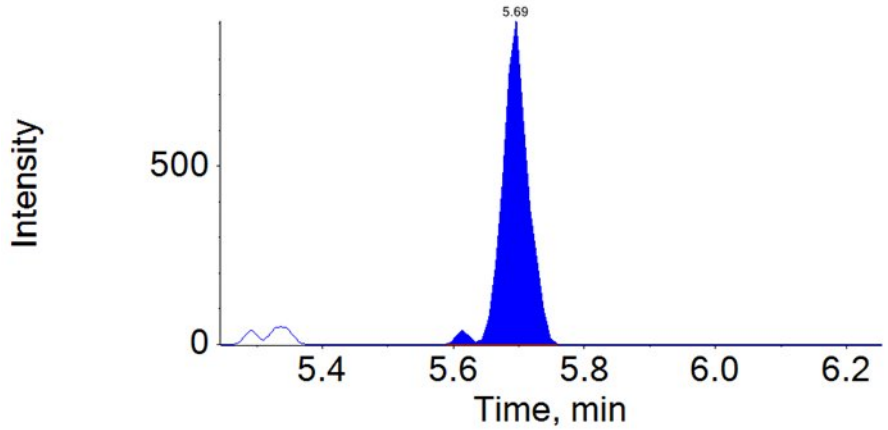
Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
PFOS_2
RT (min.):
5.23
Peak Area:
13872.0
Mass Range:
499.0 / 99.0
File Name:
18NOV07D-67.wiff
Sample Name:
LCS309011



Integration Comment: incorrect integration

Component Name:
NMeFOSAA_2
RT (min.):
5.69
Peak Area:
2443.7
Mass Range:
570.0 / 483.0
File Name:
18NOV07D-67.wiff
Sample Name:
LCS309011



Integration Comment: incorrect integration

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Results Table Name: 18309011
Results Table Date: 11/8/2018 5:08:23 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Ion Ratio Report

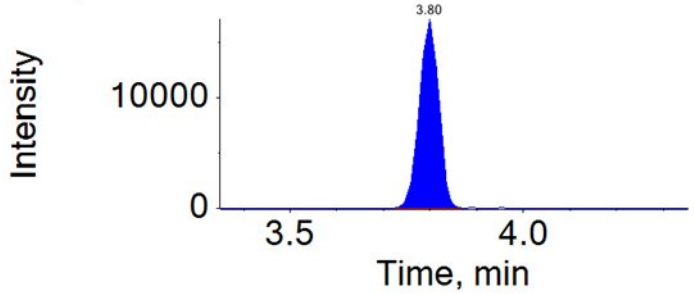
Sample Name: LCS309011 **Instrument Name:** LM27631 **File Name:** 18NOV07D-67.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.80	1.00	49543.4	A	N/A	0.3618			
PFBS_2	3.80	1.00	17925.2	A	N/A	0.3618	2	50	
4:2-FTS	4.11	1.00	33567.9	A	N/A	0.6806			
4:2-FTS_2	4.11	1.00	22847.0	A	N/A	0.6806	6	50	
PFHxA	4.15	1.00	115926.0	A	N/A	0.0116			
PFHxA_2	4.15	1.00	1348.4	A	N/A	0.0116	3	50	
PFPeS	4.17	1.10	25004.7	A	N/A	0.6060			
PFPeS_2	4.17	1.10	15151.7	A	N/A	0.6060	12	50	
PFHxS	4.54	1.00	39326.3	A	N/A	0.3461			
PFHxS_2	4.54	1.00	13612.4	A	N/A	0.3461	-3	50	
PFHpA	4.53	1.00	120000.5	A	N/A	0.0492			
PFHpA_2	4.53	1.00	5900.1	A	N/A	0.0492	-15	50	
6:2-FTS	4.89	1.00	25530.1	A	N/A	0.7207			
6:2-FTS_2	4.89	1.00	18398.8	A	N/A	0.7207	6	50	
PFHpS	4.90	1.08	39567.2	A	N/A	0.4068			
PFHpS_2	4.89	1.08	16096.7	A	N/A	0.4068	3	50	
PFOA	4.90	1.00	124043.3	A	N/A	0.0551			
PFOA_2	4.90	1.00	6831.9	A	N/A	0.0551	-14	50	
PFOS	5.23	1.00	36023.2	A	N/A	0.3816			
PFOS_2	5.23	1.00	13747.6	M	N/A	0.3816	8	50	
PFNA	5.25	1.00	97822.5	A	N/A	0.0222			
PFNA_2	5.25	1.00	2171.4	A	N/A	0.0222	8	50	
PFNS	5.53	1.06	21778.3	A	N/A	0.5187			
PFNS_2	5.53	1.06	11296.4	A	N/A	0.5187	6	50	
PFDA	5.55	1.00	82110.7	A	N/A	0.0071			
PFDA_2	5.56	1.00	582.1	A	N/A	0.0071	30	50	
8:2-FTS	5.55	1.00	23880.9	A	N/A	0.5300			
8:2-FTS_2	5.56	1.00	12656.5	A	N/A	0.5300	-15	50	
NMeFOSAA	5.69	1.00	10638.6	A	N/A	0.2245			
NMeFOSAA_2	5.69	1.00	2388.4	M	N/A	0.2245	3	50	
PFDS	5.78	1.11	19336.3	A	N/A	0.3947			
PFDS_2	5.78	1.10	7632.7	A	N/A	0.3947	-14	50	
PFUnDA	5.81	1.00	63710.2	A	N/A	0.0090			
PFUnDA_2	5.82	1.00	572.5	A	N/A	0.0090	195	50	OOS
NEtFOSAA	5.83	1.00	7976.7	A	N/A	0.6128			
NEtFOSAA_2	5.82	1.00	4888.3	A	N/A	0.6128	1	50	
PFDoDA	6.04	1.00	67308.6	A	N/A	0.0147			
PFDoDA_2	6.03	1.00	988.1	A	N/A	0.0147	40	50	
10:2-FTS	6.05	1.09	16076.4	A	N/A	0.6511			
10:2-FTS_2	6.05	1.09	10468.0	A	N/A	0.6511	-9	50	
PFTrDA	6.23	1.03	62143.3	A	N/A	0.0087			
PFTrDA_2	6.24	1.03	540.8	A	N/A	0.0087	-9	50	
PFTeDA	6.41	1.00	48690.8	A	N/A	0.0055			
PFTeDA_2	6.41	1.00	269.8	A	N/A	0.0055	3	50	
PFHxDA	6.72	1.05	21066.8	A	N/A	0.0629			
PFHxDA_2	6.71	1.05	1324.6	A	N/A	0.0629	6	50	
PFODA	6.98	1.09	16109.6	A	N/A	0.0236			
PFODA_2	6.97	1.09	380.6	A	N/A	0.0236	-8	50	

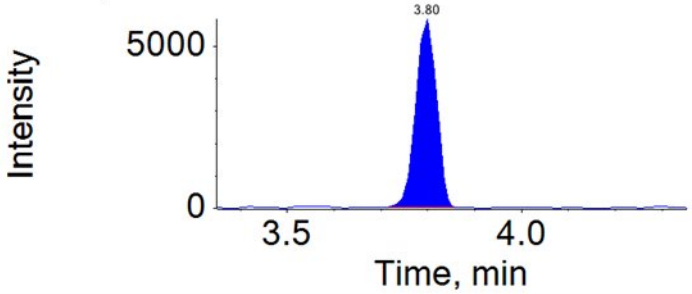
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

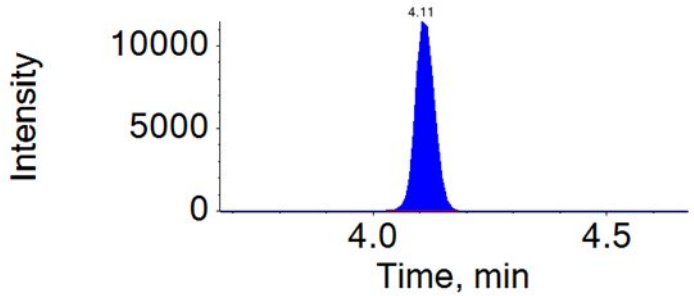
Component: PFBS
Primary Mass: 299.0 / 80.0



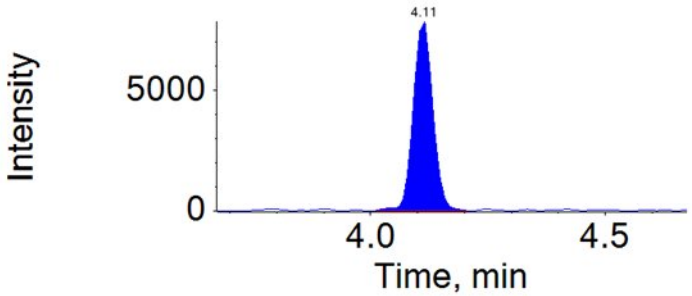
Component: PFBS_2
Secondary Mass: 299.0 / 99.0



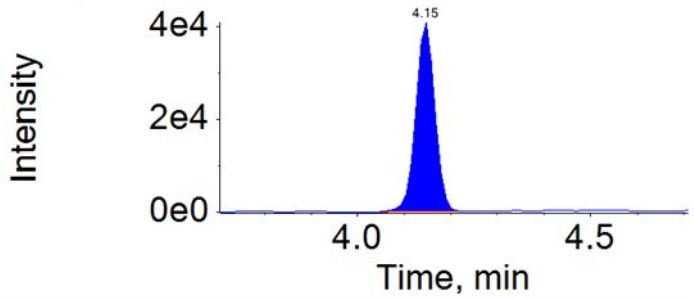
Component: 4:2-FTS
Primary Mass: 327.0 / 307.0



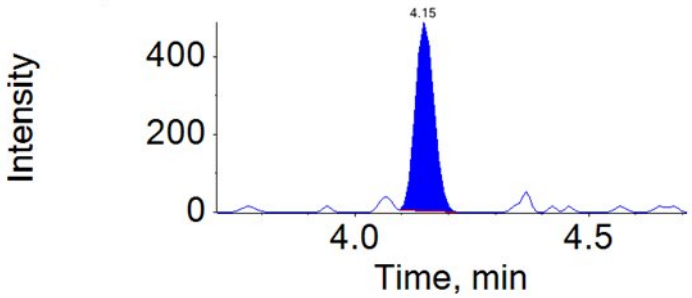
Component: 4:2-FTS_2
Secondary Mass: 327.0 / 81.0



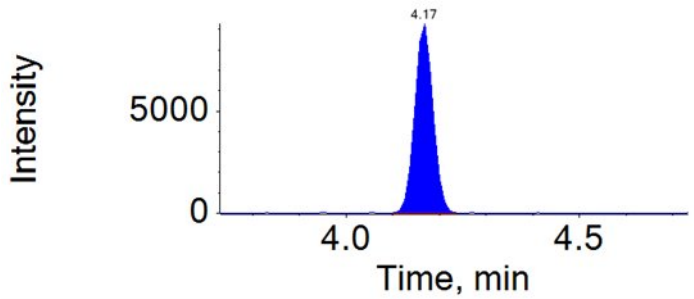
Component: PFHxA
Primary Mass: 313.0 / 269.0



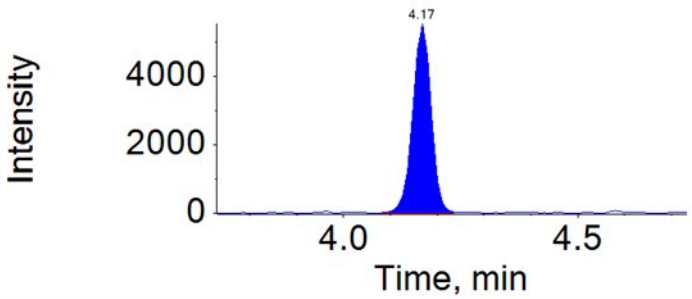
Component: PFHxA_2
Secondary Mass: 313.0 / 119.0



Component: PFPeS
Primary Mass: 349.0 / 80.0



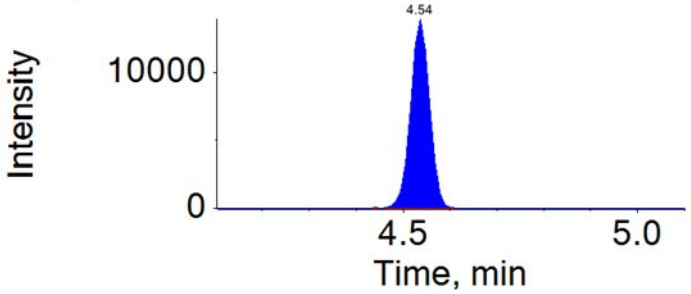
Component: PFPeS_2
Secondary Mass: 349.0 / 99.0



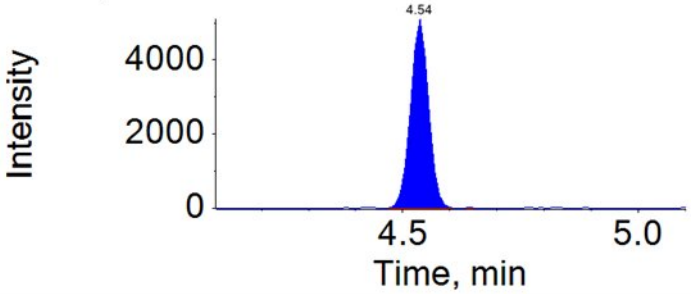
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

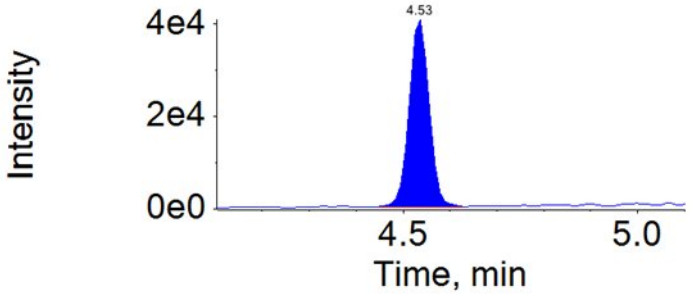
Component: PFHxS
Primary Mass: 399.0 / 80.0



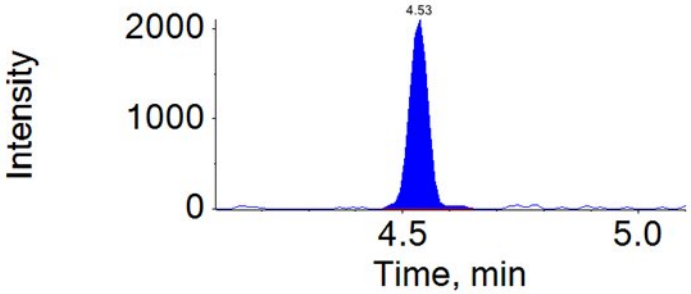
Component: PFHxS_2
Secondary Mass: 399.0 / 99.0



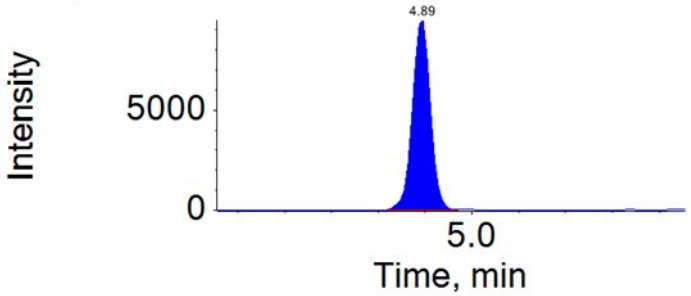
Component: PFHpA
Primary Mass: 363.0 / 319.0



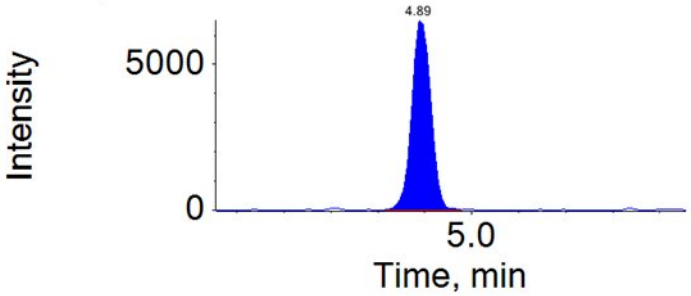
Component: PFHpA_2
Secondary Mass: 363.0 / 169.0



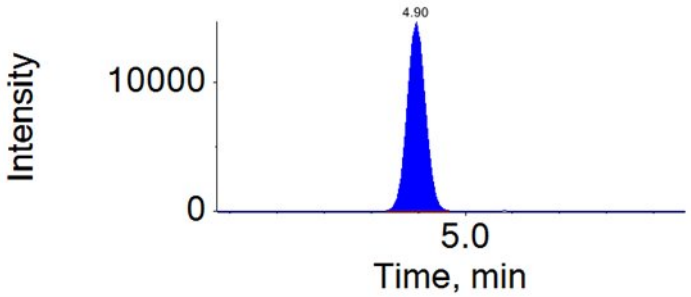
Component: 6:2-FTS
Primary Mass: 427.0 / 407.0



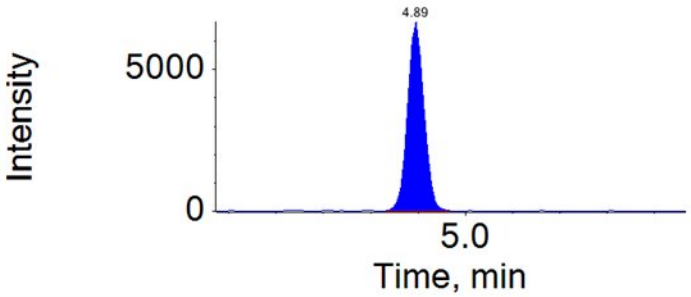
Component: 6:2-FTS_2
Secondary Mass: 427.0 / 81.0



Component: PFHpS
Primary Mass: 449.0 / 80.0



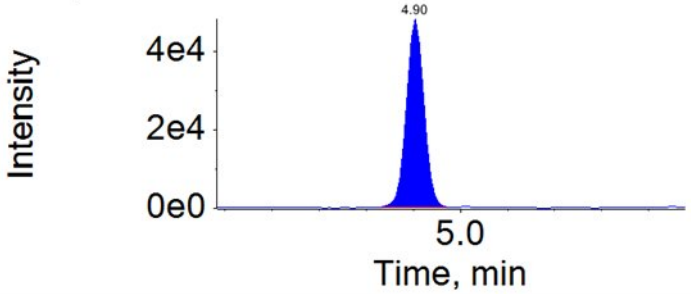
Component: PFHpS_2
Secondary Mass: 449.0 / 99.0



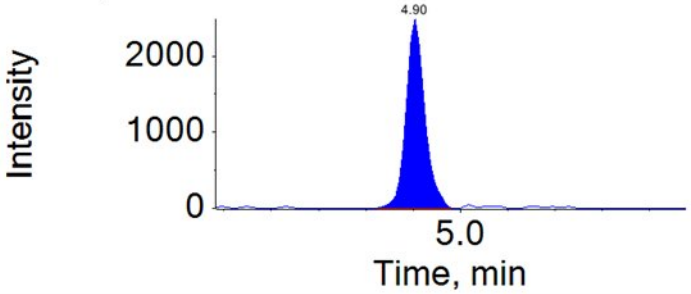
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REVIEWED
By umar at 11:36 am, 11/12/18

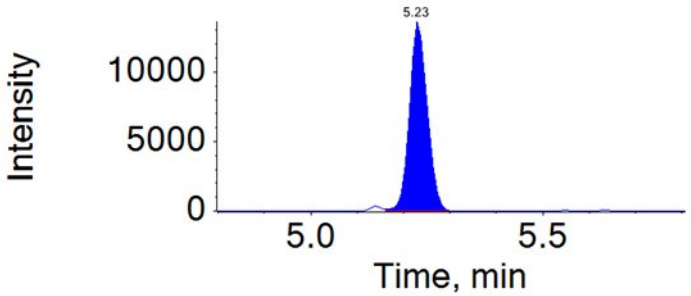
Component: PFOA
Primary Mass: 413.0 / 369.0



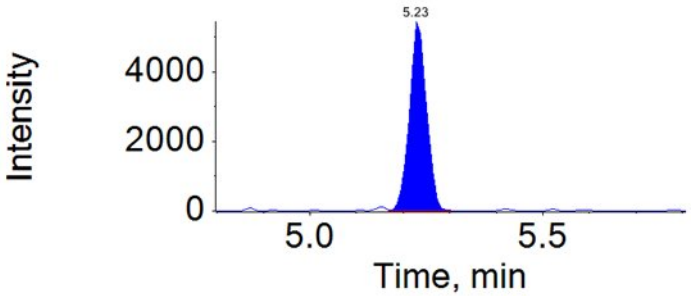
Component: PFOA_2
Secondary Mass: 413.0 / 169.0



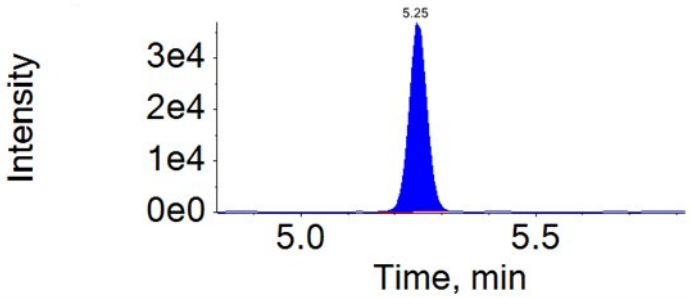
Component: PFOS
Primary Mass: 499.0 / 80.0



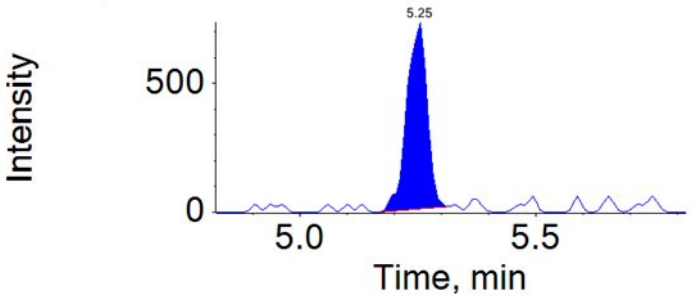
Component: PFOS_2
Secondary Mass: 499.0 / 99.0



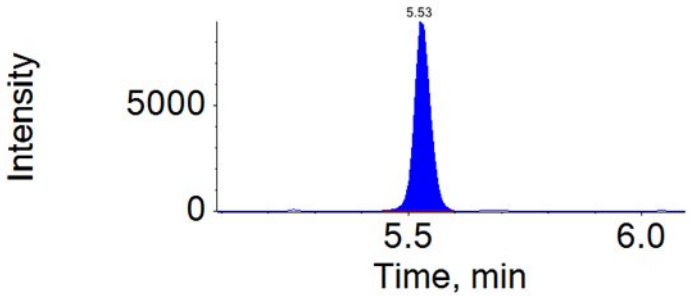
Component: PFNA
Primary Mass: 463.0 / 419.0



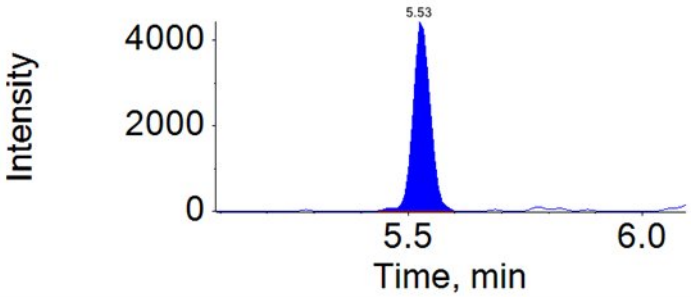
Component: PFNA_2
Secondary Mass: 463.0 / 169.0



Component: PFNS
Primary Mass: 549.0 / 80.0



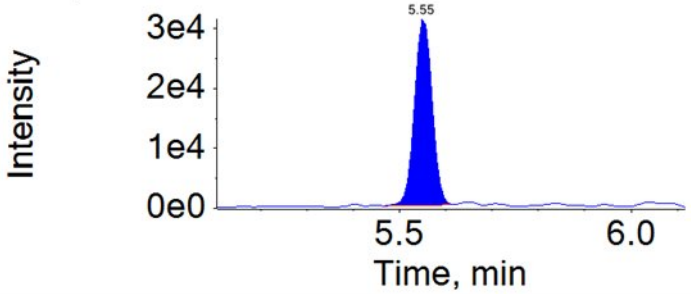
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Secondary Mass: 549.0 / 99.0



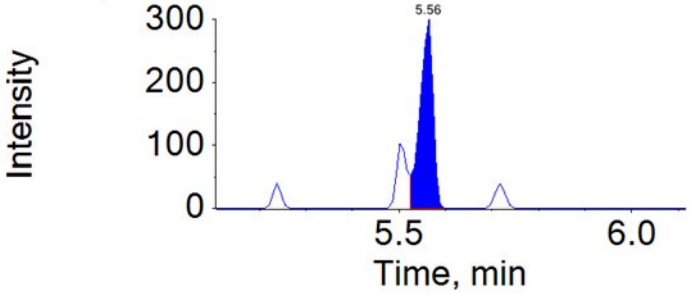
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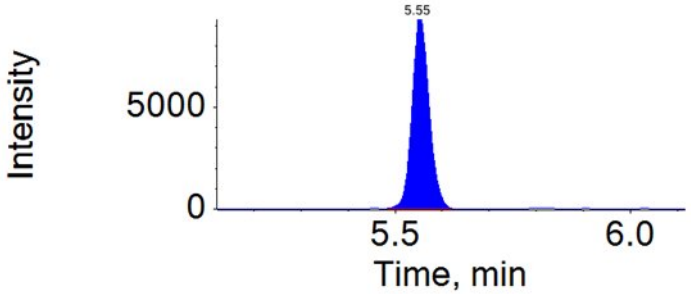
Component: PFDA
Primary Mass: 513.0 / 469.0



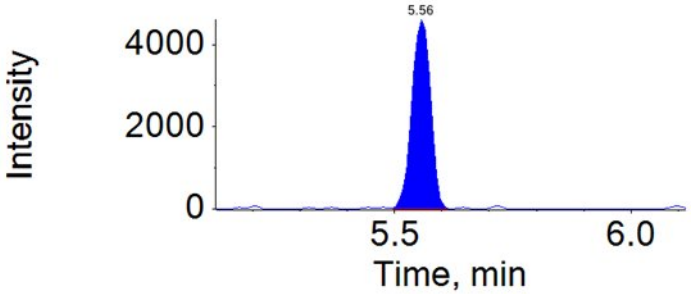
Component: PFDA_2
Secondary Mass: 513.0 / 169.0



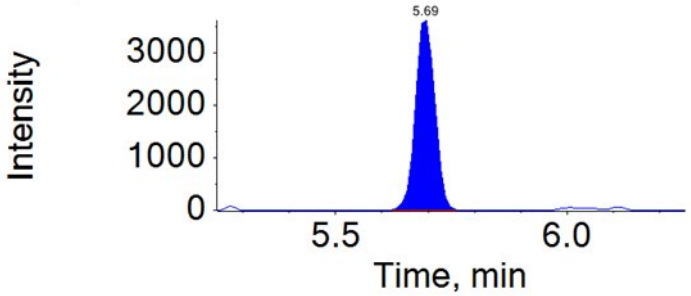
Component: 8:2-FTS
Primary Mass: 527.0 / 507.0



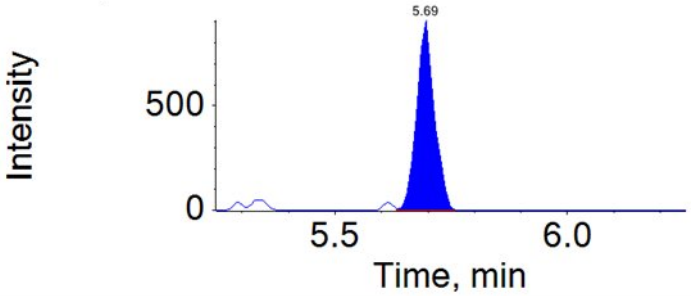
Component: 8:2-FTS_2
Secondary Mass: 527.0 / 81.0



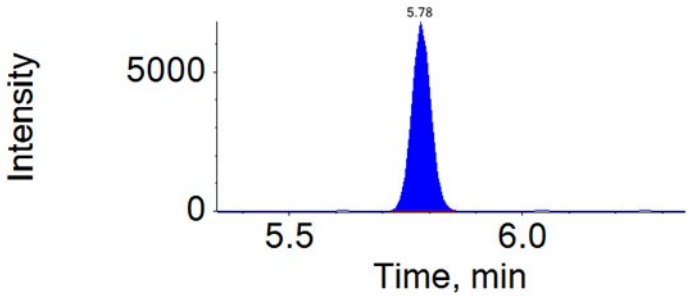
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



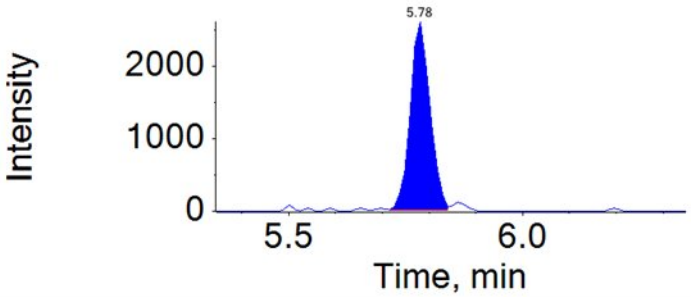
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



Component: PFDS
Primary Mass: 599.0 / 80.0



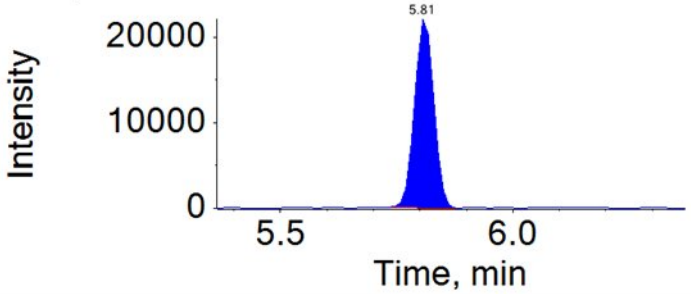
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Secondary Mass: 599.0 / 99.0



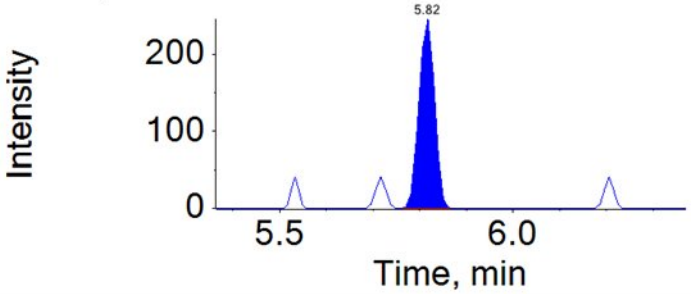
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

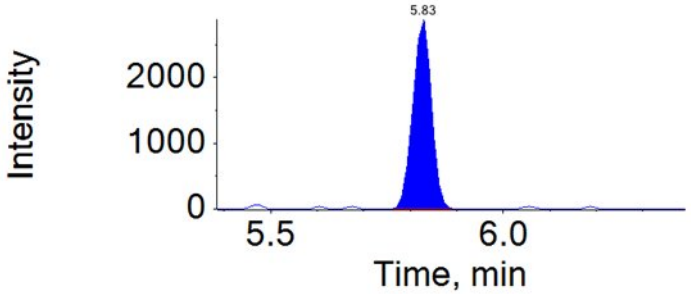
Component: PFUnDA
Primary Mass: 563.0 / 519.0



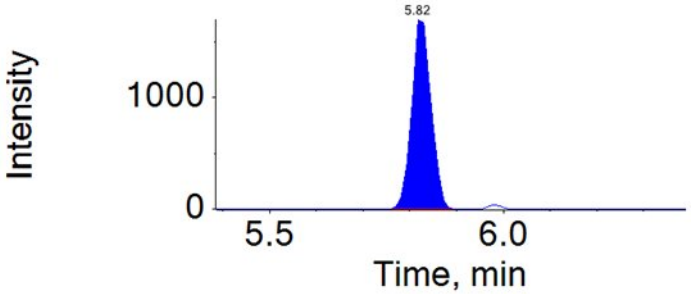
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



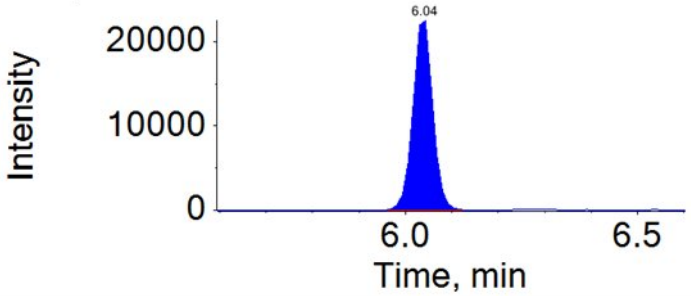
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



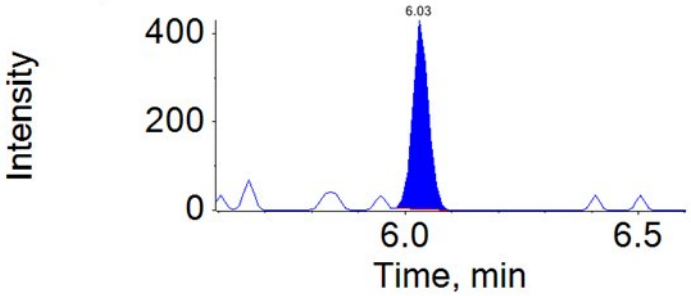
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0



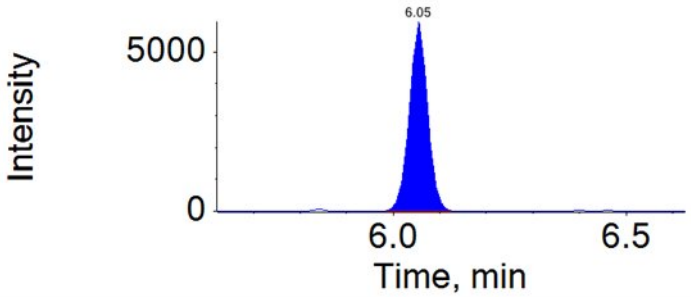
Component: PFDoDA
Primary Mass: 613.0 / 569.0



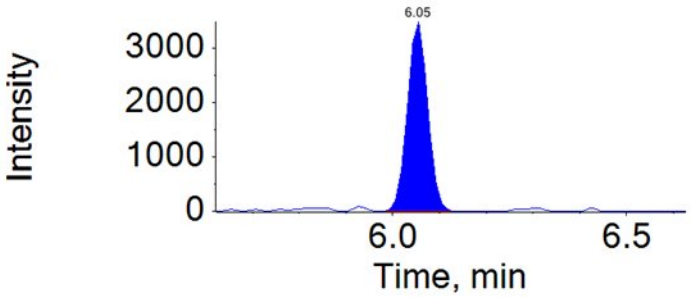
Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0



Component: 10:2-FTS
Primary Mass: 627.0 / 607.0



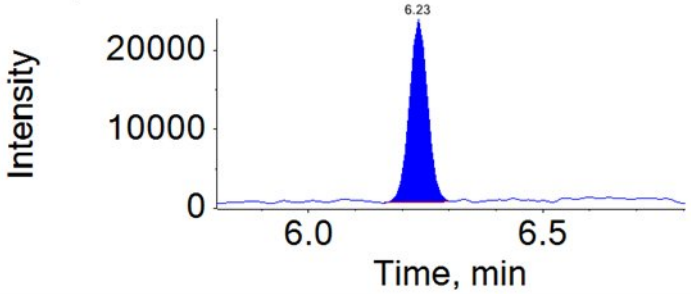
Component: 10:2-FTS_2
Secondary Mass: 627.0 / 81.0



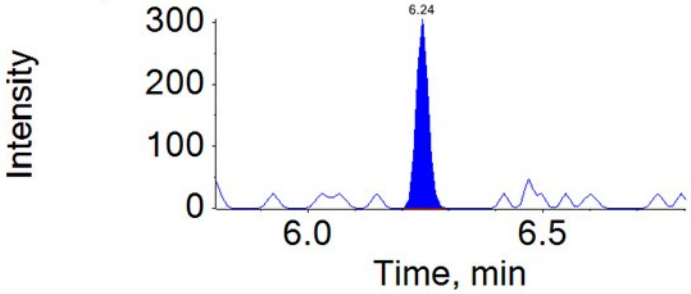
APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

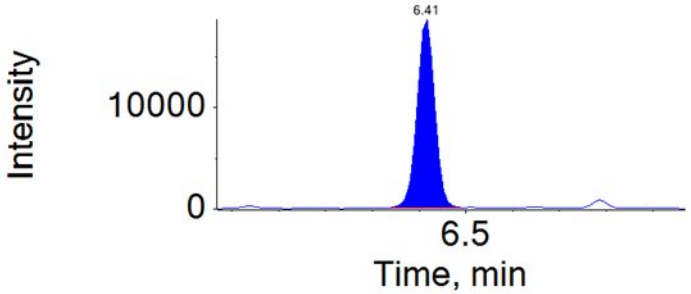
Component: PFTrDA
Primary Mass: 663.0 / 619.0



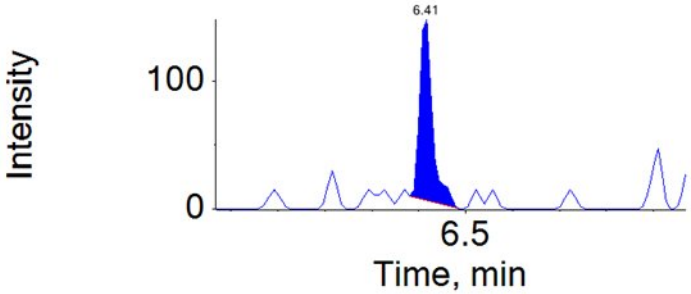
Component: PFTrDA_2
Secondary Mass: 663.0 / 169.0



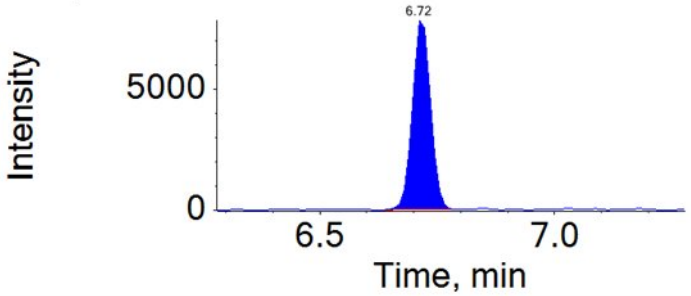
Component: PFTeDA
Primary Mass: 713.0 / 669.0



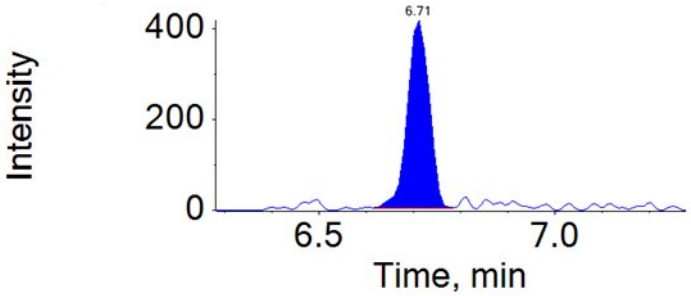
Component: PFTeDA_2
Secondary Mass: 713.0 / 169.0



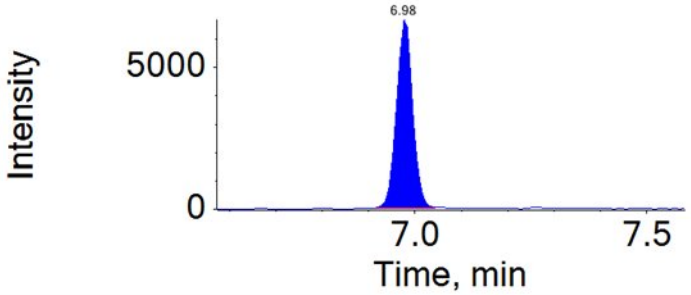
Component: PFHxDA
Primary Mass: 813.0 / 769.0



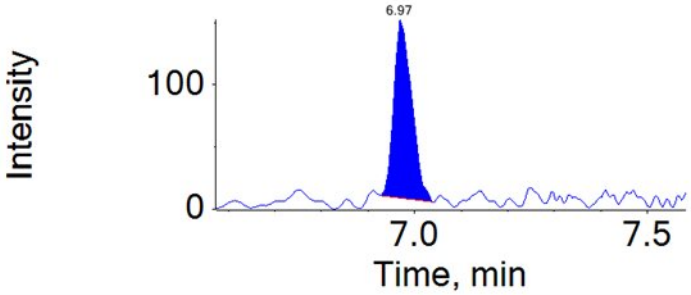
Component: PFHxDA_2
Secondary Mass: 813.0 / 169.0



Component: PFODA
Primary Mass: 913.0 / 869.0



Component: PFODA_2
Secondary Mass: 913.0 / 169.0



APPROVED
By MCD at 5:15 pm, 11/8/18

REVIEWED
By umar at 11:36 am, 11/12/18

Preparation Logs

PFAS by LC/MS/MS

Organic Extraction Batchlog Assigned to: 26543 Anthony Polaski Reviewed by: MCD 7824 Start Date: 11/5/18 Start time: 16:00

18309011 Tech 1: ACP26543 Tech 2: NA

Analyses on Batch: PFAS in Soil by LC/MS/MS-DoD

Dept: 33 Prep Analysis: 14510 PFAS Solid Prep - DoD (3) ml. ACP26543 11/5/18

Port #	QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (3) ~~(uL)~~	IS Amt (uL)	BC	Comments
	9881872MS	57365	1.03	SSMODX1833BX	.05	MSMODX1833AP	.04	1ml.	20	170a	
	9881873MSD	57365	1.05	SSMODX1833BX	.05	MSMODX1833AP	.04	1ml.		170a	
NA	BLANKA	BLK309011	1.00	SSMODX1833BX	.05			1ml.			
	LCSA	LCS309011		SSMODX1833BX	.05	MSMODX1833AP	.04	1ml.			

Spike Solutions: Witness: DDM2478 Instrument: HM27631

MSMODX1833AP PFAS 537 Native Spike

SSMODX1833BX PFAS 537 Modified Extraction/Surrogate Spik Sequence: 18NOV07DOD/18NOV07D & 18NOV08D

Port#		Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (3) ~~(uL)~~	IS Amt (uL)	BC	Comments	Analyses	Due	Pri
	1	9881869	57361	1.06	SSMODX1833BX	.05	1ml.	20	170a		14478	11/13/2018	N
	2	9881870	57363	1.08	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N
	3	9881871	BKG 57365	1.04	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N
	4	9881874	57368	1.02	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N
	5	9881931	10S18	1.03	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N
	6	9881936	G1S15	1.00	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N
	7	9881937	G1S20	1.07	SSMODX1833BX	.05	1ml.		170a		14478	11/13/2018	N

N/A JPT12262 ~~8/11/18~~ 11/8/18 (5) JPT12262 11/8/18

18309011

Organic Extraction Batchlog **18309011**

Port#	Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (uL)	IS Amt (uL)	BC	Comments	Analyses	Due	Pri

Reagents used During Extraction

Reagent/Material/Equip	Lot No./ID No.
1:1 ACN:MEOH	265431102183 3B
Auto-pipette (dilutions)	N/A JPT1226Z
Auto-pipette (extract vialin	P1000-1
Envi-Carb	97224
Internal Standard	IS1830933A
Methanol	DV013-05
Sand	MKBW7349V
Syringe (IS)	PFAS 11
Syringe (MS)	PFAS 10
Syringe (SS)	PFAS 13

11/8/18 N/A

ACP26543 11/5/18

Balance #	BC29764122	Sonic Bath ID	3800A	N-evap	B	32 C	SPE Manifold	N.A

18309011

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

N/A JPT1262 11/8/18

Moisture Data

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
9881869	57361
9881870	57363
9881871	57365BKG
9881872	57365MS
9881873	57365MSD
9881874	57368

COMMENTS:

Method defined actions are taken for any failed matrix QC.

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18310820001A	Sample number(s): 9881869-9881874				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 18310820001A	Sample number(s): 9881869-9881874			
Moisture	1.4	1.3	6* (1)	5
Moisture	1.4	1.3	6* (1)	5
Moisture Duplicate	1.4	1.3	6* (1)	5

* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 18310820001

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
9881869	A	00111	1.0627	5.8363	6.0037	15.34	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881870	A	00111	1.0632	5.7921	6.6740	3.13	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881871BKG	A	00111	1.0750	5.4608	6.4594	1.40	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881872MS	A	00118				1.40	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881873MSD	A	00118				1.40	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881873MSD	A	00121	1.0700	5.4884	6.4859	1.32	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
9881874	A	00111	1.0751	5.1536	6.0375	3.71	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)
LCS 89.5% Std.		00111	1.0650	5.0173	1.5968	89.40	11/ 6/18 (835/LEB)	11/ 7/18 (236/CW)

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-BLDG573-S-06-01 Calculation EUROFINS BRADY GCE II NONE Wet NONE 000 S UNK 20181106 11:02:00 9881869 20190118 2005352 0.00 1 1 15.3 -86 15.3 15.3 PCT Y TRG 0.50 0.50 0.50 0.50 0.50 BSI03 18310820001A 18310820001A 18310820001A Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105 16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 335-67-1 0.36 0.36 NG_G J Y TRG 0.22 0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105 16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 375-95-1 0.76 0 NG_G U N TRG 0.22 0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105 16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 335-76-2 0.76 0 NG_G U N TRG 0.33 0.33 0.33 0.76 1.1 BSI03 18309011 18309011 18309011 18309011 Y

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N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105 16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 307-55-1 0.76 0 NG_G U N TRG 0.22 0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105 16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 72629-94-8 0.76 0 NG_G U N TRG 0.22

0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD
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0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD
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16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 307-24-4
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0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011
Y
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EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:28:00 9881869 20190118 2005352 0.00 1 1 15.3 375-85-9
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0.22 0.22 0.76 0.89 BSI03 18309011 18309011 18309011 18309011
Y
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Y
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Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-01 537_MOD
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Y
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2.2 0 NG_G U N TRG 0.56
0.56 0.56 2.2 3.3 BSI03 18309011 18309011 18309011 18309011
Y
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0.56 0.56 2.2 3.3 BSI03 18309011 18309011 18309011 18309011
Y
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EUROFINS BRADY GCE II NONE Wet NONE 000 S UNK 20181106
11:02:00 9881870 20190118 2005352 0.00 1 1 3.1 -86 3.1 3.1 PCT Y
TRG 0.50 0.50 0.50 0.50 0.50

BSI03 18310820001A 18310820001A 18310820001A Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
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16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 335-67-1
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 375-95-1
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0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 335-76-2
0.65 0 NG_G U N TRG 0.29
0.29 0.29 0.65 0.96 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 2058-94-8
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 307-55-1
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 72629-94-8
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 376-06-7
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 307-24-4
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 375-85-9
0.65 0 NG_G U N TRG 0.19
0.19 0.19 0.65 0.76 BSI03 18309011 18309011 18309011 18309011

Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 375-73-5
0.57 0 NG_G U N TRG 0.19
0.19 0.19 0.57 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 355-46-4
0.61 0 NG_G U N TRG 0.19
0.19 0.19 0.61 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 1763-23-1
0.62 0 NG_G U N TRG 0.19
0.19 0.19 0.62 0.76 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 2991-50-6
1.9 0 NG_G U N TRG 0.48
0.48 0.48 1.9 2.9 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-03 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:37:00 9881870 20190118 2005352 0.00 1 1 3.1 2355-31-9
1.9 0 NG_G U N TRG 0.48
0.48 0.48 1.9 2.9 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 Calculation
EUROFINS BRADY GCE II NONE Wet NONE 000 S UNK 20181106
11:02:00 9881871 20190118 2005352 0.00 1 1 1.4 -86 1.4 1.4 PCT Y
TRG 0.50 0.50 0.50 0.50 0.50
BSI03 18310820001A 18310820001A 18310820001A Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 335-67-1
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 375-95-1
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 335-76-2
0.66 0 NG_G U N TRG 0.29
0.29 0.29 0.66 0.98 BSI03 18309011 18309011 18309011 18309011
Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 2058-94-8
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 307-55-1
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 72629-94-8
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 376-06-7
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 307-24-4
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 375-85-9
0.66 0 NG_G U N TRG 0.20
0.20 0.20 0.66 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 375-73-5
0.59 0 NG_G U N TRG 0.20
0.20 0.20 0.59 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 355-46-4
0.62 0 NG_G U N TRG 0.20
0.20 0.20 0.62 0.78 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 1763-23-1
0.63 0 NG_G U N TRG 0.20
0.20 0.20 0.63 0.78 BSI03 18309011 18309011 18309011 18309011
Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 2991-50-6
2.0 0 NG_G U N TRG 0.49
0.49 0.49 2.0 2.9 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-05 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 21:46:00 9881871 20190118 2005352 0.00 1 1 1.4 2355-31-9
2.0 0 NG_G U N TRG 0.49
0.49 0.49 2.0 2.9 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 Calculation
EUROFINS BRADY GCE II NONE Wet NONE 000 S UNK 20181106
11:02:00 9881874 20190118 2005352 0.00 1 1 3.7 -86 3.7 3.7 PCT Y
TRG 0.50 0.50 0.50 0.50 0.50
BSI03 18310820001A 18310820001A 18310820001A Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 335-67-1
0.69 0 NG_G U N TRG 0.20
0.20 0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 375-95-1
0.69 0 NG_G U N TRG 0.20
0.20 0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011
Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 335-76-2 0.69 0
NG_G U N TRG 0.31 0.31
0.31 0.69 1.0 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 2058-94-8 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 307-55-1 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 72629-94-8 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 376-06-7 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y

N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 307-24-4 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 375-85-9 0.69 0
NG_G U N TRG 0.20 0.20
0.20 0.69 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 375-73-5 0.61 0
NG_G U N TRG 0.20 0.20
0.20 0.61 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 355-46-4 0.65 0
NG_G U N TRG 0.20 0.20
0.20 0.65 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 1763-23-1 0.66 0
NG_G U N TRG 0.20 0.20
0.20 0.66 0.81 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 2991-50-6 2.0 0
NG_G U N TRG 0.51 0.51
0.51 2.0 3.1 BSI03 18309011 18309011 18309011 18309011 Y
N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB OU1-BLDG573-S-06-08 537_MOD
EUROFINS BRADY GCE II NONE Dry METHOD 000 S UNK 20181105
16:00:00 20181107 22:13:00 9881874 20190118 2005352 0.00 1 1 3.7 2355-31-9 2.0 0
NG_G U N TRG 0.51 0.51
0.51 2.0 3.1 BSI03 18309011 18309011 18309011 18309011 Y
SAMPLE_NAME CONTRACT_ID DO_CTO_NUMBER PHASE INSTALLATION_ID SITE_NAME
LOCATION_NAME SPECIMEN_NAME BIOLOGICAL_CLASS SEX AGE_CLASS EXCAVATION_NAME
PARENT_SAMPLE_NAME SAMPLE_MATRIX SAMPLE_TYPE SAMPLING_EQUIPMENT
PROJECT_PHASE COMPOSITE WATER_COLUMN COLLECT_DATE COLLECT_TIME DATUM_ELEV
ELEV_UNITS DATUM_MLLW DATUM_DESC START_DEPTH END_DEPTH DEPTH_UNITS
REMOVED REMOVED_DATE AMBIENT_BLANK EQUIPMENT_BLANK SOURCE_BLANK
TRIP_BLANK SAMPLE_NARRATIVE
OU1-BLDG573-S-06-01 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
BLDG573-S-06 SO N N 20181030 08:25:00
01 FT
OU1-BLDG573-S-06-03 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
BLDG573-S-06 SO N N 20181030 08:35:00
03 FT
OU1-BLDG573-S-06-05 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
BLDG573-S-06 SO N N 20181030 08:40:00
05 FT
OU1-BLDG573-S-06-05 MS N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
BLDG573-S-06 OU1-BLDG573-S-06-05 SO MS N 20181030
08:40:00 05 FT

OU1-BLDG573-S-06-05 MSD N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
BLDG573-S-06 OU1-BLDG573-S-06-05 SO SD N 20181030
08:40:00 05 FT
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08 FT
BLK18309011 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
SO LB N
LCS18309011 N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
SO BS N
LCS18310820001A N62473-14-D-1405 N6247317F4100 BARSTOW_MCLB 00000
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SO LR N 20181030 08:40:00